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WEST SLOPE



WESTERN ENERGY ALLIANCE

November 9, 2020

Casey Hammond, Principal Deputy Assistant Secretary
Land and Minerals Management
U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Re: RIN: 1004-AE59, Comments re Revisions to the Oil and Gas Site Security, Oil Measurement, and Gas Measurement Regulations 43 CFR Part 3170 (Sep. 10, 2020)

Dear Mr. Hammond:

On September 10, 2020, the Bureau of Land Management (“BLM”) issued a proposed rule entitled “Revisions to the Oil and Gas Site Security, Oil Measurement, and Gas Measurement Regulations” (“Proposed Rule” or “proposed rule” or “proposal”). This Proposed Rule would modify the three following rules: (1) “Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; Site Security” (81 FR 81365), codified at 43 CFR subparts 3170 and 3173; (2) “Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; Measurement of Oil” (81 FR 81462), codified at 43 CFR subpart 3174; and (3) “Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; Measurement of Gas” (81 FR 81516), codified at 43 CFR subpart 3175. Collectively, we refer to these three rules as the “2016 Final Rules”.

API represents all segments of America’s oil and natural gas industry. Our more than 600 members produce, process and distribute most of the nation’s energy. The industry supports more than ten million U.S. jobs and is backed by a growing grassroots movement of millions of Americans. API was formed in 1919 as a standards-setting organization. In our first 100 years, API has developed more than 700 standards to enhance operational and environmental safety,

efficiency and sustainability. API appreciates the opportunity to submit comments on this Proposed Rule.

AXPC is a national trade association representing 25 of the largest independent oil and natural gas exploration and production companies in the United States. Dedicated to safety, science, and technological advancement, AXPC members strive to deliver affordable, reliable energy to consumers while positively impacting the economy and the communities in which we live and operate. As part of this, AXPC members understand the importance of ensuring positive environmental and public-welfare outcomes and responsible stewardship of the nation's natural resources, including Federal lands.

COGA is a nationally recognized, state trade association made up of more than 250 companies who represent the entire value chain of the oil and natural gas industry in Colorado. COGA's mission is to be the unified political and regulatory voice for the oil and natural gas industry in Colorado, and to support our members through advocacy, partnerships, education and stakeholder engagement.

Domestic Energy Producers Alliance, Inc ("DEPA") is a unique grassroots approach to domestic onshore energy advocacy and education. We are an alliance of producers, royalty owners, oil field service companies as well as state and national independent oil and gas associations representing the small businessman and women of the energy industry. We are devoted to the survival of U.S. crude oil and natural gas exploration and production. DEPA is fully engaged in advocacy in Washington, DC, and various states around the country. We will fight to preserve the millions of jobs and billions of dollars in the economic activity and tax revenues generated by onshore drilling and production activities within the United States.

The Independent Petroleum Association of America is a national upstream trade association representing thousands of independent oil and natural gas producers and service companies across the United States. Independent producers develop 91 percent of the nation's oil and natural gas wells. These companies account for 83 percent of America's oil production, 90 percent of its natural gas and natural gas liquids ("NGL") production, and support over 4.5 million American jobs.

The New Mexico Oil & Gas Association ("NMOGA") is a coalition of more than 1,000 oil and natural gas companies and individuals operating in the state of New Mexico. NMOGA members include all facets of oil and gas production, transportation, and delivery, and is the oldest and largest organization representing the oil and gas industry in New Mexico. Oil and gas is the greatest economic contributor to the state of New Mexico, supporting more than 134,000 jobs and \$17 billion in annual economic activity. In addition, taxes and royalty from the oil and gas industry account for 39% of the State of New Mexico's annual budget, including over \$1.4 billion for public schools.

The North Dakota Petroleum Council is a trade association that represents more than 650 companies involved in all aspects of the oil and gas industry, including oil and gas production, refining, pipeline, transportation, mineral leasing, consulting, legal work, and oil field service activities in North Dakota, South Dakota, and the Rocky Mountain Region.

The Petroleum Association of Wyoming is the voice for Wyoming's primary economic driver, the natural gas and oil industry. PAW members include small and large exploration and production companies, oilfield services, transportation, pipeline, refining and numerous other related services. Collectively PAW members account for over \$5 billion in economic activity, provide over 15,000 careers, and account for nearly half of Wyoming's tax revenue.

West Slope Colorado Oil & Gas Association ("West Slope COGA") provides a unified political and regulatory voice for the oil and natural gas industry in the Piceance Basin of Western Colorado. West Slope COGA represents over 90 member companies and its mission is to produce natural gas products for the benefit of society. West Slope COGA is an affiliated chapter of the Colorado Oil & Gas Association – a nationally recognized trade association that promotes the expansion of Rocky Mountain natural gas markets, supply, and transportation infrastructure through its growing and diverse membership. West Slope COGA strives to educate stakeholders, encourage technology enhancements and foster environmental stewardship throughout oil and gas operations and supply chains.

Western Energy Alliance represents over 300 companies engaged in all aspects of environmentally responsible exploration and production of oil and natural gas across the West. The Alliance represents independents, the majority of which are small businesses with an average of fourteen employees.

We appreciate the efforts of the BLM to revise the requirements of the 2016 Final Rules to improve production and royalty accountability while simultaneously reducing the unnecessarily burdensome, unclear, inconsistent, or otherwise problematic requirements. The BLM and the Production Measurement Team ("PMT") have made great strides in making the 2016 Rules more effective and practical. We feel these policy goals align with both the Executive Order 13783 issued by President Trump on March 28, 2017 that stated, "[i]t is in the national interest to promote clean and safe development of our Nation's vast energy resources, while at the same time avoiding regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation.", as well as the Secretary of Interior's Order No. 3349 to "identify all existing [DOI] actions ... that potentially burden ... the development or utilization of domestically produced energy resources, with particular focus on oil, natural gas, and nuclear resources."

The Proposed Rule makes several revisionary steps in line with the orders discussed above. For example, the production volumes that act to trigger an application for a facility measurement point ("FMP") have been increased from the 2016 Final Rules, thus reducing the burden on less productive, economically marginal wells. The elimination of certain LACT seal requirements from immediate assessment, making the BLM equipment and software approvals effective January 17, 2017, and providing greater flexibility on gas meter inspections based on volumes improve the regulatory framework. These actions promote the safe and efficient development of the nation's oil and natural gas resources, while minimizing production uncertainties.

However, the Proposed Rule continues to impose prescriptive regulations on the security and measurement of production from Federal leases and would still impose significant costs and

administrative burdens on both operators and the BLM. Under the Proposed Rule the loss of revenue due to shut-in production could exceed alleged benefits to the Federal royalty interest attributed to more accurate measurement by orders of magnitude.

Restrictions on commingling federally-managed production could increase the environmental footprint of oil and gas development as well as impose significant, unnecessary costs on leases and wells. By requiring the installation of tanks and related equipment to separate production streams for each lease, BLM would expand surface impacts, increase emissions, increase costs, and erase the efficiencies and benefits of commingled systems. In many cases, added costs would cause premature abandonment of wells. Commingling has been recognized as good practice in the offshore operating context, and has also been carried out onshore in numerous [the majority of] non-Federal developments. Certainly, appropriate allocation methods, ranging from well tests to actual measurements, are available to minimize the possibility of improperly attributing production between or among contributing leases. We appreciate BLM's reliance on industry standards and BLM's involvement in their development. We also appreciate BLM's recognition that commingling can be done without a significant reduction in measurement uncertainty since it is accepted in most of the states that comprise the majority of oil and gas production, and it is commonly used to process, separate, and deliver to sales wellhead production outside of Federal and tribal lands. Aggregation of production from varied leases is optimal, both environmentally and economically, as commingling can minimize surface impacts related to mineral development, reduce potential emissions by consolidating equipment and potential leak points, and decrease the need to flare as new wells may have quicker access to existing connections to sales pipelines present at facilities. We believe that the substantive benefits achieved through commingling outweigh the negligible measurement risk from this activity. While the proposed rules are an improvement, we have provided many supported recommendations that would further minimize the risks and challenges to commingling inherent in the BLM's regulations.

Many states have promulgated commingling rules, which allow for the commingling of state interests in a manner which state land commissions believe includes acceptable allocation and measurement standards. Thus, there is an example of other public land agencies implementing commingling to achieve the considerable above-benefits.

There are a number of additional changes that could improve the regulatory framework by reducing the burden on both the BLM and operators without sacrificing royalty measurement accuracy, while simultaneously providing greater regulatory certainty and promoting environmentally responsible development. Some of the major concerns include:

1. Elimination of all existing off-lease and commingling approvals by retroactively applying the new requirements to existing facilities.
2. Failing to establish a minimum Federal-interest threshold for application of the proposed rule
3. Inclusion of the BLM electronic gas sampling database ("GARVS"), which has not been scheduled for development.

4. BLM requiring the evaluation and approval of an even broader list of measurement equipment and software, even though the list does not currently exist, and more than three years have passed since the effective date of the 2016 Rules.
5. Requiring unrestricted access for off-lease measurement from the surface owner, which creates potential safety concerns for BLM employees.
6. Numerous restrictions on commingling that will create unnecessary burdens on both operators and the BLM.

Once again, we support the BLM's goals of modifying certain provisions in the 2016 Final Rules to reduce unnecessary and burdensome regulatory requirements in accordance with Executive Order 13783, Promoting Energy Independence and Economic Growth, and the Secretary's Order No. 3349, American Energy Independence. However, we believe it is imperative to emphasize those restrictions revised or remaining from the 2016 Final Rules that will inhibit energy growth, security, environmental performance, and accountability on Federal lands. We respectfully submit the following comments on the Proposed Rule asking that certain revisions to be made, clarifications be provided, and that the BLM expeditiously finalize the revised rule.

* * * * *

Should you have any questions, please contact the undersigned at 202.682.8050, or via e-mail at ramseyc@api.org.

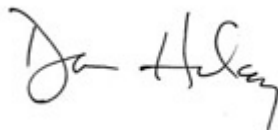
Sincerely,



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American Petroleum Institute



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Section by Section Analysis
Technical Responses or Comments to 43 CFR Part 3170 Subpart 3170 & Subpart 3173

1. § 3170.2 – Scope

Rule:

The regulations in this part apply to:

(a) All Federal onshore and Indian oil and gas leases (other than those of the Osage Tribe).

Preamble:

The BLM is requesting comment on whether it should establish a Federal-interest threshold for applying its site security and oil and gas measurement regulations to units and CAs.

Concern:

There are many unit agreements and Communitization agreements (“CA”) where the Federal lease acreage committed to the agreement is a small proportion of the total agreement acreage. For many of these agreements, all operations occur only on the state or fee lands committed to the agreement. In the preamble to the Proposed Rule, BLM asks for “comment on whether it should establish a Federal-interest threshold for applying its site security and oil and gas measurement regulations to units and CAs.” 85 Fed. Reg. 55945 (Sept. 10, 2020). API strongly supports BLM establishing a minimum Federal interest threshold for the following reasons.

As an initial matter, there is no legal constraint that precludes BLM from adopting a minimum Federal interest threshold. The Mineral Leasing Act and other Federal mineral leasing laws provide BLM the authority to regulate operations on Federal leases and provide associated rulemaking authority. The Federal Oil and Gas Royalty Management Act (“FOGRMA”) directs the Secretary to adopt procedures to ensure accurate production measurement and royalty accounting for Federal leases, and also provides rulemaking authority for the Secretary to implement those duties. 30 U.S.C. §§ 1701(a)(2), 1701(b)(2)-(3), 1711, 1712(b), and 1751(a). However, there is no provision in any of the applicable statutes that precludes BLM from adopting standards to exclude certain interests from application of BLM’s measurement and site security regulations even when federally regulated minerals consist of a small proportion of a Communitization or Unitized area. For this reason, BLM should create reasonable exclusions when a development area only contains a small amount of Federal interest, which could be established by creating a minimum Federal interest threshold.

API also is not aware of any Federal court or Interior Board of Land Appeals (“IBLA”) decision that prevents BLM from adopting a minimum Federal interest threshold. In *Tricentrol United States, Inc.*, 97 IBLA 387 (1987), BLM assessed the appellant \$250 for failing to submit a site-facility diagram. The appellant asserted that IBLA should grant its appeal of that assessment because the Federal and Indian lands comprised less than 10 percent of the agreement acreage, and because the wells were situated on private lands within the agreements. The IBLA concluded that “BLM properly exercised its authority in requesting the schematic diagrams of facilities located on such private lands.” *Id.* at 395. However, the IBLA did not state that BLM

was precluded by statute from deciding not to impose its site security and measurement requirements where there is minimal Federal or Indian lease acreage committed to an agreement.

BLM has also previously considered this issue. When BLM made changes to its measurement and site security regulations in 1987, it received comments on the proposed rule that the agency should adopt a 10 percent Federal interest threshold to exempt certain agreements from the regulations. 52 Fed. Reg. 5384, 5386 (Feb. 20, 1987). At the time, BLM did not cite any authority that purported to prohibit it from setting an exemption threshold; however, it chose not to make changes to the rules to adopt the comments received. The time though is ripe for BLM to adopt the minimum Federal interest concept now.

As noted above, BLM's measurement and site security regulations largely are implementing the duties Congress imposed on the Secretary in FOGRMA. However, developments in the almost 40 years since FOGRMA was enacted will protect BLM's interests if it adopts a minimum Federal interest threshold. First, any threshold would be set at a level such that the amount of production and Federal royalty at risk would be limited. BLM's Federal royalty risk is not the entirety of its royalties for the minimal interest, but only the incremental variance that could result from differing measurement protocols, which would not be expected to exceed +/- 2%. +/- 2% variance is a commonly accepted reasonable deviation for measurement in commercial agreements. Note that variances can also occur in the BLM's favor as well as detriment resulting in a potential net average effect approximating zero.

Second, most of the states with significant Federal production have site security and measurement standards that operators must meet to protect all lessors. States are particularly interested in production accountability for Federal leases because they share in half the royalty revenues attributable to lease production. 30 U.S.C. § 191. Further, most operators already have implemented the API and other standards that BLM is adopting in its regulations, so the effect of no direct BLM regulation imposing those standards largely is of no consequence. See 85 Fed. Reg. 55944 ("This proposed rule would incorporate a number of industry standards and recommended practices. ..."). Finally, both Congress and BLM have recognized in other regulatory contexts that accommodations relating to measurement and royalty payment duties for low volume Federal properties is appropriate. See 30 U.S.C. § 1726 (FOGRMA provision reducing royalty payment burdens to promote production and reduce costs for marginal properties); 43 C.F.R. §§ 3173.14(b)(1) and (2) (allowing for approval of the commingling of production from multiple mineral ownerships where the Federal or Indian lease, unit participating area, or Communitization agreement meets the definition of an economically marginal property, or where the monthly production for each Federal or Indian lease, unit PA, or CA is below certain levels). Considering the extensive state requirements protecting both state and fee lessors that would apply to low interest Federal minerals, the additional burden and cost of implementing Federal requirements is not warranted given the negligible risk.

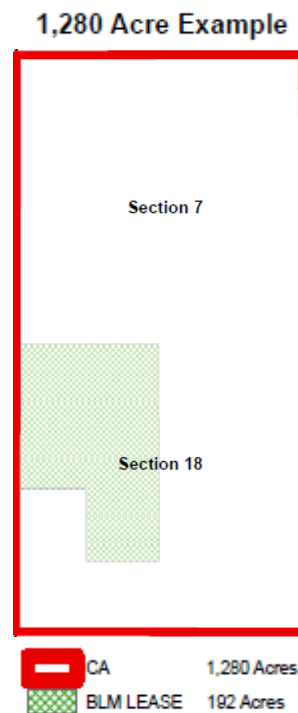
Recommended Change:

API suggests a 15 percent Federal interest threshold is reasonable. This threshold only subjects BLM to 15 percent or less of the variance in production accountability that might result from not imposing BLM's regulatory measurement and site security standards on the agreement operator. Thus, if the measurement variance were 100 barrels but only 15 percent of the acreage

committed to the agreement were Federal, the impact to Federal revenue would be based on 15 barrels.

The required application of all Federal site security and measurement rules to a CA that contains minimal Federal interest is unreasonable given: (1) the negligible risk to royalty payments to the government and tribes; and (2) the large burden, both administrative and financial, imposed by these regulations on both operators and the Department of the Interior. For example, in North Dakota a spacing unit can be 1,280 acres. Under the proposed 15 percent minimum threshold, the BLM's acreage portion of this spacing unit is relatively small, only 192 acres. Assuming that estimated ultimate recovery for a spacing unit is approximately 600,000 BOE, this would yield a total BLM royalty interest in approximately 14,850 barrels of oil with a royalty rate of 16.5 percent. Assuming a BLM royalty rate of 16.5 percent, \$40 barrel oil, and a +/-2 percent detrimental measurement error, the maximum total negative impact to the BIA is approximately \$11,800 over the life of the well. The considerable costs to label, report, monitor, separate and measure the federally regulated interest is not warranted by the negligible risk, (if any) incurred; and these labeling, reporting, and monitoring costs would be incurred by both regulators and industry members alike. A similar example is shown in the example below for Federal leases with a 12.5 percent royalty rate, likewise, demonstrating minimal risk.

Figure 1. Spacing Unit Example



As noted previously, measurement variances occur both positively and negatively around the target. As a result, the Federal government and Tribes may also benefit from this variance. In the examples shown, the risk to royalties is the maximum expected assuming that the measurement variance is always to the government's disadvantage. The government, however,

also incurs expense from the management of these small Federal interest wells and these expenses will likely exceed the maximum estimate of potential royalty loss due to measurement variances.

For the same reason, no matter the percentage of Federal acreage committed to the agreement, BLM should exclude any agreement from its measurement and site security regulations if the average production volume for all agreement measurement devices meets BLM's standard for a "low-volume FMP" for oil production, or "very low-volume FMP" for gas production. *See proposed* 43 C.F.R. § 3174.10; *existing* 43 C.F.R. § 3175.10. These categories of production tend to include a majority of the FMPs but represent a small percentage of the actual volume of production. Indeed, "low-volume FMPs" represent 81% of the total FMPs but only 7% of the total volume of oil produced. *See* 85 Fed. Reg. 55957. This change is particularly warranted in communitized areas, as communitization is appropriate when federally regulated interests cannot otherwise be developed in conformance with the state established spacing pattern unless combined with other fee and state interests. *See* BLM Manual 3160-9. Thus, in such instances, the BLM receives benefits resulting from the combination of its interests with fee and state interests. In instances where the state or fee owners consist of the clear majority of interests within a communitized area, it becomes more logical to defer to state regulation which can help promote development and lower operating expenses. *See* California Co. v. Udall, 296 F.2d 384, 388 (D.C. Cir. 1961) (MLA intended "to promote wise development of these natural resources and to obtain for the public a reasonable financial return on assets that 'belong' to the public[.]" but "[t]he public does not benefit from resources that remain undeveloped, and the Secretary must administer the Act so as to provide some incentive for development"). In other contexts BLM has recognized the benefit of deferring to state regulations – such as in the calculation of royalties on vented and flared volumes under NTL-4A (provided that such state orders, rules, and regulations have been accepted by the Supervisor). BLM also considers state regulations when evaluating drainage questions. *See* 43 C.F.R. § 3162.2-2. And, the agency has further found that it is prudent to allow States to perform inspections of wells that develop Federal minerals under 43 C.F.R. § 3163.3 in certain circumstances.

In situations where the contribution is only a minimum Federal interest, it does not make sense for the Federal government to dictate all site, security and measurement requirements, particularly when the benefits of such requirement are not outweighed by the overall regulatory burden and expense. *See* Gerson v. Anderson-Prichard Prod. Corp., 149 F.2d 444, 446 (10th Cir. 1945) (indicating that the purpose of the lease agreement is "the mutual benefit of the lessor and the lessee"). Indeed, the government has previously provided additional flexibility where the minimum federal interest is 10 percent or less in the unitization context. *See* 43 CFR § 3181.1.

The same principles that warrant a Federal interest threshold apply equally to Indian leases. Therefore, if the Indian lease acreage committed to an agreement is less than 15 percent, or if the combined total of the Federal and Indian lease acreage is below that threshold, then BLM should apply the same minimum interest principles.

2. § 3170.10 – Definitions and Acronyms

Rule:

Facility measurement point (FMP) means a point where oil or gas produced from a Federal or Indian lease, unit PA, CA, or gas storage agreement involving production of native gas or oil is measured and the measurement affects the calculation of the volume or quality of production on which royalty is owed or a point where fluid is measured on a Federal or Indian storage agreement and the measurement affects the calculation of the volume or quality of fluid on which injection and withdrawal fees are owed. An FMP includes all measurement points relevant to determining the allocation of production to Federal or Indian leases, unit PAs, or CAs. However, allocation facilities that are part of a commingling and allocation approval under § 3173.71 or that are part of a commingling and allocation approval approved after July 9, 2013, are not FMPs. An FMP must be located on the lease, unit, or communitized area unless the BLM approves measurement off the lease, unit, or CA (see 43 CFR 3162.7–2, 3162.7–3, 3173.71, 3173.72, 3173.92, and 3173.93). An FMP cannot be located at the tailgate of a gas processing plant located off the lease, unit, or CA. Measurement points for flared volumes are not FMPs.

Preamble:

The BLM is proposing several changes to the definition of a “Facility measurement point (FMP).” First, the definition would be expanded to include not only measurement affecting the calculation of the volume and quality of production from a Federal or Indian lease, unit Participating Area (PA) (part of unit area which has proven to be productive of oil or gas in paying quantities or which is necessary for unit operations and to which production is allocated), or CA for which royalty is owed, but also measurement affecting the calculation of the volume and quality of the production on native gas or oil from gas storage agreements, which royalty is also owed.

Second, the proposed rule would remove the clause from the FMP definition’s second sentence, “but is not limited to, the approved point of royalty measurement and...” Upon review, the BLM does not foresee any circumstances under which an FMP is not relevant to the determination of the allocation of production to Federal or Indian leases, unit PAs, or CAs. Therefore, the clause was removed and the proposed definition reads, “An FMP includes all measurement points relevant to determining the allocation of production to Federal or Indian leases, unit PAs, or CAs.”

Third, the BLM is proposing to remove the fourth sentence from the existing definition, “An FMP also includes a meter or measurement facility used in the determination of the volume or quality of royalty-bearing oil or gas produced before BLM approval of an FMP under § 3173.12.” The proposed definition of FMP is not couched in terms of “BLM-approved” measurement points as the existing definition is written. Under the plain terms of the proposed definition, a measurement point affecting royalty or injection, or withdrawal fees would be an FMP, even in the absence of BLM approval. The fourth sentence of the existing definition is therefore no longer necessary.

Fourth, the BLM is proposing to reword the last sentence in the existing definition for an FMP that now says the BLM will not approve a gas processing plant tailgate meter located off the lease, unit or CA, as an FMP. Instead, the proposed rule would change the last sentence to say that an FMP cannot be located at the tailgate of a gas-processing plant located off the lease, unit, or CA. This change would reflect proposed changes to the BLM's FMP number approval process.

Concern:

The proposed definition of FMP as stated "BLM will not approve a gas processing plant tailgate meter located off the lease, unit or CA, as an FMP" does not take into account the measurement issues associated with moving these FMP's upstream. There are many locations where tailgate FMP's are in place and approved. These FMP's are in place largely due to the operational and safety issues caused by contaminants, such as H₂S. In these cases, the contaminants must be removed from the gas prior to measurement. Removing these points as FMP's would yield added costs, add production loss time to retrofit existing facilities to install new meters, and introduce additional health hazards. It is also burdensome when existing meter locations have been in place for many years with no identified issues.

In practice, it has also been difficult for parties to properly identify points which the Authorized Officer considers as an FMP. Having multiple meters with newly issued FMP numbers is onerous and provides little added benefit to the government. Furthermore, many transporters insist that they do not need to comply with BLM's FMP standards, despite the fact that they operate meters located at the custody transfer point. This creates uncertainty, as upstream operators oftentimes are not allowed to physically touch or update another party's measurement equipment.

The greatest scrutiny is always on the custody transfer meter because all partners, interest owners, state, BLM, and others pay particular attention to that meter. By shifting the focus to multiple meters upstream of the custody transfer point, that meter loses visibility. All parties should focus on the correct meters and review the same data to ensure clarity and certainty. This will ensure better consistency and focus on the volumes sold.

Recommended Change:

The following should be stricken from the definition of Facility Measurement Point:

An FMP cannot be located at the tailgate of a gas processing plant located off the lease, unit, or CA.

3. § 3170.10 – Definitions and Acronyms

Rule:

US well number means a unique, permanent, numeric identifier assigned to each well drilled for oil and gas in the United States, which includes the completion code. The US well number replaces the old API well number.

Concern:

The Proposed Rule would delete the definition for “API (followed by a number).” This definition was originally needed to accommodate an existing requirement that operators identify certain wells by their API numbers. Proposed changes to subparts 3173, 3174, and 3175 would delete all references to API well numbers and require operators to identify wells by their US well numbers. API transferred the unique well identifier standard to Professional Petroleum Data Management (PPDM) in 2010. At that time, PPDM created the US well number as the new industry standard for identifying oil and gas wells.

Proposed § 3170.10 would add the new definition “US well number” to accommodate a proposed requirement that operators switch from using API well numbers to identify their wells to using US well numbers. Created by the PPDM Association in 2010, the US well number is the new industry standard for identifying oil and gas wells.

The change from the standard API Well Number 10-digit system to the US Well Number 14-digit system can be burdensome to the producer. Numbers are and have been the standard for many years and are utilized throughout our industry. The API Well numbers are utilized in all facets of the producing process from individual well identification, to documents and royalties. This change would cause substantial cost and burdens to the production of oil and gas.

Recommended Change:

BLM should accept and utilize the first 10 digits of the US Well Number to keep it in line with the API numbers which are in place across the wells on Federal and Indian lands.

It should be noted that the state agencies are issuing the numbers. Those state agencies still refer to these as API numbers. In addition, the PPDM has stated that they are unaware of a US Well Number. They also refer to it an API number. With that, BLM should retain the reference to API numbers. See appendix A for PPDM response.

4. § 3170.20 – Prohibitions Against By-Pass and Tampering

Rule:

(a) All by-passes are prohibited.

Concern:

This section should be clarified. It can be interpreted in two ways: 1) The physical means for by-pass is prohibited; 2) The act of by-pass is prohibited.

Recommended Change:

Revise as follows:

By-passing of measurement equipment is prohibited. This requirement may be met by physically eliminating the potential for by-pass (e.g., through piping design) or by limiting the potential for

by-pass through implementation of an effective control measure(s) (e.g., double block and bleed valves, double valves, locks and/or security seals, etc.).

5. § 3170.30 – Alternative Measurement Equipment and Procedures

Rule:

Operator may request alternate use of measurement equipment or methods. The PMT will review submitted data and information. The PMT will make a recommendation, including conditions of approval, to the BLM to approve use of the equipment or method.

Concern:

BLM can accomplish much of what it seeks through this proposed rule by simply updating the content of 43 CFR Part 3170 to reflect current voluntary consensus standards, incorporating these standards by reference wherever possible. API Manual of Petroleum Measurement Standards (“MPMS”) is regularly reviewed by standards committees comprised of subject matter experts and other stakeholders including representatives from the BLM’s PMT. These standards are either reaffirmed or updated, and new API standards are developed encompassing the latest technology and proven engineering practices. The BLM PMT should consider frequently reviewing these standards to assess whether they can be incorporated by reference. Furthermore, instead of placing the onus on the operator or manufacturer to justify alternative measurement equipment and procedures as specified in § 3170.30, which places a heavy burden on both industry and the BLM PMT in reviewing the submitted data, after reviewing the latest API standards, the BLM PMT should consider incorporating them by reference by regular periodic notices of proposed rulemaking specific to standards incorporated by reference. This process has been successfully implemented by other regulatory agencies such as the Bureau of Safety and Environmental Enforcement (“BSEE”). For example, see this BSEE notice of proposed rulemaking:

<https://www.federalregister.gov/documents/2012/03/29/2012-7324/production-measurement-documents-incorporated-by-reference>

In this rule, BSEE “is establishing a final rule to incorporate by reference 12 additional production measurement industry standards into the regulations governing oil, gas, and sulfur operations in the Outer Continental Shelf. Incorporation of these production measurement standards provides industry with up-to-date standards for measuring oil and gas production volumes. This rule will result in more accurate and efficient measurement of oil and gas production”.

Recommended Change:

BLM should consider using BSEE’s approach as a model to assist the agency in establishing its own protocol and process to review industry consensus standards on a regular basis to ensure up-to-date standards are cited.

6. § 3170.40 – Variances

Rule:

(2) A request for a variance must be submitted as a separate document from any plans or applications. A request for a variance that is submitted as part of a master development plan, Application for Permit to Drill (“APD”), right-of-way application, or application for approval of other types of operations, rather than submitted separately, will not be considered. Approval of a plan or application that contains a request for a variance does not constitute approval of the variance. A separate request for a variance may be submitted simultaneously with a plan or application. For plans or applications that are contingent upon the approval of the variance request, the BLM encourages the simultaneous submission of the variance request and the plan or application.

Concern:

Requiring separate notices for variances and application approvals can cause unnecessary delays during plan approvals. Requiring multiple submittals is burdensome not only for the operators that are submitting plans but also to the BLM staff reviewing information via separate processes.

Recommended Change:

BLM should allow a request for a variance to be submitted as a separate document or part of applications. The rule should state that a request for a variance that is submitted as part of a master development plan, application for permit to drill, right-of-way application, or application for approval of other types of operations, rather than submitted separately, will be considered.

7. § 3170.40 – Variances, § 3173.76 – Terminating a commingling and allocation approval, and § 3173.95 – Termination of off-lease measurement approval.

Rule:

§ 3170.40(b) The BLM reserves the right to rescind a variance or modify any COA of a variance due to changes in Federal law, technology, regulation, BLM policy, field operations, noncompliance, or other reasons. The BLM will provide a written justification if it rescinds a variance or modifies a COA.

§ 3173.76(a) The AO may terminate a CAA for any reason, including, but not limited to, the following: (1) Changes in technology, regulation, or BLM policy.

§ 3173.95(a) The BLM may terminate off-lease measurement approval for any reason, including, but not limited to, the following: (1) Changes in technology, regulation, or BLM policy.

Concern:

Each operator, in good faith, worked with the BLM to obtain variances and agreements that complied with the regulatory requirements at the time they were issued. Cancellation of these variances and agreements due to changes in technology, regulations, or BLM policies is an unreasonable course of action. As an example, an individual cannot be legally held accountable for actions performed today which become unlawful tomorrow. This approach is clearly

arbitrary and capricious. BLM cannot regulate by policy change. This would be like a city changing the building code for houses that makes a slight change in the foundation requirements and then requiring all existing houses to be torn down, the foundation dug up and re-poured!

Reliance makes a difference, and it is a difference that many areas of law acknowledge and respect because civil society depends on a stable environment. For example, the common law of contract originated with the writ of *assumpsit* which was originally a tort action based on reliance. The American judicial system, in general, is built upon the principal of *stare decisis*—because people rely on the decisions courts make. Many areas of law give reliance heavy weight—but, here, the BLM asserts no deference to industries reliance on past rulings. Cancellation of variances and agreements has the potential to cost the regulated community a significant amount of capital expenditures to alter operations based on changes in technology, regulation, or BLM policy that were not in effect at the time the variances and agreements were originally entered into. The increased operational and capital expenses from these rules have the potential to dramatically impact the economic viability of the affected production operations, causing them to be shut in earlier than originally planned, reducing the royalties paid to the U.S. Treasury.

Recommended Change:

BLM should continue to honor all variances, commingling agreements, and off-site measurement agreements as approved, in accordance with the technology, regulations, and BLM policies that were in effect when the agreements were issued. All language allowing their termination based on changes to technology, regulations, or BLM policies should be stricken from the Proposed Rule.

8. § 3173.50 – Required Recordkeeping, Records Retention, and Records Submission

Rule:

(g) All records, including source records, that are used to determine quality, quantity, disposition, and verification of production attributable to a Federal or Indian lease, unit PA, or CA, must include the FMP number or the lease, unit PA, or CA number, land description along with a unique equipment identifier (e.g., a unique tank identification number and meter ID), and the name of the company that created the record. For all facilities existing prior to the assignment of an FMP number, all records must include the following information:

(4) Land description.

Concern:

The addition of requirement (g)(4) Land Description will place a significant burden on operators. As currently drafted, the Proposed Rule requires every transactional record (i.e. gas analysis records, gas volumes statements, oil and water run tickets, etc.) to have the land description on them. Such a scope change will require material changes to the primarily third-party systems and software used by operators, requiring significant expenditures and time to implement.

This information is already required to be on the site facility diagram and is therefore redundant and unnecessary.

Recommended Change:

Strike § 3173.50(g)(4) from the Proposed Rule. If § 3173.50(g)(4) remains in the final rule, the BLM should allow a grace period of 3 years as of the effective date of the final rule to allow adequate time to include the land description on all the required documents.

9. § 3173.10 – Definitions and Acronyms

Rule:

Economically marginal property

(A) The expected revenue (minus any associated operating costs) generated from crude oil or natural gas production volumes on that property is not sufficient to cover the cost of the capital expenditures based on the least expensive practicable alternative average cost to construct facilities typical for the area required to achieve measurement of non-commingled production of oil or gas from that property over a payout period of 18 months; or

(B) The royalty net present value (RNPV) is less than the cost of the capital expenditures for the least expensive, practicable alternative required to achieve measurement of non-commingled production of oil or gas from that property. (ii) Both the payout period and the RNPV are determined separately for each lease, unit PA, or CA oil or gas FMP. Oil FMPs are evaluated using estimated revenue (minus taxes and operating costs) from crude oil production, as defined in this section, while gas FMPs are evaluated using estimated revenue (minus taxes and operating costs) from natural gas production, as defined in this section.

Preamble:

The proposed rule would eliminate the first condition for an economically marginal property. Upon review, the BLM believes the first and third conditions in the existing rule are essentially the same. The BLM proposes to change the existing second and third economic conditions to state that the capital expense would be based on the least expensive, practicable, alternative equipment required to achieve non-commingled measurement of production. This change would clarify for industry and the BLM the equipment that would be included in an economic analysis for identifying an economically marginal property. The Proposed Rule would retain the last sentence of the existing definition with only minor administrative changes.

Concern:

It is unclear how the BLM will determine what “the least expensive practicable alternative average cost to construct facilities typical for the area required to achieve measurement of non-commingled production of oil or gas from that property over a payout period of 18 months.” Every operator has different agreements for what they pay for equipment and services. Every operator has a different minimum commodity price where they break even. BLM does not perform research on operator pricing, they do not quote equipment, fabrication, and installation, nor do they hire the services to perform such activities. They have no basis for determining what

the least expensive practicable alternative cost is. In addition, operators must also consider other Federal and state regulations as well as reliability and safety in their facility designs. These additional requirements must be considered holistically when determining practicable alternatives, something that the BLM may not have the basis or resources to perform.

Recommended Change:

The definition for economically marginal property should state the following:

(A) The expected revenue (minus any associated operating costs) generated from crude oil or natural gas production volumes on that property is not sufficient to cover the cost of the capital expenditures based on the least expensive practicable alternative average cost to construct facilities typical for the area required to achieve measurement of non-commingled production. "Capital expense would be based on the least expensive, practicable, alternative equipment required to achieve non-commingled measurement of production" of oil or gas from that property over a payout period of 18 months. The operator shall provide the least expensive practicable alternative average cost for the facilities in question for BLM's review.

10. § 3173.10 – Definitions and Acronyms

Rule:

Royalty Net Present Value (RNPV) means the net present value of all Federal or Indian royalties paid on revenue earned from crude oil production or natural gas production from an oil or gas FMP for a given lease, unit PA, or CA over the expected life of metering equipment that must be installed for that lease, unit PA, or CA to achieve non-commingled measurement.

Concern:

The definition for Royalty Net Present Value only includes the life of metering equipment. RNPV should include all the associated facilities (tanks, vessels, piping, automation, etc.) necessary to achieve non-commingled measurement, not just the meter itself.

Recommended Change:

The definition for Royalty Net Present Value (RNPV) should state the following:

Royalty Net Present Value (RNPV) means the net present value of all Federal or Indian royalties paid on revenue earned from crude oil production or natural gas production from an oil or gas FMP for a given lease, unit PA, or CA over the expected life of all the associated facilities (metering, tanks, vessels, piping, automation, etc.) necessary to achieve non-commingled measurement that must be installed for that lease, unit PA, or CA to achieve non-commingled measurement.

11. § 3173.21 – Oil Measurement Seal Components-seals

Rule:

(a) Components used for quantity or quality determination of oil must be effectively sealed to indicate tampering. Such components include, but are not limited to, the following components of LACT meters.

(1) Sampler volume control.

(b) Each missing or ineffectively sealed component is a separate violation.

Concern:

(a)(1) Many samplers are electronically controlled by the Electronic Flow Meter / Electronic Liquid Measurement. There is no effective way to seal an electronic sampler volume control.

(b) The determination that each missing or ineffectively sealed component is a separate violation could significantly impact the regulated community. If multiple seals on a single location are determined to be ineffective by the AO and immediate assessments are levied for each violation, it can, and has, cost the operator several thousands of dollars. Multiple penalties assessed for violations at a single location are unreasonable.

Recommended Change:

(a)(1) Should be revised as follows:

(a) Components used for quantity or quality determination of oil must be effectively sealed to indicate tampering. Such components include, but are not limited to, the following components of LACT meters. (1) Mechanical sampler volume controls.

(b) Should be revised as follows:

(b) Missing or ineffectively sealed components at a given FMP, is considered a single violation.

12. § 3173.60 – Applying for a Facility Measurement Point Number

Rule:

(b) For a permanent measurement facility that comes into service after the effective date of the final rule, the operator must apply for approval of the FMP number before any production leaves the permanent measurement facility. This requirement does not apply to measurement equipment at any temporary measurement facility used during well-testing operations. After timely submission and prior to approval of an FMP number request, an operator must use the lease, unit PA, or CA number for reporting production to ONRR, until the BLM assigns an FMP number, at which point the operator must use the FMP number for all reporting to ONRR as set forth in § 3173.61.

Concern:

As of the publication of this Proposed Rule, BLM does not have the capability to accept FMP number applications. However, the Proposed Rule designates hard compliance deadlines. The BLM anticipates AFMSS II to be ready to accept applications by the effective date of the final rule. However, this software should have been operational by the effective date of the current rule (January 17, 2017). AFMSS II is still not functional. The BLM should update language to allow for a grace period until FMP applications can be accepted.

Recommended Change:

(b) Should be revised as follows:

For a permanent measurement facility that comes into service after 60 days upon BLM FMP application system availability, the operator must apply for approval of the FMP number before any production leaves the permanent measurement facility. This requirement does not apply to measurement equipment at any temporary measurement facility used during well-testing operations. After timely submission and prior to approval of an FMP number request, an operator must use the lease, unit PA, or CA number for reporting production to ONRR, until the BLM assigns an FMP number, at which point the operator must use the FMP number for all reporting to ONRR as set forth in § 3173.61.

13. § 3173.70 – Conditions for Commingling and Allocation (Surface and Downhole)

Summary of Requested Change for This Section:

API supports incorporating an allowance for the live oil volume correction factor (also known as “shrinkage”), consistent with the offshore best practices and API MPMS Chapter 20.5, which allows for equitable commingling of streams of different compositions or operating conditions in § 3173.70.

This volume correction factor is required for equitable accounting when using "Upstream FMPs" (oil measurement of unshrunk oil volumes rather than of dead oil off of tanks). The volume correction factor would also facilitate a new commingling scenario outlined as part of Recommendation 2 (high quality upstream measurement for allocation).

Rule:

(a) Subject to the exceptions provided in paragraph (b) of this section, the BLM may grant a CAA only if the proposed allocation method used for commingled measurement does not have the potential to affect the determination of the total quantity or quality of production on which royalty is owed. All the Federal or Indian leases, unit Pas, or CAs proposed for commingling must meet the following conditions...

Background on Commingling:

Commingling is longstanding industry practice that provides a mechanism to create the greatest return on properties that may not otherwise be economic to develop. Commingling enables the BLM and industry to reach a common goal – efficiently and responsibly develop public resources. However, the current commingling approval process can be burdensome and

restrictive for most new development, and field offices often deny these commingling applications, even when explicitly allowed by current regulations. Such restrictions ultimately require duplicative facilities.

Surface Commingling is consistent with President Trump's March 28, 2017 Executive Order, "Promoting Energy Independence and Economic Growth" instructing agencies to remove burdens that "unnecessarily obstruct, delay, curtail, or otherwise impose significant costs on the siting, permitting, production, utilization, transmission, or delivery of energy resources."

Specifically, commingling helps eliminate unnecessary burdens that can obstruct development and provides benefits, including the following:

- Reduces footprint relative to non-commingled facilities, which minimizes environmental impact to protected species, habitat, and cultural areas.
- Reserves capital for re-investment, thus minimizing waste and maximizing ability to recover resource.
- Reduces potential leak points by reducing required equipment, further protecting the environment.
- Reduces tank count. Additional tanks lead to additional potential emissions due to thermal breathing, regardless of rate through the tanks. This is particularly true when utilizing a gas blanket system to improve vapor recovery runtime and prevent oxygen ingress. Fewer tanks also benefits worker exposure by reducing the amount of time spent on tanks.
- Provides the simplest solution to piping arrangements, which simplifies inspections and allows for faster completion by Field PET's.
- Marginal wells can become profitable as they do not carry the burden of a complete battery. This helps prevent lower producing wells from being shut-in or abandoned (which leads to reduced ultimate recovery and royalty).
- Moreover, operations may become more economical and thus enhance potential resource recovery. For example, in North Dakota, operators drill 2,560-acre section line wells between two 1,280-acre CAs. These section line wells are the least economic and can be first to be dropped when oil prices decline because they must carry separate facilities cost that would otherwise be distributed between all the wells in a single CAA. One operator estimated that for typical Bakken setups, a section line well will carry an incremental \$500,000-\$700,000 per facility. The price range assumes that the oil gatherer will allow for a multi-lease LACT rather than a dedicated LACT.
- FMP meter accuracy may improve because it will have a higher volume due to commingling production thus decreasing overall uncertainty and expediting error detection.
- Earlier gas to sales may occur due to the ability to use existing connected infrastructure
- Reduces the surface disturbance and equipment inventory which can produce emissions, potential for spills, truck traffic, and noise. (See Figure 2 and Figure 3.)

- Figure 2 (Greenfield Example) demonstrates the complexity of a new facility designed under current commingling restrictions. The satellite facility has 8 different trains due to differing royalty rates on leases from which the wells are producing. If allowed to move the FMP to a commingled measurement point, this could reduce the need for 12 tanks and 8 LACTs in this specific example. Alternatively, this could eliminate the footprint of a complete satellite or battery by utilizing space at one of the locations for separation stages only.
- Figure 3 (Brownfield Example) demonstrates the burden placed on existing batteries to align with current commingling requirements. The original equipment is shown in green and is in place for four wells. It requires bulk and test separators, 2 heater treaters, 1 vapor recovery tower (VRT), 4 oil tanks, 2 water tanks, flare, sales compressor. To make the 4 wells non-commingled if they were from different leases, the Operator would consider the following changes:
 - Add 2 more separators so each well has its own separation train.
 - Add 2 more heater treaters so each well has its own secondary separation (needed for recycle in case of water in tanks, breaking emulsions, RVP control, stuck dumps, etc.).
 - Add 3 Vapor Recovery Towers (VRTs) to improve gas breakout at low pressure (may be required for certain air permits).
 - Install 4 more oil tanks so that each well can operate by tank gauging if required without shutting in production (need 2 tanks per well).
 - Install 3 new LACTs, since wells are committed first to a pipeline, or install a multi-lease LACT if agreed upon with the gas gatherer. Note that multi-lease LACTs require multiple sample pots, individual inlet control valves per lease, and individual divert control valves per lease.
 - Add vapor recovery units (VRUs) and booster compressors for the lower pressure separators and tanks depending on gas commingling agreement. For example, if all low-pressure gas recovered off the heater treater, VRT, and tanks must be kept separate by lease, then all vent piping and low-pressure compression must be kept separate thru the FMPs. Different BLM field offices have indicated that gas off low pressure production vessels and tanks may be allowed to commingle given complexity and waste of redundant compression, but this is not clearly stated in the regulation. Even if the tank vapors are allowed to commingle, a larger VRU may be required given the additional breathing requirements with the added tanks.
 - Install extensive interconnecting piping for all the additional equipment. Such piping could be even more complicated in this scenario as 1 of the wells is on gas lift and takes the gas lift supply from the combined 4 wells prior to their sales.
 - Install 4 sales gas FMP meters, which could lead to 3 more (smaller) compressors if the FMP is the 3rd party custody transfer point (typical), which operates at high pressure in this case.

- It is important to note that while such batteries may appear to have sufficient room for additional equipment for non-commingling based on satellite images alone, once the operator accounts for typical spacing requirements between wells and tanks or fired sources, flares from other equipment, or fired equipment from tanks, as well as roads and pipeline ROWs, very little room may remain for the non-commingled changes. In this case, additional surface disturbance would most certainly be required to change this battery. This may include rerouting flowlines and installing additional pipelines to gather products from a new destination.

43 CFR § 3178.7 lists reduction in surface disturbance as an objective that off-lease measurement may support. BLM states that the intent of § 3178.7 is to provide clarity and consistency in implementation of requests for approval of off-lease royalty-free use. BLM further states that the proposed language is intended to “encourage operators to reduce the amount of surface disturbance associated with oil and gas exploration and development projects. In some cases, centralizing production facilities at a location off the lease may serve that objective.” (81 Fed. Reg. at 6665). Commingling will have the greatest impact in achieving this objective.

Figure 2. Greenfield Example – Designing for Commingling Compliance

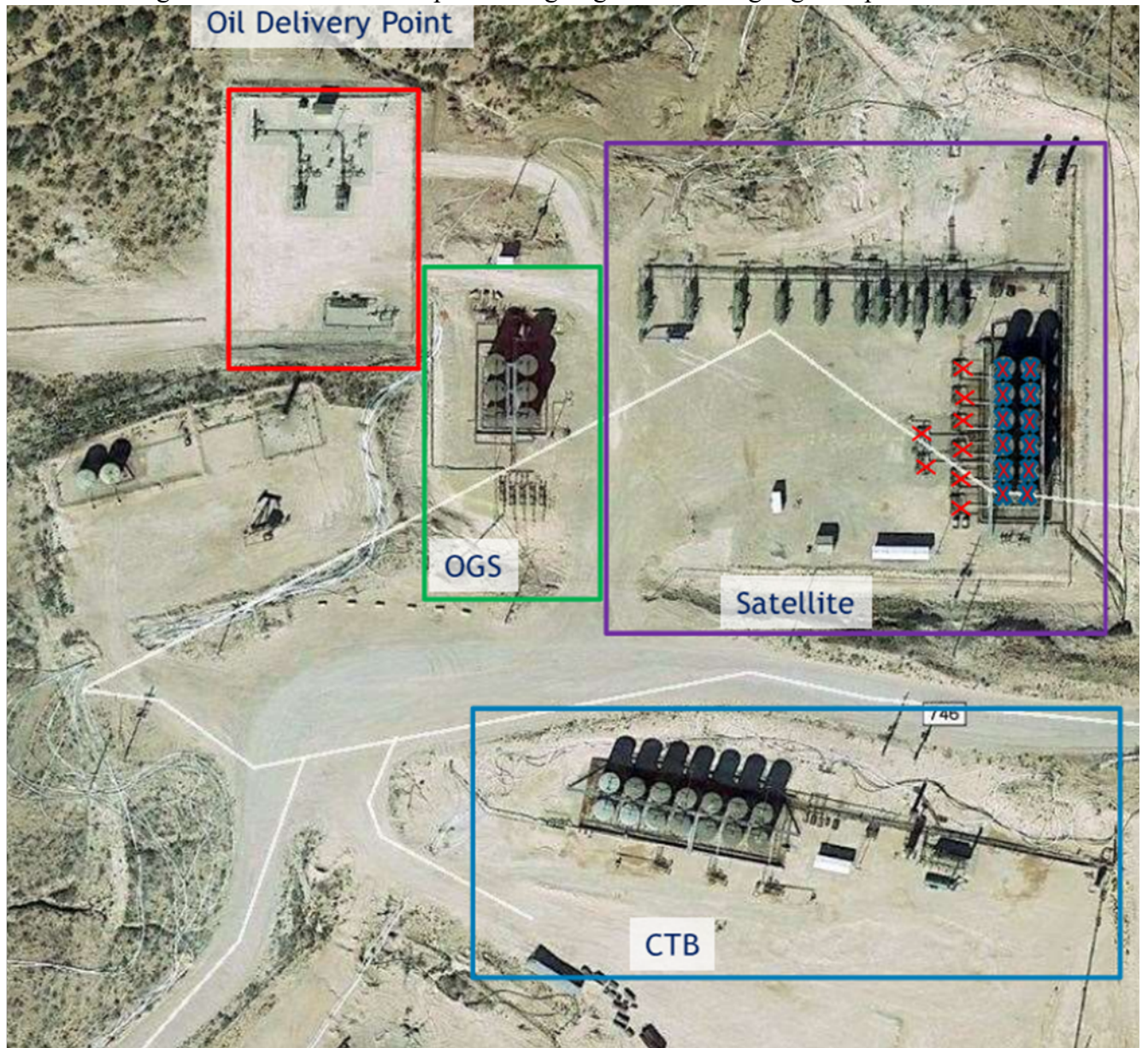
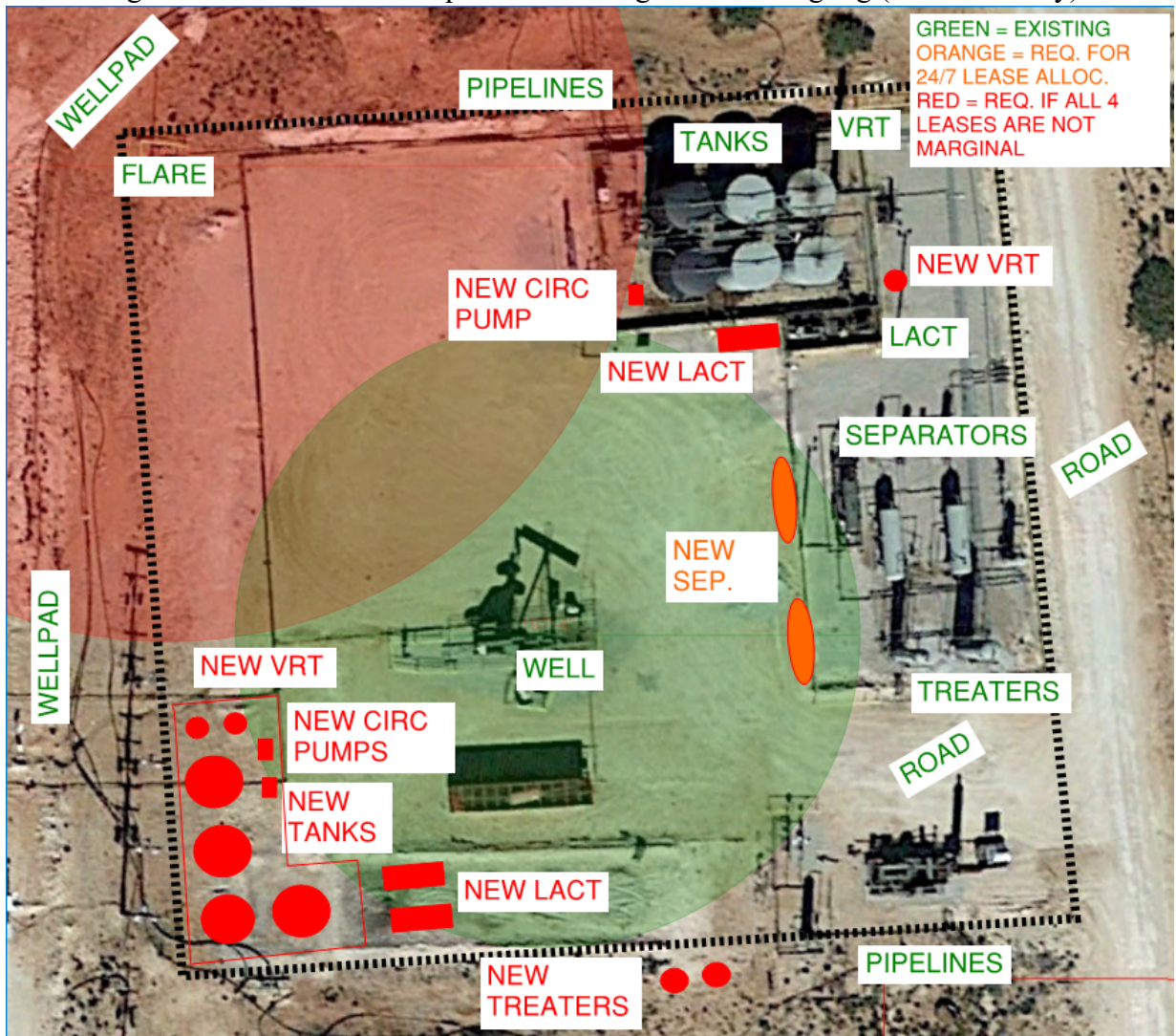


Figure 3. Brownfield Example - Retrofitting for Commingling (4 Well Battery)



Recommended Change 1 (Upstream Live Oil FMP's):

API supports the incorporation in § 3173.70 and § 3174.120 of live volume correction factors (commonly known as "shrinkage"), consistent with offshore best practices and API MPMS Chapter 20.5, which allows for equitable commingling of streams of different composition or operating conditions.

This volume correction factor is required to properly account for volumes when using "Upstream FMPs" (oil measurement of unshrunk oil volumes rather than of dead oil off tanks). The volume

correction factor would also facilitate a new commingling scenario outlined in Recommendation 2 (high quality upstream measurement for allocation).

API recommends the BLM address the following in its final rule:

- *Include volume correction factors for live fluids that can be applied to FMPs to allow for baselining fluids at live conditions to standard conditions per API MPMS Chapter 20.5.*
- *Measurement of volume correction factors for live fluids should be performed using sampling systems outlined by API MPMS Chapter 8.1 and GPA 2174, using Differential Liberation experiments per the process flow path in a lab environment.*
- *Auditing of the chosen volume correction factors should be coupled with the proving requirement processes. API recommends using composite or spot, pressurized sampling to prove out volume correction factor correlations on a frequency of once per month until the factors do not change more than 1%. Afterward, they should be re-tested then based on the category of FMP: quarterly for Very High Volume, twice per year for High Volume, and once per year for Low Volume.*
- *To utilize Upstream FMPs, BLM should clarify that an acceptable adjustment methodology can be applied in place of requiring production shut in. Note that shut-ins are more likely on Upstream FMPs vs. traditional FMPs given lack of equipment available to handle upsets prior to measurement.*
- *Normal Operating Conditions should be determined based on Addendum 1 to API MPMS Chapter 6.1.*

14. § 3173.70 (b) – Conditions for Commingling and Allocation (Surface and Downhole)

Rule:

The BLM may also approve a CAA in instances where the proposed commingling of production involves production from Federal or Indian leases, unit Pas, or CAs that do not meet the criteria of paragraph (a)(1) of this section (e.g., the commingling of leases, unit PAs, or CAs with different royalty rates, or where the commingling involves multiple mineral ownerships). To be approved, a CAA under this paragraph must meet the requirements of paragraphs (a)(2) through (3) of this section and at least one of the following conditions must be met:

Concern:

The preamble addressed commingling marginal wells and wells with significantly diverse revenue and royalty distribution. However, it did not address situations where the difference in BLM NRI is very small and the production does not meet marginal well criteria.

Recommended Change:

Add the following rule language as 3173.70 (b)(7)

“If, within a group of properties comprised of different BLM 12.5% royalty surface commingled leases:

- a. The BLM has a net revenue interest in each and all the Commingled Properties where the net revenue interests are identical to a tolerance of 2%, and the following are satisfied:
 - i. An allocation scheme is used whereby allocation quality meters (API MPMS Chapter 20.1) measure each lease, unit PA, or CA 24/7 prior to commingling through downstream oil or gas FMPs. The upstream allocation meter may be a single oil or gas meter off of primary separation or it may be the sum of several meters for that lease, unit PA, or CA treated as a single measurement to be used for allocation.
 - ii. The allocation measurement data, inspection records, and calibration records must be available upon request of the AO.

Justification:

This approach provides an avenue for operators to commingle wells with BLM NRI within 2%. The production limit minimizes the BLM barrels at risk for improper measurement, and the proposed maximum allocation error ensures this option is auditable (i.e. the allocation meter readings can easily be compared against the FMP volumes to audit measurement accuracy).

Summary of Additional Requested Change for This Section:

API supports the addition of a commingling allocation condition to § 3173.70 (b) as follows:

(7) Operator installs and operates FMP-quality oil or gas meters for each distinct Federal interest prior to those interests being commingled. Flow must be metered continuously by lease but may be bypassed in case of upsets as detailed in § 3170.10. Meters must meet certainty requirements of API MPMS Chapter 20. Meters are used to calculate allocation factors for the downstream FMP meters (oil or gas). More specifics are listed in subsequent discussion.

Rule:

(a) Subject to the exceptions provided in paragraph (b) of this section, the BLM may grant a CAA only if the proposed allocation method used for commingled measurement does not have the potential to affect the determination of the total quantity or quality of production on which royalty is owed. All the Federal or Indian leases, unit Pas, or CAs proposed for commingling must meet the following conditions...

Discussion:

Upstream FMP: Allowance of Volume Correction Factors:

Key Message: Volume correction factors (shrinkage) must be allowed when using live fluid Upstream FMPs or when required for allocation scenarios of very different fluids and operating conditions.

Due to the high variability in pressures and temperatures experienced in production (a function of formation, drilled location in formation, operating process, etc.), measured volumes are adjusted to standard conditions via factors. In the case of stock tank oils, LACTs are

traditionally used to measure the volume and then factors are applied to get to standard conditions as such:

$$(1) \text{ Indicated Volume} * \text{CPL (Correction Factor for Pressure)} * \text{CTL (Correction Factor for Temperature)} - \text{BS\&W} = \text{Volume at Standard Conditions}$$

In the preceding formula, CPL represents the factor applied for the change in fluid volume with pressure, CTL is the factor applied for the change in fluid volume with temperature, and S&W is the factor applied for removing sediment and water from the indicated volume. Both CPL and CTL are correlations that have been developed over time as described in API MPMS Chapters 11.1 and 11.2. In the case of stock tank oil, as the fluid temperature increases, the volume of the oil increases; when pressure increases, the volume decreases as it squeezes the liquid phase without additional components being forced into it, such as gas. However, it should be noted the CPL depends on the compressibility factor of the oil.

In the case of live oils (or those that have not gone through the process of getting to stock tank conditions), the same approach is used but includes factors with different names as such:

$$(2) \text{ Indicated Volume} * \text{Shrinkage (Correction Factor for Pressure, Temperature, and Dissolved Gas)} - \text{BS\&W} = \text{Volume at Standard Conditions}$$

Where Shrinkage (the volume correction factor) is the factor applied for the change in fluid volume with pressure, temperature, and liberation of dissolved gas as the fluid changes to standard conditions. S&W is the same measurement or factor applied as in Equation 1. With live oils, as the temperature increases, the volume of oil still increases just like stock tank oils (putting aside the impact of more gas liberation at higher temperatures). The key difference with live oils is that as pressure increases, the volume of the oil *increases* due to the forcing of more gas molecules into the liquid phase.

In both cases, factors are being applied to achieve the exact same objective: baseline the fluid volumes to standard conditions. As the live oil goes through the process downstream of the measurement point, the gas is liberated from the liquid phase, which is measured and accounted for as it moves into the gas processing/treating side of the facility. By definition, the end product of the measured fluids *is the same* by applying Equation 1 or Equation 2 assuming the factors in both cases are applied correctly to achieve volume of liquid as standard conditions. A similar process can be applied to gas phase measurement and allocation.

Currently, the BLM and ONRR do not allow for the use of volume correction factors to accurately handle phase behavior between measurements [referred to as B_o , B_w , and B_g for the oil, water, and gas phases, respectively] while they do allow for CPL and CTL. Logically, volume correction factors are a form of CPL and CTL and should thus be allowed where needed (e.g. for live oil measurement, whether as a dedicated FMP or for allocation purposes). Looking at these factors in Table 1 for various example oils shows that the terms in Equation 1 (CPL, CTL) are, in general, smaller than the volume correction factor in Equation 2 (shown as shrinkage). However, the CTL is of the same magnitude as the shrinkage in many of these cases and sometimes is an even larger factor (see Example 6, which had the highest fluid temperature). Given the volume correction factor is typically a larger factor than traditional CPL and CTL, it may be considered more of a risk to use these volume correction factors, but later discussion

proposes how to limit the risk through proper boundaries on how and when volume correction factors can be used.

Table 1. CPL, CTL, and Shrinkage comparison for example oils

Examples	Fluid	Pressure	Temperature	CPL	CPL Deviation	CTL	CTL Deviation	Shrinkage	Shrinkage Deviation
		PSIG	F						
Example 1	A	52	104	1.00037	-0.00037	0.97607	0.02393	0.9546	0.0454
Example 2	A	54	93.5	1.00037	-0.00037	0.98163	0.01837	0.9597	0.0403
Example 3	B	57	100	1.0004	-0.0004	0.97797	0.02203	0.9622	0.0378
Example 4	B	62	102.2	1.00044	-0.00044	0.977	0.023	0.9569	0.0431
Example 5	B	62.3	104.3	1.00045	-0.00045	0.97576	0.02424	0.9586	0.0414
Example 6	C	10	110.6	1.00007	-7E-05	0.97284	0.02716	0.9824	0.0176
Example 7	C	16	94.8	1.00011	-0.00011	0.98136	0.01864	0.9617	0.0383
Example 8	C	12.3	89.9	1.00008	-8E-05	0.98395	0.01605	0.973	0.027

When using Upstream FMPs, it is necessary to account for the shrinkage via a volume correction factor to properly align with sold volumes. Table 2 shows oil volumes from an actual location with five Upstream FMPs and a single downstream LACT. Note the deviation between net sales and the summation of the FMP meters when shrinkage is not included. This deviation is the starting point for bias and uncertainty if volume correction is not allowed.

If the Upstream FMP volumes alone are used for the payment basis without shrinkage applied, BLM royalty will not be paid consistent with actual production. Over a period of time, this might result in excess royalty on some months (e.g. January in Table 2) and reduced royalty other months (e.g. April in Table 2), which may average out over time, but it is not ideal nor can be quantified in an appreciable way.

If the Operator tries to use an allocation model to allocate the 3-6% deviation based on production, and if the FMPs are operating at different pressures or temperatures or with different fluids, the actual production rates from each interest could vary creating bias in favor of the highest interest lease and/or highest production rate lease. This ties directly to Recommendation 2 that will be discussed in the following section in which API recommends allocating a common sales point (LACT) based on high quality upstream measurement points (like Upstream FMPs). *In both recommendations, the key is resolving deviations in meter readings equitably, consistently, and with utmost transparency between interest owners.* As shown in Table 2, including the shrink into the upstream measurement significantly decreases the deviation, thus reducing risk in allocation and discrepancies vs. sales points.

Table 2. Comparison of Net Sales to the Sum of Upstream FMPs on a Battery

Month	Net Oil Sales (Month End)	FMP Name	FMP Indicated Volume	FMP Volume with Shrink
	BBL		BBL	BBL
January	190754	FMP 1	132195	130194
		FMP 2	6017	5929
		FMP 3	12120	11871
		FMP 4	51228	49266
		FMP 5	0	0
		% Diff from Sales	6%	3%
February	154419	FMP 1	103637	102322
		FMP 2	4090.7	4033
		FMP 3	7525	7397
		FMP 4	41890	40462
		FMP 5	0	0
		% Diff from Sales	2%	0%
March	95153	FMP 1	61763	60334
		FMP 2	2191	2153
		FMP 3	8056	7918
		FMP 4	25560	24625
		FMP 5	0	0
		% Diff from Sales	3%	0%
April	113714	FMP 1	80197	78221
		FMP 2	2534	2460
		FMP 3	5487	5366
		FMP 4	24779	23781
		FMP 5	0	0
		% Diff from Sales	-1%	-3%
May	134790.95	FMP 1	95879.56	94355.67
		FMP 2	2662.8	2566.14
		FMP 3	5272.25	5004.62
		FMP 4	34921.03	33243.21
		FMP 5	0	0
		% Diff from Sales	3%	0%

Notes on Table 2: January and April at this particular site do not show a complete balance with the reported LACT sales. January shows that the shrinkage helped achieve a more balanced comparison to the LACT sales, but there is still a deviation of 3% lower volume on the LACT compared to the FMPs. Various reasons could have caused this (S&W differences, process upsets such as gas blow-by on the FMPs) (discussed in a following section), or perhaps an accounting issue. In this case, it was found to be an accounting issue as this facility was new and there was still inventory in the old facility serving these leases that needed to be transitioned to this new site.

The negative value shown for April indicates the FMP points (unshrunk volumes) registered less volume than what was sold through the LACT meter. Unshrunk volume should always register higher volumes than what is finally sold at the tail of the facility. In this case, it is not entirely clear what caused the deviation (e.g. unaccounted truck sales, inventory issues, etc.). The key with both items is that using Upstream FMPs with a proper shrinkage adjustment allows for this

analysis to be performed and ultimately allows the operator to more clearly focus on production imbalances.

The January and April values are shown for transparency, specifically driving the case that including shrinkage with Upstream FMPs does indeed aid in more fair and accurate production measurement, but there still can be deviations from the final sales point, which again highlights the importance of the second recommendation in these comments and the discussions in the following sections.

Upstream FMP: Implementation, Test Methodologies, and Auditing of Volume Correction Factors:

Key Message: Results show that spot sampling is sufficient to accurately determine the volume correction factor as described in API MPMS Chapter 8.1 (as opposed to composite sampling). Volume correction factors do not change appreciably over a 24-hour period.

Key Message: Properly characterized analog fluid samples in thermodynamic models can be used to accurately predict volume correction factors using an equation of state (“EOS”). It is recommended that the EOS predictions be used during initial production until the first sample analysis can be obtained and implemented, after which the EOS can be used for comparison purposes.

Key Message: The EOS is the key correlation to determine the volume correction factor with pressure and temperature. The correlation needs to be adjusted to the measured data and applied to the measurement as pressure and temperature changes occur.

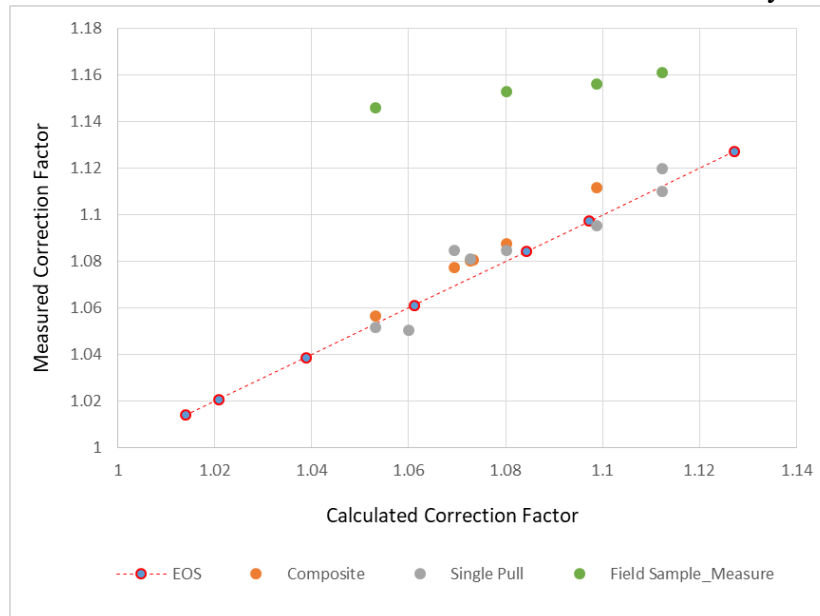
Resolution of the first challenge needs to be further supported by how operators would measure, apply, and audit any volume correction factors being applied to FMPs.

Volume correction factors can be calculated by thermodynamic modeling software using an EOS with proper fluid characterization as it is a predictable, physical fluid property. Thermodynamic models predict these factors under perfect separation and equilibrium conditions. Actual conditions are not perfect and may not be in equilibrium based on the processing conditions and/or design, so it can be anticipated that any measured values will be higher compared to the models (more gas will end up with the oil phase leaving separation equipment than predicted by equilibrium). Thermodynamic models are still recommended to determine the applicability of using volume correction factors and determining the ideal process locations, facility considerations, and ultimately economics when developing a facility that is commingled using Upstream FMPs. However, the actual application of the volume correction factors should be based on measured samples taken at the FMP with the EOS adjusted accordingly.

API offers guidance on determining and applying these correction factors in API MPMS Chapter 20.5 Sections 6.2.2/3/4. API MPMS Chapter 20.5 Section 6.2 provides the option of determining the factor for the 3 phases by Laboratory Measurement or Calculation. Note that these methodologies are further described in API MPMS 20. Section 1.7.4 and are recommended for

live oil measurement. The various methods for sampling and measuring the volume correction factor are shown in Figure 4 below.

Figure 4. Calculated vs. Measured Oil Volume Correction Factors by Test Method



The EOS points were developed by using a thermodynamic model that included several PVT samples from varying locations throughout a basin which **did not** include the wells that are shown using the various sampling techniques but were from the same formation. This EOS was then used to compare the measured results from the various sampling techniques. Three different types of sampling methods were tested to determine the volume correction factor:

- 1) High Pressure Spot Sampling and Field measurement per API MPMS Chapter 20.5 Annex E.
 - Purpose: Least expensive, fastest to get data, and easiest to perform (\$200/sample).
- 2) High Pressure Composite Sampling and Laboratory measurement using staged flash separations.
 - Purpose: Determine if volume correction factors change throughout a 24-hour period. Maintains pressure in sample using a nitrogen piston cylinder. Most expensive procedure, requires additional hardware (>\$3000/meter), requires lab analysis (\$1000/sample).
- 3) High Pressure Spot Sampling and Laboratory measurement using staged flash separations.
 - Purpose: Compare to composite sampling to determine if factors pulled from a single sample are representative of a 24-hour period. Requires lab analysis (\$1000/sample).

First, the results from field sampling and measurement are significant outliers from the other two sampling techniques, but also from the EOS itself. Again, having the EOS data provides a good basis to check measurement values. Based on these results, the field sampling and measurement approach is not recommended for the purposes of determining and applying a volume correction factor.

The composite sampling (indicated in orange in Figure 4) shows much better agreement and consistency with the EOS and the spot sampling. Composite sampling utilizes a sampling system in which a sample is pulled over a period automatically in flow weighted increments. A syringe pump is used to periodically pull a pressurized sample into a piston cylinder container that maintains the fluid pressure. Once the cylinder is filled, it can be removed and sent to labs for analysis. Comparatively, the spot sampling method takes one pressure sample at a point of time which is then sent to the lab for analysis. The main point of the trial tests in Figure 4 was to determine the necessity for composite sampling (determine if the volume correction factor for oil changed over a 24-hour period and if the additional equipment was necessary to achieve quality results). As can be seen in Figure 4 and Table 3, the differences between the spot sampling technique and composite sampling technique are minute. These tests (along with others not shown) supported the conclusion that the volume correction factor is not something that changes drastically over a short period of time (not long periods of time which will be shown later). Results also confirmed that the extra equipment to maintain sample pressure does not appreciably impact on measurement quality.

Table 3. Comparison of Composite and Single Pull Volume Correction Factors

Well	Pressure	Composite	Singe Pull	% Diff
First Stage				
Well 1	218	1.0804	1.0809	0.046
	220	1.0807		
	243	1.0876	1.0846	0.277
Well 2	207	1.0773	1.0846	0.673
	153	1.0564	1.0518	0.437

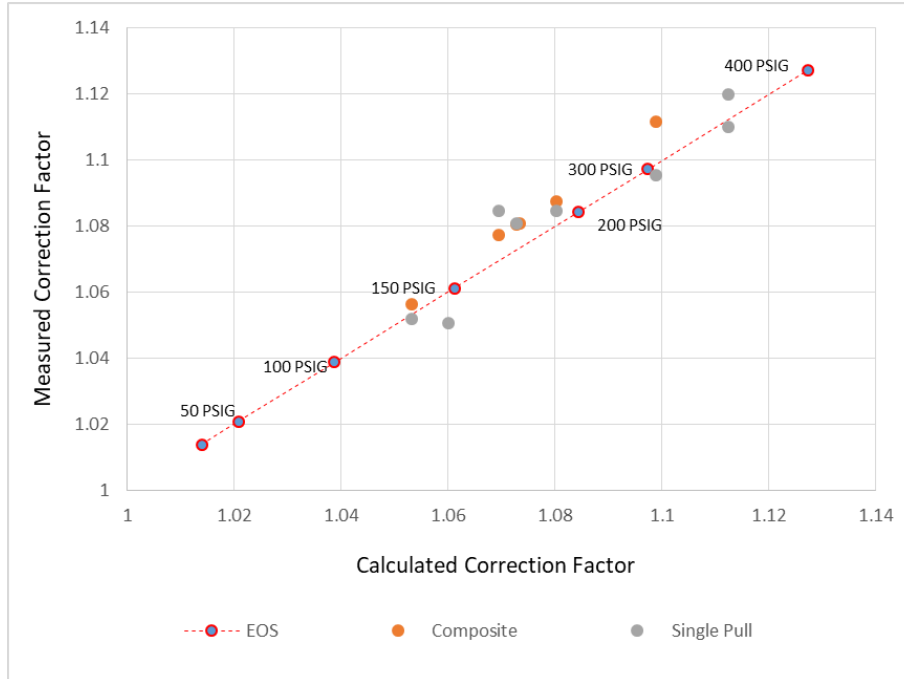
*Well 1 Single Pull on Second test not available due to sample cylinder leak

The final key message in the measurement of the volume correction factor is that for the most part, the points in Figure 4 are always above the line, which was expected due to the EOS being an equilibrium model, whereas real operations have mass and heat transfer limitations. However, it should be noted that the EOS model did provide a very good fit of the samples obtained and could be acceptable.

For accuracy, it is important to note that samples must be collected per API MPMS Chapter 8.1, API MPMS Chapter 8.2, and GPA 2174, as applicable.

Once measured, the next consideration is how to apply the volume correction factor. The volume correction factor is a function of pressure and temperature so it must be adjusted as these parameters change in the measurement process. Figure 5 below shows how the volume correction factor increases with pressure.

Figure 5. Impact of Operating Pressure on Volume Correction Factor



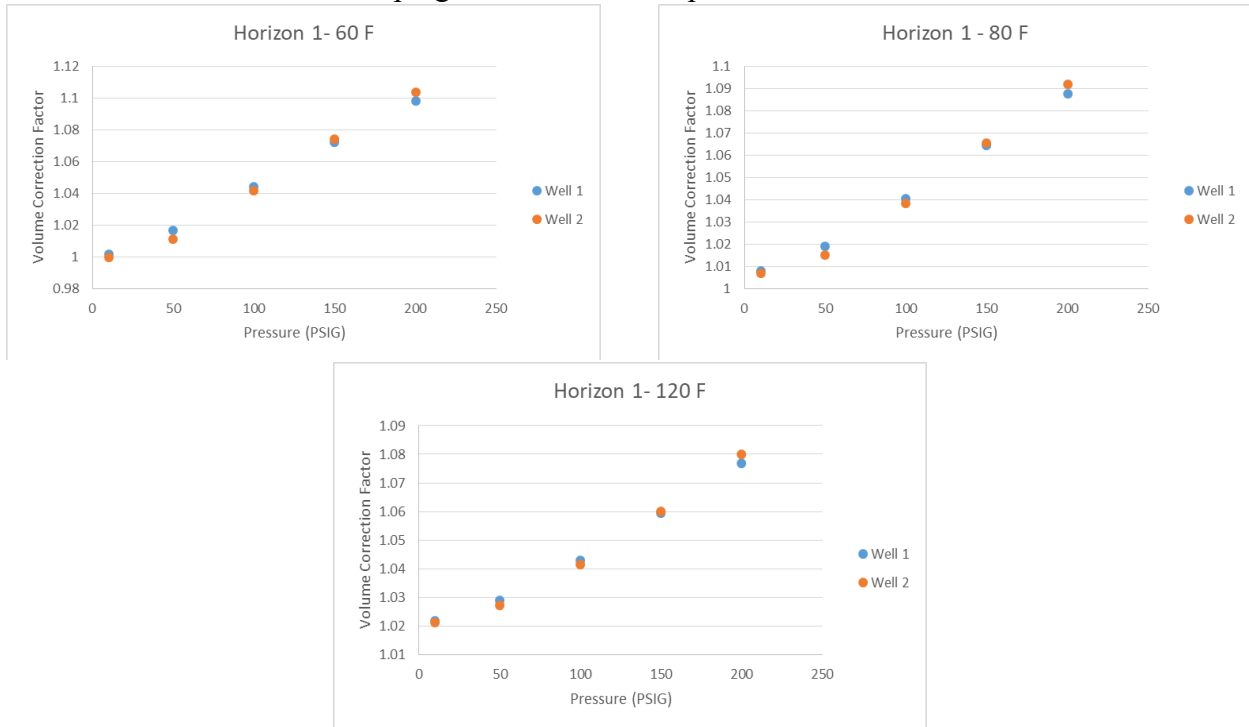
The measurement techniques described earlier will provide comparison to a single value of pressure and temperature, but the flow computer will need to be able to adjust for the pressure and temperature ranges that may be encountered by the measurement device/process. Two potential solutions to adjust for actual conditions are utilizing an EOS/process modeling based correlation to either (1) input into the flow computer as a table, or (2) as an equation to adjust based on measured temperature and pressure. In either case, the values need to be generated, considering the fluid processing path. For example, a correlation cannot be developed for the volume correction factor by just doing a single stage flash from reservoir conditions to tank conditions. The values for shrinkage to develop the correlations should be established based on the stage of separation in the process, the steps the fluid went through to get there (path dependent property), or the measured values will be further off from the EOS correlation thus requiring more adjustment and potential for error. The input tables provide a matrix of volume correction values to apply based on interpolation. An example of such table is shown below.

Table 4. Example Volume Correction Factor as a Function of a Temperature and Pressure

2nd Stage Vertical FMP			
	50	100	150
10	0.9981	0.9835	0.963
30	0.9899	0.9758	0.9591
70	0.9805	0.9641	0.9465

In most cases, interpolation is sufficient as the trends between data points are linear, but this assumption should be verified. The linearity of the trends is shown below in Figure 6; these charts are also similar to what would be needed to generate interpolation tables like Table 4 or develop correlations that come from the EOS modeling.

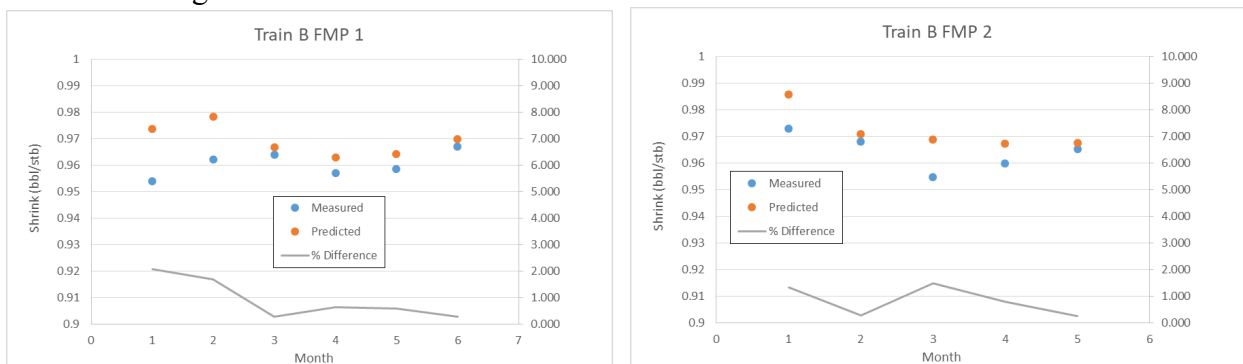
Figure 6. Volume Correction Factor Charts for Developing Pressure and Temperature Correlations

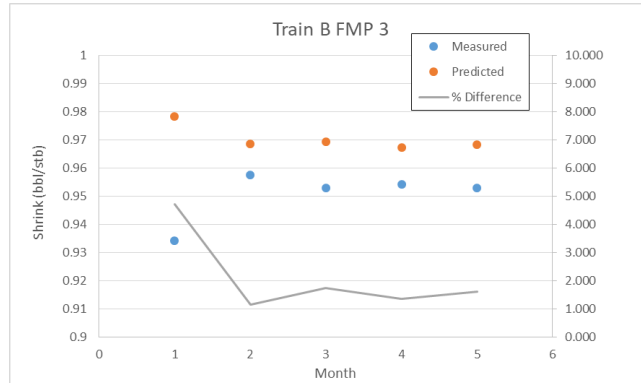


The measurement and application of the volume correction factor has been discussed. Auditing is the final part of this section. Based on spot testing over several months, it is shown that the volume correction factors measurements follow the expected EOS trends with pressure and temperature.

This data was not adjusted at any time to the correlation and, therefore, represents the original EOS correlation compared to the volume correction factor measurements over this time.

Figure 7. Measured vs. Predicted Volume Correction Factors over Time





In these particular cases, there were learnings on sampling methodology, etc. that resulted in higher error at first, but then greater consistency was maintained as time went on. Based on these results, it is recommended that implementation of Upstream FMPs require a monthly test until a repeatability of less than 1% variance can be achieved. In this case this would have been achieved within three months if the correlations would have been modified to the measured data. Once achieved, it is recommended that testing be performed on a quarterly basis while production is in the “Very-High-Volume Category”; twice per year in the “High-Volume Category”; and once per year in the “Low-Volume Category”.

Upstream FMP: Accounting and Audit

Key Message: Upstream FMPs introduce a range of accounting and audit challenges for which no proper solutions have been provided (both in the proposed and current regulations) that satisfy the needs of the BLM, ONRR, operators, joint venture partners, or other regulating agencies and interest owners.

Typical industry software for production and revenue accounting cannot handle two meters for royalty payment for the same flow stream. The complex requirements of Upstream FMPs place an undue burden on typical production accounting software vendors with no imminent solution.

This change is complex because the recognized state and Federal sales points now differ for both oil and gas and must be allocated separately.

Furthermore, such difficult accounting setups require significant operator resources to manage. For instance, one operator had to commit time from four individuals [production accountant, revenue accountant, IT specialist, and engineering] totaling approximately 1.0 Full Time Equivalent (“FTE”) to handle the complexity of the OGOR development and submission for just 3 upstream FMP locations.

Two separate “sales” meters, one for Federal interest and one for all other interests, leads to two separate sets of production volumes:

- Traditional Oil FMP: Oil = Sales + Ending Inventory – Beginning Inventory
- Upstream Oil FMP: Oil = FMP = “Sales”

- In other words, OGOR C now excludes inventory as all oil is Disposition Code (DC) 01
- Traditional Gas FMP: Gas = Sales + Flare + Lease Use
 - Different disposition codes are used, depending on destination of gas
- Upstream Gas FMP: Gas = FMP = “Sales”
 - There is no working solution for how to properly account for the disposition of the gas with Upstream FMPs. If the gas after the FMP is flared (royalty or non-royalty bearing) or used for lease use or gas injection, there is no apparent way to report these various dispositions. Also, there is no clear way to handle gas-lifted wells on upstream FMPs as the gas lift will always inflate the FMP measured gas value. A key issue is still whether the ONRR would expect all the gas at an Upstream FMP be treated as “sold” and be paid on as such.
 - This issue has driven the need for gas commingling approvals on multiple oil Upstream FMP locations.

Two sets of production volumes create potential audit issues between agencies:

- Generally, state reporting will not match Federal sales and production volumes, which raises concerns for BLM, state, industry, interest owners, and the public on how to reconcile differences. For instance, in New Mexico, state and BLM officials confirmed that this is a problem as they check against each other. Likewise, the North Dakota BLM field office has stated that they compare production volumes to state numbers for audit purposes.
- Potential tax issues could arise. For instance, in New Mexico, the Federal royalty portion may be exempted from state tax. If the Federal portion is inflated due to unshrunk oil or simply different as it would be calculated from the state measurement point, there is a risk of the state challenging the Federal portion.
- To date, ONRR has not allowed the use of a shrinkage factor (volume correction factor) on Upstream FMPs. Without such a correction, royalties are often paid as if the oil sold at the same \$/bbl as shrunk oil sold off tanks, even though the reported volumes are higher.

The greatest scrutiny is always on the custody transfer meter because all partners, interest owners, state, BLM, and others pay particular attention to that meter. By shifting the focus to multiple meters upstream of the custody transfer point, that meter loses visibility. All parties should focus on the correct meters and review the same data to ensure clarity and certainty.

When correcting existing commingling issues (brownfield), there is currently no clear mechanism to migrate the oil FMP from a downstream to an Upstream FMP and properly account for the inventory from when the FMP was downstream of tank(s). This requires a switch from disposition code (DC) 10 to multiple DC 01s and the sudden removal of inventory from reporting.

There are unsolved challenges for many operators with how to communicate between operator and JV partners the volume on Upstream FMPs compared to the volume of custody transfer (traditional FMPs). In other words, in the case of a battery with Upstream FMPs, if the operator is paying royalties on behalf of the JV partners, they may pay on the upstream FMP volumes as required. But if the JV partners pay themselves (common practice), they will only see the sales volumes, consistent with state numbers and not pay correct royalties on the Upstream FMPs. Again, this is due to poor visibility on the FMP.

Low Pressure Gas Accounting

Key Message: Given the complications related to low pressure gas capture, measurement, and allocation, the BLM should support commingling of low-pressure gas, with an allocation basis relying on upstream gas measurement.

After accounting for the oil volumes, there remains the need to address evolved gas volumes. The oil volume correction factor will allow for proper volume determination on Upstream FMPs as well as improved allocation factors for oil when commingling, especially for very different fluids and operating conditions. Gas measurement at upstream locations can be set up as Upstream FMPs or as allocation measurement points for downstream volumes such as sales and flare. Low pressure gas presents a unique challenge for accounting and allocation. Certain field offices have authorized commingling of low-pressure gas (e.g. tank vapors or VRT gas) to encourage capture of this gas and avoid the challenges of redundant compression equipment. The discussion below outlines three methodologies for handling this low-pressure gas.

Option 1: Allocate off of oil volumes

At least one field office has directed operators to allocate low pressure gas volume based on oil volume factors (i.e. based on the relative oil production from each lease). This is technically a sound approach if all oil has the same volume correction factors and solution gas ratios. But accounting software cannot readily allocate gas based on oil. It requires gas well tests or gas meters to allocate, particularly since gas allocations are done on bases of both volume and btus (oil factors do not provide allocation of the energy content). Furthermore, to allocate VRU gas by oil means the operator must take the sales volume from the FMP, subtract out the VRU volume (if you measured it) and allocate the two portions separately. This is not feasible and creates risk for traceability as the FMP will no longer match the sales purchaser statement.

Option 2: Allocate with solution gas ratios

Laboratory tests to determine the oil volume correction factor will include, if requested, the solution gas oil ratio (R_s). This ratio is a measure (in scf/bbl for instance) of the volume of gas that will evolve from the oil as it changes pressure and temperature from separator operating conditions to standard conditions to the volume of oil at standard conditions. In other words, it describes the amount of gas that will have liberated in the downstream process.

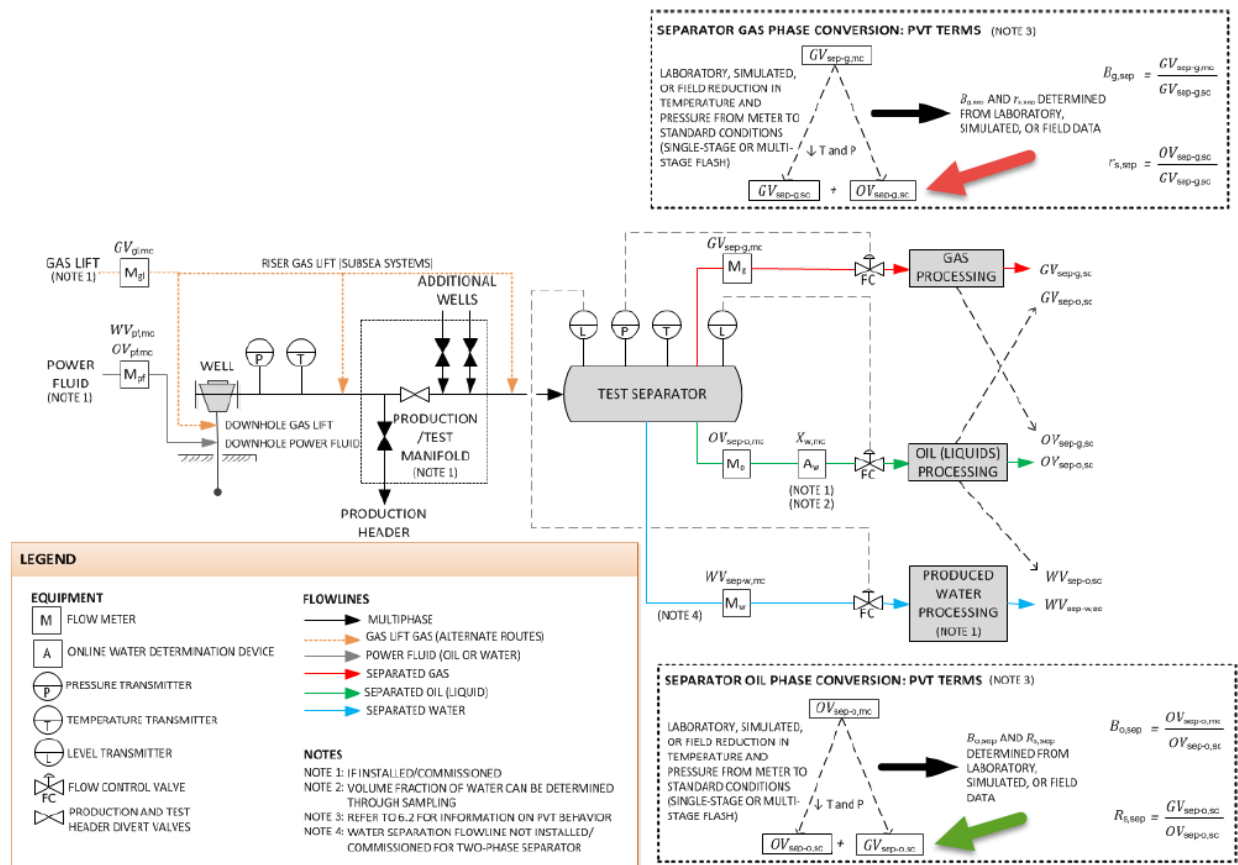
Assuming two wells with different interests are commingled after high quality upstream meters, the allocation factor for gas (lease A relative to lease B) might look like this:

$$\frac{[(\text{Gas Meter A}) + (\text{Corrected Oil Volume A}) * (R_s A)]}{[(\text{Gas Meter A}) + (\text{Corrected Oil Volume A}) * (R_s A)] + [(\text{Gas Meter B}) + (\text{Corrected Oil Volume B}) * (R_s B)]}$$

Where "Gas Meter A or B" is the gas measurement off the upstream (primary) separation, "Corrected Oil Volume A" is the oil measurement off the upstream (primary) separation converted to standard conditions via a volume correction factor, and "R_s A or B" is the solution gas oil ratio identifying the volume of gas that evolves as the oil undergoes the pressure and temperature changes to standard conditions.

This logic is demonstrated throughout API MPMS Chapter 20.5, including Figure 8 below taken from API MPMS Chapter 20.5. Section 6.3.2 [large green arrow highlights the portion of oil that becomes gas]. The calculation can be extended further into more minutiae, by accounting for other volumetric changes such as liquid drop out from gas volumes [large red arrow highlights the portion of gas that becomes oil].

Figure 8. Separator Measurement Process Flow Example from API MPMS Chapter 20.5



Properly accounting for low pressure gas in this manner can be tedious and unjustified for the typical volumes of low-pressure gas.

For instance, Bakken GORs measured off primary separation may range from 1,000 scf/bbl to 7,000 scf/bbl depending on location in the formation. The North Dakota Petroleum Council (“NDPC”) measured 89 locations in the Bakken and found an average for low pressure GOR (essentially the R_s) of 55.3 scf/bbl with the 90th percentile at 97.9 scf/bbl¹. These values were adopted by the North Dakota Department of Environmental Quality (formally the NDDoH). Depending on the location, that means low pressure gas may account for between less than 1% up to 10%, but on average closer to 2% of total gas. In other words, this would be a significant task to develop factors through measurement and then implement in an accounting system for very little change to the accuracy of allocation factors when commingling.

Measurements taken on various Delaware oils when performing volume correction analysis have shown similar results (See Table 5). In all cases, the gas accounted for from secondary separation stages (low pressure vessels and storage tanks) is less than 1% of total gas. The numbers are even smaller compared to observed high side GORs.

Table 5. Associated Gas and Solution Gas Ratios (R_s) for various Delaware samples

# of Separation Stages included in Solution Gas	Low/High Well GOR	Measured Solution Gas	% of Total GOR (using low side)
	<i>scf/bbl</i>	<i>scf/bbl</i>	
2	2800/13000	9.5	0.34
3	9000/10000	67.9	0.754
3	14000/15000	38.7	0.276
3	8000/10000	61.8	0.773
2	2800/13000	11.7	0.418
2	9000/10000	34.4	0.382
2	14000/15000	29	0.207
2	8000/10000	41.6	0.52
3	2800/13000	12.4	0.443
2	9000/10000	40.2	0.447
2	14000/15000	32.4	0.231
2	8000/10000	39.7	0.496
3	2800/13000	15.2	0.543
2	9000/10000	35.9	0.399
2	14000/15000	25.6	0.183
2	8000/10000	41.2	0.515
3	2800/13000	16.8	0.6
2	9000/10000	40.3	0.448
2	14000/15000	29.8	0.213
2	8000/10000	36.5	0.456

Option 3: Allocate off of the bulk gas meter only

¹ Bakken Pool Oil and Gas Production Facilities, NDDoH, May 2, 2011, https://deq.nd.gov/publications/AQ/policy/PC/20110502_OilGas_Permitting_Guidance.pdf

The simplest and most reliable solution is to allocate gas based on a gas well test or other approved allocation methodology using the upstream meter. Doing so means the low-pressure gas is accounted for via the allocation factors developed off the measurement from higher pressure separation equipment. Commingling avoids the challenges of subtracting volumes off of the sales FMP as well as unfairly allocating all of the low-pressure gas to one lease FMP at the expense of another lease. For example, if each lease has a separate gas sales FMP for high pressure gas but the commingled low-pressure gas is routed to a single FMP (to avoid redundant compression equipment), then one lease would theoretically be overstating its sales. Such an issue is mitigated with allocation. Allocation off of the upstream gas meters also avoids the tedious work associated with Option 2 and the need to audit such calculations.

Typical upstream gas allocation meters used today, such as those used for well test, can meet the requirements of Subpart 3175 and would provide accurate allocation points.

Note that in the case of using Upstream FMPs for oil or high-quality upstream measurement for oil allocation (Recommendation 2), one will almost certainly require a gas commingling agreement as all of the downstream oil processing equipment after the upstream meter is shared across leases.

Uncertainty Analysis

Key Message: Independent analysis has shown that Upstream FMPs can meet BLM uncertainty requirements; upstream allocation meters may better mitigate uncertainty impacts during upset conditions than actual Upstream FMPs.

An uncertainty analysis was commissioned with a third party with objectives as follows:

- 1) Assess uncertainty of actual upstream oil and gas measurement installations scenarios using high quality measurement off separators, and compare to the uncertainty of the custody transfer measurement.
- 2) Assess uncertainty related to various commingling scenarios, including variations in relative volumes, meter uncertainties, Federal interest, and use of Upstream FMPs vs. LACTs.
- 3) Assess potential bias related to commingling volumes.

Two detailed reports and an executive summary of the findings are attached as Appendices B through D. The work demonstrated it is possible to achieve the meter uncertainty requirements specified by the BLM when using Upstream FMPs.

Supplementary work outlined in the executive summary further compared two arrangements: Upstream FMPs by Lease vs. Allocation from a shared LACT to high-quality upstream meters. These cases showed very little difference in overall uncertainty; however, when there is an upset condition on a lease, an event more probably on upstream meters than LACTs, the allocation arrangement has significantly lower overall uncertainty.

Recommended Change 2 (Additional Commingling Method):

Based on the issues described above, API requests the proposed rules provide for the ability to commingle production utilizing an alternate method as specified below (example facility diagram shown in Figure 9).

Additional Method: Use continuous FMP quality measurement at upstream locations for allocation point rather than true FMPs, with these allocation points being reconciled to a multi-lease / unit PA / or CA traditional FMP meter downstream. Based on the installation methods, each measurement system would have to meet FMP quality measurement; however, these upstream meters would not be deemed FMPs. They would be an allocation metering system meeting API MPMS Chapter 20 proving requirements, allowed via a CAA.

Such a compromise of high-quality measurement without being FMPs alleviates the concerns brought about by the current regulations as described below:

- The benefits of commingling are achieved in terms of reduced footprint, equipment, and capital by sharing tanks, gas meters, LACTs, secondary separation, etc. in exchange for adding high quality measurement for each lease, unit PA, or CA. There will be additional cost related to separate inlet separators (e.g. bulk/test separators) per lease, unit PA, or CA, but this is significantly less prohibitive on footprint and cost compared to totally separate trains through to the FMP.
- Recommendation addresses concerns of upset operating conditions and mitigates requirement to shut-in wells, which can reduce ultimate recovery. Any volumetric losses between the oil, water, and gas outlets are captured through allocation, and the reconciliation to the downstream, traditional FMP. 24/7 quality allocation measurement can be used, but when there is an upset condition, which could be identified by the density and drive gain if using Coriolis or by strapping tanks, then a previous value can be used [similar to standard approach on gas statement editing]. This approach avoids relying on bad data or using infrequent well tests.
- Recommendation addresses concerns related to production and revenue accounting, audit challenges, litigation risk, inventory issues, and lack of visibility on the key meters. All production is accounted for and auditable using known and widely accepted industry practices.
- Measurement uncertainty is maintained within the current guidelines. Refer to Appendices B through D.

API recommends this additional method be added to § 3173.70(b)(7) per the language below:

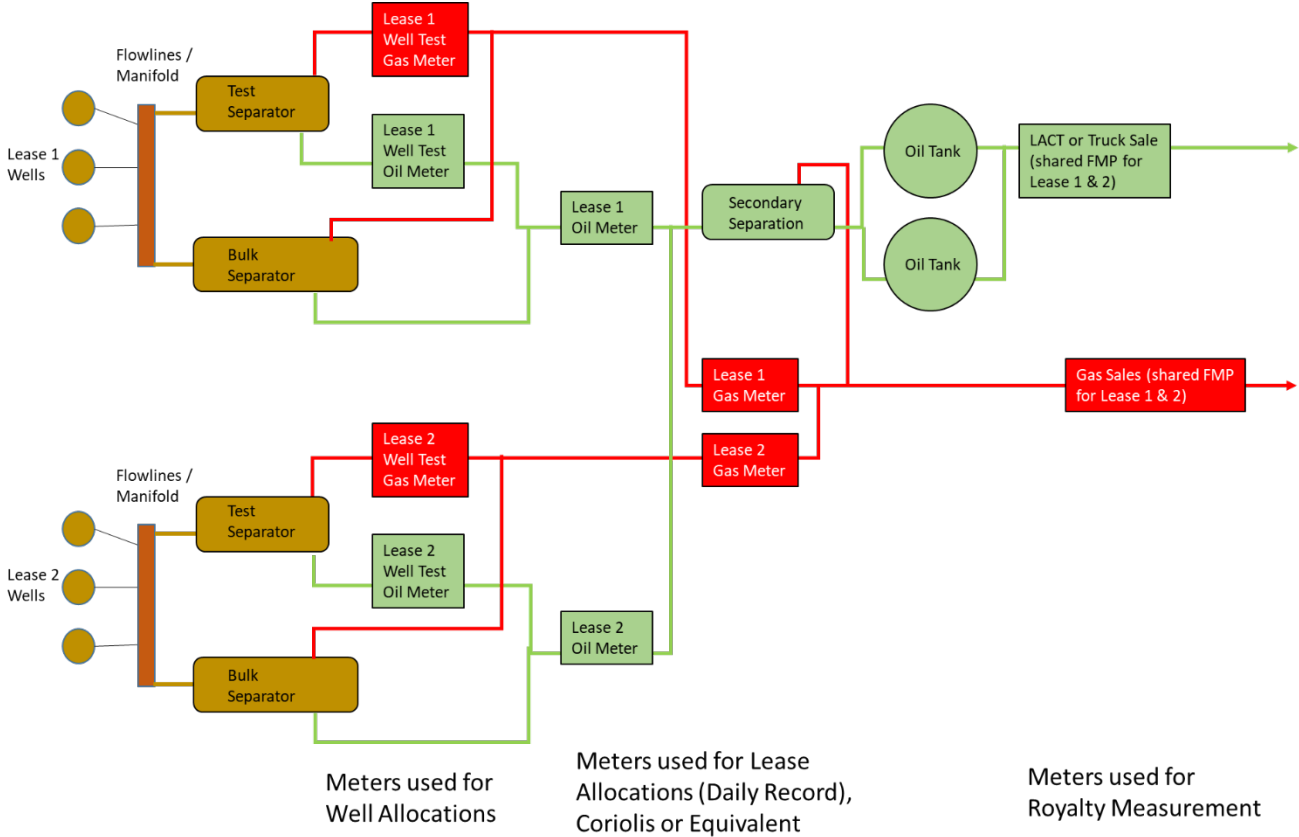
(7) An allocation scheme is used whereby FMP-quality meters measure each lease, unit PA, or CA or wells with identical net Federal interest and royalty rate 24/7 prior to commingling diversified interests through downstream oil or gas FMPs (e.g. custody transfer point). The upstream allocation meter may be a single oil or gas meter off of primary separation or it may be the sum of several meters for that lease, unit PA, CA, or set of identical net Federal interest wells treated as a single measurement to be used for allocation. Any gas evolved from

secondary separation (e.g. heater treaters, vapor recovery towers) or from storage tanks (e.g. via vapor recovery units) is considered such low relative volume that it may be allocated back to the separate leases according to the allocation factors derived from the upstream gas measurement.

Following conditions must be satisfied for a CAA of this type:

- *For the oil allocation meters, the FMP quality repeatability described in § 3174.152 may be relaxed to allocation standards set forth in API MPMS 20.1 Section 1.8.3.2, specifically “five out of six consecutive runs at a representative flow rate with 0.25 percent repeatability” or by achieving the equivalent uncertainty of 0.133% using the equation in Annex A of API MPMS Chapter 4.8. Note: This flexibility resolves the challenges related to lifting the vessel, installing pumps, or waiting long periods of time for the oil bucket of the separator to fill up for proving.*
- *For the oil allocation meters, the FMP difference in meter factors described in § 3174.154 may be relaxed to allocation standards set forth in API MPMS Chapter 20.1 Sections 1.8.2.2.5 and 1.8.3.4, specifically “If an allocation meter proving results in a meter factor that differs from the previous meter factor by an amount greater than 2.0 percent and less than 7.0 percent, the allocation meter shall be adjusted and reproved prior to return to service.”*
- *Consistent with § 3174.130, non-zero S&W will require sampling and measurement at the upstream allocation meter.*
- *BLM will be provided access to all measurement equipment and records of every measurement point in the allocation system, regardless of BLM interest. Any meters further upstream of the allocation meters (e.g. meters used for individual allocations within a lease, unit PA, or CA) are excluded from this requirement.*
- *An allocation methodology must be provided with the application including equations, formulas, and any further separation, royalty free usage, or other disposition as well as a description of how upset conditions will be identified and handled for allocations. All of these allocation meters must be identified in the application and on the Site Facility Diagram.*
- *All Oil allocation measurement will follow proving requirements set forth in § 3174.150-158 (proving frequency), repeatability and meter factor deviation requirements shall be per API 20.1 for liquid proving and calibration techniques.*
- *All Gas allocation Measurement will follow requirements set forth in Table 1 of § 3175.80 and Table 1 of § 3175.100.*
- *Volume Correction Factors may be determined in accordance with API MPMS Chapters 20.5 and 20.1 and applied in order to increase allocation certainty when needed for very different oils and operating conditions. Recommend use of laboratory measurement or EOS as outlined in API MPMS Chapter 20.5 as described in Recommendation 1 above.*

Figure 9. Example Allocation Scheme for 2 Leases Commingled through Traditional FMPs with High Quality Upstream Measurement by Lease



15. § 3173.70 – Conditions for Commingling and Allocation (Surface and Downhole) and § 3173.10 – Definitions and Acronyms

Rule:
Economically marginal property

Recommended Change:
§ 3173.70 combined with the definitions of § 3173.10 allow for approval of CAAs based on marginal properties whereby (1) the expected revenue of the oil or gas over an 18 month period is insufficient to payout the capital expenditure to achieve non-commingled status or (2) the royalty net present value (RNPV) is less than the cost to separate different interest oil or gas to achieve non-commingled status. Such a capital expenditure must be the "least expensive, practicable alternative."

Given the complexity and cost to fully non-commingle oil and gas facilities, BLM field offices have recently started requiring Operators to present these economics based on Upstream FMPs rather than fully separated phases through the FMP, deeming Upstream FMPs as the "least expensive, practicable alternative." As such, the field offices have been able to reduce the cost in

the analysis to just metering equipment and exclude such equipment as the oil tanks, sales scrubbers, LACTs, heater treaters, vapor recovery equipment, compression, etc.

While an Upstream FMP requires less investment than fully non-commingling, there is still significant cost to be considered for equipment such as the following:

- Dedicated separation trains per mineral interest; for one well, this might be one separator, but for multiple wells, it could look like a bulk and test arrangement for each set of interests
- Automation equipment including the PLC, pressure and temperature transmitters, metering, and control valves to achieve provable flowrates
- Enhanced sampling system for S&W measurement
- Ancillary systems such as heat trace or instrument air to operate valves
- Proving connections

The total cost could exceed \$250,000 per well when accounting for mechanical, instrumentation, and electrical labor. Additional cost is incurred if the vessel must be lifted (e.g. \$25,000 which includes foundations and stairs) or if a pump must be installed (e.g. \$50,000 for pump, parts, recycle valves, and labor).

Because of the issues (technical, operational, and accounting) with Upstream FMPs, API does not believe it is equitable nor prudent to require marginal economic assessments using the cost of an Upstream FMP. Example cost has been provided to demonstrate that while still attractive, even the Upstream FMP solution is still not cheap; however, it is lower cost compared to total non-commingling (if one ignores the other issues). Commingling is always the most affordable and least surface impactful option for multi-interest wells.

16. § 3173.70(b)(2) – Conditions for Commingling and Allocation (Surface and Downhole)

Rule:

(b)(2) The average monthly production over the preceding 12 months for each Federal or Indian lease, unit PA, or CA proposed for the CAA on an individual basis is less than 6,000 Mcf of gas per month, or 1,000 bbl of oil per month;

Concern:

API supports increasing the low volume threshold and appreciates the change by the BLM; however, the estimate of \$500,000 for oil and \$200,000 for gas is too low.

Figure 10a is a simplified facility sketch for a commingled oil tank battery, representative of setups that may be found in oil plays such as the Delaware or Bakken. A single well "Federal Interest A" commingles with a set of other wells "Federal Interest B". In this example, the air permit requires capture of all low-pressure gas. By commingling interest A with B, the facility has reduced the equipment count down to (1) bulk separator, (1) test separator, (1) heater treater (HT), (1) sales scrubber, (2) oil tanks – likely more may be installed but this is minimum, (1) vapor recovery tower (VRT), and (1) each of low pressure compressors for the heater treater, VRT, and oil tanks (called vapor recovery units (VRUs)).

Figure 10a. Bulk/Test Setup for Commingled Federal Interests, Base Case
Oil and Gas Commingled

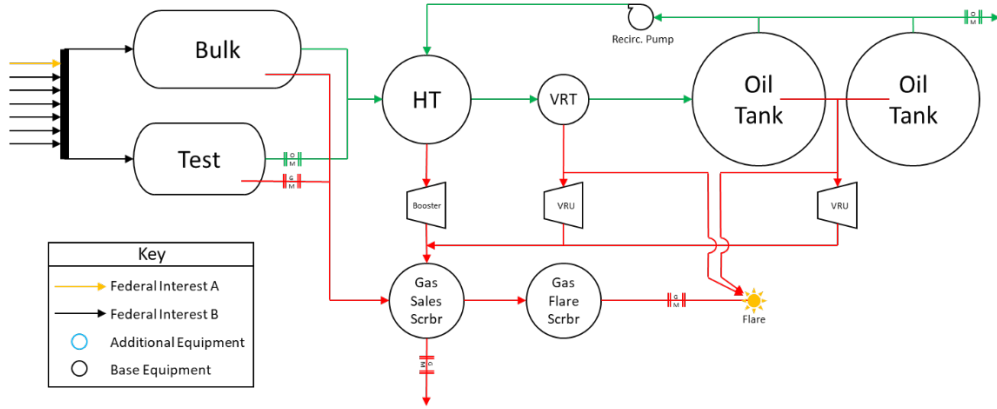


Figure 10b shows that if "Federal Interest A" well must be un-commingled for oil, then a separate oil train is required including the addition of a separator, heater treater, VRT, at least 2 oil tanks, recycle pump, and a LACT if on pipeline. Such changes are considered a true minimum case for many setups required by permitting. For instance, if there were more wells, additional separators would be required.

Figure 10b. Separate Oil Trains for Different Federal Interest, Commingled Gas
Oil Separate and Gas Commingled

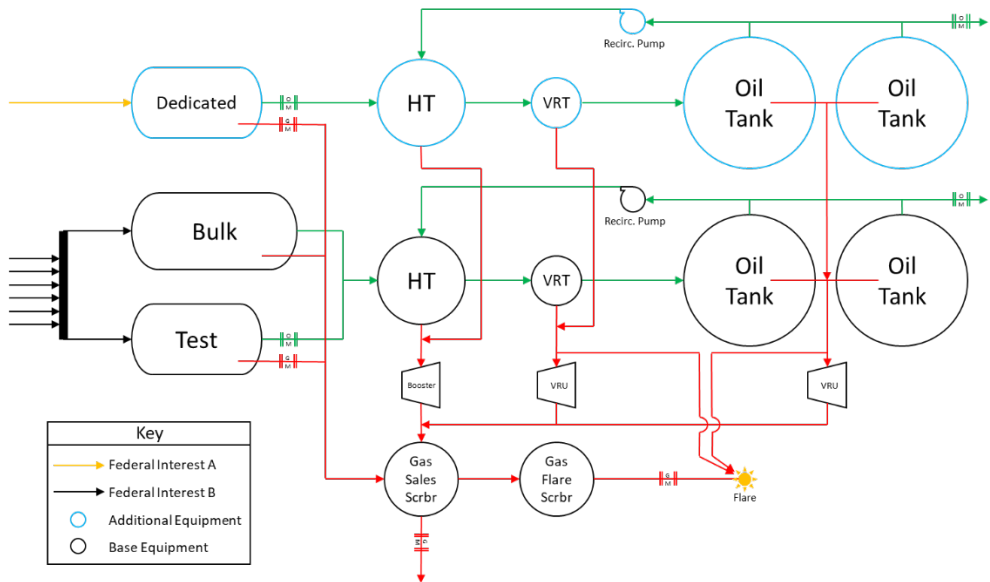
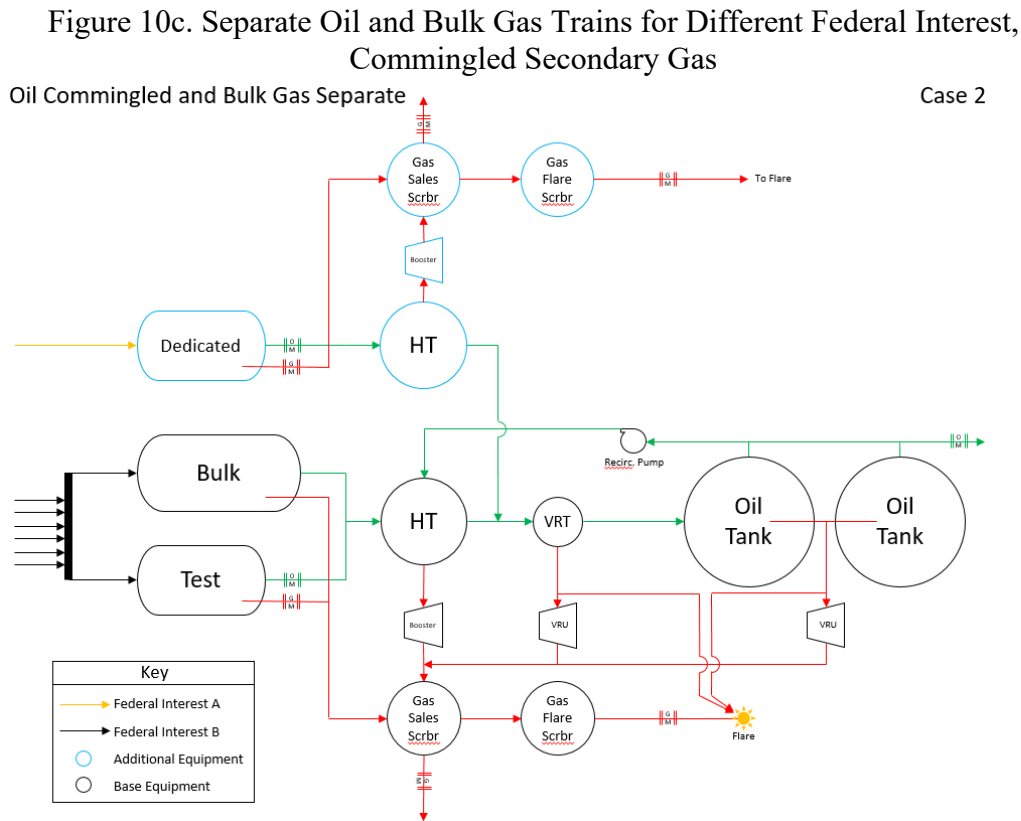


Figure 10c shows the additional equipment and piping required to separate out the majority of the gas for "Federal Interest A" relative to Figure 10b. A separate gas line is required off of the dedicated separator to a separate gas sales scrubber and gas sales meter (the FMP). A separate booster compressor is required to compress the small volume of gas evolving off the heater treater and achieve gas sales pressure. In this example, a separate flare scrubber and flare gas

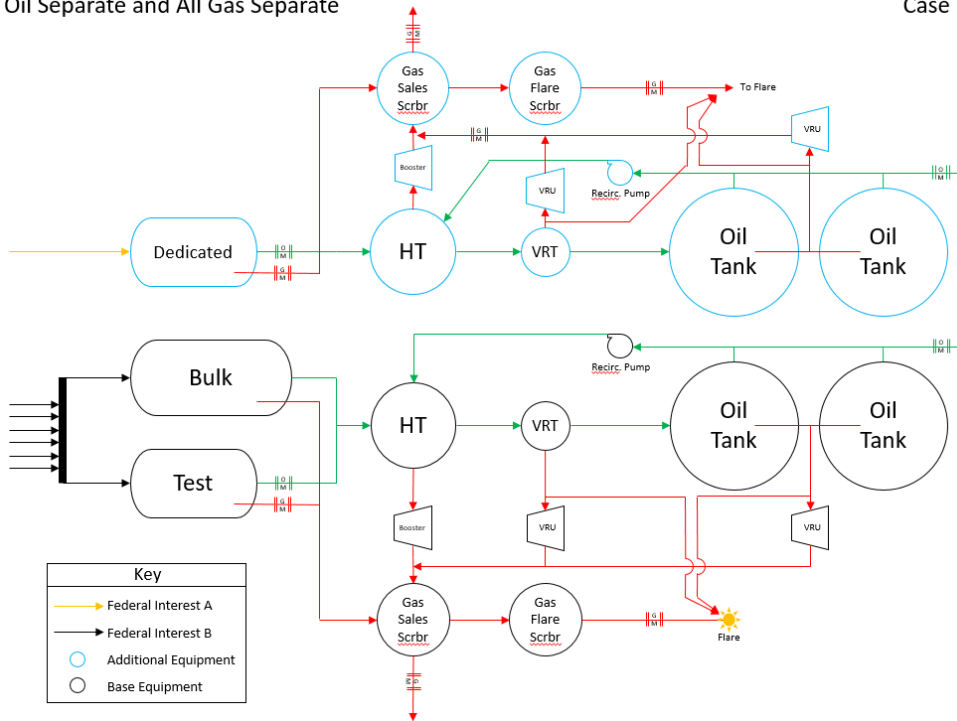
meter are included, though perhaps not required. Low pressure gas gathered by the VRT and Tank VRUs in this setup would be commingled.



In Figure 10d, all gas and oil must be kept separate between "Federal Interest A" and "B". This would require completely separate low-pressure gas gathering systems, including the installation of a separate VRT VRU and Tank VRU.

Adding compression unnecessarily for commingling purposes is always less preferred than allowing commingling of such gas. Compression can increase the risk of emissions from rotating equipment, can increase waste due to disturbance and power consumption, and can increase the likelihood of low reliability (equipment runs better when loaded with maximum possible gas, which comes by sharing equipment).

Figure 10d. Separate Oil and Gas Trains for Different Federal Interest
Oil Separate and All Gas Separate Case 3



Relative to the base case (Figure 10a), three cost scenarios were developed using typical prices for low volume equipment to un-commingle production (See Table 4). The cost cases align with Figures 10b, 10c, and 10d. Costs are representative examples. Costs are for small vessel sizes as it is assumed that higher volumes needing larger equipment would not qualify for commingling under this section. The oil cost is slightly higher than the BLM assumption (approximately \$631,000 vs. \$500,000), suggesting a slightly higher threshold is warranted.

Table 6 Case 2 and Case 3 highlight the challenge in segregating gas volumes on an oil tank battery. BLM assumed \$200,000 as the threshold for gas; however, to separate gas on a tank battery requires much the same equipment as for oil (must keep oil separate in order to keep gas separate) and can be even costlier if compression for lower pressures must be kept separate. To separate just the bulk of the gas (including installing a compressor for the heater treater) would cost approximately \$392,000 in this example. To completely un-commingle the gas would cost \$898,000 in this example. Note that separate compression is most likely required if gas must be kept separate through the FMP, even if the gas FMP is moved upstream (for instance right off tanks), as quality gas measurement (especially meeting the requirements of Subpart 3175) requires higher pressures than typical for VRT or tank operating pressures.

BLM may have assumed a cost for separating a gas well from other gas wells to determine the \$200,000 assumption rather than considering separating gas on an oil battery for different interest oil wells. Alternatively, the \$200,000 assumption implies the BLM will grant commingling approval for all low-pressure gas evolving off of secondary stages on an oil battery such that compression costs can be shared (also assumes flare measurement can be shared).

Table 6. Cost Example to Un-Commingle Oil or Gas for 3 Cases

Equipment	\$/vessel	Oil Decommingled		Bulk Gas Non-Commingle		Total Gas Non-Commingle	
		Case 1		Case 2		Case 3	
		Oil Count	Oil Total	Gas Count	Gas Total	Gas Count	Gas Total
4x20 Heater Treater	\$ 25,000	1	\$ 25,000	1	\$ 25,000	1	\$ 25,000
Inlet Separator	\$ 25,000	0	\$ -	0	\$ -	0	\$ -
3ph Separator	\$ 50,000	1	\$ 50,000	1	\$ 50,000	1	\$ 50,000
Oil Tank (500 bbl)	\$ 11,000	2	\$ 22,000	0	\$ -	2	\$ 22,000
Water Tank (500 bbl)	\$ 11,000	0	\$ -	0	\$ -	0	\$ -
Recycle Pump	\$ 3,000	1	\$ 3,000	0	\$ -	1	\$ 3,000
Sales Scrubber	\$ 12,000	0	\$ -	1	\$ 12,000	1	\$ 12,000
Flare Scrubber	\$ 12,000	0	\$ -	1	\$ 12,000	1	\$ 12,000
3x30 VRT	\$ 22,000	1	\$ 22,000	0	\$ -	1	\$ 22,000
HP/LP Flare w/ DFA	\$ 40,000	0	\$ -	0	\$ -	0	\$ -
LACT	\$ 120,000	1	\$ 120,000	0	\$ -	1	\$ 120,000
Water Pump & Meter	\$ 15,000	0	\$ -	0	\$ -	0	\$ -
Sales Gas Meter	\$ 5,000	1	\$ 5,000	3	\$ 15,000	4	\$ 20,000
VRU	\$ 25,000	0	\$ -	1	\$ 25,000	3	\$ 75,000
Total Equipment M&L*			\$ 621,000		\$ 392,000		\$ 888,000
Site Prep / ROW **	\$ 75,000	0	\$ -	0	\$ -	0	\$ -
Containment	\$ 10,000	1	\$ 10,000	0	\$ -	1	\$ 10,000
Total			\$ 631,000		\$ 392,000		\$ 898,000

* Vessel price is assumed to be 1/3 of the cost of the total material (including pipes/valves/fittings/automation) and labor costs. The LACT and VRU price is assumed to be 1/2 of the total installed cost of LACT/VRU due to relatively lower ancillary material requirements.

** Assumes no additional ROW/pad extension required

Recommended Change:

Increase low volume thresholds for oil and gas. Change the cost basis for determining payout and subsequent low volume thresholds to \$650,000 or higher for oil and \$400,000 or higher for gas. If VRU gas should be kept separate, increase the gas cost assumption to \$900,000 for determination of volume threshold.

17. § 3173.70 – Conditions for Commingling and Allocation (Surface and Downhole)

Rule:

Low Pressure Gas Sources – Not currently part of the rule.

Concern:

As discussed above under Upstream FMPs, low pressure gas presents a unique situation for commingling that has been left to the discretion of the BLM Field Offices. Without commingling approvals, it is difficult to effectively operate and wasteful to install redundant equipment on site. Redundant equipment also presents economic hurdles that discourage use of vapor recovery equipment. Complex allocation methodologies based on oil volumes or using solution gas ratios (described above) are likely not worth the added certainty around gas allocation factors given the relatively low volumes associated with low pressure gas sources. While it may seem obvious to then install allocation meters on low pressure sources prior to shared compression, such meters would not accurately measure the gas given the challenges of low flow-low pressure gas measurement.

Recommended Change:

Clarify that given the complications related to low pressure gas capture, measurement, and allocation, the BLM Field Offices will allow commingling of all gas from storage tanks and other low-pressure production vessels (e.g. secondary separation and downstream), rather than creating a separate approved commingling scenario, independent of the low volume threshold (tank vapors may be more than 6,000 Mcf/mo on high throughput batteries, especially in light oil basins). This clarification in the Proposed Rule would provide that low pressure gas is automatically allowed to be commingled.

18. § 3173.70 – Conditions for Commingling and Allocation (Surface and Downhole)

Rule:

Gas Lift Clarification in Terms of Gas Commingling – Not currently part of the Proposed Rule.

Concern:

The Proposed Rule does not clarify the complications associated with commingled gas lift systems. Gas lift gas is considered beneficial use under 3178.4(a)(10). For facilities serving wells from multiple leases, PAs, or CAs, it is typical to consolidate and share a gas lift compressor and gas lift system in order to minimize waste (reduce emissions, run compressor efficiently, reduce footprint, etc.). 3178.7 may be interpreted to mean that such sharing of gas lift gas would lead to royalty bearing beneficial use.

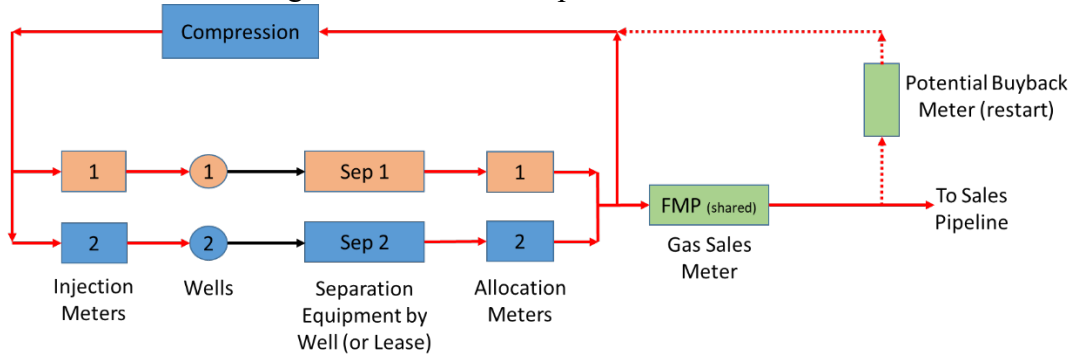
Some field offices have at times discouraged shared gas lift systems, which may cause wells to be uneconomic if they must bear the cost of the gas lift system alone as opposed to centralized compression.

Field offices should be encouraged to support commingling of gas for purposes of gas lift.

Depending on the gas lift scenario, this may or may not require a commingling agreement:

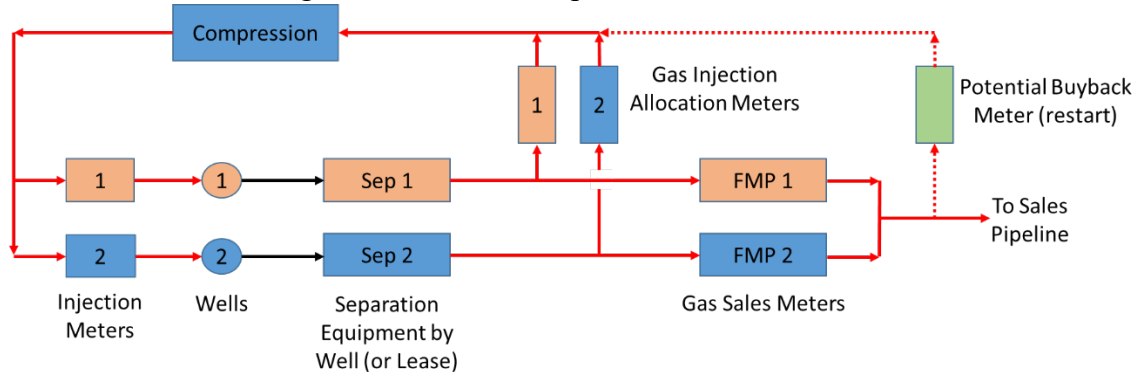
- 1) Local Compression with a CAA – Depending on location of wells relative to the compression facilities and effort to reduce additional FMP meters, it may be necessary to commingle gas across multiple leases, PAs, or CAs. The various interests would share a single sales FMP, with allocations based on an approved allocation methodology, such as well tests adjusted for gas injection volumes (recognizing that the injected gas volumes recycle within the setup at consistent rates and thus do not have a detrimental impact to allocation factors). (See Figure 11a)

Figure 11a. Local Compression with a CAA



- 2) Local Compression without a CAA – It may be appropriate, especially for wells co-located with batteries / compression facilities, to maintain separation of leases, PAs, or CAs through the sales FMPs. In order to do so and still share a compressor, the different leases, PAs, or CAs, may each require a gas lift allocation meter upstream of the compressor suction to allocate injected volumes, whether to their own wells or the wells of different interest. An inter-lease/PA/CA purchase and sale agreement are then required to balance the volumes, depending on whether the lease, PA, or CA was a net consumer or provider of gas lift. Such balancing could be done with control valves as well, tuned to the injection meters, but that would add further cost and complexity. This option is less preferred because the gas injection allocation meters would be considered FMPs and thus require increased scrutiny, long term OPEX, and up-front capex relative to Option 1. (See Figure 11b)

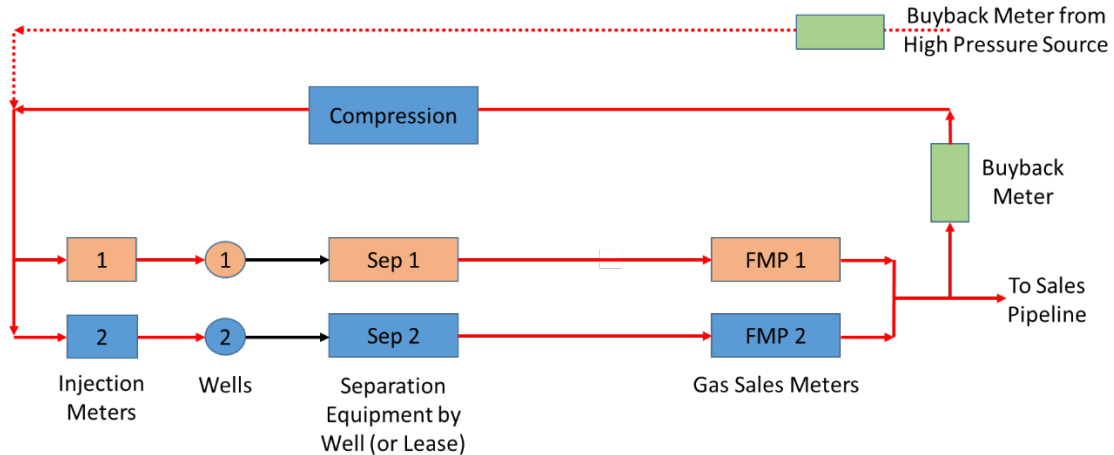
Figure 11b. Local Compression without a CAA



- 3) Purchased Gas Lift without a CAA – When the primary or only source of gas lift gas is from a centralized location, whether operator- or 3rd party midstream-owned, then each lease, PA, or CA may maintain separation through the sales FMPs if desired without the added complication of additional FMPs to manage shared gas lift. Buyback volumes are

then subtracted from the FMP sales based on injected rates in order to determine net sales. (See Figure 11c)

Figure 11c. Purchased Gas Lift without a CAA



Recommended Change:

The BLM should clarify that shared gas lift systems do not require CAAs as long as final FMPs are separate; if the FMP is shared, then a CAA should be required. Further, the final rule should clarify that gas lift injection meters are not FMP’s.

The final rule should encourage the BLM Field Offices to approve consolidation of gas lift compression with necessary commingling as required.

19. § 3173.70 – Conditions for Commingling and Allocation (Surface and Downhole)

Rule:

Buyback – Not currently part of the Proposed Rule.

Concern:

Based on feedback from the BLM PMT, Buyback meters are FMPs and must be treated as such. This final rule should clarify to reflect this.

Recommended Change:

State that Buyback meters (gas purchased for use on a lease) are FMPs and must meet the standards of Subpart 3175.

20. § 3173.70 – Conditions for Commingling and Allocation (Surface and Downhole)

Rule:

(b) The BLM may also approve a CAA in instances where the proposed commingling of production involves production from Federal or Indian leases, unit PAs, or CAs that do not meet the criteria of paragraph (a)(1) of this section (e.g., the commingling of leases, unit PAs, or CAs with different royalty rates, or where the commingling involves multiple mineral ownerships). In order to be approved, a CAA under this paragraph must meet the requirements of paragraphs (a)(2) through (3) of this section and at least one of the following conditions must be met:

(2) The average monthly production over the preceding 12 months for each Federal or Indian lease, unit PA, or CA proposed for the CAA on an individual basis is less than 6,000 Mcf of gas per month, or 1,000 bbl of oil per month;

Preamble:

Proposed § 3173.70(b)(2) would increase the existing average monthly production over the preceding 12 months for each Federal or Indian lease, unit PA, or CA proposed for the CAA from less than 1,000 Mcf of gas per month or 100 barrels (bbl) of oil per month to less than 6,000 Mcf of gas per month or 1,000 bbl of oil per month. The existing production volume thresholds were chosen because properties producing below these thresholds would almost always qualify as economically marginal properties as defined in § 3173.10 under the proposed rule and in conditions under which commingling may be approved in proposed § 3173.70(b)

Concern:

(b)(2) Suggests rates of 6,000 Mcf of gas per month or 1,000 bbl of oil per month.

Recommended Change:

To help increase the likelihood for commingling acceptance (which would reduce burden on industry and minimize surface impacts), the maximum rates for CAA approval should be increased to: 1,000 Mcf of gas per day over the averaging period and 1,500 bbl of oil per month

21. § 3173.70 – Conditions for Commingling and Allocation (Surface and Downhole)

Rule:

(b)(5) The applicant must provide an overall allocation uncertainty analysis calculated using propagation of uncertainty method of the Federal or Indian mineral interest percentage for each lease, unit PA or CA meets required criteria (3174.31 liquids and 3175.31 gas).

(ii) The analysis must show no allocation bias as a result of commingling allocation;

Preamble:

Proposed § 3173.70(b)(5) would add a new paragraph with a new condition for commingling and allocation approvals and renumber existing § 3173.14(b)(5) to § 3173.70(b)(6). Proposed § 3173.70(b)(5) would provide operators an opportunity to demonstrate to the BLM an allocation uncertainty based on a propagation of uncertainty method similar to that published in the Guide

to the Expression of Uncertainty in Measurement, International Organization for Standardization, ISO/IEC Guide 98:1995. The overall allocation uncertainty analysis must: Meet the performance goals in proposed § 3174.31 and proposed § 3175.31; show no allocation bias as a result of commingling allocation; state what the assumed underlying distribution is of the volumes generated in the analysis and support the use of the stated underlying distribution assumption; and be limited to four leases, unit PAs, or CAs proposed for commingling. The BLM proposes to limit the number of leases, unit PAs, or CAs to four based on assumed limitations of spreadsheets typically used in most offices. The BLM is concerned with the inherent risk to the uncertainty of allocation measurement for Federal or Indian trust mineral percentages in a commingling and allocation approval. If the applicant is able to demonstrate no risk to Federal or Indian trust mineral measurement, then the BLM could agree to a commingling and allocation approval. The BLM seeks comments on this proposed new condition for commingling and allocation approval. Specifically, the BLM would request comment from the public on the following:

Concern:

(b)(5)(ii) ISO Guide 98-3:2008(E), 3.2.3 states, “Systematic error, like random error, cannot be eliminated but it too can often be reduced.”

Recommended Change:

(b)(5)(ii) Should be revised as follows:

The analysis must show no statistically significant allocation bias as a result of commingling allocation;

22. § 3173.70 – Conditions for Commingling and Allocation (Surface and Downhole)

Rule:

(5) The applicant must provide an overall allocation uncertainty analysis calculated by using propagation of uncertainty method of the Federal or Indian mineral interest percentage for each lease, unit PA, or CA proposed for commingling which meets the following criteria:

(iv) The analysis must be limited to four leases, unit PAs, or CAs proposed for commingling approval.

Concern:

There is no significant reason why the analysis should be limited to four leases. If the applicant provides an overall allocation uncertainty analysis calculated by using propagation of uncertainty method for a larger system and the uncertainty is within acceptance criteria, it should be approved accordingly. There should be no limit on the number of leases included.

Recommended Change:

(5)(iv) Should be stricken from the rule.

23. § 3173.71 – Applying for a Commingling and Allocation Approval

Rule:

To apply for a CAA, the applicant must submit the following, if applicable, to the BLM office having jurisdiction over the leases, unit PAs, or CAs from which production is proposed to be commingled:

(k) All gas analyses, including Btu content or oil gravities as applicable, for previous periods of production from the leases, units, unit PAs, or communitized areas proposed for inclusion in the CAA, for up to 6 years before the date of the application for approval of the CAA. Gas analysis and oil gravity data is not needed if the CAA falls under paragraph (a)(1) of this section.

Preamble:

Existing § 3173.15(k) requires operators to submit gas analyses, if the CAA request includes gas, and oil gravities, if the CAA request includes oil. The BLM would like to separate gas CAA applications from oil CAA applications, since the economics for each are calculated differently. The BLM's decision to approve a gas CAA is separate from its decision to approve an oil CAA. The proposed language would say that all gas analyses, including Btu content or oil gravities, as applicable, for previous periods of production from the leases, units, unit PAs, or communitized areas proposed for includes in the CAA, for up to 6 years before the date of the application for approval of the CAA. The proposed inclusion of "as applicable" is for consistency with the requirement in proposed § 3173.71(a) for separate CAA applications for oil and gas.

Concern:

This section specifies that the BLM requires gas analysis data 'for up to 6 years before the date of the application for approval of the CAA'.

Recommended Change:

The BLM should consider rewording this section to reduce the sample count. We recommend amending the language to: 'last 6 scheduled samples as per BLM sample frequency requirements'.

24. § 3173.72 – Existing Commingling and Allocation Approvals

Rule:

(b) If the existing CAA does not meet the conditions of paragraph (a)(1) or (2) of this section, the AO will review the CAA for consistency with the minimum standards and requirements for a CAA under § 3173.14. (2) The AO may terminate the existing CAA and grant a new CAA with new or amended COAs to make the approval consistent with the requirements under § 3173.70 in connection with approving the requested FMP. If the operator appeals any COAs of the new CAA, the existing CAA approval will continue in effect during the pendency of the appeal. (3) If the existing CAA does not meet the standards and requirements of § 3173.70 and the operator does not correct the deficiencies, the AO may terminate the existing CAA under § 3173.76 and deny the request for an FMP number for the facility associated with the existing CAA.

Concern:

Operators invested millions to develop Federal and Indian oil and gas properties contingent upon the received commingling and allocation approvals. These approvals which were negotiated and approved under good faith under the rules in place at that time should not have to justify such approvals under the new terms. This places an undue burden on operators and will cause the shut-in of wells because of the extreme expenses required to change facilities and to de-commingle. This also huge burden for the local BLM offices to review existing permits and then review the revised permits.

Recommended Change:

All existing commingling and allocation permits should be honored without further review. Only new permits requests submitted after the effective date of the final rule should be held accountable for the requirements of the new rule.

25. § 3173.74 – Modification of a Commingling and Allocation Approval

Rule:

(b) When a CAA was based on projected production quantity and quality and any of the leases, unit PAs, or CAs exceeds the production projections provided by the applicant, then the CAA must be reevaluated and the approval may be rescinded, revised, or COAs modified.

Preamble:

Proposed § 3173.74(b) would add another condition to existing § 3173.18 that would require an operator to have the CAA reevaluated by the BLM when actual production exceeds the projected production in the commingling application. The proposed rule would allow the BLM to rescind or revise the approval, or modify its conditions of approval, if the CAA's actual production volumes and quality from any of the leases, unit PAs, or CAs exceed the production projections provided in the CAA application. The inclusion of this provision to reevaluate a CAA based on projected production would provide the BLM with recourse if the operator fails to provide accurate projections in the application for commingling and allocation approval.

Concern:

As written, one barrel over the projected volumes would justify rescinding the agreement. This encourages over projection of volume. There should be a percentage over projected volumes where the modification is required.

Recommended Change:

§ 3173.74(b) should be revised as follows:

When a CAA was based on projected production quantity and quality and any of the leases, unit PAs, or CAs exceeds 25% over the production projections provided by the applicant, then the CAA must be reevaluated and the approval may be rescinded, revised, or COAs modified.

26. § 3173.76 – Terminating a Commingling and Allocation Approval

Rule:

(a)(3) The AO determines that a lease, unit, or CA subject to the CAA has terminated, or a unit PA subject to the CAA has ceased production;

Concern:

The definition of Ceased Production is vague. Many operators have wells where production is ceased for extended periods of time due to the market and will not be turned on until the market improves which is an unknown time frame. Many also have wells that cease to produce on their own. At times wells cease producing for long periods of time due to 3rd parties or other circumstances.

Recommended Change:

(a)(3) Needs clarification around the time the well has “ceased to produce” or include definition as to what “ceased production” means.

27. § 3173.76 – Terminating a Commingling and Allocation Approval

Rule:

(4)(d) The AO will notify in writing all operators who are a party to the CAA of the effective date of the termination and any inconsistencies or deficiencies with their CAA approval that serve as the reason(s) for termination. The operator must correct any inconsistencies or deficiencies that the AO identifies, provide the additional information that the AO has requested, or request an extension of time from the AO, within 20 business days after receipt of the BLM’s notice, or the CAA is terminated.

Concern:

20 business days is insufficient time for operators to correct any inconsistencies or deficiencies that the AO identifies, provide the additional information that the AO has requested, or request an extension of time.

Recommended Change:

(4)(d) Should be revised as follows:

(4)(d) The AO will notify in writing all operators who are a party to the CAA of the effective date of the termination and any inconsistencies or deficiencies with their CAA approval that serve as the reason(s) for termination. The operator must correct any inconsistencies or deficiencies that the AO identifies, provide the additional information that the AO has requested, or request an extension of time from the AO, within 30 days business days after receipt of the BLM’s notice, or the CAA is terminated.

The AO will notify in writing and e-mail all operators who are a party to the CAA of the effective date of their termination and any inconsistencies or deficiencies with their CAA.

28. § 3173.91 – Applying for Off-Lease Measurement

Rule:

(e) If any of the proposed off-lease measurement facilities are located on non-federally owned surface, a written concurrence signed by the owner(s) of the surface and the owner(s) of the measurement facilities, including each owner's name, address, and telephone number, granting the BLM unrestricted access to the off-lease measurement facility and the surface on which it is located, for the purpose of inspecting any production, measurement, water handling, or transportation equipment located on the non-Federal surface up to and including the FMP, and for otherwise verifying production accountability. If the ownership of the non-Federal surface or of the measurement facility changes, the operator must obtain and provide to the AO the written concurrence required under this paragraph from the new owner(s) within 30 days of the change in ownership;

Concern:

Unrestricted access poses potentially serious safety concerns and is not necessary from a compliance perspective. Proper training and PPE are critical to entering many of these locations as there may be dangerous conditions, such as hydrogen sulfide. Moreover, it may be necessary to provide surface owners advance warning, as owners and their agents can be wary of unannounced, unfamiliar visitors. BLM inspectors may also not be aware of site-specific conditions imposed by law and by agreement. These may include endangered species restrictions that may limit driving during breeding seasons. Additionally, in places like Wyoming, where the BLM owns very little of the surface estate, operators often rely on existing surface use agreements that may include specific routing and gate/cattle guard access, as well as limitations on where vehicles can be parked. Access is often restricted by agreement as to the time of day and time of year to account for hunting seasons, animal migration, or breeding seasons. Operators are held accountable for access violations, damage to roads and gates, health risks, and environmental damage. Personnel with access are typically required to have extensive training and must have intimate knowledge of conditions and restrictions of a given facility on the day they will be accessing it. Providing operators adequate notice that BLM requires access will ensure the safety BLM inspectors and allows BLM and operators to accommodate significant surface restrictions in an effective manner

Recommended Change:

(e) Should be revised as follows:

If any of the proposed off-lease measurement facilities are located on non-federally managed surface, operators shall, with two (2) business days' notice by BLM, ensure that BLM personnel will have escorted access to facilities.

29. § 3173.93 – Existing Off-Lease Measurement

Rule:

(c) In connection with approving an FMP application, the AO may terminate the existing off-lease measurement approval and grant a new off-lease measurement approval with new or amended COAs to make the approval consistent with the requirements for off lease measurement under § 3173.90 in connection with approving the requested FMP. If the operator appeals the new off-lease measurement approval, the existing off-lease measurement approval will continue in effect during the pendency of the appeal.

(d) If the existing off-lease measurement approval does not meet the standards and requirements of § 3173.90 and the operator does not correct the deficiencies, the AO may terminate the existing off-lease measurement approval under § 3173.95 and deny the request for an FMP number for the facility associated with the existing off-lease measurement approval.

Concern:

Operators have invested millions of dollars to develop federal and Indian oil and gas properties contingent on existing off-lease measurement approvals. Upending approvals that were negotiated and approved in good faith under the rules in place at that time could impose a heavy burden on operators and may cause the shut-in of wells because of the extreme expenses required to correct deficiencies. This also presents a considerable burden for the local BLM offices to review existing permits and then review the revised permits. BLM lacks the authority to issue retroactive rules under the MLA and FOGRMA, and should carefully circumscribe these provisions to ensure the agency acts only prospectively.

Recommended Change:

All off-lease measurement permits should be honored without further review. Only new permits requests submitted after the effective date of the final rule should be held accountable for the requirements of these rules.

30. § 3173.190 – Immediate Assessment for Certain Violations

Rule:

Requires a \$1,000 assessment for each violation for “An appropriate valve on an oil storage tank was not effectively sealed as required by 3173.20”.

Concern:

The immediate assessment provides no opportunity to fix the seal and does not take operators’ overall seal compliance history into consideration.

Recommended Change:

The following language should be added to #1 of Table 1 to § 3173.190:

Missing or ineffectively sealed components at a given FMP, regardless of number, is considered a single violation.

Section by Section Analysis
Technical Responses or Comments to 43 CFR Part 3170 Subpart 3174

1. § 3174.10 – Definitions and Acronyms.

Rule:

Volume Statement – Not defined in Definitions and Acronyms.

Concern:

The term *Volume Statement* is used in § 3174.160 and § 3174.162. However, it is not clearly defined.

Recommended Change:

BLM should include a definition for Volume Statement in § 3174.10 such as the following:

A monthly statement showing gas measurement data, including the volume (Mcf) and quality (Btu) of natural gas which flowed through a meter.

2. § 3174.30 – Incorporation by reference (IBR)

Rule:

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51.

Concern:

Not all recommended API standards are incorporated by reference into § 3174.30. § 3174.30 does not incorporate the latest revision for the API standards incorporated by reference.

Recommended Change:

BLM should reference the latest, most up to date versions of standards incorporated by reference including the following API standards within § 3174.30(b):

- 1) API Manual of Petroleum Measurement Standards (MPMS) Chapter 2A, Measurement and Calibration of Upright Cylindrical Tanks by the Manual Tank Strapping Method; Second Edition, November 2019
- 2) API MPMS Chapter 2—Tank Calibration, Section 2B, Calibration of Upright Cylindrical Tanks Using the Optical Reference Line Method; First Edition, March 1989; Reaffirmed, March 2019; Addendum 1 July 2019
- 3) API MPMS Chapter 2—Tank Calibration, Section 2C, Calibration of Upright Cylindrical Tanks Using the Optical-triangulation Method; First Edition, January 2002; Reaffirmed, August 2018
- 7) API MPMS Chapter 4—Proving Systems, Section 1, Introduction; Third Edition, February 2005; Reaffirmed January 2020

- 10) API MPMS Chapter 4—Proving Systems, Section 6, Pulse Interpolation; Second Edition, May 1999; Errata, April 2007; Reaffirmed, January 2019
- 17) API MPMS Chapter 8.1, Standard Practice for Manual Sampling of Petroleum and Petroleum Products; Fifth Edition, September 2019
- 19) API MPMS Chapter 8—Sampling, Section 3, Standard Practice for Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products; Second Edition, September 2019
- 23) API MPMS Chapter 10.4, Determination of Water and/or Sediment in Crude Oil by the Centrifuge Method (Field Procedure); Fifth Edition, August 2020
- 24) API MPMS Chapter 11—Physical Properties Data, Section 1, Temperature and Pressure Volume Correction Factors for Generalized Crude Oils, Refined Products and Lubricating Oils; May 2004, Addendum 1, September 2007; Addendum 2 May 2019; Reaffirmed, August 2012
- 33) API Recommended Practice (RP) 12R1, Setting, Maintenance, Inspection, Operation and Repair of Tanks in Production Service; Sixth Edition, March 2020

3. § 3174.30 – Incorporation by reference (IBR)

Rule:

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51.

Concern:

Pertinent API MPMS chapters are not shown in the reference list. API MPMS Chapter 4.9.1 and 12.2.1 are complementary to the cited API MPMS Chapter 4.9.2 and 12.2.2 (and 12.2.3), respectively. API MPMS Chapter 4.9.4 specifies requirements for the gravimetric calibration method which is typically used for portable small volume provers. API MPMS Chapter 5.2 covers the requirements for positive displacement meters which are specified. API MPMS Chapter 5.4 provides requirement for meter accessories. API MPMS Chapter 7.3 covers requirements for automatic tank thermometers which are typically installed in conjunction with automatic tank gauging systems. API MPMS Chapter 9.4 provides requirements for density meters which are a viable alternative for determining dynamic density and verification of dynamic density measurement devices (Coriolis and density meters).

Recommended Change:

Add references for the following API standards:

- API MPMS Chapter 4.9.1 Introduction to the Determination of the Volume of Displacement and Tank Provers
- API MPMS Chapter 4.9.4 Determination of the Volume of Displacement and Tank Provers by the Gravimetric Method of Calibration
- API MPMS Chapter 5.2 Measurement of Liquid Hydrocarbons by Displacement Meters
- API MPMS Chapter 5.4 Accessory Equipment for Liquid Meters
- API MPMS Chapter 7.3 Temperature Determination—Fixed Automatic Tank Temperature Systems

- API MPMS Chapter 9.4 Continuous Density Measurement Under Dynamic (Flowing) Conditions
- API MPMS Chapter 12.2.1 Calculation of Petroleum Quantities Using Dynamic Measurement Methods and Volumetric Correction Factors—Introduction

4. § 3174.30 – Incorporation by reference (IBR)

Rule:

API MPMS Chapter 6.1, Lease Automatic Custody Transfer (LACT) Systems; Second Edition; May 1991; Addendum 1, August 2020 – Not included by reference.

Concern:

In section 3174.30 (Incorporated by Reference or IBR) the BLM has omitted API MPMS Chapter 6.1 and, in the Preamble, has given the reasoning as “the vagueness of its content” and “it is not clear to the BLM what constitutes enforcement content within the standard”. The BLM has replaced the IBR with new sections in the proposed rule: 3174.101, 3174.103, & 3174.107.

Section 3174.101 in the Proposed Rule states that a charging pump and motor will be required if the static head is insufficient to achieve fluid pressure compatible with the oil fluid properties and to avoid gas flashing within the system. Sufficient static head to push the oil through the metering system can be achieved by means other than a charging pump, such as elevation changes between tankage and metering system and operating pressure of the production system. BLM has used the term “if” to allow operators to demonstrate the ability to sustain sufficient pressure to maintain the fluid above its bubble point during measurement. This exact discussion and reasoning are covered section 6.1.6.2 in API MPMS Chapter 6.1. Section 6.1.6.3 of the standard gives specific step-by-step guidance and a simplified diagram with the primary components necessary for a typical LACT Unit but noting that certain operating conditions may dictate additional consideration just as CFR 3174.101 states. Chapter 6.1 also provides typical case examples and notes that before installation operating conditions should be checked to ensure the requirements of all interested parties have been met which is in direct alignment with the current philosophy of the PMT.

Section 3174.103 in the Proposed Rule requires the use of an air eliminator to prevent air from entering the meter but gives no provisions for eliminating the need for such a device on LACT Units operating at an FMP with low-gravity crude oil. In this scenario, such a device would provide no benefit. When a constant hydrostatic head is maintained, there is no avenue for air to be introduced into the fluid stream without a visible leak. In Chapter 6.1, section 6.1.6.2 a more detailed guide is given on the use of “vapor removers”, which is a more accurate term in this application.

Section 3174.107 in the Proposed Rule is specific to meter proving connections. In the Preamble, the BLM noted that the reference to proving connections in API MPMS Chapter 6.1 is not specific. In section 6.1.6.3 of the Standard, there is a step-by-step method to be followed during proving meters including the need to check valves for leakage during the proving operations. In the simplified diagram there is a list of all necessary components including prover

connection valves and their location as well as a double block and bleed valve and its location. Chapter 6.1 offers much more guidance and specificity on this subject than CFR 3174.107.

The BLM has not given sufficient justification for removing the standard due to “vagueness” or lack of “enforceable content”. We recommend the BLM reconsider its decision to remove API MPMS Chapter 6.1 from CFR 3174.30 and include this Standard by reference.

Recommended Change:

API MPMS Chapter 6.1, Lease Automatic Custody Transfer (LACT) Systems; Second Edition; May 1991; Addendum 1, August 2020 should be included by reference. The prescriptive language within the rules which are covered by Chapter 6.1 should be removed (e.g. § 3174.101, 103, and 107).

The mandatory requirement for the use of Air Eliminators should be removed. The incorporation of Chapter 6.1 by reference allows for the determination of the need for vapor eliminators in applicable scenarios.

5. § 3174.30 – Incorporation by reference (IBR)

Rule:

API MPMS Chapter 18.2, Custody Transfer of Crude Oil from Lease Tanks Using Alternative Measurement Methods; First Edition, July 2016

Concern:

In the proposed section 3174.30 “Incorporated by Reference” the BLM has removed API MPMS Chapter 18.2 from this section. In the Preamble, BLM stated that it is confusing as to what methods and processes are automatically approved without PMT review. Chapter 18.2 was not intended to bypass any BLM defined review process for approval of new methodology or technology to measure oil from tanks. The Standard states that “authorities having jurisdiction should be consulted” before selecting a methodology or process. The Standard also provides a detailed list of API MPMS documents to be consulted as guidance during the selection, validation, and uncertainty determination of alternative methods in preparation for seeking final approval for its use. In addition, it provides an uncertainty calculation example to be used in justifying the use of any new methodology.

During the implementation of section 3174 in the 2016 Rules, the responsibility for approval of alternative methods for volume determination of production from lease tanks resided in the BLM field offices. Instructional Memorandum No. 2018-069 (IM) was provided to the field offices to facilitate approval of Coriolis meters and automatic tank gauging devices, but insufficient guidance was provided to the BLM field offices for the conditions of approval of these devices which created confusion between the various offices with the implementation of the IM. We feel the confusion discussed in the Preamble was primarily due to the lack of guidance from the PMT to its field offices in the above mentioned IM, as requested from industry. If the Proposed Rule is implemented with the PMT having final approval jurisdiction over the approval on new or alternative measurement processes and equipment, the current confusion and uncertainty over the

approval process will be greatly diminished and the guidance outlined in Chapter 18.2 will provide a clear process for all parties when considering and approving alternative measurement methods.

The industry believes the BLM should reconsider its decision to remove the reference to API MPMS Chapter 18.2 in CFR 3174.30. The information stated in the Preamble is inaccurate as stated since the confusion was not due to the contents of the Standard but with the implementation guidance given to both the Operators and the AOs in the field offices of the BLM. The industry does not seek to avoid the PMT approval process but rather augment it with clear guidance and processes to secure the necessary data to support the application. Industry developed Chapter 18.2 in cooperation with previous members of the PMT and all involved parties believed it would lead to safer and more accurate methodologies for measuring crude oil from tanks. Eliminating as much field interpretation under adverse conditions as possible greatly enhances the uncertainty when compared to the practices outlined in Chapter 18.1. The Preamble states, “The BLM still recommends that industry use API 18.2 as guidance when considering alternative methods for the BLM to review for approval.” Therefore, the BLM should include Chapter 18.2 by reference in § 3174.30.

Recommended Change:

API MPMS Chapter 18.2, Custody Transfer of Crude Oil from Lease Tanks Using Alternative Measurement Methods; First Edition, July 2016 should be included by reference under § 3174.30.

6. § 3174.30 – Incorporation by reference (IBR)

Rule:

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51.

Concern:

API Technical Report 2579

In the proposed section 3174.30 “Incorporation by Reference” the BLM did not include API Technical Report 2579. This Technical Report (“TR”) was published in September 2020 and provides guidelines for the calculation of uncertainty for field stored and transported hydrocarbon liquids. Special emphasis is placed on the measurement uncertainty of crude oils measured at tanks, by lease automatic custody transfer (LACT), and alternative measurement systems. It provides consistent representation of uncertainty and example calculations for determining and documenting the uncertainty of meter measurement, fluid properties, provers, associated devices, and calibration. This TR will give the industry a standard process for use when requesting PMT approval of equipment and associated procedures for the field measurement of crude oil.

Furthermore, there are references to uncertainty calculations that must be made and provided to BLM for tiered FMPs, and, under the proposed changes, for comingling and allocation. To this end, categories for the maximum permitted measurement uncertainty based upon the production

rate were identified in the original rules and reaffirmed in the Proposed Rules. To date, there has been no discussion regarding how those calculations would or should occur. Some API standards incorporated by reference in sections 3174.3 and 3175.3 have sections that pertain to the calculation of uncertainty for that subject matter. For example, API MPMS Chapter 3 – Tank Gauging, provides a method of uncertainty analysis for end users to select components to meet an uncertainty goal. Chapter 13.3 – Measurement Uncertainty, outlines methodology for overall system uncertainty, Chapter 14, Section 3 Orifice Metering of Natural Gas and Other Related Hydrocarbon Fluids, has a section dedicated to estimating the uncertainty from first principle equations. What is necessary, though, is a comprehensive approach to the measurement system uncertainty, to correctly address both correlated and uncorrelated uncertainty components in the overall analysis.

API TR 2579 was specifically written to address the calculations of overall measurement system uncertainty in liquid systems. The calculation framework and real-world numerical examples included, detail the information that is required for the calculations, the assumptions that are used to determine if uncertainty is correlated or not, and the level of uncertainty each physical device contributes to the overall uncertainty value. The calculator can be used to calculate the uncertainty for an existing or proposed measurement system, or to decide where to focus efforts upgrading (or down grading for cost savings) measurement equipment. While the technical report was written with examples that depict metered hydrocarbon liquids with prover systems, the equations and principles apply to other measurement systems like liquids measured by tank gauging and gas flow measured by orifice plates.

BLM should incorporate API TR 2579 into the final rule as a standard industry methodology for calculating measurement uncertainty.

Recommended Change:

API Technical Report 2579 should be included by reference under § 3174.30.

7. § 3174.31 – Specific Measurement Performance Requirements

Rule:

(1) The FMP must achieve the following overall uncertainty levels as calculated in accordance with statistical methodologies in API MPMS Chapter 13.3, and the quadrature sum (square root of the sum of the squares) method described in API MPMS Chapter 14.3.1, Subsection 12.3.

- Very-High-Volume - Greater than or equal to 15,000 bbl/month - ±0.50 percent
- High-Volume - Greater than 1,500 but less than 15,000 bbl/month - ±1.50 percent
- Low-Volume - Less than or equal to 1,500 bbl/month - N/A

Concern:

The performance requirements threshold was cut in half from the current rules, from 30,000 bbl/month to 15,000 bbl/month. Therefore, the design, procedures, and equipment necessary to meet an overall measurement uncertainty of ±0.50 percent is now required on a much larger population of meter stations, increasing the financial and personnel burden significantly from the

current rule. BLM provides no valid discussion on the reasoning for the change on the current rules.

Recommended Change:

The specific measurement performance requirements threshold separating Very-High-Volume and High-Volume FMP's within § 3174.31 should be returned to 30,000 bbl/month as stated on the current version of the 43 CFR 3174 (§ 3174.4). In accordance with the order of magnitude drop used in § 3174.31 for determination of the requirements threshold separating High-Volume and Low-Volume FMP's should be changed to 3,000 bbl/month.

8. § 3174.40 – Approved Measurement Equipment and Data Requirements and § 3174.41 Measurement Equipment Requiring BLM Approval

Rule:

In accordance with § 3174.40, measurement equipment and software must be evaluated and recommended by the PMT and approved by the BLM in order to be used for the measurement and reporting of oil products.

Concern:

This provision will not go into effect until 2 years after the effective date of the final rule. In between the effective date of the 2016 Rules and the two-year period following the effective date of this final rule, operators will have been installing equipment at new facilities with no ability to know if such equipment will be approved by the BLM. With each installation, operators run the risk of installing equipment, at significant expense, that has the potential of having to be removed and replaced once the approved equipment list is populated.

In addition, although it is not the purpose, the BLM will be in the position of implying that one manufacturer is better than another. By stating that a given brand cannot be used on Federal and Indian properties, the BLM is projecting that that given brand is an inferior product. This will not only disallow that product from being used on Federal and Indian properties, but it will likely discourage operators from using that equipment/software on non-Federal and Indian properties because of the inference that the product is substandard and operators' efforts to standardize equipment in their operations. This will result in real financial damages to the unapproved products.

Recommended Change:

Instead of requiring approval of each measurement device installed and software system used, BLM should adopt the approach followed by many state and private regulators and working interest / royalty owners – setting a performance standard that devices must meet rather than affirmatively identifying particular devices by brand, make, and model. Here, BLM should require measurement devices to comply with applicable industry standards and accept flow measurement calculations determined by the use of these devices. This approach will not only provide clarity and flexibility for operators but will also relieve a large administrative burden for BLM. BLM could reserve the right to verify the uncertainty of the installed equipment by means

of production audits. All measurement equipment “approval” should be based on the stated BLM uncertainty requirements for the measurement stations of both liquid and gas , which can be determined using API Technical Report 2579. This TR provides a standard process for calculating overall measurement system uncertainty, and details the information required for the calculations, the assumptions that are used to determine if uncertainty is correlated or not, and the level of uncertainty each physical device contributes to the overall uncertainty value. Equipment which meets those uncertainty specifications and that meets the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. The burden of ensuring the installed equipment meets the uncertainty requirements should fall on the operator and verified by BLM during production audits. The development of the process, performance criteria and approval protocols should allow stakeholder engagement and be subject to public comment to allow input from industry and equipment manufacturers to the fullest extent possible. All parties involved (producer, equipment manufacturer, and BLM) can use the uncertainty calculation methods in TR 2579 to quantify and make certain that the equipment being sold, specified at the project development stage, installed as new, or existing in the field, meet the BLM uncertainty limits. It would be required that the equipment manufacturers and the producers make these calculations to ensure that the over system uncertainty is met. BLM could then audit to certify that the calculations for the system at the FPM are correct. That would negate the requirement for the PMT to certify equipment; rather, they would audit uncertainty calculations. Alternatively, in the event this approach is deemed unacceptable, the entirety of the rule should not go into effect until the approved equipment list is populated and in place.

9. § 3174.42 Approved Measurement Equipment

Rule:

The following equipment is approved for use if it meets the requirement specified in this subpart: (a) Centrifuge tubes (see 3174.85); (b) Liquid-in-glass thermometers (see 3174.86); (c) Hydrometers and thermohydrometers; and (d) Manual gauging tapes (see 3174.88 (a)).

Concern:

Digital contact thermometers (i.e., digital thermometers) are not listed. Digital thermometers meeting the requirements of API MPMS Chapter 7.4 are sometimes used in conjunction with portable provers.

Recommended Change:

Add digital contact thermometers to 3174.42 as approved to the list of equipment items.

10. § 3174.42 Approved Measurement Equipment

Rule:

The following equipment is approved for use if it meets the requirement specified in this subpart: (a) Centrifuge tubes (see 3174.85); (b) Liquid-in-glass thermometers (see 3174.86); (c) Hydrometers and thermohydrometers; and (d) Manual gauging tapes (see 3174.88 (a)).

Concern:

Density meters are not listed. A density meter meeting the requirements of MPMS Chapter 9.4 is an acceptable alternative for determining the gravity for liquid hydrocarbon measurement.

Recommended Change:

Add density meters to 3174.42 as approved to the list of equipment items.

11. § 3174.42 Approved Measurement Equipment

Rule:

The following equipment is approved for use if it meets the requirement specified in this subpart: (a) Centrifuge tubes (see 3174.85); (b) Liquid-in-glass thermometers (see 3174.86); (c) Hydrometers and thermohydrometers; and (d) Manual gauging tapes (see 3174.88 (a)).

Concern:

Automatic tank thermometers are not listed. Automatic tank thermometers (ATT's) meeting the requirements of API MPMS Chapter 7.3 are normally used in conjunction with ATG's. It is illogical to forego manual gauging and require manual determination of the tank temperature.

Recommended Change:

Add automatic tank thermometers (ATT's) to 3174.42 as approved to the list of equipment items.

12. § 3174.43 – Data Submission and Notification Requirements

Rule:

- (a) Operators must submit the following information to the BLM upon request of the AO:
 - (5) Prior AO approval to sell or dispose of slop oil (see § 3174.180(c));

Concern:

The recommended change on 3174.43 is to strike 3174.43 (a)(5) from the rule. However, this change is never made in the subsequent sections (3174.180 (c)). We propose to modify 3174.180 (c) to remove the first sentence that refers to AO approval to sell or dispose of slop oil.

Recommended Change:

3174.180 (c) Determination of oil volumes by methods other than measurement.
It shall read:

Following the sale or disposal of slop oil, the operator must notify the AO by Sundry Notice of the volume sold or disposed of and the method used to compute the volume.

13. § 3174.43 – Data Submission and Notification Requirements and § 3174.180 – Alternate means of measurement (Slop oil and Waste)

Rule:

Definition of Slop Oil

(ii) Slop oil means oil that is of such quality that it is not acceptable to normal purchasers and is usually sold to oil reclaimers. Oil that can be made acceptable to normal purchasers through special treatment that can be economically provided at existing or modified facilities or using portable equipment at or upstream of the FMP is not slop oil.

Definition of Waste Oil

(iii) Waste oil means oil that has been determined by the AO or authorized representative to be of such quality that it cannot be treated economically and put in a marketable condition with existing or modified lease facilities or portable equipment, cannot be sold to reclaimers, and has been determined by the AO to have no economic value.

§ 3174.180(a) Under 43 CFR 3162.7–2, when production cannot be measured due to spillage or leakage, the amount of production must be determined by using any method the AO approves or prescribes. This category of production may include, but is not limited to, oil that is classified as slop oil or waste oil.

§ 3174.180(b) No oil may be classified or disposed of as waste oil unless the operator can demonstrate to the satisfaction of the AO that it is not economically feasible to put the oil into marketable condition.

§ 3174.180(c) The operator may not sell or otherwise dispose of slop oil without prior written approval by Sundry Notice from the AO. Following the sale or disposal of slop oil, the operator must notify the AO by Sundry Notice of the volume sold or disposed of and the method used to compute the volume.

Concern:

The definition of slop implies that operators make revenue off of that oil. These are typically tank bottoms which are disposed of at a cost and no payment is received.

The definitions for Slop Oil and Waste Oil in essence the same.

The cited provision in § 3174.43 represents excessive oversight by the AO and will result in disruption in operations. Slop oil is a common byproduct of oil and gas operations. Slop oil is a disposed of product. Often operators are not paid for this product and, in fact, have to pay for its removal and disposal. Haulers are scheduled in advance to pick up slop oil as part of a route, reducing cost of this operation. The requirement for prior approval removes to ability to preplan and reduce costs. In addition, tankage for slop oil has limited capacity. If operators are required to wait for AO approval prior to disposal, they may be forced to shut-in wells in order to avoid overfills and spillage. Well shut ins damage production, increase costs, and diminish the royalties paid to the American people for their minerals.

Spillage is a cost which operators incur to remove and remediate the site. No revenue is made from spillage. In waiting for permission from the AO for removal and disposal, that spillage is continuing to soak into the surrounding area, creating further contamination to the environment and creating additional costs for the operator to eventually clean up. Waiting for AO approval removes the ability of the operator to clean up spills in a timely manner. Any free oil within spillage which is recovered is returned to the tanks and captured through the normal measurement process.

Recommended Change:

The definition for Slop Oil should be changed as follows:

(ii) Slop oil means oil that is of such quality that it is not acceptable to normal purchasers and is disposed of at a cost to the operator. Oil that can be made acceptable to normal purchasers through special treatment that can be economically provided at existing or modified facilities or using portable equipment at or upstream of the FMP is not slop oil.

The definition for Waste Oil should be stricken.

In regards to § 3174.43(a)(5) and § 3174.180(a)(b)(c), operator will maintain all records for all slop oil sold or disposed of and will provide to the BLM for audit upon request. If any revenue is received from such, which is typically not the case, the operators shall pay the associated royalties. Approval from the AO is not required for removal or disposal of Slop/Waste Oil or spillage.

14. § 3174.43 – Data Submission and Notification Requirements (Slop oil is addressed on page 79 of draft)

Rule:

(b) Operators must submit the following information to the BLM upon request of the AO:

(5) Prior AO approval to sell or dispose of slop oil (see § 3174.180(c));

Concern:

The recommended change on § 3174.43 is to strike 3174.43 (a)(5) from the Proposed Rule, however this change is never made in the subsequent sections (3174.180 (c)). We propose to modify 3174.180 (c) to remove the first sentence that refers to AO approval to sell or dispose of slop oil.

Recommended Change:

3174.180 (c) Determination of oil volumes by methods other than measurement. It shall read:

Following the sale or disposal of slop oil, the operator must notify the AO by Sundry Notice of the volume sold or disposed of and the method used to compute the volume.

15. § 3174.43 – Data Submission and Notification Requirements

Rule:

(c) Operators must submit the following information to the BLM upon request of the AO:

Concern:

Requirements for providing verification and calibration documentation for many equipment items are not specified (ATT's, PET's, digital thermometers, temperature transducers, pressure transducers, density meters, etc.)

Recommended Change:

Add requirements to provide verification and calibration documentation for such items as ATT's, PET's digital thermometers, temperature transducers, pressure transducers, density meters upon request of the AO.

16. § 3174.50 – Grandfathering and § 3174.60 Timeframes for Compliance

Rule:

(a) All equipment used to measure the volume and quality of oil for royalty purposes at an FMP installed after January 17, 2017, must comply with the requirements of this subpart starting [EFFECTIVE DATE OF FINAL RULE].

Concern:

As discussed above in the comments for § 3174.40 Approved Measurement Equipment and Software Requirements and § 3174.41 Measurement Equipment Requiring BLM Approval, there will not be a BLM approved equipment list for 2 years after the effective date of the rule. Operators will be and have been installing equipment at new facilities. With each installation, operators run the risk of installing equipment, at significant expense, that has the potential of having to be removed and replaced once the approved equipment list is populated.

Recommended Change:

The requirement for the use of BLM approved equipment and software should be stricken from the rules. Equipment which meets the BLM proscribed uncertainty specifications and that meets the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. At minimum, in the event this approach is deemed unacceptable, all equipment and software installed prior to the publication of the approved equipment list, 2 years after the effective date of the final rule, should be grandfathered to ensure operators do not incur the unreasonable costs of having to remove and replace equipment which did not get placed on the BLM's approved list.

17. § 3174.60 Timeframes for Compliance

Rule:

(a) All equipment used to measure the volume and quality of oil for royalty purposes at an FMP installed after January 17, 2017, must comply with the requirements of this subpart starting on the effective date of the final rule. (b) All equipment and measuring procedures used to measure the volume and quality of oil for royalty purposes that were in use before January 17, 2017, must comply with the requirements of this subpart as follows: (1) Very-high volume FMP's must comply starting one year after the effective date of the final rule; (2) High-volume and low-volume FMP's must comply starting two years after the effective date of the final rule; or

Concern:

The requirement specified in (a) conflicts with § 3174.50 (a). As equipment approval was not previously required for many of the equipment items specified in § 3174.41, operators will require a reasonable period of time for compliance with the equipment approval requirements after both the rule and the approved equipment list are published. With the expanded equipment approval requirements, it is desirable that compliance timeframes for equipment allow for implementation within normal business budgeting and procurement cycles. The installation date (January 17, 2017) would appear irrelevant to this revision of 43 CFR 3174 since the FMP application process has not yet commenced and the procedure and equipment requirements are not fully implemented under the current version of 43 CFR 3174 are not fully implemented.

Recommended Change:

Revise requirement as follows: “(a) All measuring procedures used to measure the volume and quality of oil for royalty purpose must comply with the requirements of this subpart starting on [DATE ONE YEAR AFTER THE EFFECTIVE DATE OF THE FINAL RULE]. Unless otherwise grandfathered in accordance with § 3174.50, all equipment used to measure the volume and quality of oil for royalty purposes must comply with the requirements of this subpart as of the [TWO YEARS AFTER EFFECTIVE DATE OF FINAL RULE OR THE PUBLICATION DATE FOR THE LIST OF APPROVED EQUIPMENT, WHICHEVER IS LATER]; or”

18. § 3174.80 – Oil Storage Tank Equipment

Rule:

(e) Each oil storage tank associated with an approved FMP that has a tank-gauging system must be set level and maintained level.

Concern:

The requirement, as written, can be interpreted to mean that it only applies to tanks with automatic tank gauging systems and not tanks where levels are established using manual gauging.

Recommended Change:

Revise requirement as follows:

Each oil storage tank associated with an approved FMP must be set and maintained level.

19. § 3174.80 – Oil Storage Tank Equipment

Rule:

(f) Each oil storage tank associated with an approved FMP that has a tank-gauging system must be equipped with a distinct gauging reference point,....

Concern:

The requirement, as written, can be interpreted to mean that it only applies to tanks with automatic tank gauging systems and not tanks where levels are established using manual gauging.

Recommended Change:

Revise requirement as follows:

Each oil storage tank associated with an approved FMP must be equipped with a distinct gauging reference point,....

20. § 3174.82 – Oil Tank Calibration

Rule:

(a) The operator must accurately calibrate each storage tank associated with an approved FMP that has a tank-gauging system using....

Concern:

The requirement, as written, can be interpreted to mean that it only applies to tanks with automatic tank gauging systems and not tanks where levels are established using manual gauging.

Recommended Change:

Revise requirement as follows:

The operator must accurately calibrate each storage tank associated with an approved FMP using....

21. § 3174.86 Tank Oil Temperature Determination

Rule:

When determining the temperature of oil contained in an FMP tank, the operator must comply with paragraphs (a) through (d) of this section, API 7.1, Subsections 6.1 through 6.2 and

Subsections 7.1 through 7.1.2.2, or API 7.2, Subsections 7.1 through 7.2.2 and 7.2.5 through 7.2.9 (both incorporated by reference, see § 3174.30).

Concern:

Requirements for automatic tank thermometers (ATT's) are not specified. Automatic tank thermometers (ATT's) meeting the requirements of API MPMS Chapter 7.3 are normally used in conjunction with ATG's. It appears illogical to automate the determination of the liquid level without automating the determination of the liquid temperature.

Recommended Change:

Add requirements for automatic tank thermometers (ATT's).

22. § 3174.86 Tank Oil Temperature Determination

Rule:

(c) The specific makes and models of electronic thermometers identified and described at www.blm.gov are approved for use.

Concern:

Consistent with the comments for § 3174.41, portable electronic thermometers which meet verification tolerances and otherwise conform to API MPMS Chapter 7.2 should be acceptable without the need for BLM approval. Use of only approved portable electronic thermometers is not sufficient to ensure compliance with the uncertainty requirements specified in § 3174.31. Compliance with industry standards can be easily confirmed by examination of verification and calibration records. See related comments for § 3174.41.

Recommended Change:

(c) should be stricken from the final rule in association with the removal of the requirement for BLM approved equipment.

23. § 3174.86 Tank Oil Temperature Determination

Rule:

(c) The specific makes and models of electronic thermometers identified and described at www.blm.gov are approved for use.

Concern:

API MPMS Chapter 18.1, Section 6 requires opening and closing temperatures from the tank. Use of a flow-weighted average temperature is technically incorrect.

Recommended Change:

(c) should be stricken from the final rule.

24. § 3174.88 – Measuring Tank Fluid Level

Rule:

The operator must take and record the opening gauge only after samples have been taken. Gauging must comply with either paragraph (a)..., or paragraph (b) of this section for automatic tank gauging. (b) For automatic tank gauging (ATG), comply with the requirements of API 3.1B, and API 3.6, Subsection 6.2, (both incorporated by reference, see § 3174.30) and the following: (1) The specific makes and models of ATG that are identified and described at www.blm.gov are approved for use.

Concern:

Only specific makes and models of automatic tank gauges that are approved by the BLM and identified and described at www.blm.gov are allowed to be used. However, on the effective date of this rule, there will be no list of approved equipment identified and described at www.blm.gov. It will therefore be impossible to comply with the rule. This could result in unwarranted INC's and fines. It could also result in operators being forced to remove and replace installed equipment at significant expense because installed devices did not get placed on the BLM's approved list.

Recommended Change:

The requirement to use BLM approved equipment and software should be stricken from the rules. Equipment which meets the BLM proscribed uncertainty specifications and that meets the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. At minimum, in the event this approach is deemed unacceptable, all equipment and software installed prior to the publication of the approved equipment list, 2 years after the effective date of the final rule, should be grandfathered to ensure operators do not incur the unreasonable costs of having to remove and replace equipment which did not get placed on the BLM's approved list.

25. § 3174.90 LACT System-General Requirements

Rule:

(g) The average temperature for the measurement ticket must be calculated for the measurement period covered under the measurement ticket and must be the temperature used to calculate the CTL correction factor using API 11.1 (incorporated by reference, see 3174.30).

Concern:

Requirement is related to, but somewhat inconsistent with, the requirements specified in § 3174.105.

Recommended Change:

BLM should consider incorporating material from or combining material with that of § 3174.105.

26. § 3174.90 LACT System-General Requirements

Rule:

(g) The average temperature for the measurement ticket must be calculated for the measurement period covered under the measurement ticket and must be the temperature used to calculate the CTL correction factor using API 11.1 (incorporated by reference, see 3174.30).

Concern:

Requirements for compliance with the averaging method defined in API MPMS Chapter 21.2, Subsections 9.2.8 and 9.2.13.2a are not specified. Compliance with API MPMS Chapter 21.2, Subsection 9.8.2 is specified in § 3174.105(e). Averaging of pressures in accordance with API MPMS Chapter 21.2, Subsection 9.2.13.2a is specified in § 3174.90(h)(2). The phrases "for the measurement ticket", "for the measurement period covered under the measurement ticket" are redundant.

Recommended Change:

Revise requirement as follows:

The average temperature for the measurement ticket must be calculated by the volumetric averaging method in accordance with API 21.2, Subsections 9.2.8 and 9.2.13.2a (incorporated by reference, see § 3174.30) and must be used to calculate the CTL correction factor using API 11.1 (incorporated by reference, see § 3174.30).

27. § 3174.90 LACT System-General Requirements

Rule:

(h) The pressure for the measurement ticket must be determined by: (1) A direct reading of the installed pressure gauge; or, (2) If the LACT is equipped with an ELM system or an automatic adjusting back pressure control, then the system must utilize a pressure transducer. If using a pressure transducer, the average pressure must be calculated beginning when the ticket was opened. The average pressure must be calculated by the volumetric averaging method using API 21.2, Subsection 9.2.13.2a (incorporated by reference, see 3174.30) and must be used to calculate the CPL correction factor using API 11.1 (incorporated by reference, see 3174.30).

Concern:

Requirement is related to, but somewhat inconsistent with, the requirements specified in § 3174.106.

Recommended Change:

Consider incorporating material from or combining material with that of § 3174.106.

28. § 3174.90 LACT System-General Requirements

Rule:

(h)(2) ...The average pressure must be calculated by the volumetric averaging method using API 21.2, Subsection 9.2.13.2a (incorporated by reference, see 3174.30) and must be used to calculate the CPL correction factor using API 11.1 (incorporated by reference, see 3174.30)

Concern:

A requirement for compliance with the averaging method defined in API MPMS Chapter 21.2, Subsections 9.2.8 is not specified.

Recommended Change:

Change "API 21.2, Subsection 9.2.13.2a" to "API 21.2, Subsections 9.2.8 and 9.2.13.2a"

29. § 3174.100 LACT System-Components and Operating Requirements

Rule:

Unless otherwise approved, each LACT system must include all of the equipment listed in §§ 3174.101 through 3174.108 and LACT operation must meet the requirements of §§ 3174.101 through 3174.108.

Concern:

Requirements for density meters are not specified. Density meters meeting the requirements of API MPMS Chapter 9.4 are a viable alternative for determining densities used in volume calculations.

Recommended Change:

Add requirements for density meters. Include the need for density meter compliance with API MPMS Chapter 9.4.

30. § 3174.101 Charge Pump and Motor

Rule:

Where the static head is insufficient to provide a net positive suction head for desired fluid pressure and flowrates, the LACT system must include an electrically driven charge pump that has a discharge pressure rate compatible with the meter used and is sized to assure turbulent flow in the LACT main stream piping.

Concern:

Requirement is technically deficient. Net positive suction head is incorrectly used. Net positive suction head is the minimum head (pressure) available to a pump required for the proper functioning of the pump.

Recommended Change:

Revise requirement as follows:

A charge pump must be furnished in situations where the pressure would be otherwise insufficient to ensure proper operation of the meter.

31. § 3174.102 – Sampling and Mixing System

Rule:

Sampling and mixing systems that are identified and described at www.blm.gov are approved for use. Sampling and mixing must be conducted in accordance with API 8.2 and API 8.3.

Concern:

As discussed above in the comments for § 3174.40 Approved Measurement Equipment and Software Requirements and § 3174.41 Measurement Equipment Requiring BLM Approval, there will not be a BLM approved equipment list for 2 years after the effective date of the rule. Operators will be, and have been, installing equipment at new facilities. With each installation, operators run the risk of installing equipment, at significant expense, that has the potential of having to be removed and replaced once the approved equipment list is populated.

Recommended Change:

The requirement for the use of BLM approved equipment and software should be stricken from the rules. Equipment which meets the BLM specifications and the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. In the alternative, all equipment and software installed prior to the publication of the approved equipment list, should be grandfathered to ensure operators do not incur the unreasonable costs of having to remove and replace equipment which did not get placed on the BLM's approved list.

32. § 3174.102 Sampling and Mixing Systems

Rule:

(b) Sampling frequency must be proportional to the flow rate through the meter and must be based on maximizing the number of grabs for the composite-sampler container for the measurement period.

Concern:

If the requirement for equipment to be approved by BLM is not removed as recommended, in accordance with API MPMS Chapter 8.2, Section 10.1.1.1, a single sampler may be provided for multiple parallel meters. In accordance with API MPMS Chapter 8.2, Table 1, the maximum fill volume shall be established in accordance with API MPMS Chapter 8.3. API Chapter 8.3, Section 6.3.1 recommends that the volume in the sample container should not exceed 60 to 80 percent of its container. API MPMS Chapter 8.1, Section 9.2.5, specifies the maximum fill volume shall not exceed 70 to 85 percent of the sample container capacity.

Recommended Change:

Revise requirement as follows:

The sampling frequency must be proportional to the flow rate at the sampling point and must be selected to maximize the number of grabs but in no case produce a sample volume which exceeds 80 percent of the sample container capacity.

33. § 3174.103 Air Eliminator

Rule:

An air eliminator must be installed to prevent or gas from entering the meter. The air eliminator may be integrated with an optional strainer.

Concern:

In some cases, the elimination of air can adequately be accomplished in an upstream tank where the level is controlled to prevent the introduction of air into the metering system.

Recommended Change:

The requirement for the use of air eliminators should be stricken per the comments provided in for § 3174.30.

34. § 3174.104 – LACT Meter

Rule:

The LACT meter must be a positive displacement meter, a Coriolis meter (see § 3174.110), or other meter approved by the BLM. The specific make, models, and sizes of positive displacement, Coriolis meter, Coriolis transmitter, or other approved meters that are identified and described at www.blm.gov are approved for use.

Concern:

As discussed above in the comments for § 3174.40 Approved Measurement Equipment and Software Requirements and § 3174.41 Measurement Equipment Requiring BLM Approval, there will not be a BLM approved equipment list for 2 years after the effective date of the rule. Operators will be and have been installing equipment at new facilities. With each installation, operators run the risk of installing equipment, at significant expense, that has the potential of having to be removed and replaced once the approved equipment list is populated.

Recommended Change:

The requirement for the use of BLM approved equipment and software should be stricken from the rules. Equipment which meets the BLM proscribed uncertainty specifications and that meets the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. At minimum, in the event this approach is deemed unacceptable, all equipment and software installed prior to the publication of the approved

equipment list, should be grandfathered to ensure operators do not incur the unreasonable costs of having to remove and replace equipment which did not get placed on the BLM's approved list.

35. § 3174.104 LACT Meter

Rule:

(b) The LACT meter must include or allow for the attachment of a device that generates at least 8,400 pulses per barrel of registered volume.

Concern:

It appears the BLM has confused the K factor (pulses per barrel) output for a meter with the requirement to generate the pulses for each proving run with a resolution of 1 in 10,000 as specified in API MPMS Chapter 4.1, Section 6.1. Specifying a requirement for the meter K factor (pulses per barrel) is not necessary or appropriate. The required K factor is driven by the need to ensure meter factors fall within the ranges specified in § 3174.152 (f) & (g), and the requirements of API MPMS Chapters 4.2, 4.8 and 12.2.3. A meter with output of 1,000 pulses per barrel proved by a 20-barrel, bi-directional prover meets all technical requirements. For some larger PD meters, a combination of gearing and pulse generator may not be available to produce a K factor of 8,400 pulses per barrel. For larger Coriolis and PD meters, a K factor of 8,400 pulses per barrel can result in a pulse frequency which exceeds the maximum frequency for the pulse input to a flow computer or other electronic totalizer. In systems where the same K factor is used to establish indicated volume and to determine the meter factor (e.g., quantity and meter factor calculations performed in the same flow computer, etc.), the specific K factor used is not relevant as the K factor used to determine the indicated volume cancels with the K factor used to determine the meter factor in the overall quantity calculation.

Recommended Change:

(d) Should be stricken from the rule.

36. § 3174.105 – Electronic Temperature Averaging Device

Rule:

The electronic temperature averaging device may be a stand-alone device or a function of a flow computer and must be installed, operated, and maintained as follows: (a) The specific makes and models of stand-alone electronic temperature averaging devices that are identified and described at www.blm.gov are approved for use.

Concern:

As discussed above in the comments for § 3174.40 Approved Measurement Equipment and Software Requirements and § 3174.41 Measurement Equipment Requiring BLM Approval, there will not be a BLM approved equipment list for 2 years after the effective date of the rule. Operators will be and have been installing equipment at new facilities. With each installation,

operators run the risk of installing equipment, at significant expense, that has the potential of having to be removed and replaced once the approved equipment list is populated.

Recommended Change:

The requirement for the use of BLM approved equipment and software should be stricken from the rules. Equipment which meets the BLM proscribed uncertainty specifications and that meets the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. At minimum, in the event this approach is deemed unacceptable, all equipment and software installed prior to the publication of the approved equipment list, 2 years after the effective date of the final rule, should be grandfathered to ensure operators do not incur the unreasonable costs of having to remove and replace equipment which did not get placed on the BLM's approved list.

37. § 3174.106 – Pressure-Indicating Device

Rule:

The pressure-indicating device may be either a pressure gauge or pressure transducer and must be installed, operated, and maintained as follows: (a) The system must have a pressure indicating device located downstream of the meter, but on the upstream side of the first valve of the prover connection. The pressure-indicating device must be capable of providing pressure data to calculate the CPL correction factor. The specific makes and models of pressure transducers that are identified and described at www.blm.gov are approved for use.

Concern:

As discussed above in the comments for § 3174.40 Approved Measurement Equipment and Software Requirements and § 3174.41 Measurement Equipment Requiring BLM Approval, there will not be a BLM approved equipment list for 2 years after the effective date of the final rule. Operators will be and have been installing equipment at new facilities. With each installation, operators run the risk of installing equipment, at significant expense, that has the potential of having to be removed and replaced once the approved equipment list is populated.

Recommended Change:

The requirement for the use of BLM approved equipment and software should be stricken from the rules. Equipment which meets the BLM proscribed uncertainty specifications and that meets the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. At minimum, in the event this approach is deemed unacceptable, all equipment and software installed prior to the publication of the approved equipment list, should be grandfathered to ensure operators do not incur the unreasonable costs of having to remove and replace equipment which did not get placed on the BLM's approved list.

38. § 3174.107 Meter-Proving Connections

Rule:

All valves must be full opening valves.

Concern:

Typically, double block and bleed valves are reduced port (e.g., 70%).

Recommended Change:

This requirement should be stricken from the rule.

39. § 3174.108 Back-Pressure and Check Valves

Rule:

The back-pressure and check valves must be installed downstream from the meter-proving connections.

Concern:

A check valve located upstream of the meter also limits the flow to one direction. This location also eliminates the potential for degradation of the check valve caused by flow disturbances from the operation of the backpressure valve.

Recommended Change:

Revise requirement as follows: "A check valve must be installed upstream of the strainer or downstream of meter-proving connections. A back-pressure valve must be installed downstream of the meter-proving connections in systems where the pressure would otherwise be inadequate for proper operation of the meter."

40. § 3174.110 Coriolis Meter Operating Requirements

Rule:

(e) Meter zero verification must be conducted during the proving process, or any time the AO requests it.

Concern:

API MPMS Chapter 5.6, Section 8.3 requires periodic verification of the stored zero value only. If there is an observed zero offset, it will decrease measurement accuracy primarily in the lower flow rate range of the meter. Meter factors established at the operating flow rate account for such minor inaccuracies. Current practices are to verify the stored zero semiannually because zero verifications require stoppage of the flow, resulting in interruptions to production, and lost royalty revenues for the government.

Recommended Change:

Revise requirement as follows: "The meter zero value must be verified at a frequency not to exceed every six months and upon AO request."

41. § 3174.110 Coriolis Meter Operating Requirements

Rule:

(f)(2)(i) The instantaneous density of liquid (pounds/bbl, pounds/gal, or degrees API).

Concern:

The official density for the calculation of gross and net standard volumes is typically obtained from the collected sample. Consequently, there is no need to display the instantaneous density.

Recommended Change:

Revise requirement as follows:

The density of liquid (pounds/bbl, pounds/gal, or degrees API) used in the dynamic volume calculations.

42. § 3174.120 – Electronic Liquids Measurement System, ELM (Secondary and Tertiary Device)

Rule:

Any FMP with an ELM installed must comply with the requirements of this section. An ELM is required on all very high-volume FMPs, and all CMS regardless of FMP category. (a) The specific makes and models of flow computers and software versions that are identified and described at www.blm.gov are approved for use.

Concern:

As discussed above in the comments for § 3174.40 Approved Measurement Equipment and Software Requirements and § 3174.41 Measurement Equipment Requiring BLM Approval, there will not be a BLM approved equipment list for 2 years after the effective date of the rule. Operators will be and have been installing equipment at new facilities. With each installation, operators run the risk of installing equipment, at significant expense, that has the potential of having to be removed and replaced once the approved equipment list is populated.

Recommended Change:

The requirement for the use of BLM approved equipment and software should be stricken from the rules. Equipment which meets the BLM proscribed uncertainty specifications and that meets the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. At minimum, in the event this approach is deemed unacceptable, all equipment and software installed prior to the publication of the approved equipment list, should be grandfathered to ensure operators do not incur the unreasonable costs of having to remove and replace equipment which did not get placed on the BLM's approved list.

43. § 3174.120 Electronic Liquids Measurement Systems, ELM (Secondary and Tertiary Devices)

Rule:

(b) (1) The instantaneous density of liquid (pounds/bbl, pounds/gal, or degrees API).

Concern:

The official density for the calculation of gross and net standard volumes is typically obtained from the collected sample. Consequently, there is no need to display the instantaneous density. Additionally, instantaneous density is not typically measured or available.

Recommended Change:

Revise requirement as follows:

The density of liquid (pounds/bbl, pounds/gal, or degrees API) used in the dynamic volume calculations.

44. § 3174.120 Electronic Liquids Measurement Systems, ELM (Secondary and Tertiary Devices)

Rule:

(c) (2) The make, model, range, and calibrated span of the pressure and temperature transducer used to determine gross standard volume.

Concern:

The make, model and range (lower and upper range limits) of transducers are not normally documented in the ELM.

Recommended Change:

Revise requirement as follows:

The calibrated span of the pressure and temperature transducers used to determine gross standard volume.

45. § 3174.121 – Measurement Data System (MDS)

Rule:

(a) The specific MDS that are identified (by name and version) and described at www.blm.gov are approved for use. MDS are not grandfathered under § 3174.50.

Concern:

As discussed above in the comments for § 3174.40 Approved Measurement Equipment and Software Requirements and § 3174.41 Measurement Equipment Requiring BLM Approval, there will not be a BLM approved equipment list for 2 years after the effective date of the rule. Measurement Data Systems are in integral part of an operators Enterprise Resource Planning (ERP) system. It represents significant investment to implement as it interlinks to multiple other systems within the ERP. Especially at larger companies, this implementation represents millions of dollars of investment and up to two years to transition. Even upgrades of these systems can take several months, sometimes over a year, and cost operators hundreds of thousands of dollars. The potential of required replacement because the system used does not appear on the BLM approved list represents a very large financial risk.

In addition, some operators do not use a third-party Measurement Data System. In house processes are often developed in order to validate, balance, and report volumes and quality. The requirement for the use of a BLM approved system has the potential to force these operators to spend significant time and money to purchase and implement a third-party system. This places the BLM in the position of acting as a sales team for the approved vendors.

The BLM's validation of accurate volume and energy calculations and reporting should be performed through the audit process, not through the forcing of industry to purchase specific manufacturers' software packages.

Recommended Change:

The requirement for the use of a BLM approved Measurement Data System should be stricken from the rules. At minimum, in the event this approach is deemed unacceptable, all MDS systems installed prior to the publication of the approved equipment list, 2 years after the effective date of the final rule, should be grandfathered to ensure operators do not incur the unreasonable costs of having to remove and replace software which did not get placed on the BLM's approved list.

46. § 3174.130 – Coriolis Measurement Systems (CMS) - General Requirements and Components

Rule:

(h) If the CMS is mounted on a truck or trailer that travels between locations, referred to as a Truck-Mounted Coriolis (TMC), the unit must meet all requirements of the CMS, subject to the following special considerations: (1) The TMC is required to meet the performance requirements of a very high- volume FMP;

Concern:

Operator will be responsible for providing all records for all non-Federal and non-Tribal transactions upon request for all provings since last performed for the operator. The operator does not have access or right to that data when those other locations are not one that operator's leases. An operator's obligations should only be to ensure all the performance and data requirements are met for operations and provings performed for that operator.

Recommended Change:

This requirement should be stricken from the rule.

47. § 3174.151 Meter Prover

Rule:

(b) Displacement provers must meet the requirements of API 4.2 (incorporated by reference, see § 3174.30) and be calibrated using the water-draw method under API 4.9.2 (incorporated by reference, see § 3174.30)..."

Concern:

Portable small volume provers are sometimes used to prove LACT meters. Portable small volume provers are typically calibrated by the gravimetric calibration method in accordance with API MPMS Chapter 4.9.4.

Recommended Change:

Revise the requirement as follows:

Displacement provers must meet the requirements of API 4.2 (incorporated by reference, see § 3174.30) and be calibrated using the water-draw method under API 4.9.2 (incorporated by reference, see § 3174.30) or the gravimetric method under API 4.9.4 (incorporated by reference, see § 3174.30)...

48. § 3174.151 Meter Prover

Rule:

(c) The base prover volume of a displacement prover must be calculated in accordance with API 12.2.4 (incorporated by reference, see § 3174.30).

Concern:

Portable small volume provers are sometimes used to prove LACT meters. Portable small volume provers are typically calibrated by the gravimetric calibration method in accordance with API MPMS Chapter 4.9.4.

Recommended Change:

Revise the requirement as follows:

The base prover volume of a displacement prover must be calculated in accordance with API 12.2.4 or API 4.9.4 (incorporated by reference, see § 3174.30).

49. § 3174.151 Meter Prover Sizing

Rule:

- (e) Displacement provers must be sized to obtain a displacer velocity through the prover is within the appropriate range during proving in accordance with API 4.2, subsection 4.3.4.2, Minimum Displacer Velocities and subsection 4.3.4.1, Maximum Displacer Velocities (incorporated by reference, see §3174.30).
- (f) (e) Fluid velocity must be calculated using API 4.2, Subsection 4.3.4.3, Equation 12 (incorporated by reference, see §3174.30).

Concern:

In 3174.151 (d), BLM should consider the full contents of API 4.2 and not limit displacer sizing to minimum velocity by only the formula in API 4.2 (4.3.4.3) when other considerations are stated in the last paragraph following the formula stating “[t]his standard is not intended to limit the velocity of displacers. Provided that acceptable performance can be assured, no arbitrary limit is imposed on velocity.” This limit in a specific geographical area could then require multiple pieces of equipment, the need for additional days to complete the work, additional cost, and limit options of service when one prover could accurately complete the task. To add, API 4.2 (4.3.4) states that “[n]evertheless, the developing state of the art advises against setting a firm limit to displacer velocity as a criterion for design. Demonstrated results are better to use as criterion. The results are manifested in the repeatability and reproducibility of MF’s using the prover in question,” (4.3.4.2) and “[m]inimum sphere displacer velocities can be decreased by using low friction spheres (e.g., Teflon blends, etc.), or by honing and polishing the inside of the prover.” Also, internal coating has been a method to decrease pipe friction. Overall, the full extent of API 4.2 provides a more reasonable set of protocols while still meeting the purpose and need of this section of the Proposed Rule.

Recommended change:

This requirement should be stricken from the rule and revised so that it is fully consistent with and incorporates language from the full contents of API 4.2.

50. § 3174.152 – Meter-Proving Runs

Rule:

Meter proving must follow the applicable section(s) of API 4.1, Proving Systems (incorporated by reference, see § 3174.30).

- (a) Meter proving must be performed under normal operating conditions. The normal operating condition will be established by the flow rate, fluid pressure, fluid temperature, and fluid gravity, at the time of proving. These established normal operating conditions will be in effect until the next proving. Except for impacts from any routine activities, such as pipeline pigging operations or temporary interruptions not lasting more than 3 consecutive days or any 7 days total within the proving period cycle, the flow rate, fluid pressure, fluid temperature, and fluid

gravity, must remain in the following ranges or the conditions for normal operating will no longer be met and a new proving is required:

Concern:

The BLM has attempted to provide guidance to operators as well as enforcement officers in the current CFR 3174.11(c)(1) on the existence of “normal operating range” between provings of a LACT. Attempts have been made to provide further clarification in the proposed revision. However, the explanation in the Preamble is confusing and unobtainable. Normal operating ranges can only be identifiable for a specific geographic region. Atmospheric conditions dictate operating conditions during any given period and cannot be controlled at the time of proving. The industry concurs that the proving conditions at the time of proving set the normal operating range for a specific LACT Unit but we disagree that operating variances of 10 percent of the defined flow rate and pressure, 10 degrees F of the temperature, and 5 degrees API for the gravity have relativity in determining the overall uncertainty of a meter between provings. Large swings in flowing pressures for crude oil will not alter the uncertainty of the meter factor beyond the 0.0025 tolerance allowed between provings (Refer to Appendix E for supporting data). Temperature changes beyond the 10 Degrees F, as described in CFR 3174.152, would not alter the meter factor beyond the 0.0025 allowable tolerance either.

(a) Since LACT and CMS meters are typically located at unmanned facilities and proving is often accomplished using a portable prover, imposing proving requirements based on changes in operating conditions is illogical and impractical. The proving intervals established in § 3174.153 adequately account for changes in operating conditions. Examination of results from 56 provings for four randomly selected meters (1 Coriolis and 3 PD) indicate that meter factor shifts between provings are well within the uncertainty requirements specified in § 3174.31, Table 1, irrespective of changes in operating conditions. All but one of the provings produced meter factors that shifted by no more than +0.0025. The one outlier had a MF shift of 0.00292. The maximum changes in flow rates encountered between provings were 25.14%, 80.43%, 98.01% and 55.56%, respectively. The maximum changes in pressure encountered between provings were 3 psi or 8.11%, 25 psi or 17.24%, 40 psi or 53.33%, 20 psi or 18.18%, respectively. The maximum changes in temperature were 10.5 °F, 13.3 °F, 19.4 °F, 17.3 °F, respectively. The maximum changes in gravity were 0.7 °API, 3.5 °API, 12.6 °API, 1.1 °API, respectively. Refer to Appendices F through I for complete data set.

(a)(1) Differences in meter performance associated with flow rate changes within the normal linear range of the meter are well within the required target uncertainties specified in § 3174.31, Table 1. Meters used in custody transfer are typically specified with a linearity of no greater than ± 0.25 percent over a flow rate turndown (ratio of maximum to minimum flow rates) of at least 8 to 1 (12.5 to 100 percent of maximum linear flow rate). Results from 56 provings involving four randomly selected meters (1 Coriolis and 3 PD) indicates that changes in flow rate produce changes in meter factors that are significantly less than the uncertainty requirements. Results from 21 provings for a Coriolis meter indicate that the maximum change in flow rate from 883 to 1105 BPH (25.14%) corresponded with a change in MF of only -0.00065. Results from 11 provings for a PD meter indicates that the maximum change in flow rate from 138 to 249 BPH (80.43%) resulted in a change in MF of -0.00043. Results from 13 provings for a second PD meter indicates a change in flow rate from 151 to 299 BPH (98.01%) corresponded

with a change in MF of -0.00019 and a change in flow rate from 285 to 155 BPH (-45.61%) corresponded with a change in MF of -0.00158. Finally, results from 11 provings for a third PD meter indicates the maximum change in flow rate from 225 to 350 BPH (55.56%) corresponded with a change in MF of 0.00208. Refer to Appendices F through I for complete data set.

(a)(2) Variations in pressure normally encountered have impacts at least an order of magnitude less than the target uncertainties specified in § 3174.31, Table 1. The correction factor for the effect of pressure on the liquid (CPL), correction factor for the effect of pressure on the steel of a prover (CPS), and Coriolis tube stiffness are all relatively unaffected by variations in pressure normally encountered. A change of pressure from 50 psig to 100 psig for a 36 °API crude oil at 80 degrees F only results in a change in CPL from 1.00027 to 1.00054 (difference of 0.00027 or 0.027%). A similar change in pressure for a 12-inch, 0.375-inch WT steel pipe prover results in a change in CPS from 1.00005 to 1.00011 (difference of 0.00006 or 0.006%). Based on one Coriolis meter manufacturer's literature, "changes in pressure of 50 psi (3.5 bar) can be ignored, and even changes of 100 psi (7 bar) will not significantly affect Coriolis meter performance." Further, the impact of any changes in pressure on a meter factor is dampened because the meter factor is derived from the ratio of the CPL 's for the meter prover (CPLp) and that of the meter (CPLm). Results from meter provings indicate the pressures for four randomly selected meters over one-year periods varied within 4 psi, 25 psi, 40 psi and 35 psi, respectively. Refer to Appendices F through I for complete data set.

(a)(3) Temperatures remain relatively constant in the short-term (i.e., from one proving period to another). A change in temperature impacts the CTL and CPL (CTPL) for the prover and the CTL and CPL (CTPL) for the meter in the same way. Since the meter factor is derived from the ratios of CTLp to CTLm and CPLp to CPLm (CTPLp and CTLPm) and the impact of a variation in temperature on CTS is negligible (0.0018 to 0.00288% per degree F), the overall impact of a variation in oil temperature is limited to changes in viscosity and density influences on meter performance (pulses). Results from 56 provings involving four randomly selected meters (1 Coriolis and 3 PD) indicate that changes in temperature corresponded with changes in meter factors that are significantly less than the uncertainty requirements specified in § 3174.31, Table 1. Results from 21 provings for a Coriolis meter indicate the maximum change in temperature from 90.5 to 80 °F corresponded with a change in MF of 0.00087. Results from 11 provings for a PD meter indicate the maximum change in temperature from 98.2 to 111.5°F corresponded with a shift in MF of 0.00079. Results from 13 provings for a second PD meter indicate the maximum change in temperature from 81.2 to 100.6 °F corresponded with a change in MF of -0.00020. Finally, results from 11 provings for a third PD meter indicate the maximum change in temperature from 52.7 to 70 °F corresponded with a change in MF of 0.00208. Further, another Operator's proving results for 111 meters in January and February 2020 substantiate that it is unnecessary to impose a requirement to reprove meters based on changes in temperature. The maximum decrease in temperature from 88.2 to 62 oF (-26.2 oF) corresponded with a change in meter factor of 0.0011. The maximum increase in temperature from 53.1 to 88.6 oF (35.5 oF) corresponded with a change in meter factor of -0.0007. Overall, the changes in meter factors between provings varied between an increase of 0.0016 to a decrease of 0.0022. In all cases, the changes in meter factors are well within the target uncertainty specified in § 3174.31 (a), Table 1. Refer to Appendices F through I for complete data set.

(a)(4) Oil gravity remains relatively constant in the short-term (i.e., from one monthly or quarterly proving to another). A change in the oil gravity impacts the CTL and CPL (CTPL) for the prover and the CTL and CPL (CTPL) for the meter in the same way. Since the meter factor is derived from the ratios of CTL_p to CTL_m and CPL_p to CPL_m (CTPL_p and CTPL_m), the overall impact of a variation in oil gravity is negligible. Results from meter provings indicate gravities over one-year periods for four randomly selected meters varied within 1.0 °API , 5.1 °API , 12.6 °API , and 1.4 °API, respectively. Refer to Appendices F through I for complete data set.

The PMT asked the API Committee on Petroleum Measurement (“COPM”) to address this issue of defining “Normal Operating Conditions” and COPM have responded to the BLMs request by developing an addendum to API MPMS Chapter 6.1. The addendum (6.1 Annex A) was approved and released to the industry prior to the opening of the 60-day comment period. It is now available for PMT consideration and provides a clear methodology for determining “normal operating conditions”.

Recommended Change:

API MPMS Chapter 6.1, Lease Automatic Custody Transfer (LACT) Systems; Second Edition; May 1991; Addendum 1, August 2020 should be included by reference. This revision includes the procedures for determining Normal Operating Conditions.

51. § 3174.152 Meter-Proving Runs

Rule:

(d) The new meter factor is the arithmetic average of the meter-generated pulses or intermediate meter factors calculated from the proving runs under paragraph (c) of this section.

Concern:

The requirement as written is technically incorrect and does not meet the requirements of API MPMS Chapter 12.2.3. The meter factor is not simply the average of meter pulses.

Recommended Change:

Revise requirement as follows:

The new meter factor must be determined from the averages of the pulses, meter and prover temperatures and pressures from the proving runs (average data method) or from the average of the intermediate meter factors from the proving runs (average meter factor method).

52. § 3173.152 – Meter-Proving Runs

Rule:

(h) If multiple meter factors are determined over a range of normal operating conditions, then:

(1) If all the meter factors determined over a range of conditions fall within 0.0020 of each other, then a single meter factor may be calculated for that range as the arithmetic average of all the meter factors within that range. The full range of normal operating conditions may be divided into segments such that all the meter factors within each segment fall within a range of 0.0020. In this case, a single meter factor for each segment may be calculated as the arithmetic average of the meter factors within that segment; or

(2) The metering system may apply a dynamic meter factor derived (e.g., using linear interpolation, polynomial fit, etc.) from the series of meter factors determined over the range of normal operating conditions, so long as no two neighboring meter factors differ by more than 0.0020.

Concern:

This change does add clarity to multipoint proving. The rule needs to specify how many flowrates/proving conditions are required for a multipoint prove. Manufacturers specify that you'd have to have at least two, however the BLM needs to state if they require more.

Recommended Change:

If API MPMS Chapter 6.1 Addendum is accepted for determination of Normal Operating Conditions, the necessity for multi-point provings will be significantly reduced. In the rare occasion that the meter must be operated outside of the Normal Operating Conditions as defined in API Chapter 6.1, they are necessary, a multi-point proving should be defined as two or more points, as needed to remain within meter factor deviation requirements, but no more conditions than can be performed in a single day. Multi-point provings shall only be performed for those parameters (e.g. flowrate, pressure) which are controllable by the equipment in place.

53. § 3174.153 Minimum Proving Frequency

Rule:

The operator must prove any FMP meter before removal or sales of production after any of the following events:

Concern:

As implied by the requirement specified in § 3174.152 (c), removal or sales of production is required to prove the meter. Thus, the phrase "before removal or sales of production" is not appropriate.

Recommended Change:

Delete the phrase "before removal or sales of production".

54. § 3174.153 Minimum Proving Frequency

Rule:

(e) A change in fluid temperature that exceeds the transducer's calibrated span;

Concern:

The fact that the temperature transducer's calibrated span has been exceeded is not relevant to meter performance. The proving requirement related to temperature variations is covered under § 3174.152(a)(3).

Recommended Change:

(e) Should be stricken from the rule.

55. § 3174.153 Minimum Proving Frequency

Rule:

(f) A change in the flow rate, pressure, temperature, or gravity that exceeds the normal operating conditions as defined in 3174.152 (a).

Concern:

Deletion of the requirements specified in § 3174.152 (a) is recommended. See submitted comments for § 3174.152(a).

Recommended Change:

Delete variables that require proving in accordance with the resolution of comments for § 3174.152(a).

56. § 3174.154 Excessive Meter Factor Deviation

Rule:

(b) If the AO does not approve the explanation that the meter did not malfunction or the operator did not provide one, then the meter must be immediately removed from service, checked for damage or wear, adjusted or repaired, and re-proved before returning the meter to service.

Concern:

The meter must be returned to service before it can be re-proved.

Recommended Change:

Revise requirement as follows:

If the AO does not approve the explanation that the meter did not malfunction or the operator did not provide one, then the meter must be immediately removed from service, checked for damage or wear, adjusted or repaired, and re-proved when it is returned to service.

57. § 3174.155 Verification of the Temperature Transducer

Rule:

As part of each required meter proving and upon replacement, the temperature transducer used in conjunction with a temperature averager for a LACT system and the temperature transducer used in conjunction with an ELM must be verified....

Concern:

Given that API MPMS Chapter 21.2, Section 11.3.2 stipulates verification of electronic liquid measurement (ELM) equipment and API MPMS Chapter 7.4, Section 10.4.4 stipulates verification of temperature transducers at a maximum interval of 3 months, it appears unreasonable to require verification of such devices in conjunction with each meter proving, particularly where meters are proved more frequently than once per month or quarter. In many cases, verifications are conducted by instrument and electrical technicians rather than the operators that conduct the meter proving.

Recommended Change:

The requirement should be revised as follows:

Upon initial installation, replacement or repair, and at least once during each required meter proving period (monthly or quarterly), the temperature transducer used in conjunction with a temperature averager or ELM must be verified....

Alternatively, revise the requirement as follows:

As part of each required meter proving, but no more frequently than once per proving period (monthly or quarterly), and upon initial installation, replacement or repair, the temperature transducer used in conjunction with a temperature averager or ELM must be verified....

58. § 3174.155 Verification of the Temperature Transducer

Rule:

(c)...If they differ by more than 0.5 °F, then the difference in temperatures must be noted on the meter proving report, and: (1) The temperature transducer must be adjusted to match the reading of the test thermometer; or (2) The temperature transducer must be recalibrated, repaired or replaced.

Concern:

It is not necessary to state that the temperature readings must be annotated on the proving report as the requirement is stated in § 3174.158(a)(10). One or more of the following corrective actions should be undertaken when the temperature on the ELM display or temperature averager display varies by more than the tolerance: 1) Verify and/or rescale the temperature input on the ELM or temperature averager; 2) Replace the temperature sensor (e.g., RTD) on the temperature transducer (transmitter); and/or 3) Recalibrate, repair or replace the temperature transducer (transmitter).

Recommended Change:

The requirement should be revised as follows:

....If they differ by more than 0.5 oF, then one or more of the following actions must be undertaken to ensure the temperature measurement is within the tolerance: (1) Verify and/or rescale the temperature input on the ELM or temperature averager; (2) Replace the temperature sensor (e.g., RTD) on the temperature transducer (transmitter); and/or (3) Recalibrate, repair or replace the temperature transducer (transmitter).

59. § 3174.156 Verification of the Pressure Transducer (if applicable)

Rule:

(a) As part of each required meter proving and upon replacement, the pressure transducer must be compared with a test pressure device (dead weight or pressure gauge) traceable to NIST and having a maximum uncertainty of no more than one-half of the accuracy required from the transducer being verified.

Concern:

Given that API MPMS Chapter 21.2, Section 11.3.2 stipulates verification of electronic liquid measurement (ELM) equipment at a maximum verification interval of 3 months, it appears unreasonable to require verification of pressure measurement devices in conjunction with each meter proving, particularly where meters are proved more frequently than once per month or quarter. In many cases, verifications are conducted by instrument and electrical technicians rather than the operators that conduct the meter proving.

Recommended Change:

The requirement should be revised as follows:

Upon initial installation, replacement or repair and at least once per required proving period (monthly or quarterly), the pressure transducer must be compared against a test pressure device (deadweight tester, pressure calibrator or pressure gauge)...."

Alternatively, revise the requirement as follows:

As part of each required meter proving, but no more frequently than once per required proving period (monthly or quarterly), and upon initial installation, replacement or repair, the pressure transducer must be compared against a test pressure device (deadweight tester, pressure calibrator or pressure gauge)....

60. § 3174.156 Verification of the Pressure Transducer (if applicable)

Rule:

(c) The pressure transducer must be tested at the following three points: (1) Zero (atmospheric pressure); (2) 100 percent of the calibrated span of the pressure transducer; and (3) A point that represents the normal flowing pressure through the Coriolis meter.

Concern:

The stated requirements are not consistent with the single point verification specified in API MPMS Chapter 21.2, Section 11.6.2.1. In accordance with API MPMS Chapter 21.2 Section 11.6.2.1, "The pressure should be checked at normal operating conditions." A three-point verification requires that the transducer must be isolated from the process and the setting of a default pressure into the temperature averager or ELM. This process increases the likelihood that the pressure transducer and pressure averager or ELM will not be returned to its normal configuration and, thus, adversely affect measurement accuracy and pipeline safety. Minor errors in pressure measurement have relatively little impact on the measurement of crude oil. A change of pressure from 50 psig to 100 psig for a 36 °API crude oil at 80 degrees F only results in a change in CPL from 1.00027 to 1.00054 (difference of 0.00027 or 0.027%). Verifications are required for pressure transducers associated with PD meters as well as Coriolis meters.

Recommended Change:

The requirement should be revised as follows:

The pressure transducer must be tested at the normal flowing pressure.

61. § 3174.156 Verification of the Pressure Transducer (if applicable)

Rule:

(d) If the pressure applied by the test pressure device and the pressure displayed on the pressure transducer vary by more than the required accuracy of the pressure transducer, the pressure transducer must be adjusted to read within the stated accuracy of the test pressure device.

Concern:

The stated requirement is inconsistent with the tolerance specified in API MPMS Chapter 21.2, Section 11.6.2.2. In accordance with API MPMS Chapter 11.6.2.2, "An accuracy of ± 3 psi (20 kPa) for the pressure sensing device is more than adequate when using Table 11.2.1". An error in pressure of ± 3 psi (20 kPa) will result in an error in the CPL of ± 0.00002 (± 0.002 percent) for a 36 °API crude oil at 80 degrees F and 50 psig, which is essentially nothing when compared to overall permitted measurement uncertainty specified in § 3174.31 Table 1. One or more of the following corrective actions should be undertaken when the reading on the ELM, pressure averager or other pressure display varies by more than the tolerance: 1) Verify and/or rescale the input signal on the ELM, pressure averager or other readout device; 2) Recalibrate, repair or replace the pressure transducer (transmitter).

Recommended Change:

The requirement should be revised as follows:

If the pressure read on the test pressure device and the pressure displayed on the ELM, pressure averager or other pressure readout device differs by more than 3 psi, then one or both of the following actions must be undertaken: 1) Verify and/or rescale the input signal on the ELM, pressure averager or other readout device; 2) Recalibrate, repair or replace the pressure transducer (transmitter).

62. § 3174.157 Density Verification (if applicable)

Rule:

If the API gravity of oil is determined...with API 8.1, API 8.2, or API 8.3 (all incorporated by reference, see § 3174.30), as appropriate.

Concern:

API MPMS Chapter 21.2, Section 11.3.2 stipulates verification of electronic liquid measurement (ELM) equipment at a maximum interval of 3 months. Therefore, it appears unreasonable to require verification of online density measurement devices in conjunction with each meter proving, particularly where meter proving is accomplished more than once per month or quarter. In many cases, verifications are conducted by instrument and electrical technicians rather than the operators that conduct the meter proving. A density meter provides a viable means for determining dynamic density.

Recommended Change:

The requirement should be revised as follows:

If the API gravity used in the calculation of gross standard volume originates from a Coriolis meter or density meter, the density measurement device must be verified and/or proved (a new density meter factor established) upon initial installation, replacement or repair of the device and at least once every three months thereafter. The verification and/or or proving must be accomplished in accordance with API 9.4, Annex H (incorporated by reference, see § 3174.30).

63. § 3174.158 Meter Proving Reporting Requirements

Rule:

(a) Each meter proving report must contain the following information recorded at the discrimination levels described in API 12.2.3, Section 11 (incorporated by reference, see § 3174.30): (10) The temperature from the test thermometer and the temperature from the temperature averager or temperature transducer in accordance with § 3174.155.

Concern:

Consistent with the comments for § 3174.155, temperature transducer verifications should be accomplished once per proving period (monthly or quarterly).

Recommended Change:

The requirement should be revised as follows:

The date and results (temperature from the reference temperature device, and temperature averager or temperature transducer) for the last verification of the temperature transducer in accordance with § 3174.155.

64. § 3174.158 Meter Proving Reporting Requirements

Rule:

(a)(11) For pressure transducers (if applicable), the pressure applied by the pressure test device and the pressure reading from the pressure transducer at the three points required under § 3174.156 (c).

Concern:

Consistent with the comments for § 3174.156 (a) and § 3174.156 (c), pressure transducer verifications should be accomplished once per proving period (monthly or quarterly) at the normal operating pressure only.

Recommended Change:

The requirement should be revised as follows:

The date and results (pressures from the reference pressure device, and pressure averager or pressure transducer) for the last verification of the pressure transducer in accordance with § 3174.156 (c).

65. § 3174.158 Meter Proving Reporting Requirements

Rule:

(a)(12) For density verification (if applicable), the instantaneous flowing density (as determined by the Coriolis meter), and the independent density measurement, as compared under § 3174.157; and

Concern:

Consistent with the comments for § 3174.157, a density meter is a viable alternative for determining dynamic density. Density verification and/or proving of the Coriolis meter or density meter should be accomplished every three months.

Recommended Change:

The requirement should be revised as follows

The date and results (standard densities for the reference density device and Coriolis meter or density meter, and previous and new density meter factors from the last verification and/or proving of the density meter in accordance with § 3174.157.

66. § 3174.162 LACT System and CMS Measurement Ticket or Volume Statement

Rule:

(a) A measurement ticket must include the following:

Concern:

The correction factors for the effects of the temperature and pressure (CTL, CPL) are not included as information to be included on the measurement ticket.

Recommended Change:

Add Correction Factor for the Effect of Temperature (CTL) and Correction Factor for the Effect of Pressure (CPL) to the list of items to be included on the measurement ticket.

Section by Section Analysis
Technical Responses or Comments to 43 CFR Part 3170 Subpart 3175

1. § 3175.10 – Definitions and Acronyms

Rule:

Nonanes-plus (C9+) analysis means a gas analysis that individually measures the gas components from methane (C1) through octanes (C8). Components with higher molecular weights than octanes (C8) are grouped together into the nonanes-plus (C9+) component.

Concern:

Most gas chromatographs do not individually measure the gas components higher than iso-Pentane. Although each hydrocarbon group (i.e. Hexanes, Heptanes, and Octanes) is not combined into a single peak, the compounds within each hydrocarbon group elute with some amount of coelution. Therefore, the compounds cannot be individually measured.

Note that with most columns used for hydrocarbon analysis, components elute based on boiling point. Although molecular weight and boiling point typically track one another, groupings are based on elution order, not molecular weight. It is more accurate to cite elution order as opposed to molecular weight.

Recommended Change:

The definition should be reworded similar to as follows:

Nonanes-plus (C9+) analysis means a gas analysis that individually measures the gas components from methane (C1) through iso-pentane (iC5), sums all components which elute after iso-pentane (iC5) up to and including n-hexane (nC6) as hexanes (C6's), sums all components which elute after n-hexane (nC6) up to and including n-heptane (nC7) as heptanes (C7's), and sums all components which elute after n-heptane (nC7) up to and including n-octane (nC8) as octanes (C8's). Components which elute after n-octane (nC8) are grouped together into the nonanes-plus (C9+) component.

2. § 3175.10 – Definitions and Acronyms and § 3175.102 – Verification and Calibration of Electronic Gas Measurement Systems

Rule:

§ 3175.10 Normal flowing point means the average differential pressure, static pressure, and flowing temperature at an FMP taken over a time period of not less than 1 day and not more than 31 days.

§ 3175.102(2) An as-found verification for differential pressure, static pressure and temperature must be conducted at the normal operating point of each transducer. (i) The normal operating point is the mean value taken over a previous time period not less than 1 day or greater than 1 month. Acceptable mean values include means weighted based on flow time and flow rate.

Concern:

The definition is vague and ambiguous and could be interpreted multiple ways by the AO and operators. The definition of not less than 1 day and not more than 31 days can be interpreted to mean any timeframe which falls into that window (e.g. 6.327 days).

Recommended Change:

If the definition is correct and any time period of not less than 1 day and not more than 31 days can be used, “at the discretion of the operator” should be added to the end of the definition to clarify that the time period is not dictated by the AO as follows:

Normal flowing point means the average differential pressure, static pressure, and flowing temperature at an FMP taken over a time period of not less than 1 day and not more than 31 days, at the discretion of the operator.

3. § 3175.30 – Incorporation by Reference

Rule:

(d) Gas Processors Association (GPA);

(2) GPA Midstream Standard 2261-19, Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography; Revised 2019.

Concern:

GPA 2261-19 contained errors in the posted reproducibility and repeatability precision statements. It was therefore superseded by 2261-20.

Recommended Change:

GPA Midstream Standard 2261–20, Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography has been published and should replace GPA 2261-19 within the rule.

4. § 3175.30 – Incorporation by Reference

Rule:

(c) American Petroleum Institute (API)

Concern:

(c) BLM should reference the latest, most up to date versions of standards incorporated by reference including the following API standards § 31745.30 (c):

Recommended Change:

2. API MPMS, Chapter 14, Section 3, Orifice Metering of Natural Gas and Other Related Hydrocarbon Fluids— Concentric, Square-edged Orifice Meters, Part 1: General Equations and Uncertainty Guidelines; Fourth Edition, September 2012; Errata, July 2013; Reaffirmed September 2017

5. § 3175.40 – Measurement Equipment Requiring BLM Approval

Rule:

In accordance with § 3175.40, except as allowed under § 3175.50(a), all makes, models, sizes, and software versions of the devices that are used at FMPs must be approved by the BLM and posted in the PMT section at www.blm.gov. BLM

Concern:

This provision will not go into effect until 2 years after the effective date of the final rule. In between the effective date of the 2016 Rules and the two-year period following the effective date of this final rule, operators will have been installing equipment at new facilities with no ability to know if such equipment will be approved by the BLM. With each installation, operators run the risk of installing equipment, at significant expense, that has the potential of having to be removed and replaced once the approved equipment list is populated.

In addition, although it is not the purpose, the BLM will be in the position of stating that one manufacturer is better than another. By stating that a given brand cannot be used on Federal and Indian properties, the BLM is projecting that that given brand is an inferior product. Once that is stated, it will not only disallow that product from being used on Federal and Indian properties, but it will likely affect operators from using that equipment/software on non-Federal and Indian properties because of the inference that the product is substandard. This will result in real financial damages to the unapproved products.

Recommended Change:

Instead of requiring approval of each measurement device installed and software system used, BLM should adopt the approach followed by state and private regulators and working interest / royalty owners by stating that measurement devices that meet applicable industry standards, along with flow measurement calculations determined by the use of these devices, be accepted by BLM. In the course of making this change, BLM could reserve the right to verify the uncertainty of the installed equipment by means of production audits. All measurement equipment “approvals” should be based on the stated BLM uncertainty requirements for the measurement stations of both liquid and gas. Equipment which meets those uncertainty specifications and that meets the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. The burden of ensuring the installed equipment meets the uncertainty requirements should fall on the operator and verified by BLM during production audits. In the event this approach is not deemed acceptable, the rule should be revised to specify that compliance with requirements for use of approved equipment must be accomplished within 2 years after the date of the final rule or the date the approved equipment list in each category is fully populated and in place, whichever is later. The development of the process, performance criteria and approval protocols should allow stakeholder engagement and be subject to public comment to allow input from industry and equipment manufacturers to the fullest extent possible.

6. § 3175.40 – Measurement Equipment Requiring BLM Approval

Rule:

Except as allowed under § 3175.50(a), all makes, models, sizes, and software versions of the devices listed in this section that are used at FMPs must be approved by the BLM and posted in the PMT section at www.blm.gov.

(g) Software used to capture and process the output from a GC.

Concern:

As written, the rule implies that the PMT will be evaluating the various chromatography software packages which operate the gas chromatographs (GC's). This software controls the GC operational parameters which ensures the appropriate resolution and valve timing, produces the chromatograms, integrates the peaks, and processes the calibrations to determine compound concentrations. It would be a monumental undertaking to be able to evaluate all of the different software packages along with the multitude of configurations possible to meet every unique configuration.

It was stated by the PMT during the outreach sessions that the intention of this section was to validate only heating value calculations. Rarely is the calculation of heating value for reporting purposes performed in the chromatographic software. The reported heating value is most often calculated in the measurement data system, the laboratory information management system, third party add-on software packages, or internally designed systems.

Recommended Change:

The requirement for the PMT to evaluate and recommend and then the BLM approve software used to capture and process the output from a GC used for measurement on Federal and Indian lands should be stricken from the entirety of the rule. The BLM has the ability to validate heating value calculations through the audit process. If the heating value is determined to be calculated incorrectly through the audit process, the operator is issued an INC and must rectify the problem. The requirement to validate and approve this software adds an unnecessary financial and administrative burden to both the BLM and the regulated community.

In the event this long standing and proven approach is deemed unacceptable, the BLM should clarify that the heating value calculation process is what is to be evaluated and approved. This should be very specific in the wording. For instance, if the reported heating value is calculated in the laboratory information management system, the BLM would validate and approve that system's ability to accurately perform the calculation, but would not be approving the entirety of the software package as the other functions of that software is outside the BLM's purview.

7. § 3175.43 – Data Submission and Notification Requirements

Rule:

(b) Notification requirements to the AO: The operator must notify the AO at the specified time period listed in this paragraph before conducting the following procedures: (1) Twenty-four (24) hours prior to performing a detailed meter-tube inspection (see § 3175.80(k)(3)); (2) Seventy-two (72) hours prior to performing a basic meter-tube inspection (see § 3175.80(j)(4)); and (3) Seventy-two (72) hours prior to taking a gas sample.

Concern:

Routine operations such as basic meter tube inspections and taking a gas sample are scheduled well in advance of the actual operations. Providing notification to the AO 72 hours in advance represents an enormous administrative burden to the regulated community.

Many operators have found that performing detailed meter tube inspections is most efficient when the operation is performed at the time it was determined to be necessary. In other words, when the team performing the basic meter tube inspection finds that a meter tube requires the detailed inspection, they tear the tube down and perform it right then. The requirement to provide 24 hours forces the operator to leave the location after the basic inspection and return at a later time to perform the detailed inspection. This adds additional travel time and introduces a great deal of inefficiency, increasing the cost of performing that inspection.

Recommended Change:

Operators should be allowed to provide basic meter tube and gas sample schedules in advance for up to 90 days of operations, but no less than 72 hours advanced notice. Operator must provide notice 24 hours prior to performing a detailed meter-tube inspection, if that inspection is not performed immediately upon determining it is required. If the detailed meter tube inspection was performed immediately upon determining it is required, notifications will be provided within 72 hours of completion.

8. § 3175.50 – Grandfathering and § 3174.60 Timeframes for Compliance

Rule:

Any of the equipment listed in § 3175.40(a) through (i) that was installed after the effective date of the rule must meet the approval requirement in § 3175.40.

Concern:

As discussed above in the comments for § 3175.40 Measurement Equipment Requiring BLM Approval, there will not be a BLM approved equipment list for 2 years after the effective date of the rule. Operators will be and have been installing equipment at new facilities. With each installation, operators run the risk of installing equipment, at significant expense, that has the potential of having to be removed and replaced at additional cost, once the approved equipment list is populated.

Recommended Change:

The requirement for the use of BLM approved equipment and software should be stricken from the rules. Equipment which meets the BLM proscribed uncertainty specifications and that meets the industry standards for the use of that type of device or software system is deemed approved regardless of the brand or model. At minimum, in the event this approach is deemed unacceptable, all equipment and software installed prior to the publication of the approved equipment list, 2 years after the effective date of the final rule, should be grandfathered to ensure operators do not incur the unreasonable costs of having to remove and replace equipment which did not get placed on the BLM's approved list.

9. § 3175.50 – Grandfathering and § 3174.60 Timeframes for Compliance

Rule:

The first sentence of § 3175.40 states that “all makes, models, sizes, and software versions of the devices listed . . . must be approved by the BLM...”, excepting grandfathered devices. Section 3175.50(a) goes on to exempt from approval requirements any “equipment listed in § 3175.40(a) through (f) that was installed at very-low, low-, or high-volume FMPs prior to the effective date of the final rule...” Section 3175.40(b) goes on to list “[f]low-computer software, when used at high- and very-high volume FMP’s []” as devices that must be approved.

Concern:

The grandfathering provisions would exempt equipment listed in § 3175.40(b) from approval, where § 3175.40(b) relates to flow computer software. Industry fears that grandfathering of software might not extend to the flow computer hardware. Replacing existing flow computers would come at great cost because they are expensive and numerous.

Section 3175.40(b) might only cover software. Does the grandfathering provision's use of the word “equipment” mean that the grandfathering provision extends to the software addressed in § 3175.40(b) as well as the equipment that the software runs on? As written, software at an older location might be exempt from approval requirements, but the hardware needed to run that software might not be approved. Given that there are many flow computers installed in the field (perhaps as many as one per meter), flow computers cost several thousand dollars each, and older flow computers do not necessarily have any negative impact on accuracy, it would be in the industry's interest to ensure that flow computer hardware and software is grandfathered at sites that satisfy the provisions of §3175.50(a). It is understood, after clarification discussion sessions, that BLM's intent in § 3175.40(b) was to require approval of the calculations, only. It would give industry greater certainty, if BLM clarified in the text that flow computer hardware is grandfathered and where software is grandfathered.

Recommended Change:

BLM should consider clarifying that flow computer hardware is grandfathered under § 3175.50(a) by listing the hardware in § 3175.50(a). BLM should also clarify which provision governs if a conflict arises around flow computer grandfathering; for example, if a grandfathered flow computer calculates correctly but cannot meet display requirements.

10. § 3175.50 – Grandfathering and § 3174.60 Timeframes for Compliance

Rule:

Table 1 to § 3175.80 shows that § 3175.80(o) and (p), encompassing requirements for thermometer wells and sample probe location, are not provisions over-ruled by the grandfathering provisions of § 3175.50; there is not a double asterisk beside “Thermometer wells” and “Sample probe location” in the first column of the table. Sample probes must be “the first obstruction, and at least 5 published inside diameters, downstream of the primary device.” 43 CFR § 3175.80(p). Thermometer wells for sensors used for flow computation and the test wells used to calibrate those sensors must be located in compliance with API 14.3.2, Subsection 6.5. 43 CFR § 3175.80(o)(1). Subsection 6.5 in API 14.3.2 requires that thermometer wells be located within the dimension ‘DL’ and four times dimension DL; dimension DL and the allowed range of distances is not different in the 1985 edition of AGA Report 3. Beta ratio may range between 0.1 and 0.75. 43 CFR § 3175.80(c). Over the allowable beta ratio range, dimension DL ranges between 2.8 and 4.5 with a tolerance of ± 0.25 . API 14.3.2 § 6.5, API 14.3.2 Table 7, API 14.3.2 Table 8(a), API 14.3.2 Table 8b. Dimension DL is published in multiples of published internal pipe diameters. API 14.3.2 at 5. Further, temperature measurements used in flow computation must come from the first thermometer well. 43 CFR § 3175.80(o)(3).

Concern:

While the location requirements for thermowells have not changed between AGA Report No. 3 (1985) and API MPMS Chapter 14.3.2, the provision requiring the sample probe to be located first was new to the 2017 revision of 43 CFR § 3175 (see 43 CFR § 3175.80(p) contra 43 CFR 3160 Onshore Oil and Gas Order No. 5). Onshore Oil and Gas Order No. 5 was silent on the subject. The sample probe provision creates an exceedingly small window of acceptable probe and thermowell locations that few meters will meet, if they were not designed for the 2017 revision. Fixing improperly located thermowells and probes requires replacement, which undermines grandfathering provisions (as replacements are no longer grandfathered, see 43 CFR 3175.50(b)(1)) and comes at a high cost with vanishingly thin returns on accuracy. The BLM should grandfather meter tube downstream sections, grant leniency for downstream meter tube sections, or both because misplacement of temperature sensors pose little threat to the BLM’s interests in protecting royalties and come at a high cost to the industry.

The rule as proposed, applies the same rules to sample probe and thermowells on grandfathered meters and non-grandfathered meters. Meters are typically fabricated with threaded ports downstream of the primary measurement device. The rule requires that the first obstruction be the sample probe, at least 5 diameters downstream of the primary device. As such, the sample probe will usually occupy the first threaded port downstream of the primary device. The measurement sensing thermometer well and test well must fall within DL and $4*DL$, where DL ranges between 2.8 and 4.5 published diameters depending on the beta ratio. Thermometer well distances will satisfy these limits for any beta ratio if the well is at least 4.5 published diameters away from the orifice plate and no further than $4*(2.8\pm 0.25)$ published diameters away from the orifice plate. The thermometer wells cannot be located 4.5 diameters away because the sample probe must come first and the sample probe must be at least 5 diameters away from the plate.

The thermometer wells are therefore constrained to a range of distances between 5 ± 0 published diameters and 11.2 ± 1 published diameter away from the orifice plate.

Small bore meters, especially, face exceedingly tight limits on the location of thermowells and sample probes. Table 1 provides a Summary of Probe and Thermowell Locations by Pipe Size, assuming a sample probe 5 diameters downstream of the orifice plate, followed immediately by a sensing thermowell 6 inches downstream, and followed immediately by a test thermowell 6 inches further downstream. The furthest column to the right shows the difference between the ‘maximum allowable distance to the test thermowell’ and the ‘distance to the test thermowell if the sample probe is installed 5 diameters downstream of the plate and thermowell ports are on a 6 inch spacing’—this is essentially how much ‘wiggle room’ or ‘rangeability’ there is in thermowell location. A 2-inch S80 meter, for example, has not even 1/32nd in rangeability (not including the tolerance on dimension DL). In effect, among 2-inch meters, there is but one set of dimensions that will satisfy the regulation. Unless the meter was designed for the present regulation, it is practically certain that meters found in the field will not comply with these provisions. There are many ways to get the dimensions wrong, but a single way to get the dimensions right. Meters are made of steel, with no way to adjust dimensions. Compliance requires replacement of the meter, in whole or in part, at the cost of several thousand dollars per meter.

Table 7 Summary of Probe and Thermowell Locations by Pipe Size

Nominal Pipe Size	Schedule	Published Diameter ("D ₁ "), in	Sample Probe Location 5*D ₁ , in	Maximum Thermowell Distance, 11.2*D ₁ , in	First Thermowell Location, in	Second Thermowell Location, in	Maximum Thermowell Distance - Second Thermowell Location, in
2	40	2.067	10.335	23.150	16.335	22.335	0.815
2	80	1.939	9.695	21.717	15.695	21.695	0.022
3	40	3.068	15.340	34.362	21.340	27.340	7.022
3	80	2.900	14.500	32.480	20.500	26.500	5.980
4	40	4.026	20.130	45.091	26.130	32.130	12.961
4	80	3.826	19.130	42.851	25.130	31.130	11.721
6	40	6.065	30.325	67.928	36.325	42.325	25.603
6	80	5.761	28.805	64.523	34.805	40.805	23.718
8	40	7.981	39.905	89.387	45.905	51.905	37.482
8	80	7.625	38.125	85.400	44.125	50.125	35.275
10	40	10.020	50.100	112.224	56.100	62.100	50.124
10	80	9.562	47.810	107.094	53.810	59.810	47.284
12	40	11.938	59.690	133.706	65.690	71.690	62.016
12	80	11.374	56.870	127.389	62.870	68.870	58.519

It may be argued that if a six-inch spacing allows little rangeability, then a smaller spacing should have been used. A six-inch spacing between ports is typical in the industry. The fillet welds around a threadolet require full penetration, require a relatively large amount of fill material relative to the size of the pipe and wall thickness of the pipe, and are grouped closely to one another. It is not uncommon for the heat involved in the installation of threaded ports, during fabrication, to cause small-bore meters to bow out of shape such that the meter requires straightening or restraint during welding. Further, equipment interferences are likely at smaller port-spacings (for example, transmitter heads or electrical conduit might interfere physically at a smaller spacing if transmitters or conduit are used). Port spacings less than 6 inches are not unheard of; however, 6 inches is fairly typical and smaller spacings are likely to spark controversy over how close welds can be before heat affected zones overlap, cause safety issues, or cause code compliance issues. It is hardly possible to increase the amount of ‘rangeability’ or

‘wiggle room’ in thermowell and sample probe location in small-bore meters by decreasing the spacing between threaded ports.

It may be argued that API has already described a tolerance on dimension DL, but that tolerance is very small for small-bore meters, it did not contemplate an upstream sample probe, and it bears no relation to thermal effects. Thermowells may be located within dimension DL and $4*DL$; to cover the entire beta ratio range, DL is set to 4.5 to cover the high end of beta ratios and $4*DL$ is calculated with DL set to 2.8 to cover the low end of beta ratios. Footnotes in the API 14.3.2 tables indicate that DL has a tolerance of ± 0.25 . The tolerance, thus, ranges from ± 0.25 to $\pm(4*0.25)$. Up to one diameter could be added or subtracted; however, a single diameter of 2-inch S80 pipe is less than two inches. This tolerance is not enough to cover many of the circumstances in the field. The sample probe provision has been challenging and it is acknowledged that cases of bad design (for example designing for a single beta ratio, rather than the full range allowed) happen as well. Some of the fault lies in errors by industry member companies. Even so, thousands of dollars may be spent to move port locations by mere inches. In practical terms, mere inspection is sometimes sufficient to know that the replacement will make no practical difference in measurement. In pipe-flow, dimensionless parameters like beta ratio, Reynolds number, and multiples of pipe-diameters are important; but heat transfer and thermodynamics simply do not respect the same scaling laws. A six-inch movement, on a two-inch meter, is about three pipe-diameters, but heat transfer is not expected or thermal performance differences to scale by a factor of three. Adding to the burden of correcting thermowell placement issues, under the proposed rule, replacements aimed at bringing thermowell locations into compliance would cause meters to lose all grandfathering privileges.

The government’s interests would suffer no harm if the BLM made some reasonable grandfathering accommodations for three reasons: (1) flow dynamics produce temperature drops so small that they could not be detected by typical field measurement devices, (2) when meters are flowing, gas temperature is not strongly affected by ambient conditions, and (3) temperature measurement error is likely to be the highest when gas is not flowing or flowing at a low rate, when the rate of royalty accrual will be at its lowest.

The approach in the evaluation is based on thermodynamics and heat transfer, rather than data for various reasons. Field data would probably not provide a clear answer because field data would not isolate independent variables. Field data would include effects of many variables including flow rate (where meters usually flow as conditions dictate, rather than continuously and steadily), beta ratio, sun exposure, protection by buildings, wind, varying temperatures, etc. Field data would probably not isolate the impact of thermowell distance very well. Second, an evaluation of heat transfer would likely require something like wind-tunnel testing with controlled air temperatures. This would likely be cost prohibitive, if any wind-tunnel testing facilities even have the capability to temperature control, encapsulate a length of pipe, and flow gas. And third, data surely exists, including the data that forms the basis for the development of the API standards for orifice flow. However, it is not organized in a way that enables an assessment within the comment period. An evaluation was performed which is reasonable under the circumstances (a 60-day limit) using state-of-industry methods.

Flow dynamics produce temperature drops so small that they cannot be detected by typical field measurement devices.

To begin with, one-dimensional, adiabatic flow to evaluate temperature effects down the length of the downstream segment of the meter tube is assumed. The orifice meter equation makes these same assumptions. Flow downstream of the plate, once the gas has reattached to the pipe, is likely to be nearly isentropic and adiabatic because:

- The frictional loss is small relative to the gas's momentum and enthalpy.
- Very little heat is transferred to or from the gas within the meter tube when the meter is flowing. Even at a low meter flow rate, the gas will pass through several feet of downstream tube in a matter of seconds or fractions of a second. Heat transfer takes time and requires surface area. Very little heat can transfer over the several feet of pipe that make-up a meter tube because gas resides in the meter for a short time and because surface area is limited.

Pressure drop was estimated at various flow rates using pipe-flow friction factors and head-loss formulations. The adiabatic pressure change was treated as an isenthalpic expansion, so the thermal effect was estimated according to the Joule-Thompson effect with enthalpy calculated using the AGA-8 GERG equation of state. All calculations assume a 2 inch, S40 downstream meter section from a point where the vena contracta has re-attached to a point 100 diameters downstream (100 diameters was used 'for good measure'); a 1-1/8" plate bore; a true gas temperature of 60 degrees; and AGA-8 Gulf Coast gas. Friction factor was calculated from the Colebrook-White Implicit Equation because it "offers the best correlation to the Moody Diagram", albeit that it must be solved iteratively. API can supply supporting calculation details upon request (calculation and iteration was done programmatically). Note that the "entrance" to the downstream section the way it has been defined for this analysis, is at some point where pressure has recovered and the vena contracta has reattached—not immediately downstream of the plate. It is agreed that placing thermowells too close to the plate could yield inaccurate results because the vena contracta would not have reattached, pressure and temperature would not have recovered, and the thermowell might be close enough to cause upstream disturbance at the plate. The entrance point (as it has been defined) is about where the first thermowell would be placed, at dimension DL; consider how much temperature changes due to flow if temperature is measured 100 diameters downstream of that point. The primary consideration is what happens if thermowells are too far, not too close.

The pressure drop that develops over a 100 diameter long downstream section, given the flow rate that results at 1000 inH₂O differential pressure across the measurement section, is less than 1.5 psi. Given a plate bore 1/8th inch below 0.6 Beta, the highest meter differential allowed by API, and a length of pipe much longer than usually encountered in the field—even with these relatively extreme conditions—pressure drop is very modest. The temperature drop predicted, is enthalpically, calculated from the AGA 8 GERG Equation of State is only 0.08 degrees Fahrenheit. A high quality, digital, reference thermometer used for calibration of temperature devices would be hard-pressed to sense this difference. Note again, that pressure is assumed to be recovered by the entrance point where the pressure drop analysis begins. The permanent pressure drop associated with orifice flow has been neglected. API 14.3.1 (at 19) "assume[s] that

the temperatures of the fluid at the upstream and downstream differential sensing taps are identical for the expansion factor calculation”; this is a similar assumption but before pressure recovery.

Flow dynamics that cause some temperature drop (because of pressure loss) are not sufficient to make a substantial impact on gas volume or royalties. It is important that temperature measurement be located in a place where the gas pressure has recovered to a large extent and the vena contracta would have re-attached to the pipe wall; that is, it is important that thermowells not be too close. However, in the absence of heat transfer from the environment and in the absence of additional pressure drop from fittings or obstructions, temperature from one point in the pipe to another reasonably distant downstream point in the pipe is practically the same.

The calculated flow rates, pipe pressure drops, and exit temperatures are summarized below:

Orifice Measurement Section DP, inH2O	Enthalpy at Entrance, BTU/lbm	Meter Flow, MSCF/D	Friction Factor	Velocity at Entrance, ft/s	Pressure Drop per 100 diameters, psi	Velocity at Exit, ft/s	Enthalpy at Exit, BTU/lbm	Exit Temp, deg F
1.25	-24.94	222.55	0.04	3.03	0.00	3.03	-24.94	60.00
5.00	-24.94	444.01	0.03	6.04	0.01	6.04	-24.94	60.00
20.00	-24.94	886.26	0.03	12.06	0.04	12.07	-24.94	60.00
80.00	-24.94	1768.14	0.02	24.07	0.13	24.08	-24.94	59.98
320.00	-24.94	3515.18	0.02	47.85	0.46	47.90	-24.94	59.97
1000.00	-24.94	6119.87	0.02	83.31	1.46	83.55	-24.94	59.92

When meters are flowing, gas temperature is not strongly affected by ambient conditions.

If heat transferred in or out of a pipe quickly enough that gas temperature to change appreciably is expected, even over the course of several inches—then it would be critical to keep thermometer wells close together and as close to the meter as possible. The API and AGA standards surely aim to minimize potential for ambient impacts by establishing maximum distances for thermowells. That said, we find that ambient effects probably do not cause local gas temperature to vary dramatically, inch-by-inch, down a meter bore.

The flow rates calculated in the analysis of temperature effects related to flow dynamics were used to calculate how much the gas flowing through a meter’s downstream section would be affected by ambient conditions. This was an important examination because the examination of flow dynamic effects assumed that there was no heat transfer from the environment because the gas is assumed to have little residence time and little surface area available for heat transfer; the question naturally arises: is that assumption likely lead to accurate results? Will heat transfer from the pipe cause error in flow computations?

Commercial software was used to execute heat transfer calculations. The “Pipeline” object in Bryan Research & Engineering’s ProMax 5.0 was used to estimate the wind speed required to produce a 2% difference in volumetric flow (the volumetric uncertainty limit on very high-volume meters). ProMax uses methods by Holman (Heat Transfer, 7th ed) and Ozisik (Heat Transfer, A Basic Approach). Heat transfer via cross flow of wind across 100 diameters of 2 inch, S40 above ground pipe at both very hot ambient conditions (140 deg F) and very cold ambient conditions (-20 deg F) was considered. With that consideration: how hard would the wind have to blow to transfer enough heat in or out of 100 diameters of downstream pipe to cause the temperature of the flowing gas to change enough to cause a 2% error. A 2% threshold was used to keep things simple and conservative, where instantaneous volume rates in 2 inch meters can go into the very high-volume tier and the additional 1% error on high-volume meters

allows for uncertainties associated with coefficient of discharge, pressure measurement, etc. It is realized that very high-volume meters are not grandfathered.

In the hypothetical cases considered, the true gas temperature is 60 degrees Fahrenheit. If gas goes through the measurement section of the orifice meter at 60 degrees and enough heat transfers into the gas to cause a temperature increase to about 77.0148 degrees before the gas reaches the temperature sensor; then the temperature measurement will misrepresent the temperature through the meter, misrepresenting the density of the gas, causing about 2% undermeasurement in volume. If gas goes through the measurement section of the orifice meter at 60 degrees and enough heat transfers out of the gas to cause a temperature decrease to about 44.2598 degrees before the gas reaches the temperature sensor; then the temperature measurement will misrepresent the temperature through the meter, misrepresenting the density of the gas, causing about 2% undermeasurement in volume. These temperatures were determined using the API 14.3.1 flow equations and the AGA Report 8 GERG Equation of State; they therefore include all possible interdependencies on the temperature variable. For example, temperature affects density calculation, which in turn effects the Reynolds Number calculation, which in turn effects the coefficient of discharge calculation and expansion factors, which again affect mass flow and Reynolds Number. Temperature also affects compressibility which is also used in the density calculation. Temperature has a direct impact on density calculation, but temperature also indirectly affects several other variables in the flow computation. Because the temperature change required for a 2% error to occur was calculated numerically, these interdependencies are accounted for. For the sake of proving to the BLM that these numbers are reasonable, it can fall back to the uncertainty/error approximation methods of API 14.3.1 that “[f]or practical considerations, [assume] the pertinent variables are... independent [,] to provide a simpler uncertainty calculation.”

API 14.3.1 Equation 34 provides the relationship between changes in the various measurement variables and the flow rate:

$$\frac{\delta q_m}{q_m} = \left\{ \left(\frac{\delta C_d}{C_d} \right)^2 + \left(\frac{2\beta^4}{1-\beta^4} \right)^2 \left(\frac{\delta d}{d} \right)^2 + \left(\frac{-2\beta^4}{1-\beta^4} \right)^2 \left(\frac{\delta D}{D} \right)^2 + \left(\frac{\delta Y}{Y} \right)^2 + 4 \left(\frac{\delta d}{d} \right)^2 + \frac{1}{4} \left(\frac{\delta \rho_{t,p}}{\rho_{t,p}} \right)^2 + \frac{1}{4} \left(\frac{\delta \Delta P}{\Delta P} \right)^2 \right\}^{0.5}$$

Since the interest is in temperature effects on flow and it is assumed the variables are independent; effects on coefficient of discharge, orifice reference bore, meter reference bore, expansion factor, beta ratio, and differential pressure are ignored. In essence, it is assumed those variables are well known, without error or uncertainty, so that the effect of temperature alone is isolated. Simplifying Equation 34, to leave only temperature dependent factors:

$$\frac{\delta q_m}{q_m} = \left\{ \frac{1}{4} \left(\frac{\delta \rho_{t,p}}{\rho_{t,p}} \right)^2 \right\}^{0.5}$$

This relation alone is not particularly useful because it merely tells us the dependence of meter flow rate on density; it does not relate to primary measurement variables—temperature, pressure, and gas composition. Page 39 of API 14.3.1 provides the expansion of the density uncertainty in terms of primary measurements. “The fluid density uncertainty term . . . in Equation (34) is replaced by the following terms for natural gas application:”

$$\left[\frac{1}{2}\left(\frac{\delta G_i}{G_i}\right)\right]^2 + \left[\frac{1}{2}\left(\frac{\delta P_f}{P_f}\right)\right]^2 + \left[-\frac{1}{2}\left(\frac{\delta Z_f}{Z_f}\right)\right]^2 + \left[-\frac{1}{2}\left(\frac{\delta T_f}{T_f}\right)\right]^2$$

Combining the simplified form of Equation 34 and the expression above:

$$\left[\frac{1}{2}\left(\frac{\delta G_i}{G_i}\right)\right]^2 + \left[\frac{1}{2}\left(\frac{\delta P_f}{P_f}\right)\right]^2 + \left[-\frac{1}{2}\left(\frac{\delta Z_f}{Z_f}\right)\right]^2 + \left[-\frac{1}{2}\left(\frac{\delta T_f}{T_f}\right)\right]^2$$

Since the interest is in temperature effects on flow and it is assumed that the variables are independent; the effects on relative density, pressure, and compressibility are ignored. Simplifying to neglect these terms:

$$\frac{\delta q_m}{q_m} = \left\{ \left[-\frac{1}{2} \left(\frac{\delta T_f}{T_f} \right) \right]^2 \right\}^{0.5}$$

The temperature and a 2% change are substituted, then the dTf is solve for. Note that the flow equations require temperatures and pressures in absolute unit scales. Changes on the Fahrenheit and Rankine scales are equivalent (in the same way that a differential pressure is the same whether it is calculated from two gauge pressures or two absolute pressures), so the dTf term can be taken to be in degrees Fahrenheit even though the Tf term must be shifted to the Rankine scale.

$$\frac{0.02 * q_m}{q_m} = \left\{ \left[-\frac{1}{2} \left(\frac{\delta T_f}{(60 + 459.67)} \right) \right]^2 \right\}^{0.5}$$

$$\pm \delta T_f = 2 * 0.02 * (60 + 459.67) = 20.7868$$

The true gas temperature in the hypothetical cases is 60 degrees; adding and subtracting 20.8 degrees yields 80.8 and 39.2 degrees Fahrenheit. These are fairly close to the 77 and 44 degree temperatures found numerically. The error found by the numerical method is more accurate because it accounts for the effect of temperature on compressibility, density, coefficient of discharge, etc. rather than the one factor where it appears explicitly in the density term. The numerically determined error at 80.8 degrees is about 2.4% undermeasurement. The numerically determined error at 39.2 degrees is about 2.7% overmeasurement. Further, 77 and 44 degrees is a narrower operating window—only 16 or 17 degrees up or down, rather than 20. It might be in the industry’s best interest to use the wider temperature range because it would require more heat transfer to get to those temperatures, therefore requiring wider temperature extremes and wind speeds and perhaps making a more compelling case. However, a wider temperature range to

make the case is not needed. Therefore, the narrower temperature range of 77 and 44 degrees in heat transfer calculations was used.

Next, determine wind speeds that would be required for enough heat transfer to take place over 100 diameters of 2-inch pipe to have gas enter the meter at 60 degrees and leave at 77 or 44 degrees. The catch-all case in the API 14.3.2 tables calls for 44 upstream diameters. Only the heat transfer over a downstream meter section, where the thermowells have been located much too far downstream, is considered, but 100 diameters should really be enough to account heat transfer through the entire meter tube.

The worst-case ambient temperatures of -20 degrees and 140 degrees was used. The wind velocities required to produce a temperature change resulting in a 2 percent error is so extreme, in some cases, that they would be impossible outside of a jet-engine's backwash. At those extremes, the results probably do not have physical significance, but rather simply indicate that those levels of heat transfer are not practically possible. At 5 inches of differential pressure, with a 1-1/8 in orifice, gas spends less than three seconds traversing 100 diameters of 2-inch pipe. It is difficult to imagine heat going through solid steel pipe-walls fast enough to make much difference to the gas on the inside, so this makes sense. It is difficult to imagine that heat transfers through the pipe fast enough that you could warm-up or cool down by standing next to a meter flowing 60 degree gas on -20 or 140 degree weather days (if such weather happened). The proximity around a meter would not feel like it was radiating cold in the summer or feel like it was radiating heat in the winter. It can be intuited that the heat transfer just is not that fast.

The following table summarizes results for calculations of wind speeds. The amount of heat removal/addition required for the 2% error was calculated using the GERG Equation of State. The results for the intermediate ambient temperature of 100 degrees is also shown in the table, since the BLM is likely interested in temperatures more attainable in real life, outside of an oven. The results are much more severe than when ambient temperature is 140 degrees because heat transfer is driven by temperature difference. Since the temperature difference between 60-degree gas and 100 degree ambient air is smaller than the difference between 60-degree gas and 140-degree ambient air, much higher wind speeds are needed to transfer heat fast enough to cause error. The effect likely follows a power law, where it becomes exponentially more difficult for heat transfer to take place as the ambient temperature approaches flowing temperature. Heat transfer stops when ambient temperature and flowing temperature are the same because temperature difference drives heat transfer.

Orifice Measurement Section DP, inH2O	Meter Flow, MSCF/D	Aproximate Heat Removal/Addition for 2% Error, BTU/hr	Wind Speed @ -20 deg F, mph	Wind Speed @ 100 deg F, mph	Wind Speed @ 140 deg F, mph
1.25	222.55	4,037	10	96	13
5.00	444.01	8,055	31	364	41
20.00	886.26	16,078	89	1,154	121
80.00	1,768.14	32,077	287	4,341	1,033
320.00	3,515.18	63,771	720	97,839	1,515
1000.00	6,119.87	111,024	1,490	No-solution found	2,246

At extreme temperatures and low flow rates, reasonable wind speeds that can be expected to occur from time to time are sufficient to cause 2% error in flow computation. At flow rates around 900 MSCF/D or so, gas resides in the pipe for a short enough period of time that even at

these extreme conditions F0 tornado wind speeds would be required to transfer enough heat to cause a 2% error in flow rate.

At the more reasonable 100-degree ambient example, there is hardly a differential pressure range where the gas sits in the pipe long enough for heat transfer from the atmosphere to make a 2% difference in flow computation.

Heat conduction from the lagging-length of a thermowell (the part that sticks-out on the outside of the meter bore) through the shank of the thermowell likely makes a substantial impact—especially given the short length of the thermowells in small meters. But whether the thermowell is a few inches further upstream or a few inches further downstream, the gas at the tip of the thermowell and the temperature of the atmosphere at the lagging end of the thermowell would be the same at an upstream position or a downstream position. Position likely has practically no effect on that conductive effect, provided that the position change is not moving from inside a building to outside, inside insulation to outside, or shielded from weather to unshielded. Experience shows that even the level of glycol fill can have a strong effect (where overfilling tends to conduct heat from the environment), but that is not dependent on distance from the plate. The short length of thermowells in small meters and the conductance of heat from the environment through the thermowell shaft are drawbacks inherent to small-bore meters; but length and conduction issues are neither cured nor made worse by relative positioning of thermowells on a meter within a reasonable span.

Conditions of temperature extremes combined with high winds can occur from time to time, but it is a minority of the time and not often to extremes that would really drive enough heat transfer to cause error. Therefore, when meters are flowing, gas temperature is not strongly affected by ambient conditions over the course of 100 diameters; and so, the position of a thermowell—a few inches this way or that way—will not make a substantial difference in flow computation.

Temperature measurement error is likely to be the highest when gas is not flowing or flowing at a low rate, when the rate of royalty accrual will be at its lowest.

The wind speed calculations show that, at extreme temperatures, it is reasonable to expect ambient temperature to influence the gas temperature at lower flow rates, because the gas moves through the meter slow enough for there to be time for heat transfer to occur and because there is less gas for the environment to heat or cool.

If a meter does not flow, the thermowells will equilibrate with the temperature of the environment. Temperature readings at no-flow conditions are not meaningful because there is no flow accrual. By contrast, high gas velocities through the meter promote high heat transfer coefficients around thermowells and will cause thermowells to equilibrate with the gas temperature more quickly. As velocity increases, accurate temperatures will be attained more quickly and heat transfer from the environment will be less likely to make a difference.

Nature works with us in a way that is convenient. The times where there is high risk of error in temperature measurement are times when the rate of volume accrual (and therefore royalty

accrual) is low. The risk of high temperature error decreases at the times of concern—times when meters are flowing and volume and royalties are accruing.

There are several factors at play—ambient temperature, wind speeds, and meter flow rates. Data, in this case, is likely less useful than theoretical consideration because the data cannot be compared in a way that isolates each variable and allows comparisons in a useful way. It is best to think of conditions that could lead to poor temperature measurement as an aggregate risk—that is, a probability. There is some likelihood that temperature extremes will occur. There is some likelihood that high wind speeds will occur. There is some likelihood that a given meter will flow at a high spot-flowrate and some likelihood that a given meter will flow at a low spot-flowrate. All these probabilities stack together to form some aggregate risk that conditions will align such that poor measurement results.

The risk that conditions that lead to poor temperature measurement tends to coincide with times when the BLM is accruing royalties at a low rate; conversely, conditions that lead to higher rates of royalty accrual tend to be relatively unaffected by risk factors that lead to temperature measurement. Temperature errors of a magnitude that the BLM cares about tend to happen at times where the BLM has little reason to care, because royalty accrual rate is relatively low. Even where conditions lead to high temperature error, the temperature error is unlikely to translate to a large error in royalties because temperature error is associated with periods of low royalty accrual.

In summary, the Government's interests would suffer no harm if the BLM made some reasonable grandfathering accommodations because (1) flow dynamics produce negligible temperature drops, (2) gas temperature is not strongly affected by ambient conditions, and (3) conditions that allow ambient conditions to cause a lot of error tends to be conditions where the BLM is not accruing royalties at a high rate anyway.

While thousands of dollars per meter replacement may be economically sustainable for some companies, in mathematical terms, the BLM should also consider the effects of these expenditures. First, misplaced thermowells are practically certain to exist in grandfathered meters and correcting the misplacement comes with little promise of added accuracy. Two and three inch meters represent a large majority of meters used at well pads. For two-inch meters, there is but one configuration that meets requirements of the proposed rule (assuming a six inch port spacing). Unless the meter was designed for the regulation, existing meters are likely not to comply. Replacement of meter tubes or downstream sections is quite expensive. The cost of replacement is high (on a per meter basis) and the volume of meters that need replacement is also very high. These costs are almost universal to small-bore meters but comes with very little promise of additional accuracy. BLM's authority under FOGRMA to issue regulations is predicated on those rules being "reasonably necessary" to effectuate the purposes outlined by Congress. See 30 U.S.C. § 1751(a). Imposing significant expense with little compliance benefit strays from this fundamental premise. What is more, these high divert money from proactive compliance on the industry's own initiative.

When companies are faced with costly requirements, they believe make little positive impact, companies are placed in a precarious position wherein prudent conduct in competitive business

can be misaligned with the duty to comply. Many, if not most companies, make a good-faith effort to comply on their own initiative. Many operators utilize audits and internal review to proactively identify areas of non-compliance and correct them immediately. It would be in the government's interest to provide a regulatory framework that encourages and enables pro-active compliance, and that minimizing high cost requirements that do not actually protect governmental interests.

In evaluating reasonableness of governmental procurement costs, the Departments of Defense, General Services, and NASA must look to 48 CFR § 31.201-3 which establishes that “[a] cost is reasonable if, in its nature and amount, it does not exceed that which would be incurred by a prudent person in the conduct of competitive business.” If the government were in the role of Operator, but-for obligations imposed by rule, would it find that the cost of replacing meters or downstream meter sections is reasonable? While such a judgement cannot be made, the government would be well founded in a determination that the cost is excessive (but-for the obligation to comply) because the nature of the cost is largely frivolous insofar as the improvement on accuracy is likely negligible. Unless the regulation corrects for externalities, harmful to governmental interests, the regulation should not cause Operators to incur costs that prudent persons in conduct of competitive business would undertake; there are no such externalities. As explained above, the vast majority of FMPs on federally-managed lands measure a relatively small quantity of oil or gas, and the production measurement/royalty payment variance that may result from not spending significant funds to upgrade these devices is negligible. See 85 Fed. Reg. 55957 (81 percent of the total FMPs measuring oil production represent 7 percent of reported production in 2017).

Finally, the BLM should consider that the effect of cost on industry is not always consistent or expected. Who pays for a certain cost, percentage of income, and availability of substitutes, for example, make a difference in the market's reaction to costs. For example, if the price of sugar goes up, less sweets are eaten. If the price of iodized salt goes up universally—the market pays that price because the human body needs salt and iodine. In the case of gas measurement, the cost of compliance largely falls on producers, but it is made complicated by ownership of meters by other parties. Business relationships add to the burden of these replacements in many cases. Midstream companies, who's interest is in providing excellent customer service, must damage relationships by telling Operators to bear their own compliance costs; and Operators are made to bear, not just the cost of a specific repair, but the cost of installing their own redundant equipment to replace the Midstream company's equipment. The result is highly inefficient capital placement, and among the costs is destruction of customer relationships. All of this, where the interests of Operators and Midstream companies is misaligned in such a way that both the Midstream company and Operator are interested in ensuring that measurement is accurate, so that neither party is cheated. The BLM itself bears a cost of a kind when it undermines its goal of uniformity of application, when even enforcement officers perceive that black-letter compliance requiring movements of a few inches are not worth pursuing and assert field-level selective enforcement. Moving to 'percentage of income', many sites in need of thermowell related replacement do not make that much return already. As to availability of alternatives, the availability of other development areas that are essentially perfectly substitutable for BLM land, but without these costs, does not act to attract investment in BLM areas. Of course, the government should seek to protect its interests and the interests of the People; however, among

those interests is attracting private investments that yield future income from newly established leases and additional volume at existing leases. The effect of the costs associated with thermowell placement (at the related placement of sample probes) is harmful and comes at a greater cost than mere present dollars.

Recommended Change:

BLM should consider:

- Grandfathering downstream meter tube sections. Other alternatives are described below.
- Exempting grandfathered meters from § 3175.80(p) as long as the sample probe is placed in accordance with API 14.1 Subsection 6.4.2. This would require probes to be perpendicular and at least 5 diameters from major and minor obstructions; however, it would not require the probe to come first.
 - If not in general, then exempting grandfathered 2 and 3 inch meters from § 3175.80(p) as long as the sample probe is placed in accordance with API 14.1 Subsection 6.4.2.
 - Some operators have used laterolets for thermowells, in an effort to improve thermal performance. To reach the center of the pipe, the length of a thermowell installed in a laterolet must be longer than a thermowell that is inserted perpendicular to the pipe because laterolets place thermowells along the hypotenuse of a triangle where the perpendicular length would be the adjacent length. The difference in thermowell length is small, but it adds a small amount of additional steel between the pipe wall and the sensing portion of the thermowell. Industry members using laterolets for thermowell insertion hope that the longer thermowell length adds a length of steel between the tip of the thermowell (where temperature measurements are made) and the lagging end of the thermowell, which would add to the distance that heat would have to conduct from the pipewall to the tip, which would reduce the influence of the environment. This good-faith effort to improve thermal performance, however, makes downstream replacement absolutely necessary if the sample probe must come first and the meter was not designed for that configuration; otherwise, the sample probe would lay at an angle. BLM, industry standard, and most opinions do not allow for probes that are not perpendicular, as they would act as scoops.
- Exempting grandfathered meters from § 3175.80(o)(1). Instead, a bright line rule would be established, allowing a broader window for thermowell placement: “Thermometer wells used for determining the flowing temperature of the gas as well as thermometer wells used for verification (test wells) must be located no closer than 4.5 diameters from the orifice plate and no further than 11.2 diameters from the orifice plate, with a tolerance of +24 inches / -0 inches.”
 - If a tolerance cannot be adopted, in general, then the exemption of test thermometer wells would provide some leeway that would reduce the number of downstream section replacements.

11. § 3175.50 – Grandfathering and § 3174.60 Timeframes for Compliance

Rule:

Table 1 to § 3175.80 shows double asterisks beside sections where the Grandfathering section governs at low and high-volume FMPs installed before the effective date of the final rule rather than the usual provision of § 3175.80; the sections with double asterisks include those on Meter-tube length (§ 3175.80(n)), Meter-tube construction and condition (§ 3175.80(h)), and orifice plate eccentricity and perpendicularity (§ 3175.80(b)). Section 3175.50(b)(1) exempts low- and high-volume FMPs installed before January 17, 2017 from following API 14.3.2 Subsection 6.2, § 3175.80(h), and § 3175.80(m). The section on Grandfathering goes on to provide that “[m]eter tubes grandfathered under [the] section must still meet . . .” eccentricity requirements of AGA 3 (1985) Section 4.2.4, construction and condition requirements of AGA 3 (1985) Section 4.3.4, meter tube dimensions A and A’ as shown in AGA Report 3 (1985), and tube bundle or flow conditioner installation according to § 3175.80(i).

Concern:

The section on Grandfathering (§ 3175.50) has various aspects that seem contradictory or incongruous with other sections of the Proposed Rule. The BLM should clarify § 3175.50 and Table 1 to § 3175.80, in general.

Table 1 to § 3175.80 shows double asterisks beside sections where the Grandfathering section governs at low and high-volume FMPs installed before the effective date of the final rule rather than the usual provision of § 3175.80; the sections with double asterisks include those on Meter-tube length (§ 3175.80(n)), Meter-tube construction and condition (§ 3175.80(h)), and orifice plate eccentricity and perpendicularity (§ 3175.80(b)). Section 3175.50(b)(1) exempts low- and high-volume FMPs installed before January 17, 2017 from following API 14.3.2 Subsection 6.2, § 3175.80(h), and § 3175.80(m). The section on Grandfathering goes on to provide that “[m]eter tubes grandfathered under [the] section must still meet . . .” eccentricity requirements of AGA 3 (1985) Section 4.2.4, construction and condition requirements of AGA 3 (1985) Section 4.3.4, meter tube dimensions A and A’ as shown in AGA Report 3 (1985), and tube bundle or flow conditioner installation according to § 3175.80(i).

It is a basic canon of legal interpretation that the expression of one thing implies the exclusion of others. See e.g., *Sester v. U.S.*, 566 U.S. 231 (2012) (applying the maxim *expressio unius est exclusio alterius*); see generally ANTONIN SCALIA & BRYAN A. GARNER, *READING LAW* (2012). Following similar reasoning, grandfathered meter tubes are exempt from the requirements of API 14.3.2 Subsection 6.2, § 3175.80(h), and § 3175.80(m)—and that is all. If the first sentence of § 3175.50(b)(1) were read in isolation, it would seem that grandfathering exempts meter tubes from three provisions and nothing more. It would seem that grandfathered meters would need to comply with the balance of § 3175’s provisions. However, § 3175.50(b)(1) goes on to provide that meter tubes grandfathered under the section must still comply with certain requirements—including, for example, meter tube lengths. Section 3175.50(b)(1) states that grandfathered meters “must still comply” with certain meter tube length requirements where the section otherwise makes no provision exempting grandfathered meters from the meter tube requirements of § 3175.80(n).

The provision that requires grandfathered meters to “still meet” a discrete listing of requirements seems to have exactly the opposite effect compared to the first sentence of § 3175.80(b)(1). Section 3175.80(b)(1) lists specific exemptions, implying that meters are not exempt from anything that is not listed. The provision to “still meet” a discrete listing of requirements implies that unlisted provisions are excluded, and grandfathered meters need not comply with the unlisted provisions.

The industry is left piecing together the BLM’s intent—surmising, for example, that grandfathered meters must be exempt from the provisions of § 3175.80(n) because § 3175.50(b)(1) also provides that grandfathered meters must still meet the meter tube requirements of AGA Report No. 3 (1985)—grandfathered meters must be exempt from tube length requirements or it would be unnecessary to list tube length requirements that grandfathered meters must still meet. Meter-tube length shows double asterisks in Table 1 to § 3175.80, indicating that there is a grandfathering provision for § 3175.80(n), but § 3175.80(n) is not mentioned in § 3175.50. The meter tube lengths that grandfathered meters must still comply with are dimension A, dimension A’, and § 3175.80(i) when a flow conditioner or tube bundle is installed. The language of § 3175.50(b)(1) around what meter tubes grandfathered under the section must still meet creates an exclusive listing, not an example; A, A’, and § 3175.80(i) are all that § 3175.50(b)(1)(iii) mentions. No other tube length requirements appear to apply under § 3175.50(b)(1)(iii). Dimensions A and A’ come from Figures 4 through 8 of AGA Report No. 3 (1985). Figures 4 through 7 also establish tube length requirements for thermowells. Since § 3175.50(b)(1)(iii) mentions A and A’, but makes no mention of any other dimensions from Figures 4 through 7, are we to surmise that meters subject to grandfathering are exempt from thermowell location requirements because those dimensions are not in the listing? Table 1 to § 3175.80 shows no double asterisks beside Thermometer wells nor beside Sample probe location; Table 1 to § 3175.80 would seem to indicate that the provisions of § 3175.80(o) and § 3175.80(p) remain in effect for grandfathered meters. It would seem that Table 1 speaks to the continued applicability of § 3175.80(o) and § 3175.80(p) where § 3175.50(b)(1) is merely silent on the issue, and perhaps speaking to the issue is stronger than silence and leaning on rules of construction. However, it is difficult to be certain when, for example, § 3175.50(b)(1) exempts grandfathered meter tubes from the requirements of § 3175.80(h) and § 3175.80(m) but Table 1 to § 3175.80 includes no double asterisks next to “Documentation of detailed meter-tube inspection”; that is, § 3175.50 exempts grandfathered meter tubes from § 3175.80(m) but the Table 1 entry associated with § 3175.80(m) contradicts the grandfathering provision. Which do we listen to more? The text or the table?

Recommended Change:

For the sake of clarity and other substantive reasons, API suggests revising § 3175.50 and Table 1 to § 3175.80, in general. Replacement text has been suggested below:

§ 3175.50 Grandfathering.

(a) Equipment listed in § 3175.40(a) through (f) that was installed at a very-low, low-, or high-volume FMP prior to [EFFECTIVE DATE OF THE FINAL RULE] is exempt from the approval requirement in § 3175.40. Any of the equipment listed in § 3175.40(a) through (i) that was

installed after [EFFECTIVE DATE OF THE FINAL RULE] must meet the approval requirement in § 3175.40.

(b) Meter tubes.

(1) Meter tubes installed at low- and high-volume FMPs before January 17, 2017, are exempt from the meter tube requirements of § 3175.80(b), § 3175.80(h) and (m), § 3175.80(j), § 3175.80(n), § 3175.80(o), and § 3175.80(p). If a meter tube is replaced, in-whole or in-part after [EFFECTIVE DATE OF THE FINAL RULE], the grandfathering provisions of § 3175.50 no longer apply to the meter.

(2) Meter tubes grandfathered under this section must still meet the following requirements:

(i) All applicable provisions of § 3175 not exempted by grandfathering. § 3175.80(m) becomes operative after a detailed inspection, after [EFFECTIVE DATE OF THE FINAL RULE], becomes required under § 3175.80(k).

(ii) Orifice plate eccentricity must comply with AGA Report No. 3 (1985), Section 4.2.4 (incorporated by reference, see § 3175.30);

(iii) Meter tube construction and condition must comply with AGA Report No. 3 (1985), Section 4.3.4 (incorporated by reference, see § 3175.30); and

(iv) Meter tube lengths.

(A) If the meter tube contains no flow conditioner of any kind (whether a 19-tube bundle flow straightener or isolating flow conditioner) or the meter tube contains a 19-tube bundle flow straightener, meter tube lengths must comply with AGA Report No. 3 (1985), Section 4.4 (dimensions “A” and “A” from Figures 4-7) (incorporated by reference, see § 3175.30).

(B) If the upstream meter tube contains an isolating flow conditioner, the installation must comply with § 3175.80(i);

(C) The sample probe must be at least five published inside pipe diameters downstream of the primary device. Sample probes must also comply with § 3175(p)(1) and § 3175(p)(2)

(D) Thermometer wells used for determining the flowing temperature of the gas as well as thermometer wells used for verification (test well) must be located in compliance with API 14.3.2 Subsection 6.5 with a tolerance +24 inches / -0 inches. Such thermometer wells must also comply with the provisions of § 3175.80(o)(2), § 3175.80(o)(3), and § 3175.80(o)(4).

(3) For meter tubes installed at very-low-, low-, and high-volume FMPs before January 17, 2017, operators may use the measured inside diameter of the meter tube as required by AGA Report No. 3 (1985), Section 4.3.3 (incorporated by reference, see § 3175.30), in lieu of the reference inside diameter of the meter tube for the requirements of §§ 3175.91(d)(7), 3175.92(d)(2), 3175.93(d), 3175.101(c)(5), and 3175.102(e)(1)(iii), and flow-rate calculations. If a meter tube is replaced, operators must use the reference inside diameter of the meter tube to meet the requirements of §§ 3175.91(d)(7), 3175.92(d)(2), 3175.93(d), 3175.101(c)(5), and 3175.102(e)(1)(iii), and for flow-rate calculations.

(c) EGM software.

(1) EGM software installed at very-low-volume FMPs before January 17, 2017, is exempt from the requirements in § 3175.103(a)(1). However, flow-rate calculations must still be calculated in accordance with AGA Report No. 3 (1985), Section 6, or API 14.3.3 (1992) (both incorporated by reference, see § 3175.30), and supercompressibility calculations must still be calculated in

accordance with PRCI NX 19 or AGA Report No. 8 (1992) (both incorporated by reference, see § 3175.30).

(2) EGM software installed at low-volume FMPs before January 17, 2017, is exempt from:

(i) The requirements at § 3175.103(a)(1)(i), if the differential-pressure to static-pressure ratio, based on the monthly average differential pressure and static pressure, is less than the value of “x1” shown in API 14.3.3 (2013), Annex G, Table G.1 (incorporated by reference, see § 3175.30). However, flow-rate calculations must still be calculated in accordance with API 14.3.3 (1992) (incorporated by reference, see § 3175.30); and

(ii) The requirements at § 3175.103(a)(1)(ii). However, compressibility must still be calculated in accordance with AGA Report No. 8 (1992) (incorporated by reference, see § 3175.30).

(d) For high-volume FMPs, the BLM will add an uncertainty of ± 0.25 percent to the discharge coefficient uncertainty when determining overall meter uncertainty under § 3175.31(a), unless the operator provides data to the PMT that shows a lower uncertainty is justified, and the BLM approves a lower uncertainty.

Table 1 to § 3175.80: Standards for Flange-Tapped Orifice Plates

Standards for Flange-Tapped Orifice Plates					
Subject	Reference (API standards incorporated by reference, see § 3175.30)	VL	L	H	VH
Fluid conditions	§ 3175.80(a)	n/a	x	x	x
Orifice plate construction and condition	API 14.3.2, Section 4	x	x	x	x
Orifice plate eccentricity and perpendicularity**	§ 3175.80(b)	n/a	x	x	x
Beta ratio range	§ 3175.80(c)	n/a	x	x	x
Minimum orifice size	§ 3175.80(d)	n/a	n/a	x	x
New FMP orifice-plate inspection*	§ 3175.80(e)	n/a	x	x	x
Routine orifice-plate inspection frequency, in months*	§ 3175.80(f)	12	6	3	1
Documentation of orifice-plate inspection	§ 3175.80(g)	x	x	x	x
Meter-tube construction and condition**	§ 3175.80(h)	n/a	x	x	x
Flow conditioners including 19-tube bundles	§ 3175.80(i)	n/a	x	x	x
Initial basic meter-tube inspection	§ 3175.80(j)	n/a	n/a	x	x
Routine basic meter-tube inspection frequency, in years*	§ 3175.80(k)	n/a	10	5	5
Detailed meter-tube inspection*	§ 3175.80(l)	n/a	n/a	x	x
Documentation of detailed meter-tube inspection**	§ 3175.80(m)	n/a	n/a	x	x
Meter-tube length**	§ 3175.80(n)	n/a	x	x	x

Thermometer wells**	§ 3175.80(o)	n/a	x	x	x
Sample probe location**	§ 3175.80(p)	x	x	x	x
<p>VL=Very-low-volume FMP; L=Low-volume FMP; H=High-volume FMP; VH=Very-high-volume FMP</p> <p>* = Immediate assessment for non-compliance under § 3175.150</p> <p>** = Applies to all very-high-volume FMPs and meter tubes installed at low- and high-volume FMPs after [THE EFFECTIVE DATE OF THE FINAL RULE]. See § 3175.50 for requirements pertaining to meter tubes installed at low- and high-volume FMPs before [THE EFFECTIVE DATE OF THE FINAL RULE].</p>					

12. § 3175.60 – Timeframes for Compliance

Rule:

(b) The gas analysis reporting requirements of § 3175.120(e) and (f) of this subpart will begin 90 days after the BLM notifies operators that GARVS is available for use.

Concern:

GARVS would require operators to submit gas analysis data to the BLM in a predetermined format and, in turn, receive sample frequency requirements from the BLM in a separate predetermined format. Operators throughout the industry utilize a wide variety of software systems for receiving and validating gas analysis data. These software systems are developed by various third parties or may be developed in-house. Each of these software systems will require redevelopment to allow for the creation of the GARVS submittal data and for the receipt of the GARVS revised frequency requirements. Once the frequency requirements are received from the BLM, they will need to be delivered to a multitude of software systems utilized for the scheduling and tracking of the gas sampling operations. Each of these software systems will also require redevelopment to allow for the import of the GARVS revised frequency data. In many cases, a third-party transporter performs the gas sampling operations. They too will have to make the necessary changes to their software systems.

Making the necessary changes to the various software systems in order to send and receive the data from GARVS will be a significant cost to industry, reaching into the millions. The development, testing, and implementation will require thousands of man-hours across the industry that BLM has not accounted for, along with operator system cost, in their burden estimates.

Recommended Change:

The GARVS requirements should be stricken from the entirety of the rule (see comments for § 3175.120(e) and (f) for additional justification). If GARVS is not removed in its entirety, the gas analysis reporting requirements of § 3175.120(e) and (f) should not begin for at least 1 year after the BLM notifies operators that GARVS is available for use.

13. § 3175.70 – Measurement Location

Rule:

(a) Commingling and allocation.

Recommended Change:

Please refer to comments for § 3173.70 – Conditions for Commingling and Allocation (Surface and Downhole) for full recommendations.

14. § 3175.70 – Flange-Tapped Orifice Plate (Primary Device)

Rule:

(n)(3) If the diameter ratio (β) falls between the values in Tables 7, 8a, or 8b of API 14.3.2, Subsection 6.3 (incorporated by reference, see § 3175.30), the length identified for the larger diameter ratio in the appropriate Table is the minimum requirement for meter-tube length and determines the location of the end of the 19-tubebundle flow straightener closest to the orifice plate.

Concern:

Although the term diameter ratio is technically correct and used 14.3.2, diameter ratio is not in § 3175.10 Definitions and Acronyms. The terms diameter ratio and beta ratio are used interchangeably for β .

Recommended Change:

It is recommended that for consistency, only beta ratio be used within § 3175 when referring to β .

15. § 3175.80 – Flange-Tapped Orifice Plate (Primary Device)

Rule:

(e) For FMPs measuring production from wells first coming into production or from existing wells that have been refractured (including FMPs already measuring production from one or more other wells), the operator must inspect the orifice plate upon installation and then every 2 weeks thereafter. If the orifice plate does not comply with API 14.3.2, Section 4 (incorporated by reference, see § 3175.30), the operator must replace the orifice plate. When the orifice plate complies with API 14.3.2, Section 4, the operator thereafter must inspect the orifice plate as prescribed in paragraph (f) of this section.

Concern:

API 14.3.2, Section 4, deals almost exclusively with the physical condition of the orifice plate (i.e., flatness, roughness, sharpness, thickness, bevel, etc.). However, there is one paragraph in API 14.3.2, Section 4, that mentions cleanliness. The preamble in the 2016 version of 43 CFR 3175 implies that the BLM's original intent was to perform two-week inspections until the plate is found to be free from physical damage—not free from contaminants like liquids that occur

naturally during the extraction process. The BLM's justification for this requirement was that plates can be replaced because the cost of obtaining compliant orifice plates is minimal. Cleanliness does not fit with this justification since API 14.3.2, Section 4, only recommends a regular inspection schedule and cleaning of the existing orifice before placing it back in service—not replacement. If cleanliness is included in the two-week inspection cycle requirement, some locations could require two-week orifice plate inspections for the life of the meter. § 3175.80(f) already regulates routine orifice plate inspection frequencies based on tiers which should help mitigate any bias or royalty impact due to plate cleanliness.

Recommended Change:

We recommend that the cleanliness requirement in API 14.3.2, Section 4, be specifically excluded from the new FMP orifice plate inspection requirements in this section.

16. § 3175.100 – Table 1

Rule:

Accounting systems

Concern:

Accounting System has been replaced within the revised rules by Measurement Data System. However, it appears at the bottom of § 3175.100 – Table 1.

Recommended Change:

Accounting System should be replaced within Table 1 with the term Measurement Data System.

17. § 3175.101 – Installation and Operation of Electronic Gas Measurement Systems

Rule:

(b) Each FMP must include a display, which must: (5) Display the previous day's volume, as well as the following variables consecutively:

Concern:

The rule states that the required variables must be displayed consecutively. The definition for consecutive, according to Merriam-Webster means *with each following the other without interruption*. What that definition does not say is that it is required to be in the specified order, simply that the variables need to follow one after another. Some operators have received INC's for the variables not displaying in the exact order depicted. Depending on the flow computer, it may be impossible to dictate a specific order of appearance. The intent should be that all the variables are provided and displayed, not that they are to display in a specific order.

Recommended Change:

(5) should be changed to the following for clarity:

(5) Display the previous-day's volume, as well as the following variables consecutively, in no particular order.

18. § 3175.80 – Flange-Tapped Orifice Plate (Primary Device)

Rule:

Except as provided in § 3175.50, all flange-tapped orifice plates must comply with the following standards and requirements. (Note: Table 1 to this section lists the standards in this subpart and the API standards that the operator must follow to install and maintain flange-tapped orifice plates. A requirement applies when a column is marked with an “x” or a number.).

(e) For FMPs measuring production from wells first coming into production, or from existing wells that have been refractured (including FMPs already measuring production from one or more other wells), the operator must inspect the orifice plate upon installation and then every 2 weeks thereafter. If the orifice plate does not comply with API 14.3.2, Section 4 (incorporated by reference, see § 3175.30), the operator must replace the orifice plate. When the orifice plate complies with API 14.3.2, Section 4, the operator thereafter must inspect the orifice plate as prescribed in paragraph (f) of this section.

Concern:

In some instances where the FMP is at the end of a large gathering system for a large unitized area, and ongoing development is adding new wells or re-fracs continuously, the 2-week period may create an unnecessary burden if it is interpreted that each new well or re-frac resets the clock. BLM should consider adding clarification to the rule regarding such situations so that the rule and enforcement is applied in the same manner through all field offices.

Recommended Change:

§ 3175.80(e) should be changed to state the following:

For FMPs in single well applications measuring production from wells first coming into production, or from existing wells that have been refractured (including FMPs already measuring production from one or more other wells), the operator must inspect the orifice plate upon installation and then every 2 weeks thereafter. If the orifice plate does not comply with API 14.3.2, Section 4 (incorporated by reference, see § 3175.30), the operator must replace the orifice plate. When the orifice plate complies with API 14.3.2, Section 4, the operator thereafter must inspect the orifice plate as prescribed in paragraph (f) of this section.

19. § 3175.80 – Flange-Tapped Orifice Plate (Primary Device)

Rule:

Except as provided in § 3175.50, all flange-tapped orifice plates must comply with the following standards and requirements. (Note: Table 1 to this section lists the standards in this subpart and the API standards that the operator must follow to install and maintain flange-tapped orifice plates. A requirement applies when a column is marked with an “x” or a number.).

(o)(2) Thermometer wells must be located in such a way that they can sense the same flowing gas temperature that exists at the orifice plate. The operator may accomplish this by physically locating the thermometer well(s) in the same ambient temperature conditions as the primary device (such as in a heated meter house) or by installing insulation and/or heat tracing along the entire meter run. If the operator chooses to use insulation to comply with this requirement, the AO may prescribe the quality of the insulation based on site-specific factors such as ambient temperature, flowing temperature of the gas, composition of the gas, and location of the thermometer well in relation to the orifice plate (i.e., inside or outside of a meter house).

Concern:

In certain geographies, the changes in ambient conditions are not sufficient to create changes in flowing gas temperatures such that it creates statistically significant errors in the volumetric measurements.

The entire meter run implies upstream and downstream of the orifice plate. This requirement to insulate (or heat trace) should only apply to the section between the orifice plate and 12" downstream of the subject thermowell(s). The concern is not insulating the section between the orifice plate and the thermowell but rather, the section upstream of the orifice plate. For example, for a large diameter meter run without a flow conditioner (API 14.3.2 - Table 7 application), the distance upstream of the orifice meter could be extremely long and would still be considered a part of the meter run that would need to be insulated or heat traced.

Recommended Change:

BLM should allow the installations to stand as is, so long as the operator can demonstrate that the possible error introduced is within the performance standards for the FMP.

BLM should clarify that the portion of the meter tube requiring insulation (or heat trace) should only apply to the section between the orifice plate and 12" downstream of the subject thermowell(s).

20. § 3175.101 – Installation and Operation of Electronic Gas Measurement Systems

Rule:

(c)(6) The following information must be maintained at the FMP in a legible condition, in compliance with § 3170.50(g) of this part, and accessible to the AO at all times: make, model, and location of approved isolating flow conditioners, if used.

(c)(7) The following information must be maintained at the FMP in a legible condition, in compliance with § 3170.50(g) of this part, and accessible to the AO at all times: location of the downstream end of 19-tube-bundle flow straighteners, if used.

Concern:

Table 1 to 3175.80 indicates that the requirements for flow conditioners and flow straighteners does not apply for very-low volume sites. Yet, § 3175.101(c)(6) and § 3175.101(c)(7) are

requiring flow conditioner and straightening vane information be maintained on site and made available to the AO for all FMPs (regardless of tier classification). This is an inconsistency in the rule.

Recommended Change:

BLM should exempt very-low volume tiered meters from the § 3175.101(c)(6) and § 3175.101(c)(7) requirements.

21. § 3175.102 – Verification and Calibration After Installation or Repair

Rule:

(c)(4) The as-found values for differential pressure obtained with the low side vented to atmospheric pressure must be corrected to working-pressure values using API 21.1, Annex H, Equation H.1 (incorporated by reference, see § 3175.30).

Concern:

The expectations for this requirement are unclear. The example in API 21.1, Annex H, includes columns (i.e., raw column) and calculations (i.e., percent volume) that are not explicitly defined. Some information in the table doesn't exactly match the text version. When the PMT team was contacted, they stated that the Annex H example in API MPMS 21.1 has more information than the BLM would require for compliance.

Recommended Change:

BLM must clearly communicate what is expected by this requirement. The communication should include a clear definition of when the correction is required, as well as a detailed example of how it should be applied.

22. § 3175.102 – Verification and Calibration After Installation or Repair

Rule:

(a)(4) and (c)(7) Before putting a meter into service, the differential-pressure transducer must be tested at zero with full working pressure applied to both sides of the transducer. If the absolute value of the transducer reading is greater than the reference accuracy of the transducer, expressed in inches of water column, the transducer must be re-zeroed.

Concern:

The application of this rule is being handled differently by different operators. Some interpret it to mean that a zero shift can be performed as the last step of the process with no further verification of test points conducted after the zero shift is performed. Others interpret it to mean that the differential must be recalibrated to bring the zero into compliance which then requires a final verification of test points be performed. Under the first scenario, the effect of the zero shift on the test points is unknown. Under the second scenario, the differential-pressure transducer would be replaced if the absolute value of the transducer reading continues to exceed the reference accuracy of the transducer.

Recommended Change:

BLM needs to clearly communicate what is expected by these requirements. The communication should include a clear explanation stating whether a zero shift is sufficient or if the equipment must be replaced if it cannot be brought into tolerance.

23. § 3175.104 – Logs and Records

Rule:

(e) Records may only be submitted from measurement data system names and versions and flow computer makes and models that have been approved by the BLM (see § 3175.41).

Concern:

The Proposed Rule specifically states that only a measurement data system which has been approved by the BLM can be used for submission. Not all operators utilize a measurement data system. Many have internal process and procedures that are not a commercial software package that can be approved. As written, operators would not be able to use their internal systems and would be forced into purchasing a BLM proscribed third-party measurement data system at significant cost and time.

Recommended Change:

The requirement for the use of BLM approved software should be stricken from the rules. The BLM can require the necessary logs and records in order to validate the volumes and qualities provided by the producer and verify those records and all associated calculations through the already established and proven audit process. At minimum, in the event this approach is deemed unacceptable, the language should be changed to also reference internal processes for record submission.

24. § 3175.112 – Sampling Probe and Tubing.

Rule:

(c) Sample probe design and type.

(4) The use of membranes, screens, or filters at any point in the sample probe is prohibited.

Concern:

The Proposed Rule designates that the use of membranes and filters be prohibited in order to allow for the collection of entrained liquids. As liquid phase hydrocarbons do not flow through a given system in a homogeneous manner, it is impossible to collect a representative sample of the liquids. In addition, hydrocarbon liquids and debris can contaminate sampling systems, biasing subsequent samples, and potentially damaging on-line and portable gas chromatographs. Membranes and filters are recognized by the industry as an effective approach to minimizing the potential for contaminating sampling systems, safeguarding instrumentation, and ensuring the collection of a representative sample of the gaseous phase within the sample stream.

API 14.1, which is incorporated by reference, in section 6.3.1 allows for the use filters and screens, added to the collecting end of the probe, to reduce the possibility of small liquid particles entering the probe. Additionally, API 14.3, which is incorporated by reference, indicates the filtration is an industry practice.

Recommended Change:

§ 3175.112(c)(4) should be stricken from the rule and allow for the use on membrane filters in the sample probe.

25. § 3175.112 – Sampling Probe and Tubing.

Rule:

(d) Sample tubing. All components of the sampling system through or into which gas flows during the sampling process must be constructed of stainless steel or nylon 11. This includes, but is not limited to, the sample probe, the sample line including valves and nipples, and the sample cylinder.

Concern:

According to Omnexus (<https://omnexus.specialchem.com/polymer-properties/properties/water-absorption-24-hours>), the water absorption rate for Nylon 11 is much greater than PTFE under the same experimental conditions. Nylon 11 (Polyamide 11) has an absorption of between 0.80 and 1.90 weight percent, as where PTFE has an absorption of between 0.005 and 0.010 weight percent. When using plastic tubing, PTFE is a far better choice for water vapor measurement. Most operators who are performing water vapor measurements within natural gas streams in the field either utilize stainless tubing or use dual plastic lines. A Nylon 11 heated sample line is used for the hydrocarbon quality measurements and a second PTFE heated sample line is used for the water vapor measurements.

Recommended Change:

§ 3175.112(d) should be changed to state the following:

Sample tubing. All components of the sampling system through or into which gas flows for hydrocarbon quality measurement during the sampling process must be constructed of stainless steel or nylon 11. All components of the sampling system through or into which gas flows for water vapor measurement during the sampling process must be constructed of stainless steel or PTFE. This includes, but is not limited to, the sample probe, the sample line including valves and nipples, and the sample cylinder.

26. § 3175.112 – Sampling Probe and Tubing.

Rule:

(d) Sample tubing. All components of the sampling system through or into which gas flows during the sampling process must be constructed of stainless steel or nylon 11. This includes,

but is not limited to, the sample probe, the sample line including valves and nipples, and the sample cylinder.

Concern:

Carbon steel nipples and valves are commonly used for connections of sample tubing to the meter runs. Changing these fittings represents a large undertaking and expense on operators with no benefit. The entirety of the piping and meter runs which the gas flows through is carbon steel. These permanently affixed carbon steel nipples and valves are no different than the gas piping and meter run.

In order to ensure no loss of hydrocarbons when exposed to carbon steel nipples and valves, one operator performed a comprehensive study. Gas from the same meter run was extracted from two sample probes, approximately 12” apart. Each probe and regulator were enclosed in a heated enclosure and directed to the same on-line GC for analysis through stainless steel heated sample lines. All stainless-steel fittings, valves, and nipples were used on one of the sample systems. On the other, a carbon steel nipple, elbow, and valve were placed just downstream of regulator, within the heated sample enclosure. The flowing gas within the meter run chosen was of a high heating value (~1295 btu). This was chosen because the heavy hydrocarbons would be more likely to experience loss when exposed to different materials.

The daily average heating values from the two configurations were compared over a 35-day period. The average heating value loss between the stainless-steel equipment and carbon steel equipment over those 35 days was 0.01%. The maximum heating value loss over the 35 days was 0.08%. It is important to note that there was no bias as a result of using carbon steel. 6 of the daily averages from the carbon steel equipment had no change from the stainless-steel and 9 saw an increase in heating value, with a maximum increase of 0.05%.

Once the 35-day test was complete, the carbon steel equipment was replaced with stainless steel equipment to validate any changes during the first test were attributed to primarily analytical deviation. The daily average heating values from the two identical configurations was compared over a 29-day period. The average heating value loss between the two identical all stainless-steel configurations over those 29 days was 0.02%. This represents an increased average loss over the carbon steel comparison. The maximum heating value loss over the 29 days was 0.03%. The maximum heating value increase over the 29 days was 0.01%. Refer to appendix J for complete analytical results.

Overall, the study showed there was no appreciable difference between the utilization of carbon steel nipples, valves, and fittings as opposed to stainless-steel.

Recommended Change:

§ 3175.112(d) should not include valves or nipples. It should be changed as follows:

Sample tubing. All components of the sampling system through or into which gas flows for hydrocarbon quality measurement during the sampling process must be constructed of stainless steel or nylon 11. All components of the sampling system through or into which gas flows for water vapor measurement during the sampling process must be constructed of stainless steel or

PTFE. This includes, but is not limited to, the sample probe, the sample line including valves and nipples, and the sample cylinder. Valves and nipples which are in continuous contact with the flowing gas stream are excluded from this requirement.

27. § 3175.115 – Spot Samples - Frequency and § 3175.120 Gas Analysis Report Requirements

Rule:

§ 3175.115(2) Calculations on sampling frequencies. The BLM will calculate the new sampling frequency needed to achieve the heating value uncertainty levels required in § 3175.31(b). The BLM will base the sampling frequency calculation on the heating value variability. The BLM will notify the operator of the new sampling frequency.

§ 3175.120(e) The operator must submit all gas analysis reports to the BLM within 15 days of the due date for the sample as specified in § 3175.115.

§ 3175.120(f) The operator must submit all gas analysis reports and other required information electronically through the GARVS. The BLM will consider granting a variance to the electronic submission requirement only in cases where the operator demonstrates that it is a small business, as defined by the U.S. Small Business Administration, and does not have access to the internet.

Concern:

GARVS is a yet to be developed software system which will be designed, implemented, and maintained by the BLM. The BLM Site Security and Measurement rules, as currently written, require multiple software systems to allow for full implementation and compliance. To date, none of these software systems have been completed. The AFMSS II system is required for the application for FMP numbers. The module within AFMSS II which allows for FMP submissions has been continually postponed since promulgation of the current rules on January 17, 2017 and, as of now, has no anticipated completion date, almost 4 years after the rules went into effect. Operators are therefore unable to submit FMP requests. The rules also require all equipment and software to be reviewed by the PMT and approved by the BLM before use on Federal and Indian properties. The BLM is developing a software program for the submission of equipment, software, and the required data for approval. That software also has yet to be completed to allow for submissions. With the difficulties associated with the development and implementation of the other required software systems, it seems unlikely that GARVS would be released within any foreseeable timeframe. Once completed, the software will be a significant financial burden on the BLM to implement, maintain, and support. In addition, BLM should consider when it originally rolled out AFMSS II it took over a year for local BLM offices and operators to fix hundreds of problems that prevented the submission on APDs. Then, in the summer of 2019, BLM updated the permitting software which once again halted permitting for months causing local BLM and operators additional delays in APD submissions.

GARVS would require operators to submit gas analysis data to the BLM in a predetermined format and, in turn, receive sample frequency requirements from the BLM in a separate predetermined format. Operators throughout the industry utilize a wide variety of software

systems for receiving and validating gas analysis data. These software systems are developed by various third parties or may be developed in-house. Each of these software systems will require redevelopment to allow for the creation of the GARVS submittal data and for the receipt of the GARVS revised frequency requirements. Once the frequency requirements are received from the BLM, they will need to be delivered to a multitude of software systems utilized for the scheduling and tracking of the gas sampling operations. Each of these software systems will also require redevelopment to allow for the import of the GARVS revised frequency data. In many cases, a third-party transporter performs the gas sampling operations. They too will have to make the necessary changes to their software systems.

Making the necessary changes to the various software systems in order to send and receive the data from GARVS will be a significant cost to industry, reaching into the millions. The development, testing, and implementation will require thousands of man-hours across the industry that BLM has not accounted for, along with operator system cost, in their burden estimates. Once implemented, the revised frequencies will require operators to continually increase and decrease staffing in order maintain compliance. This is not only a financial burden to the operators, but also creates an inability to properly budget financials for operations on Federal and Indian lands.

The use of this database for oil well gas ignores the fact that such gas must be processed for sales and that payments to operators include Natural Gas Liquids (NGL) and residue gas at lower heating value making GARVS type data collection almost meaningless for determining royalty payments. It also ignores the BLM production audits and ONRR royalty compliance audits where operators are required to produce sampling and measurement records including heating values.

The development and implementation of GARVS represents a major impact to BLM, not just financially, but in the time, it will require them to train personnel and the regulated community. BLM will need increased staffing to properly deploy this software. GARVS creates significant burden on all parties based on an incorrect and meaningless evaluation of uncertainty, which is being conflated with variability. Operators cannot control the variability of the gas being produced and transported in their systems. The inconsequential benefits GARVS are far outweighed by the costs and resources that will be required by both the BLM and regulated community to implement and support.

Recommended Change:

The GARVS requirements should be stricken from the entirety of the rule. Spot sample frequencies should remain as detailed as the initial frequencies in TABLE 1 to § 3175.110. If GARVS is not removed in its entirety, the gas analysis reporting requirements of § 3175.120(e) and (f) should not begin for at least 1 year after the BLM notifies operators that GARVS is available for use.

28. § 3175.118 – Gas Chromatograph Requirements

Rule:

(a) All GCs must be installed, operated, and calibrated under GPA 2261–19 (incorporated by reference, see § 3175.30).

(c) A GC may not be used to analyze any sample from an FMP until the verification meets the standards of this paragraph (c). (1) GCs must be verified under GPA 2261–19, Section 6 (incorporated by reference, see § 3175.30), not less than once every 7 days. (5) If the composition of the gas used for verification as determined by the GC varies from the certified composition of the gas used for verification by more than the reproducibility values listed in GPA 2261–19, Section 10 (incorporated by reference, see § 3175.30), the GC must be calibrated under GPA 2261–19, Section 6 (incorporated by reference, see § 3175.30).

Concern:

GPA 2261-19 contained errors in the posted reproducibility and repeatability precision statements. It has been superseded by GPA 2261-20.

Recommended Change:

GPA Midstream Standard 2261–20, Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography has been published and should replace GPA 2261-19 throughout the rule.

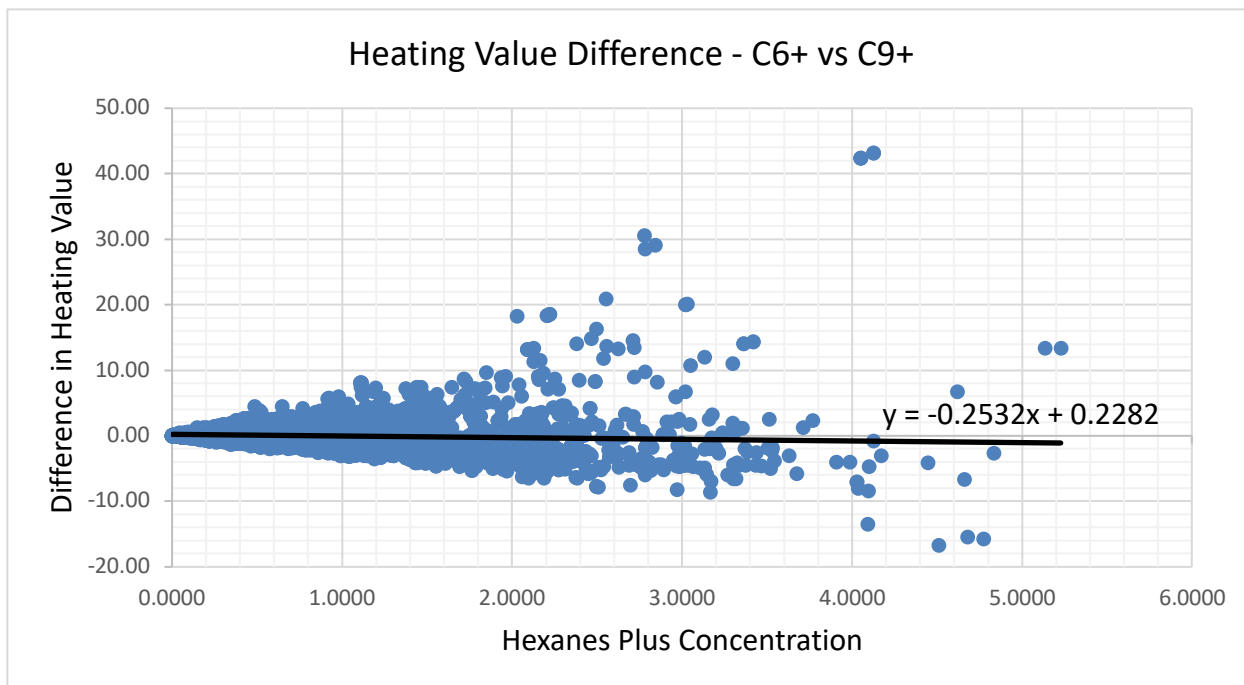
29. § 3175.119 – Components to Analyze

Rule:

(a) The gas must be analyzed for the following components: (b) When the concentration of C6+ exceeds 1 mole percent, a C9+ analysis must be conducted.

Concern:

This rule will require significant changes in operations, replacement of equipment, and increased expense of analysis with no benefit to the heating value calculation. In order to determine if the proposed rule made a significant difference in heating value, and therefore royalty, one member company performed a revised study with 24,280 field samples. The samples were analyzed and heating values were compared when calculated using a Hexanes Plus analysis with a 60/30/10 split and when using a Nonanes Plus. The Hexanes Plus concentrations for the 24,280 samples were between 0.0010 and 5.52270 Mole%. The average percent difference between heating values calculated from C6+ analyses and C9+ analysis was 0.012%, clearly showing that the difference is negligible. In addition, the data shows no significant bias between the readings. See the table below and refer to appendix K for the complete data set.



The method development, calibration/verification, and analytical procedures for C9+ analyses are far more complex than C6+ analyses. The negligible improvements in accuracy from C9+ analyses are far outweighed by the errors which will occur from performing these analyses. GC's designed for C6+ analyses are typically not capable of performing C9+ analyses without, at minimum, retrofits and often will require total replacement at an average of approximately \$30,000 per instrument. The time required by operators to perform the calibrations and verifications for C9+ analyses is doubled, reducing productivity and adding significant expense to the operations. In addition, C9+ analyses are not required by the state regulatory agencies or contractual obligations. Revenue generated from the gas sales is based on C6+ analyses performed by the purchaser. The requirement for C9+ analyses therefore adds significant expense, time, and potential for error with little to no benefit to the royalties paid to the American people.

Recommended Change:

The requirement for Nonanes Plus (C9+) analyses should be removed from § 3175.119 and the compositions, regardless of Hexanes Plus (C6+) concentrations, should be reported to Hexanes Plus for all samples.

30. § 3175.126 – Reporting of Heating Value and Volume

Rule:

(1) Containing no water vapor (“dry”), unless the water vapor content has been determined through actual on-site measurement, included in heating value calculations, and reported on the gas analysis report. The heating value may not be reported on the basis of an assumed water-vapor content. Acceptable methods of measuring water vapor are: (i) Makes and models of

chilled mirrors approved by the BLM and placed on the list of approved equipment and methods maintained at www.blm.gov.

Concern:

The two primary measurement devices used for water vapor measurements in natural gas are chilled mirror devices and laser detectors. The current version of § 3175.126 approves both of those devices for water vapor determination. The proposed § 3175.126 has removed laser detectors from the approved list.

Recommended Change:

§ 3175.126(a)(1)(i) should include laser detectors as approved devices.

31. § Appendix B to 3175 – Maximum Time Between Required Actions

Rule:

APPENDIX B TO SUBPART 3175—MAXIMUM TIME BETWEEN REQUIRED ACTIONS

If the required frequency is once every:	Then the maximum time between required actions (in days) is:
2 weeks	18
Month	45
2 months	75
3 months	105
6 months	195
12 months	395

Concern:

The maximum time between required actions (in days) is too restrictive for some of these time frames.

For example, a quarterly frequency would require the task to be completed every three months (i.e., January, April, July, and October). Historically, a task completed on April 20 would be in compliance even if the previous task was completed on January 2 (109 days between tasks). Using the proposed time frames in Appendix B, consecutive quarterly tasks completed on January 2 and April 20 would be out of compliance because it exceeds the 105-day interval.

While a daily limitation makes sense for short intervals like 2-week and monthly inspections, it is too restrictive for longer interval inspections like three and six months. The management of these time frames becomes increasingly complex as the number of meters in the system increases. The time frames in the Appendix B table could require programming changes to existing scheduling systems that are not based on days instead of more typical time frames (i.e., quarterly, semi-annually, annually, etc.).

Also, the table does not include the maximum time frame for all types of tasks (i.e., five and ten year frequencies for basic meter tube inspections).

Recommended Change:

This requirement should focus on limiting delinquent reports instead of controlling the number of days between tasks. A task should be completed in the time period due (i.e., month, quarter,

year, etc.) or within the maximum time between actions time period as defined in Appendix B, whichever is greater.

For example, if a calibration is performed on January 15 and is assigned an annual frequency, the next task for that calibration must be completed by January 31 of the following year (same month one year apart) or February 13 of the following year (395 days apart per table in Appendix B).

For consistency and clarification, the table should also be expanded to include all frequencies mentioned in the 43 CFR 3175 draft.

Appendix A

From: Trudy Curtis <curtist@ppdm.org>
Sent: Tuesday, September 22, 2020 9:07 AM
To: Richardson, Justin <Justin.Richardson@wpenergy.com>
Cc: Trudy Curtis <curtist@ppdm.org>
Subject: [EXTERNAL] RE: Time Frames

Hi Justin,

The PPDM Association is a not for profit professional society that focusses on identifying and resolving challenges that industry has with managing data that may distributed across many platforms and stakeholders and that can be needed for decades. Your message indicates that you understand how important identity management is to that problem.

The PPDM Association worked with industry experts to develop the US Well Numbering standard. If properly deployed, duplicates should not exist. The PPDM Association does not assign these identifiers, however. The standard specification is available to anyone at no charge, and regulatory agencies are at liberty to use it in their internal processes. Data vendors are also able to deploy this standard in their efforts to integrate and harmonize data from many sources.

The processes involved and time needed to obtain well identifiers is up to each regulator and the processes they have in place. The PPDM Association is not involved with this process. We are simply the custodian of the specification.

I hope this helps, but I'd be happy to discuss more if you are interested or have questions.

Trudy Curtis
CEO, PPDM Association
www.PPDM.org
O: 403-660-7817
curtist@ppdm.org

Appendix B

September 25, 2020

Executive Summary – Uncertainty

The following report summarizes the findings from the Allocation & Commingling Uncertainty Sensitivity report (JE0249A-VAR4) and the Federal Wellpad Uncertainty Study (JE0249A). Both reports were prepared for a member company by SOLV Flow Measurement.

The current BLM Site Security and Measurement rules allow operators, in lieu of commingling or building separate facilities, to perform custody measurement at the wellhead separator. A study, JE0249A, was commissioned to evaluate the uncertainty associated with wellhead separator FMP's. The study shows that achieving the uncertainty requirements with §43 CFR 3174 is possible. However, due to conditions such as the hydrocarbon liquid at this upstream FMP being at bubble point and limited availability of liquid during dump cycles, meeting custody quality proving requirements is challenging. Therefore, a second study, JE0249A-VAR4, was commissioned to investigate if equivalent uncertainty could be obtained by performing wellpad allocation with high quality, continuous allocation measurement as opposed to performing custody measurement at the wellhead meter. Wellpad allocation for liquid hydrocarbon is defined as performing custody quality measurement at a LACT meter, the FMP, and then allocating the measured product to the wellhead meters which feed that LACT. The LACT is operated in accordance with §43 CFR 3173 and §43 CFR 3174. The wellhead meters provide continuous measurement and are operated in accordance with API 20.1 – 2017 and API 20.2 – 2016.

Uncertainty Evaluations

Seven scenarios were evaluated in JE0249A-VAR4 to determine the effects on wellhead level uncertainty under differing conditions. Uncertainty was determined by RSS (Root Sum Square) with PDS (Partial Derivative Sensitivity) terms and reported at a 95% CI (Confidence Interval). The results were verified by MCS (Monte Carlo Simulation) to assist model development.

Overall measurement uncertainties for wellhead separators range from $\pm 0.53\%$ to $\pm 16.26\%$ (SOLV, 2019, pp. 40-67). The overall measurement uncertainty at a flowrate of 100 stbd is approximately $\pm 1.1\%$ (SOLV, 2019, p. 7). Uncertainties as low as $\pm 0.53\%$ are theoretically achievable. However, it is challenging due to real world separator conditions.

Overall measurement uncertainties of $\pm 5.0\%$ and $\pm 10.0\%$ were used for the evaluations performed in JE0249A-VAR4 in order to clearly demonstrate the effects of the overall measurement uncertainty of the separators on the scenarios tested.

Bias

The acceptance tolerance for flow computer calculation verifications for Custody Transfer and Fiscal applications is $< \pm 0.001\%$ of value (SOLV, 2020, p. 2). This value was therefore utilized as the acceptance criteria for bias in the mean produced by MCS allocation distributions. In each of the evaluated allocations, the bias was found to be $< \pm 0.0005\%$ of value and was therefore determined to be statistically insignificant per the requirements of §43 CFR 3174. As reference, a 0.0005% on 30,000 barrels per month, with a 12.5% federal royalty rate, at \$50.00 per barrel equates to \$0.94 per month.

The bias seen within model cases is an artifact of the MCS simulation. In the MCS simulation, measured variables take the form of probability distributions with a known mean and some degree of uncertainty around that mean. When an allocation (apportionment) ratio is calculated from probability distributions instead of static values, the resulting distribution of allocation ratios is skewed due to this non-linearity when well flow rates are unequal.

Evaluation Summary

Model Case	Evaluation Dependency	LACT Volume (stbpm)	LACT Uncertainty	Number of Wells	Wellhead Volumes	Wellhead Uncertainty	Allocated Wellhead Uncertainty	Bias	Agency Percentage	Agency Combined Allocated Uncertainty
1	Wellhead Meter Uncertainty	40,000	±0.50%	4	(1) 10,000 (2) 10,000 (3) 10,000 (4) 10,000	(1) ±5.0 (2) ±5.0 (3) ±5.0 (4) ±5.0	(1) ±4.359 (2) ±4.359 (3) ±4.359 (4) ±4.359	(1) < ±0.0005% (2) < ±0.0005% (3) < ±0.0005% (4) < ±0.0005%	(1) 25% (2) 25% (3) 25% (4) 25%	±2.179
2A	Wellhead Meter Uncertainty	30,000	±0.50%	2	(1) 15,000 (2) 15,000	(1) ±5.0 (2) ±5.0	(1) ±3.571 (2) ±3.571	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 25%	±2.525
2B	Wellhead Meter Uncertainty	29,998	±1.50%	2	(1) 14,999 (2) 14,999	(1) ±5.0 (2) ±5.0	(1) ±3.841 (2) ±3.841	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 25%	±2.716
2C	Wellhead Meter Uncertainty	30,000	±0.0%	2	(1) 15,000 (2) 15,000	(1) ±5.0 (2) ±5.0	(1) ±3.536 (2) ±3.536	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 25%	±2.5
3A	Differing Flow Rate	33,000	±0.50%	2	(1) 30,000 (2) 3,000	(1) ±5.0 (2) ±5.0	(1) ±0.814 (2) ±6.448	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 25%	±0.944
3B	Differing Flow Rate	33,330	±0.50%	4	(1) 30,000 (2) 3,000 (3) 300 (4) 30	(1) ±5.0 (2) ±5.0 (3) ±5.0 (4) ±5.0	(1) ±0.837 (2) ±6.402 (3) ±6.727 (4) ±6.746	(1) < ±0.0005% (2) < ±0.0005% (3) < ±0.0005% (4) < ±0.0005%	(1) 25% (2) 25% (3) 25% (4) 25%	±0.953
4A	Differing Uncertainties	30,000	±0.50%	2	(1) 15,000 (2) 15,000	(1) ±5.0 (2) ±10	(1) ±5.612 (2) ±5.612	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 25%	±3.969
4B	Differing Uncertainties	29,998	±1.50%	2	(1) 14,999 (2) 14,999	(1) ±5.0 (2) ±10	(1) ±5.788 (2) ±5.788	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 25%	±4.093
5A	Differing Agency Interest	30,000	±0.50%	2	(1) 15,000 (2) 15,000	(1) ±5.0 (2) ±5.0	(1) ±3.571 (2) ±3.571	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 5%	±3.035
5B	Differing Uncertainties & Agency Interest	30,000	±0.50%	2	(1) 15,000 (2) 15,000	(1) ±5.0 (2) ±10	(1) ±5.612 (2) ±5.612	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 5%	±4.770
5C	Differing Uncertainties & Agency Interest	29,998	±1.50%	2	(1) 14,999 (2) 14,999	(1) ±5.0 (2) ±10	(1) ±5.788 (2) ±5.788	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 5%	±4.919
6A	Differing Flow Rates, Uncertainties, & Agency Interest	30,000	±0.50%	2	(1) 10,000 (2) 20,000	(1) ±5.0 (2) ±10	(1) ±7.470 (2) ±3.760	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 5%	±5.443
6B	Differing Flow Rates, Uncertainties, & Agency Interest	29,998	±1.50%	2	(1) 9,999 (2) 19,999	(1) ±5.0 (2) ±10	(1) ±7.603 (2) ±4.017	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 5%	±5.551
7A	Wellhead Meter Custody (as Compared to 2A)	N/A	N/A	2	(1) 15,000 (2) 15,000	(1) ±5.0 (2) ±5.0	(1) ±5.0 (2) ±5.0	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 25%	±3.536
7B	Wellhead Meter Custody (as Compared to 2B)	N/A	N/A	2	(1) 14,999 (2) 14,999	(1) ±5.0 (2) ±5.0	(1) ±5.0 (2) ±5.0	(1) < ±0.0005% (2) < ±0.0005%	(1) 25% (2) 25%	±3.536
8A	One LACT per Well, no Allocation	(1) 30,000 (2) 3,000 (3) 300 (4) 30	(1) ±0.50 (2) ±1.50 (3) ±1.50 (4) ±1.50	4	N/A	N/A	N/A	(1) < ±0.0005% (2) < ±0.0005% (3) < ±0.0005% (4) < ±0.0005%	(1) 25% (2) 25% (3) 25% (4) 25%	±0.470
8B	One Upstream FMP per Well, no Allocation	N/A	N/A	4	(1) 30,000 (2) 3,000 (3) 300 (4) 30	(1) ±0.50 (2) ±1.50 (3) ±1.50 (4) ±1.50	N/A	(1) < ±0.0005% (2) < ±0.0005% (3) < ±0.0005% (4) < ±0.0005%	(1) 25% (2) 25% (3) 25% (4) 25%	±0.470
8C	8B, Upset on Lease 1 Meter	N/A	N/A	4	(1) 30,000 (2) 3,000 (3) 300 (4) 30	(1) ±5.00 (2) ±1.50 (3) ±1.50 (4) ±1.50	N/A	(1) < ±0.0005% (2) < ±0.0005% (3) < ±0.0005% (4) < ±0.0005%	(1) 25% (2) 25% (3) 25% (4) 25%	±4.502
8D	Allocate Upstream FMP's on LACT	33,330	±0.50%	4	(1) 30,000 (2) 3,000 (3) 300 (4) 30	(1) ±0.50 (2) ±1.50 (3) ±1.50 (4) ±1.50	(1) ±0.52 (2) ±1.52 (3) ±1.64 (4) ±1.65	(1) < ±0.0005% (2) < ±0.0005% (3) < ±0.0005% (4) < ±0.0005%	(1) 25% (2) 25% (3) 25% (4) 25%	±0.488
8E	8C, Upset on Lease 1 Meter	33,330	±0.50%	4	(1) 30,000 (2) 3,000 (3) 300 (4) 30	(1) ±5.00 (2) ±1.50 (3) ±1.50 (4) ±1.50	(1) ±0.72 (2) ±4.73 (3) ±4.77 (4) ±4.77	(1) < ±0.0005% (2) < ±0.0005% (3) < ±0.0005% (4) < ±0.0005%	(1) 25% (2) 25% (3) 25% (4) 25%	±0.776

Supplemental Cases

Seven scenarios were evaluated in JE0249A-VAR4, summarized in model cases 1 through 7A in the table above. As a supplement to the evaluations performed in that study, an additional 5 evaluations were performed, model cases 8A through 8E. The same root sum square procedure performed in the JE0249A-VAR4 evaluations were utilized for the determination of the uncertainties in the supplemental evaluations.

Model case 8A represents a four well location with an individual tank and LACT unit for each well. In this scenario, there is no commingled allocation. Each LACT meets BLM uncertainty requirements of either $\pm 0.50\%$ or $\pm 1.50\%$ based on throughput. The overall agency volume uncertainty is $\pm 0.470\%$

Model case 8B represents an upstream FMP for each wellhead separator with a commingled tank and LACT unit. There is no commingled allocation. Each wellhead separator has its own FMP located upstream of the LACT. Each upstream FMP meets BLM uncertainty requirements of either $\pm 0.50\%$ or $\pm 1.50\%$ based on throughput. The overall agency volume uncertainty is $\pm 0.470\%$, which identical to the overall uncertainty of model case 8A.

The design of model case 8C is identical to model case 8B. In this scenario, an upset occurred which introduced an error in the well 1 flow measurement. The measurement error is represented as an increase in uncertainty. The overall uncertainty increases to $\pm 4.502\%$ due to the upset.

Model case 8D represents the use of high-quality wellhead separator meters which are commingled and then metered through a combined LACT. Each high-quality wellhead separator meter meets BLM uncertainty requirements of either $\pm 0.50\%$ or $\pm 1.50\%$ based on throughput. The overall agency volume uncertainty is $\pm 0.488\%$, which is slightly higher than model cases 8a and 8b, but still within $\pm 0.50\%$.

The design of model case 8E is identical to model case 8D. In this scenario, an upset occurred which introduced an error in the well 1 flow measurement. The measurement error is represented as an increased in uncertainty. The overall uncertainty increases to $\pm 0.776\%$ due to the upset.

Conclusions

The following can be concluded from the findings within JE0249A-VAR4, JE0249A, and the supplemental model cases:

Lower Uncertainties Through Allocations:

In all cases, except when all three dependencies (flow rate, uncertainties, and Agency Interest) differ, the uncertainty of the overall system is reduced when allocating from the lower uncertainty downstream LACT to wellhead measurement. This is illustrated when comparing case 7A (wellhead custody measurement) where the overall uncertainty is $\pm 3.536\%$ to case 2A (allocated from LACT), where the overall uncertainty is $\pm 2.525\%$. In addition, commingled production has a higher probability of being greater than 15,000 (Revised §43 CFR 3174 proposed change) barrels per month, requiring the LACT, from which the allocation is derived, to meet the lower uncertainty threshold within §43 CFR 3174 which lowers the uncertainty of the overall system.

When model case 8A is compared to 8B, there is no change in overall uncertainty when moving away from individual LACT's per well to well level FMP's. However, there is a significant cost savings moving to 8B, as this battery design only has one LACT instead of four. However, when upset conditions occur, the uncertainty of the well level FMP with that upset increases significantly, from $\pm 0.470\%$ (model case 8B) to $\pm 4.502\%$ (model case 8C).

When allocating from a commingled LACT to high quality, wellhead separator meters, the uncertainty increases slightly from individual well level LACT units due to the uncertainty of the allocation point, from $\pm 0.470\%$ (model case 8B) to $\pm 0.488\%$ (model case 8D). However, the uncertainty is reduced when in upset conditions. Case model 8E shows that an upset condition on one well level meter occurs, the overall uncertainty increases a small amount, from $\pm 0.488\%$ (model case 8D) to $\pm 0.766\%$ (model case 8E). As illustrated in model case 8C, an upset with an individual well level FMP has an overall uncertainty of 4.502% . When allocating, the overall uncertainty is reduced by 3.726% under those same upset conditions. This clearly shows that allocation from a LACT to high quality, well level meters provides better assurance of measurement quality.

Wellhead Level Measurement:

The proving requirements for wellhead level custody measurement is difficult to achieve as illustrated in report JE0249A. In addition, these reports do not address increased uncertainties due to upset conditions and application of API 11.1 factors for CTPL. As flowrates decrease, the uncertainty increases rapidly. Due these challenges, report JE0249A-VAR4 was commissioned. It illustrates the improved uncertainties when allocating from commingled LACT. In order to meet the uncertainty requirements within the revised BLM Site Security and Measurement rules,

it is possible that operators may be forced to place LACT units at each individual wellhead separator. This represents a large expense for the operator with very little improvement in uncertainty. In case 3B above, with four wells of varied volumes allocated from a commingled LACT, the overall measurement uncertainty is $\pm 0.953\%$. If an individual LACT was placed on each of those wellhead separators, the overall measurement uncertainty is reduced to $\pm 0.470\%$, as depicted in Example Scenario above. The difference in uncertainties equates to 161 barrels per month. At current oil prices, the producer portion of the proceeds equates to approximately \$10 per barrel. Construction and installation of an industry and regulatory compliant LACT unit will cost in excess of \$500,000.00. The difference between having a single commingled LACT versus 4 individual LACTs would therefore be a minimum of \$1,500,000.00. The reduced uncertainty from the four individual LACT units potentially equates to \$1,610.00 of additional proceeds per month. With those proceeds, it would take approximately 78 years to recoup the cost of the additional LACT units. Note that even if custody level measurement proves were able to be performed, the overall uncertainty of wellhead level measurement for case 3B above would be 4.520%. Therefore, commingling provides better uncertainty, in nearly all cases, than wellhead level, non-LACT measurement without incurring the exorbitant and unreasonable costs of individual LACT units.

Effects of Federal Interest:

The federal interest does not affect the uncertainty of the upstream meters, even when those percentages vary. This can be seen when comparing case 2A to 5A, 4A to 5B, and 4B to 5C in the evaluation summary table above. However, the federal interest does affect the uncertainty of the volumes utilized for reporting and royalty payment. As seen in the evaluation summary table above and as discussed conclusion 1, the uncertainty of the federal allocated interest is less than the lowest wellhead measurement uncertainty used in the model in nearly all cases.

References

- SOLV. (2019). *Federal Wellhead Uncertainty Study (JE0249A)*. Fort William, Scotland, UK.
SOLV. (2020). *Wellpad Uncertainty Sensitivity; Allocation & Commingling Uncertainty Sensitivity (JE0249A-VAR4)*. Fort William, Scotland, UK.

Appendix C

See subsequent pages



Report

Federal Wellpad Uncertainty Study

for



Southern Petroleum Laboratories, Inc.

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JE0249A-D004-R03 SPL Federal Wellpad Uncertainty Report Issued 190805

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- APPENDIX D ALLOCATION SYSTEM FULL EXAMPLE - WPA
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Glossary

CFR	Code of Federal Regulations
DP	Differential Pressure
FD	Finite Difference
FMP	Facility Measurement Point
LACT	Lease Automatic Custody Transfer
MCS	Monte Carlo Simulation
mscfd	Thousand Standard Cubic Feet Per Day
ov	of value
PDS	Partial Derivative Sensitivity
pc	Percentile
RSS	Root Sum Squared
RSSPDS	RSS with PDS
stbpd	Stock Tank Barrel Per Day
WPA	Well Pad A
HOLD	

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HOLD

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1 Executive Summary

This report estimates the uncertainty of Well Separator measurement, Export measurement, and Allocation of Oil and Gas production for five Wellpads as follows:

WPA	4 Wells, LACT, Sales Gas
WPB	4 Wells, LACT, Sales Gas
WPC	4 Wells, LACT, Sales Gas
WPD	7 Wells, LACT Sales Gas
WPE	6 Wells, Road Tanker, Sales Gas, Buyback Gas, Gas Lift

Wellpads WPA to WPD above have oil export measured by Coriolis LACT Units calibrated with a Bi-directional prover. Well Separator oil volume is measured by Coriolis meter and calibrated with a Coriolis Master Meter of the same model and size. Sales Gas and Well Separator gas is measured by Orifice meter.

Wellpad WPE differs in that oil exports are by Road Tanker with quantities measured by Tank Dip. Wells have Gas Lift with dedicated Orifice meters to measure the quantity of Vent Gas injected into each well. There is a Buyback Gas Orifice meter to measure the amount of Fuel Gas used for Gas Lift compression. Buyback Gas is deducted from Sales Gas (Refer to Section 1.5 for WPE).

All work in this study are in compliance with API MPMS, AGA, GPA, ASTM, ANSI, and other standards as applicable.

Uncertainty is analysed in accordance with OIML G 1-100; Ed 2008(E); Corrected 2010, "Guide to the expression of uncertainty in measurement" commonly known as "The GUM". This is the overarching standard for measurement and uncertainty all international uncertainty standards are required to conform to and has been published by the following standards authority's API, ANSI, NIST, BIPM, BSI, ISO, et. al. In addition, the RSS (Root Sum Square) and MCS (Monte Carlo Simulation) uncertainty methods used in this study all conform to API MPMS Chapter 13.3 Measurement Uncertainty; 2nd Ed.: December 2017, which conforms to the GUM.

Uncertainty is calculated in accordance with 43-CFR-3174.4 (a) Volume measurement uncertainty, and 43-CFR-3175.135 Uncertainty determination, methods for RSS methods, including partial derivative sensitivity terms, and Finite Difference methods in accordance with the "GUM Method". This is a standard procedure and format defined in The GUM for calculation on uncertainty. SOLV has developed an extended procedure and format that incorporates MCS to enable verification of the RSS methods used. All RSS results in this report have been verified by MCS (Refer to Appendices).

Measurement and Allocation of Well Separator Water production and LACT or Road Tanker Loading Water production has not been considered in this report.

1.1 Compliance

43-CFR-3170-Onshore Oil and Gas Productions defines the measurement uncertainty criterion for FMP (Facility Measurement Point). These criteria are generally met for oil and gas measurement at typical operating conditions.

Low, Typical and High flow rates used for oil uncertainty analysis are based on historical production data from 2018 for wells with a 24 hour per day uptime. As the distribution of flow rates can be non-symmetric the Median, which is the 50pc (percentile) value, is chosen as the Typical flow rate. Low flow rates correspond to the 2½ pc and High flow rate corresponds to 97½ pc, such that the flow rates fall within the 95% confidence interval for the dataset used. The exception is Sales Gas where flow rates were based on Gas Volume Statements.

1.1.1 Oil Compliance LACT Wellpads

LACT Wellpads are WPA, WPB, WPC, and WPD.

FMP uncertainty compliance for oil in 43-CFR-3174.4 Table 1 by standard volume flow is as follows:

HV (High Volume) $\leq 30,000$ bbl/month $\pm 0.5\%$ omv

LV (Low Volume) $> 30,000$ bbl/month $\pm 1.5\%$ omv

Average oil standard volume for all LACT Units and Well Separator flow rates are less than 30,000 bbl/month, so the uncertainty limits are $\pm 1.5\%$. This is based on proving at flow rates close to operational flow rates. Please refer to Section 1.2.1, Oil Bi-directional Prover and Master Meter Calibration, page 6 concerning additional uncertainties and biases due to proving at high flow rates.

Uncertainties associated with the LACT Units are less than $\pm 1.5\%$ for oil flow rates of greater than about 55 stbpd. Typically flow rates are greater than this (see **Figure 1** and **Figure 2**). An example of the model used to generate the LACT Unit uncertainties is seen in Appendix H, Oil LACT Unit Uncertainty Model Example – WPA.

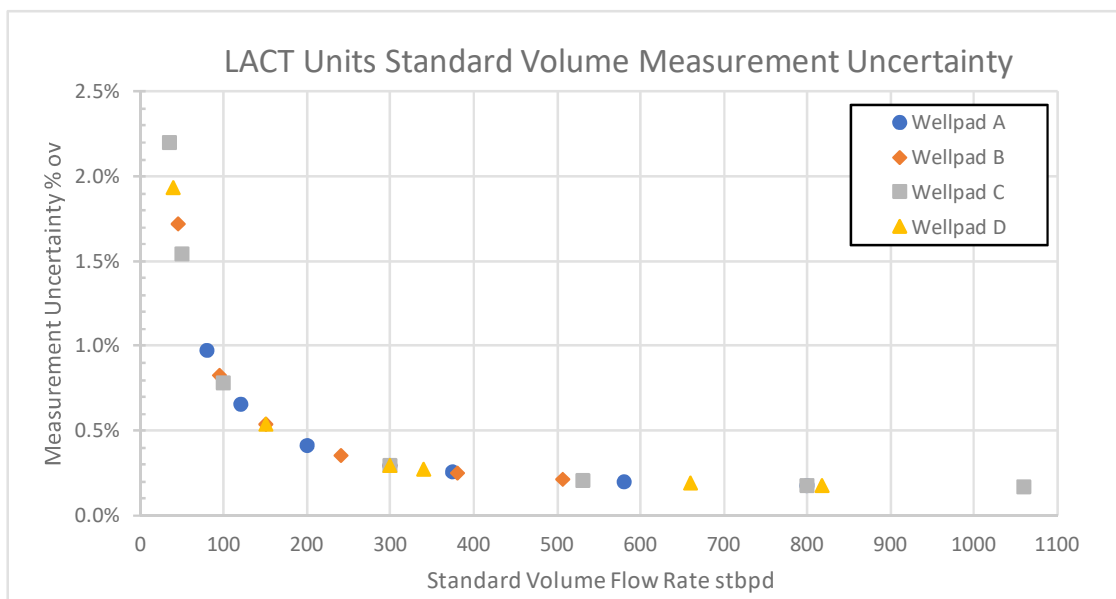


Figure 1. LACT Unit uncertainties of each Wellpad for flow rates between minimum and maximum observed flow rates

Flow Rate	Units	Low (95%CI) 2½ pc	Typical (Median) 50 pc	High (95% CI) 97½ pc
Wellpad A	stbpd	120	375	580
Wellpad B	stbpd	95	240	380
Wellpad C	stbpd	35	530	1060
Wellpad D	stbpd	40	340	660

Figure 2. The Low, Typical (median) and High oil flow rates for the LACT Units

Separator meters are not required to comply with the uncertainty bands mentioned above. Separator meter measurement uncertainties are also less than $\pm 1.5\%$ for flow rates of greater than about 70 stbpd. Typically, flow rates are a few hundred standard barrels per day (see **Figure 3** and **Figure 4**). An example of the model used to generate the LACT Unit uncertainties is seen in Appendix G, Oil Separator Uncertainty Model – WPA

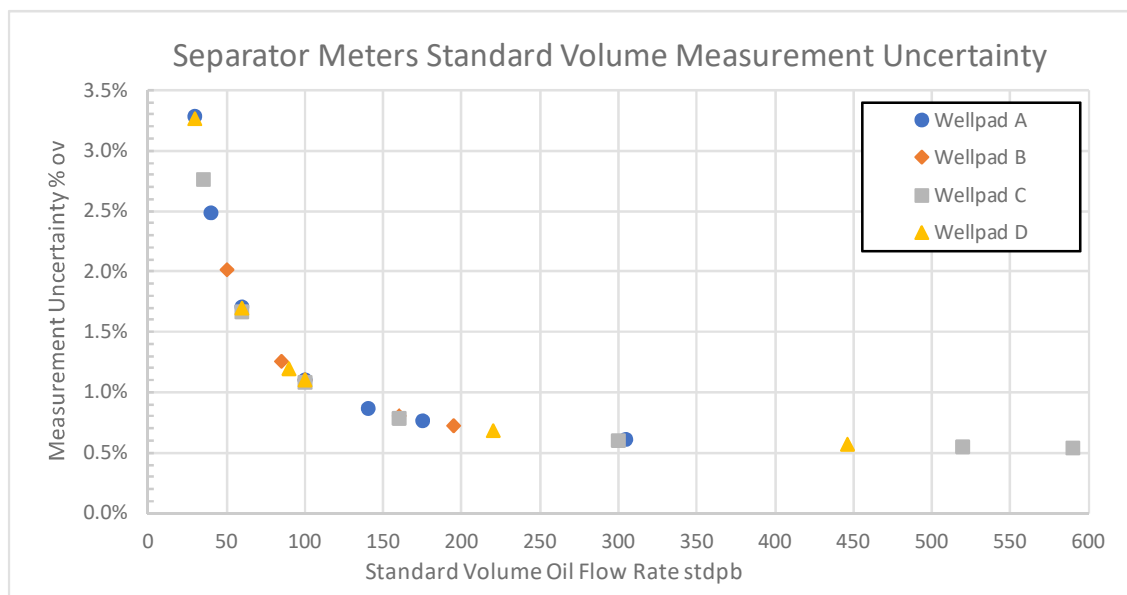


Figure 3. Separator meter uncertainties of each well head for flow rates greater than 30 stbd

Flow Rate	units	Low (95%CI) 2½ pc	Typical (Median) 50 pc	High (95% CI) 97½ pc
Wellpad A	stbd	40	100	175
Wellpad B	stbd	20	100	160
Wellpad C	stbd	35	520	590
Wellpad D	stbd	8	90	220

Figure 4. Summary of the Low, Typical (median) and High oil flow rates for Separator meters

It was found that all the LACT Unit uncertainties fall onto a single curve dependant on flow rate; at a set flow rate all the LACT Units have essentially the same uncertainty. Separator uncertainties also fall onto a single curve with a slightly higher level of uncertainty for a given flow rate than the LACT Units. Separator meters generally have higher uncertainties as the typical flow rates tend to be lower.

1.1.2 Gas Compliance LACT Wellpads

FMP uncertainty compliance for gas in 43-CFR-3175 by standard volume flow as follows:

VHV (Very High Volume)	>1,000 Mcf/day	±2% omv
HV (High Volume)	>200 to ≤1,000 Mcf/day	±3% omv
LV ((Low Volume)	>35 to ≤200 Mcf/day	HOLD
VLV (Very Low Volume)	≤35 Mcf/day	Undefined

Sales Gas meters are in the HV flow category. Uncertainties between the LV and VHV flow daily flow rate are shown in **Figure 5**. An example of the model used to generate the Sales Gas uncertainties is seen in Appendix F, Sales Gas Uncertainty Model – WPA. An example of the equations used in these models to calculate uncertainty are shown Appendix B, Standard Volume Uncertainty Method – AGA3.

WPA and WPD Sales Gas meters have a smaller level of uncertainty and have an uncertainty of less than $\pm 3\%$ omv for the full range of modelled values. WPB has uncertainties of greater than $\pm 3\%$ omv at Low flow rates. The reason for this is a larger orifice plate leading to lower DP's. WPC has an uncertainty of greater than $\pm 3\%$ omv for much of the range. This is due to a large orifice plate and a more variable gas composition.

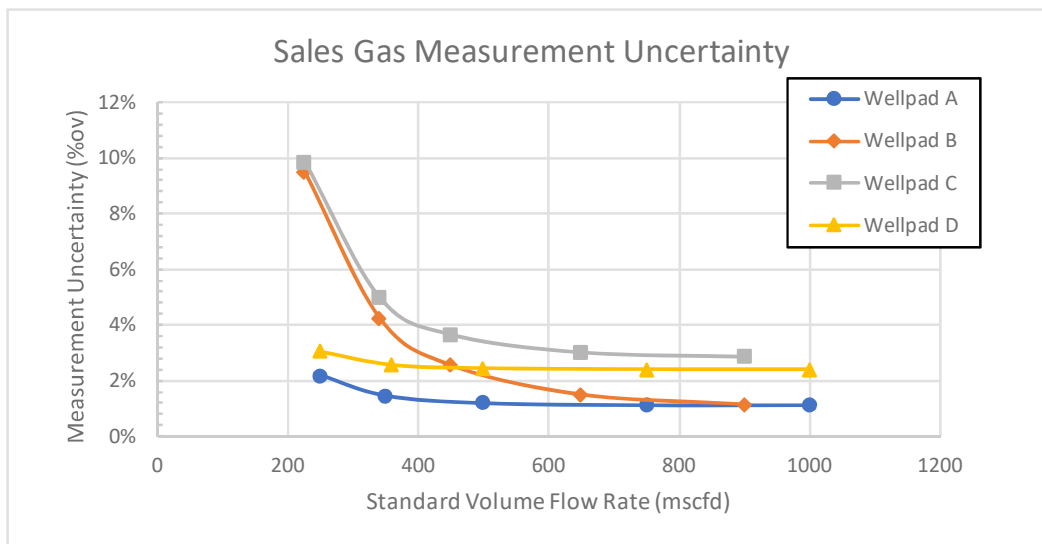


Figure 5 Sales Gas uncertainty for a range of flow rates between Low Flow and High Flow

Flow Rate	units	Low	Typical	High
Wellpad A	mscfd	250	500	1000
Wellpad B	mscfd	225	450	900
Wellpad C	mscfd	225	450	900
Wellpad D	mscfd	250	500	1000

Figure 6 Summary of the sales gas Low, Typical and High flow rates

Typical Sales Gas flow rates are based on the average value given in the Sales Gas Volume Statements. These Gas Volume Statements have monthly totals and do not show the variation within that month. Low and the High flow rates were taken as half and double this typical value respectively. These values are quite similar for all the Sales Gas meters, and in the HV flow rate range. The Separator model example is seen in, Appendix E, Gas Well Separator Meter Uncertainty – WPA.

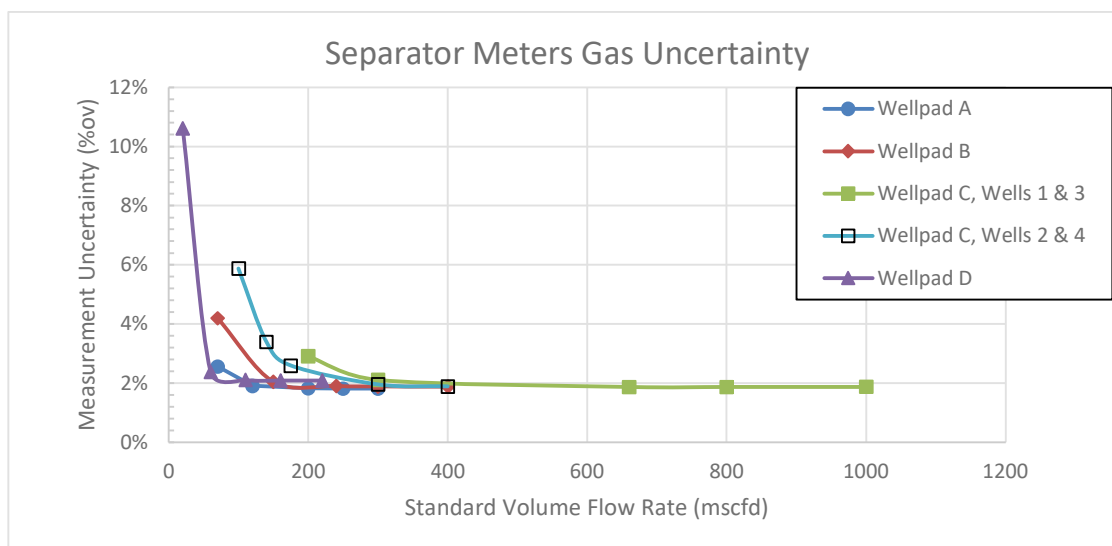


Figure 7. Summary of the observed range of flow rates and associated uncertainties of the Separator gas meters. WPC wells produce at substantially different flow rates, so two models were developed

Flow Rate	units	Low (95%CI) 2½ pc	Typical (Median) 50 pc	High (95% CI) 97½ pc
Wellpad A	mscfd	70	200	300
Wellpad B	mscfd	70	240	400
Wellpad C, Wells 1 & 3	mscfd	200	660	1000
Wellpad C, Wells 2 & 4	mscfd	100	175	400
Wellpad D	mscfd	20	110	220

Figure 8. The range of flow rates observed for the Separator meters

Different meters give different uncertainties for the same flow rate (see **Figure 5** and **Figure 7**) due to differing composition uncertainties, and different orifice plate sizes.

1.2 Bias

1.2.1 Oil Bi-directional Prover and Master Meter Calibration

Both the Separator oil meters and LACT Units are proved at significantly higher flow rates than those observed at typical operating conditions. This may result in additional uncertainties/biases if the Meter Factor shows any dependence on flow rate. It also may result in a failure to comply with 43-CFR-3174.4 Specific measurement performance requirements, (b) Bias, which states that the volume must be measured without statistically significant bias. Refer to Section 8.4.2, Results with Additional Proving Uncertainties, page 44 to illustrate the effect of this.

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Proving trials at current flowrate and the range of expected Typical (Median) flowrates should be undertaken to investigate the MF vs flowrate relationship to determine potential bias in the reported quantities.

Proving should normally be at Typical flow rates for compliance with 43-CFR-3174.4 and to ensure bias in reported quantities is minimised.

1.2.2 Gas Orifice Measurement

There is a small positive bias due to not accounting for the difference between the upstream and the recovered temperature. This bias is of the order of 0.1% for typically observed flow rates, but increases for higher flow rates (See Section 7, Gas Measurement Biases, page 34). This may result in a failure to comply with 43-CFR-3175.31-(c) which states that the volume must be measured without statistically significant bias. The impact of this bias should be investigated further.

1.3 Oil

Uncertainty increases for both the LACT Unit and the well Separator meters at lower flow rates due to the increasing relative significance of the Coriolis meter zero stability and is the main source of uncertainty at low flow rates. The 2" meters are oversize for current flow rates resulting in very high turndown with relatively high measurement uncertainty.

1.3.1 Well Separator Meters

A generic model was built to consider all the Well Separator meters on each Wellpad due to the similarity of flow rates on each Wellpad, except for WPC. Oil Separator meters are proved by Master Meter. The main source of uncertainty is the Acceptance Repeatability of the Separator meters which is 0.5% on five runs. The overall measurement uncertainty is around $\pm 1.1\%$ for a flow rate of 100 stbpd.

1.3.2 LACT Units

LACT Units are proved using a Bi-directional Prover. For the LACT Units the measurement uncertainty is $\pm 0.30\%$ for a flow rate of 300 stbpd. Uncertainty is lower for higher flow rates, and rapidly increases at lower flow rates.

1.3.3 Allocation

Allocated oil flow values usually have lower uncertainty than the corresponding Well Separator meter. This is due to the LACT Unit measurement uncertainties being significantly lower than the Well Separator meter measurement for oil. An explanation of the Allocation equations and method is seen in Appendix C, Allocation System Uncertainty Method . An example of the method being applied to the is shown in Appendix D, Allocation System Full Example – WPA.

1.4 Gas

The gas composition varies in time and between wells. This composition uncertainty is the dominant source of uncertainty at moderate to high flow rates. Regular analysis of gas

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composition and the updating of the flow computer resulted in reduced composition uncertainty. More frequent sampling will reduce measurement uncertainty. See Appendix A, Gas Composition and Effect on Uncertainty , for further discussion of gas composition uncertainty.

At low flow rate the uncertainty increases significantly with decreasing flow rate due to the increasing relative importance of the differential pressure measurement uncertainty. It is recommended that the orifice plates installed are sized so that differential pressure is above 10 inH₂O. DP's below this value results in high measurement uncertainties.

1.4.1 Well Separator

The Well Separator meter gas measurement uncertainty is of the order of $\pm 2\%$ at moderate to high flow rates (larger than around 100 mscfd). Uncertainty is higher at lower flow rates.

1.4.2 Sales

Sales Gas measurement uncertainty at typical flow rates is around $\pm 1.2\%$ for WPA, $\pm 2.4\%$ for WPD, $\pm 2.6\%$ for WPB and $\pm 3.7\%$ for WPC. The WPC uncertainties are larger due to a larger gas composition variation. WPC Sales Gas measurement uncertainty exceeds the $\pm 3\%$ omv therefore does not conform to 43-CFR-3175.31 (a)(1) requirement. Uncertainty decreases with increasing flow rate.

1.4.3 Allocation

Gas allocation uncertainty is larger than the Well Separator gas measurement uncertainty. This is due to the gas uncertainty being of the same order as the Separator gas analysis.

1.5 WPE

1.5.1 Oil Road Tanker Loading

Oil is exported from storage tanks via tanker loading. A tanker 350 barrels of oil.

An uncertainty model was developed to estimate the uncertainty associated with one Tanker load. For a typical load it was found to be $\pm 0.16\%$.

The uncertainties on the Tankers loads are assumed to be uncorrelated. The total uncertainty associated with several Tanker loads is calculated by RSS the individual Tanker Load uncertainties together.

Introducing correlations in the Tanker Load uncertainties in Tanker loads is unlikely to significantly affect the allocation results. However, it is felt there is merit in further investigation of cross-correlation. An example of the model used to generate the Tanker Loading uncertainties is seen in Appendix I, Road Tanker Loading Uncertainty – WPE.

1.5.2 Oil Well Separator Meters

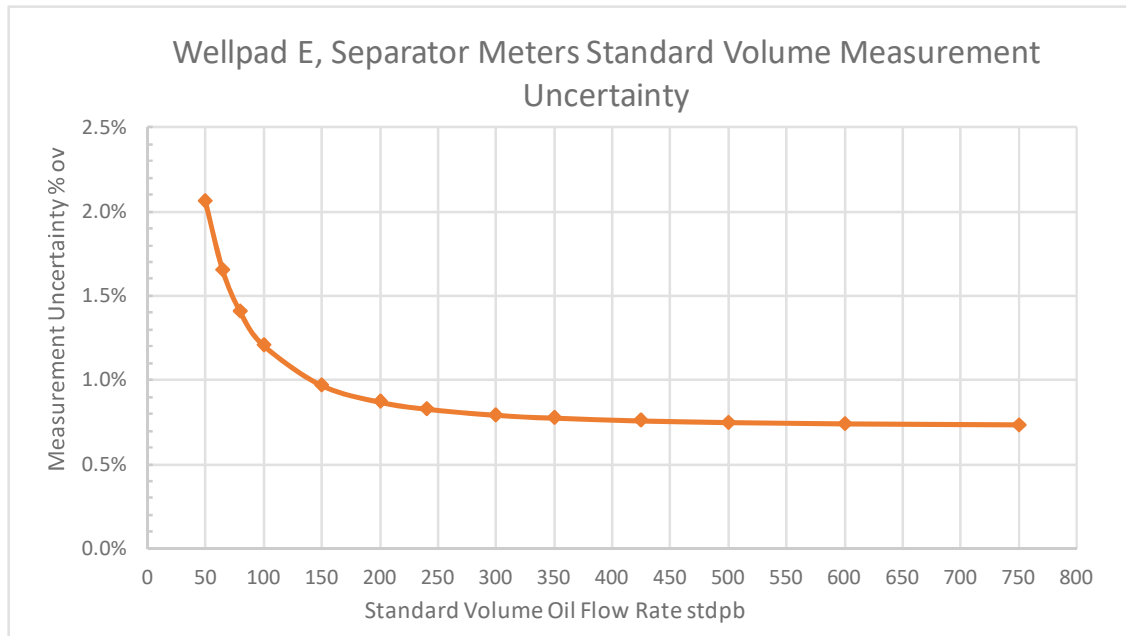


Figure 9. Separator uncertainty versus flow rate for WPE wells

Flow Rate	units	Low (95%CI) 2½ pc	Typical (Median) 50 pc	High (95% CI) 97½ pc
Wellpad E	stbpd	50	240	750

Figure 10. Typical oil flow rates for WPE

The WPE measurement uncertainty shows a similar shaped curve to the Separator meters. However, at Typical to High flow rates the uncertainties are slightly higher due to the significant variability in the Pressure and Temperature at proving.

The measurement uncertainty of the oil flow at Typical flow rate is around $\pm 0.83\%$.

1.5.3 Oil Allocation

As with the other oil meters, it is found that in general the allocation uncertainties are slightly lower than the Separator meter uncertainties. This is due to the low uncertainties associated with the export (Tanker Loading).

1.5.4 Sales Gas

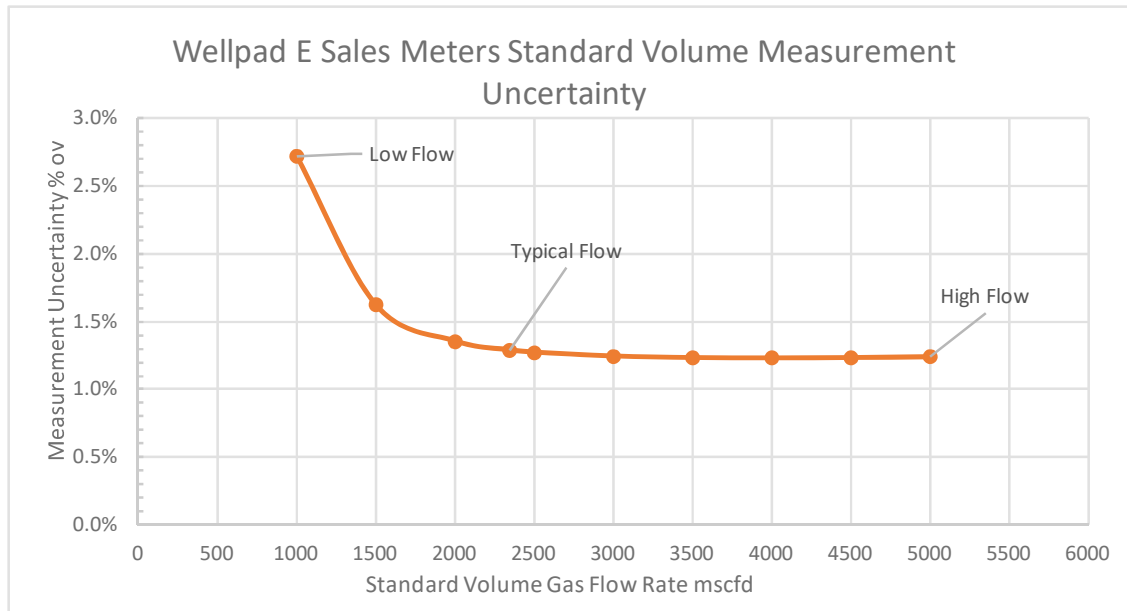


Figure 11. WPE Sales Gas meter Uncertainty

Flow Rate	units	Low (95%CI) 2½ pc	Typical (Median) 50 pc	High (95% CI) 97½ pc
Wellpad E	mscfd	8	700	1890

Figure 12. WPE Low Typical and High Flow Rates

Typical Sales Gas flow rate are based on the average value given in the Sales Gas Volume Statements. These Gas Volume Statements have monthly totals and do not show the variation within that month. Low and the High flow rates were taken as slightly less than half and slightly more than double this typical value respectively.

WPE Sales Gas flow rates are larger than the other Sales Gas meters, with the average flow rate being significantly greater than 1000 mscfd. This places it within the VHV category which has an uncertainty limit of ±2%. The observed uncertainty is less than this.

1.5.5 Separator Gas

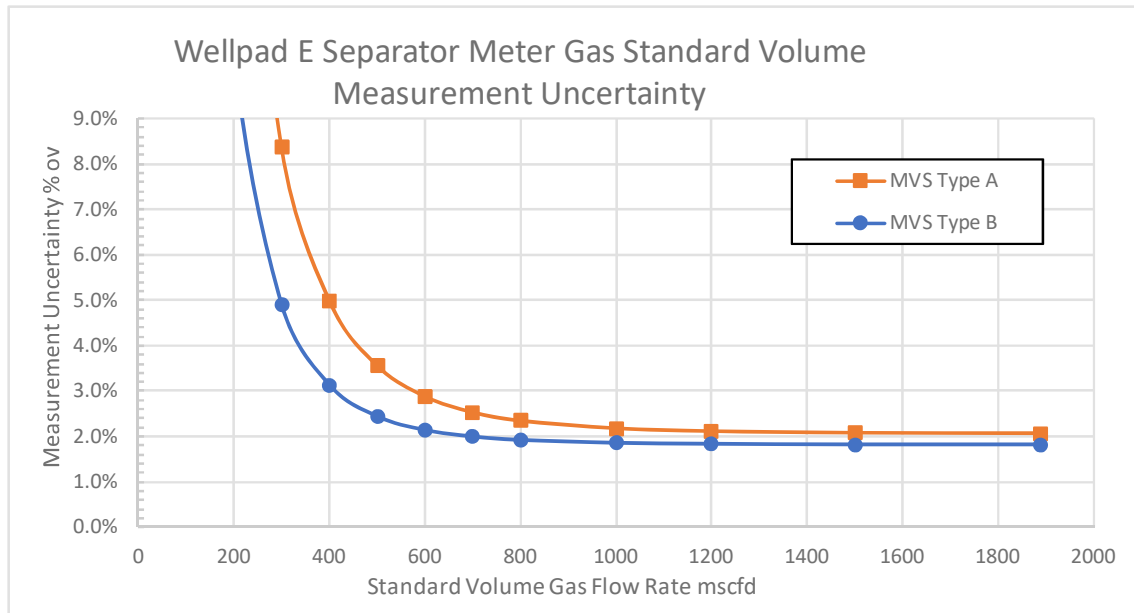


Figure 13. Separator uncertainties based on the two types of MVS used on the gas meters (assuming an orifice plate size of 1.875 inches)

Flow Rate	units	Low	Typical	High
Wellpad E	mscfd	1000	2350	5000

Figure 14. Low, Typical and High Flow rates. The Low flow rate is significantly below the minimum allowable flow rate

WPE Gas Separator meters have two types of MVS. For a given orifice plate size there will be a small difference in the uncertainty dependant on the MVS type. At Typical to High Flow rates the measurement uncertainties for these meters are comparable to the Separator meters on Wellpads A to D.

1.5.6 Gas Allocation

WPE differs in that there is buy back gas. However, in the Gas Volume statements the Buyback meter operated for less than 24 hours during a three-month period. Most of the time allocation is not affected by Buyback.

At Typical Flow rates the Sales Gas meter uncertainty is smaller than the Separator meters. Overall the Separator Meters allocation uncertainty is very slight larger than the Sales Gas Meters Uncertainty.

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2 Introduction

2.1 Overview

Aim of the report is to estimate the allocation uncertainty of oil and gas production at summer and winter forecast operating conditions for each Federal Well, and Wellpad, for the following five wellpads:

1. WPA Wells WPA1, WPA2, WPA3, and WPA4, LACT Oil Export, Water, and Sales Gas
2. WPB Wells WPB1, WPB2, WPB3, WPB4, LACT Oil Export, Water Sales Gas and H2S
3. WPC Wells WPC1, WPC2, WPC3, WPC4, LACT Oil Export, Water and Sales Gas
4. WPD Wells WPD1, WPD2, WPD3, WPD4, WPD5, WPD6, WPD7, LACT Oil Export, Water and Sales Gas.
5. WPE Wells WPE1, WPE2, WPE3, WPE4, WPE5, WPE6, Road Tanker Loading, Gas Lift, Buyback Gas and Fuel Gas.

All work in this study complies with API MPMS, AGA, GPA, ASTM, ANSI, and other standards as applicable.

Uncertainty is analysed in accordance with OIML G 1-100; Ed 2008(E); Corrected 2010, "Guide to the expression of uncertainty in measurement" commonly known as "The GUM". This is the overarching standard for measurement and uncertainty all international uncertainty standards are required to conform to and has been published by the following standards authority's API, ANSI, NIST, BIPM, BSI, ISO, et. al. In addition, the RSS (Root Sum Square) and MCS (Monte Carlo Simulation) uncertainty methods used in this study all conform to API MPMS Chapter 13.3 Measurement Uncertainty; 2nd Ed.: December 2017, which conforms to the GUM.

Uncertainty is calculated in accordance with 43-CFR-3174.4 (a) Volume measurement uncertainty, and 43-CFR-3175.135 Uncertainty determination, methods for RSS methods, including partial derivative sensitivity terms, and Finite Difference methods in accordance with the "GUM Method". This is a standard procedure and format defined in The GUM for calculation on uncertainty. SOLV has developed an extended procedure and format that incorporates MCS to enable verification of the RSS methods used. All RSS results in this report have been verified by MCS (Refer to Appendices).

Measurement and Allocation of Well Separator Water production and LACT or Road Tanker Loading Water production has not been considered in this report.

Work was undertaken in accordance with CTR's (Cost Time Resource) listed below.

2.2 Information Request (CTR1)

Detailed Information Request including P&ID's, schematics, Instrument Data Sheets, Process Data Sheets, Instrument Maintenance, Calibration, etc. for all equipment, for each Wellpad was prepared and issued for comment on January 9th, 2019.

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The site survey was due to be conducted by SPL from January 21st to the 25th 2019 however this was curtailed due to bad weather. A further site survey was not conducted.

Information required was gathered by SPL staff in response to requests from SOLV.

2.3 LACT Wellpad Uncertainty for WPA, WPB, WPC, and WPD (CTR2)

Wellpads WPA, WPB, WPC, and WPD are of a similar design, each with a LACT Unit to measure oil pipeline exports, Sales Gas measurement to export pipeline, Well Separator Oil, and Gas measurement, and Flare Gas measurement. An Uncertainty Analysis model will be developed encompassing all features of the wellpads. The model will be populated for all forecast operating conditions to find the expected range of uncertainties for each Wellpad. Water measurement and allocation was not included in the study.

2.4 Road Tanker Wellpad Uncertainty WPE (CTR3)

WPE Oil Road Tanker Loading Export. The LACT Oil Uncertainty Model in CTR 2 adapted to Oil Tank Gauging. Sales Gas from separation measured for export by pipeline. Well Separator measurement of Oil and Gas, with Fuel Gas from separation measurement of Buyback gas meter, and Flare Gas meter. Gas from tank battery Vent Gas compressed and injected into Gas Lift wells. Model populated for WPE Wellpad for forecast operating conditions to find the expected range of uncertainties. Water measurement and allocation was not included in the study.

2.5 Federal Well Uncertainty Report (CTR4)

This document.

Uncertainty results for each Federal Well and the Wellpad Uncertainty for oil, and gas for all forecast operating scenarios found using RSS (Root Sum Square) methods including Finite Difference, and RSS with Partial Differential Sensitivity terms where applicable and validated by MCS (Monte Carlo Simulation) methods.

Results include finding and recommendations with full details of the uncertainty working are found for RSS and MCS are in accordance with API MPMS Chpt. 13.3: December 2017; 2nd Ed., Measurement Uncertainty.

RSS and MCS methods used conform to (OIML G 1-100: 2008 "The guide to the expression of uncertainty in measurement") commonly known as "The GUM", which is the over-arching international uncertainty standard adopted by API, ANSI, NIST, ISO, BSI, BIPM, et. al.

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3 Overview

3.1 Well Pads with LACT Units (WPA, WPB, WPC & WPD)

Four well pads were included in the survey with between four and seven wells at each location.

Each well has a dedicated separator with oil, gas and water meter to measure the volumes from each well after separation. After separation oil and water flows to storage tanks, and from there to the LACT Unit where the oil and water is measured for sale of oil and disposal of water. Vent gas from storage tanks is used as fuel for heat treatment with any excess flared. The gas flow rate is measured by the Sales Gas Meter.

Gas is allocated back to the wells based on what was measured at the gas surveillance meters. All gas surveillance meters are added together, and a ratio is calculated per well. The percentage calculated is then multiplied by the sales volumes minus the purchase volume to derive a sales volume per well.

Oil is commingled into the oil tanks and allocated back to the wells based on the ratio calculated using the oil separator meters. Water in oil from storage tanks is routed to the heat treater to assist the separation of water and oil. Heat treatment is also used for vapour pressure reduction of the oil to meet pipeline specification.

Water is commingled into the five water tanks and allocated back to the wells based on the ratio calculated using the water separator meters.

Flare is calculated using a flare formula that is built into the theoretical flare meter.

3.2 Well Pad with Gas Lift and Road Tanker Loading

The WPE well pad differs in that there is no LACT Unit and Gas Injection is used to enable production from the wells. There are six wells at this location.

Each well has a separator with a gas meter, oil meter and a water meter which measure the volumes from each well as they are separated. As the products are separated the oil and water flows to tanks, and the oil is sold via road tanker loading with water disposed of by road Tanker.

The gas flows to the Sales meter. Buyback gas after the Sales Gas meter is used as fuel to run the Gas Compression for Gas Lift. Vent Gas from the Oil Storage Tanks is compressed and used for Gas Lift.

Gas not used for injection or can't be sold is flared. Equipment such as heat-treaters and flare pilots are used, and gas used is calculated using a coefficient and downtime.

Gas is allocated back to the wells based on what was measured at the gas surveillance meters. All gas surveillance meter's measurements are added together, and a ratio is calculated per well. The percentage calculated is then multiplied by the sales volumes minus the purchase volume to derive a sales volume per well.

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Oil is commingled into the 10 oil tanks and allocated back to the wells based on the ratio calculated using the oil Separator meters.

There are 5 water tanks.

Flare is calculated using a flare formula that is built into the theoretical flare meter.

3.3 Separators

The five sites surveyed each have a dedicated Separator with Oil, Gas and Water measurement. Gas, Water and Oil are examined in more detail below.

3.3.1 Separator Vessel

Each separator is filled with the following instrumentation:

Pressure Indicator and Transmitter on Vessel. Pressure Indicator has range of 0 – 300 psi.

Temperature Indicating Transmitter on Vessel.

Level Gauges for Water and Oil.

Gas Lines from Vessel to Fuel the Flare have no measurement. All Separators have a pressure tap on the downstream measurement tube. As there is no measurement on these lines there is no way of knowing which Separator is supplying fuel. There is a check valve installed on each of the 1" fuel pipes to keep the gas from flowing between Separators.

3.3.2 Gas Metering

The gas from the Separator is measured using a Dual Chamber (Senior) Orifice Meter with a Multivariable Sensor attached, measuring: Differential Pressure, Static Pressure and Temperature. The internal diameter of the orifice plate varies between Separators depending on flow rates. However, the layout of the gas leg is the same for each Separator.

Upstream of the meter there is one out of plane bend and two in plane bends, with approximately 20 diameters of straight length before the meter. There is a flow conditioner installed at approximately 10 diameters upstream of the meter body.

Downstream of the meter there is approximately five diameters before the sample port and temperature port. A fuel gas take-off is approximately eight diameters downstream of the meter. There is no measurement of fuel gas off the individual Separators. According to schematics fuel gas usage by Heat Treater is a seasonal estimate and operation of flare pilot is a fixed value. Sales gas allocation from export to pipeline will adjust for estimated gas consumption.

Following the fuel gas meter there is a Back-pressure Regulator set at 80 to 85 psi.

Full Bore Isolation Valves are installed both up and downstream of the meter.

The meter is installed at a low point on the line, below the top of the Separator. If liquids present, there is possibility of accumulation in this section. There is one possible drain

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location located upstream of the control valve. This should be checked to determine whether liquids are present.

Overall the installation is considered satisfactory.

3.3.3 Oil Metering

Oil from each Well Separator is measured using a two-inch Coriolis with a measurement uncertainty $\pm 0.2\%$ ov, with discrete Pressure and Temperature Transmitters installed downstream of the meter.

These meters are oversized for the range of flowrates. The nominal flow rate for a 14.5 psi pressure drop is around 7200 barrels per day while typical observed flow rates are of the order of 100 barrels per day. This results in very low pressure drop that reduces the potential for gas breakout in the meters. The large turn down results in significant flow measurement uncertainties.

Installation is in a horizontal line with a downwards flag orientation, below the Separator and oil interface. Estimated head of 4 foot to the oil interface.

The prover tapping is between the RTD and Pressure Transmitter, with a double block and bleed between the proving taps. Proving is carried out using a Master Meter. Note: Each time the meter is proved with the master meter, the temperature and pressure transmitters are verified and calibrated if required. There is no form completed for this procedure and records were not available.

The piping used is 2", schedule 80 XS.

There is a hot oil tap installed upstream of the Coriolis Meter. These have been installed to backflush hot oil to clean meter if paraffin build-up exists. No check valve installed in hot oil taps to prevent accidental flushing in the forward direction, this could cause an overstatement in meter measurement. No check valves installed, if hot oil hoses are connected backwards a loop would flow through the meter and register as if the Separator were dumping.

Negative flow is sometimes observed through the meters, with no change in Drive Gain, this indicates a paraffin build up in the meter.

Installation is considered satisfactory; however, concerns have been raised about the lack of measurement through the hot oil tap.

3.3.4 Water Metering

The water from the Separator is taken from the bottom of the vessel and is measured using an Electromagnetic Flow Meter.

Water measurement was not considered in this study.

3.4 LACT Units and Export

3.4.1 Sales Gas Metering

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After separation gas from all the Well Separators is commingled and Sales Gas measured using a Single Chamber Orifice Meter with a Multivariable Sensor attached, measuring: Differential Pressure, Static Pressure and Temperature. The internal diameter of the orifice plate varies between wellpads depending on flow rates. However, the layout of the sales gas leg is the same for each Separator.

The meter is housed in an individual unit, no in or out of plane bends visible within the unit. Upstream of the meter there is approximately 10 diameters of straight length before the meter.

Overall the installation is considered satisfactory.

3.4.2 Oil LACT Unit Metering

Oil at the LACT Unit is measured using a two-inch Coriolis meter with a measurement uncertainty of $\pm 0.1\%$ ov, installed as upward flag, with Pressure and Temperature Transmitters installed downstream of the meter.

Although the turn down on these meters is not as large as for the Separator meters, it was still found to significantly increase uncertainty at the lower end of the observed flow rate range.

There are two different styles of LACT Units used at the Wellpads. Type A LACT Units are used at WPA and WPD and Type B LACT Units are used at WPB and WPC.

There are two Oil Strainers, one before the booster pump, one after followed by a mixer. The Oil Strainers have a locked-open Air Eliminator, and there is no DP device across the strainers to indicate plugging.

Tappings are located outside of the unit for proving. A Bi-directional Prove is used to calibrate the MF (Meter Factor) monthly.

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4 Uncertainty Analysis Methods

4.1 LACT Oil Federal Well Allocation Uncertainty for Wellpads (WPA, WPB, WPC and WPD)

An uncertainty model was developed to determine the measurement uncertainty of the Wellpads and allocated Well pipeline production of Oil and Gas for forecast operating and seasonal conditions.

Wellpads are of a similar design with a LACT Unit, Water Export, and Sales Gas measurement discharge to pipelines at: WPA, WPB, WPD, and WPC.

The Uncertainty Model use RSS (Root Sum Square), RSSPDS (Root Sum Square with Partial Differentiation Sensitivity), FD (Finite Difference), and MCS (Monte Carlo Simulation) analysis methods and comprised of three parts:

1. Well Separator Model (RSS & FD with MCS verification) to find Oil and Gas daily production measurement uncertainty at forecast operating and seasonal conditions of each well for input to a Wellpad Uncertainty Model.
2. Wellpad Uncertainty Model (RSS & FD with MCS verification) methods which determine the Oil (LACT) and Sales Gas daily pipeline production measurement uncertainty at forecast operating and seasonal conditions for each Wellpad.
3. Well Allocation Uncertainty Model (RSSPD with MCS verification) to determine the Allocated Oil, Water, and Gas daily allocated production uncertainty at forecast operating and seasonal conditions for each Well on each LACT Wellpad.

Models were populated and configured for each Wellpad and Wells to find the Wellpad Uncertainty, Well Uncertainty and Well Allocation Uncertainty for each Wellpad at forecast operating and seasonal conditions.

4.2 Road Tanker Federal Well Allocation Uncertainty (WPE)

An uncertainty model was developed to determine the measurement uncertainty of the Wellpad and allocated Road Tanker loading from Oil and Water Storage Tanks, with Sales Gas pipeline for forecast operating and seasonal conditions.

Applies to WPE Wellpad with Gas Lift to each well, and Buyback Gas and Fuel Gas.

The Uncertainty Model use RSS (Root Sum Square), RSSPDS (Root Sum Square with Partial Differentiation Sensitivity), FD (Finite Difference), and MCS (Monte Carlo Simulation) analysis methods and comprised of three parts:

1. Well Separator Model (RSS & FD with MCS verification) to determine Oil, Water, and Gas daily production measurement uncertainty at forecast operating and seasonal conditions of each well for input to a Wellpad Uncertainty Model including adjustment for Gas Lift.
2. Wellpad Uncertainty Model (RSS & FD with MCS verification) methods to determine the Oil Tanker Loading, Export Tanker Loading in accordance with API MPMS Chpt. 18.1: 2017,

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and Sales Gas daily pipeline production measurement at forecast operating and seasonal conditions for each Wellpad.

3. Well Allocation Uncertainty Model (RSSPD with MCS verification) to determine the Allocated Oil, Water, Gas, and Fuel Gas daily allocated production uncertainty at forecast operating and seasonal conditions for each Well.

Models were populated and configured for the Wellpad and Wells to find the Wellpad Uncertainty, Well Uncertainty and Well Allocation Uncertainty for each Well at forecast operating and seasonal conditions.

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5 Daily Production Gas Uncertainty Model

Gas Daily Production Measurement Uncertainty Model calculates both mass and standard volume flow rate uncertainties. It starts by taking the flow rate and then back calculates to differential pressure. From there calculation is forward to flow rates and associated uncertainties.

Copies of the model are found in Appendix E, Gas Well Separator Meter Uncertainty – WPA and Appendix F, Sales Gas Uncertainty Model – WPA.

Gas Uncertainty model comprises of three parts:

1. Pressure, temperature and DP transmitter uncertainties are calculated. RSS method is used along with an independent MCS method to check that the results of the RSS.
2. The AGA 8: 1994 method is used to calculate gas density and associated uncertainties at both line and standard conditions. Due to the complexity of the calculation, a combination of the Finite Difference (FD) and the RSS method is used. MCS method is used to independently check the density uncertainties.
3. The AGA 3: 1992 method is used to calculate flow rates and associated uncertainties. The uncertainty is calculated using a partial derivative RSS method to calculate uncertainty is described in AGA 3 1992. The MCS method is used to verify the result. There can be very small differences between the AGA 3 result and the MCS results This difference is due to the approximations used in the AGA 3 method. The difference is in the 2nd decimal place, so compared to other sources of uncertainty the difference is negligible.

5.1 Model Inputs and Associated Sources of Uncertainty

There is between four and seven wells per Wellpad. Each well has a dedicated separator and meter. There is one sales gas meter per Wellpad. To reduce the number of models, a generic Separator measurement model is built and applied to all the Separator meters on each of the Wellpads is justified as follows;

- Conditions at the Separator meters are constantly changing, and any model is just going to show a snapshot of uncertainty.
- Better statistics can be gained from the larger data set created by combining data from several wells. This is particularly the case for the gas composition which is one of the main contributing factors to overall uncertainty.
- The compositions and operating conditions tend to be similar between well heads.
- The small number of compositions available for each Separator meter significantly increase composition, and thus density uncertainty.

The exception to this is WPC where two of the wells have much higher production rates than the other two. In this case two different models are used.

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A Separator model is built for each of the sales gas meters. These tend to have lower uncertainties than the Separator meters. The models are run at the minimum and maximum flow rate based on the zero DP cut off and maximum DP URL of the meters. They are also run for a low, a typical and a high flow rate based on the observed flow rate data.

The uncertainty model required various parameters, and their associated uncertainties, as inputs. The origin of these inputs and uncertainties, with the WPA wells being used as an example, are discussed in this section.

5.1.1 Pipe and Plate Size

5.1.1.1 Separator Meters

Piping for the WPA meters was replaced in December 2018. It previously had an internal diameter of 2.9 inches. It was replaced with pipe with an internal diameter of around 2.07 inches. Most of the data for this well was from before this period, and of the model developed is based on a pipe with a diameter of 2.9 inches. The orifice plate size has a much larger effect on stability than the internal pipe diameter, and it is not expected that this change will significantly affect uncertainty.

For all the other Separator meters the internal pipe diameter is 2.90 inches.

Several different sizes of orifice plate between 0.5 inches and 1.375 inches are used. On some of the Separator meters the same sized orifice is used throughout 2018, on other meters it is changed several times. A typical value from the middle of the range is used as an input to the uncertainty model.

The uncertainty associated with internal diameter of the pipe is assumed to be $\pm 0.25\%$. However, this assumption is found to have very little effect on overall uncertainty. The orifice plate size uncertainty is assumed to be a bit tighter at $\pm 0.10\%$. Although this value does have a direct contribution to the overall measurement uncertainty, it tends to be negligible, and hence this assumption is not critical.

5.1.1.2 Sales Gas Meters

The internal pipe diameter is 4.026 inches for WPB sales gas meter, and 3.074 inches for the other sales gas metres. This remains constant through the period.

The orifice plate size varies between 1.375 and 2.125 inches. In the case of WPC and WPB the orifice plate size remains constant at 2.0 and 2.125 inches respectively. Again, a typical value is chosen as an input into the model. For WPA a value of 1.5 inches is used.

The uncertainties for the sales gas pipe and orifice plate are assumed to be the same as for the Separator meters.

5.1.2 Flow rate and differential Pressure.

Differential pressure has a strong influence on uncertainty, particularly at low flow rates. At high flow rates, high DPs, will result in a low measurement uncertainty and vice versa.

To show the significant effect that flow rate has on measurement uncertainty, each model was run for several different flow rates; Minimum, Low, Typical, High and Maximum. The Low and High flow rates were chosen to bracket 95% of the flow rates for days when the wells were producing. The Typical value is the Median value of the dataset.

5.1.2.1 Separator meters

- **Minimum Flow Rate:** The DP zero cut off is 0.5 inH₂O. A flow rate associated with this value is found to be 21 mscfd.
- **Low Flow Rate:** For WPA well heads a value of 70 mscfd was found. This corresponds to a flow rate of 5.6 inH₂O.
- **Typical Flow rate:** A flow rate based on the average flow weighted flow rate was used. For WPA this was 200 mscfd. This gave a Differential Pressure of around 45 inH₂O. It was checked that this gave a similar value to median DP measured from the GVF (47 inH₂O). The mean is slightly larger at around 46 inH₂O.
- **High Flow Rate Flow Rate:** For WPA this was 300 mscfd. This corresponds to a flow rate of 105 inH₂O.
- **Maximum Flow Rate:** The URL of the DP is 250 inH₂O. The flow rate associated with that is calculated as 455 mscfd.

A summary of this data is shown in **Figure 15**.

The model is based on typical conditions found during the summer. In the winter temperatures tend to be lower. The typical flow rate case was repeated for winter conditions when both the flowing conditions temperature and the calibration temperatures were lower.

Well A Separator Gas Model Inputs

Parameter	Units	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	21	70	200	300	455
Temp	°F	80	80	80	80	80
Pressure	psia	100	100	100	100	100
Orifice size	inches	0.75	0.75	0.75	0.75	0.75
Beta Ratio	n/a	0.26	0.26	0.26	0.26	0.26
DP	inH ₂ O	0.5	5.6	46	105	250

Figure 15. Pressure, Temperature and Flow Rate inputs for WPA Separator meters.

5.1.2.2 Sales Gas meters

- **Minimum Flow Rate:** The DP zero cut off is 0.5 inH₂O. This corresponds to a standard Volume Flow Rate of 74 mscfd.
- **Low Flow Rate:** A rate of half of the typical flow rate was used. This is a standard volume flow rate of 250 mscfd. This corresponds to a DP of about 5.8 inH₂O
- **Typical Flow Rate:** Total sales gas divided by the total flow rate for the data received (Oct, Nov and Dec 2018). This comes out at around 500 mscfd. The flow rates in the

three calibration reports when flow was occurring are quite variable (456, 662 and 879 mscfd). The average of these values is 650 mscfd. This corresponds to a Differential Pressure of 45 inH₂O in for summer and winter conditions.

- High Flow Rate: Taken as double the Typical Flow Rate 1000 mscfd, which corresponds to around 96 inH₂O.
- Maximum Flow Rate: The Span of the DP is 250 inH₂O. The flow rate associated with this is calculated as 1572 mscfd and used as the input for the final scenario.

A summary of this data is shown in **Figure 16**.

Well A Sales Gas Model Inputs

Parameter	Units	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	74	250	500	1000	1572
Temp	°F	60	60	60	60	60
Pressure	psia	70	70	70	70	70
Orifice size	inches	1.5	1.5	1.5	1.5	1.5
Beta Ratio	n/a	0.49	0.49	0.49	0.49	0.49
DP	inH ₂ O	0.5	5.8	23	96	250

Figure 16. Pressure, Temperature and Flow Rate inputs for WPA Sales Gas meters.

5.1.3 Density and Composition Uncertainty

It was found that one of the main sources of uncertainty in Volume Flow Rate is due to the density uncertainty, from the gas composition uncertainty.

5.1.3.1 Separator Meters

The composition used, and its associated uncertainty comes from the Natural Gas Analysis Reports. Not all the compositions taken were used to update the Flow computer (See Appendix A, Gas Composition and Effect on Uncertainty . Although the composition could be quite variable over time and between wells, no overall trends in compositions were noted. The composition used was calculated by averaging all the well compositions. The uncertainty on this was based on the variability of those compositions. With WPA the main component of the gas was methane at 61%, with a 6% uncertainty on this. The full composition and associated uncertainties for the WPA example can be seen in Appendix D, Allocation System Full Example – WPA.

5.1.3.2 Sales Gas Meters

The sales gas compositions were based on sales meter gas analysis reports. As there is just one sales meter per well head, this gave fewer compositions to use. For WPA there were five samples from September 2017 to November 2018, this being similar for other wellpads.

Average composition was found to be very similar to the average of the Separator gases. Perhaps due to the commingling of the gases, the variability of the composition was found to be significantly less (about half) of the Separator meters.

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5.1.4 Temperature

5.1.4.1 Separator Meters

Flow weighted average temperature was calculated from the Gas Volume Statements. Values for each well were then averaged to give a typical temperature for that well head's Separator model. This came to 74°F for the year. Flow temperatures were lower during the winter than the summer. Summer and winter temperature of 80°F and 60°F respectively were chosen. It was found that the difference between summer and winter conditions made very little difference to the results.

MVS (Multi Variable Sensor) with pressure, differential pressure, and temperature of various models are used on all Separator meters. These are calibrated with a digital thermometer which has acceptance limits of $\pm 0.1^\circ\text{F}$. Tolerance for calibration is $\pm 0.5^\circ\text{F}$. Other contributions to uncertainty were considered negligible. The overall temperature measurement uncertainty was found to be $\pm 0.58^\circ\text{F}$ at 95% confidence level.

5.1.4.2 Sales Gas meters

Temperature for the Sales gas came from the calibration sheets. Looking at the sales gas temperature for all the wells, the sales gas shows a slightly larger variation in temperature than the Separator meters. Summer and winter temperatures of 60°F and 40°F respectively were chosen.

All sales gas meters use MVS. Uncertainty is calculated using the same method as for the Separator wells. Although the type of MVS is different, the calibration device and the calibration tolerance are found to be the same as for the Separator meters. Temperature uncertainty is therefore the same as for the Separator meters.

5.1.5 Pressure

5.1.5.1 Separator meters

The flow weighted average pressure for each well was calculated from the Gas Volume Statements. The values were then averaged to give a typical pressure to be used for the Separator uncertainty models.

For pressure the MVS is calibrated using a pressure calibrator. The pressure range of the device is 0 to 3000 psi with the acceptance limits being given as $\pm(0.05\%$ of the reading + 0.005% of the full scale). The MVS is calibrated on five points between 13.7 psia to 263.7 psia. For the averaged pressure (99 psia) this gives the calibration device acceptance limits of $\pm 0.19\text{psi}$.

The calibration tolerance is calculated using the method described in API Chapter 21.1. This is $Tolerance = \sqrt{(Transmitter\ Uncertainty)^2 + (Calibration\ Device\ Uncertainty)^2}$.

The URL is 800 psia. Transmitter reference uncertainty quoted in the manufacturer's literature is 0.1% of the URL at a 99.5% CI. This corresponds to 0.8 psi at CI of 99.5% or 0.52 psi at a CI of 95%. Either way this corresponds to calibration tolerance of $\pm 0.5\text{psi}$.

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Additional uncertainties include stability of annual calibration and ambient temperature effects. For WPA this increases the pressure uncertainty at 95% increase to ± 0.63 psi.

5.1.5.2 Sales Gas meters

The sales gas meters are calibrated using the same device with the same span at the Separator meters. The calibration device acceptance limits are therefore the same.

The sales gas meters use an MVS which has a span of 100 psi. The confidence interval of the uncertainties quoted for this meter is not specified, and according to convention this is assumed to be 95%.

Transmitter Reference Uncertainty is given by 0.075% of the span. This corresponds to a calibration tolerance of ± 0.075 psi. As with the Separator meters the calibration device acceptance limits are ± 0.19 psi.

The API MPMS Chpt. 21.1 method gives an acceptance tolerance of ± 0.20 psi (at 95% CI).

Accounting for the stability of annual calibration and ambient temperature affects pressure uncertainty at 95% increases to ± 0.32 psi. This is approximately half the uncertainty Separator meter pressure measurement uncertainties.

5.1.6 Differential Pressure Uncertainty

A static differential pressure value is calculated from orifice plate size, flow rate and other inputs. DP uncertainty has to be calculated.

5.1.6.1 Separator Meters

The Differential Pressure calibration is carried out using the same device as pressure. The range of the calibration device for DP is 0 to 36 psi (0 to 996 inH₂O). The device acceptance limits are again $\pm(0.05\%$ of the reading + 0.005% of the full scale). The MVS is calibrated over a range of about five values between 0 and 250 inH₂O. Taking the nearest calibration value to flowing conditions (49 inH₂O for WPA) the calibration device acceptance limits are ± 0.07 inH₂O.

The same method is used to calculate calibration tolerance as with pressure. MVS reference uncertainty for DP depends on the span (in this case is 250 inH₂O). Using the calculation in the manufacture's literature is found to be ± 0.25 inH₂O.

Combining these two values gives an uncertainty of ± 0.21 inH₂O. Combining this with other sources of uncertainty such as annual stability, ambient temperature effects and static pressure zero and span errors gives a total DP measurement uncertainty of ± 0.27 inH₂O.

5.1.6.2 Sales Gas

As with pressure, the DP measurement at the Sales Gas meter has a lower uncertainty than the Well Separator DP measurement uncertainty.

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The Differential Pressure calibration was carried out using the same device as the sales gas pressure calibration, and the calibration of both the pressure and the DP at the Separator meters. The range of the calibration device was 0 to 36 psi (0 to 996 inH₂O). The device acceptance limits were again $\pm(0.05\%$ of the reading + 0.005% of the full scale). The device is calibrated over a range of about seven values from 0 to 250 inH₂O. Taking the nearest calibration value to flowing conditions (in this case 37 inH₂O) as the reading, gives calibration device acceptance limits of ± 0.068 inH₂O.

Using the calculation in the manufacture's literature the MVS reference uncertainty is found to be ± 0.19 inH₂O. Acceptance tolerance are calculated with the API 21.2 method and found to be ± 0.13 inH₂O.

Combining this with other post calibration sources of uncertainty (annual stability, ambient temperature effects and static pressure zero and span errors) gives a total uncertainty of ± 0.17 inH₂O.

5.1.7 Calibration Conditions

Although not a source of uncertainty, the calibration conditions do have an effect on overall MVS uncertainties through the temporal stability and ambient pressure and temperature affects. It was found that these sources of uncertainty are small compared to other sources of uncertainty, and the assumptions/methods used, do not have a significant effect on the overall result.

5.1.7.1 Separator meters

Pressure calibration is carried out for four values between 13.7 psia (0 psig) to 263.7 psia (250 psig). Differential pressure calibration is carried out for four or five values between 0 to 250 inH₂O. Due to the wide range of values, it was not felt critical which pressure and DP calibration value were chosen as model inputs. Value around 10 psi and 10 inH₂O away from the flowing pressure and DP respectively was chosen to account for differences between calibration and flow conditions. These are 90 psia and 40 inH₂O.

Temperature is calibrated at just one point typical around ambient conditions. Typical summer value of 75°F and winter value of 75°F were chosen. Again, these values were chosen to be typical of the calibration temperatures, but a few degrees different from flowing conditions.

Calibration records for 2017 and 2018 were supplied, and typically the meters were calibrated 7 times during this two-year period. It was assumed the meters were half way between calibration, which corresponds to a period of 0.14 years.

It was found that the uncertainty caused by the difference in time, or in flowing conditions, from calibration is very small, essentially negligible as compared to other sources of uncertainty, meaning that the assumptions made above are not critical.

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5.1.7.2 Sales Gas meters

The Sales gas meters were calibrated on four values of static pressures from 13.7 psia to 113.7 psia (0 to 100 psia). For DP, they were calibrated on around 6 points between 0 and 250 inH₂O. Temperature was calibrated at a couple of values, one of which was quite low (typically around the ambient temperature) and the other quite high (typically around 120°F).

5.1.8 Other Parameters and Uncertainties

Several of other parameters and their associated uncertainties are required. The inputs can reasonably assume to be the same for both the Separator meters and the sales gas meters. The values, and associated uncertainties, chosen are found to have weak effect on overall measurement uncertainty.

The isentropic exponent (also called the specific heat ratio) is required in the calculation of expansion factor within the AGA 3 calculation. A value of 1.3 is found in the flow computer configuration files. The isentropic exponent uncertainty is not required and is therefore set to zero. It is found through the MCS simulations that isentropic exponent uncertainty has very little effect on flow measurement uncertainty.

The expansion factor uncertainty is calculated within the AGA 3 calculation method. The uncertainty of expansion factor is given by an empirical relation which dependant on the pressure ratio, is independent of the isentropic exponent uncertainty (see AGA 3 1.12.4.2).

Dynamic viscosity, again this value is required in the calculation of discharge coefficient within the AGA3 calculation. A value of 0.0000069 Pa.s (0.0069cP) was found in one of the calibration files. The uncertainty in discharge coefficient is given by an empirical relation dependant on the beta ratio and the Reynolds number, and is independent of the viscosity uncertainty (see AGA3 1.12.4.1). The viscosity uncertainty is not required and is therefore set to zero. It is found through the MCS simulations that viscosity uncertainty has very little effect on flow measurement uncertainty.

The linear thermal expansion of both stainless and carbon steel is 9.25×10^{-6} and 6.2×10^{-6} respectively. These types of steel are used for the Orifice plate and the pipe work respectively. The pipe and orifice plate size are at a reference temperature of 68°F. All these values are given in AGA 3. The uncertainties associated with these values are found to have a negligible effect on overall measurement uncertainty, and so the uncertainties were set to zero in the model.

5.1.9 Density uncertainties.

Gas density at both line and standard conditions are evaluated as part of the calculation method. For the range of pressure and temperatures that the meters are operating at the AGA 8 method has a $\pm 0.1\%$ uncertainty associated with it.

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5.1.9.1 Separator meters

For the WPA example, the density at line conditions is found to be 0.44 lb/ft³ with an associated uncertainty of $\pm 3.9\%$. For standard conditions the density is 0.066 lb/ft³ with an associated uncertainty of $\pm 3.6\%$. As expected, the uncertainty of the latter is smaller than the former, as the latter does not include the pressure and temperature uncertainties. The pressure and temperature of standard conditions is exactly 60°F and 14.73 psia.

5.1.9.2 Sales Gas meters

As expected, given the similarities in composition, the densities calculated for the sales gas meters are similar to those calculated for the Well Separator meters. Uncertainties are smaller at $\pm 2.0\%$ for standard volume flow respectively. The density uncertainty is lower than for the Separator uncertainties because the composition uncertainty is lower.

6 Gas Flow Measurement Uncertainty.

6.1 WPA

6.1.1 Separator Meters

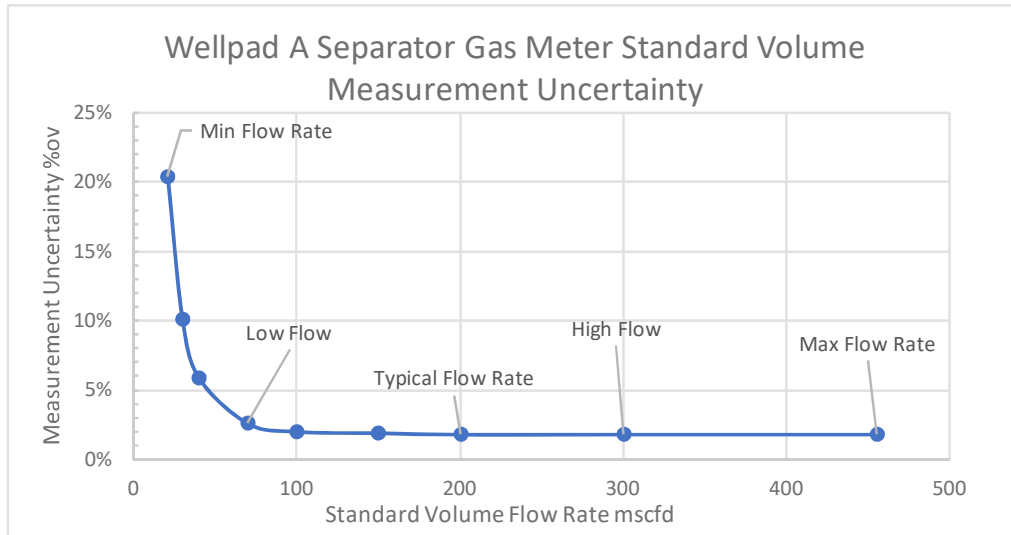


Figure 17. Flow rate values and uncertainties for the WPA Separator meters

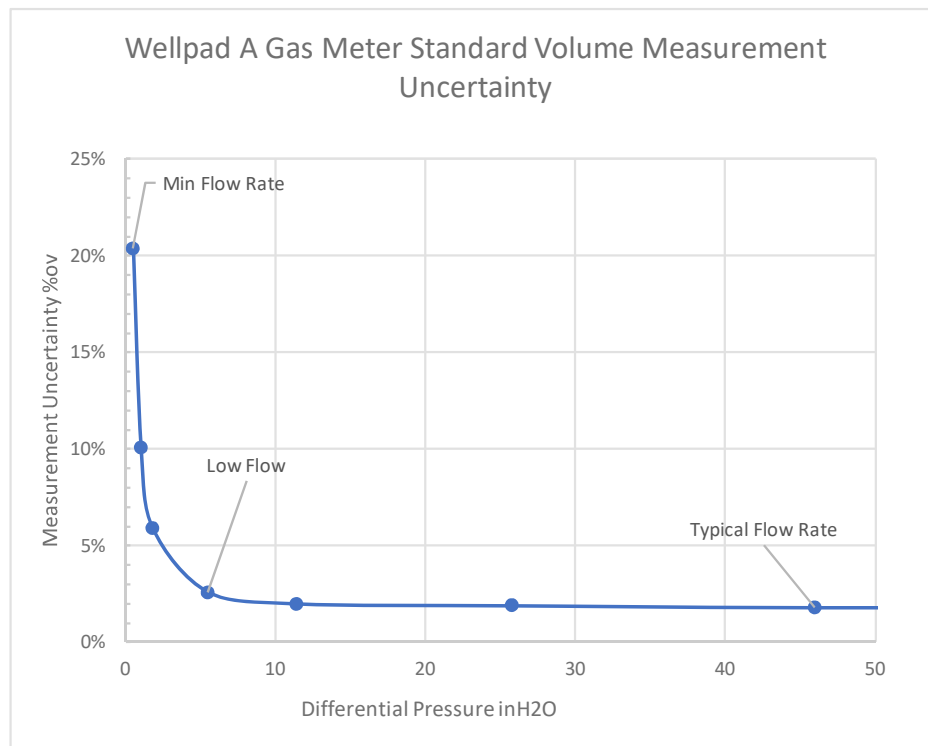


Figure 18. Differential Pressure vs uncertainties for the WPA Separator meters. The graph has been scaled the increase in uncertainty at low DP's can be resolved.

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Wellpad A Gas Separator Measurement Uncertainty

Parameter	Units	Value (top six parameter constant for all flow rates)				
Temp	°F	80				
Pressure	psia	100				
Line Density	lb/ft ³	0.444				
Standard Density	lb/ft ³	0.066				
Pipe ID	Inches	0.75				
Beta Ratio	n/a	0.26				
Flow Rate description	n/a	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	21	70	200	300	455
DP	inH ₂ O	0.5	5.6	46	105	250
Std Vol Flow rate Uncertainty	% ov	20.4%	2.6%	1.8%	1.8%	1.8%

Figure 19. Summary of results for significant flow rates for WPA Separator Meters

See Appendix E, Gas Well Separator Meter Uncertainty – WPA for an example of the Separator Gas Model. The standard volume measurement relative uncertainty is found to be essentially stable at medium and high flow rates, but to ramp right up at low flow rates. The reason is that the absolute differential pressure measurement uncertainty is essentially a constant, and so when the differential pressure drops off at low flow rates, the relative uncertainty associated with this measurement increases significantly.

The standard volume measurement uncertainty is found to be slightly smaller than the mass flow uncertainty.

The model is based on typical conditions found during the summer. In the winter temperature tends to be lower. The typical flow rate case was repeated for winter conditions when both the flowing conditions temperature and the calibration temperatures were lower. This was found to have very little effect in uncertainty.

6.1.2 Sales Gas Meters

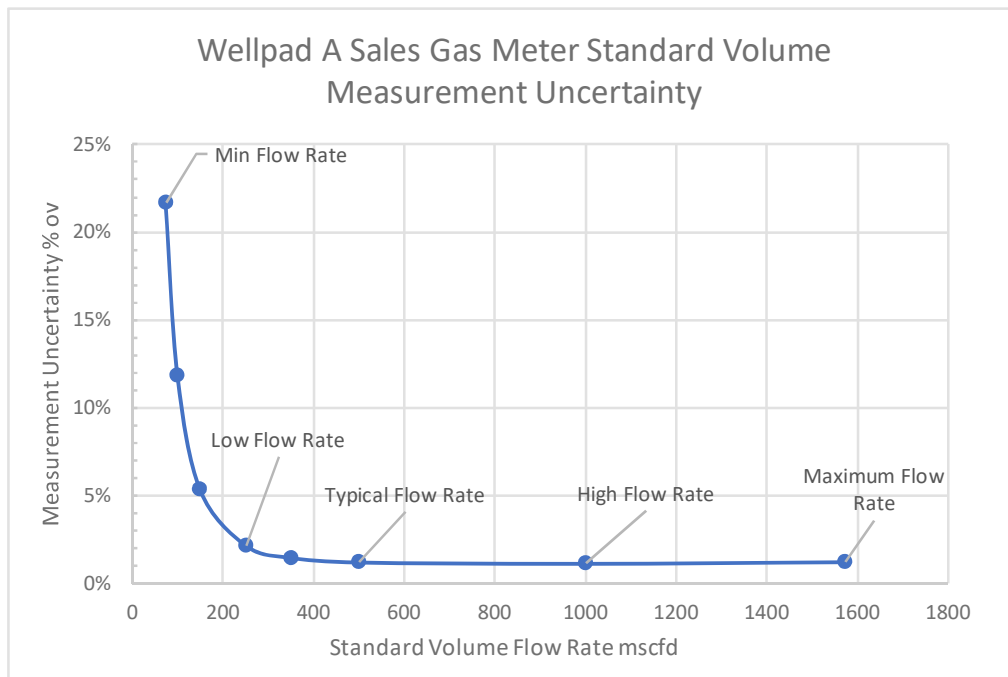


Figure 20. Standard Volume Flow rate uncertainty for the WPA Sales Gas Meter

Wellpad A Sales Gas Measurement Uncertainty

Parameter	Units	Value (top six parameter constant for all flow rates)				
Temp	°F	60				
Pressure	psia	70				
Line Density	lb/ft3	0.316				
Standard Density	lb/ft3	0.065				
Pipe ID	Inches	1.5				
Beta Ratio	n/a	0.49				
Flow Rate description	n/a	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	74	250	500	1000	1572
DP	inH ₂ O	0.5	5.8	23	96	250
Std Vol Flow rate Uncertainty	% ov	21.7%	2.2%	1.2%	1.1%	1.2%

Figure 21. Summary of results for significant flow rates for WPA Sales Gas

See Appendix F, Sales Gas Uncertainty Model – WPA for an example of the Sales Gas meter Model. As with the Separator meters, the standard volume measurement relative uncertainty is essentially constant at medium and high flow rates, but ramps right up at low flow rates. The reason is again the contribution to overall absolute uncertainty of differential pressure uncertainty. Sales Gas uncertainty tends to be lower than Separator meter’s uncertainty. One of the reasons for this is the composition uncertainty which, due to commingling of the gas from each of the wells has a lower variability, and thus lower density uncertainty.

6.2 Comparison between Wellpads

Tables with results from the other wells can be seen in Section 11, Gas Measurement Uncertainty of the Other Wellpads, page 58. Unlike oil, when data points from different wells are plotted onto one chart they do not lie neatly on one curve (see **Figure 22** and **Figure 23**). The reason for this is different composition uncertainties for the different wells and different sized orifice plates which leads to different differential pressures the same flow rate. For the Sales Gas meters WPB and WPC have larger orifice plates than WPA and WPD which results in higher uncertainties at low flow rates.

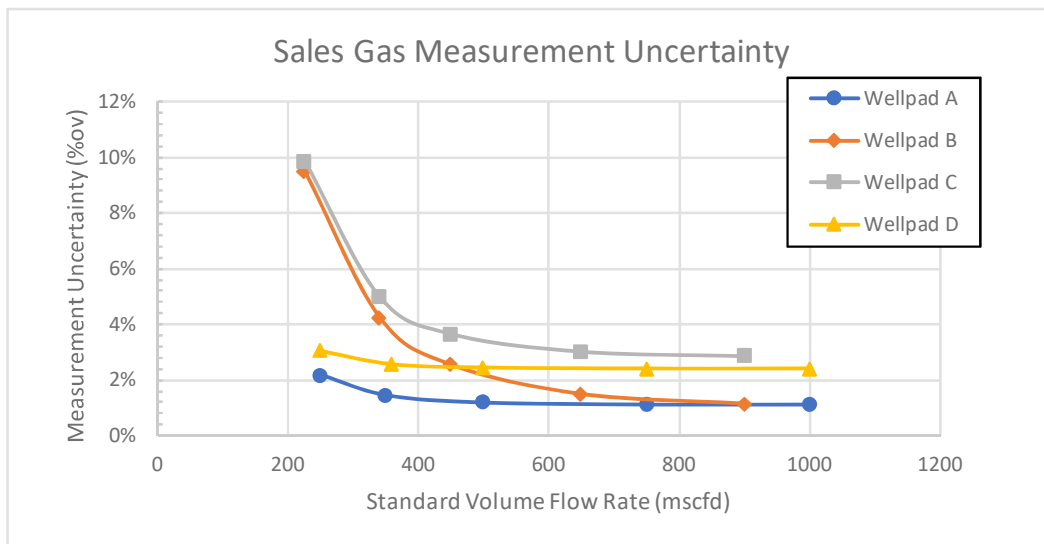


Figure 22 Sales Gas uncertainty for a range of flow rates between Low Flow and High Flow. The WPB and WPC meters have higher uncertainties at low flow rates due to larger orifice plates thus a lower DP at a given flow rate

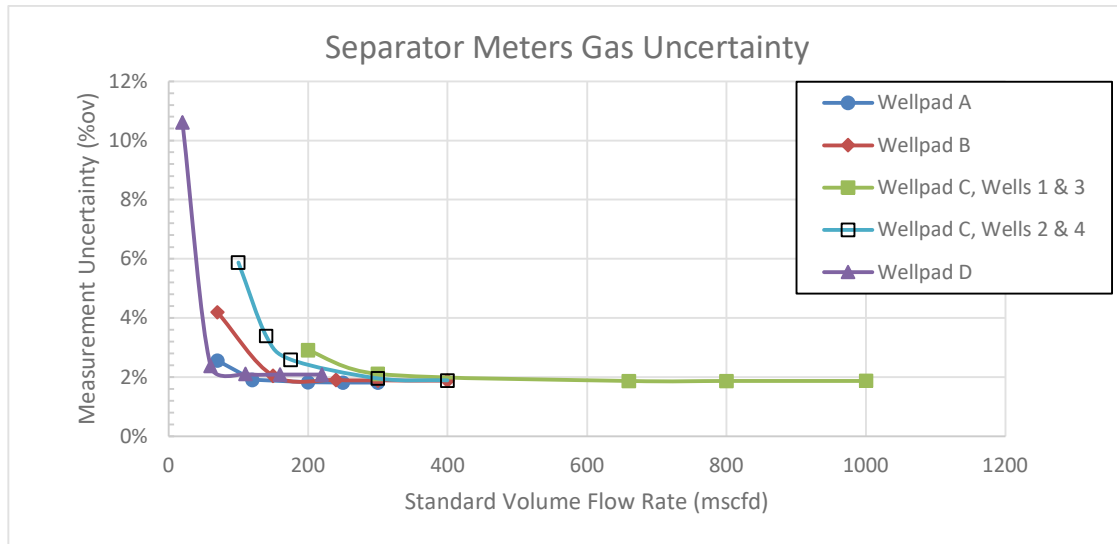


Figure 23. Summary of the observed range of flow rates and associated uncertainties of the Separator gas meters. WPC wells produce at substantially different flow rates, so two different models are used. Different wells produce at different flow rates

7 Gas Measurement Biases

It was found that a bias in the gas measurement is caused by not correcting the temperature measured at the thermowell PRT (T_3) to upstream conditions (T_1). The subscripts 1,2 and 3 refer to the location of measurement with 1 being upstream, 2 being downstream and 3 being recovered values (further downstream).

This results in an over-estimate of the flow rate. Both the temperature difference, and the measurement bias are larger for higher flow rates.

When the gas passes through the orifice the pressure drops from the upstream to the downstream side leading to a measurable DP. Further down the pipe the pressure recovers, but never regains its upstream value. The recovered pressure cools the gas giving a lower temperature at T_3 than at T_1 .

The pressure loss is defined as the pressure upstream (P_1) minus the recovered pressure downstream (P_3). The pressure loss ($\Delta\omega$) is proportional to the differential pressure Δp , with the constant of proportionality being a complex function of depending on the beta ratio (β) and the discharge coefficient (C) as follows

$$\Delta\omega = \frac{\sqrt{1 - \beta^4(1 - C^2)} - C\beta^2}{\sqrt{1 - \beta^4(1 - C^2)} + C\beta^2} \Delta p$$

On these meters the temperature tapping is in the recovered pressure/temperature area (T_3). There is a pressure loss, and so the upstream pressure (P_1) will be higher than the recovered pressure (P_3). The upstream temperature T_1 will also be higher than the recovered temperature T_3 .

Mass flow rate is calculated from, amongst other values, the square root of the upstream fluid density. Density is calculated using the AGA 8 method with gas composition, pressure and temperature as inputs. The density should be calculated from P_1 and T_1 . However, T_1 is not measured, and so the value at T_3 is used instead. As the temperature used for this calculation is lower than the upstream temperature, the density calculated will be higher than the actual upstream density. This will lead to the calculated flow rate being higher than the actual flow rate.

7.1 WPA case

For the sales gas meters this temperature difference is just over 1°F for a flow rate of 500mscfd (see **Figure 24**). This leads to a meter over-read of just over 0.1% (**Figure 25**). The temperature difference and measurement bias increase with increasing flow rates. Doubling the flow rate to 1000 mscfd increases the bias to almost 0.5%.

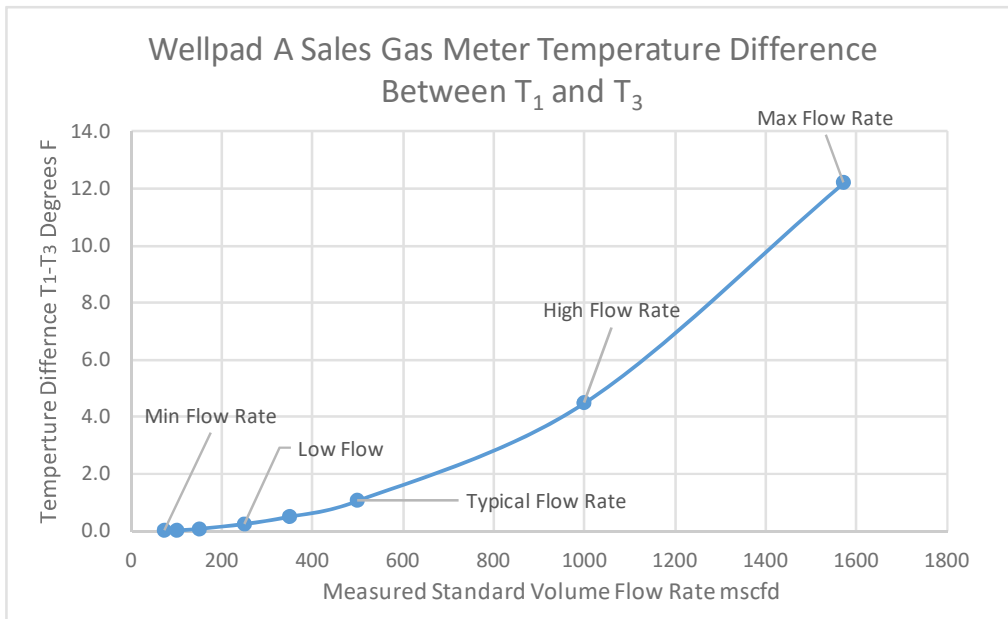


Figure 24. Upstream-Recovered Temperature difference versus Flow Rate

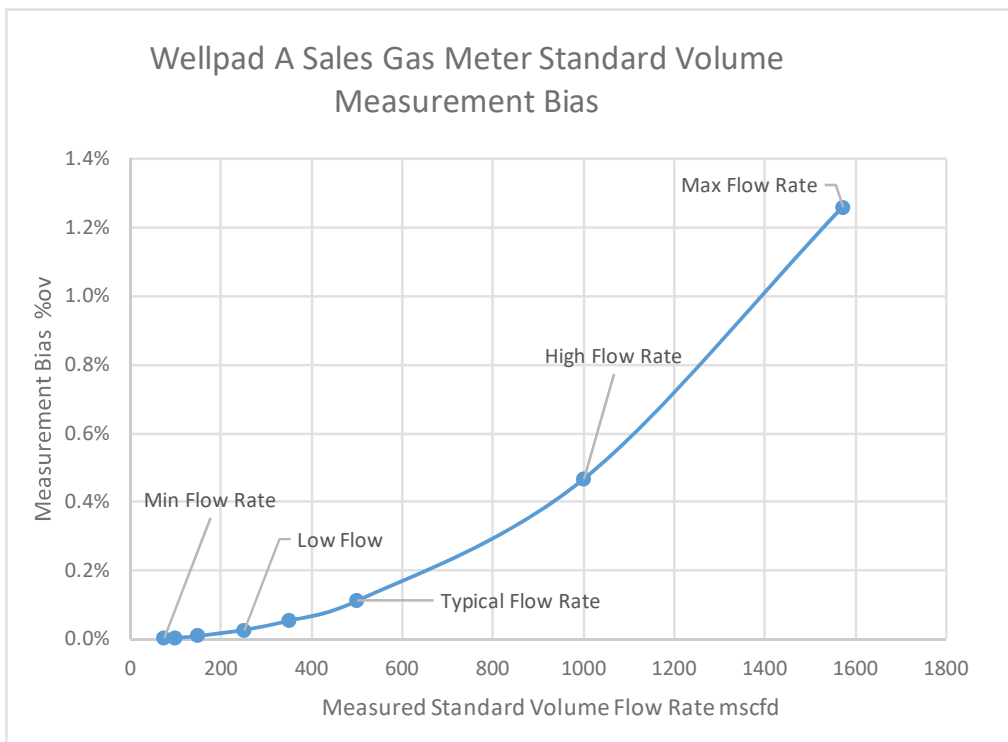


Figure 25. Sales Gas Meter relative bias over a range of flow rates

The bias also exists for the Separator meters. It is just under 2°F for a typical flow rate of 200 mscfd. This corresponds to a bias of around 0.2% or 0.4 mscfd.

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8 Daily Production Oil Uncertainty Model

Daily Oil Production Measurement Uncertainty Model calculates the standard volume flow rate uncertainty. It starts with the standard density and standard volume flow rate and calculates the mass flow rate and density which would have been measured at the meter. It then re-calculates the standard flow rate and with it the associated uncertainties.

Copies of the model are found in Appendix G, Oil Separator Uncertainty Model – WPA, and Appendix H, Oil LACT Unit Uncertainty Model Example – WPA

The Uncertainty model comprises of three parts:

1. Temperature and Pressure transmitter uncertainties are calculated. Root Sum Square (RSS) method is used along with an independent Monte Carlo (MCS) method to check the results of the RSS.
2. The Coriolis meter density and line volume flow rates associated uncertainties are calculated using data from a variety of sources. Uncertainties are calculated using RSS method and checked using a MCS method.
3. The API MPMS Chpt. 11.1 method is used to calculate standard volume flow rates and associated uncertainties. The uncertainty is calculated using RSS combined with a finite difference (FD) method. The result is verified with a MCS method.

The proving procedure for the LACT Unit is different to that for the Separator meters. The Separator meters are proved using a Master Meter which is proved off site using a Bi-directional prover. The LACT Unit is proved directly using the Bi-directional prover.

A generic model is built to cover all the Well Separator Oil meters. This can be justified because

- Conditions at the Separator meters are variable the so the model is a snapshot of uncertainty at Low, Typical and High flow rates;
- Better statistics can be gained from the larger data set created by combining proving and other data from the Separator meters together;
- Variations of proving and operating conditions for each Separator meter tends to be much larger than the differences between Separator meters;
- The main parameter which controls uncertainty is flow rate. Pressure, temperature and density differences are found to have very little effect on uncertainty. For the same flow rate all the well Separator models give the same uncertainty (see Section 8.4). This implies that any differences between two well heads are dependent on flow rate.

These models are run at a Minimum, a Low, a Typical, a High and the Maximum observed flow rate.

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The uncertainty model required various parameters, and their associated uncertainties, as inputs. The origin of these inputs and uncertainties, with the WPA wells being used as an example, are discussed in this section.

8.1 Model Inputs and Sources of Uncertainty for Well Separator Oil Meters.

Well Separator Oil meters are all two-inch Coriolis meters. They are proved by master meter of the same type and size. The Master Meter is proved with a bi-directional prover.

8.1.1 Bi-directional Prover Uncertainty

The Bi-directional Prover used to prove the Master Meter was calibrated by water draw during June 2015. For all six runs the pressure was very close to 29 psi, and the temperature around 66°F. Averaging the individual uncertainties from the six runs the bi-directional prover uncertainty was found to be $\pm 0.034\%$.

8.1.2 Master Meter Calibration with Bi-directional prover.

The Master Meter used to prove the WPA well for the time period for prover reports cover was mainly MM 1. This was proved using a Bi-directional Prover on the May 17th, 2017. However, master meters MM 2 and MM 3 were also used. These were proved on June 26th, 2017 and May 17th, 2017 respectively.

The Master Meter proving data provided was for MM 4. This was proved on the May 8th, 2018 using the bi-directional prover mentioned above. The flow rate for proving varied between 88 and 146 b/h (barrels per hour), with an average of 113.5 b/h. This corresponds to 2740 b/d (barrels per day).

The meter temperature and the prover temperature were very close, typically the difference between them being 0.2°F. The meter temperature was around 78°F. The meter pressure was 129 psig, and the prover pressure 124 psig.

Master Meters are required to be proven with five consecutive runs and 0.05% repeatability. This corresponds to an uncertainty of 0.027% at a 95% confidence interval (Refer to API MPMS 04-08: Appendix 1, for an explanation of the relation between repeatability and uncertainty).

The values and uncertainties described above are representative of those used used/found in the proves of the other master meters used on site.

8.1.3 Calibration of Separator Meters with the Master Meter

WPA Well Oil Separator meters were calibrated during September 2017, December 2017, March 2018 and September 2018 with the master meter. In addition, a couple of the wells 20A and 20E were also calibrated in June 2018.

The average proving flow rate was around 900 barrels per day.

The temperature of the Master Meter during these proves was on average 78°F. The mean and maximum temperature difference between Separator and master meter temperature

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during calibration were 1.2°F and 3.5°F respectively. The average pressure was 82 psig, and the average gravity 45.9 °API.

At these conditions the master meter uncertainty was found to be around $\pm 0.18\%$.

Well Separator Oil meters are required to be proven with five consecutive runs and 0.5% repeatability. This corresponds to an uncertainty of $\pm 0.27\%$.

These values were RSS together to give an overall measurement uncertainty a Separator uncertainty (at proving conditions) of $\pm 0.33\%$.

8.1.4 Pressure and Temperature Transmitter

Temperature and pressure transmitters are verified and calibrated periodically. The equipment used to calibrate the transmitters is the same as used on the gas verifications. There is no form completed or records kept for this procedure.

Calibration equipment is the same as for the gas, and the method used to calculate the calibration equipment uncertainties acceptance tolerances is described in Section 5.1.5.

The Separator meters use differential pressure transmitters. For these transmitters the pressure range is -14.2 psig to 300 psig. The calibration device uncertainty is the same as for the gas at ± 0.19 psi. Using the method described in API MPMS Chpt. 21.1, the calibration tolerance was found to be 0.27psi. Overall this gave an uncertainty of ± 0.32 psi.

As with gas the temperature calibration device uncertainty is 0.1°F, and the calibration tolerance to be 0.5°F. The overall uncertainty is ± 0.58 °F.

Both pressure and temperature measurement uncertainty are found to have an essentially negligible contribution to the Separator meter flow rate measurement uncertainty.

8.1.5 Flowing Conditions.

Flow rates were taken from each Separator daily production data for 2018. For simplicity only days when there was no down time were considered. For the WPA wells this was roughly 86% of the days. Flow rate are variable, from minimum of 11 Stbpd to a maximum of 305 stbpd. The median (and the mean) flow rate is very close to 100 barrels per day. 95% of the days with no down time produced between 38 standard bbls and 177 standard bbls.

The maximum volume flow rate quoted for this type of meter is 550 bph, or 13200 bpd. This is of the order of 130 times the typical flow rate.

A typical line pressure was calculated by averaging the line pressure given in the production data and gave a value of 97 psi. It is assumed the units are psia. This is similar to the typical value found elsewhere for gas of 100 psia. Converting to psig gives a pressure of approximately 84 psig, very similar to the average pressure found during proving (82 psig). Pressure differences between calibration and flowing conditions were found to have a negligible effect on overall uncertainty.

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The temperature is not given in the production data. A value which is similar but not identical to the calibration temperature is desirable. The difference is to account for variation in temperature since the last calibration. A typical gas temperature for the Separator meters was found to be around 80°F. This value was chosen for the oil as it is expected to be similar to the gas, and it close but not the same as the calibration temperature.

8.2 Model Inputs and Associated Sources of Uncertainty LACT Unit.

8.2.1 Bi-directional Prover Uncertainty

The LACT Unit Coriolis meter are proved by a Bi-directional Prover. The prover was calibrated on the 6th December 2018 by water draw. The pressure and temperature were around 32 psi and 64°F respectively. The flow rate varied between 825 bpd and 1313 bpd, with the average being around 1,110 bpd. Average of the individual uncertainties from the six runs the bi-directional prover uncertainty was found to be $\pm 0.13\%$.

8.2.2 LACT Meter Calibration with Bi-directional prover.

LACT Unit meters are calibrated once a month using the Bi-directional prover. For the WPA Well we have calibration records for November 2017 until July 2018, and then again from December 2018 until February 2019. The average oil density for all these proves was 46.6 °API. The flow rate was 90 bph for November to July and 75 bph for December to February. This corresponds to 2160 bpd and 1800 bpd respectively. A value of 2,000 bpd is used for the model input.

Meter pressure varied between 47 psig and 62 psig, while prover pressure varied between 50 psig and 59 psig. The average difference between then was 2.6 psi. A value of 52 psig was chosen.

During proving the meter and the prover temperature are very similar, the average difference being 0.3°F, with a maximum difference of 0.5°F. However, the liquid temperature can change significantly month to month. The average November to February prover temperature is 45°F, and during the summer months 86°F. Sometimes the temperature changes little between monthly proves, other times it changes significantly. An example of the latter was April and May 2017 when the temperatures were 59°F and 86°F respectively.

The Master Meters are required to be proven with five consecutive runs and 0.05% repeatability. This corresponds to an uncertainty of 0.027% at a 95% confidence interval.

8.2.3 Pressure and Temperature Transmitter

The LACT Unit use temperature transmitter and a Pressure Transmitter. The transmitter uncertainties are calculated the way they are for the Separator meters. The temperature uncertain was again $\pm 0.58^\circ\text{F}$. The pressure uncertainty is $\pm 0.35\text{psi}$. This is similar to the uncertainties found on the gas sales meter pressure transmitters.

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8.2.4 Flowing Conditions.

Oil export flow rates are estimated from the Separator meter production data. Typical flow rates for the WPA well are around 100 barrels per day. Assuming all (or almost all the oil) is exported, and that there is not much down time, the LACT Unit flow rate can be the number of wells times the typical well flow rates. For the WPA example this is 400 barrels per day. High and low flow rates used in the model are half and double that value.

The maximum volume flow rate quoted for this type of meter is 550 bph, or 13,200 bpd. This is of the order of 30 times the typical flow rate.

Little information on flow temperature and pressures are available. It is assumed that the typical pressure at flowing conditions will be similar to the line pressure recorded when proving. However, some difference between these values is beneficial to account for variation in pressure. A pressure of 55 psig was chosen. This is 3 psi different from the operating conditions to allow for variation in pressure and temperature.

For the purpose of the model we assume a temperature of 70°F. Very similar results were found if the models were re-run at a more typical winter temperature of 40°F. The difference between proving and flowing temperature has a significant effect on uncertainty. A value of 20°F was chosen as a typical maximum value. Large variations in fluid temperature will lead to larger flow measurement uncertainties.

It is also assumed that the density during normal flowing conditions is similar to the average measured during proving. This is 46.6 °API. As expected, this is similar to the average found for the Separator meters.

The meters are proved once a month. The time difference for stability is assumed to be half of this (approximately 0.04 years). However, time difference has very little effect on uncertainty.

8.3 Oil Flow Uncertainty

8.3.1 Well Separator Meters

A summary of the standard volume flow rate measurement uncertainty for the WPA Separator meters can be seen in **Figure 26** and

Wellpad A LACT Oil Measurement Uncertainty (summer conditions)

Parameter	Units	Value (Temp, pressure, density and CPTL constant for all flow rates)						
Temp	°F	75						
Pressure	psig	50						
Standard Density	API	46						
CPTL	n/a	0.9922						
Flow Rate description	n/a	Other	Other	Low Flow	Other	Typical Flow	High Flow	Other
Gross Standard Volume Oil Flow Rate	stdbpd	60	100	120	300	375	580	800
Turn Down	n/a	120	72	60	24	19	12	9
Net Oil Volume Uncertainty	% ov	1.29%	0.79%	0.66%	0.30%	0.25%	0.20%	0.18%
Net Oil Volume Uncertainty with additional uncertainty	% ov	1.39%	0.93%	0.83%	0.58%	0.56%	0.54%	0.53%

Figure 27. Flow rates above about 150 stbpd uncertainty shows only a weak dependence flow rate. At lower flow rate uncertainty rises rapidly with decreasing flow rate. The main

reasons for this is that the zero stability as a source of uncertainty becomes relatively more significant the lower the flow rate.

The maximum flow rate of these meters is quoted as 550 bph. This corresponds to around 13,200 bpd. These values are presumably at line conditions. However, the volume correction between line and standard conditions is small, about 1%.

The 13,200 bpd data point is not plotted on the graphs as it is so much higher than the actual maximum observed flow rate of 305 stbpd. It was found that extending the axis that far it made the data around typical operating conditions difficult to read. It was also found that relative uncertainty at 13,200 bpd is very similar to that at 305 stbpd.

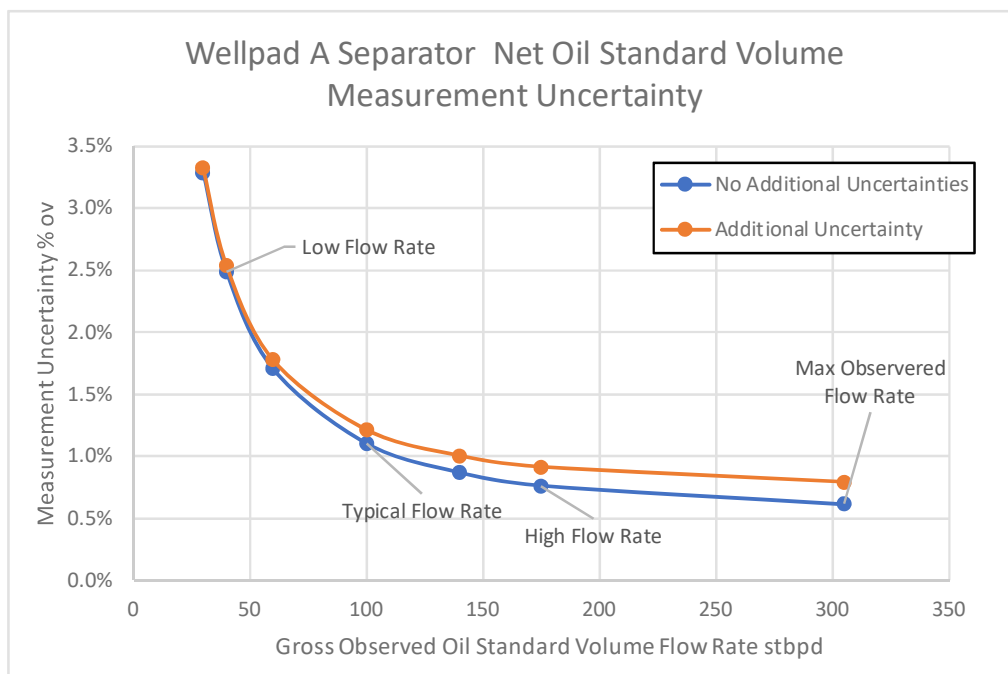


Figure 26. Standard Volume relative measurement uncertainty for the WPA Separator meters

Wellpad A LACT Oil Measurement Uncertainty (summer conditions)

Parameter	Units	Value (Temp, pressure, density and CPTL constant for all flow rates)						
Temp	°F	75						
Pressure	psig	50						
Standard Density	API	46						
CPTL	n/a	0.9922						
Flow Rate description	n/a	Other	Other	Low Flow	Other	Typical Flow	High Flow	Other
Gross Standard Volume Oil Flow Rate	stbpd	60	100	120	300	375	580	800
Turn Down	n/a	120	72	60	24	19	12	9
Net Oil Volume Uncertainty	% ov	1.29%	0.79%	0.66%	0.30%	0.25%	0.20%	0.18%
Net Oil Volume Uncertainty with additional uncertainty	% ov	1.39%	0.93%	0.83%	0.58%	0.56%	0.54%	0.53%

Figure 27. Summary of the input and uncertainty data for significant flow rates

8.3.2 LACT Unit

The standard volume flow rate uncertainty results for the WPA LACT Unit over a range of flow rates is shown in **Figure 28** and **Figure 29**. The relative uncertainty tends to be smaller than

for the Separator meters. There are several reasons for this including the higher flow rates, the smaller number of steps in the calibration chain, and the tighter repeatability tolerances associated with proving. As with the Separator meters, uncertainty increases for low flow rates, the main reason for this again being the large relative influence of the zero stability.

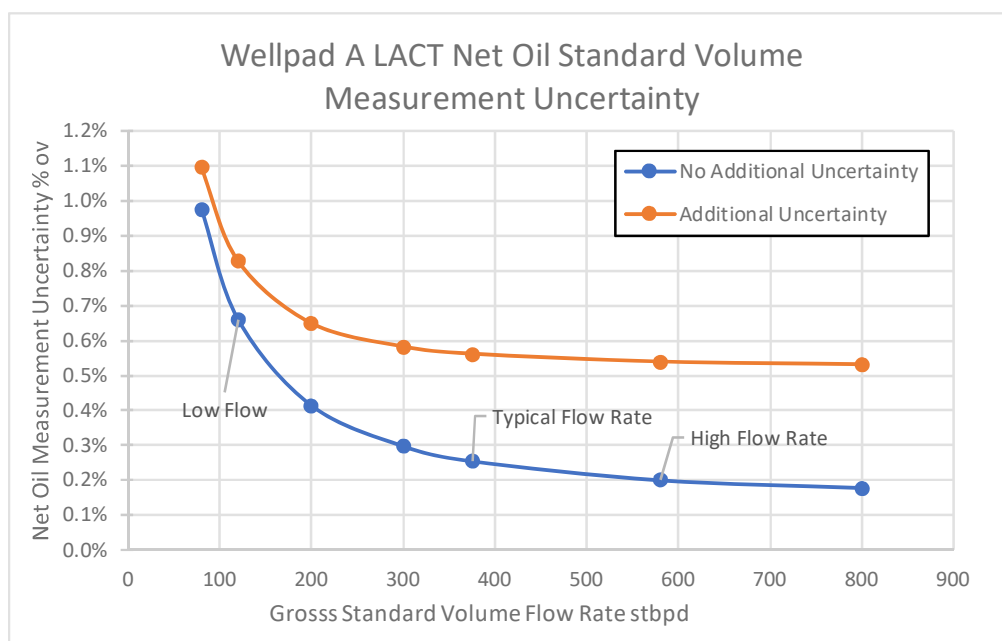


Figure 28. Standard Volume relative measurement uncertainty for the WPA LACT Unit over a range of flow rates

Wellpad A LACT Oil Measurement Uncertainty (summer conditions)

Parameter	Units	Value (Temp, pressure, density and CPTL constant for all flow rates flow rates)						
Temp	°F	75						
Pressure	psig	50						
Standard Density	API	46						
CPTL	n/a	0.9922						
Flow Rate description	n/a	Other	Other	Low Flow	Other	Typical Flow	High Flow	Other
Gross Standard Volume Oil Flow Rate	stdbpd	60	100	120	300	375	580	800
Turn Down	n/a	120	72	60	24	19	12	9
Net Oil Volume Uncertainty	% ov	1.29%	0.79%	0.66%	0.30%	0.25%	0.20%	0.18%
Net Oil Volume Uncertainty with additional uncertainty	% ov	1.39%	0.93%	0.83%	0.58%	0.56%	0.54%	0.53%

Figure 29. WPA LACT Unit data summary

According to the federal regulations the volume measurement uncertainty must be less than $\pm 0.5\%$ for a flow rate greater than of equivalent to 30,000 bbl/month (around 1000 bpd) average over the previous 12 months of metering. The measurement uncertainty is $\pm 1.5\%$ for flow rate less than this. The WPA LACT flow rate is less than this, so the measurement uncertainty found is significantly lower than the requirement.

8.4 Comparison between wells

8.4.1 Results with no additional uncertainties

Tables with results from the other wells can be seen in Section 12, Oil Measurement Uncertainty of the other Meters, page 64. It was found the results of all the Separator models are plotted on one chart that line on a single curve (see **Figure 30**). The Wellpad Separator models were all run for a flow rate of 100 stbpd, and all gave uncertainties of 1.1%. The same was true of the LACT Units (**Figure 31**). For a flow rate of 300 stbpd, and in this case the uncertainty was 0.30% for all cases.

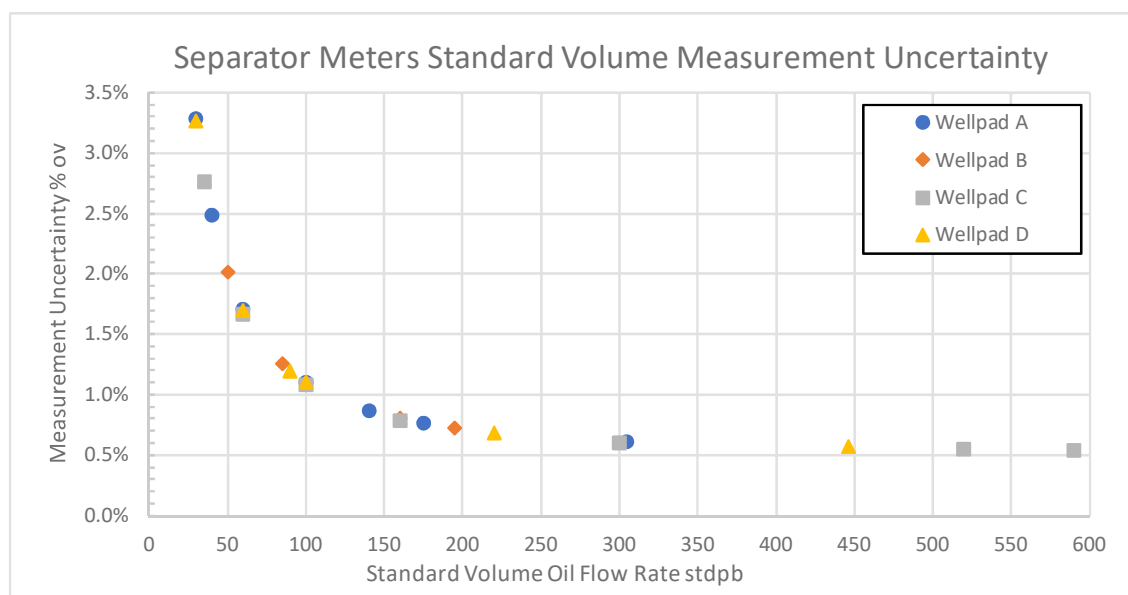


Figure 30. The Separator meter flow rate uncertainties for a range between the low and high flow rate found for each well head

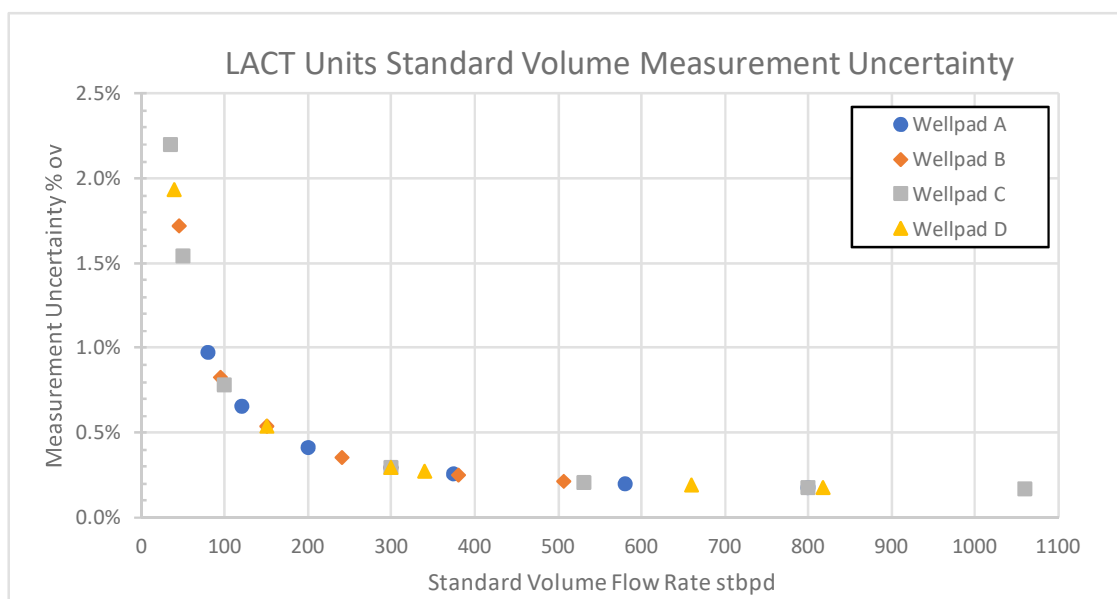


Figure 31. LACT Unit uncertainties for flow rates up to 900 stbpd for four wells. The results fit well onto a single curve

8.4.2 Results with Additional Proving Uncertainties

The flow rate used for proving the Well Separator meters with the master meter are significantly higher than typical flowing conditions for those meters (900 b/d and 100 b/d respectively). The LACT Units are proved at flow rates which are of the order of three times the typical operational flow rates.

The Code of Federal Regulations state in part 3710 onshore oil and gas production in Section 3174.11 5c 1i the “The oil flow through the LACT or CMS during proving must be within 10 percent of the normal flow rate”.

Through most of this report it is assumed that the significant difference in flow rate between proving and operating conditions for both the LACT and the Separator meters does not create additional sources of uncertainty. However, it cannot be guaranteed that this is the case. The simulations were run again with a nominal additional uncertainty of $\pm 0.5\%$ to account for any uncertainties associated with proving at different flow rates to operating conditions. Instead of an uncertainty the difference in operational and proving flow rates may create a measurement bias. It is recommended that the meters be proved on a variety of flow rates to investigate the variation in Meter Factor with Flow Rate.

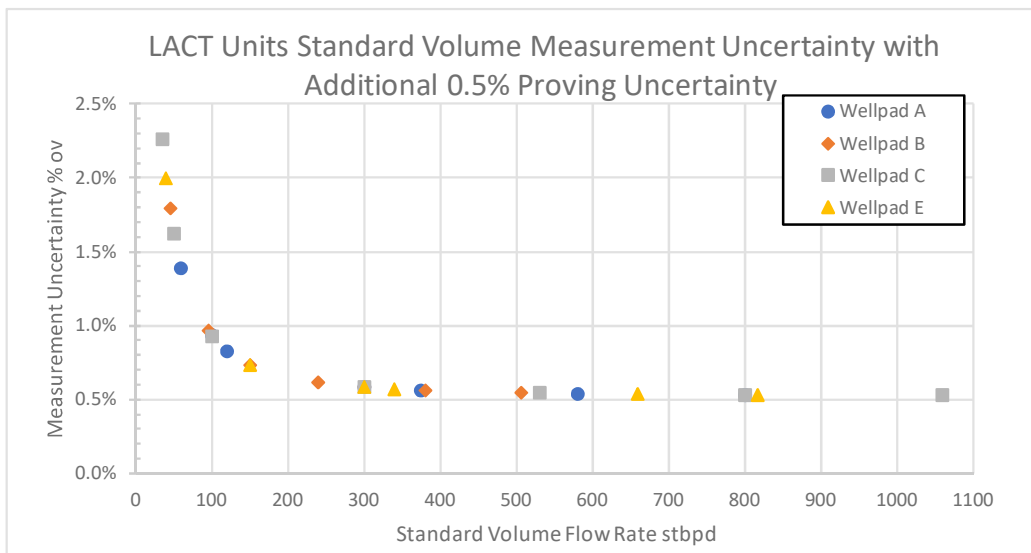


Figure 32. LACT Unit measurement uncertainty with an additional uncertainty of 0.5% due to the difference in flow rates between the proving and flowing conditions

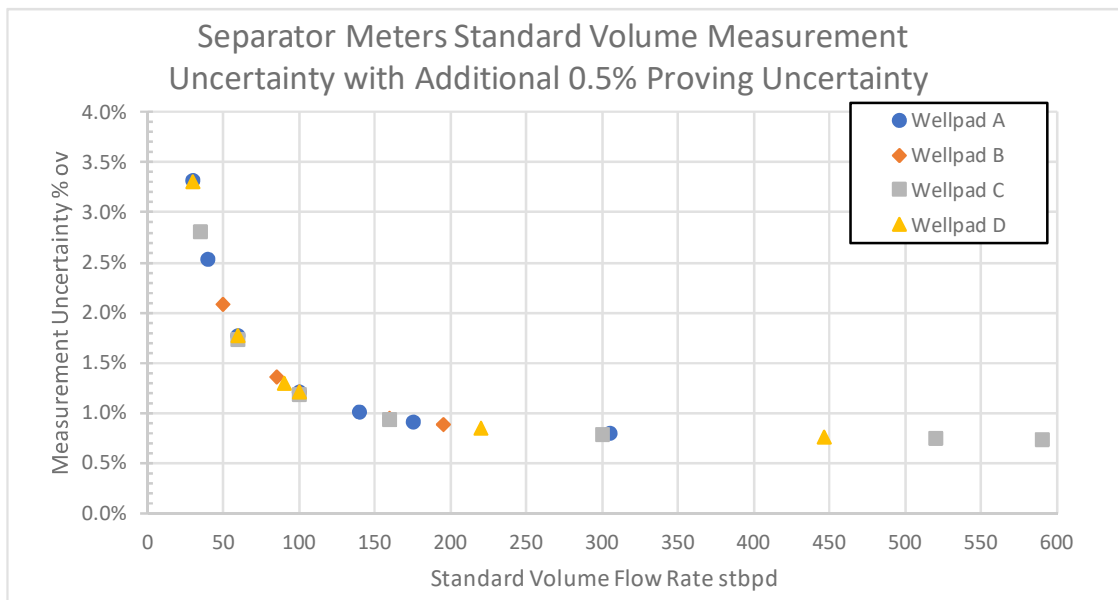


Figure 33. LACT Unit measurement uncertainty with an additional uncertainty of 0.5% due to the difference in flow rates between the proving and flowing conditions

9 Gas Allocation.

The method and an example of the Allocation can be found in Appendix C, Allocation System Uncertainty Method and Appendix D, Allocation System Full Example – WPA.

Accounting for gas used on site, the sales gas flow rate is allocated back to individual wells. It is found that the uncertainty of the allocated flow rate is either the same, or in most cases higher than the individual well flow rate uncertainties. The difference between well uncertainty and allocation uncertainty depends on the size of the sales gas measurement uncertainty.

In the case where wells are operating at different flow rates, but with the constant level of uncertainty, the allocation process increases the uncertainty of the smaller producing wells the most.

However, the low producing wells tend to have the highest levels of uncertainty to begin with. In some cases, the meter measurement uncertainty is large enough, so the additional uncertainty of the allocation method has little increase in overall uncertainty. In other cases, it is the uncertainty of the largest producer which does not increase significantly. The changes all depend the flow rates and associated uncertainties.

9.1 WPA Allocation

9.1.1 Allocation for Equal Well Production

Wellpad A Gas Well Allocation Equal Flow Rates

Well name	Well Flow Rate (mscfd)	Allocated Well Flow Rate (mscfd)	Well Flow Rate Measurement Uncertainty (% omv)	Allocated Well Flow Rate Uncertainty (% omv)
1	200	145	1.8%	2.0%
2	200	145	1.8%	2.0%
3	200	145	1.8%	2.0%
4	200	145	1.8%	2.0%
Wells Total	800		0.9%	
Sales Meter	580		1.2%	

Pro-Rating Factor	0.73
Pro-Rating Factor Uncertainty	1.5%

Figure 34. The allocation and associated uncertainties when the WPA Wells all producing at a typical rate.

Figure 34 shows the gas allocation WPA Wells when all the wells are producing at a rate of 200 mscfd. The measurement uncertainty associated with each individual well (based on the result of Section 6.1.1, Separator Meters, page 29) is $\pm 1.8\%$.

The total well production is 800 mscfd. This is based product of the number of wells and the median flow rate of the wells when they are producing. However, not all the wells are

producing all the time. Therefore, in reality the typical produced gas will be less than 800 mscfd.

During the period October to December 2018, the pro rating factor was about 0.73 (i.e 73% of the produced gas was sold, the rest was used to drive for various purposes on site).

To maintain a pro rating factor of 0.73, the sales gas volume is 580 mscfd. This is slightly higher than the typical sales gas flow rate of 500 mscfd found in Section 6.1.2, but well within the range of sales gas flow rates observed. The difference between these two values is the periods when some of the wells are not producing. However, the sales gas flow measurement uncertainty in both cases is $\pm 1.2\%$.

The uncertainty of the allocated well flow rate is found to be $\pm 2.0\%$.

9.1.2 Allocation for Unequal Production

Wellpad A Gas Well Allocation Unequal Flow Rates

Well name	Well Flow Rate (mscfd)	Allocated Well Flow Rate (mscfd)	Well Flow Rate Measurement Uncertainty (% omv)	Allocated Well Flow Rate Uncertainty (% omv)
1	300	218.2	1.8%	1.8%
2	200	145.5	1.8%	2.0%
3	200	145.5	1.8%	2.0%
4	70	50.9	2.6%	2.8%
Wells Total	770		1.0%	
Sales Meter	560		1.2%	

Pro-Rating Factor	0.73
Pro-Rating Factor Uncertainty	1.56%

Figure 35. WPA well. Wells 20A is operating at high flow rate, wells 20B and 20E are operating at typical flow and well 20F operating at low flow.

In reality the wells will always be producing at different flow rates. In this section an example of four wells are operating at a variety of flow rates. A combination of the high, the typical and the low flow rates as discussed in Section 6.1.1, Separator Meters, page 29 are used.

In this case the uncertainty of the allocated values is about 0.2% larger than the Separator measurement for Wells 20B, 20E and 20F. The allocated flow rate uncertainty for largest producing, well 20A, does not change significantly.

9.2 WPB Wells

9.2.1 Allocation for Equal Production

Wellpad B Well Allocation Equal Flow Rates

Well name	Well Flow Rate (mscfd)	Allocated Well Flow Rate (mscfd)	Well Flow Rate Measurement Uncertainty (% omv)	Allocated Well Flow Rate Uncertainty (% omv)
1	240	175	1.9%	2.2%
2	240	175	1.9%	2.2%
3	240	175	1.9%	2.2%
4	240	175	1.9%	2.2%
Wells Total	960		1.0%	
Sales Meter	700		1.4%	

Pro-Rating Factor	0.73
Pro-Rating Factor Uncertainty	1.7%

Figure 36. The allocation for the WPB wells operating at equal flow rates

In the case of the WPB well the observed pro-rating factor is approximately 0.73. If all the wells are operating at the typical observed flow rate a sales gas flow rate of 700 mscfd is required to maintain this pro-rating factor. This value is higher than the typical observed gas sales flow rate. This is because the more significant down time of the wells. In the case the well measurement uncertainty is $\pm 1.9\%$, while the allocation uncertainty is $\pm 2.2\%$.

Wellpad B Well Allocation Equal Flow Rates for 3 Wells

Well name	Well measurement Flow Rate Qng	Allocated Flow Rate QngA mscfd	Well measurement Flow Rate (Qng) 95% Relative Uncertainty	Allocated Well Flow Rate Uncertainty (% omv)
1	240	150.0	1.9%	3.0%
2	240	150.0	1.9%	3.0%
3	240	150.0	1.9%	3.0%
4	0	0.0	n/a	n/a
Wells Total	720		1.1%	
Sales Meter	450		2.6%	

Pro-Rating Factor	0.625
Pro-Rating Factor Uncertainty	2.8%

Figure 37. In the case of one well not operating and the sales gas meter operating at a lower and more typical flow rate

Another case was run in which it was assumed that one of the wells is not operating, and the sales gas flow rate is more typical observed rate of 450 mscfd. The pro-rating factor in this case is 0.63, a bit smaller than the observed.

In this case the sales gas measurement uncertainty is larger, almost double, that in the previous example. This means that while the individual well uncertainties are the same, the allocated well flow rates are significantly larger.

9.2.2 Allocation for Unequal Production

Wellpad B Well Allocation Unequal Flow Rates

Well name	Well Flow Rate (mscfd)	Allocated Well Flow Rate (mscfd)	Well Flow Rate Measurement Uncertainty (% omv)	Allocated Well Flow Rate Uncertainty (% omv)
1	400	254	1.9%	2.8%
2	240	152	1.9%	3.1%
3	70	44	4.2%	4.8%
4	0	0	n/a	n/a
Wells Total	710		1.3%	
Sales Meter	450		2.6%	

Pro-Rating Factor	0.63
Pro-Rating Factor Uncertainty	2.8%

Figure 38. If the flow rates are at different rates, the uncertainties associated with the lower flowing wells tend to increase the most

The situation is considered where the flow rate is high for well 5A, typical for Well 5E, Low and well 5F, and well 5SHE is not operating. The significant uncertainty on the sales gas meter measurement means the allocated uncertainties are significantly larger than the Separator uncertainties.

9.3 WPC Wells

Wellpad C Well Allocation Equal Flow Rates

Well name	Well Flow Rate (mscfd)	Allocated Well Flow Rate (mscfd)	Well Flow Rate Measurement Uncertainty (% omv)	Allocated Well Flow Rate Uncertainty (% omv)
1	660	435	1.9%	3.4%
2	660	435	1.9%	3.4%
3	175	115	2.6%	4.0%
4	175	115	2.6%	4.0%
Wells Total	1670		1.1%	
Sales Meter	1100		3.1%	

Pro-Rating Factor	0.66
Pro-Rating Factor Uncertainty	3.3%

Figure 39. Uncertainty for the WPC Wells

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In the case of WPC two of the wells tend to be much higher producers than the other two wells. For this reason, only the case of unequal production was considered. The WPC wells only operated for about the number of days in 2018. This means that the typical observed sales gas flow rate is significantly lower than the sum of the well head meter typical flow rates.

To keep the pro-rating factor of 0.66 a sales gas flow rate of 1100 mscfd is required. This is significantly larger than the typical sales gas flow rate of 450 mscfd observed for WPC sales gas.

The sales gas measurement uncertainty for WPC is higher than for the other meters due to a larger variability in the gas composition.

9.4 WPD Wells

The WPD site is different to those considered above as it has seven wells. The allocation principle is the same as for the four well system.

9.4.1 Allocation for Equal Production

Wellpad D Allocation Equal Flow Rate

Well name	Well Flow Rate (mscfd)	Allocated Well Flow Rate (mscfd)	Well Flow Rate Measurement Uncertainty (% omv)	Allocated Well Flow Rate Uncertainty (% omv)
1	110	78.6	2.1%	3.1%
2	110	78.6	2.1%	3.1%
3	110	78.6	2.1%	3.1%
4	110	78.6	2.1%	3.1%
5	110	78.6	2.1%	3.1%
6	110	78.6	2.1%	3.1%
7	110	78.6	2.1%	3.1%
Wells Total	770		0.21%	
Sales Meter	550		2.4%	

Pro-Rating Factor	0.71
Pro-Rating Factor Uncertainty	2.4%

Figure 40. Allocation uncertainty for the WPD wells producing at equal flow rates

The WPD well head consists of seven wells. Typical well flow rates are 110 mscfd. In the example given above the sales gas is assumed to operate at 550 mscfd, to maintain the observed prorating factor of 0.71 which is observed. The sales gas measurement uncertainty at 550 mscfd is very similar to that of the typical sales gas flow rate observed of 500 mscfd.

The Separator uncertainty is 2.1% while the allocation uncertainty is 3.1%.

9.4.2 Allocation for Unequal Production

Wellpad D Allocation Unequal Flow Rate

Well name	Well Flow Rate (mscfd)	Allocated Well Flow Rate (mscfd)	Well Flow Rate Measurement Uncertainty (% omv)	Allocated Well Flow Rate Uncertainty (% omv)
1	220	155.5	2.1%	3.0%
2	220	155.5	2.1%	3.0%
3	110	77.7	2.1%	3.2%
4	110	77.7	2.1%	3.2%
5	50	35.3	2.7%	3.6%
6	20	14.1	10.7%	10.7%
7	20	14.1	10.7%	10.7%
Wells Total	750		0.3%	
Sales Meter	530		2.4%	

Pro-Rating Factor	0.71
Pro-Rating Factor Uncertainty	2.4%

Figure 41. Allocation for WPD when the wells are flowing at several different rates

The case where the wells are flowing. The uncertainty for the larger producing well is increased with the allocation process. However, the uncertainty associated with the lower producing wells (9F and 9G in this example) does not increase from the well head measurement uncertainty of $\pm 10.7\%$. This is because the uncertainty associated with these wells is very large to begin with and dominates any increase in other uncertainties.

10 Oil Allocation.

The oil allocation is very similar to the gas. The Allocation Equations and an example (for gas) of the Allocation can be found in Appendix C, Allocation System Uncertainty Method and Appendix D, Allocation System Full Example.

For all the wells it is assumed that the Separator meter oil will have a BSW of 0.5%. It is assumed that the majority of this 0.45% is removed at the storage tanks and there remains a BSW of 0.05% at the LACT Unit.

The flow rate at the sales meter is based on the sum of the well flow rates minus the 0.45% BSW.

The allocation is based on the net standard Volume oil flow rate. The uncertainties quoted in this section do not include the extra 0.5% caused by the difference in oil flow rates between prover and measurement meter.

In all cases when the wells are operating at equal amounts the allocation uncertainty is smaller than the individual well measurements. This is because of the very small uncertainties associated with the LACT meter. This is also the case most of the time for the unequal production. However, there are some cases such as the high producing well in the WPD example when allocation uncertainty is higher than Well Separator oil measurement uncertainty.

In the examples below the bold numerical values are inputs, and the non-bold values are calculated.

10.1 WPA Wells

10.1.1 Equal production allocation.

Wellpad A Oil Well Allocation Equal Flow Rates

Well name	Well Gross Flow Rate stbpd	Allocated Net Oil Flow Rate stbpd	Well Measurement Oil Uncertainty (% omv)	Allocated Flow Rate Uncertainty (% omv)
1	100	99.5	1.1%	0.98%
2	100	99.5	1.1%	0.98%
3	100	99.5	1.1%	0.98%
4	100	99.5	1.1%	0.98%
Wells Total	400		0.55%	
LACT Unit	398		0.24%	

BSW of Separator Oil	0.5%
BSW of LACT Unit Oil	0.05%
Pro Rating Factor	0.995
Pro Rata Factor Uncertainty	0.58%

Figure 42. The allocation of the oil for a WPA example when each well is producing at the same rate

The WPA wells operated most of the time through 2018. Therefore, the sum of the typical flow rate at the well head meters (400 stbpd) is similar to the typical LACT Unit flow rate (375 stbpd). The allocation uncertainty is less than the corresponding well measurement uncertainty. This is due to the low uncertainties associated with the LACT Unit.

10.1.2 Unequal production allocation

Wellpad A Oil Well Allocation Unequal Flow Rates

Well name	Well Gross Flow Rate stbpd	Allocated Net Oil Flow Rate stbpd	Well Measurement Oil Uncertainty (% omv)	Allocated Flow Rate Uncertainty (% omv)
1	175	174.1	0.76%	0.67%
2	100	99.5	1.1%	0.99%
3	60	59.7	1.7%	1.5%
4	40	39.8	2.5%	2.3%
Wells Total	375		0.6%	
LACT Unit	373		0.24%	

BSW of Separator Oil	0.5%
BSW of LACT Unit Oil	0.05%
Pro Rating Factor	0.996
Pro Rata Factor Uncertainty	0.64%

Figure 43. The allocation of WPA Oil with different well production rates

In this example it is assumed that the flow rates are varying between the low flow rate (40 stbpd) and the high flow rate (175 stbpd) with a variety of value in between. The sum of the flow rates is very similar to the typical observed LACT Unit flow rate.

10.2 WPB

10.2.1 Equal production allocation

Wellpad B Oil Well Allocation Equal Flow Rates

Well name	Well Gross Flow Rate stbpd	Allocated Net Oil Flow Rate stbpd	Well Measuremnt Oil Uncertainty (% omv)	Allocated Flow Rate Uncertainty (% omv)
1	85	84.6	1.3%	1.2%
2	85	84.6	1.3%	1.2%
3	85	84.6	1.3%	1.2%
4	85	84.6	1.3%	1.2%
Wells Total	340		0.65%	
LACT Unit	338		0.27%	

BSW of Separator Oil	0.5%
BSW of LACT Unit Oil	0.05%
Pro Rating Factor	0.996
Pro Rata Factor Uncertainty	0.70%

Figure 44. The allocation uncertainty for WPB well operating at equal flow rates

During the period of study (2018) the WPB wells are shut in a higher proportion of the time than WPA Wells. The sum of the typical flow rates (340 stbpd) is larger than the typical LACT Unit flow rate (240 stbpd). However, the uncertainties associated with these flow rates are small (0.27% and 0.35% respectively) compared to Separator meter uncertainties and makes little difference to the allocation results.

10.2.2 Unequal production allocation.

Wellpad B Well Allocation Unequal Flow Rates

Well name	Well Gross Flow Rate stbpd	Allocated Net Oil Flow Rate QngA stbpd	Well Net Oil Measurement Flow Rate (Qng) 95%	Allocated Flow Rate Uncertainty (% omv)
1	160	159.2	0.74%	0.74%
2	50	49.8	2.0%	1.7%
3	20	19.9	4.9%	4.5%
4	0	0.0	n/a	n/a
Wells Total	230		0.8%	
LACT Unit	229		0.37%	

BSW of Separator Oil	0.5%
BSW of LACT Unit Oil	0.05%
Pro Rating Factor	0.996
Pro Rata Factor Uncertainty	0.88%

Figure 45. WPB Wells allocation at unequal flow rates

For WPB well a higher flow rate of 160 stbpd, a low flow rate of 20 stbpd, and another value of 50 stbpd. It was assumed that one well was not operating. This produced a LACT Unit flow rate of 229 stbpd, close to the typical observed value of 240 stbpd.

10.3 WPC

10.3.1 Unequal Production Allocation.

Wellpad C Oil Well Allocation Variable Flow Rates

Well name	Well Gross Flow Rate stbpd	Allocated Net Oil Flow Rate QngA stbpd	Well Net Oil Measurement Flow Rate (Qng) 95%	Allocated Flow Rate Uncertainty (% omv)
1	520	517.4	0.55%	0.39%
2	300	298.5	0.60%	0.56%
3	100	99.5	1.1%	1.0%
4	35	34.8	2.8%	2.7%
Wells Total	955		0.4%	
LACT Unit	951		0.17%	

BSW of Separator Oil	0.5%
BSW of LACT Unit Oil	0.05%
Pro Rating Factor	0.996
Pro Rata Factor Uncertainty	0.42%

Figure 46. WPC Wells allocation at unequal flow rates

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The oil flow production data for the WPC Wells is quite limited. As with gas it seems there is two large producing wells 34C and 34G, and two smaller producing wells 34D and 34H. As it seems unlikely that all the wells would ever produce at the same rate, it was decided to run the simulations just for the case of unequal production. The tight uncertainty of the LACT Unit means the allocation is smaller than that of the Separator meters.

10.4 WPD

10.4.1 Equal Production Allocation.

Wellpad D Allocation Unequal Flow Rate

Well name	Well Gross Flow Rate stbpd	Allocated Net Oil Flow Rate stbpd	Well Measurement Oil Uncertainty (% omv)	Allocated Flow Rate Uncertainty (% omv)
1	220	219.0	0.69%	0.76%
2	60	59.7	1.7%	1.6%
3	30	29.9	3.3%	3.1%
4	30	29.9	3.3%	3.1%
5	8	8.0	12.1%	11.9%
6	8	8.0	12.1%	11.9%
7	8	8.0	12.1%	11.9%
Wells Total	364		0.20%	
LACT Unit	362		0.26%	

BSW of Separator Oil	0.5%
BSW of LACT Unit Oil	0.05%
Pro Rating Factor	0.9955
Pro Rata Factor Uncertainty	0.33%

Figure 47. Allocation uncertainty for the 7 well equal flow rate WPD Wellpad

WPD has seven wells. Due to wells not operating continuously the sum of the typical Separator meters (630 stbpd) is significantly larger than the typical LACT Unit flow rate (340 stbpd). However, this does not significantly affect allocation uncertainty.

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10.4.2 Unequal Production Allocation.

Wellpad D Allocation Equal Flow Rate

Well name	Well Gross Flow Rate stbpd	Allocated Net Oil Flow Rate stbpd	Well Measuremnt Oil Uncertainty (% omv)	Allocated Flow Rate Uncertainty (% omv)
1	90	89.6	1.2%	1.1%
2	90	89.6	1.2%	1.1%
3	90	89.6	1.2%	1.1%
4	90	89.6	1.2%	1.1%
5	90	89.6	1.2%	1.1%
6	90	89.6	1.2%	1.1%
7	90	89.6	1.2%	1.1%
Wells Total	630		0.12%	
LACT Unit	627		0.19%	

BSW of Separator Oil	0.5%
BSW of LACT Unit Oil	0.05%
Pro Rating Factor	0.9955
Pro Rata Factor Uncertainty	0.22%

Figure 48. Allocation uncertainty for the 7 well WPD meter at unequal flow rates

11 Gas Measurement Uncertainty of the Other Wellpads

The input parameters and flow rates for the other well are calculated in the same way as for the WPA wells as explained in Section 5, Daily Production Gas Uncertainty Model, page 20.

11.1 WPB

11.1.1 Separator Meters

Wellpad B Separator Gas Measurement Uncertainty

Parameter	Units	Value (top six parameter constant for all flow rates)				
Temp	°F	80				
Pressure	psia	100				
Line Density	lb/ft ³	0.440				
Standard Density	lb/ft ³	0.065				
Orifice ID	Inches	0.875				
Beta Ratio	n/a	0.30				
Flow Rate description	n/a	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	30	70	240	400	647
DP	inH ₂ O	0.5	2.7	33	99	250
Std Vol Flow rate Uncertainty	% ov	20.7%	4.2%	1.9%	1.9%	1.9%

Figure 49. Summary of results for significant flow rates for WPB Separator Meters

The WPB Separator meters show a similar uncertainty to the WPA for most flow rates. The expectation to this is the low flow rate, where the uncertainty is larger. This is because the distribution of flow rate is wider for the WPB wells, and the low flow rate value corresponds to a lower DP than the WPA (2.7 inH₂O and 5.5 inH₂O respectively). This corresponds to a larger relative measurement uncertainty.

11.1.2 Sales Gas Meters

Wellpad B Sales Gas Measurement Uncertainty

Parameter	Units	Value (top six parameter constant for all flow rates)				
Temp	°F	65				
Pressure	psia	70				
Line Density	lb/ft ³	0.308				
Standard Density	lb/ft ³	0.064				
Orifice ID	Inches	2.125				
Beta Ratio	n/a	0.53				
Flow Rate description	n/a	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	150	225	450	900	3200
DP	inH ₂ O	0.5	1.1	4	18	250
Std Vol Flow rate Uncertainty	% ov	21.4%	9.5%	2.6%	1.1%	1.1%

Figure 50 Summary of results for significant flow rates for WPB Separator Meters

The WPB sales gas meter has quite a low measurement uncertainty, particularly at higher flow rates. This is due to a more consistent gas composition than is seen with some sales gas meters.

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11.2 WPC

11.2.1 Separator Meters

For WPC two of the wells were much bigger producers than the other two. Therefore, two models were developed to account for this.

11.2.1.1 Wells 1 & 3

Wellpad C Separator Gas Measurement Uncertainty (Wells 1 & 3)

Parameter	Units	Value (top six parameter constant for all flow rates)				
Temp	°F	100				
Pressure	psia	100				
Line Density	lb/ft3	0.451				
Standard Density	lb/ft3	0.070				
Orifice ID	Inches	1.25				
Beta Ratio	n/a	0.43				
Flow Rate description	n/a	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	60	200	660	1000	1300
DP	inH ₂ O	0.5	5.5	62	145	250
Std Vol Flow rate Uncertainty	% ov	25.3%	2.9%	1.9%	1.9%	1.9%

Figure 51. Summary of results for significant flow rates for WPC higher producing wells (1 & 3)

11.2.1.2 Wells 2 & 4

Wellpad C Separator Gas Measurement Uncertainty (Wells 2 & 4)

Parameter	Units	Value (top six parameter constant for all flow rates)				
Temp	°F	100				
Pressure	psia	100				
Line Density	lb/ft3	0.451				
Standard Density	lb/ft3	0.070				
Orifice ID	Inches	1.125				
Beta Ratio	n/a	0.39				
Flow Rate description	n/a	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	48	100	175	400	1020
DP	inH ₂ O	0.5	2.2	7	36	250
Std Vol Flow rate Uncertainty	% ov	24.4%	5.9%	2.6%	1.9%	1.9%

Figure 52 Summary of results for significant flow rates for WPC lower producing wells (2 & 4)

The uncertainty associated with the lower producing wells is larger than for the higher producing wells at the low and typical flows. The main reason for this is that the Differential

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Pressure at that flow rate tends to be lower. Although the orifice is smaller with the lower producing wells, it is not small enough to account for the much lower flow rates and so the Differential Pressure is lower.

11.2.2 Sales Gas Meters

Wellpad C Sales Gas Measurement Uncertainty

Parameter	Units	Value (top six parameter constant for all flow rates)				
Temp	°F	95				
Pressure	psia	85				
Line Density	lb/ft3	0.393				
Standard Density	lb/ft3	0.071				
Orifice ID	Inches	2				
Beta Ratio	n/a	0.65				
Flow Rate description	n/a	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	145	225	450	900	3100
DP	inH ₂ O	0.5	1.2	4.8	20	250
Std Vol Flow rate Uncertainty	% ov	23.1%	9.9%	3.7%	2.9%	2.8%

Figure 53. Summary of results for significant flow rates for WPC Sales Gas Meter

The sales gas uncertainty is again significantly higher than for the WPA Well. The reason for this is variability in the compositions of the Sales Gas. There was found to be some quite significant changes in the compositions particularly between the compositions of September 1st, 2017, April 1st, 2018 and June 1st, 2018.

11.3 WPD

11.3.1 Separator Meters

Wellpad D Separator Gas Measurement Uncertainty

Parameter	Units	Value (top six parameter constant for all flow rates)				
Temp	°F	75				
Pressure	psia	80				
Line Density	lb/ft3	0.456				
Standard Density	lb/ft3	0.068				
Orifice ID	Inches	0.625				
Beta Ratio	n/a	0.22				
Flow Rate description	n/a	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	14.4	20	110	220	311
DP	inH ₂ O	0.5	1.0	30	122	250
Std Vol Flow rate Uncertainty	% ov	20.3%	10.6%	2.1%	2.1%	2.1%

Figure 54. Summary of results for significant flow rates for WPD Separator Meters

WPD consists of 7 wells, the meters on which had different orifice plates, some of which were as large as 1.625 inches. This results in a very low DP. The distribution of flow rates was reduced slightly from the actual distribution of flow rates to capture this very low DP.

Uncertainties are higher than for the WPA Separator meters. This is due to high gas composition variability, thereby increasing density uncertainty, combined with low differential pressure.

11.3.2 Sales Gas Meters

Wellpad D Sales Gas Measurement Uncertainty

Parameter	Units	Value (top six parameter constant for all flow rates)				
Temp	°F	65				
Pressure	psia	75				
Line Density	lb/ft3	0.362				
Standard Density	lb/ft3	0.070				
Orifice ID	Inches	1.5				
Beta Ratio	n/a	0.49				
Flow Rate description	n/a	Min Flow Rate	Low Flow	Typical Flow	High Flow	Max Flow Rate
Std Vol Flow rate	mscfd	74	250	500	1000	1570
DP	inH ₂ O	0.5	5.8	23	96	250
Std Vol Flow rate Uncertainty	% ov	22.1%	3.1%	2.4%	2.4%	2.4%

Figure 55. Summary of results for significant flow rates for WPD Sales Meters

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The uncertainty associated with the WPD Sales Gas meter is significantly larger than for the WPA wells. This is because the uncertainty on the gas compositions is higher, particularly for the heavier components. Despite the commingling effect which seemed to decrease uncertainty from the well heads to the sales gas for WPA, in this case the uncertainty is larger. However, the uncertainty is based on just three samples (the WPA is based on five) meaning that the coverage factor k is larger. With more samples it is felt that a tighter gas composition uncertainty could be achieved

12 Oil Measurement Uncertainty of the Other Wellpads

The model inputs are calculated for the other wells in the same way for the WPA Well Section 8, Daily Production Oil Uncertainty Model, page 36. The low, typical and high flow rates are based on historical production data. For WPA and WPD the period covered is Jan 1st, 2018 to Dec 31st, 2018. For WPB and WPC, the production data provided covered the period Oct 1st, 2018 until Dec 1st, 2018. The WPC wells were shut in for much of that period. For simplicity only days when there was no down time are considered. As the distribution of flow rates is non symmetric the median value was chosen as the typical flow rate. The high and low flow rates correspond to the 2.5 and 97.5 percentiles. This mean that 95% of the up-time flow rates lie between the low and the high values.

12.1 WPB wells

Wellpad B Separator Oil Measurement Uncertainty (summer conditions)

Parameter	Units	Value (Temp, pressure, density and CPTL constant for all flow rates)						
Temp	°F	80						
Pressure	psig	85						
Standard Density	API	48						
CPTL	n/a	0.9895						
Flow Rate description	n/a	Min Flow	Low Flow	Other	Typical Flow	Typical Flow	High Flow	Max Flow
Gross Standard Volume Oil Flow Rate	stdbpd	6	20	50	85	100	160	195
Turn Down	n/a	1204	361	144	85	72	45	37
Net Oil Volume Uncertainty	% ov	16.26%	4.90%	2.02%	1.26%	1.11%	0.80%	0.72%

Figure 56. WPB Separator meter measurement uncertainties

The WPB uncertainties tend to be higher than for the other wells. This is due to the lower flow rates associated with these wells. At a flow rate of 100 stbpd the uncertainty is the same as for the other wells.

Wellpad B LACT Oil Measurement Uncertainty (summer conditions)

Parameter	Units	Value (Temp, pressure, density and CPTL constant for all flow rates)						
Temp	°F	75						
Pressure	psig	60						
Standard Density	API	48						
CPTL	n/a	0.9921						
Flow Rate description	n/a	Min Flow	Low Flow	Other	Typical Flow	other	High Flow	Max Flow
Gross Standard Volume Oil Flow Rate	stdbpd	45	95	150	240	300	380	507
Turn Down	n/a	161	76	48	30	24	19	14
Net Oil Volume Uncertainty	% ov	1.72%	0.83%	0.54%	0.35%	0.30%	0.25%	0.21%

Figure 57. WPB LACT Unit measurement uncertainties

The LACT Unit measurement uncertainty for a set flow rate is similar to the other LACT Units. The low and minimum flow rates are a bit higher than for the other LACT Units.

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12.2 WPC

Wellpad C Separator Oil Measurement Uncertainty (summer conditions)

Parameter	Units	Value (Temp, pressure, density and CPTL constant for all flow rates)						
Temp	°F	100						
Pressure	psig	85						
Standard Density	API	42						
CPTL	n/a	0.9978						
Flow Rate description	n/a	Min/Low Flow	Other	Other	Other	Other	Typical Flow	High/Max Flow
Gross Standard Volume Oil Flow Rate	stdbpd	35	60	100	160	300	520	590
Turn Down	n/a	206	120	72	45	24	14	12
Net Oil Volume Uncertainty	% ov	2.8%	1.7%	1.08%	0.79%	0.60%	0.55%	0.54%

Figure 58. WPC Separator Meter Uncertainty results

The production data received for the WPC was quite limited. Oil production data was given for a three-month period. For that time two of the wells 1 and 3 did not operate at all, and the other two only operated for a short period. The two that did operate seem to be significant producers.

Wellpad C LACT Oil Measurement Uncertainty (summer conditions)

Parameter	Units	Value (Temp, pressure, density and CPTL constant for all flow rates)						
Temp	°F	75						
Pressure	psig	55						
Standard Density	API	42						
CPTL	lb/ft3	0.9926						
Flow Rate description	n/a	Min/Low Flow	Other	Other	Other	Typical Flow	High Flow	High/Max Flow
Gross Standard Volume Oil Flow Rate	stdbpd	35	50	100	300	530	800	1060
Turn Down	n/a	206	144	72	24	14	9	7
Net Oil Volume Uncertainty	% ov	2.2%	1.5%	0.78%	0.30%	0.21%	0.18%	0.17%

Figure 59. WPC LACT Uncertainty results

12.3 WPD

Wellpad D Separator Oil Measurement Uncertainty (summer conditions)

Parameter	Units	Value (Temp, pressure, density and CPTL constant for all flow rates)						
Temp	°F	75						
Pressure	psig	65						
Standard Density	API	44						
CPTL	n/a	0.9925						
Flow Rate Description	n/a	Low Flow	Other	Other	Typical Flow	Other	High Flow	Max Flow
Gross Standard Volume Oil Flow Rate	stdbpd	8	30	60	90	100	220	446
Turn Down	n/a	903	241	120	80	72	33	16
Net Oil Volume Uncertainty	% ov	12.1%	3.3%	1.7%	1.2%	1.10%	0.69%	0.57%

Figure 60. WPD Separator Oil Measurement Uncertainty

The WPD Separator uncertainties are similar to those found for other wells.

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Wellpad D LACT Oil Measurement Uncertainty (summer conditions)

Parameter	Units	Value (Temp, pressure, density and CPTL constant for all flow rates)						
Temp	°F	75						
Pressure	psig	60						
Standard Density	API	46						
CPTL	lb/ft ³	0.9923						
Flow Rate description	n/a	Min Flow	Low Flow	Other	Other	Typical Flow	High Flow	Max Flow
Gross Standard Volume Oil Flow Rate	stdbpd	17	40	150	300	340	660	817
Turn Down	n/a	425	181	48	24	21	11	9
Net Oil Volume Uncertainty	% ov	4.5%	1.9%	0.54%	0.30%	0.27%	0.19%	0.18%

Figure 61. WPD LACT Unit Flow Rate Uncertainty

The WPD LACT Unit uncertainty is slightly higher than the other LACT Unit. This is because the flow rates tend to be a bit lower.

13 WPE

WPE has six wells. The oil produced is fed into storage tanks. The oil is exported via road tanker loading. An example of the Road Tanker loading model can be found in Appendix I, Road Tanker Loading Uncertainty – WPE

13.1 Well Separator Oil Uncertainty

It is assumed that the Temperature and Pressure transmitters are the same as for the other oil separator meters. A Well Separator model was developed which was very similar to the other Well Separator meters. However, the temperature and pressure variations during proving were found to be much larger than for the other meters. This resulted in a slightly larger uncertainty than the other Well Separator Meter. The Low, Typical and High flow rates are 50 stbpd, 240 stbpd and 750 stbpd respectively.

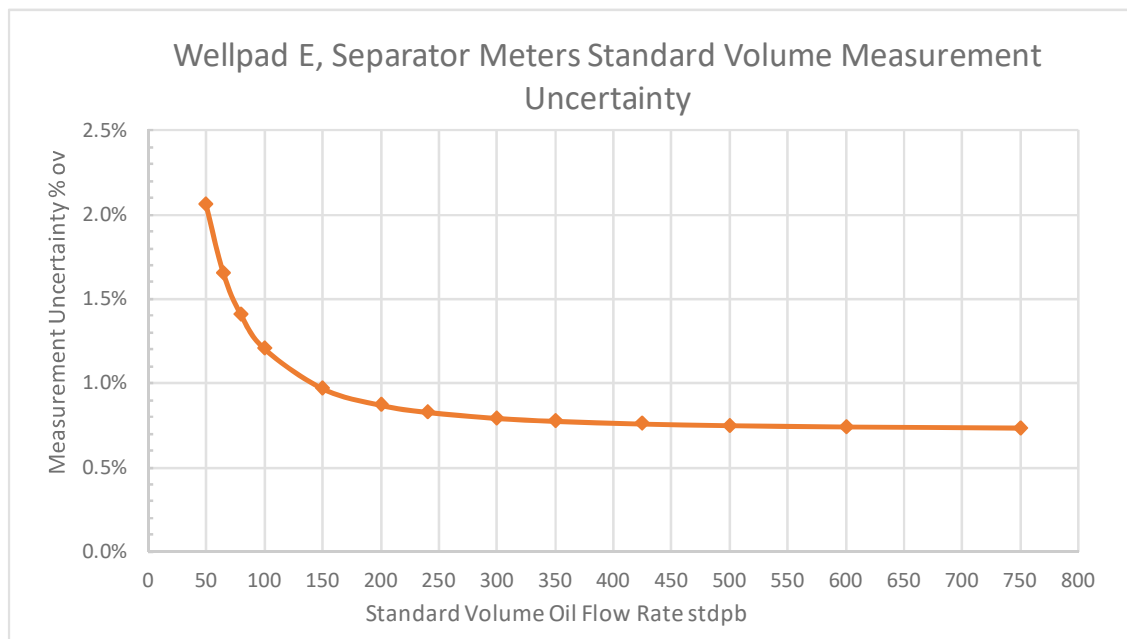


Figure 62. Graph of Oil Well Separator Uncertainty for WPE

Wellpad E Separator Oil Measurement Uncertainty

Flow Rate description	n/a	Low Flow	Other	Other	Other	Typical Flow	Other	Other	High Flow
Gross Standard Volume Oil Flow Rate	stbpd	50	65	80	150	240	350	500	750
Net Oil Volume Uncertainty	% ov	2.06%	1.65%	1.41%	0.97%	0.83%	0.78%	0.75%	0.74%

Figure 63, Table of Oil Well Separator Uncertainty for WPE



13.2 Tanker Loading Oil Uncertainty

Oil is exported from storage tanks via tanker loading. A tanker takes approximately 350 barrels of oil.

An uncertainty model was developed to estimate the uncertainty associated with one Tanker load. The standard volume measurement uncertainty associated with a load was found to be $\pm 0.16\%$.

During the period trun ticket reports were provided around 4 tanker loads were provided. This corresponds to approximately 1,400 barrels of oil per day.

Production data was available for the whole of 2018. Over this period the Typical total production was 1200 barrels per day.

13.3 Allocation Uncertainty

It is assumed for the purpose of Allocation that all six wells are operating at Typical flow rate of 240 stbpd. This results in 1,440 stbpd. It is also assumed that four tanker loads of 350 stbpd are exported each day.

The uncertainties on the Tankers are assumed to be uncorrelated. This is a reasonable assumption given that one of the main sources of uncertainty is the rounding of any depth reading to the nearest quarter inch, something which will be independent between tanks. However, there is merit in further investigation of cross-correlation.

Four tankers will export a total of 1,400 barrels of oil. RSS the uncertainties together gives a total uncertainty associated with this of $\pm 0.08\%$.

Wellpad E Equal Flow Rate

Well Number (n)	Well Flow Rate stbpd	Allocated Flow Rate stbpd	Well Measurement Uncertainty (95% CI)	Allocated Well Measurement Uncertainty (95% CI)
1	240	233.3	0.83%	0.76%
2	240	233.3	0.83%	0.76%
3	240	233.3	0.83%	0.76%
4	240	233.3	0.83%	0.76%
5	240	233.3	0.83%	0.76%
6	240	233.3	0.83%	0.76%
Wells Total	1440		0.09%	
Tanker Loading	1400		0.078%	

Pro Rata Factor	0.972	0.12%
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Figure 64. The oil allocation uncertainties for the wells when producing at equal rates.

In the case where all the flow rates are equal, then the allocated well rate is slightly lower than the well measurement uncertainty.



Wellpad E Unequal Flow Rate

Well Number (n)	Well Flow Rate stbpd	Allocated Flow Rate stbpd	Well Measurement Uncertainty (95% CI)	Allocated Well Measurement Uncertainty (95% CI)
1	750	729.2	0.74%	0.4%
2	240	233.3	0.83%	0.8%
3	240	233.3	0.83%	0.8%
4	80	77.8	1.4%	1.4%
5	80	77.8	1.4%	1.4%
6	50	48.6	2.1%	2.0%
Wells Total	1440		0.12%	
Tanker Loading	1400		0.078%	

Pro Rata Factor	1	0.14%
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Figure 65. The oil allocation uncertainties for the wells when producing at unequal rates

In the case where they are not constant (although the total well production is the same), then the low and medium measurement uncertainties are not changed significantly by the allocation process. The larger producing well uncertainty is reduced.

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Appendices

- APPENDIX A GAS COMPOSITION AND EFFECT ON UNCERTAINTY
- APPENDIX B STANDARD VOLUME UNCERTAINTY METHOD - AGA3
- APPENDIX C ALLOCATION SYSTEM UNCERTAINTY METHOD
- APPENDIX D ALLOCATION SYSTEM FULL EXAMPLE - WPA
- APPENDIX E GAS WELL SEPARATOR METER UNCERTAINTY - WPA
- APPENDIX F SALES GAS UNCERTAINTY MODEL - WPA
- APPENDIX G OIL SEPARATOR UNCERTAINTY MODEL - WPA
- APPENDIX H OIL LACT UNIT UNCERTAINTY MODEL EXAMPLE - WPA
- APPENDIX I ROAD TANKER LOADING UNCERTAINTY - WPE



Appendix A Gas Composition and Effect on Uncertainty

Gas composition data

Key Yellow Cells, Gas analysis compositions used in the Gas Volume calculation/statements during 2018
 Green Cells, Gas analysis compositions used in the Gas Volume calculation/statements but Analysis report missing.

Wellpad A Gas Analysis dates

Well 1	Well 2	Well 3	Well 4
8/3/16	8/3/16	8/3/16	8/3/16
28/9/16	28/9/16	28/9/16	28/9/16
14/3/17	14/3/17	14/3/17	14/3/17
7/6/17	7/6/17	7/6/17	7/6/17
11/9/17	11/9/17	11/9/17	11/9/17
12/3/18	12/3/18	12/3/18	12/3/18
10/9/18		10/9/18	

Well Gas Volume Statements
 Well 1 Uses composition of the 11/9/2017 Jan + Feb and then 12/03/2018 for the rest of 2018
 Well 2 Uses composition of the 11/9/2017 Jan + Feb and then 12/03/2018 for the rest of 2018
 Well 3 Uses composition of the 11/9/2017 Jan + Feb and then 12/03/2018 for the rest of 2018
 Well 4 Uses composition of the 11/9/2017 Jan + Feb and then 12/03/2018 for the rest of 2018

Wellpad B Gas Analysis dates

Well 1	Well 2	Well 3	Well 4
			12/8/15
			24/8/16
8/2/16	8/2/16		
10/2/17	10/2/17	10/2/17	10/2/17
3/5/17	3/5/17		
18/8/17	18/8/17	18/8/17	18/8/17
8/2/18	8/2/18	8/2/18	8/2/18
8/8/18	8/8/18	8/8/18	8/8/18

Well Gas Volume Statements
 Well 1 Uses composition of the 18/8/2017 for January, 8/2/2018 (missing) for Feb to July and then 8/8/2018 for the rest of 2018
 Well 2 Uses composition of the 18/8/2017 for January, 8/2/2018 (missing) for Feb to July and then 8/8/2018 for the rest of 2018
 Well 3 Uses composition of the 18/8/2017 for January, 8/2/2018 (missing) for Feb to July and then 8/8/2018 for the rest of 2018
 Well 4 Uses composition of the 18/8/2017 for January, 8/2/2018 (missing) for Feb to July and then 8/8/2018 for the rest of 2018

Wellpad C Gas Analysis dates

Well 1	Well 2	Well 3	Well 4
9/12/15	9/12/15	9/12/15	9/12/15
10/3/16	10/3/16	10/3/16	10/3/16
27/9/16	27/9/16	27/9/16	27/9/16
22/3/17	22/3/17	22/3/17	
	16/6/17	16/6/17	16/6/17
20/9/17	20/9/17	20/9/17	20/9/17
18/9/18		18/9/18	

Well Gas Volume Statements
 Well 1 Uses composition of the 22/3/17 for Jan-August 2018, 18/9/2018 composition for the rest of the year
 Well 2 Uses composition of the 16/6/17 the entire year (2018)
 Well 3 Uses composition of the 16/6/17 for Jan-August, 18/9/2018 composition after that
 Well 4 Uses composition of the 16/6/17 the entire year (2018)

Wellpad D Analysis dates

Well 1	Well 2	Well 3	Well 4	Well 5	Well 6	Well 7
2/3/16	2/3/16		2/3/16	2/3/16	2/3/16	2/3/16
28/9/16		28/9/16	28/9/16	28/9/16	28/9/16	28/9/16
13/3/17	13/3/17	13/3/17	13/3/17	13/3/17	13/3/17	13/3/17
7/9/17		7/9/17	7/9/17	7/9/17	7/9/17	7/9/17
12/9/18	12/9/18	12/9/18	12/9/18		12/9/18	12/9/18

Well Gas Volume Statements
 Well 1 Uses composition of the 07/9/2017 for all of 2018
 Well 2 Uses composition of the 13/3/2017 for all of 2018
 Well 3 Uses composition of the 07/9/2017 for all of 2018
 Well 4 Uses composition of the 07/9/2017 for all of 2018
 Well 5 Uses composition of the 07/9/2017 for all of 2018
 Well 6 Uses composition of the 07/9/2017 for all of 2018
 Well 7 Uses composition of the 07/9/2017 for all of 2018

Wellpad E Gas Analysis dates

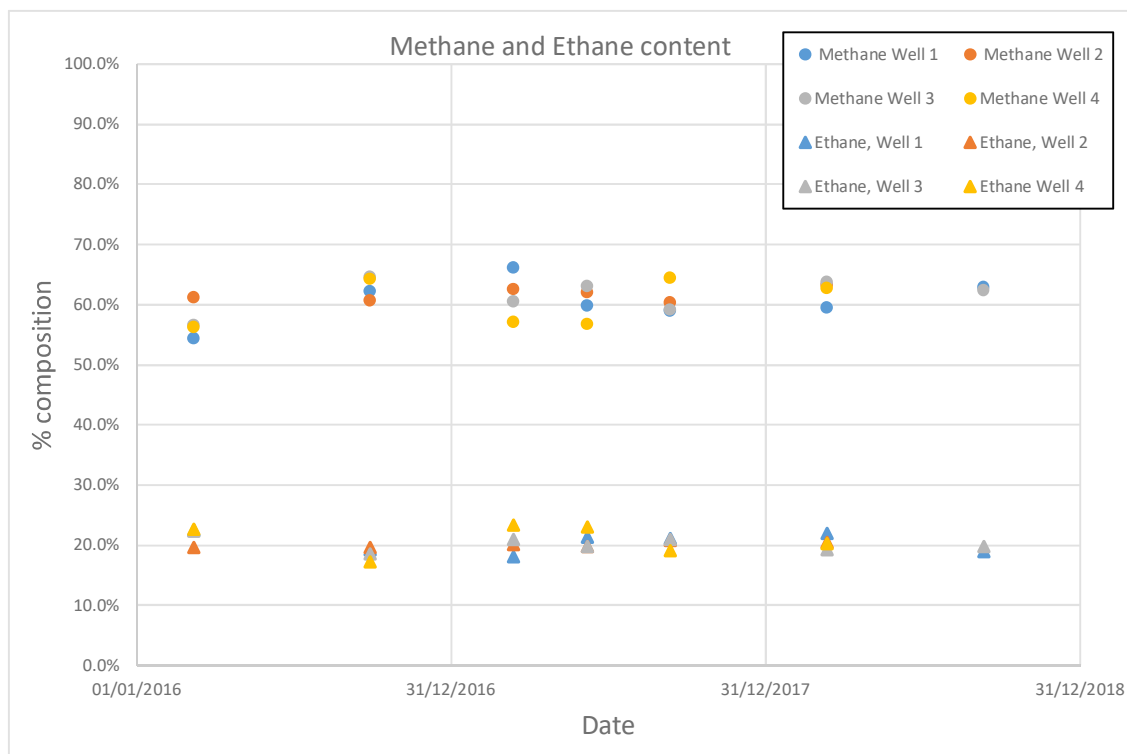
Well 1	Well 2	Well 3	Well 4	Well 5	Well 6	Gas Lift
30/8/17	15/9/17	24/10/17	30/8/17	24/10/17	30/8/17	17/1/19
15/9/17	24/10/17		27/9/17	17/1/19	15/9/17	
17/1/19	17/1/19				24/10/17	

Well Gas Volume Statements. Note only have statements for September
 Well 1 Uses composition of the 30/8/2017
 Well 2 No Sample date Given, but matches with 24/10/2017
 Well 3 Uses composition of the 30/8/2017
 Well 4 No Sample date Given, but matches with 24/10/2017
 Well 5 No Sample date Given, but matches with 24/10/2017
 Well 6 Uses composition of the 30/8/2017
 Gas Lift Uses a made up composition of 96%C1, 3%C2 and 1%N2

Gas composition samples dates for the Separator meters.

Dates of gas analysis for the various wells. Not all these compositions were uploaded into the Flow computer. The cells marked yellow show the compositions which were used in the Gas Volume Statements. It should be noted that the Gas Volume Statements received cover the period January to December 2018, and so it is likely that earlier compositions were used in earlier Gas Volume Statements.

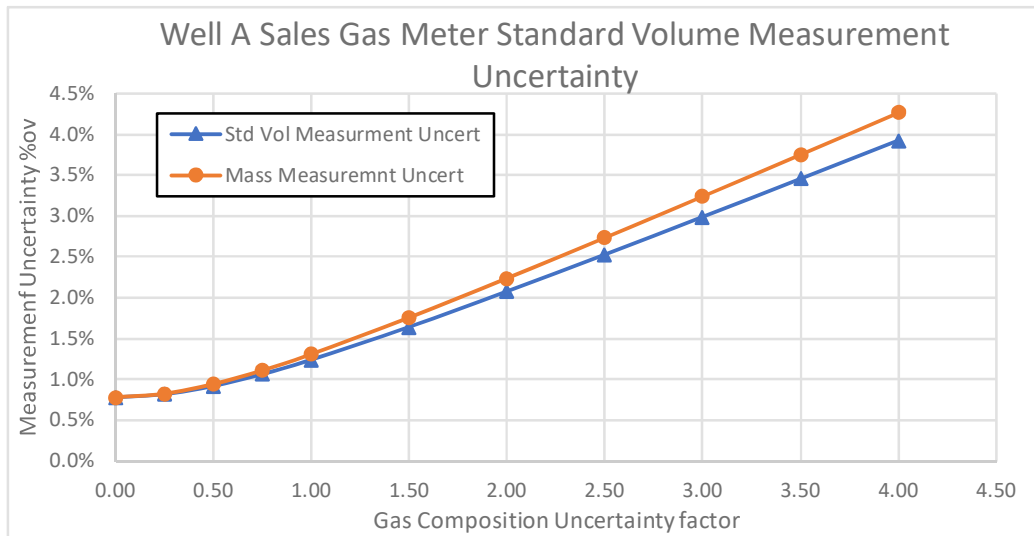
No significant trends in compositions over time were noted when analysing these compositions (see graph below). However, there was significant variability. The uncertainty of the gas composition was taken as the variability of the gas for all the compositions taken for that well.



Methane and Ethane content of the gas from the WPA Wells over a three-year period.

Gas composition uncertainty effect on measurement uncertainty

One of the major sources of measurement uncertainty was the gas composition uncertainty. This affects the measurement uncertainty through the density uncertainty. The WPA sales gas meter is used as an illustration. A gas composition measurement uncertainty factor is a factor by which the observed composition uncertainty is multiplied to increase/decrease uncertainty. A value of zero would correspond to no uncertainty, a value of one to the actual gas composition uncertainty, and a value of greater than one to a higher composition uncertainty. The measurement uncertainty of both mass and standard volume flow rate is show in the figure below. For composition uncertainties larger than the WPA Sales gas uncertainty (which is one of the lowest uncertainties), measurement uncertainties rise in an approximately linear manner with composition uncertainty.



Measurement uncertainty versus gas composition uncertainty

Appendix B Standard Volume Uncertainty Method – AGA3

A simplified version of the flow calculation equation which combines all the numerical constants and unit conversion constants into a unit conversion factor (N_1) is given in AGA 3 (equation 1-2).

It is

$$q_m := N_1 C_d E_v Y d^2 \sqrt{\rho_{Line} \Delta P} \quad (B-1)$$

The RSS method for calculating relative Gas Mass Uncertainty is given by equation 1-36 of AGA 3.

$$(U_{q_m})^2 = (UC_d)^2 + (UY)^2 + \left(\frac{2}{1-\beta^4}\right)^2 (Ud)^2 + \left(-2 \frac{\beta}{1-\beta^4}\right)^2 (UD)^2 + \frac{1}{4} (U\rho_{Line})^2 + \frac{1}{4} (U\Delta P)^2 \quad (B-2)$$

The density term is calculated using the universal gas law.

$$\rho := \frac{mP}{ZRT} \quad (B-3)$$

The relative uncertainty of line density can be calculated by root sum squaring all the independent variable in equation B-3. This gives.

$$(U\rho_{Line})^2 = (UT_{Line})^2 + (UP_{Line})^2 + \left(U \left(\frac{m}{Z_{Line}}\right)\right)^2 \quad (B-4)$$

This assumes the temperature and pressure uncertainties to be independent. However, the m and Z terms are likely to be correlated, and so they cannot be considered independently in the uncertainty calculation.

This gives an extended form for the mass flow uncertainty calculation (B-5)

$$(U_{q_m})^2 = (UC_d)^2 + (UY)^2 + \left(\frac{2}{1-\beta^4}\right)^2 (Ud)^2 + \left(-2 \frac{\beta}{1-\beta^4}\right)^2 (UD)^2 + \frac{1}{4} (U\Delta P)^2 + \frac{1}{4} (UT_{Line})^2 + \frac{1}{4} (UP_{Line})^2 + \frac{1}{4} \left(U \left(\frac{m}{Z_{Line}}\right)\right)^2$$

The relative uncertainty of the density at standard conditions can be also be calculated in a similar way that line density was in equation B4. However, temperature and pressure are known exactly, they will have no uncertainties associated with these parameters. The relative uncertainty is

$$(U\rho_{Std})^2 = \left(U \left(\frac{m}{Z_{Std}}\right)\right)^2 \quad (B-6)$$

The standard volume flow rate can be calculated via

$$q_{vStd} := \frac{q_m}{\rho_{Std}} \quad (B-7)$$

The standard volume flow rate is found to be

$$q_{vStd} := N_1 C_d E_v Y d^2 \frac{\sqrt{\rho_{line} \Delta P}}{\rho_{Std}} \quad (B-8)$$

Using the RSS approach used to find equation B-2, the relative uncertainty associated with the standard density is found to be

$$(U_{q_{vStd}})^2 = (UC_d)^2 + (UY)^2 + \left(\frac{2}{1-\beta^4}\right)^2 (Ud)^2 + \left(-2 \frac{\beta}{1-\beta^4}\right)^2 (UD)^2 + \left(U \left(\frac{\sqrt{\rho_{line}}}{\rho_{Std}}\right)\right)^2 + \frac{1}{4} (U\Delta P)^2 \quad (B-9)$$

The density term can be expanded using the universal gas law

$$\frac{\sqrt{\rho_{Line}}}{\rho_{Std}} = \frac{\sqrt{\frac{mP_{Line}}{Z_{Line}RT_{Line}}}}{\left(\frac{mP_{Std}}{Z_{Std}RT_{Std}}\right)} \quad (B-10)$$

Equation B-10 can also be written as

$$\frac{\sqrt{\rho_{Line}}}{\rho_{Std}} = \frac{Z_{Std}}{\sqrt{Z_{Line}}} \frac{1}{\sqrt{m}} \frac{T_{Std}}{\sqrt{T_{Line}}} \frac{\sqrt{P_{Line}}}{P_{Std}} \sqrt{R} \quad (B-11)$$

Using the RSS method in all the variables (T_{Std} , P_{Std} , and R are all constants and, in this context, have no associated uncertainties). The relative uncertainty will therefore be

$$\left(U \left(\frac{\sqrt{\rho_{tp}}}{\rho_{Std}}\right)\right)^2 = \left(\left(U \left(\frac{Z_0}{\sqrt{mZ_1}}\right)\right)^2 + \frac{1}{4} (UT_1)^2 + \frac{1}{4} (UP_1)^2\right) \quad (B-12)$$

Inserting this into the equation for standard volume flow uncertainty gives (B-13)

$$(U_{q_{vStd}})^2 = (UC_d)^2 + (UY)^2 + \left(\frac{2}{1-\beta^4}\right)^2 (Ud)^2 + \left(-2 \frac{\beta}{1-\beta^4}\right)^2 (UD)^2 + U \left(\frac{Z_{Std}}{\sqrt{mZ_{Line}}}\right)^2 + \frac{1}{4} (UT_{Line})^2 + \frac{1}{4} (UP_{Line})^2 + \frac{1}{4} (U\Delta P)^2$$

The equation above is the same as the extended form of the mass flow uncertainty equation

(B-5) except that the $\frac{1}{4} \left(U \left(\frac{m}{Z_{Line}}\right)\right)^2$ term has been replaced by $U \left(\frac{Z_{Std}}{\sqrt{mZ_{Line}}}\right)^2$. The latter tends to be smaller than the former, and so the standard volume flow rate relative uncertainty tends to be smaller than the mass flow rate uncertainty.

This method is equivalent to a method derived in a NFOGM CMR Instrumentation report entitled "Uncertainty model for online uncertainty calculator for gas flow metering station" by Kjell-Eivnd Froya and Gaute Overas Lied, March 19th, 2014, Ref: No CMR-14-A10099-RA-1

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This method starts with the gas mass uncertainty calculation. However, the gas mass uncertainty equation is quoted using slightly different terminology. Instead of just using the line density uncertainty use the Pressure, Temperature and m/Z_1 uncertainty terms. The subscript 1 indicates line conditions and the subscript 0 standard conditions. The term β is also expanded to d/D . The expansion factor is defined ϵ in the NFGOM paper, and Y in AGA 3 and the analysis above.

The relative Gas Mass Uncertainty equation (equation 4.13 in the NFOGM paper) is written in the following form

$$\begin{aligned} \left(\frac{u(q_m)}{q_m}\right)^2 &= \left(\frac{u(C)}{C}\right)^2 + \left(\frac{u(\epsilon)}{\epsilon}\right)^2 + \left(\frac{2(d/D)^4}{1-(d/D)^4}\right)^2 \left(\frac{u(D)}{D}\right)^2 + \left(\frac{2}{1-(d/D)^4}\right)^2 \left(\frac{u(d)}{d}\right)^2 \\ &+ \left(\frac{1}{2}\right)^2 \left(\frac{u(\Delta P)}{\Delta P}\right)^2 + \left(\frac{1}{2}\right)^2 \left(\frac{u(P_1)}{P_1}\right)^2 + \left(\frac{1}{2}\right)^2 \left(\frac{u(m/Z_1)}{m/Z_1}\right)^2 + \left(\frac{1}{2}\right)^2 \left(\frac{u(T_1)}{T_1}\right)^2. \end{aligned} \quad (B-14)$$

The reason that m and the Z term are not split up further is that that they will be both based on the gas composition uncertainty, and so there will be significant correlations between them, meaning simple RSS will not be valid. The gas flow standard volume uncertainty quoted in the Norwegian paper is;

$$\begin{aligned} \left(\frac{u(q_{v0})}{q_{v0}}\right)^2 &= \left(\frac{u(C)}{C}\right)^2 + \left(\frac{u(\epsilon)}{\epsilon}\right)^2 + \left(\frac{2(d/D)^4}{1-(d/D)^4}\right)^2 \left(\frac{u(D)}{D}\right)^2 + \left(\frac{2}{1-(d/D)^4}\right)^2 \left(\frac{u(d)}{d}\right)^2 \\ &+ \left(\frac{1}{2}\right)^2 \left(\frac{u(\Delta P)}{\Delta P}\right)^2 + \left(\frac{1}{2}\right)^2 \left(\frac{u(P_1)}{P_1}\right)^2 + \left(\frac{u(Z_0/\sqrt{mZ_1})}{Z_0/\sqrt{mZ_1}}\right)^2 + \left(\frac{1}{2}\right)^2 \left(\frac{u(T_1)}{T_1}\right)^2. \end{aligned} \quad (B-15)$$

The only difference is in the second last term, it has changed from

$$\left(\frac{1}{2}\right)^2 \left(\frac{u(m/Z_1)}{m/Z_1}\right)^2 \quad \text{to} \quad \left(\frac{u(Z_0/\sqrt{mZ_1})}{Z_0/\sqrt{mZ_1}}\right)^2$$

This is exactly the same difference as between equation B-5 and B-13. Just as equation B-2, B-5 and B-14 are equivalent, B-13 and B-15 are equivalent.

These results were tested against an independent Monte Carlo Method, and the results found to agree

Appendix C Allocation System Uncertainty Method

The allocation derivation of the allocation uncertainty equations is shown below. The equations are developed for gas, but the method is general and the results applicable to water and oil.

The equations are developed for the most complex case, a Wellpad with seven wells. However, the equations can easily be simplified to a 4 well Wellpad by removing the terms which are relevant to the 5th, 6th and 7th wells. The WPA example if then considered.

The allocation equation for a well head with seven wells will be

$$Q_{w1gA} = \frac{Q_{wg1} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g} + Q_{w5g} + Q_{w6g} + Q_{w7g}}$$

where Q_{w1gA} is the well 1 allocated flow rate, Q_{SG} is the flow rate measured by the Sales Gas Meter, and Q_{wg1} to Q_{wg7} are the flow rates measured by wells 1 to 7 respectively.

To calculate the uncertainty the sensitivity terms are required. The sensitivity of uncertainty of Q_{w1gA} to the measured values (Q_{SG} and Q_{wg1} to Q_{wg7}) will be equal to the derivative of Q_{w1gA} to those values.

The derivative of the allocations to well 1 with respect to well 1 is

$$\frac{d}{dQ_{w1g}} \left(\frac{Q_{w1g} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g} + Q_{w5g} + Q_{w6g} + Q_{w7g}} \right) \xrightarrow{\text{simplify}} \frac{Q_{SG} \cdot (Q_{w2g} + Q_{w3g} + Q_{w4g} + Q_{w5g} + Q_{w6g} + Q_{w7g})}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g} + Q_{w5g} + Q_{w6g} + Q_{w7g})^2}$$

The derivative of the allocations to well 1 with respect to well 2 is

$$\frac{d}{dQ_{w2g}} \left(\frac{Q_{w1g} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g} + Q_{w5g} + Q_{w6g} + Q_{w7g}} \right) \xrightarrow{\text{simplify}} - \frac{Q_{SG} \cdot Q_{w1g}}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g} + Q_{w5g} + Q_{w6g} + Q_{w7g})^2}$$

The derivative of the allocation to well 1 with respect to wells 3, 4,5,6 and 7 will follow the same pattern to the equation above.

The derivative of well 1 with respect to the total sales gas is

$$\frac{d}{dQ_{SG}} \left(\frac{Q_{w1g} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g} + Q_{w5g} + Q_{w6g} + Q_{w7g}} \right) \xrightarrow{\text{simplify}} \frac{Q_{w1g}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g} + Q_{w5g} + Q_{w6g} + Q_{w7g}}$$

The uncertainty of Q_{w1gA} can then be calculated by taking the product of the measurement uncertainties (UQ_{SG} and UQ_{wg1} to UQ_{wg7}), multiply these by the corresponding sensitivity terms (S_{w1SG} and S_{w1wg1} to S_{w1wg7}), and root sum squaring the resulting values.

Considering the WPA well head in detail. The allocation equation is

$$Q_{w1gA} = \frac{Q_{wg1} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g}}$$

To calculate the uncertainty the sensitivity terms are required. These are calculated using the partial derivatives of the allocations to the wells and the sales gas.

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The derivative of the allocations to well 1 with respect to well 1 will be

$$\frac{d}{dQ_{w1g}} \left(\frac{Q_{w1g} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g}} \right) \xrightarrow{\text{simplify}} \frac{Q_{SG} \cdot (Q_{w2g} + Q_{w3g} + Q_{w4g})}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g})^2}$$

The derivative of the allocations to well 1 with respect to well 2 will be

$$\frac{d}{dQ_{w2g}} \left(\frac{Q_{w1g} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g}} \right) \xrightarrow{\text{simplify}} - \frac{Q_{SG} \cdot Q_{w1g}}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g})^2}$$

The derivative of the allocations to well 1 with respect to wells 3 and 4 are identical to that for well 2

$$\frac{d}{dQ_{w3g}} \left(\frac{Q_{w1g} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g}} \right) \xrightarrow{\text{simplify}} - \frac{Q_{SG} \cdot Q_{w1g}}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g})^2}$$

$$\frac{d}{dQ_{w4g}} \left(\frac{Q_{w1g} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g}} \right) \xrightarrow{\text{simplify}} - \frac{Q_{SG} \cdot Q_{w1g}}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g})^2}$$

The derivative of the allocations to well 1 with respect to the sales gas will be.

$$\frac{d}{dQ_{SG}} \left(\frac{Q_{w1g} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g}} \right) \xrightarrow{\text{simplify}} \frac{Q_{w1g}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g}}$$

The uncertainty of the measurement in allocation for a well is the square root of the sum of the squares of the actual uncertainty times the sensitivity terms

$$UQ_{w1gA} = \sqrt{(S_{w1gw1} \cdot UQ_{w1g})^2 + (S_{w1gw2} \cdot UQ_{w2g})^2 + (S_{w1gw3} \cdot UQ_{w3g})^2 + (S_{w1gw4} \cdot UQ_{w4g})^2 + (S_{w1gSG} \cdot UQ_{SG})^2}$$

The relative uncertainty is

$$PUQ_{w1gA} = 1.96 \cdot \frac{PUQ_{w1gA}}{Q_{w1gA}}$$

The WPA typical well and sales gas flow rates are;

$$Q_{w1g} := 200 \quad Q_{w2g} := 200 \quad Q_{w3g} := 200 \quad Q_{w4g} := 200 \quad Q_{SG} := 500$$

$$Q_{w1ga} := \frac{Q_{w1g} \cdot Q_{SG}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g}} = 125$$

$$S_{w1gw1} := \frac{Q_{SG} \cdot (Q_{w2g} + Q_{w3g} + Q_{w4g})}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g})^2} = 0.469$$

$$S_{w1gw2} := - \frac{Q_{SG} \cdot Q_{w1g}}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g})^2} = -0.156$$

$$S_{w1gw3} := - \frac{Q_{SG} \cdot Q_{w1g}}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g})^2} = -0.156$$

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$$S_{w1gw4} := \frac{Q_{SG} \cdot Q_{w1g}}{(Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g})^2} = -0.156$$

$$S_{w1gSG} := \frac{Q_{w1g}}{Q_{w1g} + Q_{w2g} + Q_{w3g} + Q_{w4g}} = 0.25$$

For these flow rates the measurement uncertainty is calculated to be 1.8% on the Separator meters and 1.2% on the sales gas meter.

$$UQ_{w1Per} := 1.8\% \quad UQ_{w1g} := Q_{w1g} \cdot \frac{UQ_{w1Per}}{1.96} = 1.837$$

$$UQ_{w2Per} := 1.8\% \quad UQ_{w2g} := Q_{w2g} \cdot \frac{UQ_{w2Per}}{1.96} = 1.837$$

$$UQ_{w3Per} := 1.8\% \quad UQ_{w3g} := Q_{w3g} \cdot \frac{UQ_{w3Per}}{1.96} = 1.837$$

$$UQ_{w4Per} := 1.8\% \quad UQ_{w4g} := Q_{w4g} \cdot \frac{UQ_{w4Per}}{1.96} = 1.837$$

$$UQ_{SGPer} := 1.2\% \quad UQ_{SG} := Q_{SG} \cdot \frac{UQ_{SGPer}}{1.96} = 3.061$$

$$UQ_{w1gA} := \sqrt{(S_{w1gw1} \cdot UQ_{w1g})^2 + (S_{w1gw2} \cdot UQ_{w2g})^2 + (S_{w1gw3} \cdot UQ_{w3g})^2 + (S_{w1gw4} \cdot UQ_{w4g})^2 + (S_{w1gSG} \cdot UQ_{SG})^2} = 1.255$$

$$UQ_{w1gAPer} := \frac{1.96 \cdot UQ_{w1gA}}{Q_{w1ga}} = 2.0\%$$

The relative uncertainty associated with well 1 allocated flow rate is $\pm 2.0\%$.

WPE gas allocation is slightly different in that gas is bought back to run the compressor. The next sales gas will be the total sales gas minus the buyback gas. The uncertainty of the net sales gas is the RSS of the sales gas and buyback gas uncertainties. The allocation is then the same as described above except that the allocation is based on the net gas sales rather than the sales gas meter measurement.

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Appendix D Allocation System Full Example – WPA

WPA Calculation Example for Equal Producing Wells.

Wellpad A Gas Allocation Equal Flow Rates

Flow rates and uncertainty input data						
Well name	Well measurement Flow Rate Qng mscfd	Allocated Flow Rate QngA mscfd	Well measurement Flow Rate (Qng) 95% Relative Uncertainty	Coverage Factor (k)	Well measurement Flow Rate (Qng) 95% Uncertainty mmscfd	Well measurement Flow Rate (Qng) 67% Uncertainty
Well 1	200	145	1.8%	1.96	3.60	1.84
Well 2	200	145	1.8%	1.96	3.60	1.84
Well 3	200	145	1.8%	1.96	3.60	1.84
Well 4	200	145	1.8%	1.96	3.60	1.84
Wells Total	800		0.9%	1.96	7.20	3.67
Sales Meter	580		1.2%	1.96	6.96	3.55

Pro Rata Factor	0.73	1.50%
-----------------	------	-------

The WPA well model input page. The bold text indicates inputted values.

Well name	Partial Derivative Sensitivity Terms				
	Well 1	Well 2	Well 3	Well 4	Sales Gas
Well 1	0.544	-0.181	-0.181	-0.181	0.250
Well 2	-0.181	0.544	-0.181	-0.181	0.250
Well 3	-0.181	-0.181	0.544	-0.181	0.250
Well 4	-0.181	-0.181	-0.181	0.544	0.250

The sensitivity terms

Well name	RSS+sensitivity method Results			Monte Carlo Results		
	Well Allocated Flow Rate (Qng) 67% Uncertainty mscfd	Well Allocated Flow Rate (Qng) 95% Uncertainty mscfd	Well Allocated Flow Rate (Qng) 95% Relative Uncertainty	MCS Trial Allocated Flow Rate QngA mscfd	Well Allocated Flow Rate (Qng) 95% Uncertainty mscfd	Well Allocated Flow Rate (Qng) 95% Relative Uncertainty
Well 1	1.46	2.9	2.0%	144.1	2.9	2.0%
Well 2	1.46	2.9	2.0%	142.8	2.9	2.0%
Well 3	1.46	2.9	2.0%	146.1	2.9	2.0%
Well 4	1.46	2.9	2.0%	144.5	2.9	2.0%

The results. Both the RSS/sensitivity analytical method and the MCS numerical method agree.

The figures above show all the terms in the allocation calculation method. This is for the case when the four wells are all producing at a rate of 200 mscfd. The uncertainty associated with each of the well head meters is $\pm 1.8\%$.

The sales gas meters are assumed to be operating at typical conditions (500 mscfd) with an associated uncertainty of $\pm 1.2\%$.

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The inputs, sensitivity terms and uncertainty results shown here are the same as those calculated in Appendix C.

WPA Calculation Example for Unequal Producing Wells

Wellpad A Gas Well Allocation Unequal Flow Rates

Flow rates and uncertainty input data						
Well name	Well measurement Flow Rate Qng mscfd	Allocated Flow Rate QngA mscfd	Well measurement Flow Rate (Qng) 95% Relative Uncertainty	Coverage Factor (k)	Well measurement Flow Rate (Qng) 95% Uncertainty mmscfd	Well measurement Flow Rate (Qng) 67% Uncertainty mmscfd
Well 1	300	218.2	1.8%	1.96	5.40	2.76
Well 2	200	145.5	1.8%	1.96	3.60	1.84
Well 3	200	145.5	1.8%	1.96	3.60	1.84
Well 4	70	50.9	2.6%	1.96	1.82	0.93
Wells Total	770		1.0%	1.96	7.64	3.90
Sales Meter	560		1.2%	1.96	6.72	3.43

Pro Rata Factor	0.73	1.56%
-----------------	------	-------

Wells 2 and 3 operating at typical conditions, Well 1 operating at High flow, and Well 4 operating at Low flow rate.

Well name	Partial Derivative Sensitivity Terms					RSS+sensitivity method Results		
	Well 1	Well 2	Well 3	Well 4	Sales Gas	Well Allocated Flow Rate (Qng) 67% Uncertainty mscfd	Well Allocated Flow Rate (Qng) 95% Uncertainty mscfd	Well Allocated Flow Rate (Qng) 95% Relative Uncertainty
Well 1	0.444	-0.189	-0.189	-0.066	0.390	1.97	3.9	1.8%
Well 2	-0.283	0.538	-0.189	-0.066	0.260	1.48	2.9	2.0%
Well 3	-0.283	-0.189	0.538	-0.066	0.260	1.48	2.9	2.0%
Well 4	-0.283	-0.189	-0.189	0.661	0.091	0.73	1.4	2.8%

The sensitivity terms and the RSS results. The MCS confirm the results and are not shown here for brevity.


The sensitivity and allocation values for the WPA well operating at a variety of flow rates are shown in the figures above.

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



Appendix E Gas Well Separator Meter Uncertainty – WPA

An example of the Gas Separator uncertainty model.



Well Separator Gas Measurement Uncertainty

Project	JE0249A	Doc No.	D050	Rev.	R01	Issue	Draft
Prepared	Blair Fyffe PhD. Flow Measurement Engineer			Signed		Date	May-27-2019
Approved	Martin Basil, BSc, CEng. Snr. Flow Measurement Consultant			Signed		Date	May-27-2019
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Case: Wellpad A Wells 1,2,3,4
Scenario: Typical Flowing Conditions Summer

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- Module 1. Summary Page
- Module 2. Temperature MVS
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- Module 4. DP MVS
- Module 5. AGA 8
- Module 6. AGA 3

Glossary:

- MCS- Monte Carlo Simulation
- RSS- Root Sum Square
- DP-Differential Pressure
- MVS-Multi Variable Sensor

Separator Gas Model; Title Page.

Client: Southern Petroleum Laboratories, Inc.
 Project: Federal Wellpad Uncertainty Study
 Document: Federal Wellpad Uncertainty Report
 Doc. No.: JE0249A-D004-R03 Issued



Summary Page			
Project	JE0249A	Doc No.	D050
Module No.	M01	Rev.	R01
Prepared:	Blair Fyffe PhD.	Date:	May 27th 2019
Approved:	Martin Basil, BSc, CEng.	Date:	May 27th 2019

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Model Summary ; Configuration Inputs, Intermediate and Uncertainty Results

1	Case: Wellpad A Wells 1,2,3,4						Measurement Uncertainty at 95% CI	
Scenario: Typical Flowing Conditions Summer								
1.1	Equipment							
1.1.1	Multi Variable Sensor							
1.1.2	Orifice type							
1.1.3	Upstream pipework straight lengths						Approx. 20 Diameters	
1.1.4	Upstream pipework out of plane bends						Yes	
1.1.5	Downstream pipework straight lengths						Approx. 20 Diameters	
1.1.6	Downstream pipework out of plane bends						Yes	
	Description	Symbol	Unit	Notes	Parameter	Absolute	Relative	
1.2	Flowing Conditions							
1.2.1	Standard Volume Flow Rate	q _{std}	mscfd	Note 1	200	3.6	1.8%	
1.2.2	Fluid Temperature	T _{obs}	°F	Notes 1 & 2	80	0.58	n/a	
1.2.3	Pressure	P _{obs}	psia	Notes 1 & 3	100	0.62	0.6%	
1.2.4	Pipe internal diameter	D _i	inches	Notes 1	2.900			
1.2.5	Orifice Diameter	d _i	inches	Notes 1	0.750			
1.3	Composition							
1.3.1	Methane	CH ₄	mol%	Notes 1 & 4	61.05%	6.13%		
1.3.2	Nitrogen	N ₂	mol%	Notes 1 & 4	2.24%	0.53%		
1.3.3	Carbon Dioxide	CO ₂	mol%	Notes 1 & 4	0.82%	0.10%		
1.3.4	Ethane	C ₂ H ₆	mol%	Notes 1 & 4	20.51%	3.28%		
1.3.5	Propane	C ₃ H ₈	mol%	Notes 1 & 4	9.63%	2.75%		
1.3.6	Water	H ₂ O	mol%	Notes 1 & 4	0.00%	0.00%		
1.3.7	Hydrogen Sulfide	H ₂ S	mol%	Notes 1 & 4	0.00%	0.00%		
1.3.8	Hydrogen	H ₂	mol%	Notes 1 & 4	0.00%	0.00%		
1.3.9	Carbon Monoxide	CO	mol%	Notes 1 & 4	0.00%	0.00%		
1.3.10	Oxygen	O ₂	mol%	Notes 1 & 4	0.00%	0.01%		
1.3.11	n-Butane	nC ₄ H ₁₀	mol%	Notes 1 & 4	2.88%	0.82%		
1.3.12	i-Butane	iC ₄ H ₁₀	mol%	Notes 1 & 4	1.01%	0.29%		
1.3.13	n-Pentane	nC ₅ H ₁₂	mol%	Notes 1 & 4	0.71%	0.42%		
1.3.14	i-Pentane	iC ₅ H ₁₂	mol%	Notes 1 & 4	0.49%	0.23%		
1.3.15	n-Hexane	nC ₆ H ₁₄	mol%	Notes 1 & 4	0.43%	0.31%		
1.3.16	n-Heptane	nC ₇ H ₁₆	mol%	Notes 1 & 4	0.17%	0.17%		
1.3.17	n-Octane	nC ₈ H ₁₈	mol%	Notes 1 & 4	0.06%	0.09%		
1.3.18	n-Nonane	nC ₉ H ₂₀	mol%	Notes 1 & 4	0.02%	0.03%		
1.3.19	n-Decane	nC ₁₀ H ₂₂	mol%	Notes 1 & 4	0.00%	0.00%		
1.3.20	Helium	He	mol%	Notes 1 & 4	0.00%	0.00%		
1.3.21	Argon	Ar	mol%	Notes 1 & 4	0.00%	0.00%		
1.4	Calibration Conditions							
1.4.1	Calibration Temperature	T _{cal}	°F	Notes 1 & 5	75			
1.4.2	Calibration Pressure	P _{cal}	psia	Notes 1 & 5	90			
1.4.3	Calibration DP	DP _{cal}	inH ₂ O	Notes 1 & 5	40			
1.4.4	Time Difference in years		Years	Notes 1 & 5	0.14			
1.5	Calculated Intermediate Values							
1.5.1	Densities							
1.5.2	Line density	ρ _{obs}	lb/ft ³	Notes 1 & 6	0.44	0.017	3.9%	
1.5.3	Standard Density	ρ _{std}	lb/ft ³	Notes 1 & 6	0.066	0.0024	3.6%	
1.5.4	Other							
1.5.5	Mass Flow Rate	q _m	lb/sec	Notes 1 & 4	0.15	0.0031	2.0%	
1.5.6	Differential Pressure	DP _{obs}	inH ₂ O	Notes 1 & 4	46.0	0.2	0.44%	
1.6	Notes:							
1.6.1	Note 1. Bold text refers to input values. Non-bold text to values which are calculated within the model.							
1.6.2	Note 2. See Temperature MVS tab for more details.							
1.6.3	Note 3. See Pressure MVS tab for more details.							
1.6.4	Note 4. See AGA 8 tab for more details.							
1.6.5	Note 5. Averaged values from calibration sheets.							
1.6.6	Note 6. See AGA 3 tab for more details.							

Separator Gas Model; Summary Page



MVS Temperature Measurement Uncertainty

Project	JE0249A	Doc No.	D050
Module No.	M02	Rev.	R01

Prepared: Blair Fyfe PHD. Date: May 27th 2019
 Approved: Martin Basal, BSc, CEng. Date: May 27th 2019

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2 UT_{gas} Temperature Transmitter Observed Uncertainty
 Calculation uncertainty method by RSS. Verified by MCS.

2.1 Calculation Summary
 2.1.1 Case: Wellpad A Wells 1,2,3,4
 2.1.2 Scenario: Typical Flowing Conditions Summer
 2.1.3

2.2 Description	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Absolute Uncertainty (U)	Confidence Interval (CI)	Relative Uncertainty (U)	Uncertainty Type (A/B)	Coverage Factor (K)	Standard Unc. (s=U/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity Unc. (sΔ)	MCS Verification (see note 8)
2.2.1 Fluid Temperature	T _{gas}	°F	Note 1	80.0	0.78	99.5%		A	3	0.2600	1	0.260000	0.0148
2.2.2 Sensor Uncertainty IEC751 Class B Fahrenheit	UT _{gas}	°F	Note 2 and 3	0.78	0.50	99.5%		A	3	0.1667	1	0.166667	-0.1721
2.2.3 Reference Accuracy	UT _{gas}	°F	Note 2 and 4	0.5									
2.2.4 Ambient Temperature Effect	T _{amb}	°F	Note 4										
2.2.5 Stability for Annual Calibration	UT _{gas}	°F/Yr	Note 4										
2.2.6 Radio Frequency Interference	T _{over}	°F	Note 5										
2.2.7 Vibration	T _{vib}	°F	Note 5										
2.2.8 Other	T _{over}	°F	Note 6										
2.2.9 Orientation	T _{over}	°F	Note 6										
2.2.10 Calibration Device Acceptance Limits	T _{over}	°F	Note 7	0.10	0.10	100.0%		B Rect.	1.73	0.0578	1	0.057803	-0.0431
2.2.11 Calibration Acceptance Tolerance	T _{tol}	°F	Note 8	0.50	0.50	100.0%		B Rect.	1.73	0.2890	1	0.289017	0.1443
2.3 Notes:													
2.3.1 Note 1. Temperature from Separator/Sales gas data.													80.10
2.3.2 Note 2. Uncertainties from Manufacturer literature and quoted at ±3σ (99.5% CI).													80.0
2.3.3 Note 3. Uncertainty quoted as 0.3+0.005*Modulus Temp (in degrees C) in Manufacturer's literature, Have converted to °F.													0.29
2.3.4 Note 4. Not given in Manufacturer's literature, so considered to be negligible.													factor
2.3.5 Note 5. Considered to be negligible.													0.58
2.3.6 Note 6. Installed horizontally so considered negligible.													U
2.3.7 Note 7. Given as 0.1°F in the calibration device calibration sheets.													U
2.3.8 Note 8. Informed this was 0.5°F in an email.													n/a
2.3.9 Note 9. Calculated by RSS uncertainties from rows 2.2.10 and 2.2.11.													n/a



MVS Pressure Measurement Uncertainty													
Project	D030		Doc No.	D030		Rev.	R01						
Module No.	M03		Prepared: Blair Fyffe PhD. Martin Basil, BSc, CEng. Date: May 27th 2019									Copyright © SOLV Limited 2019. All rights reserved	
<p>3 UP_{obs} Pressure Transmitter Observed Uncertainty Calculation uncertainty method by RSS, Verified by MCS.</p> <p>3.1 Calculation Summary</p> <p>3.1.1 Case: Wellpad A Wells 1,2,3,4</p> <p>3.1.2 Scenario: Typical Flowing Conditions Summer</p> <p>3.1.3</p>													
3.2 Description	Symbol	Unit	Notes on Parameters/ Uncertainties Sources	Parameter	Absolute Uncertainty (U)	Confidence Interval (CI)	Relative Uncertainty (U)	Uncertain- ty Type (A/B)	Coverage Factor (K)	Standard Unc. (\pm U/C)	Sensitivity (Δ = Δ s/s)	Std. Sensitivity Unc. (s Δ)	MCS Verification
3.2.1 Pressure	P _{obs}	psia	Note 1	100.0									
3.2.2 Ambient Temperature	T _{amb}	°F	Note 2	70.0									
3.2.3 Pressure Transmitter URL Range 5	P _{URL}	psi	Note 3	800									
3.2.4 Pressure Transmitter Span	P _{span}	psi	Note 3	800		0.523							
3.2.5 Transmitter Reference Uncertainty	UP _{ref}	%URL	Note 4 and 5	0.100%	0.80	99.5%	0.80%	A	3	0.267	1	0.266667	0.162%
3.2.6 Stability for Annual Calibration	UP _{stab}	%URL/yr	Note 4 and 6	0.125%	0.14	99.5%	0.14%	B	3	0.047	1	0.046667	0.0197
3.2.7 Ambient Temperature Effect psi/50°F	uP _{ambT}	psi/50°F	Note 4 and 7		0.14	99.5%	0.14%	A	3	0.047	1	0.046667	-0.0202
3.2.8 Interference	P _{inter}	psi	Note 8										
3.2.9 Vibration	P _{vib}	psi	"										
3.2.10 Other	P _{other}	psi	"										
3.2.11 Orientation	P _{orient}	psi	Note 9										
3.2.12 Calibration Device Acceptance Limits	P _{cal}	psi	Note 10 and 11		0.195	100.0%	0.20%	B Rect.	1.73	0.113	1	0.112717	-0.1744
3.2.13 Calibration Acceptance Tolerance	P _{cal}	psi	Note 12		0.5009	100.0%	0.50%	B Rect.	1.73	0.289510	1	0.289510	0.2900
3.3 Notes:													
3.3.1	Note 1. Pressure from Separator/Sales gas data.												
3.3.2	Note 2. Assume Ambient Temperature of 70°F.												
3.3.3	Note 3. Both Span and URL from Instrumentation Inventory.												
3.3.4	Note 4. Uncertainties from Manufacturer's literature and quoted at ±3σ (99.5% CI).												
3.3.5	Note 5. Uncertainty quoted as 0.1% of Span in Manufacturer's literature.												
3.3.6	Note 6. Uncertainty quoted as 0.125% of URL per 5 years in Manufacturer's literature.												
3.3.7	Note 7. Uncertainty quoted as (0.05% of URL + 0.125% of span) per 50°F in Manufacturer's literature.												
3.3.8	Note 8. Considered to be negligible.												
3.3.9	Note 9. Installed horizontally so considered negligible.												
3.3.10	Note 10. Uncertainty quoted as 0.05% of Reading + 0.005% of full span in Manufacturer's literature.												
3.3.11	Note 11. Calibration device full span is 3000 psi given in the calibration device calibration sheets.												
3.3.12	Note 12. Calculated as Eqn. 24 as given in API 21.1.2013 (based on Transmitter Ref Uncert and Calibration Device Uncert).												



MYS Differential Pressure Measurement Uncertainty														
Project	JE0249A	Doc No.	D050	Prepared by	Blair Fyffe PHD.	Date	May 27th 2019	Copyright © SOLV Limited 2019. All rights reserved						
Module No.	M04	Rev.	R01	Approved:	Martin Basil, BSc, C	Date	May 27th 2019							
<p>4 UP_{abs} Differential Pressure Transmitter Observed Uncertainty Calculation uncertainty method by RSS, Verified by MCS.</p>														
<p>4.1 Calculation Summary</p> <p>4.1.1 Case: Wellpad A Wells 1,2,3,4</p> <p>4.1.2 Scenario: Typical Flowing Conditions Summer</p> <p>4.1.3</p>														
4.2	Description	Symbol	Unit	Notes on Parameters/ Uncertainties Sources	Parameter	Absolute Uncertainty (u)	Confidence Interval (CI)	Relative Uncertainty (U)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=U/C)	Sensitivity (Δ=As/s)	Std. Sensitivity Unc. (sΔ)	MCS Verification
4.2.1	Differential Pressure	DP _{abs}	inH ₂ O	Note 1	46.0									
4.2.2	Ambient Temperature	T _{amb}	°F	Note 2	70.0									
4.2.3	DP Transmitter URL Range 5	DP _{URL}	inH ₂ O	Note 3	250									
4.2.4	DP Transmitter Span	DP _{SPAN}	inH ₂ O	Note 3	250									
4.2.5	Transmitter Reference Uncertainty	UDP _{REF}	%Span	Note 4 and 5	0.100%	0.250	99.5%	0.54%	A	3	0.083	1	0.0833333	-0.0615
4.2.6	Stability for Annual Calibration	UDP _{STAB}	%URL/Yr	Note 4 and 6	0.125%	0.044	99.5%	0.095%	B	3	0.015	1	0.014563	0.0076
4.2.7	Ambient Temperature Effect	UDP _{Tamb}	inH ₂ O/50°F	Note 4 and 7	0.375	0.038	99.5%	0.082%	B	3	0.013	1	0.012500	0.0233
4.2.8	Static Pressure Effect, Zero Error	UDP _{Static}	inH ₂ O/1000psi	Note 4 and 8	0.135	0.001	99.5%	0.0027%	B	3	0.000	1	0.000417	-0.00093
4.2.9	Static Pressure Effect, Span Error	UDP _{Static}	inH ₂ O/1000psi	Note 4 and 9	0.092	0.001	99.5%	0.0020%	B	3	0.000	1	0.000307	-0.00048
4.2.10	Interference	uP _{Inter}	inH ₂ O	Note 10										
4.2.11	Vibration	uP _{Vib}	inH ₂ O	"										
4.2.12	Other	uP _{Other}	inH ₂ O	"										
4.2.13	Orientation	uP _{Orientation}	inH ₂ O	Note 11										
4.2.14	Calibration Device Acceptance Limits	uP _{Device}	inH ₂ O	Note 12		0.070	100.0%	0.10%	B Rect.	1.73	0.040	1	0.040389	-0.0226
4.2.15	Calibration Acceptance Tolerance	uP _{Tol}	inH ₂ O	Note 13		0.164	100.0%	0.3558%	B Rect.	1.73	0.095	1	0.093	0.1579
4.3	Notes:													
4.3.1	Note 1. Differential Pressure calculated on the AGA 3 tab.													
4.3.2	Note 2. Assume Ambient Temperature of 70°F.													
4.3.3	Note 3: Both Span and URL from Instrumentation Inventory.													
4.3.4	Note 4. Uncertainties from Manufacturer's literature and quoted as 437 (99.5% CI).													
4.3.5	Note 5. Reference accuracy quoted as 0.1% of Span for turn downs from 1:1 to 10:1 in manufacturer's literature.													
4.3.6	Note 6. Stability quoted as 0.125% of URL per five years in manufacturer's literature.													
4.3.7	Note 7. Ambient Temperature effect quoted as (0.025% of URL + 0.125% of span) per 50°F in manufacturer's literature.													
4.3.8	Note 8. Static Pressure zero error quoted as 0.05% of URL per 1000psi in manufacturer's literature.													
4.3.9	Note 9. Static Pressure span error quoted as 0.2% of DP reading per 1000psi in manufacturer's literature.													
4.3.10	Note 10. Considered to be negligible.													
4.3.11	Note 11. Installed Horizontally so considered negligible.													
4.3.12	Note 12. Acceptance limits quoted as 0.05% of Reading + 0.005% of full span in the calibration data sheet.													
4.3.13	Note 13. Calculated as per Equation 24, Page 37, as given in API MPMS 2.1.1.2013.													



Item No.	Description	Unit	Parameter	Confidence Interval (%)	Relative Uncertainty (U)	Absolute Uncertainty (U)	Uncertainty Type (A/B)	Coverage Factor (k)	At Line Conditions		At Standard Conditions		Sensitivity at LC/Density at SC	
									Sensitivity (A-As/s)	Std. Sensitivity (A-As/s)	Sensitivity (A-As/s)	Std. Sensitivity (A-As/s)	Sensitivity (A-As/s)	Std. Sensitivity (A-As/s)
5	Gas Density Uncertainty at Line and Standard Conditions													
5.1	Calculation Summary													
S.1.1	Calculation method: AGA 8 1994													
S.1.2	Case: Wellpad A Wells 1,2,3,4													
S.1.3	Software: All Physical Properties Calculator, Simulator													
S.2	Notes on Parameters/ Uncertainty Sources													
S.2.1	Fluid Temperature	60.0	Notes 1	95%	0.6%	0.6%	A	1.96	0.00091	2.67E-04	0	0	0.03303	0.03064
S.2.2	Fluid Pressure	50.0	Notes 2	95%	0.6%	0.6%	B	1.96	0.00091	1.47E-03	0	0	-0.03303	-0.03064
S.2.3	Methanol	61%	Notes 3 and 4	95%	6.13%	6.13%	B	1.96	0.27%	5.27E-03	0.024	2.477E-04	-1.733E-02	-0.03563
S.2.4	Nitrogen	2%		95%	0.33%	0.33%	B	1.96	0.27%	0.34	1.75E-04	0.050	2.43E-05	0.784E-02
S.2.5	Carbon Dioxide	1%		95%	0.10%	0.10%	B	1.96	0.27%	0.27	1.68E-03	0.050	2.43E-05	3.884E-04
S.2.6	Ethane	21%		95%	3.28%	3.28%	B	1.96	1.40%	0.49	1.68E-03	0.214	2.43E-04	0.687E-01
S.2.7	Propane	10%		95%	2.75%	2.75%	B	1.96	1.40%	0.27	5.18E-03	0.051	7.19E-04	3.671E-01
S.2.8	Methane	0%		95%	0.00%	0.00%	B	1.96	0.00%	0.07	1.52E-02	0.06	1.25E-08	7.0E-04
S.2.9	Hydrogen Sulfide	0%		95%	0.00%	0.00%	B	1.96	0.00%	0.08	0.00%	0.06	0.00000	0.00000
S.2.10	Hydrocarbon	0%		95%	0.00%	0.00%	B	1.96	0.00%	0.08	0.00%	0.06	0.00000	0.00000
S.2.11	Carbon Monoxide	0%		95%	0.00%	0.00%	B	1.96	0.00%	0.11	4.23E-06	0.218	7.17E-07	1.53E-07
S.2.12	Oxygen	0%		95%	0.01%	0.01%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.13	Nitrogen	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.14	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.15	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.16	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.17	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.18	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.19	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.20	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.21	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.22	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.23	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.2.24	Hydrocarbon	1%		95%	0.29%	0.29%	B	1.96	0.40%	0.63	3.47E-04	0.089	3.70E-04	6.382E-01
S.3	Notes													
S.3.1	Density at LC	10091	Notes 5	95%	0.05%	0.05%	B	1.96	0.00257	0.00257	1	2.47E-03	1	2.47E-03
S.3.2	Density at LC with Method Uncertainty	10091	Notes 6	95%	0.10%	0.10%	A	1.96	0.01023	0.01023	1	2.47E-03	1	2.47E-03
S.3.3	Density at SC	0.76606	Notes 7 and 8	95%	0.10%	0.10%	A	1.96	0.00027	0.00027	1	3.27E-05	1	3.27E-05
S.3.4	Density at SC with Method Uncertainty	0.76606	Notes 9	95%	0.10%	0.10%	A	1.96	0.00027	0.00027	1	3.27E-05	1	3.27E-05
S.3.5	(Std. Dev. at LC)/Density at SC	10091	Notes 10	95%	0.05%	0.05%	B	1.96	0.00257	0.00257	1	2.47E-03	1	2.47E-03
S.3.6	Method Uncertainty	10091	Notes 7 and 8	95%	0.05%	0.05%	B	1.96	0.00257	0.00257	1	2.47E-03	1	2.47E-03
S.4	Notes													
S.4.1	Note 1, Data from Temperature MWS tabs.													
S.4.2	Note 2, Data from Pressure MWS tabs.													
S.4.3	Note 3, Gas compositions average of well gas analysis compositions.													
S.4.4	Note 4, Gas compositions average of well gas analysis compositions.													
S.4.5	Note 5, Check to make sure compositions is normalised.													
S.4.6	Note 6, Density calculated from composition at line conditions using compositions and line pressure and temperature.													
S.4.7	Note 7, Method uncertainty of +/-2.1% at 95% CI is quoted in AGA 8 1994.													
S.4.8	Note 8, Same method uncertainty used for both standard and line conditions.													
S.4.9	Note 9, Density calculated from composition at standard conditions using AGA 8 method.													
S.4.10	Note 10, Used to calculate a parameter which is the square root of the line density, divided by standard density.													
S.4.11	Note 11, Calculated by RSS all line relevant standard sensitivity uncertainties.													
S.4.12	Note 12, The RSS method should match the MCS method result.													
S.4.13	Note 13, The RSS method should match the MCS method result.													
S.4.14	Note 14, The RSS method should match the MCS method result.													
S.4.15	Note 15, The RSS method should match the MCS method result.													
S.4.16	Note 16, The RSS method should match the MCS method result.													
S.4.17	Note 17, The RSS method should match the MCS method result.													
S.4.18	Note 18, The RSS method should match the MCS method result.													
S.4.19	Note 19, The RSS method should match the MCS method result.													
S.4.20	Note 20, The RSS method should match the MCS method result.													
S.4.21	Note 21, The RSS method should match the MCS method result.													
S.4.22	Note 22, The RSS method should match the MCS method result.													
S.4.23	Note 23, The RSS method should match the MCS method result.													

Separator Gas Model; AGA 8 Uncertainty Page




Module No.	Project	Doc. No.	Rev.	D050	Prepared, Approved, R01	Blair Fyffe PhD, Martin Basal, BSc, CEng.	Date: May 27th 2019 Date: May 27th 2019	Copyright © SOLV Limited 2019. All rights reserved.	SOLV flow measurement								
6	Gas density uncertainty as described in AGA 3 with method uncertainty by RSS, Verified by MCS.																
6.1	Calculation Summary																
6.1.1	Calculation method: AGA 3 1992																
6.1.2	Case: Wellpad A Wells 1,2,3,4																
6.1.3	Scenario: Typical Flowing Conditions Summer																
6.2	Description																
6.2.1	Volume at Standard conditions	Qv	m ³ /d	200	Notes 1	Parameter	Confidence Interval (CI)	95% Relative Uncertainty (%)	Absolute Uncertainty (Q)	Uncertainty Type (U/S)	Coverage Factor (C)	Standard Uncertainty (U)	Standard Deviation (σ=U/C)	Sensitivity (∂Q/∂P)	Std. Sensitivity Inc. (Std)	Relative Std. Unc. (Std)	MCS Verification
6.2.2	Mass flow rate	M	kg/d	0.1529	Notes 2		n/a	n/a									0.1529(3)
6.2.3	Line Temperature	T _{line}	°F	80.0	Notes 3		95%	0.5%	0.5%	A	1.96	0.29	0.29				0.0010
6.2.4	Line Pressure Upstream	P _{line}	PSIA	100.0	Notes 4		95%	0.0%	0.0%	A	1.96	0.32	0.32				0.0010
6.2.5	Reference Temperature for Pipework	T _{ref}	°F	66.0	Notes 5		95%	0.0%	0.0%	B	1.96	0%	0%				0.0000
6.2.6	Isentropic Exponent	k	n/a	1.3	Notes 6 & 7		95%	0.0%	0.0%	B	1.96	0%	0%				0.0000
6.2.7	Dynamic Viscosity	μ	cp	0.0069	Notes 7 & 8		95%	0.0%	0.0%	B	1.96	0%	0%				0.0000
6.2.8	Pipe internal diameter	D	inches	2.0770	Notes 9		95%	0.25%	0.0952	B	1.96	0%	0%				0.0000
6.2.9	Pipe external diameter	D _e	inches	0.7500	Notes 10		95%	0.10%	0.0088	B	1.96	0%	0%				0.0000
6.2.10	Drift diameter	d _d	inches	9.25E-06	Notes 11		95%	0.0%	0.00E+00	B	1.96	0%	0%				0.0000
6.2.11	Linear thermal expansion of ss	α _{ss}	in/in/degF	6.20E-06	Notes 12		95%	0.0%	0.00E+00	B	1.96	0%	0%				0.0000
6.2.12	Linear thermal expansion of cs	α _{cs}	in/in/degF	6.6E-06	Notes 13		95%	0.0%	0.00E+00	B	1.96	0%	0%				0.0000
6.2.13	Viscosity	μ	lb/ft ²	4.4E-06	Notes 14		95%	0.35%	0.00519	B	1.96	0%	0%				0.0000
6.2.14	Dynamic viscosity	μ _d	lb/ft ²	0.2501	Notes 15		95%	0.35%	0.00519	B	1.96	0%	0%				0.0000
6.2.15	Surface tension	σ	inches	0.2501	Notes 16		95%	0.10%	0.00075	B	1.96	0%	0%				0.0000
6.2.16	Surface density	ρ _s	inches	0.2501	Notes 17		95%	0.27%	0.00097	B	1.96	0%	0%				0.0000
6.2.17	Velocity of Approach Factor	E _v	n/a	1.009	Notes 18		95%	0.48%	0.0029	B	1.96	0%	0%				0.0000
6.2.18	Pipe Reynolds Number	Re _p	n/a	24261	Notes 19		95%	0.48%	0.0029	B	1.96	0%	0%				0.0000
6.2.19	Coefficient of Discharge	C _d	n/a	0.601	Notes 20		95%	0.48%	0.0029	B	1.96	0%	0%				0.0000
6.2.20	Line density	ρ _{line}	lb/ft ³	0.444	Notes 21		95%	3.90%	0.017	B	1.96	1.99%	1.99%				0.0000
6.2.21	Standard Density	ρ _{std}	lb/ft ³	0.601	Notes 22		95%	3.67%	0.024	B	1.96	1.83%	1.83%				0.0000
6.2.22	Surf Line Density/Standard Density	ρ _{sl}	ft ³ /ft ³	0.601	Notes 23		95%	1.73%	0.17	B	1.96	0.88%	0.88%				0.0000
6.2.23	Differential Pressure Range Tagging	ΔP	inH2O	45.9	Notes 24		95%	0.44%	0.02	B	1.96	0%	0%				0.0000
6.2.24	Expansion factor	Y	n/a	0.987	Notes 25		95%	0.042%	0.00041	B	1.96	0%	0%				0.0000
6.2.25	Expansion factor method uncertainty	Y _u	n/a	1.00000	Notes 26		95%	0.065%	0.00066	B	1.96	0%	0%				0.0000
6.3	Notes:																
6.3.1	Note 1. Flow rate based on the minimum, the typical or the maximum flow rate for the size of meter.																
6.3.2	Note 2. Both the Monte Carlo and RSS AGA 3 calculations are given by mass flow rate.																
6.3.3	Note 3. Data from Pressure PVS tab.																
6.3.4	Note 4. Data from Temperature PVS tab.																
6.3.5	Note 5. Reference temperature for pipework quoted as 60°F in AGA 3.																
6.3.6	Note 6. Reference temperature for gas viscosity quoted as 60°F in AGA 3.																
6.3.7	Note 7. Uncertainty on these parameter not required for AGA 3 uncertainty method, and found using MCS to have negligible effect on Overall Uncertainty.																
6.3.8	Note 8. Viscosity quoted as 0.000069 Pa.s in configuration files.																
6.3.9	Note 9. Information from calibration sheets.																
6.3.10	Note 10. From Calibration sheets and Gas Volume Statements. Changed from time to time on some wells, at typical values is chosen.																
6.3.11	Note 11. Linear Coefficient of 304 and 316 Stainless steel from AGA 3 1992. Uncertainty of these values have negligible effect on Overall Uncertainty.																
6.3.12	Note 12. Linear Coefficient of carbon steel, from AGA 3 1992.																
6.3.13	Note 13. Densities calculated in AGA 8 calculation sheet.																
6.3.14	Note 14. A variable defined as the square root of the line density over the standard density is used to calculate standard volume flow uncertainty.																
6.3.15	Note 15. Dynamic viscosity converted from St to cP units.																
6.3.16	Note 16. Calculation using formula given in AGA 3.																
6.3.17	Note 17. Calculation using formula given in AGA 3.																
6.3.18	Note 18. Calculation using formula given in AGA 3.																
6.3.19	Note 19. Method Uncertainty given in section 1.12.4.2 of AGA 3.																
6.3.20	Note 20. Calculated Mass and Standard Volume Flow rate static values should be the same as those listed at the top of the page.																
6.3.21	Note 21. Calculated using the uncertainty equation section 1.12.3 of AGA 8.																
6.3.22	Note 22. Flow rate relative uncertainties should be the same as those for MSC as sensitivity method.																

Client: Southern Petroleum Laboratories, Inc.
Project: Federal Wellpad Uncertainty Study
Document: Federal Wellpad Uncertainty Report
Doc. No.: JE0249A-D004-R03 Issued





Appendix F Sales Gas Uncertainty Model – WPA

An example of the Sales Gas uncertainty model.



Sales Gas Measurement Uncertainty

Project	JE0249A	Doc No.	D040	Rev.	R01	Issue	Draft
Prepared	Blair Fyffe PhD. Flow Measurement Engineer			Signed		Date	May-22-2019
Approved	Martin Basil, BSc, CEng. Snr. Flow Measurement Consultant			Signed		Date	May-22-2019
Client	Southern Petroleum Laboratories, Inc.			Signed		Date	
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Case: Wellpad A Sales Gas Meter
Scenario: Typical Flowing Conditions Summer

Index:

- Module 1. Summary Page
- Module 2. Temperature MVS
- Module 3. Pressure MVS
- Module 4. DP MVS
- Module 5. AGA 8
- Module 6. AGA 3

Glossary:

- MCS- Monte Carlo Simulation
- RSS- Root Sum Square
- DP-Differential Pressure
- MVS-Multi Variable Sensor

Sales Gas Model; Title Page

Client: Southern Petroleum Laboratories, Inc.
 Project: Federal Wellpad Uncertainty Study
 Document: Federal Wellpad Uncertainty Report
 Doc. No.: JE0249A-D004-R03 Issued



Summary Page

Project	JE0249A	Doc No.	D040
Module No.	M01	Rev.	R01

Prepared: Blair Fyffe PhD. Date: May 27th 2019
 Approved: Martin Basil, BSc, CEng. Date: May 27th 2019

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Model Summary: Configuration inputs, intermediate and uncertainty results

1	Case: Wellpad A Sales Gas Meter					Measurement Uncertainty at 95% CI	
	Scenario: Typical Flowing Conditions Summer						
1.1	Equipment						
1.1.1	Multi Variable Sensor						
1.1.2	Orifice type						
1.1.3	Upstream pipework straight lengths				Approx. 10 diameters		
1.1.4	Upstream pipework out of plane bends				None visible		
1.1.5	Downstream pipework straight lengths				Approx. 10 diameters		
1.1.6	Downstream pipework out of plane bends				None visible		
	Description	Symbol	Unit	Notes	Parameter	Absolute	Relative
1.2	Flowing Conditions						
1.2.1	Standard Volume Flow Rate	q_{std}	mscfd	Note 1	500	6.0170	1.20%
1.2.2	Fluid Temperature	T_{obs}	°F	Notes 1 & 2	60	0.58	n/a
1.2.3	Pressure	P_{obs}	psia	Notes 1 & 3	70	0.314	0.4%
1.2.4	Pipe internal diameter	D_r	inches	Notes 1	3.074		
1.2.5	Orifice Diameter	d_r	inches	Notes 1	1.50		
1.3	Composition						
1.3.1	Methane	CH ₄	mol%	Notes 1 & 4	61.63%	2.87%	
1.3.2	Nitrogen	N ₂	mol%	Notes 1 & 4	2.23%	0.37%	
1.3.3	Carbon Dioxide	CO ₂	mol%	Notes 1 & 4	0.84%	0.07%	
1.3.4	Ethane	C ₂ H ₆	mol%	Notes 1 & 4	20.45%	1.59%	
1.3.5	Propane	C ₃ H ₈	mol%	Notes 1 & 4	9.62%	1.29%	
1.3.6	Water	H ₂ O	mol%	Notes 1 & 4	0.00%	0.00%	
1.3.7	Hydrogen Sulfide	H ₂ S	mol%	Notes 1 & 4	0.00%	0.01%	
1.3.8	Hydrogen	H ₂	mol%	Notes 1 & 4	0.00%	0.00%	
1.3.9	Carbon Monoxide	CO	mol%	Notes 1 & 4	0.00%	0.00%	
1.3.10	Oxygen	O ₂	mol%	Notes 1 & 4	0.00%	0.00%	
1.3.11	n-Butane	nC ₄ H ₁₀	mol%	Notes 1 & 4	2.80%	0.59%	
1.3.12	i-Butane	iC ₄ H ₁₀	mol%	Notes 1 & 4	1.01%	0.17%	
1.3.13	n-Pentane	nC ₅ H ₁₂	mol%	Notes 1 & 4	0.63%	0.27%	
1.3.14	i-Pentane	iC ₅ H ₁₂	mol%	Notes 1 & 4	0.44%	0.17%	
1.3.15	n-Hexane	nC ₆ H ₁₄	mol%	Notes 1 & 4	0.22%	0.26%	
1.3.16	n-Heptane	nC ₇ H ₁₆	mol%	Notes 1 & 4	0.09%	0.15%	
1.3.17	n-Octane	nC ₈ H ₁₈	mol%	Notes 1 & 4	0.03%	0.06%	
1.3.18	n-Nonane	nC ₉ H ₂₀	mol%	Notes 1 & 4	0.00%	0.00%	
1.3.19	n-Decane	nC ₁₀ H ₂₂	mol%	Notes 1 & 4	0.00%	0.00%	
1.3.20	Helium	He	mol%	Notes 1 & 4	0.00%	0.00%	
1.3.21	Argon	Ar	mol%	Notes 1 & 4	0.00%	0.00%	
1.4	Calibration Conditions						
1.4.1	Calibration Temperature	T_{cal}	°F	Notes 1 & 5	75		
1.4.2	Calibration Pressure	P_{cal}	psia	Notes 1 & 5	80		
1.4.3	Calibration DP	DP_{cal}	inH ₂ O	Notes 1 & 5	30		
1.4.4	Time Difference in years		Years	Notes 1 & 5	0.125		
1.5	Calculated Intermediate Values						
1.5.1	Densities						
1.5.2	Line density	ρ_{obs}	lb/ft ³	Notes 1 & 6	0.32	0.0068	2.2%
1.5.3	Standard Density	ρ_{std}	lb/ft ³	Notes 1 & 6	0.065	0.0013	2.0%
1.5.4	Other						
1.5.5	Mass Flow Rate	q_m	lb/sec	Notes 1 & 4	0.3767	0.0048	1.3%
1.5.6	Differential Pressure	DP_{obs}	inH ₂ O	Notes 1 & 4	23.3	0.2	0.93%
1.6	Notes:						
1.6.1	Note 1. Bold text refers to input values. Non-bold text to values which are calculated within the model						
1.6.2	Note 2. See Temperature MVS tab for more details						
1.6.3	Note 3. See Pressure MVS tab for more details						
1.6.4	Note 4. See AGA 8 tab for more details						
1.6.5	Note 5. Averaged values from calibration sheets.						
1.6.6	Note 6. See AGA 3 tab for more details						

Sales Gas Model; Summary Page



SOLV™
flow measurement

MVS Temperature Measurement Uncertainty

Project	JE0249A	Doc.No.	D040
Module No.	M02	Rev.	R01

Prepared: Blair Fyffe PHD. Date: May 27th 2019
 Approved: Martin Basfi, BSc, CEng. Date: May 27th 2019

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2 Ut_obs Temperature Transmitter Observed Uncertainty
 Calculation uncertainty method by RSS. Verified by MCS.

2.1	Calculation Summary													
2.1.1	Case:	Wellpad A Sales Gas Meter												
2.1.2	Scenario:	Typical Flowing Conditions Summer												
2.1.3														
2.2	Description	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Absolute Uncertainty (u)	Confidence Interval (CI)	Relative Uncertainty (U)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=u/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity MCS Verification Unc. (sΔ)	MCS Verification (see note 8)
2.2.1	Fluid Temperature	T _{Gas}	°F	Note 1	60.0	0.68	95.0%		A	1.96	0.3469	1	0.346939	0.02000
2.2.2	Sensor Uncertainty IEC751 Class B Fahrenheit	UT _{Sen}	°F	Note 2 and 3	0.68	0.20	95.0%		A	1.96	0.1020	1	0.102041	0.05000
2.2.3	Reference Accuracy	UT _{Ref}	°F	Note 2 and 4	0.2									
2.2.4	Ambient Temperature Effect	T _{Amb}	°F	Note 4										
2.2.5	Stability for Annual Calibration	UT _{Stab}	°F/yr	Note 4										
2.2.6	Ratio Frequency Interference	T _{RF}	°F	Note 5										
2.2.7	Vibration	T _{Vib}	°F	"										
2.2.8	Other	T _{Other}	°F	"										
2.2.9	Orientation	T _{Orient}	°F	Note 6										
2.2.10	Calibration Device Acceptance Limits	T _{Accept}	°F	Note 7	0.10	0.10	100.0%		B Rect.	1.73	0.0578	1	0.057803	0.02000
2.2.11	Calibration Acceptance Tolerance	T _{Cal}	°F	Note 8	0.50	0.50	100.0%		B Rect.	1.73	0.2890	1	0.289017	0.05000
2.3	Notes:													
2.3.1	Note 1. Temperature from Separator/Sales gas data													
2.3.2	Note 2. Uncertainty Confidence interval not specified, therefore in accordance with standards it is 95% (±1.96σ)													
2.3.3	Note 3. Uncertainty quoted as 0.3+0.005*Modulus Temp (in degrees C) in Manufacturer's literature. Have converted to °F													
2.3.4	Note 4. Not given in Manufacturer's literature, so considered to be negligible													
2.3.5	Note 5. Considered to be negligible													
2.3.6	Note 6. Installed horizontally so considered negligible													
2.3.7	Note 7. Given as 0.1°F in the calibration device calibration sheets													
2.3.8	Note 8. Informed this was 0.5°F in an email													
2.3.9	Note 9. Calculated by RSS uncertainties from rows 2.2.10 and 2.2.11													



MVS Pressure Measurement Uncertainty

Project	JE0249A	Doc No.	D040
Module No.	M03	Rev.	R01
Prepared:	Blair Fyffe PhD.	Date:	May 27th 2019
Approved:	Martin Basil, BSc, CEng.	Date:	May 27th 2019

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3 UP _{05a} Pressure Transmitter Observed Uncertainty											
Calculation uncertainty method by RSS, verified by MCS.											
3.1 Calculation Summary											
Case: Wellpad A, Sales Gas Meter											
Scenario: Typical Flowing Conditions Summer											
Description	Symbol	Unit	Notes on Parameters/ Uncertainties Sources	Parameter	Absolute Uncertainty (U)	Confidence Interval (CI)	Relative Uncertainty Type (A/B)	Coverage Factor (K)	Standard Unc. (S=U/C)	Sensitivity (Δ=Δs/s)	MCS Verification n
3.2.1 Pressure	P _{05a}	psia	Note 1	70.0							
3.2.2 Ambient Temperature	T _{amb}	°F	Note 2	70.0							
3.2.3 Pressure Transmitter URL Range 5	P _{URL}	psi	Note 3	100							
3.2.4 Pressure Transmitter Span	P _{span}	psi	Note 3	100							
3.2.5 Transmitter Reference Uncertainty	UP _{ref}	%URL	Note 4 and 5	0.075%	0.075	95.0%	A	1.96	0.038	1	0.038265
3.2.6 Stability for Annual Calibration	UP _{stab}	%URL/Yr	Note 4 and 6	0.100%	0.013	95.0%	B	1.96	0.006	1	0.006378
3.2.7 Ambient Temperature Effect psi/50°F	UP _{temp}	psi/160°F	Note 4 and 7		0.01	95.0%	B	1.96	0.004	1	0.004385
3.2.8 Interference	P _{inter}	psi	Note 8								
3.2.9 Vibration	P _{vib}	psi	"								
3.2.10 Other	P _{other}	psi	"								
3.2.11 Orientation	P _{orient}	psi	Note 9								
3.2.12 Calibration Device Acceptance Limits	P _{avals}	psi	Note 10 and 11		0.190	100.0%	B Rect.	1.73	0.110	1	0.109827
3.2.13 Calibration Acceptance Tolerance	P _{cal}	psi	Note 12		0.2012	100.0%	B Rect.	1.73	0.116	1	0.116302
3.3 Notes:											
Note 1. Pressure from Separator/Sales gas data											
Note 2. Assume Ambient Temperature of 70°F											
Note 3. Both Span and URL from Instrumentation Inventory											
Note 4. Uncertainty Confidence Interval not specified, therefore in accordance with standards it is 95% (±1,96σ)											
Note 5. Uncertainty quoted as 0.1% of Span in Manufacturer's literature.											
Note 6. Uncertainty quoted as 0.125% of URL per 5 years in Manufacturer's literature.											
Note 7. Uncertainty quoted as (0.05% of URL + 0.125% of span) per 50F in Manufacturer's literature.											
Note 8. Considered to be negligible											
Note 9. Installed Horizontally so considered negligible											
Note 10. Uncertainty quoted as 0.05% of Reading + 0.005% of full span in Manufacturer's literature.											
Note 11. Calibration device full span is 3000 psi given in the calibration device calibration sheets											
Note 12. Calculated as Eqn 24 as given in API 21.1 2013 (based on Transmitter, Ref Uncert and Calibration Device Uncert)											



MVS Differential Pressure Measurement Uncertainty

Project: JE0249A Doc No.: D040
 Module No.: M04 Rev.: R01
 Prepared: Blair Pyffe PHD. Date: May 27th 2019
 Approved: Narith Basil, BSc, CEng. Date: May 27th 2019

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4 UF₉₅ Differential Pressure Transmitter Observed Uncertainty

Calculation uncertainty method by RSS, Verified by MCS.

4.1 Calculation Summary

Case: Wellpad A Sales Gas Meter
 Scenario: Typical Flowing Conditions Summer

4.2	Description	Symbol	Unit	Notes on Parameters/ Uncertainties Sources	Parameter	Absolute Uncertainty (u)	Confidence Interval (CI)	Relative Uncertainty (U)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=U/C)	Sensiti vity Unc. (Δ=Δs/ s)	Std. Sensitivity Unc. (sΔ)	MCS Verification
4.2.1	Differential Pressure	DP _{gas}	inH ₂ O	Note 1	23.3									
4.2.2	Ambient Temperature	T _{amb}	°F	Note 2	70.0									
4.2.3	DP Transmitter URL Range 5	DP _{URL}	inH ₂ O	Note 3	250									
4.2.4	DP Transmitter Span	DP _{SPAN}	inH ₂ O	Note 3	250									
4.2.5	Transmitter Reference Uncertainty	UDP _{acc}	%Span	Note 4 and 5	0.075%	0.188	95%	0.8052%	A	1.96	0.096	1	0.095663	0.0000
4.2.6	Stability for Annual Calibration	UDP _{stab}	%URL/Yr	Note 4 and 6	0.100%	0.031	95%	0.1342%	B	1.96	0.016	1	0.015944	0.0000
4.2.7	Ambient Temperature Effect	uDP _{ambT}	%URL/160°F	Note 4 and 7	0.067	0.0021	95%	0.0089%	B	1.96	0.001	1	0.000265	0.0000
4.2.8	Static pressure Effect Zero Error	uDP _{spZero}	%URL/1500psi	Note 4 and 8	0.03%	0.0005	95%	0.0021%	B	1.96	0.0003	1	0.000265	0.0000
4.2.9	Static pressure Effect Span Error	uDP _{spSpan}	%Reading/1500psi	Note 4 and 9	0.10%	0.0002	95%	0.0007%	B	1.96	0.000	1	0.000079	0.0000
4.2.10	Interference	uP _{inter}	inH ₂ O	Note 10										
4.2.11	Vibration	uP _{vib}	inH ₂ O	"										
4.2.12	Other	uP _{over}	inH ₂ O	"										
4.2.13	Orientation	uP _{orient}	inH ₂ O	Note 11										
4.2.14	Calibration Device Acceptance Limits	uP _{device}	inH ₂ O	Note 12		0.065	100.0%	0.09%	B Rect.	1.73	0.037	1	0.0374699	0.0000
4.2.15	Calibration Acceptance Tolerance	uDP _{tol}	inH ₂ O	Note 13		0.180	100.0%	0.7725%	B Rect.	1.73	0.104	1	0.103	0.0000
4.3	Notes:													
4.3.1	Note 1. Differential Pressure calculated on the AGA 3 tab.													
4.3.2	Note 2. Assume Ambient Temperature of 70°F													
4.3.3	Note 3: both Span and URL from Instrumentation Inventory													
4.3.4	Note 4. Uncertainty Confidence Interval not specified, therefore in accordance with standards it is 95% (±1.96σ)													
4.3.5	Note 5. Reference accuracy quoted as 0.1% of Span for turn downs from 1:1 to 10:1 in manufacturer's literature.													
4.3.6	Note 6. Stability quoted as 0.125% of URL per five years in manufacturer's literature.													
4.3.7	Note 7. Ambient Temperature effect quoted as (0.025% of URL + 0.125% of span) per 50°F in manufacturer's literature.													
4.3.8	Note 8. Static Pressure zero error quoted as 0.05% of URL per 1000psi in manufacturer's literature.													
4.3.9	Note 9. Static Pressure span error quoted as 0.2% of DP reading per 1000psi in manufacturer's literature.													
4.3.10	Note 10. Considered to be negligible													
4.3.11	Note 11. Installed horizontally so considered negligible													
4.3.12	Note 12. Acceptance limits quoted as 0.05% of Reading + 0.005% of full span in the calibration data sheet.													
4.3.13	Note 13. Calculated as Equation 24 as given in API 21.1 2013													



Blair Fyffe PhD, Dates: May 27th 2019
 Martin Basal, BSc, Approved: Blair Fyffe PhD, Dates: May 27th 2019
 Approved: Martin Basal, BSc, Dates: May 27th 2019
 Project: JE0249A Doc No: D004
 Media No: M05 Rev: R01
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5	Gas density uncertainty at Line and Standard Conditions		At Line Conditions		At Standard Conditions		(Sqrt Density at LC)/Density at SC
	Calculation Summary	Method	Sensitivity (A-As/s)	Std. Sensitivity Unc. (s-A)	Sensitivity (A-As/s)	Std. Sensitivity Unc. (s-A)	
5.1.1	Calculation method: AGA 8	AGA 8	0.00566	1.64E-04	0.00566	1.64E-04	0.00566
5.1.2	Case: Wellpad A Sales Gas Meter		0.140	7.41E-03	0.140	7.41E-03	0.140
5.1.3	Notes on Parameters/ Uncertainty Sources	Notes 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	0.140	7.41E-03	0.140	7.41E-03	0.140
5.2	Description	Symbol	Unit	Uncertainty Type	Factor (k)	Coverage	
5.2.1	Fluid Temperature	T_{in}	°C	B	1.96	95%	
5.2.2	Pressure	P_{in}	bar	B	1.96	95%	
5.2.3	Moisture	C_H	mol%	B	1.96	95%	
5.2.4	Nitrogen	N_2	mol%	B	1.96	95%	
5.2.5	Carbon Dioxide	CO_2	mol%	B	1.96	95%	
5.2.6	Ethane	C_2H_6	mol%	B	1.96	95%	
5.2.7	Propane	C_3H_8	mol%	B	1.96	95%	
5.2.8	Water	H_2O	mol%	B	1.96	95%	
5.2.9	Hydrogen Sulfide	H_2S	mol%	B	1.96	95%	
5.2.10	Carbon Monoxide	CO	mol%	B	1.96	95%	
5.2.11	Oxygen	O_2	mol%	B	1.96	95%	
5.2.12	n-Butane	nC_4H_{10}	mol%	B	1.96	95%	
5.2.13	n-Pentane	nC_5H_{12}	mol%	B	1.96	95%	
5.2.14	n-Hexane	nC_6H_{14}	mol%	B	1.96	95%	
5.2.15	n-Heptane	nC_7H_{16}	mol%	B	1.96	95%	
5.2.16	n-Octane	nC_8H_{18}	mol%	B	1.96	95%	
5.2.17	n-Nonane	nC_9H_{20}	mol%	B	1.96	95%	
5.2.18	n-Decane	$nC_{10}H_{22}$	mol%	B	1.96	95%	
5.2.19	Helium	He	mol%	B	1.96	95%	
5.2.20	Argon	Ar	mol%	B	1.96	95%	
5.2.21	Total						

Sales Gas Model; AGA 8 Method




Module No.	Project No.	Doc. No.	Rev.	D940 R01	Prepared, Approved,	Blair Fyfe PhD, Martin Basil BSc, CEng.	Date: May 27th 2019 Copyright © SOLV Limited 2019. All rights reserved	SOLV flow measurement
6	Gas density uncertainty as described in AGA 3 with method uncertainty by RSS. Verified by MCS.							
6.1	Calculation summary							
6.1.1	Calculation method: AGA 3 1992							
6.1.2	Case: Wellpad A Sales Gas Meter							
6.1.3	Typical Flowing Conditions Summer							
6.2	Description							
6.2.1	Volume at Standard conditions	Qv	m ³ /sec	500.000				
6.2.2	Mass flow rate	m	kg/sec	0.23727				
6.2.3	Line Pressure Recovered	P ₁₅	psi	60.0	95%			
6.2.4	Line Pressure Upstream	P ₁₆	psi	70.0	95%			
6.2.5	Reference Temperature for Pipework	T _{ref}	°F	68.0	95%			
6.2.6	Isentropic Exponent	k	n/a	1.3	95%			
6.2.7	Dynamic Viscosity	μ	cp	0.0009	95%			
6.2.8	Pipe Internal Diameter	D	inches	2.0780	95%			
6.2.9	Temperature Expansion of Gas	α _g	1/inch/degF	0.00177	95%			
6.2.10	Linear Thermal Expansion of Gas	α _l	1/inch/degF	0.00140	95%			
6.2.11	Linear Thermal Expansion of Steel	α _s	1/inch/degF	0.000640	95%			
6.2.12	Line density	ρ _{line}	lb/ft ³	0.2100	95%			
6.2.13	Standard Density	ρ _{std}	lb/ft ³	0.0651	95%			
6.2.14	Start Line Density/Standard Density	ρ _{sl}	lb/ft ³ /lb ³	2.0136	95%			
6.2.15	Viscosity	μ	lb/ft ² /sec	8.636	95%			
6.2.16	Ripe internal diameter flow	d _{ri}	inches	4.64E-06	95%			
6.2.17	Surface diameter flow	d _{sf}	inches	3.0738	95%			
6.2.18	Start ratio flow	g	n/a	1.4959	95%			
6.2.19	Surface ratio flow	g	n/a	0.0729	95%			
6.2.20	Surface ratio factor	E	n/a	0.0729	95%			
6.2.21	Coefficient of discharge	C _d	n/a	4.03845	95%			
6.2.22	Differential Pressure Range Tapping	ΔP	inH ₂ O	23.29	95%			
6.2.23	Expansion factor	Y	n/a	0.9960	95%			
6.2.24	Expansion factor method uncertainty	Y _u	n/a	1.00000	95%			
6.3	Notes:							
6.3.1	Note 1: Flow rate based on the minimum, the typical or the maximum flow rate for the size of meter.							
6.3.2	Note 2: Both the metric and US AGA 3 calculations are driven by mass flow rate.							
6.3.3	Note 3: Data from Pressure MGS tab							
6.3.4	Note 4: Data from Pressure MGS tab							
6.3.5	Note 5: Reference temperature for pipework quoted at 68°F in AGA 3							
6.3.6	Note 6: Isentropic exponent (as known as specific heat ratio) quoted as 1.3 in calibration files.							
6.3.7	Note 7: Uncertainty on these parameters not required for AGA 3 uncertainty method, and found using MCS to have negligible effect on Overall Uncertainty							
6.3.8	Note 8: Viscosity quoted as 0.000009 Pa·s in configuration files							
6.3.9	Note 9: Information from calibration sheets.							
6.3.10	Note 10: From Calibration sheets and Gas Volume Statements. Changed from time to time on some wells, as typical values is chosen.							
6.3.11	Note 11: Linear Coefficient of carbon steel from AGA 3 1992. Uncertainty of these values have negligible effect on Overall Uncertainty							
6.3.12	Note 12: Linear Coefficient of carbon steel from AGA 3 1992							
6.3.13	Note 13: Uncertainty in AGA 3 calculation method							
6.3.14	Note 14: Uncertainty in AGA 3 calculation method							
6.3.15	Note 15: Dynamic viscosity converted from SI to cP units.							
6.3.16	Note 16: Calculated using formula given in AGA 3.							
6.3.17	Note 17: Back calculated using the reverse of the method described in AGA3 (invokes an iteration loop)							
6.3.18	Note 18: Calculated using formula given in AGA 3.							
6.3.19	Note 19: Method Uncertainty given in section 1.17.4.2 of AGA3							
6.3.20	Note 20: Calculated Mass and Standard Volume flow rate static values should be the same as those input at the top of the page.							
6.3.21	Note 21: Calculated using the uncertainty equation section 1.12.3 of AGA 8							
6.3.22	Note 22: flow rate relative uncertainties should be the same as those for MSC as sensitivity method.							

Client: Southern Petroleum Laboratories, Inc.
Project: Federal Wellpad Uncertainty Study
Document: Federal Wellpad Uncertainty Report
Doc. No.: JE0249A-D004-R03 Issued





Appendix G Oil Separator Uncertainty Model – WPA

An example of the WPA Well Separator oil uncertainty model.



Separator Meter Oil Measurement Uncertainty

Project	JE0249A	Doc No.	D100	Rev.	R01	Issue	Draft
Prepared	Blair Fyffe PhD. Flow Measurement Engineer			Signed		Date	June-18-2019
Approved	Martin Basil, BSc, CEng. Snr. Flow Measurement Consultant			Signed		Date	June-18-2019
Client	Southern Petroleum Laboratories, Inc.			Signed		Date	
Address	SOLV Limited, Glenafton House, Albyn Drive, Corpach, Fort William, PH33 7LW, Scotland, UK						
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Case: Wellpad A Wells 1,2,3,4
Scenario: Typical Flowing Conditions Summer
Proving Method: Master Meter

Index:

- Module 1.** Summary Page
- Module 2.** Temperature Transmitter Uncertainty
- Module 3.** Pressure Transmitter Uncertainty
- Module 4.** Bi-directional Prover Uncertainty
- Module 5.** Master Meter Uncertainty
- Module 6.** Separator Meter Uncertainty
- Module 7.** Gross Standard Volume Oil Uncertainty
- Module 8.** Net Standard Volume Oil Uncertainty

Glossary:

- MCS-** Monte Carlo Simulation
- RSS-** Root Sum Square
- GOV-** Gross Observed Volume
- GSV-** Gross Standard Volume
- NSV-** Net Standard Volume
- BSW-** Base, Sediment and Water

Separator Oil Model; Title Page

Client: Southern Petroleum Laboratories, Inc.
 Project: Federal Wellpad Uncertainty Study
 Document: Federal Wellpad Uncertainty Report
 Doc. No.: JE0249A-D004-R03 Issued



Summary Page			
Project	JE0249A	Doc No.	D100
Module No.	M01	Rev.	R01
Prepared:	Blair Fyffe PhD.	Date:	June 18th 2019
Approved:	Martin Basil, BSc, CEng.	Date:	June 18th 2019
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1		Case: Wellpad A Wells 1,2,3,4		Measurement Uncertainty at 95% CI			
		Scenario: Typical Flowing Conditions Summer					
		Proving Method: Master Meter					
	Description	Symbol	Unit	Notes	Parameter	Absolute	Relative
1.1	Bi-directional Prover Uncertainty						
1.1.3	Bi-directional Prover Water Draw Acceptance Criteria	$U_{bi-prov}$	n/a	Note 1	0.02%		
1.2	Master Meter Proving with Bi-directional Prover						
1.2.1	Flow Rate	Q_{mm-cal}	barrels/day	Note 2 & 3	2742		
1.2.2	Master Meter Temperature at Proving	T_{mm-cal}	°F	Note 2	76		
1.2.3	Master Meter Pressure at Proving	P_{mm-cal}	psig	"	129		
1.2.4	Standard Oil Density	$D_{mm-cal-Std}$	API	"	41.5		
1.2.5	Master Meter MF	MF_{mm-cal}	n/a	"	0.9991		
1.2.6	Time Difference in years	Y_{mm-cal}	0	Note 4	1.00		
1.2.7	Repeatability acceptance criteria of Master meter.	R_{mm-cal}	n/a	Note 5	0.05%		0.027%
1.3	Well Head Meter Proving with Master Meter						
1.3.1	Flow Rate	Q_{wh-cal}	barrels/day	Note 6	900		
1.3.2	Well head Meter Temperature at Proving	T_{wh-cal}	°F	"	70		
1.3.3	Well head Meter Pressure at Proving	P_{wh-cal}	psig	"	80		
1.4.2	Standard Oil Density	$D_{wh-cal-Std}$	API	"	46		
1.3.8	Master Meter MF	$U_{wh-prov}$	n/a	"	1.0039		
1.3.4	Time Difference in years	NSV	Years	Note 7	0.25		
1.3.5	Proving Temperature variability difference		°F	Note 8	10		
1.3.6	Proving Pressure variability difference		psi	Note 8	10		
1.3.7	Repeatability acceptance criteria of Master meter.		n/a	Note 9	0.50%		0.13%
1.4	Well Head Meter Operating Conditions						
1.4.1	Gross Standard Volume Flow Rate	Q_{wh-Std}	std bpd	Note 10	100	1.17	1.17%
1.4.2	Standard Oil Density	D_{wh-Std}	API	Note 11	46.0		
1.4.3	Fluid Temperature	T_{wh}	°F	Note 12	80	0.58	
1.4.4	Pressure	P_{wh}	psig	"	85	0.32	
1.4.5	Flowing/calibration Temperature difference	$T_{LACT-cal}$	°F	Note 13	20		
1.4.6	Flowing/calibration Pressure difference	$P_{LACT-cal}$	psig	Note 13	10		
1.4.7	Base, Sediment and Water	BSW	% of Flow Rate	Note 14	0.05%	0.05%	
1.4.8	Net Standard Volume Flow Rate	NSV	stbpd	Note 11	99.5	1.21	1.21%
1.5	Notes:						
1.5.1	Note 1. Maximum difference between water draws for Bi-Directional Prover is 0.02%.						
1.5.2	Note 2. This information for MM A prove of May 8th 2018. The MM actually used are different, but the proving data for these meters is not available.						
1.5.3	Have been told that these data for this prove are representative of the conditions used to prove the MM that are used.						
1.5.4	Note 3. The Flow Rate for this prove was 88 bphr (2112 bpd)						
1.5.6	Note 4. Master Meter appear to be calibrated once a year.						
1.5.7	Note 5. Proving repeatability acceptance criteria five proves with a repeatability of 0.05%						
1.5.8	Note 6. Typical proving flowrate, temperature and pressure, density and MF are average values from the well head proving records.						
1.5.9	Note 7. Well head proving occurs at approximately 3 month (0.25 year) intervals						
1.5.10	Note 8. Largest likely difference between Well Head and Master Meter proving conditions based on data in proving reports.						
1.5.11	Note 9. Proving repeatability acceptance criteria five proves with a repeatability of 0.5%						
1.5.12	Note 10. Value based on production data and the scenario being run						
1.5.13	Note 11. The oil density at flowing conditions is assumed to be the same as that during calibration						
1.5.14	Note 12. Based on production data						
1.5.15	Note 13. Largest likely difference between well head and Master Meter proving conditions based on calibration sheet data.						

Separator Oil Model; Summary Page



Temperature Transmitter Uncertainty														
Project	JE0249A	Doc. No.	D100	Rev.	RC	Revised	Blair Fyffe PhD	Date	June 18th 2019					
Approved	Martin Basil, BSc, CEng.	Date	June 18th 2019	Copyright © SOLV Limited 2019. All rights reserved										
<p>2 UT Gas Wellhead Meter Temperature Transmitter Uncertainty Calculation uncertainty method by RSS. Verified by MCS.</p>														
2.1	Case: Wellpad A Wells 1,2,3,4													
2.1.1	Scenario: Typical Flowing Conditions Summer													
2.1.2														
2.1.3														
2.2	Description	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Type (A/B)	Coverage Factor (K)	Standard Unc. (s=U/C)	Sensitivity (d=Abs/s)	Sd. Sensitivity Unc. (s.d.)	MCS Verification (see note 6)
2.2.1	Fluid Temperature	T _{gas}	°F	Notes 1	80									
2.2.2	Transmitter span	T _{span}	°F	Notes 2	150									
2.2.3	Transmitter Accuracy Digital accuracy	T _{span}	°F	Notes 3	0.18	95.5%		0.18	A	3	0.0500		0.120000	0.00000
2.2.4	Transmitter Accuracy D/A accuracy	T _{span}	°F	"	0.02%	95.5%		0.03	A	3	0.0100		0.030000	0.00000
2.2.5	Ambient Temperature	T _{amb}	°F/°F	"	0.0015	95.5%		0.03	A	3	0.0100		0.040000	0.00000
2.2.6	Ambient Temperature D/A Accuracy	T _{amb}	°F/°F	"	0.001%	95.5%		0.0015	A	3	0.0005		0.002500	0.00000
2.2.7	Stability for Annual Calibration	u _{Tspan}	°F/yr	Note 4										
2.2.8	Radio Frequency Interference	T _{span}	°F	Note 5										
2.2.9	Vibration	T _{span}	0	"										
2.2.10	Orientation	T _{span}	°F	"										
2.2.11	Other	T _{span}	°F	"										
2.2.12	Calibration device Uncertainty	T _{basic}	°F	Note 6		100.0%		0.10	B Rect.	1.73	0.0578		0.057803	0.00000
2.2.13	Calibration tolerance	T _{tol}	°F	Note 7		100.0%		0.50	B Rect.	1.73	0.2890		0.289017	0.00000
2.3	<p>Notes:</p> <p>Note 1. Typical temperature from Calibration sheet</p> <p>Note 2. Informed of span via email. Calibration sheets not available.</p> <p>Note 3. Uncertainties from Manufacturer's literature and quoted at ±3σ (99.5% CI)</p> <p>Note 4. Not given in Manufacturer's literature, so considered to be negligible</p> <p>Note 5. Considered to be negligible</p> <p>Note 6. Same calibration devices used for oil as gas, so take the value from the gas sheet (0.1°F)</p> <p>Note 7. No calibration records available for oil, assume calibration tolerance to be the same as for gas (± 0.5°F)</p>													
2.3.1	MCS Trial Temperature Value													
2.3.2	MCS Trial Temperature Mean													
2.3.3	Standard Uncertainty													
2.3.4	95% CI Coverage Factor													
2.3.5	Absolute 95% Uncertainty													
2.3.6	Relative 95% Uncertainty													
2.3.7	MCS trial values shown in gray													



Pressure Transmitter Uncertainty
 Project: JE0249A Doc No. D100
 Module No. M03 Rev. R01
 Prepared: Blair Fyffe PHD. June 18th 2019
 Approved: Martin Basil, BSc, CEng. Date: June 18th 2019
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UP _{gas} Wellhead Pressure Transmitter Observed Uncertainty Calculation Summary												MCS trial values shown in gray	
Calculation uncertainty method by RSS, verified by MCS.													
Case: Wellpad A Wells 1,2,3,4													
Scenario: Typical Flowing Conditions Summer													
Description	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (U)	Uncertainty Type (A/B)	Coverage Factor (K)	Standard Unc. (s-u/C)	Sensitivity (Δs/Δs/s)	Std. Sensitivity Unc. (sΔ)	MCS Verification
3.2.1 Pressure	P _{obs}	psig	Note 1	85.0									
3.2.2 Ambient Temperature	T _{amb}	°F	Note 2	76.0									
3.2.3 Pressure Transmitter URL Range 4	P _{URL}	psi	Note 3	300									
3.2.4 Pressure Transmitter Span	P _{span}	psi	Note 3	314.2									
3.2.5 Transmitter Reference Uncertainty	UP _{ref}	%Span	Note 4 and 5	0.13	99.5%		0.13	A	3	0.042	1	0.041893	0.0000
3.2.6 Stability for Annual Calibration	UP _{stab}	%URL/Yr	Note 4 and 6	0.02%	99.5%		0.02	A	3	0.005	1	0.005000	0.0000
3.2.7 Ambient Temperature Effect psi/50°F	UP _{temp}	psi/50°F	Note 4 and 7	0.234	99.5%		0.09	A	3	0.031	1	0.031183	0.0000
3.2.8 Interference	P _{inter}	psi	Note 8										
3.2.9 Vibration	P _{vib}	0											
3.2.10 Orientation	P _{orient}	psi	Note 9										
3.2.11 Other	P _{other}	psi											
3.2.12 Calibration device Uncertainty	P _{cal}	psi	Note 10 and 11		100.0%		0.190	B Rect.	1.73	0.110	1	0.109827	0.0000
3.2.13 Calibration tolerance	P _{tol}	psi	Note 12		100.0%		0.2034	B Rect.	1.73	0.117545	1	0.117545	0.0000
3.3 Notes:													
3.2.15 Note 1, A value which is similar but not identical to the calibration value chosen.													
3.2.16 Note 2, Assume Ambient Temperature of 65°F													
3.2.17 Note 3, URL from Manufacturer's literature. Assume span the same as URL.													
3.2.18 Note 4, Uncertainties from Manufacturer's literature and quoted at 43σ (99.5% CI)													
3.2.19 Note 5, Uncertainty quoted as 0.04% of Span in Manufacturer's literature.													
3.2.20 Note 6, Uncertainty quoted as 0.2% of URL per 10 years in Manufacturer's literature.													
3.2.21 Note 7, Uncertainty quoted as (0.025% of URL + 0.125% of span) per 50F in Manufacturer's literature.													
3.2.22 Note 8, Considered to be negligible													
3.2.23 Note 9, Installed Horizontally so considered negligible													
3.2.24 Note 10, Assume the same as gas. Uncertainty quoted as 0.05% of Reading + 0.005% of full span in Manufacturer's literature.													
3.2.25 Note 11, Calibration device full span is 3000 psi given in the calibration device calibration sheets													
3.2.26 Note 12, Assumed to be the same as for Gas. Calculated as Eqn 24 as given in API 21.1 2013.													
3.2.27 Note 13, Calculated by RSS the uncertainties in rows 3.2.7, 3.2.8, 3.2.13 and 3.2.14													

Client: Southern Petroleum Laboratories, Inc.
Project: Federal Wellpad Uncertainty Study
Document: Federal Wellpad Uncertainty Report
Doc. No.: JE0249A-D004-R03 Issued



Bi-directional Prover Uncertainty			
Project	JE0249A	Doc No.	D100
Module No.	M04	Rev.	R01
Prepared.	Blair Fyffe PHD.	Date:	June 18th 2019
Approved.	Martin Basil, BSc, CEng.	Date:	June 18th 2019

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4 Bi-directional Prover Uncertainty														
4.1 Calculation Summary														
4.1.1	Case: Wellpad A Wells 1,2,3,4													
4.1.2	Scenario: Typical Flowing Conditions Summer													
4.1.3	Proving Method: Master Meter													
4.2	Description	Symbol	Unit	Notes on Parameters/ Uncertainties Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (U)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=u/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity Unc. (s=Δ)	Rel Std. Sensitivity Unc. (S=Δ)
4.2.4	Bi-directional Prover Allowable Range	U_{acr}	n/a	Notes 1 & 2	0.9991	100%	0.020%	0.000200	B Rect.	1.73	0.00012	1	0.00012	0.012%
4.3	Notes													
4.3.1	Note 1. Bi-Directional Prover Uncertainty is the maximum variation between successive water draws													
4.3.2	Note 2. Flow Rate for the prover at May 8th 2018 was 88 D/m (2112 Dpd)													



June 18th 2019
 Blair Fyfe Ph.D. Date:
 Martin Bassi, ES Date:
 Prepared, Approved,
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Master Meter Uncertainty at Proving Conditions																
Module No.	Project	Doc No. / Rev.	Unit	Symbol	Parameter	Notes on Parameters / Uncertainties Sources	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Y Type (A/B)	Coverage Factor (k)	Standard Unc. (±u/C)	Sensitivity (Δ=Δs/Δ)	Std. Sensitivity Unc. (s,Δ)	Rel Std. Sensitivity Unc. (S,Δ)	MCS trial values shown in grey
5.1	Calculation Summary															
5.1.1	Meter Meter	JE0249A	D100	Flow Rate	GV _{flow}	Note 1	900									
5.1.2	Meter Meter	JE0249A	ROT	Temperature	T _{flow}	"	70.0									
5.1.3	Meter Meter	JE0249A	Flow Rate	Pressure	P _{flow}	"	80									
5.2	Separator Typical Flowing Conditions Summary															
5.2.1	Gross Standard Volume Flow Rate	GV _{flow}	std/bpd	ΔT _{flow}	20	Note 2	20									
5.2.2	Density at Std Conditions	ρ _{std}	lb/ft ³	ΔP _{flow}	10	"	10									
5.2.3	Density at Line Conditions	ρ _{line}	lb/ft ³	P _{max}	49.5	Note 3	49.5									
5.2.4	Maximum Flow Rate for Meter	Q _{max}	lb/min	P _{max}	2939	Note 4	2939									
5.2.5	Normal Flow Rate for Meter	Q _{norm}	lb/min	P _{max}	174.8	Note 5	174.8									
5.2.6	Gross Observed Volume Flow Rate	GV _{flow}	bpd	P _{max}	904.4	Note 6	904.4									
5.2.7	Meter Turn Down	MF	n/a	P _{max}	0.9991	Note 7	0.9991									
5.2.8	Indicated Volume Flow Rate	V _{flow}	bpd	P _{max}	905.2	Note 8	905.2									
5.3	Indicated Volume Uncertainty															
5.3.1	Volume Flow Accuracy	u _{Q_{flow}}	% of rate	u _{Q_{flow}}	0.2%	Note 8	0.2%	95.0%	1.81	A	1.96	0.924	1	0.924	0.102%	
5.3.2	Process Temp effect on Mass flow rate	u _{Q_{mass}}	% max flow rate per °F	u _{Q_{mass}}	0.829	Notes 9 and 10	0.829	99.5%	0.83	A	1.96	0.423	1	0.423	0.24%	
5.3.3	Process Pressure effect on Mass flow rate	u _{Q_{mass}}	% flow rate per psi	u _{Q_{mass}}	0.0010%	Notes 9 and 12	0.0010%	99.5%	0.091	A	1.96	0.046	1	0.046	0.03%	
5.3.4	Indicated Flow Volume	V _{flow}	bpd	u _{Q_{mass}}	905.24	Note 13	905.24	95.0%	2.0585	B	1.96	1.050	1	1.050	0.116%	
5.4	Meter Factor Uncertainty															
5.4.1	Repeatability Acceptance Limits	U _{rel}	% of MF	U _{rel}	0.07%	Note 14	0.07%	100%	0.000200	B Rect	1.73	0.000	1	0.000116	0.012%	
5.4.2	Proving Repeatability Acceptance Limits	U _{rel}	% of MF	U _{rel}	0.0000%	Note 15	0.0000%	95.0%	0.000367	B	1.96	0.000	1	0.000136	0.014%	
5.4.3	Additional Uncertainties	U _{rel}	% of MF	U _{rel}	0.00%	Note 17	0.00%	95.0%	0.0000%	B	1.96	0.0000	1	0.000000	0.0000%	
5.4.4	Volume Meter Meter Factor	MF _{flow}	n/a	U _{rel}	0.99910	Note 18	0.99910	95.0%	0.0003	B	1.96	0.0002	1	0.000178	0.018%	
5.5	Process Pressure Bias															
5.5.1	Process Pressure effect bias on flow rate	Bias _{Q_{mass}}	% flow rate per psi	Bias _{Q_{mass}}	-0.0010%	Notes 19	-0.0010%	n/a	0.444							
5.6	Notes															
5.6.1	See Summary Sheet tab for information source															
5.6.2	Likely maximum difference between proving and flowing conditions, based on calibration data.															
5.6.3	Convert density from degrees API to lb/ft ³															
5.6.4	Density converted to line conditions using method described in Chapter 11.1 (sections 11.1.5 & 11.1.6)															
5.6.5	From Manufacturer's data sheet (3200 and 1917 lb/min) for water then scaled to account for lower density of oil															
5.6.6	Meter Factor uses the average of those found for this LACT unit at proving															
5.6.7	Large meter turn downs produce larger relative uncertainties															
5.6.8	Reference accuracy of 0.2% of flow rate															
5.6.9	Based on the Reference uncertainty on mass and volume being the same															
5.6.10	Zero stability 0.015 lb/min, converted into bpd, degrees C, converted to a Volume Flow Rate. Assume a max temperature difference of 20°F															
5.6.11	Bias of -0.001% of flow rate per psi, converted to a Volume Flow Rate uncertainty. Assume a maximum pressure difference of 10 psi.															
5.6.12	Bias of -0.001% of flow rate per psi, converted to a Volume Flow Rate uncertainty. Assume a maximum pressure difference of 10 psi.															
5.6.13	Indicated Flow Rate Uncertainty calculated here from lines above															
5.6.14	From Bi-directional Prover Tab.															
5.6.15	Repeatability acceptance tolerance of 0.05% on 5 runs.															
5.6.16	Repeatability converted to an uncertainty using method described in API MPMS Chapter 4.8 Appendix A															
5.6.17	Too account for any other possible sources of uncertainty															
5.6.18	Meter Factor Uncertainty calculated here from lines above. As meter and prover conditions very similar any method, temperature or pressure uncertainties assumed to cancel out															
5.6.19	Possible Bias (overreading), of meters of around 0.03% due to the pressure difference between proving with Bi-directional prover, and proving the allocation meters.															



Project Module No.	Doc No. Rev.	D.O.D. (R/I)	Prepared, Approved.	Date: June 18th 2019	Date: June 18th 2019	Copyright © SOLV Limited 2019. All rights reserved	SOLV flow measurement								
Separator Meter Uncertainty															
6.1 Calculation Summary															
Allocation Meter proved with Master Meter															
Case: Wellpad A Wells 1,2,3,4															
Scenario: Typical Flowing Conditions Summer															
6.2															
Description	Symbol	Unit	Notes on Parameters/ Uncertainties Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (U)	Uncertainty Type (A/B)	Coverage Factor (K)	Standard Unc. (s=U/C)	Sensitivity (s=8U/7)	Std. Sensitivity Unc. (sA)	Std. Sensitivity Unc. (sA)	MCS Verification	
6.2.1 Gross Standard Volume Flow Rate	GSV _{std}	scfbpd	Note 1	100.0											
6.2.2 Temperature	T _{amb}	°F		60											
6.2.3 Pressure	P _{amb}	psig		60											
6.2.4 Density	ρ _{amb}	lbm/ft ³		46											
6.2.5 Difference between flowing and calibration Temperature	ΔT _{flow}	°F	Note 2	20											
6.2.6 Difference between flowing and calibration Pressure	ΔP _{flow}	psi		10											
6.2.7 Density at STD Conditions	ρ _{std}	lb/ft ³	Note 3	43.7											
6.2.8 Density at Line Conditions	ρ _{line}	lb/ft ³	Note 4	49.2											
6.2.9 Maximum Flow rate for this type of Meter	Q _{max}	lb/min	Note 5	2525											
6.2.10 Nominal Flow Rate for this type of Meter	Q _N	lb/min		151.3											
6.2.11 Mass Flow Rate	Q _m	lb/min		19.4											
6.2.12 Gross Observed Volume Flow Rate	GOV _{obs}	bbpd		101.0											
6.2.13 Meter Factor (Volume)	MF _v	n/a	Note 6	1.0039										1.00	
6.2.14 Meter Turn Down	T _{down}	n/a	Note 7	95.9											
6.2.15 Indicated Volume Flow Rate	IV _{obs}	bbpd		100.64										100.6	
6.3 Indicated Volume Uncertainty															
6.3.4 Volume Flow Accuracy		% of rate	Note 8	0.2%	95.0%	0.200%	0.20	A	1.96	0.103	1	0.10	0.10%	0.0009	
6.3.5 Zero stability		bbpd	Notes 9 and 10	0.834	95.5%	0.83%	0.83	A	1.96	0.425	1	0.43	2.18%	0.0009	
6.3.6 Process Temp effect on Mass flow rate		% max flow rate per °F	Notes 9 and 11	0.00039%	95.5%	0.00039%	0.51	A	1.96	0.262	1	0.26	1.35%	0.0009	
6.3.7 Process Pressure effect on Mass flow rate		% flow rate per psi	Notes 9 and 12	0.0010%	95.5%	0.0010%	0.010	A	1.96	0.005	1	0.0051	0.03%	0.0009	
6.3.8 Indicated Flow Volume	IFV _{obs}	bbpd	Note 13	100.64	95.0%	0.983%	0.9897	B	1.96	0.510	1	0.51	0.51%	0.0244	
6.4 Meter Factor Uncertainty															
6.4.1 Master Meter Uncertainty	U _{mm}	% of RIF	Note 14	0.23%	95.0%	0.23%	0.023	B	1.96	0.001	1	0.0012	0.12%	0.0009	
6.4.2 Proving Repeatability Acceptance Limits	R _{std}	% of RIF	Note 15	0.9%	95.0%	0.257%	0.02679	B	1.96	0.001	1	0.0014	0.14%	0.0009	
6.4.3 Proving Repeatability Uncertainty	U _{std}	% of RIF	Note 15	0.22%	95.0%	0.580%	0.05926	B	1.96	0.026	1	0.0265	0.25%	0.0009	
6.4.4 Additional Uncertainties	U _{add}	% of RIF	Note 17	0.58%	95.0%	0.612%	0.061	B	1.96	0.0031	1	0.003133	0.312%	0.0009	
6.4.5 Meter Factor	MF _v	n/a	Note 18	1.0039	95.0%	0.612%	0.061	B	1.96	0.0031	1	0.003133	0.312%	0.0009	
6.5 Notes															
6.5.1	Note 1. Information From Summary sheet														
6.5.2	Note 2. Likely maximum difference between proving and flowing conditions, based on calibration data.														
6.5.3	Note 3. Convert density from degrees API to lb/ft ³														
6.5.4	Note 4. Density converted to line conditions using method described in Chapter 11.1 (sections 11.1.5 & 11.1.6)														
6.5.5	Note 5. From Manufacturer's data sheet														
6.5.6	Note 6. Large meter turn downs produce larger relative uncertainties														
6.5.7	Note 7. Large meter turn downs produce larger relative uncertainties														
6.5.8	Note 8. Reference accuracy of 0.2% of flow rate														
6.5.9	Note 9. Based on the Reference uncertainty on mass and volume being the same														
6.5.10	Note 10. Zero stability of 0.016 lb/min, converted into bpd														
6.5.11	Note 11. Uncertainty of ±0.0007% of max flow rate per degree C, converted to a Volume Flow Rate. Assume a max temperature difference of 20°F														
6.5.12	Note 12. Bias of -0.001% of flow rate per psi, converted to a Volume Flow Rate uncertainty. Assume a maximum pressure difference of 10 psi.														
6.5.13	Note 13. Indicated Flow Rate Uncertainty calculated here from lines above														
6.5.14	Note 14. Meter relative uncertainty calculated here from lines above														
6.5.15	Note 15. Repeatability uncertainty of 0.005% of flow rate														
6.5.16	Note 16. Repeatability converted to an uncertainty using method described in API MPMS Chapter 4.8 Appendix A														
6.5.17	Note 17. Too account for any other possible sources of uncertainty														
6.5.18	Note 18. Meter Factor Uncertainty calculated here from lines above. As meter and prover conditions very similar any method, temperature or pressure uncertainties assumed to cancel out														
6.5.19															

Separator Oil Model; Gross Observed Volume Uncertainty Page

Client: Southern Petroleum Laboratories, Inc.
 Project: Federal Wellpad Uncertainty Study
 Document: Federal Wellpad Uncertainty Report
 Doc. No.: JE0249A-D004-R03 Issued



Gross Standard Volume Oil Uncertainty
 Project: JE0249A Doc. No.: D1.00
 Module No.: M07 Rev.: R01
 Prepared: Blair Fyffe PHD. Date: June 18th 2019
 Approved: Martin Basal, BSc, CEng. Date: June 18th 2019
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Gross Standard Volume Flow Rate Uncertainty											MCS trial values shown in gray			
Calculation uncertainty method by finite difference and RSS, Verified by MCS.														
7.1 Calculation Summary														
7.1.1 Case: Wellpad A Wells 1,2,3,4														
7.1.1.2 Scenario: Typical Flowing Conditions Summer														
7.1.1.3 Proving Method: Master Meter														
7.2 Description														
Description	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (D)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=u/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity Unc. (s,Δ)	Relative Std. Sensitivity Unc. (S,Δ)	MCS Verification
Gross Standard Volume Flow Rate	GSV	stbpd	Note 1	100	95%	1.17%	1.1786	B	1.96	0.6013	1	0.60	0.60%	100.00
Gross Observed Volume Flow Rate	GOV	bpd	Note 2	101.0										
Standard density	P _{std}	API	Note 3	46.0										
Standard density	P _{std}	lb/ft ³	Note 3	49.72										
Line density	P _{line}	lb/ft ³	Note 4	80	95%	0.06%	0.03	B	1.96	0.0158	0.01972	0.00031	0.032%	49.21
Fluid Temperature	T _{fluid}	°F	Note 5	85	95%	0.06%	0.58	B	1.96	0.2947	0.00053	0.00016	0.016%	80.00
Fluid Pressure	P _{fluid}	psig	Note 6	85	95%	0.06%	0.32	B	1.96	0.1639	0.00001	0.000001	0.0001%	85.00
Method Uncertainty	U _{method}	n/a	Note 7	0.9897		0.05%	0.0005	B	1.96	0.0003	1	0.00027	0.028%	0.00
Standard Volume Correction Factor	CTPL	n/a	Note 8	0.9897								0.00044	0.045%	0.9897
7.3 Notes														
Note 1. See summary sheet														
Note 2. LACT Meter tab														
Note 3. Convert units from degrees API to lb/ft ³														
Note 4. Density converted to line conditions using method described in Chapter 11.1 (sections 11.1.5 & 11.1.6)														
Note 5. Temperature from Calibration sheets, uncertainty calculated on the Temp Transmitter Tab														
Note 6. Pressure from Calibration sheets, uncertainty calculated on Pressure Transmitter Tab														
Note 7. API Chapter 11.1(11.1.4) method uncertainty U _{cpd} =0.02% and U _{ctf} =0.05%, RSS to give U _{cpd} =0.054% applied to CPTL.														
Note 8. Standard Volume correction factor uncertainty calculated from fluid temperature and pressure uncertainties														
Note 9. Calculated by RSS relative uncertainty from standard density uncertainty and GOV flow rate uncertainty														
Gross Standard Volume Flow Rate														
MCS Trial GSV Trial														
MCS Trial GSV Mean														
Standard Uncertainty														
95% CI Coverage Factor														
Absolute 95% Uncertainty														
Relative 95% Uncertainty														
Relative 95% Uncertainty														

Separator Oil Model; API MPMS Chapter 11.1:2004 Gross Standard Volume Uncertainty



Net Standard Volume Oil Uncertainty

Project	JE0249A	Doc No.	D100
Module No.	N08	Rev.	ROI
Prepared,	Blair FYfe PhD,	Date:	June 18th 2019
Approved,	Martin Basif, BSc, CEng,	Date:	June 18th 2019

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9 Net Oil Standard Volume Flow Rate Uncertainty

Calculation uncertainty method by partial derivative and RSS. Verified by MCS.

9.1	Calculation Summary	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=+/-C)	Sensitivity (Δ=As/±)	Std. Sensitivity Unc. (s=Δ)	Relative Std. Sensitivity Unc. (s=Δ)	MCS Verification
8.1.1	Case: Wellpad A	GSV	stbpd	Note 1	100	95%	1.17%	1.17	B	1.96	0.60	0.9950	0.59	0.59%	100.00
8.1.2	Scenario: Typical Flowing Conditions Summer	BSW	% of Flow Rate	Note 2	0.50%	95%	56%	0.3	Birect	1.73	0.162	1	0.16	32.4%	0.4500
8.1.3	Proving Method: Master Meter	BSW	bpd	Note 3	0.50	95%		Net Oil Std Volume Static Value			NSV	stbpd	99.5		
8.2.1	Gross Standard Volume Flow Rate	GSV	stbpd												
8.2.2	Base, Sediment and Water	BSW	% of Flow Rate												
8.2.3	Base, Sediment and Water	BSW	bpd												
8.3.1	Note 1. From Gross Volume Uncertainty Tab. Sensitivity equal to (1-BSW)														
8.3.2	Note 2. Minimum measurable value, so very high associated relative uncertainty														
8.3.3	Note 3. Convert to volume Flow Rate														
8.3.4															
8.3.5															
8.3.6															
8.3.7															

Client: Southern Petroleum Laboratories, Inc.
Project: Federal Wellpad Uncertainty Study
Document: Federal Wellpad Uncertainty Report
Doc. No.: JE0249A-D004-R03 Issued



Appendix H Oil LACT Unit Uncertainty Model Example – WPA



LACT Unit Oil Measurement Uncertainty

Project	JE0249A	Doc No.	D150	Rev.	R01	Issue	Draft
	Blair Fyffe PhD. Flow Measurement Engineer			Signed		Date	June-18-2019
Approved	Martin Basil, BSc, CEng. Snr. Flow Measurement Consultant			Signed		Date	June-18-2019
Client	Southern Petroleum Laboratories, Inc.			Signed		Date	
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Case: Well A LACT Unit meter
Scenario: Typical Flowing Conditions Summer
Proving method: Bi-directional Prover

Index:
Module 1. Summary Page
Module 2. Temperature Transmitter Uncertainty
Module 3. Pressure Transmitter Uncertainty
Module 4. Bi-directional Prover Uncertainty
Module 5. LACT Meter Uncertainty
Module 6. GSV Uncertainty
Module 7. Net Oil Uncertainty

Glossary:
MCS- Monte Carlo Simulation
RSS- Root Sum Square
GOV-Gross Observed Volume
GSV-Gross Standard Volume
NSV-Net Standard Volume
BSW-Base, Sediment and Water

LACT Unit Oil Model; Title Page

Client: Southern Petroleum Laboratories, Inc.
Project: Federal Wellpad Uncertainty Study
Document: Federal Wellpad Uncertainty Report
Doc. No.: JE0249A-D004-R03 Issued



Summary Page

Project	JE0249A	Doc No.	D150
Module No.	M01	Rev.	R01

Prepared: Blair Fyffe PhD. **Date:** June 18th 2019
Approved: Martin Basil, BSc, CEng. **Date:** June 18th 2019

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1 Case: Well A LACT Unit meter		Measurement Uncertainty at 95% CI					
Scenario: Typical Flowing Conditions Summer							
Proving method: Bi-directional Prover							
Description	Symbol	Unit	Notes	Parameter	Absolute	Relative	
1.1	Bi-directional Prover Uncertainty						
1.1.4	Bi Directional Prover Uncertainty	U_{Bi-Dir}	n/a	Note 1	0.020%		
1.2	LACT Meter proving with bi-directional Prover						
1.2.1	Flow rate	$Q_{VLACT-cal}$	bpd	Note 2	2160		
1.2.2	Standard Oil Density	$U_{LACT-cal}$	API	Note 3	46		
1.2.5	Typical Meter Factor	$MF_{LACT-cal}$	n/a	"	1.0007		
1.2.3	Time Difference in years	$Y_{LACT-cal}$	Years	Note 4	0.08		
1.2.4	Proving repeatability acceptance criteria	$R_{LACT-cal}$	n/a	Note 5	0.05%		
1.3	LACT unit Flowing Conditions						
1.3.1	Gross Standard Volume Flow Rate	GSV	stbpd	Note 6	375	2.092 0.56%	
1.3.2	Standard Oil Density	ρ_{Std}	API	Note 7	46		
1.3.3	Fluid Temperature	T_{Obs}	°F	Note 8	75	0.58 n/a	
1.3.4	Pressure	P_{Obs}	psig	"	50	0.46 n/a	
1.3.5	Flowing/calibration Temperature difference	ΔT	°F	Note 9	20		
1.3.6	Flowing/calibration Pressure difference	ΔP	psi	Note 9	10		
1.3.7	Base, Sediment and Water	BSW	% of Flow Rate	Note 10	0.05%	0.05%	
1.3.8	Net Standard Volume Flow Rate	NSV	stbpd	Note 11	374.8	2.10 0.56%	
1.4	Notes:						
1.4.1	Note 1. Maximum difference between water draws for Bi-Directional Prover is 0.02%.						
1.4.2	Note 2. Usual Calibration Flow rate is 90bphr (2160bpd). Dropped to 75 bphr (1800bpd) in more recent proves.						
1.4.3	Note 3. Average Value from monthly LACT unit calibration sheets.						
1.4.4	Note 4. LACT meters calibrated every month, or approx. 0.08 years.						
1.4.5	Note 5. Proving repeatability acceptance criteria five proves with a repeatability of 0.05%						
1.4.6	Note 6. The export rate is assumed to be the number of wells times the typical well production rate.						
1.4.7	Note 7. The oil density at flowing conditions is assumed to be the same as that during calibration. Also similar to that found for the wellhead meters.						
1.4.8	Note 8. Typical conditions from Calibration sheets						
1.4.9	Note 9. Largest likely difference between calibration and operation conditions based on ranges seen in calibration sheets						
1.4.10	Note 10. BSW likely to be very low. Assume a minimum discrete value with equal uncertainty						

LACT Unit Oil Model; Summary Page



Temperature Transmitter Uncertainty

Project	Doc No.	D150
Module No.	Rev.	R01
Prepared.	Date:	June 18th 2019
Approved.	Date:	June 18th 2019

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UT _{gas} Temperature Transmitter Observed Uncertainty										MCS trial values shown in grey			
Calculation uncertainty method by RSS, Verified by MCS.													
Calculation Summary													
Scenario: Typical Flowing Conditions Summer													
Case: Well A LACT Unit meter													
Description													
Description	Symbol	Unit	Notes on Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (U)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=su/C)	Sensitivity (A=As/s)	Std. Sensitivity Unc. (s=A)	MCS Verification
Fluid Temperature	T _{span}	°F	Note 1	75									
Transmitter span	T _{span}	°F	Note 2	150									
Transmitter Accuracy Digital accuracy	T _{span}	°F	Note 3	0.18	99.5%		0.18	A	3	0.0600	2	0.120000	0.0000
Transmitter Accuracy D/A accuracy	T _{span}	% span	"	0.02%	99.5%		0.03	A	3	0.0100	3	0.030000	0.0000
Ambient Temperature effect	T _{span}	°F/°F	"	0.0015	99.5%		0.03	A	3	0.0100	4	0.040000	0.0000
Stability for Annual Calibration	uT _{span}	%/yr	Note 4	0.001%	99.5%		0.0015	A	3	0.0005	5	0.002500	0.0000
Radio Frequency Interference	T _{span}	°F	"										
Vibration	T _{span}	°F	"										
Other	T _{span}	°F	"										
Orientation	T _{span}	°F	"										
Calibration device Uncertainty	T _{span}	°F	Note 6		100.0%		0.10	B Rect.	1.73	0.0378	1	0.057803	0.0000
Calibration tolerance	T _{span}	°F	Note 7		100.0%		0.50	B Rect.	1.73	0.2890	1	0.289017	0.0000
Notes:													
2.2.1	Note 1. Typical temperature from Calibration sheet												
2.2.2	Note 2. Inform of span via email. Calibration sheets not available.												
2.2.3	Note 3. Uncertainties from Manufacturer's literature and quoted at ±5σ (99.5% CI)												
2.2.4	Note 4. Not given in Manufacturer's literature, so considered to be negligible												
2.2.5	Note 5. Consider to be negligible												
2.2.6	Note 6. Standard uncertainty developed for oil as gas, so take the value from the gas sheet (0.1°F)												
2.2.7	Note 7. No calibration records available for all temperature transmitters, assume this to be the same as for gas (0.5°F)												
2.2.8	MCS Trial Temperature Value												
2.2.9	MCS Trial Temperature Mean												
2.2.10	Standard Uncertainty												
2.2.11	95% CI Coverage Factor												
2.2.12	Absolute 95% Uncertainty												
2.2.13	Relative 95% Uncertainty												



Pressure Transmitter Uncertainty														
Project	JE0249A			Doc. No.	D150									
Module No.	M03			Rev.	R01									
Prepared.	Blair Fyffe PhD.			Date:	June 18th 2019									
Approved.	Martin Basil, BSc, CEng.			Date:	June 18th 2019									
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UP Pressure Transmitter Observed Uncertainty Calculation uncertainty method by RSS, verified by MCS.														
Calculation Summary														
3.1	Case: Well A LACT Unit meter													
3.1.1	Scenario: Typical Flowing Conditions Summer													
3.1.2														
3.1.3														
3.2	Description													
3.2.1	Pressure	P_{obs}	psig	50.0	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Y Type (A/B)	Coverage Factor (k)	Standard Unc. (s=4u/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity Unc. (sΔ)	MCS Verification
3.2.2	Ambient Temperature	T_{amb}	°F	65.0	Notes on Parameters/ Uncertainties Sources	99.5%	0.155	0.155	B Rect.	1.73	0.090	1	0.0895	0.0900
3.2.3	pressure Transmitter URL Range 4	P_{URL}	psig	800	Note 1	99.5%	0.0128	0.0128	A	3	0.109	1	0.1085	0.1090
3.2.4	pressure Transmitter Span	P_{span}	psig	814.7	Note 2	99.5%	0.449	0.449	A	3	0.094	1	0.0943	0.0950
3.2.5	Transmitter Reference Uncertainty	UP_{ref}	%URL	0.04%	Note 3	99.5%								
3.2.6	Stability for Annual Calibration	UP_{stab}	%URL/yr	0.02%	Note 4 and 5	99.5%								
3.2.7	Ambient Temperature Effect psi/50°F	UP_{temp}	psi/50°F	1.218	Note 4 and 6	99.5%								
3.2.8	Ambient Temperature Effect psi/50°F	UP_{temp}	psi/50°F	1.218	Note 4 and 7	99.5%								
3.2.9	Interference	P_{int}	psi		Note 8									
3.2.10	Vibration	P_{vib}	psi											
3.2.11	Other	P_{oth}	psi											
3.2.12	Orientation	P_{orient}	psi		Note 9									
3.2.13	Calibration device Uncertainty	P_{caldev}	psi		Note 10 and 11	100.0%			B Rect.	1.73	0.1408	1	0.1408	0.1408
3.2.14	Calibration tolerance	P_{cal}	psi		Note 12	100.0%			B Rect.	1.73	0.1408	1	0.1408	0.1408
3.3	Notes:													
3.3.1	Note 1 - A value which is similar but not identical to the calibration value chosen.													
3.3.2	Note 2 - Assume Ambient Temperature of 65°F													
3.3.3	Note 3 - URL from Manufacturer's literature. Span not provided, assumes span the same as URL as per wellheads. Calibration sheets not provided.													
3.3.4	Note 4 - Uncertainty from wellhead pressure and gas flow rate of 250 (95.5% CI)													
3.3.5	Note 5 - Uncertainty quoted as 0.04% of Span for 10 years (0.02% of URL per year) in Manufacturer's literature.													
3.3.6	Note 6 - Uncertainty quoted as 0.2% of URL per 10 years (0.02% of URL per year) in Manufacturer's literature.													
3.3.7	Note 7 - Uncertainty quoted as 0.025% of URL + 0.125% of span per 50F from 1.1 to 30:1 in Manufacturer's literature.													
3.3.8	Note 8 - Considered to be negligible													
3.3.9	Note 9 - Installed Horizontally so considered negligible													
3.3.10	Note 10 - Assume the same as gas. Uncertainty quoted as 0.05% of Reading + 0.005% of full span in Manufacturer's literature.													
3.3.11	Note 11 - Calibration device full span is 3000 psi given in the calibration device calibration sheets													
3.3.12	Note 12 - No calibration records available for oil pressure transmitters, use same approach as for gas. Calculated as Eqn 24 as given in API 21.1 2013													
3.3.13	Note 13 - Calculated by RSS the uncertainties in rows 3.2.7, 3.2.8, 3.2.13 and 3.2.14													

LACT Unit; Pressure Transmitter Uncertainty Page

Client: Southern Petroleum Laboratories, Inc.
 Project: Federal Wellpad Uncertainty Study
 Document: Federal Wellpad Uncertainty Report
 Doc. No.: JE0249A-D004-R03 Issued



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flow measurement

Project	JE0249A	Doc No.	D150
Modulis No.	M04	Rev.	R01
Prepared.	Blair Fyffe PhD, June 18th 2019		
Approved.	Martin Basil, BSc, CEng, Date: June 18th 2019		

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4 Bi-directional Prover Uncertainty														
4.1 Calculation Summary														
4.1.1	Case: Well A LACT Unit meter													
4.1.2	Scenario: Typical Flowing Conditions Summer													
4.1.3	Proving method: Bi-directional Prover													
Prover Serial Number: 1														
4.2	Description	Symbol	Unit	Notes on Parameters/ Uncertainties Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Type (A/B)	Coverage Factor (K)	Standard Unc. (s=u/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity Unc. (sΔ)	Rel Std. Sensitivity Unc. (SΔ)
4.2.4	Bi-directional Prover Allowable Range	$U_{b,2h}$	n/a	Notes 1 & 2	1.0007	100%	0.020%	0.000200	B Rect.	1.73	0.00012	1	0.00012	0.012%
4.3	Notes													
4.3.1	Note 1. Bi-Directional Prover Uncertainty is the maximum variation between successive water draws													
4.3.2	Note 2. Usual Calibration Flow rate is 90bphr (2160 bpd) from Nov 2017 to July 2018.													
4.3.3	Reduced to Dropped to 75 bphr (1800 bpd) during December 2018 to February 2019													



LACT Meter Uncertainty		Doc. No.	D150	Prepared	Copyright © SOLV Limited 2019. All rights reserved.		SOLV [®] flow measurement	
Project		JE0249A	801	Approved	June 18th 2019		June 18th 2019	
Mod/Rev		005						
<p>5.1 LACT Meter Gross Observed Volume Flow Rate Uncertainty</p> <p>5.1.1 Calculation Summary</p> <p>5.1.2 Case: Well A LACT unit meter</p> <p>5.1.3 Scenario: Typical Flowing Conditions Summer</p> <p>5.1.4 Proving method: Bi-directional Prover</p>								
<p>5.2 LACT Meter Gross Observed Volume Flow Rate Uncertainty</p> <p>5.2.1 Gross Standard Volume Flow Rate</p> <p>5.2.2 Temperature</p> <p>5.2.3 Pressure</p> <p>5.2.4 Density at Std Conditions</p> <p>5.2.5 Difference between flowing and calibration Temperature</p> <p>5.2.6 Difference between flowing and calibration Pressure</p> <p>5.2.7 Density at Std Conditions</p> <p>5.2.8 Density at Line Conditions</p> <p>5.2.9 Maximum Flow rate for this type of Meter</p> <p>5.2.10 Nominal Flow Rate for this type of Meter</p> <p>5.2.11 Gross Flow Rate</p> <p>5.2.12 Gross Volume Flow Rate</p> <p>5.2.13 Meter Factor (Volume)</p> <p>5.2.14 Meter Turn Down</p> <p>5.2.15 Indicated Volume Flow Rate</p>								
<p>5.3 Indicated Volume Uncertainty</p> <p>5.3.1 Volume Flow Accuracy</p> <p>5.3.2 Zero stability</p> <p>5.3.3 Process Temp effect on flow rate</p> <p>5.3.4 Process Pressure effect on flow rate</p> <p>5.3.5 Indicated Flow Volume</p>								
<p>5.4 Meter Factor Uncertainty</p> <p>5.4.1 Indicated Flow Rate Acceptable Range</p> <p>5.4.2 Prover Repeatability Acceptance Limits</p> <p>5.4.3 Prover Repeatability Uncertainty</p> <p>5.4.4 Additional Uncertainties</p> <p>5.4.5 Volume Meter Factor</p>								
<p>5.5 Notes:</p> <p>Note 1: Information From Summary sheet</p> <p>Note 2: Likely maximum difference between proving and flowing conditions, based on calibration data.</p> <p>Note 3: Convert density from degrees API to lb/ft³</p> <p>Note 4: Density correction is the same as that described in Chapter 11.1 (Sections 11.1.5 & 11.1.6)</p> <p>Note 5: Meter Factor is the average of those found for this LACT unit at proving</p> <p>Note 6: Meter Factor uses the average of those found for this LACT unit at proving</p> <p>Note 7: Large meter turn downs produce larger relative uncertainties</p> <p>Note 8: Reference accuracy of 0.1% of flow rate</p> <p>Note 9: Based on the Reference uncertainty on mass and volume being the same</p> <p>Note 10: Zero stability 0.048 lb/min, converted into bpd</p> <p>Note 11: Uncertainty of ±0.0005% of max flow rate per degree C, converted to a Volume Flow Rate. Assume a max temperature difference of 20°F</p> <p>Note 12: Bias of -0.0002% of flow rate per psi, converted to a Volume Flow Rate uncertainty. Assume a maximum pressure difference of ±10 psi. Bias becomes an uncertainty.</p> <p>Note 13: Indicated Meter Factor calculated here from lines 5.3.1 to 5.3.4</p> <p>Note 14: Prover Repeatability Uncertainty calculated here from lines 5.3.1 to 5.3.4</p> <p>Note 15: Prover Repeatability Acceptance Limits</p> <p>Note 16: Repeatability acceptance tolerances of 0.05% on 5 runs.</p> <p>Note 17: Too account for any other possible sources of Uncertainty</p> <p>Note 18: Meter Factor. Uncertainty calculated here from lines above. As meter and prover conditions very similar any method, temperature or pressure uncertainties assumed to cancel out.</p>								



GSV Uncertainty
 Project: JE0249A D150
 Module No.: M05 R01
 Prepared: Blair Fyfe PhD. June 18th 2019
 Approved: Martin Basil, BSc, CEng. June 18th 2019
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6.1 Calculation Summary														
6.2 Description														
Description	Symbol	Unit	Notes on Parameters/Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=u/C)	Sensitivity (A=s/u/s)	Std. Sensitivity Unc. (s-A)	Relative Std. Sensitivity Unc. (s-A)	MCS Verification
Gross Standard Volume Flow Rate	GSV	stbpd	Note 1	375	95%	0.55%	2.0820	B	1.96	1.0622	1	1.062	0.28%	375.0
Gross Observed Volume Flow Rate	GOV	stpd	Note 2	377.9										
Standard density	API	API	Note 3	46.0										
Standard density	P _{std}	lb/ft ³	Note 3	45.72										
Line density	P _{line}	lb/ft ³	Note 4	45.33	95%	0.06%	0.03	B	1.96	0.0158	0.01981	0.00031	0.032%	45.33
Fluid Temperature	T _{avg}	°F	Note 5	75	95%		0.58	B	1.96	0.2947	0.00054	0.00016	0.016%	75.00
Fluid Pressure	P _{avg}	psig	Note 6	50	95%		0.46	B	1.96	0.2329	0.00001	0.00001	0.0001%	50.00
Method Uncertainty	U _{ctrl}	n/a	Note 7	0.9922		0.05%	0.0005	B	1.96	0.0003	1	0.00027	0.028%	0.00
Standard Volume Correction Factor	CTPL	n/a	Note 8	0.9922								0.00044	0.045%	0.9922
6.3 Notes														
Note 1. See summary sheet														
Note 2. LACT Meter tab														
Note 3. Convert units from degrees API to lb/ft ³														
Note 4. Density converted to line conditions using method described in Chapter 11.1 (sections 11.1.5 & 11.1.6)														
Note 5. Temperature from Calibration sheets, uncertainty calculated on the Temp Transmitter Tab														
Note 6. Pressure from Calibration sheets, uncertainty calculated in Pressure Transmitter Tab														
Note 7. API Chapter 11.1(11.4) method uncertainty U _{ctrl} =0.02% and U _{cl} =0.05%. RSS to give U _{cpvl} =0.054% applied to CPTL.														
Note 8. Standard Volume correction factor uncertainty calculated from fluid temperature and pressure uncertainties														
Note 9. Calculated by RSS relative uncertainty from standard density, uncertainty and GOV flow rate uncertainty														



Project	JE0249A	Doc No.	D150
Module No.	M07	Rev.	R01
Prepared.	Blair Lyffe PhD.	Date:	June 18th 2019
Approved.	Martin Basil, BSc, CEng.	Date:	June 18th 2019

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Net Oil Standard Volume Flow Rate Uncertainty										MCS trial values shown in grey				
7.1 Calculation summary														
7.1.1 Case: Well A LACT Unit meter														
7.1.2 Scenario: Typical Flowing Conditions Summer														
7.1.3 Proving method: Bi-directional Prover														
7.2 Description														
Description	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=U/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity Unc. (sΔ)	Relative Std. Sensitivity Unc. (sΔ)	MCS Verification
7.2.1 Gross Standard Volume Flow Rate	GSV	stbpd	Note 1	375	95%	0.56%	2.09	B	1.96	1.07	0.9995	1.07	0.28%	374.8
7.2.2 Base, Sediment and Water	%BSW	% of Flow Rate	Note 2	0.05%	95%	100%	0.05%	B,rect	1.73	0.108	1	0.11	58%	0.11875
7.2.3 Base, Sediment and Water	BSW	bbpd	Note 3	0.2	95%	100%	0.2	B,rect	1.73	0.108	1	0.11	58%	0.11875
Notes.														
7.3.1	Note 1. From Gross Volume Uncertainty Tab, Sensitivity equal to (1-BSW)													
7.3.2	Note 2. Minimum measurable value, so very high associated relative uncertainty													
7.3.3	Note 3. Convert to volume Flow Rate													
7.3.4														
7.3.5														
7.3.6														
7.3.7														

Client: Southern Petroleum Laboratories, Inc.
Project: Federal Wellpad Uncertainty Study
Document: Federal Wellpad Uncertainty Report
Doc. No.: JE0249A-D004-R03 Issued





Appendix I Road Tanker Loading Uncertainty – WPE

The WPE Tanker Loading Uncertainty model.



Tanker Loading Oil Measurement Uncertainty

Project	JE0249A	Doc No.	D200	Rev.	R01	Issue	Draft
Prepared	Blair Fyffe PhD. Flow Measurement Engineer			Signed		Date	July-3-2019
Approved	Martin Basil, BSc, CEng. Snr. Flow Measurement Consultant			Signed		Date	July-3-2019
Client	Southern Petroleum Laboratories, Inc.			Signed		Date	
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Case: Wellpad E Tanker Loading
Scenario: Tanker Loading

Index:

- Module 1.** Summary Page
- Module 2.** Temperature Measurement Uncertainty
- Module 4.** Gauge Tape Uncertainty
- Module 5.** Tank Dip measurement Uncertainty
- Module 6.** GSV Uncertainty
- Module 7.** Net Oil Uncertainty

Glossary:

- MCS-** Monte Carlo Simulation
- RSS-** Root Sum Square
- GOV-**Gross Observed Volume
- GSV-**Gross Standard Volume
- NSV-**Net Standard Volume
- BSW-**Base, Sediment and Water

Tanker Loading; Title Page

Client: Southern Petroleum Laboratories, Inc.
Project: Federal Wellpad Uncertainty Study
Document: Federal Wellpad Uncertainty Report
Doc. No.: JE0249A-D004-R03 Issued



Summary Page			
Project	JE0249A	Doc No.	D200
Module No.	M01	Rev.	R01
Prepared:	Blair Fyffe PhD.	Date:	July 3rd 2019
Approved:	Martin Basil, BSc, CEng.	Date:	July 3rd 2019

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1.1 Case: Wellpad E Tanker Loading		Measurement Uncertainty at 95% CI					
1.1.1 Scenario: Tanker Loading							
	Description	Symbol	Unit	Notes	Parameter	Absolute	Relative
1.2	Gauge Tape						
1.2.1	Length of Tape	L_{GTape}	Ft	Note 1	33.0	0.0019	0.01%
1.3	Tank Dip						
1.3.1	Volume Before	$V_{TankBefore}$	Barrels	Note 2	391.99		
1.3.2	Volume After	$V_{TankAfter}$	Barrels	Note 2	36.22		
1.3.3	Change in Volume (Gross Observed Volume)	ΔV_{Tank}	Barrels		355.77	0.4491	0.13%
1.4	Fluid Parameters and Volumes						
1.4.1	Observed Oil Density	ρ_{Obs}	API	Note 3	49		
1.4.2	Fluid Temperature	T_{Obs}	°F	Note 4	82	0.68	n/a
1.4.3	Pressure	P_{Obs}	psig	Note 5	0	0.00	n/a
1.4.4	Gross Standard Volume	GSV	stb	Note 6	353.58	0.545	0.16%
1.4.5	Base, Sediment and Water	BSW	% of Volume	Note 7	0.00%	0.00	
1.4.6	Net Standard Volume	NSV	stb		351.5	0.55	0.16%
1.5	Notes:						
1.5.1	Note 1. Temperature from Run Tickets, uncertainty calculated on the Gauge Tape Tab						
1.5.2	Note 2. Tank Volume at different depths is based on Lookup Table.						
1.5.3	Note 3. Density from Run Tickets. No uncertainty given. Density has very minor affect on volume uncertainty, can assume uncertainty to be zero.						
1.5.4	Note 4. Temperature from Run Tickets, Uncertainty calculated in Temperature Tab						
1.5.5	Note 5. No pressure conversion, liquid at atmospheric conditions						
1.5.6	Note 6. Convert Volume to Standard conditions using method from Chapter 11.1						
1.5.7	Note 7. BS&W given as 0% in run tickets, but BS&W calculation retained for completeness						

Tanker Loading; Summary Page



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Temperature Measurement Uncertainty

Project	JE0249A	Doc No.	D200
Module No.	M02	Rev.	ROT
Prepared,	Blair Fyffe PHD.	Date:	July 3rd 2019
Approved,	Martin Basil, BSc, CEng.	Date:	July 3rd 2019

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2 UT_{obs} Temperature Reading Uncertainty Calculation uncertainty method by RSS. Verified by MCS.

2.1 Calculation Summary
 Transmitter Type: Thermometer
 Case: Wellpad E Tanker Loading
 Scenario: Tanker Loading

Description	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty y (U)	Absolute Uncertainty (u)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=u/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity Unc. (s.Δ)	MCS Verification
2.2.1 Fluid Temperature	T _{obs}	°F	Note 1	82	100.0%		0.38	A	1.96	0.1939	1	0.193878	82
2.2.2 Thermometer Uncertainty	UT _{device}	°F	Note 2		100.0%		0.50	B Rect.	1.73	0.2890	1	0.289017	0.0000
2.2.3 Recording accuracy	T _{record}	°F	Note 3		100.0%								
2.3 Notes:													
2.3.1			Note 1. Typical Temperature from Run Ticket reports.										
2.3.2			Note 2. Uncertainty calculated from spread of results on calibration sheet										
2.3.3			Note 3. Temperature to be read and recorded to the nearest 1°F (See API 18.1 Part 6.5.6)										
2.3.4													
2.3.5													
2.3.6													

Client: Southern Petroleum Laboratories, Inc.
Project: Federal Wellpad Uncertainty Study
Document: Federal Wellpad Uncertainty Report
Doc. No.: JE0249A-D004-R03 Issued



Gauge Tape Uncertainty			
Project	JE0249A	Doc No.	D200
Module No.	M03	Rev.	R01
Prepared:	Blair Fyfe PhD.	Date:	July 3rd 2019
Approved:	Martin Basil, BSc, CEng.	Date:	July 3rd 2019

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3 Gauge Tape Uncertainty												
3.1 Calculation Summary												
Case: Wellpad E Tanker Loading												
Scenario: Tanker Loading												
3.2												
Description	Symbol	Unit	Notes on Parameters/Uncertainties Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=u/C)	Sensitivity Unc. (s \cdot Δ)	Rel Std. Sensitivity Unc. (S \cdot Δ)
3.2.1 Gauging Tape length	L _{Gauge}	Ft	Notes 1	33	100%	0.010%	0.0033	B Rect.	1.73	0.00191	0.00191	0.006%
3.3 Notes												
3.3.1 Note 1. 0.01% acceptance tolerance for calibration of gauging tape (from calibration sheet).												
3.3.2 Note 2. Length of tape also from calibration sheet.												

Client: Southern Petroleum Laboratories, Inc.
 Project: Federal Wellpad Uncertainty Study
 Document: Federal Wellpad Uncertainty Report
 Doc. No.: JE0249A-D004-R03 Issued



Tank Dip measurement Uncertainty

Project	JE0249A	Doc No.	DZ00
Module No.	M04	Rev.	R01
Prepared.	Blair Fyffe PHD.	Date:	July 3rd 2019
Approved.	Martin Basil, BSc, CEng.	Date:	July 3rd 2019

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4 LACT Meter Gross Observed Volume Flow Rate Uncertainty

Calculation uncertainty by RSS. Verified by MCS.

4.1	Calculation Summary		MCS trial values shown in gray									
4.1.1	Case:	Wellpad E Tanker Loading	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (A)	Uncertainty Type (A/B)	Coverage Factor (K)	Standard Unc. (s=U/C)	Sensitivity (Δ=Δs/s)	Sd. Sensitivity Unc. (sΔ)	Rd Sd. Sensitivity Unc. (sΔ)	MCS Verification
4.1.2	Scenario:	Tanker Loading	Interval (CI)	(U)	(A)	(A/B)	(K)	(s=U/C)	(Δ=Δs/s)	(sΔ)	(sΔ)	
4.1.3			Interval (CI)	(U)	(A)	(A/B)	(K)	(s=U/C)	(Δ=Δs/s)	(sΔ)	(sΔ)	
4.2			Parameter	Notes on Parameters/ Uncertainties Sources	Unit	Symbol						
4.2.1			15.1", 3/4"	Note 1	Feet, Inches, Quarter Inches							
4.2.2			391.99	Note 2 & 3	Barrels	$V_{measured}$		0.156	1	0.156		391.9900
4.2.3			1.2", 1/2"	Note 1	Feet, Inches, Quarter Inches			0.27	B.Rect			
4.2.4			36.22	Note 2 & 3	Barrels	$V_{relative}$		0.27	B.Rect			36.2200
4.2.5			355.77	Note 4	Barrels	ΔV_{from}		0.43	A			355.77
4.2.6				Note 5	Barrels	V_{error}		0.12%				
4.2.7			13.11", 1/4"	Note 5	Feet	L_{tapes}		0.010%	B Rect.		0.017%	30.0000
4.3												
4.3.1												
4.3.2												
4.3.3												
4.3.4												
4.3.5												
4.3.6												
4.3.7												

Notes.
 Note 1. Oil Levels from Run Ticket Reports. Measured in feet, inches and quarter inches
 Note 2. Volume based on look up table.
 Note 3. Uncertainty based on volume change per 1/4 inch increment (0.53 barrels)
 Note 4. For other possible sources of uncertainty
 Note 5. From Gauge Tape tab. Used once to save from double hitting uncertainties.



GSV Uncertainty

Report No. JE0249A Issue No. 0260 Prepared: Blair Fyffe PhD, MCS Approved: Martin Basil, BSc, CEng.	Doc No. D260 Issue No. 0260 Date: July 3rd 2019 Date: July 3rd 2019
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Gross Standard Volume Flow Rate Uncertainty

Calculation uncertainty method by finite difference and RSS, Verified by MCS.

MCS Trial values shown in grey															
5.1	Calculation Summary														
5.1.1	Case: Wellpad E Tanker Loading														
5.1.2	Scenario: Tanker Loading														
5.2	Description	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=U/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity Unc. (sΔ)	Relative Std. Sensitivity Unc. (sΔ)	
5.2.1	Gross Observed Volume	GVV	bp	Note 1	355.77	95%	0.13%	0.4491	B	1.96	0.2291	1	0.229	0.96%	
5.2.2	Line density	API	API	Note 2	4920	95%	0.06%	0.03	B	1.96	0.0158	0.01973	0.00031	0.032%	
5.2.3	Line density	Pssar	lb/ft ³	Note 3	48.69	95%	0.06%	0.68	B	1.96	0.3480	0.00053	0.00019	0.019%	
5.2.4	Fluid Temperature	T _{ref}	°F	Note 4	82	95%		0.00	B	1.96	0.0000	0.00000	0.00000	0.0000%	
5.2.5	Fluid Pressure	P _{ref}	psig	Note 5	10	95%			B	1.96	0.0000	0.00000	0.00000	0.0000%	
5.2.6	Method Uncertainty	U _{meth}	n/a	Note 7	0.9881		0.05%	0.0005	B	1.96	0.0003	1	0.00027	0.028%	
5.2.7	Standard Volume Correction Factor	CTPL	n/a	Note 8	0.9881								0.00045	0.046%	
5.2.8													351.5276		
5.3	Notes														
5.3.1	Note 1: From Tank Dip														
5.3.2	Note 2: From Beam at data sheet														
5.3.3	Note 3: Convert units from degrees API to lb/ft ³														
5.3.4	Note 5: Temperature from Run Tickets, uncertainty calculated on the Temperature Tab														
5.3.5	Note 6: No mention of pressure on run ticket reports, assume no pressure correction. However, kept in for completeness														
5.3.6	Note 7: API Chapter 11.1(11.1.4) method uncertainty U _{ref} =0.05%														
5.3.7	Note 8: CPTL calculated using method described in Chapter 11.1 (sections 11.1.5 & 11.1.6)														
5.3.8	Note 9: Calculated by RSS relative uncertainty, from standard density uncertainty and GSV flow rate uncertainty														
5.3.9															

Client: Southern Petroleum Laboratories, Inc.
 Project: Federal Wellpad Uncertainty Study
 Document: Federal Wellpad Uncertainty Report
 Doc. No.: JE0249A-D004-R03 Issued



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Net Oil Uncertainty

Project	JE0249A	Doc. No.	D2200
Module No.	M05	Rev.	R01
Prepared,	Blair Pyffe PhD,	Date:	July 3rd 2019
Approved,	Martin Basil, BSc, CEng,	Date:	July 3rd 2019

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Calculation uncertainty method by partial derivative and RSS. Verified by MCS.

	Description	Symbol	Unit	Notes on Parameters/ Uncertainty Sources	Parameter	Confidence Interval (CI)	Relative Uncertainty (U)	Absolute Uncertainty (u)	Uncertainty Type (A/B)	Coverage Factor (k)	Standard Unc. (s=w/C)	Sensitivity (Δ=Δs/s)	Std. Sensitivity Unc. (sΔ)	Relative Std. Sensitivity Unc. (sΔ)	MCS Verification
6	Net Oil Standard Volume Flow Rate Uncertainty														
6.1	Calculation Summary														
6.1.1	Cases: Wellpad E Tanker Loading														
6.1.2	Scenario: Tanker Loading														
6.1.3															
6.2															
6.2.1	Gross Standard Volume Flow Rate	GSV	stb	Note 1	351,528	95%	0.16%	0.55	B	1.96	0.28	1.0000	0.28	0.079%	351,528
6.2.2	Base, Sediment and Water	%BSW	% of Flow Rate	Note 2	0.00%	95%	0%	0.00%	Birect	1.73	0.000	1	0.00	0.000%	0.00000
6.2.3	Base, Sediment and Water	BSW	stb	Note 3	0.0	99%	0%	0.0			UNSV	stb	351.5		
6.3	Notes														
6.3.1	Note 1. From Gross Volume Uncertainty Tab. Sensitivity equal to (1-BSW)														
6.3.2	Note 2. BSW given as 0% in all the run ticket reports. However, calculation retained for completeness														
6.3.3	Note 3. Convert to volume Flow Rate														
6.3.4															
6.3.5															
6.3.6															
6.3.7															

Tanker Loading; Net Standard Volume Uncertainty

Appendix D

See subsequent pages




Wellpad Uncertainty Sensitivity

Allocation & Commingling Uncertainty Sensitivity

for



Southern Petroleum Laboratories, Inc.

Project	JE0249A-VAR4	Doc. No.	D850	Rev.	R03	Issue	Final inc. comments
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Revision History

Rev.	Issue	Prepared	Initial	Approved	Initial	Client	Initial	Date mmm-dd-yyyy
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R03	Final inc. comments	M. Basil	MB	G. Lake	GL	D. Curtis	DC	Sep-16-2020
R04								
R05								

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- Appendix A Allocation Uncertainty by RSS with Partial Derivatives
- Appendix B Wellpad Allocation Sensitivity, Correlation & Covariance
- Appendix C Model Case 1, Test – Model Equation Verification
- Appendix D Model Case 2A, 2 Streams 15k stbpm $\pm 5\%$ ov FMP VH $\pm 0.50\%$ ov
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- Appendix F Model Case 2C, 2 Streams 15k stbpm $\pm 5\%$ ov FMP 0% Apportion
- Appendix G Model Case 3A, 10:1 2 Streams $\pm 5\%$ ov, FMP VH $\pm 0.50\%$ ov
- Appendix H Model Case 3B, 1:10:100:1000, 4 Strm $\pm 5\%$ ov FMP VH $\pm 0.50\%$ ov
- Appendix I Model Case 4A, Uncertainty Difference, 2 Streams, FMP VH
- Appendix J Model Case 4B, Uncertainty Difference, 2 Streams, FMP H
- Appendix K Model Case 5A, Commingle Difference, 2 Streams, FMP VH
- Appendix L Model Case 5B, Uncertainty & Commingle Difference, 2 Streams, VH
- Appendix M Model Case 5C, Uncertainty & Commingle Difference, 2 Streams, H
- Appendix N Model Case 6A, Stream, Uncertainty, & Commingle Diff, 2 Stream VH
- Appendix O Model Case 6B, Stream, Uncertainty, & Commingle Diff, 2 Streams H
- Appendix P Model Case 7A, Separator Well Meter Input to Commingle Fluids, VH
- Appendix Q Model Case 7B, Separator Well Meter Input to Commingle Fluids H

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Reference

- Ref. 1, Code of Federal Regulations; Title 43–CFR: Public Lands: Interior Part 3170–
Onshore Oil and Gas Production
- Ref. 2, Subpart 43–CFR–3170; General
- Ref. 3, Subpart 43–CFR–3173; Requirements for Site Security and Production
Handling
- Ref. 4, Subpart 43–CFR–3174; Oil Measurement
- Ref. 5, OIML (International Organization of Legal Metrology) G 1–100–en; Ed
2008(E); corrected 2010, “Guide to the expression of uncertainty in
measurement”
- Ref. 6, OIML G1–101en “Supplement 1 Propagation of distribution using the Monte
Carlo method”
- Ref. 7, OIML G1–102en “Supplement 2 extension to any number of output
quantities”
- Ref. 8, API MPMS Chapter 13.3, Measurement Uncertainty; 2nd Ed.: December 2017
- Ref. 9, ISO5168: 1978 1st Ed. Measurement of fluid flow – Estimation of a flow rate
measurement – Now withdrawn
- Ref. 10, Experimentation and Uncertainty Analysis for Engineers; 2nd Ed. 1998; Hugh
W, Coleman, & W. Glenn Steele
- Ref. 11, Oracle Crystal Ball Release 11.1.2.4.850 Monte Carlo Simulation Software
- Ref. 12, Joint Office of Gas Transporters, Work Procedure for Validation of
Equipment Associated with Measurement Systems for Calculation of Mass,
Volume and Energy Flowrate of Gas

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Glossary

CA	Communalization Agreement
CAA	Commingling and Allocation Approval
CF	Coverage Factor (also known as Student t-factor)
CFR	Code of Federal Regulations
CI (%)	Confidence Interval (95% if not stated, otherwise must be stated)
dp	decimal places
FMP	Facility Measurement Point
LACT	Lease Automatic Custody Transfer
MCS	Monte Carlo Simulation
NSV	Net Standard Volume stb dry oil @ 60°F, 14.696 psia
ov	of value
PA	Participating Area
PDS	Partial Derivative Sensitivity
RBias	Randomized SBias
RSS	Root Sum Square
SBias	Systematic Bias
stb	stock tank barrels @ 60°F, 14.696 psia
stbpd	stock tank barrels per day @ 60°F, 14.696 psia
stbpm	stock tank barrels per month @ 60°F, 14.696 psia
SUnc	Standard Uncertainty (normal distribution, standard deviation, CI 68.27%)
u	absolute uncertainty
U (%)	relative uncertainty
Unc	Uncertainty

1 Executive Summary

1.1 Scope

Allocation and commingling uncertainty sensitivity was investigated for oil production from wells on a wellpad to a common FMP (LACT) for export.

Various operational configuration cases were considered including:

- a. Well production separator measurement uncertainty;
- b. Wellpad FMP (LACT) measurement uncertainty;
- c. Well production rate;
- d. Ratio of production between wells on the wellpad;
- e. Commingling of allocated well production with different agency interests;
- f. Combined commingled allocated well production; and,
- g. Combined commingled production measured at the Well Separators.

Uncertainty is examined to find if the allocation, and commingling is equitable for the Agency's interest in each well, and the combined commingled interest.

The findings of this report are described in Section 1.3 as follows:

Finding 1 – Allocation and Commingling Bias due to Monte Carlo Simulation;

Finding 2 – Allocation Uncertainty Dependency on Well Meter Uncertainty

Finding 3 –Flow Ratio Uncertainty Sensitivity and Bias;

Finding 4 – Well Stream Measurement Uncertainty Difference;

Finding 5 – Combined Commingling Sensitivity to Different Agency Interests

Finding 6 – Difference in Stream Quantity, Uncertainty, and Commingling

Finding 7 – Well Meter Uncertainty Commingling

1.2 Wellpad Allocation and Commingling Uncertainty Analysis

A Wellpad Uncertainty Model was developed to find allocation and commingling uncertainty of wells on a wellpad producing into a FMP (LACT).

Uncertainty is found by RSS (Root Sum Square) with PDS (Partial Derivative Sensitivity) terms and reported at a 95% CI (Confidence Interval).

Results are verified by MCS (Monte Carlo Simulation) to assist model development. MCS verification improves confidence in the results and enables access to characteristics of MCS allocation distribution to investigate possible bias.

Each case contains five parallel models, populated with the same input data to highlight any variability in the MCS allocation and commingling results.

MCS allocation commingling results are summarized in: Appendix C, which verifies the equations and Appendix H, which examines the effects of flow ratio to find the mean and spread of the results, and the magnitude of biases.

1.3 Findings

Findings are described with reference to more detailed explanations in Section 3, Model Case Analysis based on 15 case models in Appendices C to Q. Each appendix includes a narrative describing the model, with sections for purpose, configuration, findings, and discussion.

1.3.1 Finding 1 – Allocation and Commingling Bias due to Monte Carlo Simulation

MCS allocation distributions were found by others to have bias in the mean.

The acceptance tolerance for flow computer calculation checks for Custody Transfer and Fiscal applications is $< \pm 0.001\%$ ov; therefore, is a suitable criterion for acceptance of allocation bias. Refer to Section 2.4.8, Flow Computer Validation Acceptance Criteria.

Bias for all 15 allocation cases was found to be $< \pm 0.0005\%$ ov satisfying the requirement in Ref. 4, Subpart 43–CFR–3174; Oil Measurement, 3174.4 (2) (ii) Bias, that *“The measuring equipment used for volume determinations must achieve measurement without statistically significant bias”*.

Bias in the MCS distribution mean arises due to non–linearity in the apportionment equations in Figure 1, to find the proportion of each stream, prior multiplication by the FMP (LACT) measurement to find the allocation. Non–linearity of the apportionment increases as the ratio of stream flow rates increases.

Figure 1 Apportionment & Allocation Equations

Apportionment

$$Q_{1Appor} = \frac{Q_1}{Q_1 + Q_2} \qquad Q_{2Appor} = \frac{Q_2}{Q_1 + Q_2}$$

Allocation

$$Q_{1Alloc} = Q_{1Appor} \times Q_{LACT} \qquad Q_{2Alloc} = Q_{2Appor} \times Q_{LACT}$$

In MCS, the linearity of the apportionment equations in Figure 1 changes as the well stream variables Q_1 and Q_2 vary over the distribution. The cumulative effect introduces a small skew in the distribution which is exhibited as a bias in the distribution mean.

The FMP, Q_{LACT} in the allocation equation in Figure 1, MCS distribution is not skewed so does not contribute to bias in the allocation.

Refer to Section, 3.1, All Cases, Appendix C to Q, Allocation and Commingling Bias due to MCS.

1.3.2 Finding 2 – Allocation Uncertainty Dependency on Well Meter Uncertainty

Allocation uncertainty is primarily determined by well stream measurement uncertainty in the apportionment part of the allocation equations. Refer to Figure 1, Apportionment & Allocation Equations, in Section 1.3.1.

FMP measurement is multiplied by the apportionment for each stream to find the allocation and uncertainty for each well stream. This results in a small increase in the allocation uncertainty due to FMP VH uncertainty of $\pm 0.50\%$ ov or FMP H of $\pm 1.50\%$ ov.

With two well streams of 15,000 stbpm each, with a measurement uncertainty of $\pm 5.0\%$ ov the apportionment uncertainty of $\pm 3.536\%$ ov increased due to allocation by $\pm 0.035\%$ to 3.571% for FMP VH, and by $\pm 0.305\%$ ov to $\pm 3.841\%$ ov for FMP H; around $1/100^{\text{th}}$ and $1/10^{\text{th}}$ smaller than the apportionment uncertainty respectively.

The corresponding increase in the Agency's combined commingled uncertainty is of the same order as for allocation.

FMP uncertainty influence on allocation and Agency's combined commingled uncertainty is small. There is scope for increasing FMP uncertainty without excessive increase in the final allocation uncertainty and Agency's combined commingling uncertainty at low flow rates.

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Refer to Case 2A, 2B, & 2C, Appendix D, E, & F Allocation Uncertainty Dependency.

1.3.3 Finding 3 –Flow Ratio Uncertainty Sensitivity and Bias

Influence of flow ratio was examined for two and four well streams with a measurement uncertainty of $\pm 5.0\%$ ov with ratios of 10:1 for 2 streams and 1,000:100:10:1 for 4 streams, with a maximum stream flow rate of 30,000 stbpm. Results for allocation uncertainty were similar in both cases.

Bias findings are as Section 1.3.1, Finding 1 – Allocation and Commingling Bias due to Monte Carlo Simulation, so won't be discussed further. Please refer to Section, 3.4.4, MCS Allocation Uncertainty Bias, for explanations of how bias is calculated and the significance.

The largest stream (30,000 stbpm) was found to have the lowest allocation uncertainty of around $\pm 0.8\%$ ov with a small –ve allocation bias in MCS and the remaining stream all had a small +ve allocation bias in MCS. Allocation uncertainty converged around $\pm 6\%$ ov or more over a small range for four streams.

Refer to Section 3.4, Case 3A & 3B, Appendix G & H, Flow Ratio Uncertainty Sensitivity and Bias.

1.3.4 Finding 4 – Well Stream Measurement Uncertainty Difference

The effect of allocation of two well streams A and B, each of 15,000 stbpm with a measurement uncertainty for A of $\pm 5.0\%$ ov, and for B of $\pm 10.0\%$ ov and an FMP VH uncertainty of $\pm 0.50\%$ ov value is examined. The resultant allocation uncertainty for each stream is the same at $\pm 5.612\%$ ov for each stream.

With FMP H of $\pm 1.50\%$ ov streams A and B at 14,999 stbpm the allocation uncertainty increases by $\pm 0.176\%$ ov to 5.788% ov for each stream.

The FMP uncertainty increase of $\pm 1.0\%$ ov results in an increase in the allocation uncertainty of just $\pm 0.176\%$ ov which is approximately one sixth of the FMP increase.

When two streams of the same flow rate and different stream measurement uncertainty are allocated the allocation uncertainties for both streams are the same.

Refer to Section 3.5, Case 4A & 4B, Appendix I & J, Stream Measurement Uncertainty Difference.

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1.3.5 Finding 5 – Combined Commingling Sensitivity to Different Agency Interests

The effect of different Agency's commingling interest on the Agency's combined commingled uncertainty is examined for cases 5A, 5B, and 5C. In each case, the Agency's interest is 25% in stream A and 5% in stream B.

Case 5A has the same well stream measurement uncertainty of $\pm 5.0\%$ ov on two well flow rates of 15,000 stbpm with an FMP VH uncertainty of $\pm 0.50\%$ ov on the 30,000 stbpm commingled flow.

Case 5B and 5C has different well measurement uncertainty for stream A of $\pm 5.0\%$ ov, and stream B of $\pm 10\%$ ov.

Case 5B stream is 15,000 stbpm for both streams with FMP VH uncertainty of $\pm 0.50\%$ ov at 30,000 stbpm.

Case 5C stream is 14,999 stbpm for both streams with FMP H uncertainty of $\pm 1.50\%$ ov at 29,998 stbpm.

Where stream measurement uncertainties are different for case 5B and 5C the allocation uncertainty is the same for both streams as cases 4A and 4B. refer to findings for case 4A and 4B.

In these cases, Agency's combined commingled interest is 15% of the total production. Agency's combined commingled uncertainty was found to be 85% of the well allocation uncertainty. This is reduced in proportion to the combined commingled interest (100% – 15%), for Case 5A, 5B, and 5C.

Refer to Section 3.6, Case 5A, 5B, & 5C, Appendix K, L, & M, Commingling & Stream Uncertainty.

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1.3.6 Finding 6 – Difference in Stream Quantity, Uncertainty, and Commingling
With different well flow rates and flow rate uncertainties, the ratio of the allocation uncertainties is approximately inversely proportional to the ratio of the flow rates.

The approximation is due to the common influence of the FMP uncertainty on the two allocations. In the hypothetical case where the FMP uncertainty is $\pm 0.0\%$ ov, the ratio of uncertainties was the exact inverse of the stream flow rates regardless of the stream uncertainty.

Agency's combined commingled uncertainty was found to be between the well allocation uncertainties for case 6A and 6B.

Refer to Section 3.7, Case 6A & 6B, Appendix N & O,

1.3.7 Finding 7 – Well Meter Uncertainty Commingling Compared to Allocation
Agency's combined uncertainty found by allocation and commingling is lower than overall uncertainty based on the well stream measurement uncertainty.

Apportionment and allocation reduces uncertainties for well streams with the same uncertainty and same rate compared to the well separator measurement uncertainty. Where the stream proportions are different, the allocation uncertainty is inversely proportional to the apportionment of the streams. This ratio is reduced after allocation due to the uncertainty of the FMP.

Refer to Section 3.8 Case 7A & 7B, Appendix P & Q, Well Stream Uncertainty Commingling Case 7A & 7B, Appendix P & Q,

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2 Introduction

This report details the findings of a study into the sensitivity of allocation uncertainty, and of commingling of an Agency's oil production, for multiple wells on a wellpad with different agency interests.

Uncertainty sensitivity is investigated for the oil allocation uncertainty of total monthly NSV production (stbpm) at the wells and the FMP (LACT).

Each well's oil production is assumed to have similar properties and quality for allocation and commingling. If there are significant differences in well oil properties and quality, a value adjustment should be made.

Gas allocation and commingling uncertainty has not been included in the scope, but principles are the same as oil allocation.

2.1 Regulations

Regulation is in accordance with:

Ref. 1, Code of Federal Regulations; Title 43-CFR: Public Lands: Interior Part 3170-Onshore Oil and Gas Production, comprising;

Ref. 2, Subpart 43-CFR-3170; General;

Ref. 3, Subpart 43-CFR-3173; Requirements for Site Security and Production Handling; and,

Ref. 4, Subpart 43-CFR-3174; Oil Measurement.

2.2 Scope

Uncertainty sensitivity of allocation, and of commingled oil production is investigated for 15 cases for a range of influences including:

1. Well production separator measurement uncertainty;
2. Wellpad LACT (FMP) measurement uncertainty;
3. Well production rate;
4. Ratio of production between wells on the wellpad;
5. Commingling of allocated well production at the FMP with different interests;
6. Combined commingled allocated well production; and,
7. Combined Commingled production measured at the Well Separator.

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2.3 Report

- Section 1 Executive Summary –findings;
- Section 2 Introduction – this section;
- Section 3 Model Case Analysis – Detailed findings;
- Appendices Additional information and Case narratives with results

2.4 Uncertainty Methodology

2.4.1 Definitions and acronyms

Ref. 2, Subpart 43–CFR–3170; General,

3170.3 (a), Para. 6, Bias, *“means a shift in the mean value of a set of measurements away from the true value of what is being measured.”*;

3170.3 (a), Para. 8, Commingling, *“for production accounting and reporting purposes, means combining, before the point of royalty measurement, production from more than one lease, unit PA, or CA, ...”*; and,

3170.3 (a) (ii), Facility Measurement Point (FMP), *“ means a BLM– approved point where oil or gas produced from a Federal or Indian lease unit PA, or CA is measured and the measurement affects the calculation of the volume or quality of production which royalty is owed. ...”*.

2.4.2 Allocation and Commingling

Ref. 3, Subpart 43–CFR–3173; Requirements for Site Security and Production Handling

3173.1 Definitions and acronyms., (a) (ii), Para. 4, Commingling and Allocation Approval (CAA) *“means a formal allocation agreement to combine production from two or more sources (leases, unit PAs, CAs, or non–Federal or non–Indian properties) before that product reaches an FMP; and,*

3173.14 Conditions for commingling and allocation approval (surface and downhole) (a) (iii), Federal Unit PA or CA *“where each unit PA or CA proposed for commingling has the same proportion of Federal interest and which interest is subject to the same fixed royalty rate and revenue distribution. ...”*

2.4.3 Measurement Performance

Ref. 4, Subpart 43-CFR-3174; Oil Measurement

3174.4 Specific measurement performance requirements (a) volume measurement uncertainty levels. (1) *“The FMP must achieve the following uncertainty levels as calculated in accordance with statistical concepts ...”*

3174.4 (a) (1), Table 1, Volume Measurement Uncertainty Levels

Item 1 VH (Very High)	≥ 30,000 stbpm	±0.50% ov
Item 2 H (High)	<30,000 stbpm	±1.50% ov

3174.4 (2) (ii) (b) Bias, *“The measuring equipment used for volume determinations must achieve measurement without statistically significant bias”*

2.4.4 Guide to the expression of uncertainty in measurement – “The GUM”.

Ref. 5, OIML (International Organization of Legal Metrology) G 1-100-en; Ed 2008(E); corrected 2010, “Guide to the expression of uncertainty in measurement” – commonly known as “The GUM”.

Published in 1993 by a joint working group (JCGM) comprising BIPM, OIML, ISO and IEC. The GUM is the overarching standard for measurement uncertainty, for international uncertainty standards, including hydrocarbon flow measurement.

The GUM has been published by standards authority’s in most countries, and organizations including OIML, ANSI, NIST, BIPM, BSI, ISO, et. al.

Ref. 6, OIML G1-101en “Supplement 1 Propagation of distribution using the Monte Carlo method”.

Ref. 7, OIML G1-102en “Supplement 2 extension to any number of output quantities”.

The GUM Ref. 5, and two supplements in Ref. 6, and Ref. 7, can be downloaded from OIML, free of charge, at the following link:

https://www.oiml.org/en/publications/guides/publication_view?p_type=3&p_status=1

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2.4.5 Uncertainty Methods

Ref. 8, API MPMS Chapter 13.3, Measurement Uncertainty; 2nd Ed.:
December 2017 – which conforms to “The GUM”.

Ref. 9, ISO5168: 1978 1st Ed. Measurement of fluid flow – Estimation of a
flow rate measurement – Now withdrawn. Included for material not
found in other uncertainty standards.

2.4.6 Technical Reference

Ref. 10, Experimentation and Uncertainty Analysis for Engineers; 2nd Ed.
1998; Hugh W, Coleman, & W. Glenn Steele – primary technical
publication reference for statistical methods used in the preparation
of this report.

2.4.7 Monte Carlo Simulation Software

Ref. 11, Oracle Crystal Ball Release 11.1.2.4.850 Monte Carlo Simulation
Software – uncertainties are found by RSS with PDS (Root Sum
Square with Partial Derivative Sensitivity), then verified by MCS with
Oracle Crystal Ball software.

2.4.8 Flow Computer Validation Acceptance Criteria

Ref. 12, Joint Office of Gas Transporters, Work Procedure for Validation of
Equipment Associated with Measurement Systems for Calculation of Mass,
Volume and Energy Flowrate of Gas, pages 9, 12, 13, 15, 17, and 18 for
Acceptance Criterion. Available as a download at the following link:

<https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/21%20June%202010%20ME2%20Part%202%20Final.pdf>

3 Model Case Analysis

Model cases are analyzed based on the 15 cases in Appendix C to Q. The appendix cover page for each case includes a narrative comprising Purpose, Configuration, Finding, and Discussion.

Cases are grouped according to the property being investigated from Cases numbered from 1 to 7, with variations A, B, or C as required. Section 1.3, Executive Summary, Findings are based on the cases in this section.

Measurement uncertainties used in the model cases for well streams and the FMP (LACT) measurement are assumed to have a normal (gaussian) distribution with no bias in the mean for RSS and MCS uncertainty evaluations.

MCS uncertainty distributions have an uncertainty in the mean found from the SEM95 (Standard Error of the Mean with a CI of 95%). This reduces as the sample size $N \rightarrow \infty$. A sample size of $N=43,200$ was used for all cases, therefore the SEM95 uncertainty is negligible.

Well fluids for all cases are assumed to be monthly dry oil at standard conditions of 60°F, and 14.696 psia, NSV in stbpm, with similar properties of density, viscosity, composition, H₂S, etc., for allocation and commingling. Alternatively, for well fluids with different properties a correction for product quality can be made with value adjustment of the allocated and commingled quantities.

3.1 All Cases, Appendix C to Q, Allocation and Commingling Bias due to MCS

Finding 1 – Allocation and Commingling Bias due to Monte Carlo Simulation

3.1.1 MCS Allocation Bias

MCS allocation uncertainty distribution was found by others to have bias in the mean.

The acceptance tolerance for flow computers calculation checks for Custody Transfer and Fiscal applications is $< \pm 0.001\%$ ov; therefore, is a suitable criterion for allocation bias acceptance. Refer to Section 2.4.8, Flow Computer Validation Acceptance Criteria.

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Bias for all 15 allocation cases was found to have no change on the overall allocation uncertainty to 3dp, i.e. the bias was always $< \pm 0.0005\%$ satisfying the requirement in Ref. 4, Subpart 43-CFR-3174; Oil Measurement, 3174.4 (2) (ii) Bias, that *“The measuring equipment used for volume determinations must achieve measurement without statistically significant bias”*.

Bias findings are supported by statistical characteristics of the MCS allocation distributions. All distributions have a Kurtosis of $3.0 < \pm 0.1$, confirming they are normal (gaussian), with a Skew of $< \pm 0.2$ confirming good symmetry between the distribution tails with negligible bias.

3.1.2 Apportionment Non-Linearity

Bias in the MCS allocation uncertainty distribution has been found to be due to non-linearity in the apportionment part of the allocation equations in Figure 1 in Section 1.3.1.

MCS apportionment terms vary over the distribution range so the apportionment has non-linearity resulting in a small bias in the mean of the MCS apportionment distribution.

Allocation is found for each value in the MCS apportionment distribution multiplied by each value in the FMP (LACT) MCS distribution. The FMP MCS distribution has no bias, therefore does not contribute to bias in MCS allocation.

3.1.3 Allocation Uncertainty by RSS with PDS

Bias does not arise with allocation uncertainty found by RSS with PDS, as a single value for each input term is used to calculate the allocation.

Refer to Appendix A, Allocation Uncertainty by RSS with Partial Derivatives, and Appendix B, Wellpad Allocation Sensitivity, Correlation & Covariance report by Dr. Blair Fyffe, SOLV®, for details of how allocation uncertainty is found by RSS.

3.2 Case 1, Appendix C, Allocation and Commingling Model Verification

The allocation and commingling model equations were verified.

3.2.1 Allocation and Commingling Model Verification

This case was included for verification of the model equations.

3.2.2 Model Configuration

The configuration comprises four identical well stream flow rates of 10,000 stbpm with uncertainty of $\pm 5.00\%$ ov, and 25% commingling interest with a common FMP VH (Very High) uncertainty of $\pm 0.50\%$ ov at 40,000 stbpm.

3.2.3 Duplicate Runs

The model has five duplicate runs, which each calculate the allocation and commingling results for RSS and MCS and are tabulated on MCS Allocation Results and MCS Commingling Results pages.

Results were compared for the five model runs to verify the equations.

3.2.4 Uncertainty Results

Well uncertainty of $\pm 5\%$ ov is reduced by allocation to $\pm 4.359\%$ ov for Allocation and Commingling as expected.

Combined Commingled Agency's uncertainty is reduced by the square root of the number of parallel streams with the same flow rate which in this case is $\pm 2.179\% \text{ov} = \pm 4.359\% \text{ov} / 2 (\sqrt{4})$ as expected.

Case 2A, 2B, & 2C, Appendix D, E, & F Allocation Uncertainty Dependency.

Finding 2 - Allocation Uncertainty Dependency on Well Meter Uncertainty

3.2.5 Allocation Uncertainty

Allocation uncertainty is primarily determined by the well stream measurement uncertainty in the apportionment part of the allocation equations. These cases comprise two well streams each with the same flow rate each and a measurement uncertainty of $\pm 5.0\%$ ov.

Commingled well fluids are measured at the FMP for VH and H flow rates with a measurement uncertainty of $\pm 0.50\%$ ov, or $\pm 1.50\%$ ov respectively. This introduces a small additional uncertainty into the allocation uncertainty. Refer to Figure 1, Apportionment & Allocation Equations in Section 3.1.

3.3 Case 2A, 2B, & 2C, Appendix D, E, and F, Allocation Uncertainty Dependency

Finding 2 - Allocation Uncertainty Dependency on Well meter Uncertainty

3.3.1 Case 2C Allocation Uncertainty

Case 2C the FMP uncertainty is set to $\pm 0.0\%$ ov and used in the allocation equations to find the apportionment uncertainty of $\pm 3.536\%$ ov for each

stream. The Agency's combined commingled uncertainty found from the apportionment uncertainty is $\pm 2.5\%$ ov.

Case 2A and 2B for FMP VH of $\pm 0.50\%$ ov, and FMP H of $\pm 1.50\%$ allocations uncertainties and Agency's combined commingled uncertainties are compared to Case 2C results to find the influence of the FMP uncertainty.

3.3.2 Case 2A FMP VH $\pm 0.50\%$ ov

Case 2A FMP VH $\pm 0.50\%$ ov at 15,000 stbpm for each of two well streams, the allocation uncertainty increases by $\pm 0.035\%$ ov to $\pm 3.571\%$ ov compared to case 2C. Agency's combined commingled uncertainty increases by $\pm 0.025\%$ ov compared to case 2C.

3.3.3 Case 2B FMP H $\pm 1.50\%$ ov

Case 2B FMP H $\pm 1.50\%$ ov at 14,999 stbpm for each of two well streams, the allocation uncertainty increases by $\pm 0.305\%$ ov to $\pm 3.841\%$ ov compared to case 2C. Agency's combined commingled uncertainty increases by $\pm 0.216\%$ ov to $\pm 2.716\%$ ov compared to case 2C.

3.3.4 Case 2A and Case 2B Dependency A

Cases 2A and 2B apportionment uncertainty increased by approximately one hundredth and one tenth respectively due to multiplication of the apportionment by the FMP meter uncertainty. The increase in the Agency's combined commingled uncertainty was found to be of the same order. FMP uncertainty is applied equally to the apportionment uncertainty and only has a small influence on the allocation uncertainty.

3.4 Case 3A & 3B, Appendix G & H, Flow Ratio Uncertainty Sensitivity and Bias

Finding 3 -Flow Ratio Uncertainty Sensitivity and Bias

3.4.1 Bias Due to Well Stream Flow Ratio

Flow ratio configurations are investigated as they have been found to increase MCS allocation bias due to non-linearity in the apportionment equations when the numerator changes relative to the denominator.

Allocation uncertainty for cases 3A and 3B was found for two streams with a 10:1 flow ratio between streams and four streams with 1000:100:10:1 flow ratio between streams.

Allocation uncertainty was found to be primarily dependent on the apportionment uncertainty and is inversely proportional to ratio of production between each stream.

The stream with the highest rate has the lowest uncertainty, and conversely the lowest rate stream has highest uncertainty and can be greater than the well meter stream measurement uncertainty.

3.4.2 Case 3A Flow Ratio 10:1 30,000 and 3,000 stbpm

Case 3A with two well streams with a 10:1 flow ratio of 30,000 stbpm to 3,000 stbpm both with a measurement uncertainty of $\pm 5.0\%$ ov and apportionment of 90.9% and 9.1%. Allocation uncertainty is $\pm 0.814\%$ ov and $\pm 6.448\%$ at the respective flow rates which includes the FMP VH uncertainty of $\pm 0.50\%$ ov.

The allocation uncertainty ratio is 1:7.92 which is approximately inversely proportional to the flow rate ratio of 10:1. The difference in the ratio is due to the FMP VH uncertainty which is applied equally to each apportionment.

Other checks show the ratio is 10:1 when the FMP uncertainty is set to $\pm 0.0\%$ ov as in Case 2C.

The Agency's combined commingled uncertainty for 25% commingling interest in both streams of $\pm 0.944\%$ ov approaches the 30,000 stbpm stream uncertainty of $\pm 0.814\%$ ov. This is approximately in proportion to the relative uncertainty of the commingled stream of 33,000 stbpm, the difference being due to the common FMP VH uncertainty of $\pm 0.50\%$ ov.

Bias in the MCS allocation distribution is -ve for each of the model runs at stbpm at 30,000 stbpm with a spread of 1.09 stbpm, and +ve for each model run at 3,000 stbpm with a spread of 0.36 stbpm.

3.4.3 Case 3B Flow Ratio 1,000:100:10:1 Four streams of 30,000 stbpm

Case 3B with four well streams with a flow ratio 1000:100:10:1 of 30,000, 3,000, 300, and 30 stbpm each with a measurement uncertainty of $\pm 5.0\%$ ov. Allocation uncertainty for the 30,000 and 3,000 stbpm are similar to Case 3A at $\pm 0.839\%$ ov and $\pm 6.419\%$ ov.

The allocation uncertainty for the remaining streams at 300 and 30 stbpm converges with the 3,000 stbpm stream at $\pm 6.727\%$ ov and $\pm 6.757\%$ ov as the additional quantity is small relative to 30,000 stbpm. This convergence can be expected as the contribution of uncertainty quantities diminishes.

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As in Case 3A the Agency's combined commingled uncertainty for 25% commingling interest in four streams is $\pm 0.953\%$ ov approaches the 30,000 stbpm stream uncertainty of $\pm 0.839\%$ ov. This is approximately in proportion to the relative uncertainty of the commingled stream of 33,330 stbpm, the difference being due to the common FMP VH uncertainty of $\pm 0.50\%$ ov.

Bias in the MCS allocation distribution is -ve for each of the model runs at stbpm at 30,000 stbpm with a spread of 1.55 stbpm, and +ve for each model run at 3,000, 300, and 30 stbpm with a spread of 1.25, 0.21 and 0.02 stbpm.

3.4.4 MCS Allocation Uncertainty Bias

Bias in the model is found from MCS Allocation Mean and the Base Allocation Value from the RSS with PDS allocation.

Bias due to allocation for the largest stream is -ve and the +ve for the smaller streams.

A Randomized Bias is found from the unsigned allocation bias in stbpm divided by 2, then divided by the allocation mean to find uncertainty as a percentage of the mean ($\pm\%$ of the mean) in accordance with standard methods for randomization.

The significance of the bias is found by combining the MCS Allocation Uncertainty with the Randomized Allocation Bias Uncertainty by RSS to find an uncertainty to 3 decimal places and compared with the MCS Allocation Uncertainty to 3 decimal places. If the uncertainty results are the same the bias must be less than $< \pm 0.0005\%$ of the mean which is within the generally accepted flow computer calculation check acceptance tolerance of $< \pm 0.001\%$ ov and suitable criterion for acceptance of bias in this report.

The bias for all 5 runs in each of the 15 cases is less than $< \pm 0.0005\%$, which concurs with the finding in Section 3.1, All Cases, Appendix C to Q, Allocation and Commingling Bias due to MCS.

3.4.5 Allocation Uncertainty Convergence

It was observed here that where there is a flow rate ratio between well streams, the largest stream uncertainty is less than the well stream measurement uncertainty. The smaller stream allocation uncertainties are larger than the well stream uncertainty, and tend to converge towards an uncertainty as the flow ratio increases.

The number of scenarios investigated here is limited. Further investigation is required to fully understand the relationship between allocation uncertainty and flow ratio.

3.5 Case 4A & 4B, Appendix I & J, Stream Measurement Uncertainty Difference

Finding 4 – Well Stream Measurement Uncertainty Difference

3.5.1 Configuration

The effect of allocation of two well streams A and B, each of 15,000 stbpm with a measurement uncertainty for A of $\pm 5.0\%$ ov, and for B of $\pm 10.0\%$ ov and an FMP VH uncertainty of $\pm 0.50\%$ ov at 30,000 stbpm, is examined.

This is repeated at well stream rate of 14,999 stbpm with FMP H uncertainty of $\pm 1.50\%$ ov at 29,998 stbpm.

3.5.2 Allocation Uncertainty

With FMP VH of $\pm 0.50\%$ ov the resultant allocation uncertainty for each stream is the same at $\pm 5.612\%$ ov for each stream.

With FMP H of $\pm 1.50\%$ ov streams A and B at 14,999 stbpm the allocation uncertainty increases by $\pm 0.176\%$ ov to 5.788% ov for each stream.

3.5.3 Sensitivity to FMP VH and FMP H Measurement Uncertainty

The FMP uncertainty increase from VH to H of $\pm 1.0\%$ ov results in an increase in the allocation uncertainty of just $\pm 0.176\%$ ov which is approximately one sixth of the FMP increase.

This small increase is in line with Finding 2 in Section 3.3, Case 2A, 2B, & 2C, Appendix D, E, and F, Allocation Uncertainty Dependency.

3.5.4 Finding Verification

When two streams of identical flow rates and different stream measurement uncertainties are allocated; allocation uncertainty for both streams is the same.

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3.6 Case 5A, 5B, & 5C, Appendix K, L, & M, Commingling & Stream Uncertainty

Finding 5 – Combined Commingling Sensitivity to Different Agency Interests

3.6.1 Case 5A Same stream uncertainty, different Agency commingling interests

Case 5A well streams are measured to $\pm 5.0\%$ ov value at 15,000 stbpm for each stream with FMP VH of $\pm 0.50\%$ ov at 30,000 stbpm.

Agency's commingling interest for steam A is 25% and for stream B 5%.

Allocation Uncertainty is $\pm 3.571\%$ ov for both streams.

Agency's combined interest in the total commingled production is 15%, and has an uncertainty of $\pm 3.035\%$ ov. This is a 15% reduction compared the stream allocation uncertainty of $\pm 3.571\%$ ov.

3.6.2 Case 5B Different stream uncertainty, different Agency commingling interests

Case 5B is as per Case 4A with both well stream rates at 15,000 stbpm with stream A measurement uncertainty of $\pm 5.0\%$ ov, and stream B measurement uncertainty of $\pm 10.0\%$ ov for each stream with FMP VH of $\pm 0.50\%$ ov at 30,000 stbpm.

Agency's commingling interest for steam A is 25% and for stream B 5%.

Allocation uncertainty is $\pm 5.612\%$ ov for both streams.

Agency's combined interest is 15% of total production and has an uncertainty of $\pm 4.770\%$ ov which is a 15% reduction compared the stream allocation uncertainty of $\pm 5.612\%$ ov.

3.6.3 Case 5C as case 5A with FMP H of $\pm 1.50\%$ ov.

Case 5C is as per Case 4B with both well stream rates at 14,999 stbpm with stream A measurement uncertainty of $\pm 5.0\%$ ov, and stream B measurement uncertainty of $\pm 10.0\%$ ov for each stream with FMP H of $\pm 1.50\%$ ov at 29,998 stbpm.

Agency's commingling interest for steam A is 25% and for stream B 5%.

Allocation uncertainty is $\pm 5.788\%$ ov for both streams.

Agency's combined interest is 15% of total production and has an uncertainty of $\pm 4.919\%$ ov which is a 15% reduction compared the stream allocation uncertainty of $\pm 5.788\%$ ov.

3.6.4 Finding

Where stream measurement uncertainties are different for case 5B and 5C the allocation uncertainty is the same for both streams as cases 4A and 4B. refer to findings for case 4A and 4B.

Agency's combined commingled uncertainty for a 25% interest and 5% combined is 85% of the allocation uncertainty. This reduced in proportion to the combined commingled interest by (100% - 15%), for Case 5A, 5B, and 5C.

3.7 Case 6A & 6B, Appendix N & O, Stream, Uncertainty & Commingling Diff.

Finding 6 - Difference in Stream Quantity, Uncertainty, and Commingling

3.7.1 Case 6A Different stream rate, uncertainty and Agency's interest FMP VH

Configuration of the two well streams in Case 6A with FMP VH of $\pm 0.50\%$ ov with stream A=10,000 stbpm $\pm 5.00\%$ ov and stream B= 20,000 stbpm $\pm 10.00\%$ ov the allocation uncertainty for smaller stream A is $\pm 7.4700\%$ ov and the larger stream is $\pm 3.760\%$ ov.

The stream with the higher uncertainty has a lower allocation uncertainty due to the larger volume and normalizing of the allocation in the apportionment equations.

The ratio of these uncertainties of 1.987:1 which is approximately inversely proportional to the ratio of the flow rates which is 1:2. This difference is due to the influence of the FMP VH uncertainty $\pm 0.5\%$ ov which applies equally to each stream.

Agency's combined commingled uncertainty fall between the stream allocation uncertainties.

3.7.2 Case 6B Different stream rate, uncertainty and Agency's interest FMP H

In Case 6B the uncertainty ratio is lower at 1.893:1 lower due to the larger FMP H uncertainty of $\pm 1.50\%$ ov so applies a greater uncertainty equally to each stream.

Agency's combined commingled uncertainty fall between the stream allocation uncertainties.

3.7.3 Finding

With different well flow rates and flow rate uncertainties the ratio of the allocation uncertainties is approximately inversely proportional to the ratio of the flow rates.

The approximation is due to the common influence of the FMP uncertainty on the two allocations. In the hypothetical case where the FMP uncertainty is $\pm 0.0\%$ ov the ratio of uncertainties was found to be the exact inverse of the stream flow rates regardless of the stream uncertainty.

Agency's combined commingled uncertainty was found to be between the allocation uncertainty for case 6A and 6B. The commingling uncertainty relationship was not investigated in detail for these cases.

3.8 Case 7A & 7B, Appendix P & Q, Well Stream Uncertainty Commingling

Finding 7 - Well Meter Uncertainty Commingling Compared to Allocation

3.8.1 Case 7A Separator Well Commingled Fluids Compared to Case 2A Allocation

Case 7A well stream measurement uncertainty of $\pm 5.0\%$ ov for both streams at the same rate of 15,000 stbpm used for commingling each with a 25% agency interest. Agency's combined commingled uncertainty is $\pm 3.536\%$ ov.

Compared to case 2A, where the allocation uncertainty for each stream is $\pm 3.571\%$ ov and the Agency's combined commingled uncertainty is $\pm 2.525\%$ ov.

3.8.1 Case 7B Separator Well Commingled Fluids Compared to Case 2A Allocation

Case 7B well stream measurement uncertainty of $\pm 5.0\%$ ov for both streams at the same rate of 14,999 stbpm used for commingling each with a 25% agency interest. Agency's combined commingled uncertainty is $\pm 3.536\%$ ov.

Compared to case 2B where the allocation uncertainty for each stream is $\pm 3.841\%$ ov and the Agency's combined commingled uncertainty is $\pm 2.716\%$ ov.

3.8.2 Finding

Commingled and Agency's Combined Commingled uncertainties based on the well stream measurement uncertainty are inferior to uncertainty found by allocation and commingling.

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Appendices

- Appendix A Allocation Uncertainty by RSS with Partial Derivatives
- Appendix B Wellpad Allocation Sensitivity, Correlation & Covariance
- Appendix C Model Case 1, Test – Model Equation Verification
- Appendix D Model Case 2A, 2 Streams 15k stbpm $\pm 5\%$ ov FMP VH $\pm 0.50\%$ ov
- Appendix E Model Case 2B, 2 Streams 14.998k $\pm 5\%$ ov FMP H $\pm 1.50\%$ ov
- Appendix F Model Case 2C, 2 Streams 15k stbpm $\pm 5\%$ ov FMP 0% Apportion
- Appendix G Model Case 3A, 10:1 2 Streams $\pm 5\%$ ov, FMP VH $\pm 0.50\%$ ov
- Appendix H Model Case 3B, 1:10:100:1000, 4 Strm $\pm 5\%$ ov FMP VH $\pm 0.50\%$ ov
- Appendix I Model Case 4A, Uncertainty Difference, 2 Streams, FMP VH
- Appendix J Model Case 4B, Uncertainty Difference, 2 Streams, FMP H
- Appendix K Model Case 5A, Commingle Difference, 2 Streams, FMP VH
- Appendix L Model Case 5B, Uncertainty & Commingle Difference, 2 Streams, VH
- Appendix M Model Case 5C, Uncertainty & Commingle Difference, 2 Streams, H
- Appendix N Model Case 6A, Stream, Uncertainty, & Commingle Diff, 2 Stream VH
- Appendix O Model Case 6B, Stream, Uncertainty, & Commingle Diff, 2 Streams H
- Appendix P Model Case 7A, Separator Well Meter Input to Commingle Fluids, VH
- Appendix Q Model Case 7B, Separator Well Meter Input to Commingle Fluids H

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Appendix A Allocation Uncertainty by RSS with Partial Derivatives

Project No.: JE0249A **Document No.:** D055 **Revision No.:** R01 **Issue:** Draft

Title: Wellpad Allocation Uncertainty for 2 to 4 Wells to Custody Transfer Meter

Prepared: Martin Basil, BSc., CEng., Flow Measurement Consultant **Date:** November 15th, 2019

Reviewed: Gareth Lake, MEng., Chem. Eng., Flow Measurement Eng. **Date:** November 18th, 2019

Client: Southern Petroleum Laboratories, Inc.

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Wellpad CT Allocation Equation Well 1:

$$Q_{W1A} = \frac{Q_{W1} \cdot Q_{CT}}{Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4}}$$

Partial Derivative Sensitivity (S) terms found for well allocation sensitivity for inputs to allocation below:

Partial Derivative for Allocation of each Well wrt CT, W1, W2, W3, and W4

$$S_{W1ACT} = \frac{d}{dQ_{CT}} \left(\frac{Q_{W1} \cdot Q_{CT}}{Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4}} \right) \xrightarrow{\text{simplify}} S_{W1ACT} = \frac{Q_{W1}}{Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4}}$$

$$S_{W1AW1} = \frac{d}{dQ_{W1}} \left(\frac{Q_{W1} \cdot Q_{CT}}{Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4}} \right) \xrightarrow{\text{simplify}} S_{W1AW1} = \frac{Q_{CT} \cdot (Q_{W2} + Q_{W3} + Q_{W4})}{(Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4})^2}$$

$$S_{W1AW2} = \frac{d}{dQ_{W2}} \left(\frac{Q_{W1} \cdot Q_{CT}}{Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4}} \right) \xrightarrow{\text{simplify}} S_{W1AW2} = -\frac{Q_{CT} \cdot Q_{W1}}{(Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4})^2}$$

$$S_{W1AW3} = \frac{d}{dQ_{W3}} \left(\frac{Q_{W1} \cdot Q_{CT}}{Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4}} \right) \xrightarrow{\text{simplify}} S_{W1AW3} = -\frac{Q_{CT} \cdot Q_{W1}}{(Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4})^2}$$

$$S_{W1AW4} = \frac{d}{dQ_{W4}} \left(\frac{Q_{W1} \cdot Q_{CT}}{Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4}} \right) \xrightarrow{\text{simplify}} S_{W1AW4} = -\frac{Q_{CT} \cdot Q_{W1}}{(Q_{W1} + Q_{W2} + Q_{W3} + Q_{W4})^2}$$

Uncertainty of Well 1 allocation to CT (u is absolute uncertainty, U is (percentage uncertainty)

Note: CF (Coverage Factor) of 1.96 for a CI (Confidence Interval) of 95% is not included for clarity

$$u_{Q_{W1A}} = \sqrt{(U_{Q_{CT}} \cdot Q_{CT} \cdot S_{W1ACT})^2 + (U_{Q_{W1}} \cdot Q_{W1} \cdot S_{W1AW1})^2 + (U_{Q_{W2}} \cdot Q_{W2} \cdot S_{W1AW2})^2 + (U_{Q_{W3}} \cdot Q_{W3} \cdot S_{W1AW3})^2 + (U_{Q_{W4}} \cdot Q_{W4} \cdot S_{W1AW4})^2}$$

$$U_{Q_{W1A}} = \frac{u_{Q_{W1A}}}{Q_{W1A}} \%$$

Allocation and Sensitivity for Allocation to Wells 2, 3 and 4 follow the same pattern as Well 1.

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Appendix B Wellpad Allocation Sensitivity, Correlation & Covariance

From report by Dr. Blair Fyffe, SOLV, August 16th, 2019 – JE0249A-VAR1-D300-R01

This document summaries findings of bias and uncertainty of the allocation process. The two areas considered were the allocation bias and the allocation uncertainty.

The main points associated with the allocation bias are:

1. When using a Monte Carlo simulation, if one well in a two well system is a significantly larger producer than the other, the allocation process creates a measurement bias. The MCS mean allocated value of the lower producing well tends to be larger than expected using the simple allocation equation.
2. Bias is due to the allocation process and is not affected by well ownership split.
3. This size of the bias is larger the greater the relative difference in well flow rates is. It is likely to be affected by the well and LACT measurement uncertainties.
4. The above results were found using Crystal Ball Monte Carlo Software. The same behavior was found with MCS for the Excel random number generator.
5. Bias may be less significant as more well streams are commingled.

The main points associated with allocation uncertainty are:

1. The distribution of the allocated quantities of the two wells are correlated. This correlation is negative.

2. The correlation coefficient (r) between two distributions (1 and 2) is given by

$$r_{1,2} = \frac{\text{covariance}(x_1, x_2)}{\sqrt{\text{variance}(x_1) \text{variance}(x_2)}}$$

3. When the LACT unit measurement is significantly smaller than the well meter uncertainty's, the correlation coefficient approaches -1.

4. The normal RSS method to combine uncertainties is

$$u^2(y) = \left(\frac{\partial y}{\partial x_1}\right)^2 u^2(x_1) + \left(\frac{\partial y}{\partial x_2}\right)^2 u^2(x_2)$$

where the partial derivatives are the sensitivity terms (in this case unity).

5. In the case where there is correlation between the distributions another term must be added to the above equation. The combined uncertainties are then;

$$u^2(y) = \left(\frac{\partial y}{\partial x_1}\right)^2 u^2(x_1) + \left(\frac{\partial y}{\partial x_2}\right)^2 u^2(x_2) + 2r_{x_1, x_2} \left(\frac{\partial y}{\partial x_1}\right) \left(\frac{\partial y}{\partial x_2}\right) u(x_1) u(x_2)$$

6. As in this case r is negative so the total uncertainty of the owner's interest will be smaller than the value calculated neglecting correlation.

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Appendix C Model Case 1, Test – Model Equation Verification

Purpose

Verify the allocation, and commingling equations by use of the same flow rate, uncertainty, and commingling results of four streams at the VH flow rate at the FMP (LACT). If all results are consistent to confirm if the correct equations are in use.

Include all five duplicate run pages to enable the variability in the MCS results to be verified. All other cases to have the one input run page.

Configuration

Well Streams A, B, C, D	10k stbpm $\pm 5\%$ ov
FMP (LACT)	40k stbpm $\pm 0.50\%$ ov, VH
Commingling Wells A, B, C, D	Agency 25%

Finding

All allocation and commingling results are confirmed as consistent for the four well streams, and LACT for the five duplicate model runs thereby verifying the equations.

Well uncertainty of $\pm 5\%$ ov is reduced by allocation to $\pm 4.359\%$ ov for Allocation and Commingling as expected.

Skew, Kurtosis, and Systematic Bias indicate negligible bias in MCS allocation mean, and the distribution is gaussian. Combining the Randomized Systemic Bias with the MCS allocation uncertainty did not change the MCS allocation uncertainty at 3 decimal places therefore the bias is $< \pm 0.0005\%$ so there is no “... statistically significant bias”.

Combined commingled uncertainty is reduced by the square root of the number of streams for combined commingled parallel streams with the same flow rate in this case $\pm 2.179\% \text{ov} = \pm 4.359\% \text{ov} / 2$ as expected.

Discussion

The model was run multiple times confirming there were never less than 17/20 Systemic Bias Status ‘Passes’ and multiple runs of 20/20 Passes, for an overall average of 19/20 Passes consistent with a 95% CI.

Four parallel streams at the same flow rate have some non-linearity due to the minimum apportionment ratio 1:4 for each stream.

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Project	JE0249A-VAR4	Doc No.	D255	Rev.		R04	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling									
Date	Jun-06-2020	Copyright © SOLV Limited 2020, all rights reserved.		Case No.:	1	Test FMP VH 40K sbpm, Wells A, B, C, D 10K sbpm	1	43,200	CF t =	1.96



Wellpad Allocation Uncertainty for Monthly Allocation														
Sensitivity by Partial Derivative for RSS														
Well	Well & LACT, Measurement & Uncertainty Input						RSS with Partial Derivative Uncertainty							
	Production Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Abs. Unc.	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc.	Abs. Unc. 95% CI	Rel. Unc. 95% CI
A	10,000.0	5.000%	500.00	255.10	10,000.00	0.75	-0.25	-0.25	-0.25	0.25	10,000.00	222.39	435.89	4.359%
B	10,000.0	5.000%	500.00	255.10	10,000.00	-0.25	0.75	-0.25	-0.25	0.25	10,000.00	222.39	435.89	4.359%
C	10,000.0	5.000%	500.00	255.10	10,000.00	-0.25	-0.25	0.75	-0.25	0.25	10,000.00	222.39	435.89	4.359%
D	10,000.0	5.000%	500.00	255.10	10,000.00	-0.25	-0.25	-0.25	0.75	0.25	10,000.00	222.39	435.89	4.359%
Total=A+B+C+D	40,000.0				40,000.00									
LACT Unit	40,000.0	0.500%	200.00	102.04	40,000.00									
Alloc. Factor	LACT/Total	1.00												

Well	MCS Allocation Uncertainty Verification				MCS Allocation Uncertainty Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew	Kurtosis	
	Allocation Trials	Abs. Unc. 95% CI	Rel. Unc. 95% CI	±%ov	SEM 95% CI (SEM95)	Kurtosis	Skewness	Standard Deviation	SBias = Mean - Allocation	Systematic Bias (SBias) Status	Randomised SBias Unc.	Combined Inc. SBias Unc. RSS			±%ov
A	10,000.00	9,999.07	4.359%	4.360%	222.42	0.00	222.42	2.10	-0.93	Fail (F) [SBias] ≥ SEM95 Else "Pass"	Pass	0.005%	4.360%	-0.5 to 0.5 fairly symmetrical	3 Normal distribution
B	10,000.00	10,001.18	4.340%	4.340%	221.44	0.01	221.44	2.09	1.18	Fail (F) [SBias] ≥ SEM95 Else "Pass"	Pass	0.006%	4.340%	-0.5 to -1 moderately -ve	> 3 Sharper peak, fatter tails
C	10,000.00	10,000.30	4.351%	4.351%	222.00	-0.02	222.00	2.09	0.30	Fail (F) [SBias] ≥ SEM95 Else "Pass"	Pass	0.002%	4.351%	0.5 to 1 moderately +ve	< 3 Broader peak, thinner tails
D	10,000.00	9,999.21	4.381%	4.381%	223.49	0.00	223.49	2.11	-0.79	Fail (F) [SBias] ≥ SEM95 Else "Pass"	Pass	0.004%	4.381%	-1 to > 1 highly skewed	

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation			
	Agency Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest	MCS Uncertainty Verification
A	25.000%	2,500.00	2,500.00	2,500.00	7,500.00	7,500.00	7,500.00	7,500.00
B	25.000%	2,500.00	2,500.00	2,499.71	7,500.00	7,500.00	7,500.00	7,500.00
C	25.000%	2,500.00	2,500.00	2,499.70	7,500.00	7,500.00	7,500.00	7,500.00
D	25.000%	2,500.00	2,500.00	2,499.70	7,500.00	7,500.00	7,500.00	7,500.00
Total	25.000%	10,000.00	10,000.00	9,999.44	30,000.00	30,000.00	30,000.00	30,000.00

Client: Southern Petroleum Laboratories, Inc.
 Project: Wellpad Uncertainty Sensitivity Report
 Document: Allocation & Commingling Uncertainty Sensitivity
 Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Project	3E0249A-VAR4	Doc No.	D255	Rev.	R04	Issue	Draft	Tab:		Oil Allocation Results		
								Case No.:	No. Trials	Systematic Bias = Mean - Allocation	Systematic Bias = (SBAS) Status	
Description	Uncertainty Sensitivity to Allocation and Commingling		Copyright © SOLV Limited 2020, all rights reserved.		1	Test Fmp VH 40K stbpm, Wells A, B, C, D 10K stbpm	1.56					
Date	Jun-06-2020					43,200	CI 95% CF t =					
Well	MCS Allocation Uncertainty Verification		MCS Allocation Verification Distribution Characteristics		MCS Allocation Uncertainty Systematic Bias		MCS Allocation Uncertainty Systematic Bias		MCS Allocation Uncertainty Systematic Bias			
	Allocation (Static)	Uncertainty	Mean	Standard Deviation	Skewness	Kurtosis	Std Error of Mean 95% CI (SEMP)	Systematic Bias = Mean - Allocation	Systematic Bias = (SBAS) Status	Randomised SBias Unc.	Combined Inc. SBias Unc. RSS	
	stbpm	±%ov	stbpm	stbpm			±stbpm	stbpm	"Fair" If SBias >SEMP Else "Pass"	±%ov	±%ov	
A	OIL LACT 1	10,000.00	4.360%	9,999.07	222.42	0.00	3.01	2.10	-0.93	0.021%	0.005%	4.360%
	OIL LACT 2	10,000.00	4.349%	10,001.23	221.94	0.01	3.01	2.09	0.021%	0.006%	0.006%	4.349%
	OIL LACT 3	10,000.00	4.388%	9,999.21	223.86	0.00	3.00	2.11	-0.79	0.021%	0.004%	4.388%
	OIL LACT 4	10,000.00	4.361%	10,000.58	222.49	0.00	3.02	2.10	0.58	0.021%	0.003%	4.361%
	OIL LACT 5	10,000.00	4.363%	9,999.50	222.58	0.01	2.96	2.10	-0.50	0.021%	0.002%	4.363%
	Mean		4.364%	9,999.92	222.66	0.00	3.00	2.10	0.021%	-0.08	0.000%	0.004%
B	Spread		0.039%	2.16	1.93	0.01	0.05	0.02	2.16	0.000%	0.004%	0.039%
	OIL LACT 1	10,000.00	4.340%	10,001.18	221.44	0.01	3.02	2.09	1.18	0.021%	0.006%	4.340%
	OIL LACT 2	10,000.00	4.362%	10,000.54	222.56	0.00	3.01	2.10	0.54	0.021%	0.003%	4.362%
	OIL LACT 3	10,000.00	4.348%	10,002.03	221.96	-0.01	2.98	2.09	2.03	0.021%	0.010%	4.348%
	OIL LACT 4	10,000.00	4.345%	10,001.27	221.73	-0.01	2.99	2.09	1.27	0.021%	0.006%	4.345%
	OIL LACT 5	10,000.00	4.353%	10,001.31	222.13	-0.01	3.00	2.09	1.31	0.021%	0.007%	4.353%
C	Mean		4.350%	10,001.27	221.96	-0.01	3.00	2.09	1.27	0.021%	0.006%	4.350%
	Spread		0.022%	1.49	1.12	0.02	0.04	0.01	1.49	0.000%	0.007%	0.022%
	OIL LACT 1	10,000.00	4.351%	10,000.30	222.00	-0.02	2.99	2.09	0.30	0.021%	0.002%	4.351%
	OIL LACT 2	10,000.00	4.358%	9,998.36	222.33	0.00	2.99	2.10	-1.64	0.021%	0.008%	4.358%
	OIL LACT 3	10,000.00	4.345%	9,999.19	221.67	0.01	3.04	2.09	-0.81	0.021%	0.004%	4.345%
	OIL LACT 4	10,000.00	4.346%	9,999.22	221.73	0.02	3.02	2.09	-0.78	0.021%	0.004%	4.346%
D	OIL LACT 5	10,000.00	4.362%	9,999.76	222.57	-0.01	2.99	2.10	-0.24	0.021%	0.001%	4.362%
	Mean		4.353%	9,999.37	222.06	0.00	3.01	2.09	-0.63	0.021%	0.004%	4.353%
	Spread		0.017%	1.94	0.90	0.05	0.06	0.01	1.94	0.000%	0.007%	0.017%
	OIL LACT 1	10,000.00	4.381%	9,999.21	223.49	0.00	2.96	2.11	-0.79	0.021%	0.004%	4.381%
	OIL LACT 2	10,000.00	4.361%	9,999.97	222.50	-0.01	3.01	2.10	-0.03	0.021%	0.000%	4.361%
	OIL LACT 3	10,000.00	4.353%	9,998.99	222.07	0.01	2.99	2.09	-1.01	0.021%	0.005%	4.353%
E	OIL LACT 4	10,000.00	4.373%	9,998.99	223.11	-0.01	3.00	2.10	-1.01	0.021%	0.005%	4.373%
	OIL LACT 5	10,000.00	4.367%	9,999.62	222.78	0.00	3.04	2.10	-0.38	0.021%	0.002%	4.367%
	Mean		4.367%	9,999.36	222.79	0.00	3.00	2.10	-0.64	0.021%	0.003%	4.367%
	Spread		0.028%	0.98	1.42	0.02	0.09	0.01	0.98	0.000%	0.005%	0.028%

Client: Southern Petroleum Laboratories, Inc.
 Project: Wellpad Uncertainty Sensitivity Report
 Document: Allocation & Commingling Uncertainty Sensitivity
 Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Project	JE0249A-VAR4	Doc No.	D255	Rev.	R04	Issue	Draft	Tab:	Oil Commingling Results	
Description	Uncertainty Sensitivity to Allocation and Commingling									
Date	Jun-06-2020	Copyright © SOLV Limited 2020, all rights reserved.	No. Trials	1	Test FMP VH 40K stbpm, Wells A, B, C, D	10K stbpm	CI 95% Cft =	1.96		
Well	Repeat Run	Agency Commingling Allocation	Agency Interest	Commingling Interest	Relative Uncertainty 95%	Relative Uncertainty 95%	Other Interest	Commingling Interest	Relative Uncertainty 95%	Relative Uncertainty 95%
		%	stbpm	stbpm	±%ov	±%ov	%OTHER	stbpm	stbpm	±%ov
A	Oil LACT 1	25.000%	2500.34	108.35	4.333%	75.00%	7,500.44	327.33	4.364%	
	Oil LACT 2	25.000%	2499.83	109.06	4.363%	75.00%	7,498.93	327.42	4.366%	
	Oil LACT 3	25.000%	2500.00	109.14	4.365%	75.00%	7,500.28	326.01	4.347%	
	Oil LACT 4	25.000%	2500.00	108.20	4.328%	75.00%	7,498.96	327.01	4.361%	
	Oil LACT 5	25.000%	2500.00	109.12	4.365%	75.00%	7,500.47	327.71	4.369%	
	Mean		2500.03	108.77	4.351%		7,499.82	327.10	4.361%	
	Spread		0.50	0.93	0.037%		1.54	1.70	0.023%	
	Oil LACT 1	25.000%	2499.71	109.53	4.382%	75.00%	7,498.51	326.12	4.349%	
	Oil LACT 2	25.000%	2500.36	108.84	4.353%	75.00%	7,499.04	327.30	4.365%	
	Oil LACT 3	25.000%	2499.74	109.12	4.365%	75.00%	7,497.93	325.82	4.345%	
B	Oil LACT 4	25.000%	2500.09	109.33	4.373%	75.00%	7,499.98	324.88	4.332%	
	Oil LACT 5	25.000%	2499.89	107.89	4.316%	75.00%	7,499.23	327.64	4.369%	
	Mean		2499.96	108.94	4.358%		7,498.94	326.35	4.352%	
	Spread		0.64	1.64	0.066%		2.06	2.76	0.037%	
	Oil LACT 1	25.000%	2499.70	109.28	4.372%	75.00%	7,500.09	325.62	4.342%	
	Oil LACT 2	25.000%	2499.76	108.82	4.353%	75.00%	7,500.45	326.57	4.354%	
	Oil LACT 3	25.000%	2500.05	109.20	4.368%	75.00%	7,499.47	328.06	4.374%	
	Oil LACT 4	25.000%	2500.10	109.15	4.366%	75.00%	7,500.98	327.92	4.372%	
	Oil LACT 5	25.000%	2500.23	109.00	4.359%	75.00%	7,501.54	327.36	4.364%	
	Mean		2499.97	109.09	4.364%		7,500.50	327.11	4.361%	
Spread		0.54	0.46	0.018%		2.08	2.44	0.033%		
C	Oil LACT 1	25.000%	2499.70	109.27	4.371%	75.00%	7,501.15	0.00	4.362%	
	Oil LACT 2	25.000%	2500.18	108.51	4.340%	75.00%	7,498.46	325.56	4.342%	
	Oil LACT 3	25.000%	2499.56	109.33	4.374%	75.00%	7,499.84	327.18	4.362%	
	Oil LACT 4	25.000%	2499.87	108.94	4.358%	75.00%	7,500.64	329.74	4.396%	
	Oil LACT 5	25.000%	2499.67	108.96	4.359%	75.00%	7,500.47	327.14	4.362%	
	Mean		2499.80	109.00	4.360%		7,500.11	261.92	4.365%	
	Spread		0.60	0.82	0.034%		2.70	329.74	0.054%	
	Oil LACT 1	25.000%	9,999.44	218.73	2.187%	75.00%	30,000.20	654.17	2.181%	
	Oil LACT 2	25.000%	10,000.13	218.83	2.188%	75.00%	29,996.88	651.10	2.171%	
	Oil LACT 3	25.000%	9,999.43	218.85	2.189%	75.00%	29,997.51	654.11	2.181%	
D	Oil LACT 4	25.000%	10,000.00	218.54	2.185%	75.00%	30,000.56	654.72	2.182%	
	Oil LACT 5	25.000%	9,999.91	217.56	2.176%	75.00%	30,001.72	651.30	2.171%	
	Mean		9999.78	218.50	2.185%		29999.37	653.08	2.177%	
	Spread		0.70	1.30	0.013%		4.84	3.62	0.012%	

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
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Appendix D Model Case 2A, 2 Streams 15k stbpm $\pm 5\%$ ov FMP VH $\pm 0.50\%$ ov

Purpose

Reference for comparison to other cases for two parallel streams with the same flow and FMP (LACT) at VH flow.

Configuration

Well Streams A, B	15k stbpm $\pm 5\%$ ov
FMP (LACT)	30k stbpm $\pm 0.50\%$ ov, VH
Commingling Wells A, B	Agency's 25%

Finding

Well uncertainty of $\pm 5\%$ ov is reduced to $\pm 3.571\%$ ov due to allocation as expected.

Skew, Kurtosis, and Systematic Bias indicate negligible bias in MCS allocation mean, and the distribution is gaussian.

Combining Randomized Systemic Bias with the MCS allocation uncertainty did not change the MCS allocation uncertainty at 3 decimal places.

Total commingled uncertainty is reduced by the square root of the number of streams for combined parallel streams with the same flow rate in this case $\pm 3.571\% / \sqrt{2}$ ov = $\pm 2.525\%$ ov.

Discussion

With 10 results for the 5 identical model runs there is a possibility of up to 2/10 Systematic Bias Status 'Fail' results which will be manifested as one or two Fail and multiple 10/10 Passes with an average 9.5/10 Pass consistent with a 95% CI.

Two parallel streams at the same flow rate have some non-linearity due to the minimum apportionment ratio 1:2 for each stream for 50% of the allocation. The non-linearity results in a bias in MCS Mean "*with no statistically significant bias*" demonstrated by Skew, Kurtosis, and Systematic Bias results.



Project	JE0249A-VAR4	Doc No.	D255	Rev.		R04	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling									
Date	Jun-06-2020 Copyright © SOLV Limited 2020, all rights reserved.									
		Case No.:	2A						Bas A FMP VH 30k stbpm, Wells A, B 15k stbpm	
		No. Trials	43,200	CT 95%	CF t =	1.96				



Wellpad Allocation Uncertainty for Monthly Allocation																
Well	Well & LACT, Measurement & Uncertainty Input						Sensitivity by Partial Derivative for RSS						RSS with Partial Derivative Uncertainty			
	Production	Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Abs. Unc.	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc.	Abs. Unc. 95% CI	Rel. Unc. 95% CI	±%ov
A	15,000.0	VH, H, L, VL	5.000%	750.00	382.65	15,000.00	0.50	-0.50	0.00	0.00	0.50	15,000.00	273.27	535.61	3.571%	
B	15,000.0		5.000%	750.00	382.65	15,000.00	-0.50	0.50	0.00	0.00	0.50	15,000.00	273.27	535.61	3.571%	
C	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.000%	
D	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.000%	
Total=A+B+C+D	30,000.0					30,000.00										
LACT Unit	30,000.0	VH	0.500%	150.00	76.53	30,000.00										
Alloc. Factor	LACT/Total	1.00														

Well	MCS Allocation Uncertainty Verification				MCS Allocation Verification Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew		Kurtosis		
	Allocation Trials	Allocation Mean	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Standard Deviation	Skewness	SEMI 95% CI (SEM95)	Kurtosis	SBIAS = Mean - Allocation	Systematic Bias (SBIAS) Skewed	Randomised SBIAS Unc.	Combined Inc. SBIAS Unc. RSS	Commingling Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI		
A	15,000.00	14,997.35	536.11	3.575%	273.53	0.01	2.99	2.58	0.017%	-2.65	Fail	0.009%	3.575%	11,250.00	11,249.98	401.38	3.568%
B	15,000.00	15,002.77	535.57	3.570%	273.25	0.00	2.99	2.58	0.017%	2.77	Fail	0.009%	3.570%	11,250.00	11,250.09	400.17	3.557%
C	0.00	0.00	0.00	0.000%										0.00	0.00	0.00	0.000%
D	0.00	0.00	0.00	0.000%										0.00	0.00	0.00	0.000%

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation			
	Agency Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest	Agency Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest
A	25,000%	3,750.00	3,750.00	75,000%	22,500.00	22,500.00	75,000%	22,500.00
B	25,000%	3,750.00	3,750.00	75,000%	22,500.00	22,500.00	75,000%	22,500.00
C	0.000%	0.00	0.00	100,000%	0.00	0.00	100,000%	0.00
D	0.000%	0.00	0.00	100,000%	0.00	0.00	100,000%	0.00
Total	25,000%	7,500.00	7,500.00	75,000%	22,500.00	22,500.00	75,000%	22,500.00

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix E Model Case 2B, 2 Streams 14.998k ±5% ov FMP H ±1.50% ov

Purpose

Reference for comparison to other cases for two parallel streams with the same flow and FMP (LACT) at H flow.

Configuration

Well Streams A, B	14.999k stbpm ±5% ov
FMP (LACT)	29.998k stbpm ±1.50% ov, H
Commingling Wells A, B	Agency 25%

Finding

Well uncertainty of ±5% ov is reduced to ±3.841% ov due to allocation as expected.

Skew, Kurtosis, and Systematic Bias indicate negligible bias in MCS allocation mean, and the distribution is gaussian.

Combining Randomized Systemic Bias with the MCS allocation uncertainty did not change the MCS allocation uncertainty at 3 decimal places.

Total commingled uncertainty is reduced by the square root of the number of streams for combined parallel streams with the same flow rate in this case $\pm 3.841\% \text{ ov} / \sqrt{2} = \pm 2.716\% \text{ ov}$.

Discussion

As in Case 2A with 10 results for the 5 identical model runs there is a possibility of up to 2/10 Systematic Bias Status 'Fail' results which will be manifested as one or two Fail and multiple 10/10 Passes with an average 9.5/10 Pass consistent with a 95% CI.

Two parallel streams at the same flow rate have some non-linearity due to the minimum apportionment ratio 1:2 for each stream for 50% of the allocation. The non-linearity results in a bias in MCS Mean "*with no statistically significant bias*" demonstrated by Skew, Kurtosis, and Systematic Bias results.



Project	JE0249A-VAR4	Doc No.	D255	Rev.	R04	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling								
Date	Jul-05-2020	Copyright © SOLV Limited 2020, all rights reserved.		Case No.:	2B	Base B FMP VH <30Kk stbpm, Wells A, B, 15k stbpm		CT 95%	1.96



Wellpad Allocation Uncertainty for Monthly Allocation																	
Well	Well & LACT, Measurement & Uncertainty Input					Sensitivity by Partial Derivative for RSS					RSS with Partial Derivative Uncertainty						
	Production	Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Sd. Abs. Unc.	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Stbpm	±stbpm	±%ov
A	14,999.0	VH, H, L, VL	5.000%	749.95	382.63	14,999.00	0.50	-0.50	0.00	0.00	0.50	14,999.00	293.90	576.05	3.841%		
B	14,999.0		5.000%	749.95	382.63	14,999.00	-0.50	0.50	0.00	0.00	0.50	14,999.00	293.90	576.05	3.841%		
C	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000%	
D	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.000%	
Total=A+B+C+D	29,998.0					29,998.00											
LACT Unit	29,998.0	H	1.500%	449.97	229.58	29,998.00											
Alloc. Factor	LACT/Total	1.00															

Well	MCS Allocation Uncertainty Verification				MCS Allocation Verification Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew		Kurtosis		
	Allocation Trials	Allocation (Mean)	Abs. Unc. 95% CI	Rel. Inc. 95% CI	Standard Deviation	Skewness	Kurtosis	SEM 95% CI (SEM95)	SBias = Mean - Allocation	Systematic Bias (SBias) Status	Randomised SBias Unc.	Combined inc. SBias Unc. RSS	±%ov	±stbpm	±stbpm	±%ov	3 Normal distribution
A	14,999.00	14,999.34	575.38	3.836%	293.56	0.02	3.02	2.77	0.018%	0.34	Pass	0.001%	3.836%	0.5 to 1 moderately +ve peak, thinner tails	0.5 to 1 moderately +ve peak, thinner tails	3	
B	14,999.00	15,000.94	576.95	3.846%	294.36	0.03	2.95	2.78	0.019%	1.94	Pass	0.006%	3.846%	< -1 to > 1 highly skewed	< -1 to > 1 highly skewed	3	
C	0.00	0.00	0.00	0.000%													
D	0.00	0.00	0.00	0.000%													

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation										
	RSS Uncertainty		MCS Uncertainty Verification		Other Interest		MCS Uncertainty Verification								
Agency Interest	Commingled Interest	Abs. Unc. 95% CI	Rel. Inc. 95% CI	Commingled Interest	Commingled Interest	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Commingled Interest	Commingled Interest	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Rel. Unc. 95% CI	±%ov		
A	25.000%	3,749.75	144.01	3.841%	3,749.75	3,749.41	143.68	3.832%	75.000%	432.04	3.841%	11,249.25	11,252.06	433.42	3.852%
B	25.000%	3,749.75	144.01	3.841%	3,749.75	3,749.62	144.07	3.842%	75.000%	432.04	3.841%	11,249.25	11,250.36	433.42	3.852%
C	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	100.000%	100.000%	0.00	0.000%	0.00	0.00	0.00	0.000%
D	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	100.000%	100.000%	0.00	0.000%	0.00	0.00	0.00	0.000%
Total	25.000%	7,499.50	203.66	2.716%	7,499.50	7,499.03	203.09	2.708%	75.000%	610.99	2.716%	22,498.50	22,502.42	614.56	2.731%

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix F Model Case 2C, 2 Streams 15k stbpm ±5% ov FMP 0% Apportion

Purpose

Find the allocation uncertainty with FMP of ±0.0% ov for comparison with the allocation uncertainty in cases 2A and 2B to investigate the sensitivity of the allocation uncertainty to the FMP(LACT) uncertainty.

Configuration

Well Streams A, B	15k stbpm ±5% ov
FMP (LACT)	30k stbpm ±0% ov
Commingling Wells A, B	Agency 25%

Finding

With and FMP uncertainty of zero, by observation the allocation uncertainty is the same as the apportionment uncertainty below.

Apportionment

$$Q_{1Appor} = \frac{Q_1}{Q_1 + Q_2} \qquad Q_{2Appor} = \frac{Q_2}{Q_1 + Q_2}$$

Allocation

$$Q_{1Alloc} = Q_{1Appor} \times Q_{LACT} \qquad Q_{2Alloc} = Q_{2Appor} \times Q_{LACT}$$

Consequently, with a Well uncertainty of ±5% ov for allocation uncertainty, is the same as the apportionment uncertainty of ±3.536% ov.

In case 2A with an FMP of ±0.50% ov the allocation uncertainty is ±3.571% ov, which is an increase of ±0.035% ov.

In case 2B with an FMP of ±1.50% ov the allocation uncertainty is ±3.841%, which is an increase of ±0.305% ov.

In both cases the increase in the allocation uncertainty due to the FMP when compared to the apportionment uncertainty is around one hundredth and one tenth respectively.

The combined commingled Agency's interest commingled uncertainty is reduced by the square root of the number of streams for combined parallel streams with the same flow rate in this case $\pm 3.536\% \text{ ov} / \sqrt{2} = \pm 2.5\% \text{ ov}$.

In case 2A with an FMP of ±0.50% ov the combined commingled uncertainty is ±2.525% ov, which is an increase of ±0.025% ov.

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



In case 2B with and FMP of $\pm 1.50\%$ ov the combined commingled uncertainty is $\pm 2.716\%$, which is an increase of $\pm 0.216\%$ ov.

In both cases the increase in the combined commingled uncertainty due to the FMP when compared to the apportionment combined commingled uncertainty is around one hundredth and one tenth respectively.

Skew, Kurtosis, and Systematic Bias indicate negligible bias in MCS allocation mean, and the distribution is gaussian.

Combining Randomized Systemic Bias with the MCS allocation uncertainty did not change the MCS allocation uncertainty at 3 decimal places.

Discussion

Allocation uncertainty and Combined Commingled Agency's uncertainty is dominated by the uncertainty of the Apportionment (proportion) of the respective streams. The influence of the FMP (LACT) uncertainty for FMP VH $\pm 0.50\%$ ov is negligible and for FMP H $\pm 1.50\%$ ov is small.

FMP uncertainty influence on allocation and Agency's combined commingled uncertainty is small. There is scope for increasing FMP uncertainty without excessive increase in the final allocation uncertainty and Agency's combined commingling uncertainty at low flow rates.

Client: Southern Petroleum Laboratories, Inc.
 Project: Wellpad Uncertainty Sensitivity Report
 Document: Allocation & Commingling Uncertainty Sensitivity
 Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Project	JE0249A-VAR4	Doc. No.	D255	Rev.		R04	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling									
Date	Jul-05-2020	Copyright © SOLV Limited 2020, all rights reserved.		Case No.:	2C	Base A FMP 0% 30k stbpm, Wells A, B 15k stbpm		CI 95%	CF t =	1.96
		No. Trials	43,200							



Well	Wellpad Allocation Uncertainty for Monthly Allocation														
	Well & LACT Measurement & Uncertainty Input					Sensitivity by Partial Derivative for RSS					RSS with Partial Derivative Uncertainty				
Production	Category	Rel. Unc. 95% CI ±%ov	Abs. Unc. 95% CI ±stbpm	Std. Abs. Unc. ±stbpm	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc. ±stbpm	Abs. Unc. 95% CI ±%ov	Rel. Unc. 95% CI ±%ov	
A	15,000.0	VH, H, L, VL	5.000%	750.00	382.65	15,000.00	0.50	-0.50	0.00	0.00	0.50	15,000.00	270.58	530.33	3.536%
B	15,000.0		5.000%	750.00	382.65	15,000.00	-0.50	0.50	0.00	0.00	0.50	15,000.00	270.58	530.33	3.536%
C	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.000%
D	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.000%
Total=A+B+C+D	30,000.0					30,000.00									
LACT Unit	30,000.0	VH	0.000%	0.00	0.00	30,000.00									
Alloc. Factor	LACT/Total		1.00												

Well	MCS Allocation Uncertainty Verification Characteristics										MCS Allocation Uncertainty Systematic Bias		Skew		Kurtosis	
	Allocation Trials	Allocation (Mean)	Rel. Unc. 95% CI ±%ov	Abs. Unc. 95% CI ±stbpm	Standard Deviation	Skewness	SE Mean - Allocation	SE Bias - Allocation	SE Bias - Allocation	SE Bias - Allocation	SE Bias - Allocation	SE Bias - Allocation	SE Bias - Allocation	SE Bias - Allocation	SE Bias - Allocation	SE Bias - Allocation
A	15,000.00	14,998.95	532.74	3.552%	271.81	0.00	3.00	2.56	0.017%	-1.03	Pass	0.004%	3.552%	0.5 to 1 moderately +ve	0.5 to 1 moderately +ve	3 Normal distribution
B	15,000.00	15,001.05	532.74	3.551%	271.81	0.00	3.00	2.56	0.017%	1.03	Pass	0.004%	3.551%	< -1 to > 1 highly skewed	< -1 to > 1 highly skewed	> 3 Skewer peak, fatter tails
C	0.00	0.00	0.00	0.000%												
D	0.00	0.00	0.00	0.000%												

Well	Other Lease Owners Commingled Allocation															
	Agency Commingled Allocation					Agency Commingled Allocation										
Agency Interest	RSS Uncertainty		MCS Uncertainty Verification		Other Interest		RSS Uncertainty		MCS Uncertainty Verification							
	Commingled Interest	Rel. Unc. 95% CI ±%ov	Commingled Interest	Abs. Unc. 95% CI ±stbpm	Commingled Interest	Rel. Unc. 95% CI ±%ov	Commingled Interest	Abs. Unc. 95% CI ±stbpm	Commingled Interest	Rel. Unc. 95% CI ±%ov						
A	3,750.00	132.58	3,750.00	132.62	3,750.00	3.536%	3,750.07	132.82	3,542%	11,250.00	397.75	3.536%	11,250.00	11,248.87	399.69	3.553%
B	3,750.00	132.58	3,750.00	132.46	3,750.00	3.536%	3,749.58	132.46	3.533%	11,250.00	397.75	3.536%	11,250.00	11,249.04	396.71	3.527%
C	0.000%	0.00	0.00	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%
D	0.000%	0.00	0.00	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%
Total	7,500.00	187.50	7,500.00	186.69	7,500.00	2.500%	7,499.65	186.69	2.489%	22,500.00	562.50	2.500%	22,500.00	22,497.91	562.57	2.501%

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix G Model Case 3A, 10:1 2 Streams $\pm 5\%$ ov, FMP VH $\pm 0.50\%$ ov

Purpose

Examines the sensitivity of MCS Mean bias to a high flow rate ratio between two parallel well streams.

Configuration

Well Stream A	30k stbpm $\pm 5\%$ ov
Well Stream B	3k stbpm $\pm 5\%$ ov
FMP (LACT)	33k stbpm $\pm 0.50\%$ ov, VH
Commingling Wells A, B	Agency 25%

Finding

Well uncertainty of $\pm 5\%$ ov is reduced to $\pm 0.814\%$ ov for allocation and commingling of the larger well and is increased to $\pm 6.448\%$ ov for the smaller stream. In absolute terms the uncertainties are similar, as expected.

There are a high number of Fail results indicating Systematic Bias is now greater than SEM with 95% CI for most of the results.

Skewness and Kurtosis indicators show the effect is negligible and that the distribution is still gaussian.

Combining Randomized Systemic Bias with the MCS allocation uncertainty did not change the MCS allocation uncertainty at 3 decimal places. The worst-case bias in the 4th decimal place does not exceed 0.0005% ov and is therefore not “statistically significant”.

Discussion

The non-linearity of the smaller stream will increase as the MCS apportionment ratio of 1:11 ($1/11 = 3\text{k stbpd} / 33\text{k stbpd}$) varies. Worst case variation in the MCS Mean ratio will vary from 1:10.05 to 1:12.05 at the 95% CI limits. As this ratio changes, linearity changes resulting in a cumulative bias in the mean of the distribution.

The combined commingled uncertainty is only increased by 0.13% to $\pm 0.944\%$ ov and therefore not greatly impacted by the smaller stream.



Project	JE0249A-VAR4	Doc No.	D255	Rev.	R03	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling								
Date	Jun-02-2020	Copyright © SOLV Limited 2020, all rights reserved.			No. Trials	43,200	CI 95%	CF t =	1.96



Wellpad Allocation Uncertainty for Monthly Allocation															
Well	Sensitivity by Partial Derivative for RSS					RSS with Partial Derivative Uncertainty									
	Production	Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Abs. Unc.	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc.	Abs. Unc. 95% CI	Rel. Unc. 95% CI	
A	30,000.0	VH, H, L, VL	5.000%	1,500.00	765.31	30,000.00	0.09	-0.09	0.00	0.00	0.91	30,000.00	124.65	244.32	0.814%
B	3,000.0		5.000%	150.00	76.53	3,000.00	-0.91	0.91	0.00	0.00	0.09	3,000.00	98.69	193.43	6.448%
C	0.0		5.000%	0.00	0.00	0.00	-0.91	-0.09	1.00	0.00	0.00	0.00	0.00	0.00	0.000%
D	0.0		5.000%	0.00	0.00	0.00	-0.91	-0.09	0.00	1.00	0.00	0.00	0.00	0.00	0.000%
Total=A+B+C+D	33,000.0					33,000.00									
LACT Unit	33,000.0	VH	0.500%	165.00	84.18	33,000.00									
Alloc. Factor	LACT/Total	1.00													

Well	MCS Allocation Uncertainty Verification				MCS Allocation Uncertainty Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew	Kurtosis	
	Allocation Trials	Allocation (Mean)	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Standard Deviation	Skewness	Kurtosis	SEM 95% CI (SEM95)	SMBias = Mean - Allocation	Systematic Bias (SBias) Status	Randomised SBias Unc.	Combined Inc. SBias Unc.			Rel. Unc. 95% CI
A	30,000.00	29,999.39	244.95	0.817%	124.97	-0.05	2.99	1.18	0.004%	-0.61	SEM95 Else	0.001%	0.817%	0.817%	0.5 to 1 moderately +ve
B	3,000.00	3,001.33	193.97	6.463%	98.97	0.10	3.01	0.93	0.031%	1.33	Fail	0.022%	6.463%	6.463%	< -1 to > 1 highly skewed
C	0.00	0.00	0.00	0.000%											
D	0.00	0.00	0.00	0.000%											

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation							
	Agency Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest	Agency Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest				
%Agency	Commingled Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	%OTHER	Commingled Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Commingled Interest				
A	25.000%	7,500.00	61.08	0.814%	75.000%	22,500.00	183.24	0.814%	22,500.00	22,499.76	183.51	0.816%
B	25.000%	750.00	48.36	6.448%	75.000%	2,250.00	145.07	6.448%	2,250.00	2,250.02	145.72	6.476%
C	0.000%	0.00	0.00	0.000%	100.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%
D	0.000%	0.00	0.00	0.000%	100.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%
Total	25.000%	8,250.00	77.90	0.944%	75.000%	24,750.00	233.71	0.944%	24,750.00	24,749.79	233.97	0.945%

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix H Model Case 3B, 1:10:100:1000, 4 Strm ±5% ov FMP VH ±0.50% ov

Purpose

Investigate sensitivity of the MCS Mean bias with extreme flow rate ratio of 10:1, 100:1, and 1000:1.

Configuration

Well Stream A	30k stbpm ±5% ov
Well Stream B	3k stbpm ±5% ov
Well Stream C	300 stbpm ±5% ov
Well Stream D	30 stbpm ±5% ov
FMP (LACT)	33.33k stbpm ±0.50% ov, VH
Commingling Wells A, B, C, D	Agency 25%

Finding

There are a high number of Fail results indicating Systematic Bias is now greater than SEM with 95% CI for most of the results.

Skewness and Kurtosis indicators show the effect is negligible and that the distribution is still gaussian.

Combining Randomized Systemic Bias with the MCS allocation uncertainty did not change the MCS allocation uncertainty at 3 decimal places. As with Case 3A the bias does not exceed ±0.0005% ov and is therefore not “statistically significant”.

Well allocation and commingled uncertainty is reduced to ±0.839% ov for dominant stream A and plateaus between ≈ ±6.4% ov and ±6.7% ov for the smaller streams B, C, D.

Discussion

Due to non-linearity most if not all Systematic Bias > SEM95% Fail. The non-linearity of the smaller streams will be relatively large due to the larger variation in the apportionment ratios, as in Case 3A, and is therefore very likely to fail.

It is noticeable that uncertainty increases significantly over the first 10:1 flow ratio. It thereafter plateaus and becomes insensitive to further increased ratio. This indicates the area of concern should be from 1:1 to 1:10 as the volume is large and the change in the allocation uncertainty is significant.



Project	JE0249A-VAR4	Doc. No.	D255	Rev.	R04	Issue	Draft	Worksheet/Tab	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling								
Date	Jun-06-2020	Copyright © SOLV Limited 2020, all rights reserved.	No. Trials	43,200	CF t =	1.96			

Wellpad Allocation Uncertainty for Monthly Allocation															
Well	Well & LACT, Measurement & Uncertainty Input					Sensitivity by Partial Derivative for RSS					RSS with Partial Derivative Uncertainty				
	Production Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Abs. Unc.	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc.	Abs. Unc. 95% CI	Rel. Unc. 95% CI	±%ov
A	30,000.0	5.000%	1,500.00	765.31	30,000.00	0.10	-0.09	-0.01	0.00	0.90	30,000.00	128.44	251.74	0.839%	
B	3,000.0	5.000%	150.00	76.53	3,000.00	-0.90	0.91	-0.01	0.00	0.09	3,000.00	98.26	192.58	6.419%	
C	300.0	5.000%	15.00	7.65	300.00	-0.90	-0.09	0.99	0.00	0.01	300.00	10.30	20.18	6.727%	
D	30.0	5.000%	1.50	0.77	30.00	-0.90	-0.09	-0.01	1.00	0.00	30.00	1.03	2.03	6.757%	
Total=A+B+C+D	33,330.0				33,330.00										
LACT Unit	33,330.0				85.03										
Alloc. Factor	LACT/Total	1.00													

Well	MCS Allocation Uncertainty Verification				MCS Allocation Uncertainty Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew	Kurtosis
	Allocation Trials	Abs. Unc. 95% CI	Rel. Unc. 95% CI	±%ov	Standard Deviation	SKEWNESS	Kurtosis	SEW 95% CI (SEMS)	SBIAS = Mean - Allocation	Systematic Bias (SBIAS) Status	Randomised SBias Unc.	Combined inc. RSS		
A	30,000.00	29,998.49	251.13	0.837%	128.13	-0.05	3.05	1.21	0.004%	Fail	0.003%	0.837%	-0.5 to 0.5 fairly symmetrical	3 Normal distribution
B	3,000.00	3,001.22	192.12	6.402%	98.02	0.10	3.03	0.92	0.031%	Fail	0.020%	6.402%	> -0.5 to -1 moderately -ve	> 3 Sharper peak, fatter tails
C	300.00	300.18	20.19	6.726%	10.30	0.07	3.01	0.10	0.032%	Fail	0.030%	6.727%	0.5 to 1 moderately +ve	< 3 Broader peak, thinner tails
D	30.00	30.01	2.02	6.746%	1.03	0.10	3.05	0.01	0.032%	Fail	0.020%	6.746%	< -1 to > 1 highly skewed	

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation			
	RSS Uncertainty		MCS Uncertainty Verification		Other Interest		MCS Uncertainty Verification	
A	25.0000%	7,500.00	62.93	0.839%	75.0000%	75,000.00	62.72	0.836%
B	25.0000%	750.00	48.15	6.419%	75.0000%	750.00	48.14	6.419%
C	25.0000%	75.00	5.05	6.727%	75.0000%	75.00	5.05	6.727%
D	25.0000%	7.50	0.51	6.757%	75.0000%	7.50	0.51	6.792%
Total	25.0000%	8,332.50	79.40	0.953%	75.0000%	8,332.50	79.20	0.951%

Client: Southern Petroleum Laboratories, Inc.
 Project: Wellpad Uncertainty Sensitivity Report
 Document: Allocation & Commingling Uncertainty Sensitivity
 Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Project		Oil Allocation Results															
Description		Doc No.	D255	Rev.	R04	Issue	Draft	Tab:	Well: A, B, C, D								
Date		Copyright © SOLV Limited 2020, all rights reserved.		Case No.:	3B	1000:100:10 FMP VH 3333K stbpm, Wells A, B, C, D	CI95% CF t =	1.96			No. Trials	43,200					
Well	Repeat Run	MCS Allocation Uncertainty Verification				MCS Allocation Verification Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias							
		Allocation (Static)	Uncertainty	Mean	Standard Deviation	Skewness	Kurtosis	Std Error of Mean	Std Error of Mean	Systematic Bias	Systematic Bias	Systematic Bias	Randomised	Combined Inc.			
		stbpm	%ov	stbpm	stbpm			95% CI (SEM95)	95% CI (SEM95)	stbpm	stbpm	±%ov	±%ov	±%ov	±%ov	±%ov	±%ov
A	OIL LACT 1	30,000.00	0.837%	23,998.49	128.13	-0.05	3.05	1.21	0.004%	-1.51	0.003%	0.837%	0.837%				
	OIL LACT 2	30,000.00	0.838%	23,997.08	128.30	-0.05	2.99	1.21	0.004%	-2.92	0.005%	0.838%	0.838%				
	OIL LACT 3	30,000.00	0.841%	23,998.64	128.77	-0.06	3.04	1.21	0.004%	-1.36	0.002%	0.841%	0.841%				
	OIL LACT 4	30,000.00	0.845%	23,998.41	129.35	-0.05	3.01	1.22	0.004%	-1.59	0.003%	0.845%	0.845%				
	OIL LACT 5	30,000.00	0.840%	23,997.38	128.59	-0.05	3.02	1.21	0.004%	-2.62	0.004%	0.840%	0.840%				
	Mean			23,998.00	128.63	-0.05	3.02	1.21	0.004%	-2.00	0.003%	0.840%	0.840%				
	Spread			1.55	1.22	0.02	0.07	0.01	0.000%	1.55	0.003%	0.008%	0.008%				
	OIL LACT 1	3,000.00	6.402%	3,001.22	98.02	0.10	3.03	0.92	0.031%	1.22	0.020%	6.402%	6.402%				
	OIL LACT 2	3,000.00	6.418%	3,002.47	98.32	0.08	2.98	0.93	0.031%	2.47	0.041%	6.418%	6.418%				
	OIL LACT 3	3,000.00	6.417%	3,001.23	98.26	0.11	3.05	0.93	0.031%	1.23	0.021%	6.417%	6.417%				
OIL LACT 4	3,000.00	6.471%	3,001.71	99.10	0.11	3.02	0.93	0.031%	1.71	0.029%	6.471%	6.471%					
OIL LACT 5	3,000.00	6.401%	3,002.46	98.05	0.10	3.02	0.92	0.031%	2.46	0.041%	6.401%	6.401%					
Mean			3,001.82	98.35	0.10	3.02	0.93	0.031%	1.82	0.030%	6.422%	6.422%					
Spread			1.25	1.08	0.03	0.07	0.01	0.000%	1.25	0.021%	0.070%	0.070%					
C	OIL LACT 1	300.00	6.726%	300.18	10.30	0.07	3.01	0.10	0.032%	0.18	0.030%	6.726%	6.726%				
	OIL LACT 2	300.00	6.759%	300.31	10.36	0.09	3.00	0.10	0.033%	0.31	0.052%	6.759%	6.759%				
	OIL LACT 3	300.00	6.713%	300.19	10.28	0.12	2.99	0.10	0.032%	0.19	0.032%	6.714%	6.714%				
	OIL LACT 4	300.00	6.711%	300.10	10.28	0.06	3.00	0.10	0.032%	0.10	0.017%	6.711%	6.711%				
	OIL LACT 5	300.00	6.717%	300.10	10.28	0.09	3.04	0.10	0.032%	0.10	0.017%	6.717%	6.717%				
	Mean			300.18	10.30	0.09	3.01	0.10	0.032%	0.18	0.030%	6.725%	6.725%				
	Spread			0.21	0.08	0.05	0.05	0.00	0.000%	0.21	0.035%	0.046%	0.046%				
	OIL LACT 1	30.00	6.746%	30.01	1.03	0.10	3.05	0.01	0.032%	0.01	0.020%	6.746%	6.746%				
	OIL LACT 2	30.00	6.767%	30.03	1.04	0.09	3.03	0.01	0.033%	0.03	0.048%	6.767%	6.767%				
	OIL LACT 3	30.00	6.745%	30.02	1.03	0.11	3.06	0.01	0.032%	0.02	0.025%	6.745%	6.745%				
OIL LACT 4	30.00	6.798%	30.02	1.04	0.10	3.02	0.01	0.033%	0.02	0.030%	6.798%	6.798%					
OIL LACT 5	30.00	6.724%	30.03	1.03	0.10	3.02	0.01	0.032%	0.03	0.046%	6.724%	6.724%					
Mean			30.02	1.03	0.10	3.04	0.01	0.033%	0.02	0.034%	6.756%	6.756%					
Spread			0.02	0.01	0.02	0.03	0.00	0.000%	0.02	0.027%	0.074%	0.074%					

Client: Southern Petroleum Laboratories, Inc.
 Project: Wellpad Uncertainty Sensitivity Report
 Document: Allocation & Commingling Uncertainty Sensitivity
 Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Project	JE0249A-VAR4	Doc No.	D255	Rev.	R04	Issue	Draft	Tab:	Oil Commingling Results
Description	Uncertainty Sensitivity to Allocation and Commingling				3B	1000:100:10 FMP VH 3333K stbpm, Wells A, B, C, D			
Date	Jun-06-2020	Copyright © SOLV Limited 2020, all rights reserved.			No. Trials	43,200	CI 95% CF t = 1.96		
Well	Repeat Run	Regulator Commingled Allocation		Other Lease Owners Commingled Allocation					
		Agency Interest %	Commingled Interest stbpm	Relative Uncertainty 95% ±%ov	Other Interest %OTHER	Commingled Interest stbpm	Relative Uncertainty 95% ±%ov	Relative Uncertainty 95% ±%ov	
A	Oil LACT 1	25.000%	7500.19	62.72	75.00%	22,499.05	188.40	0.837%	
	Oil LACT 2	25.000%	7500.07	62.99	75.00%	22,499.81	189.21	0.841%	
	Oil LACT 3	25.000%	7500.00	62.79	75.00%	22,499.36	188.73	0.839%	
	Oil LACT 4	25.000%	7500.00	62.95	75.00%	22,499.77	189.55	0.842%	
	Oil LACT 5	25.000%	7500.00	63.07	75.00%	22,499.79	188.58	0.838%	
	Mean		7500.05	62.90	0.839%	22,499.56	188.89	0.840%	
	Spread		0.19	0.35	0.005%	0.77	1.16	0.005%	
	Oil LACT 1	25.000%	749.90	48.14	6.419%	2,250.10	144.54	6.424%	
	Oil LACT 2	25.000%	750.14	48.13	6.416%	2,250.07	144.65	6.429%	
	Oil LACT 3	25.000%	749.90	48.11	6.416%	2,250.16	144.94	6.441%	
Oil LACT 4	25.000%	750.06	48.16	6.421%	2,250.17	144.70	6.430%		
Oil LACT 5	25.000%	749.79	48.41	6.457%	2,249.71	144.50	6.423%		
Mean		749.96	48.19	6.426%	2,250.04	144.66	6.429%		
Spread		0.35	0.30	0.041%	0.46	0.44	0.018%		
C	Oil LACT 1	25.000%	75.01	5.05	75.00%	224.99	15.16	6.736%	
	Oil LACT 2	25.000%	74.99	5.07	75.00%	225.04	15.16	6.737%	
	Oil LACT 3	25.000%	75.01	5.05	75.00%	224.94	15.15	6.735%	
	Oil LACT 4	25.000%	75.01	5.05	75.00%	225.07	15.07	6.698%	
	Oil LACT 5	25.000%	74.99	5.05	75.00%	225.03	15.08	6.700%	
	Mean		75.00	5.05	6.735%	225.01	15.12	6.721%	
	Spread		0.03	0.02	0.033%	0.14	0.09	0.042%	
	Oil LACT 1	25.000%	7.50	0.51	6.792%	22.49	0.00	6.775%	
	Oil LACT 2	25.000%	7.50	0.51	6.762%	22.50	1.51	6.723%	
	Oil LACT 3	25.000%	7.50	0.51	6.756%	22.50	1.52	6.753%	
Oil LACT 4	25.000%	7.50	0.51	6.762%	22.49	1.52	6.771%		
Oil LACT 5	25.000%	7.50	0.50	6.708%	22.50	1.52	6.739%		
Mean		7.50	0.51	6.756%	22.50	1.21	6.752%		
Spread		0.00	0.01	0.084%	0.01	1.52	0.053%		
Combined	Oil LACT 1	25.000%	8,332.60	79.20	75.00%	24,996.63	237.76	0.951%	
	Oil LACT 2	25.000%	8,332.70	79.22	75.00%	24,997.42	238.43	0.954%	
	Oil LACT 3	25.000%	8,332.07	79.33	75.00%	24,996.95	238.17	0.953%	
	Oil LACT 4	25.000%	8,332.40	79.15	75.00%	24,997.51	239.25	0.957%	
	Oil LACT 5	25.000%	8,332.29	79.55	75.00%	24,997.03	238.67	0.955%	
	Mean		8332.41	79.29	0.952%	24997.11	238.46	0.954%	
Spread		0.63	0.40	0.005%	0.88	1.49	0.006%		

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix I Model Case 4A, Uncertainty Difference, 2 Streams, FMP VH

Purpose

Investigate the sensitivity to different Well Stream Uncertainties on the allocation for 2 parallel streams at the same flowrate.

Configuration

Well Stream A	15k stbpm $\pm 5\%$ ov
Well Stream B	15k stbpm $\pm 10\%$ ov
FMP (LACT)	30k stbpm $\pm 0.50\%$ ov, VH
Commingling Wells A, B	Agency 25%

Finding

Well allocation uncertainty is $\pm 5.612\%$ ov for both wells which is greater than Well A at $\pm 5\%$ ov and less than well B at $\pm 10\%$ ov.

Combined comingling uncertainty is $\pm 3.969\%$ ov which is a favorable reduction in the single well uncertainty.

Skewness and Kurtosis indicators show the effect of uncertainty imbalance is negligible.

Combining Randomized Systemic Bias with the MCS allocation uncertainty did not change the MCS allocation uncertainty at 3 decimal places. Bias does not exceed $\pm 0.0005\%$ ov and is therefore not "statistically significant".

Discussion

Despite the large difference in the Well Stream uncertainty the allocation uncertainty is the same for identical flow rates since the RSS equation is identical for both streams. This indicates it is possible to mix wells with different uncertainties equitably. This is even though Stream A has lower measurement uncertainty $\pm 5\%$ ov and will see an increase in the allocation uncertainty to $\pm 5.612\%$ ov.



Project	JE0249A-VAR4	Doc No.	D255	Rev.		R04	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling									
Date	Jun-06-2020	Copyright © SOLV Limited 2020, all rights reserved.		Case No.:	4A	Base A FMP VH 30K stbpm, Wells A 5% B 10%		CF t =	1.96	



Wellpad Allocation Uncertainty for Monthly Allocation

Well	Sensitivity by Partial Derivative for RSS						RSS with Partial Derivative Uncertainty							
	Production Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Abs. Unc. ±stbpm	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc. ±stbpm	Abs. Unc. 95% CI	Rel. Unc. 95% CI
A	15,000.00	5.000%	750.00	382.65	15,000.00	0.50	-0.50	0.00	0.00	0.50	15,000.00	429.53	841.87	5.612%
B	15,000.00	10.000%	1,500.00	765.31	15,000.00	-0.50	0.50	0.00	0.00	0.50	15,000.00	429.53	841.87	5.612%
C	0.0	5.000%	0.00	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.000%
D	0.0	5.000%	0.00	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.000%
Total=A+B+C+D	30,000.00				30,000.00									
LACT Unit	30,000.00				30,000.00									
Alloc. Factor	LACT/Total				1.00									

Well	MCS Allocation Uncertainty Verification				MCS Allocation Verification Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew	Kurtosis
	Allocation Trials	Allocation (Mean) stbpm	Abs. Unc. 95% CI ±stbpm	Rel. Unc. 95% CI %	SEM 95% CI (SEMS) ±stbpm	Kurtosis	Skewness	Standard Deviation stbpm	SBias = Mean - Allocation stbpm	Systematic Bias (SEMS) Status ±stbpm	Randomised SBias Unc. ±%ov	Combined Inc. SBias Unc. ±%ov		
A	15,000.00	15,005.35	847.94	5.651%	432.62	3.09	0.12	432.62	5.35	Fail	0.018%	5.651%	0.5 to 1 moderately +ve	3 Normal distribution
B	15,000.00	14,994.83	847.23	5.650%	432.26	3.08	-0.11	432.26	-5.17	Fail	0.017%	5.650%	-0.5 to -1 moderately -ve	> 3 Sharper peak, fatter tails
C	0.00	0.00	0.00	0.000%									0.5 to 1 moderately +ve	< 3 Broader peak, thinner tails
D	0.00	0.00	0.00	0.000%									< -1 to > 1 highly skewed	

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation			
	Agency Interest	Commingled Interest	Abs. Unc. 95% CI ±stbpm	Rel. Unc. 95% CI %	Commingled Interest	Other Interest	Abs. Unc. 95% CI ±stbpm	Rel. Unc. 95% CI %
A	25.000%	3,750.00	210.47	5.612%	3,750.00	75.000%	631.40	5.612%
B	25.000%	3,750.00	210.47	5.612%	3,750.00	75.000%	631.40	5.612%
C	0.000%	0.00	0.00	0.000%	0.00	100.000%	0.00	0.000%
D	0.000%	0.00	0.00	0.000%	0.00	100.000%	0.00	0.000%
Total	25.000%	7,500.00	297.65	3.969%	7,500.00	75.000%	892.94	3.969%

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix J Model Case 4B, Uncertainty Difference, 2 Streams, FMP H

Purpose

Investigate the sensitivity to different Well Stream Uncertainties on the allocation for 2 parallel streams at the same flowrate.

Configuration

Well Stream A	14.999k stbpm $\pm 5\%$ ov
Well Stream B	14.999k stbpm $\pm 10\%$ ov
FMP (LACT)	29.998k stbpm $\pm 1.50\%$ ov, H
Commingling Wells A, B	Agency 25%

Finding

Well allocation uncertainty is $\pm 5.788\%$ ov for both wells which is greater than Well A at $\pm 5\%$ ov and less than well B at $\pm 10\%$ ov.

Combined comingling uncertainty is $\pm 4.093\%$ ov which is a favorable reduction over the single well uncertainty.

Skewness and Kurtosis indicators show the effect of uncertainty imbalance is negligible.

Combining Randomized Systemic Bias with the MCS allocation uncertainty did not change the MCS allocation uncertainty at 3 decimal places. Bias does not exceed $\pm 0.0005\%$ ov and is therefore not “statistically significant”.

Discussion

Observation that despite the large difference in the Well Stream uncertainty the allocation uncertainty is the same. This indicates it is possible to mix wells with different uncertainties equitably. This is even though Stream A has lower measurement uncertainty $\pm 5\%$ ov and will see an increase in the allocation uncertainty to $\pm 5.788\%$ ov.

Observed that in Case 4A the FMP uncertainty of $\pm 0.50\%$ for VH flow is a third of that for Case 4B at $\pm 1.50\%$ ov for H flow and the increase in the allocation uncertainty is $\pm 0.176\%$ ov. Commingling combined uncertainty increase is $\pm 0.124\%$ ov. This a relatively small increase in comingling uncertainty for a relatively large (3X) increase in the FMP uncertainty, and less than in Case 2A and 2B.



Project	JE0249A-VAR4	Doc No.	D255	Rev.		R04		Issue		Drait		Worksheet Tab:	Oil LACT 1 Input	
Description	Uncertainty Sensitivity to Allocation and Commingling													
Date	Jun-06-2020	Copyright © SOLV Limited 2020, all rights reserved.												
		Case No.:	4B	CF 95%	1.96	CF t =	1.96	No. Trials		Uncert A FM² H	1.5%	30K stbpm	Wells A	5% B 10%



Wellpad Allocation Uncertainty for Monthly Allocation														
Well	Sensitivity by Partial Derivative for RSS										RSS with Partial Derivative Uncertainty			
	Production Category	Rel. Unc. 95% CI ±%ov	Abs. Unc. 95% CI ±stbpm	Std. Abs. Unc. ±stbpm	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation stbpm	Std. Abs. Unc. ±stbpm	Abs. Unc. 95% CI ±stbpm	Rel. Unc. 95% CI ±%ov
A	14,999.0	5.000%	749.95	382.63	14,999.00	0.50	-0.50	0.00	0.00	0.50	14,999.00	442.92	868.13	5.788%
B	14,999.0	10.000%	1,499.90	765.26	14,999.00	-0.50	0.50	0.00	0.00	0.50	14,999.00	442.92	868.13	5.788%
C	0.0	5.000%	0.00	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.000%
D	0.0	5.000%	0.00	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.000%
Total=A+B+C+D	29,998.0				29,998.00									
LACT Unit	29,998.0	H	1.500%	449.97	29,998.00									
Alloc. Factor	LACT/total	1.00												

Well	MCS Allocation Uncertainty Verification				MCS Allocation Uncertainty Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew	Kurtosis		
	Allocation Trials	Abs. Unc. 95% CI ±stbpm	Rel. Unc. 95% CI ±%ov	Std. Deviation	SEM 95% CI (SEM95)	Kurtosis	Skewness	SBIAS = Mean - Allocation	Systematic Bias (SBIAS)	Randomised SBIAS Unc. ±%ov	Combined Inc. SBIAS Unc. ±%ov	Rel. Unc. 95% CI ±stbpm			Abs. Unc. 95% CI ±stbpm	
A	14,599.00	15,003.30	868.51	5.789%	443.11	0.12	0.12	4.30	4.18	3.07	0.028%	4.30	0.014%	5.789%	0.5 to 1 moderately +ve	3 Normal distribution
B	14,599.00	14,994.04	869.66	5.800%	443.71	-0.09	-0.09	-4.96	4.18	3.02	0.028%	-4.96	0.017%	5.800%	> 3 Sharper peak, fatter tails	> 3 Sharper peak, fatter tails
C	0.00	0.00	0.00	0.000%											0.5 to 1 moderately +ve	< 3 Broader peak, thinner tails
D	0.00	0.00	0.00	0.000%											< -1 to > 1 highly skewed	

Well	Agency Commingled Allocation						Other Lease Owns Commingled Allocation								
	RSS Uncertainty			MCS Uncertainty Verification			RSS Uncertainty			MCS Uncertainty Verification					
Agency Interest	Commingled Interest	Abs. Unc. 95% CI ±stbpm	Rel. Unc. 95% CI ±%ov	Commingled Interest	Commingled Interest	Abs. Unc. 95% CI ±stbpm	Rel. Unc. 95% CI ±%ov	Commingled Interest	Commingled Interest	Abs. Unc. 95% CI ±stbpm	Rel. Unc. 95% CI ±%ov	Commingled Interest	Commingled Interest	Abs. Unc. 95% CI ±stbpm	Rel. Unc. 95% CI ±%ov
A	25.000%	3,749.75	217.03	5.788%	3,750.48	217.88	5.809%	11,249.25	11,249.25	651.10	5.788%	11,249.25	11,247.89	653.24	5.808%
B	25.000%	3,749.75	217.03	5.788%	3,749.00	216.08	5.764%	11,249.25	11,249.25	651.10	5.788%	11,249.25	11,248.20	655.37	5.826%
C	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%
D	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%
Total	25.000%	7,499.50	306.93	4.093%	7,499.48	305.64	4.075%	22,498.50	22,498.50	920.79	4.093%	22,498.50	22,496.09	926.74	4.120%

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix K Model Case 5A, Commingle Difference, 2 Streams, FMP VH

Purpose

Investigate the sensitivity of the combined commingled production uncertainty to different Agency well interests, at the FMP VH rate.

Configuration

Well Stream A	15k stbpm \pm 5% ov
Well Stream B	15k stbpm \pm 5% ov
FMP (LACT)	30k stbpm \pm 0.50% ov, VH
Commingling Well A	Agency 25%
Commingling Well B	Agency 5%

Finding

Allocation uncertainty and bias results as per Case 2A.

Commingling Uncertainty for each Well Stream is from the Allocation Uncertainty.

Agency Combined Commingled interest is 15% (4,500 stbpm).

Total commingled uncertainty is \pm 3.035% ov which is a reduction of \pm 0.536% ov when compared to the allocation uncertainty for each well stream.

Discussion

There is a net reduction in the Agency's Combined Commingled production exposure for parallel streams with different commingling interests.

Unless the stream requires product quality value adjustment the reduction in uncertainty due to commingling is equitable.



Project	JE0249A-VAR4	Doc No.	D255	Rev.		R04	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input	
Description	Uncertainty Sensitivity to Allocation and Commingling										
Date	Jun-06-2020	Copyright © SOLV Limited 2020, all rights reserved.			Case No.:	5A	A FMP VH 30K stbpm, Well Corn A 25%, B 5%		CI 95%	CF t =	1.96



Wellpad Allocation Uncertainty for Monthly Allocation															
Well	Well & LACT, Measurement & Uncertainty Input						Sensitivity by Partial Derivative for RSS								
	Production	Category	VH, H, L, VL	Rel. Unc. 95% CI	Abs. Unc. 95% CI	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc.	Abs. Unc. 95% CI	Rel. Unc. 95% CI
A	15,000.0			5.000%	750.00	382.65	0.50	-0.50	0.00	0.00	0.50	15,000.00	273.27	535.61	3.571%
B	15,000.0			5.000%	750.00	382.65	-0.50	0.50	0.00	0.00	0.50	15,000.00	273.27	535.61	3.571%
C	0.0			5.000%	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.000%
D	0.0			5.000%	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.000%
Total=A+B+C+D	30,000.0					30,000.00									
LACT Unit	30,000.0	VH		0.500%	150.00	76.53									
Alloc. Factor	LACT/Total		1.00												

Well	MCS Allocation Uncertainty Verification				MCS Allocation Verification Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew	Kurtosis	
	Allocation Trials	Allocation (Mean)	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Standard Deviation	Skewness	Kurtosis	SEM 95% CI (SEM95)	SBIAS = Mean - Allocation	Systematic Bias (SBIAS) Status	Randomised SBIAS Unc. RSS	Combined Inc. SBIAS Unc. RSS			
A	15,000.00	15,000.09	535.59	3.571%	273.26	0.00	2.97	2.58	0.017%	0.09	Pass	0.000%	3.571%	0.5 to 0.5 fairly symmetrical	3 Normal distribution
B	15,000.00	15,000.13	535.37	3.569%	273.15	0.00	2.98	2.58	0.017%	0.13	Pass	0.000%	3.569%	-0.5 to -1 moderately -ve fatter tails	> 3 Sharper peak, thinner tails
C	0.00	0.00	0.00	0.000%										0.5 to 1 moderately +ve	< 3 Broader peak, thicker tails
D	0.00	0.00	0.00	0.000%										< -1 to > 1 highly skewed	

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation								
	RSS Uncertainty		Other Interest		RSS Uncertainty		Other Interest						
Agency Interest	Commingled Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Commingled Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Commingled Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI				
A	25.000%	3,750.00	133.90	3.571%	3,750.00	134.27	3.581%	75.000%	401.71	3.571%	11,250.00	402.64	3.579%
B	5.000%	750.00	26.78	3.571%	750.00	26.95	3.593%	95.000%	508.83	3.571%	14,250.00	509.32	3.574%
C	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	100.000%	0.00	0.000%	0.00	0.00	0.000%
D	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	100.000%	0.00	0.000%	0.00	0.00	0.000%
Total	15.000%	4,500.00	136.55	3.035%	4,500.00	136.61	3.036%	85.000%	646.28	2.542%	25,500.00	25,499.68	651.47

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix L Model Case 5B, Uncertainty & Commingling Difference, 2 Streams, VH

Purpose

Investigate the sensitivity of the combined commingled production with different stream uncertainty and different Agency's Commingling interest, at the FMP VH rate.

Configuration

Well Stream A	15k stbpm $\pm 5\%$ ov
Well Stream B	15k stbpm $\pm 10\%$ ov
FMP (LACT)	30k stbpm $\pm 0.50\%$ ov, VH
Commingling Well A	Agency 25%
Commingling Well B	Agency 5%

Finding

Allocation uncertainty and bias results as per Case 4A with an allocation uncertainty of 5.612% ov for both streams due to Well Stream B uncertainty increase from $\pm 5\%$ ov to $\pm 10\%$ ov.

Commingling Uncertainty for each Well Stream is from the Allocation Uncertainty.

Agency's Combined Commingled interest is 15% (4,500 stbpm) as case 5A.

Combined Commingled Uncertainty of $\pm 4.770\%$ ov which is a reduction of $\pm 0.842\%$ ov when compared to the allocation uncertainty for the stream.

Discussion

There is a net reduction in the Agency's Combined Commingled production exposure for parallel streams with different commingling interests.

Unless the stream requires product quality value adjustment the reduction in uncertainty due to commingling is equitable.



Project	JE0249A-VAR4	Doc No.	D295	Rev.	R04	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling								
Date	Jun-06-2020	Copyright © SOLV Limited 2020, all rights reserved.	Case No.:	5B	A FHP VH 30k stbpm, Well Com A 25%, B 5%	CI 95%	CF t =	1.96	



Wellpad Allocation Uncertainty for Monthly Allocation																
Well	Well & LACT, Measurement & Uncertainty Input					Sensitivity by Partial Derivative for RSS					RSS with Partial Derivative Uncertainty					
	Production	Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Abs. Unc. ±stbpm	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc. ±stbpm	Abs. Unc. 95% CI	Rel. Unc. 95% CI	±%ov
A	15,000.0	VH, H, L, VL	5.000%	750.00	382.65	15,000.00	0.50	-0.50	0.00	0.00	0.50	15,000.00	429.53	841.87	5.612%	
B	15,000.0		10.000%	1,500.00	765.31	15,000.00	-0.50	0.50	0.00	0.00	0.50	15,000.00	429.53	841.87	5.612%	
C	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.000%	
D	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.000%	
Total=A+B+C+D	30,000.0					30,000.00										
LACT Unit	30,000.0	VH	0.500%	150.00	76.53	30,000.00										
Alloc. Factor	LACT/Total	1.00														

Well	MCS Allocation Uncertainty/Verification				MCS Allocation Uncertainty Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew		Kurtosis	
	Allocation Trials	Rel. Unc. 95% CI	Abs. Unc. 95% CI	±%ov	SEV 95% CI (SEM95)	Kurtosis	Skewness	Standard Deviation	SBias = Mean - Allocation	Systematic Bias (SBias) Status	Randomised SBias Unc. ±%ov	Combined inc. SBias Unc. ±%ov	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Abs. Unc. 95% CI
A	15,000.00	15,006.09	841.69	5.609%	3.08	4.05	0.10	429.43	Fail	0.027%	6.09	0.02%	0.02%	5.609%	0.5 to 1	3 Normal distribution
B	15,000.00	14,993.47	840.69	5.607%	3.07	4.04	-0.09	428.92	Fail	0.027%	-6.53	0.02%	0.02%	5.607%	> 3 Sharper peak, fatter tails	> 3 Sharper peak, fatter tails
C	0.00	0.00	0.00	0.000%											< 3 Broader peak, thinner tails	< 3 Broader peak, thinner tails
D	0.00	0.00	0.00	0.000%											highly skewed	highly skewed

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation									
	Agency Interest	RSS Uncertainty	MCS Uncertainty Verification	RSS Uncertainty	Other Interest	RSS Uncertainty	MCS Uncertainty Verification	RSS Uncertainty						
%	Rel. Unc. 95% CI	Abs. Unc. 95% CI	±%ov	Rel. Unc. 95% CI	Abs. Unc. 95% CI	±%ov	Commingled Interest	Rel. Unc. 95% CI	Abs. Unc. 95% CI	±%ov				
A	25.000%	3,750.00	210.47	5.612%	208.90	5.571%	3,749.41	11,250.00	631.40	5.612%	11,250.00	11,249.15	632.07	5.619%
B	5.000%	750.00	42.09	5.612%	42.13	5.617%	749.94	14,250.00	799.76	5.612%	14,250.00	14,249.72	802.36	5.631%
C	0.000%	0.00	0.00	0.000%	0.00	0.000%	0.00	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%
D	0.000%	0.00	0.00	0.000%	0.00	0.000%	0.00	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%
Total	15.000%	4,500.00	214.64	4.770%	213.44	4.744%	4,499.35	25,500.00	1,018.98	3.996%	25,500.00	25,498.87	1,018.75	3.995%

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix M Model Case 5C, Uncertainty & Commingling Difference, 2 Streams, H

Purpose

Investigate the sensitivity of the combined commingled production with different stream uncertainty and different Agency's Commingling interest, at the FMP H rate.

Configuration

Well Stream A	14.999k stbpm \pm 5% ov
Well Stream B	14.999k stbpm \pm 10% ov
FMP (LACT)	29.998k stbpm \pm 1.50% ov, VH
Commingling Well A	Agency 25%
Commingling Well B	Agency 5%

Finding

Allocation uncertainty and bias results as per Case 4B with an allocation uncertainty of 5.788% ov for both streams due to Well Stream B uncertainty increase from \pm 5% ov to \pm 10% ov.

Commingling Uncertainty for each Well Stream is from the Allocation Uncertainty.

Agency's Combined Commingled interest is 15% (4,500 stbpm) as case 5A.

Combined Commingled Uncertainty of \pm 4.919% ov which is a reduction of \pm 0.869% ov when compared to the allocation uncertainty for each stream.

Discussion

There is a net reduction in the Agency's Combined Commingled production exposure for parallel streams with different measurement uncertainty, different commingling interests.

Unless the stream requires product quality value adjustment the reduction in uncertainty due to commingling is equitable.



Project	JE0249A-VAR4	Doc No.	D255	Rev.	R04	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling								
Date	Jun-06-2020		Copyright © SOLV Limited 2020, all rights reserved.		No. Trials	43,200	CI 95%	CF t =	1.96



Well	Well & LACT, Measurement & Uncertainty Input					Sensitivity by Partial Derivative for RSS					RSS with Partial Derivative Uncertainty				
	Production Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Abs. Unc.	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc.	Abs. Unc. 95% CI	Rel. Unc. 95% CI	
A	14,999.0	5.000%	749.95	382.63	14,999.00	0.50	-0.50	0.00	0.00	0.50	14,999.00	442.92	868.13	5.789%	
B	14,999.0	10.000%	1,499.90	765.26	14,999.00	-0.50	0.50	0.00	0.00	0.50	14,999.00	442.92	868.13	5.789%	
C	0.0	5.000%	0.00	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.000%	
D	0.0	5.000%	0.00	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.000%	
Total=A+B+C+D	29,998.0				29,998.00										
LACT Unit	29,998.0	H	1.500%	449.97	229.58										
Alloc. Factor	LACT/Total	1.00			29,998.00										

Well	MCS Allocation Uncertainty Verification				MCS Allocation Uncertainty Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew	Kurtosis
	Allocation Trials	Rel. Unc. 95% CI	Abs. Unc. 95% CI	%ov	Standard Deviation	Skewness	Kurtosis	SEM 95% CI	Systematic Bias (SBias) Allocation	Randomised SBias Unc. RSS	Combined Inc. SBias Unc. RSS	Rel. Unc. 95% CI		
A	14,999.00	5.771%	866.02	5.771%	441.85	0.09	3.01	4.17	0.028%	Fail	0.021%	5.771%	0.5 to 1	< 3 Broader peak, thinner tails
B	14,999.00	5.807%	870.53	5.807%	444.15	-0.07	3.04	4.19	0.028%	Fail	0.023%	5.807%	< -1 to > 1 highly skewed	> 3 Sharper peak, fatter tails
C	0.00	0.000%	0.00	0.000%										
D	0.00	0.000%	0.00	0.000%										

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation										
	Agency Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest	MCS Uncertainty Verification							
A	25.000%	3,749.75	217.03	5.788%	216.53	3,749.47	216.53	5.775%	75.000%	11,249.23	651.10	5.788%	11,249.41	650.55	5.783%
B	5.000%	749.95	43.41	5.788%	43.47	749.90	43.47	5.797%	95.000%	14,249.05	824.72	5.788%	14,249.73	827.10	5.804%
C	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	3.000%	100.000%	0.00	0.00	0.000%	0.00	0.00	0.000%
D	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	3.000%	100.000%	0.00	0.00	0.000%	0.00	0.00	0.000%
Total	15.000%	4,499.70	221.33	4.919%	220.82	4,499.37	220.82	4.908%	85.000%	25,498.30	1,050.76	4.121%	25,498.30	1,050.87	4.121%

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix N Model Case 6A, Stream, Uncertainty, & Commingling Diff, 2 Stream VH

Purpose

Examine the sensitivity of the combined commingled production, with different stream flow rates, different stream uncertainty, and different Agency's Commingling interest at the FMP VH rate.

Configuration

Well Stream A	10k stbpm $\pm 5\%$ ov
Well Stream B	20k stbpm $\pm 10\%$ ov
FMP (LACT)	30k stbpm $\pm 0.50\%$ ov, VH
Commingling Well A	Agency 25%
Commingling Well B	Agency 5%

Finding

Allocation uncertainty results for Well Steam A is $\pm 7.470\%$ ov as expected for the lower flow rate, and for the higher rate Well Stream B is $\pm 3.760\%$ ov.

Commingling Uncertainty for each Well Stream is from the Allocation Uncertainty.

Agency's Combined commingled interest is 11.667% (3,500 stbpm).

Combined Commingled Uncertainty is $\pm 5.443\%$ ov which is between the allocation uncertainty of Stream A and Stream B.

Discussion

The Allocation Uncertainty for Stream B is lower than Stream A due to the higher production rate despite the higher uncertainty due to normalizing of the allocation uncertainty.

In this scenario, commingling has increased overall agency uncertainty compared to using separator measurement.

In instances where the agency has a lower interest in a higher volume / higher uncertainty well, allocation and commingling may increase total agency uncertainty compared to combining separator uncertainties.



Project	JE0249A-VAR4	Doc No.	D255	Rev.		R04	Issue	Drait	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling									
Date	Jun-06-2020	Copyright © SOLV Limited 2020, all rights reserved.		Case No.:	6A	A FMP VH 30K stbpm, Well Com A 25%, B 5%		CF t =	1.96	



Wellpad Allocation Uncertainty for Monthly Allocation												
Well	Well & LACT, Measurement & Uncertainty Input						Sensitivity by Partial Derivative for RSS					
	Production	Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Abs. Unc. ±stbpm	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation
A	10,000.0	VH, H, L, VL	5.000%	500.00	255.10	10,000.00	0.67	-0.67	0.00	0.00	0.33	10,000.00
B	20,000.0		1.0000%	2,000.00	1,020.41	20,000.00	-0.33	0.33	0.00	0.00	0.67	20,000.00
C	0.0		5.000%	0.00	0.00	0.00	-0.33	-0.67	1.00	0.00	0.00	0.00
D	0.0		5.000%	0.00	0.00	0.00	-0.33	-0.67	0.00	1.00	0.00	0.00
Total=A+B+C+D	30,000.0					30,000.00						
LACT Unit	30,000.0	VH	5.000%	150.00	76.53	30,000.00						
Alloc. Factor	LACT/Total		1.00									

Well	MCS Allocation Uncertainty Verification				MCS Allocation Verification Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew	Kurtosis
	Allocation Trials	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Std. Deviation	SEM 95% CI (SEM95)	Kurtosis	SBIAS = Mean - Allocator	Systematic Bias SBIAS = SBIAS - Fair	Randomised SBIAS Unc. ±%ov	Combined Inc. SBIAS Unc. ±%ov	-0.5 to 0.5 fairly symmetrical	> 3 Sharper peak, fatter tails		
A	10,000.00	10,008.34	7.479%	381.92	3.07	3.60	0.036%	8.34	Fail	0.042%	7.480%	0.5 to 1 moderately +ve		
B	20,000.00	19,991.89	3.773%	384.86	3.06	3.63	0.018%	-8.11	Fail	0.020%	3.773%	< -1 to > 1 highly skewed		
C	0.00	0.00	0.000%											
D	0.00	0.00	0.000%											

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation			
	Agency Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest	RSS Uncertainty	MCS Uncertainty Verification	Other Interest	MCS Uncertainty Verification
%	Commingled Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Commingled Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Commingled Interest	Abs. Unc. 95% CI
A	25.000%	2,500.00	186.76	7.470%	2,500.00	186.16	7.446%	2,500.00
B	5.000%	1,000.00	37.60	3.760%	1,000.00	37.64	3.763%	1,000.00
C	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00
D	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00
Total	11.667%	3,500.00	190.51	5.443%	3,500.00	189.90	5.425%	3,500.00

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix O Model Case 6B, Stream, Uncertainty, & Commingling Diff, 2 Streams H

Purpose

Examine the sensitivity of the combined commingled production, with different stream flow rates, different stream uncertainty, and different Agency's Commingling interest at the FMP VH rate.

Configuration

Well Stream A	9.999k stbpm $\pm 5\%$ ov
Well Stream B	19.999k stbpm $\pm 10\%$ ov
FMP (LACT)	29.998k stbpm $\pm 1.50\%$ ov, VH
Commingling Well A	Agency 25%
Commingling Well B	Agency 5%

Finding

Allocation uncertainty results for Well Steam A is $\pm 7.603\%$ ov as expected for the lower flow rate, and for the higher rate Well Stream B is $\pm 4.017\%$ ov.

Commingling Uncertainty for each Well Stream is from the Allocation Uncertainty.

Agency's Combined commingled interest is 11.667% (3,500 stbpm).

Combined Commingled Uncertainty is $\pm 5.551\%$ ov which is between the allocation uncertainty of Stream A and Stream B.

Discussion

Results consistent with Case 6A for FMP H Rate.

Despite the increase in the FMP uncertainty for VH rate of $\pm 0.50\%$ ov to the H rate of $\pm 1.50\%$ ov the increase of the allocation and uncertainty and the Combined Commingled production at similar rates to 6A VH rate is +0.133% higher for Stream A, +0.257% ov higher for Stream B, and +0.108% ov higher for the Combined Commingled uncertainty.

The low sensitivity of the allocation uncertainty to the FMP uncertainty gives scope for increasing the FMP uncertainty for the lower FMP rate bands or the addition of realistic rate for L (Low) and VL (Very Low) production at high flow ratios in Case 3A and 3B.



Project	JE0249A-VAR4	Doc No.	D255	Rev.	R04	Issue	6B	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling								
Date	Jun-12-2020	Copyright © SOLV Limited 2020, all rights reserved.			No. Trials	43,200	CI 95%	CF t =	1.96



Well	Sensitivity by Partial Derivative for RSS										RSS with Partial Derivative Uncertainty										
	Well & LACT, Measurement & Uncertainty Input		Well A		Well B		Well C		Well D		LACT		Allocation		Std. Abs. Unc.		Abs. Unc. 95% CI		Rel. Unc. 95% CI		
Production	Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	stbpm	±%cov	stbpm	±%cov	stbpm	±%cov	stbpm	±%cov	stbpm	±%cov	stbpm	±%cov	stbpm	±%cov	stbpm	±%cov	stbpm	±%cov
A	VH, H, L, VL	5.000%	499.95	255.08	9,999.00	0.67	-0.67	0.00	0.00	0.33	9,999.00	387.88	760.24	7.603%							
B		10.000%	1,999.90	1,020.36	19,999.00	-0.33	0.33	0.00	0.00	0.67	19,999.00	409.90	803.40	4.017%							
C	0.0	5.000%	0.00	0.00	0.00	-0.33	-0.67	1.00	0.00	0.00	0.00	0.00	0.00	0.00%							
D	0.0	5.000%	0.00	0.00	0.00	-0.33	-0.67	0.00	1.00	0.00	0.00	0.00	0.00	0.00%							
Total=A+B+C+D					29,998.00																
LACT Unit			29,998.0	H	1,500%	449.97	229.58	29,998.00													
Alloc. Factor			LACT/Total	1.00																	

Well	MCS Allocation Uncertainty Verification				MCS Allocation Uncertainty Systematic Bias				MCS Allocation Uncertainty Distribution Characteristics				MCS Allocation Uncertainty Verification Distribution Characteristics				MCS Allocation Uncertainty Verification Kurtosis								
	Allocation Trials	Rel. Unc. 95% CI	Abs. Unc. 95% CI	±%cov	Standard Deviation	Skewness	Kurtosis	SEM 95% CI (SEM95)	SBIAS = Mean - Allocation	Systematic Bias (SBIAS) Status	Randomised SBIAS Unc. ±%cov	SEM95 Else "Pass"	SEM 95% CI	Skewness	Kurtosis	SBIAS = Mean - Allocation	Systematic Bias (SBIAS) Status	Randomised SBIAS Unc. ±%cov	SEM95 Else "Pass"	SEM 95% CI	Skewness	Kurtosis			
A	9,999.00	10,008.11	768.41	7.678%	392.05	0.18	3.10	3.70	0.037%	9.11	Fail	0.046%	7.678%	0.5 to 1 moderately -ve fatter tails	0.046%	7.678%	0.5 to 1 moderately -ve fatter tails	0.046%	7.678%	0.5 to 1 moderately -ve fatter tails	0.18	3.10	3.70	0.037%	
B	19,999.00	19,990.06	808.11	4.043%	412.30	-0.12	3.01	3.89	0.019%	-8.94	Fail	0.022%	4.043%	< -1 to > 1 highly skewed	0.022%	4.043%	< -1 to > 1 highly skewed	0.022%	4.043%	< -1 to > 1 highly skewed	-0.12	3.01	3.89	0.019%	
C	0.00	0.00	0.00	0.000%																					
D	0.00	0.00	0.00	0.000%																					

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation				RSS Uncertainty Verification				MCS Uncertainty Verification				Other Interest				RSS Uncertainty Verification				MCS Uncertainty Verification			
	Agency Interest	Commingled Interest	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Agency Interest	Commingled Interest	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Commingled Interest	Stbpm	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Commingled Interest	Stbpm	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Commingled Interest	Stbpm	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Commingled Interest	Stbpm	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Commingled Interest	Stbpm	Rel. Unc. 95% CI	Abs. Unc. 95% CI
A	25.000%	2,499.75	190.06	7.603%	189.80	2,499.67	189.80	7.593%	75.000%	7,499.25	570.18	7.603%	7,497.72	569.77	7.599%	7,497.72	569.77	7.599%	7,497.72	569.77	7.599%	7,497.72	569.77	7.599%	7,497.72	569.77	7.599%	7,497.72
B	5.000%	999.95	40.17	4.017%	40.29	999.95	40.29	4.030%	95.000%	18,999.05	763.23	4.017%	18,997.99	766.42	4.034%	18,997.99	766.42	4.034%	18,997.99	766.42	4.034%	18,997.99	766.42	4.034%	18,997.99	766.42	4.034%	18,997.99
C	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%	100.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00
D	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.000%	100.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00
Total	11.666%	3,499.70	194.26	5.551%	193.97	3,499.62	193.97	5.542%	88.334%	26,498.30	952.69	3.595%	26,495.51	958.54	3.618%	26,495.51	958.54	3.618%	26,495.51	958.54	3.618%	26,495.51	958.54	3.618%	26,495.51	958.54	3.618%	26,495.51

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix P Model Case 7A, Separator Well Meter Input to Commingle Fluids, VH

Purpose

Investigate the Combined Commingling Uncertainty where the Separator Well Measurement is input to the Comingled Fluids for comparison with Allocation Uncertainties in Case 2A at the FMP VH Rate

Configuration

Well Stream A	15k stbpm $\pm 5\%$ ov
Well Stream B	15k stbpm $\pm 5\%$ ov
FMP (LACT)	30k stbpm $\pm 0.50\%$ ov, VH
Commingling Well A & B	Agency 25%

Finding

Agency's Combined Commingled uncertainty is $\pm 3.536\%$ ov from $\pm 5.000\%$ for Well Stream A and B measured at the Separator.

However, this is $\pm 1.011\%$ ov higher than the Combined Commingled uncertainty of $\pm 2.525\%$ ov based on the allocation for Stream A and B for VH rates in Case 2A.

Discussion

Use of Well Separator Measurement quantities and uncertainty will increase the total agency uncertainty compared to using allocation and commingling uncertainty. Allocation to the FMP is equitable and can be validated form the allocation ratio and material balance.



Project	JE0249A-VAR4	Doc No.	D255	Rev.	R04	Issue	Draft	Worksheet Tab:	Oil LACT 1 Input
Description	Uncertainty Sensitivity to Allocation and Commingling								
Date	Jun-12-2020	Copyright © SOLV Limited 2020. all rights reserved.		Case No.:	7A	Separator Well Measurement Commingled VH		CI 95%	CF t = 1.96



Well	Sensitivity by Partial Derivative for RSS										RSS with Partial Derivative Uncertainty						
	Well & LACT, Measurement & Uncertainty Input		Well A		Well B		Well C		Well D		LACT		Allocation		Std. Abs. Unc.		Rel. Unc. 95% CI
Production	Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Std. Abs. Unc.	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Std. Abs. Unc.	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Rel. Unc. 95% CI
A	15,000.0	5.0000%	750.00	5.0000%	382.65	15,000.00	0.50	-0.50	0.00	0.00	0.50	15,000.00	273.27	535.61	3.571%	535.61	3.571%
B	15,000.0	5.0000%	750.00	5.0000%	382.65	15,000.00	-0.50	0.50	0.00	0.00	0.50	15,000.00	273.27	535.61	3.571%	535.61	3.571%
C	0.0	5.0000%	0.00	5.0000%	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000%
D	0.0	5.0000%	0.00	5.0000%	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000%
Total=A+B+C+D	30,000.0					30,000.00											
LACT Unit	30,000.0		150.00		76.53	30,000.00											
Alloc. Factor	LACT/Total	1.00															

Well	MCS Allocation Uncertainty Verification				MCS Allocation Uncertainty Distribution Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew		Kurtosis	
	Allocation Trials	Rel. Unc. 95% CI	Abs. Unc. 95% CI	±%ov	SEM 95% CI (SEM95)	Kurtosis	Skewness	Standard Deviation	SBias = Mean - Allocation	Systematic Bias (SBias) Status	Randomised SBias Unc.	Combined inc. SBias Unc. RSS	±%ov	±stbpm	±%ov	±stbpm
A	15,000.00	5.0000%	535.27	3.568%	3.00	-0.01	273.10	273.10	0.65	Fail "F" (SBias) SEM95 Else "Pass"	0.002%	3.568%	0.002%	0.65	0.017%	3.00
B	15,000.00	5.0000%	534.81	3.565%	3.00	0.01	272.86	272.86	-0.28	Pass	0.001%	3.565%	0.001%	-0.28	0.017%	3.00
C	0.00	0.0000%	0.00	0.0000%												
D	0.00	0.0000%	0.00	0.0000%												

Well	Agency Commingled Allocation				Other Lease Owners Commingled Allocation			
	RSS Uncertainty		MCS Uncertainty Verification		RSS Uncertainty		MCS Uncertainty Verification	
Agency Interest	Commingled Interest	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Commingled Interest	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Commingled Interest	Rel. Unc. 95% CI
A	25.0000%	3,750.00	187.50	5.0000%	3,750.31	188.32	5.021%	3,750.00
B	25.0000%	3,750.00	187.50	5.0000%	3,750.31	186.88	4.983%	3,750.00
C	0.0000%	0.00	0.00	0.0000%	0.00	0.00	100.0000%	0.00
D	0.0000%	0.00	0.00	0.0000%	0.00	0.00	100.0000%	0.00
Total	25.0000%	7,500.00	265.17	3.536%	7,500.62	264.57	3.527%	7,500.00

Client: Southern Petroleum Laboratories, Inc.
Project: Wellpad Uncertainty Sensitivity Report
Document: Allocation & Commingling Uncertainty Sensitivity
Doc. No.: JE0249A-VAR4-D850-R03 Final inc. comments



Appendix Q Model Case 7B, Separator Well Meter Input to Commingle Fluids H

Purpose

Investigate the Combined Commingling Uncertainty where the Separator Well Measurement is input to the Comingled Fluids for comparison with Allocation Uncertainties in Case 2B at the FMP H Rate.

Configuration

Well Stream A	14.999k stbpm $\pm 5\%$ ov
Well Stream B	14.999k stbpm $\pm 5\%$ ov
FMP (LACT)	29.998k stbpm $\pm 1.50\%$ ov, H
Commingling Well A & B	Agency 25%

Finding

Agency's Combined Commingled uncertainty $\pm 3.536\%$ ov from $\pm 5.000\%$ for Well Stream A and B measured at the Separator.

This is $\pm 0.820\%$ ov higher than the Combined Commingled uncertainty of $\pm 2.716\%$ ov based on the allocation for Stream A and B for H rates in Case 2B.

Discussion

Use of Well Separator Measurement quantities and uncertainty will increase the total agency uncertainty compared to using allocation and commingling uncertainty. Allocation to the FMP is equitable and can be validated form the allocation ratio and material balance.



Project	JE0249A-VAR4	Doc No.	D255	Rev.	R04	Issue	R04	Issue	7B	Draft	Worksheet Tab:	Oil LACT 1 Input	
Description	Uncertainty Sensitivity to Allocation and Commingling												
Date	Jun-12-2020 Copyright © SOLV Limited 2020, all rights reserved.												
										Case No.:	43,200	CF t =	1.96
										No. Trials	43,200	CF t =	1.96



Well	Wellpad Allocation Uncertainty for Monthly Allocation																	
	Well & LACT, Measurement & Uncertainty Input						Sensitivity by Partial Derivative for RSS						RSS with Partial Derivative Uncertainty					
	Production	Category	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Abs. Unc.	MCS Input Trials	Well A	Well B	Well C	Well D	LACT	Allocation	Str. Abs. Unc.	Abs. Unc. 95% CI	Rel. Unc. 95% CI			
A	14,999.0	VH, H, L, VL	5.000%	749.95	382.63	14,999.00	0.50	-0.50	0.00	0.00	0.50	14,999.00	293.90	576.05	3.841%			
B	14,999.0		5.000%	749.95	382.63	14,999.00	-0.50	0.50	0.00	0.00	0.50	14,999.00	293.90	576.05	3.841%			
C	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	1.00	0.00	0.00	0.00	0.00	0.00	0.000%			
D	0.0		5.000%	0.00	0.00	0.00	-0.50	-0.50	0.00	1.00	0.00	0.00	0.00	0.00	0.000%			
Total=A+B+C+D						29,998.0												
LACT Unit	29,998.0	H	1.500%	449.97	229.98	29,998.00												
Alloc. Factor	LACT/Total		1.00															

Well	MCS Allocation Uncertainty Verification				MCS Allocation Uncertainty Characteristics				MCS Allocation Uncertainty Systematic Bias				Skew		Kurtosis	
	Allocation Trials	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Std. Deviation	SEM 95% CI (SEM95)	Kurtosis	SBIAS = Mean - Allocation	Systematic Bias (SBIAS) Status	Randomised SBIAS Unc. RSS	Combing. SBIAS Unc. RSS	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Commingling Interest	Rel. Unc. 95% CI	Abs. Unc. 95% CI	Rel. Unc. 95% CI
A	14,999.00	5.000%	749.95	382.63	2.76	3.00	-1.05	Pass	0.004%	3.827%	0.004%	11,249.25	11,251.22	433.97	3.857%	
B	14,999.00	5.000%	749.95	382.63	2.77	3.02	2.30	Pass	0.008%	3.832%	0.008%	11,249.25	11,249.32	434.09	3.859%	
C	0.00	0.000%	0.00	0.00								0.00	0.00	0.00	0.000%	
D	0.00	0.000%	0.00	0.00								0.00	0.00	0.00	0.000%	

Well	Agency Commingled Allocation						Other Lease Owners Commingled Allocation								
	RSS Uncertainty			MCS Uncertainty Verification			RSS Uncertainty			MCS Uncertainty Verification			Other Interest		
	Commingling Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Commingling Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Commingling Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Commingling Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI	Commingling Interest	Abs. Unc. 95% CI	Rel. Unc. 95% CI
A	3,749.75	187.49	5.000%	3,749.75	187.60	5.003%	3,750.11	187.60	5.003%	11,249.25	432.04	3.841%	11,249.25	433.97	3.857%
B	3,749.75	187.49	5.000%	3,749.75	187.88	5.011%	3,749.14	187.88	5.011%	11,249.25	432.04	3.841%	11,249.25	434.09	3.859%
C	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%
D	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.000%
Total	7,499.50	265.15	3.536%	7,499.50	266.22	3.550%	7,499.25	266.22	3.550%	22,498.50	610.99	2.716%	22,498.50	612.51	2.722%







JE0249A-VAR4-D850-R03 SPL Alloc & Com Sens Final Issued 200916

Final Audit Report

2020-09-17

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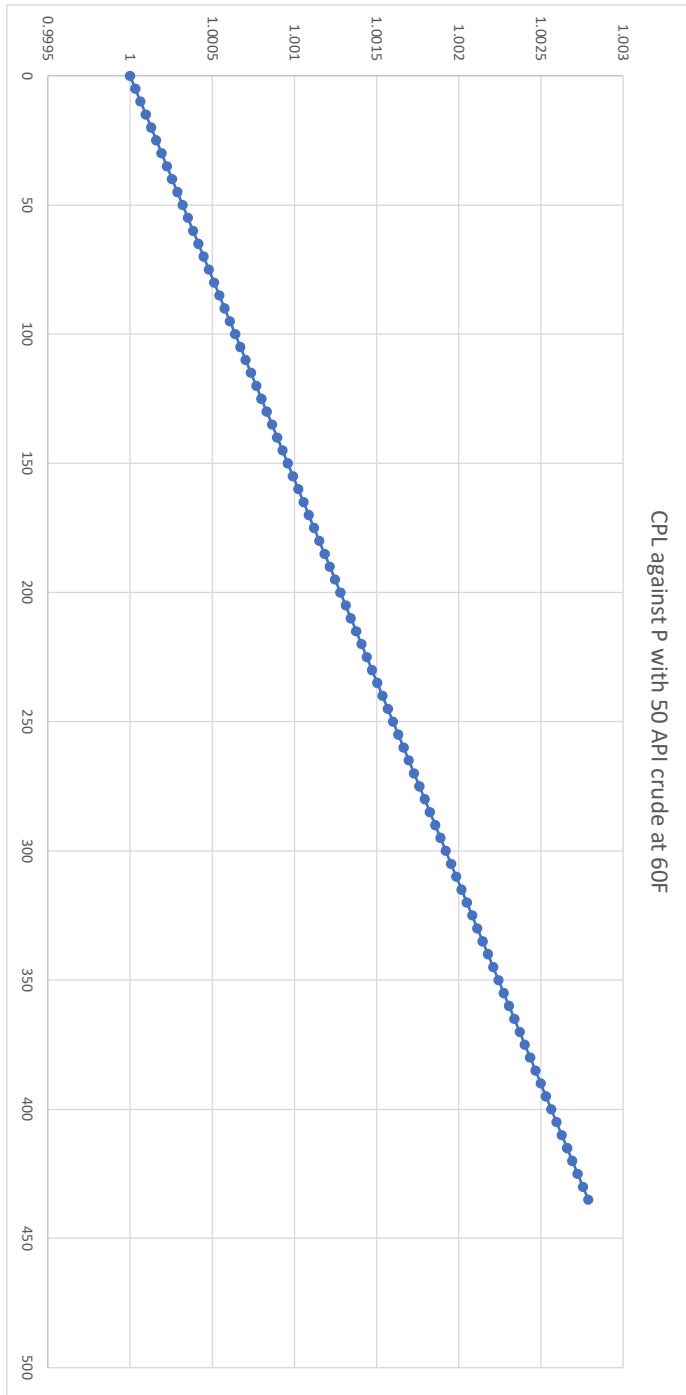
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Appendix E

Deviation Due to Pressure Change

API	Temp	Pressure	CPL
		0	1
		5	1.000031954
		10	1.00006391
		15	1.000095868
		20	1.000127828
		25	1.000159789
		30	1.000191754
		35	1.00022372
		40	1.000255688
		45	1.000287658
		50	1.00031963
		55	1.000351604
		60	1.000383581
		65	1.000415559
		70	1.000447539
		75	1.000479522
		80	1.000511506
		85	1.000543493
		90	1.000575481
		95	1.000607472
		100	1.000639464
		105	1.000671459
		110	1.000703456
		115	1.000735455
		120	1.000767456
		125	1.000799458
		130	1.000831463
		135	1.00086347
		140	1.000895479
		145	1.00092749
		150	1.000959504
		155	1.000991519
		160	1.001023536
		165	1.001055555
		170	1.001087576
		175	1.0011196
		180	1.001151625
		185	1.001183653
		190	1.001215682
		195	1.001247714
		200	1.001279747

50	60	205	1.001311783
		210	1.001343821
		215	1.00137586
		220	1.001407902
		225	1.001439946
		230	1.001471992
		235	1.00150404
		240	1.00153609
		245	1.001568142
		250	1.001600196
		255	1.001632252
		260	1.00166431
		265	1.001696371
		270	1.001728433
		275	1.001760497
		280	1.001792564
		285	1.001824632
		290	1.001856703
		295	1.001888775
		300	1.00192085
		305	1.001952927
		310	1.001985006
		315	1.002017086
		320	1.002049169
		325	1.002081254
		330	1.002113341
		335	1.00214543
		340	1.002177521
		345	1.002209614
		350	1.002241709
		355	1.002273807
		360	1.002305906
		365	1.002338007
		370	1.002370111
		375	1.002402216
380	1.002434324		
385	1.002466433		
390	1.002498545		
395	1.002530659		
400	1.002562774		
405	1.002594892		
410	1.002627012		
415	1.002659134		
420	1.002691258		
425	1.002723384		
430	1.002755512		
435	1.002787642		



Appendix F

PROVING RESULTS

Meter 1

Proving No.	Meter		Density (API Gravity)		Flow Rate (BPH)		Meter Temperature (deg F)		Meter Pressure (psig)			Meter Factor	
	Type	Model	Value	Difference from Previous	Value	Difference from Previous	Value	Difference from Previous	Value	Difference from Previous	Difference from Previous	Value	Difference from Previous
1	Coriolis	CMF-400	33.5		894		79		37			1.00362	
2	Coriolis	CMF-400	33.1	-0.4	890	-0.45%	80.8	1.8	36	-1	-2.70%	1.00334	-0.00028
3	Coriolis	CMF-400	33.8	0.7	888	-0.22%	82.1	1.3	37	1	2.78%	1.00305	-0.00029
4	Coriolis	CMF-400	33.9	0.1	889	0.11%	81.4	-0.7	37	0	0.00%	1.00292	-0.00013
5	Coriolis	CMF-400	33.9	0	887	-0.22%	85.6	4.2	36	-1	-2.70%	1.00287	-0.00005
6	Coriolis	CMF-400	33.8	-0.1	883	-0.45%	90.3	4.7	37	1	2.78%	1.00247	-0.00040
7	Coriolis	CMF-400	34	0.2	1105	25.14%	92.8	2.5	40	3	8.11%	1.00182	-0.00065
8	Coriolis	CMF-400	34	0	882	-20.18%	92.9	0.1	38	-2	-5.00%	1.00231	0.00049
9	Coriolis	CMF-400	34.1	0.1	880	-0.23%	95.7	2.8	38	0	0.00%	1.00261	0.00030
10	Coriolis	CMF-400	34	-0.1	880	0.00%	97.4	1.7	38	0	0.00%	1.00234	-0.00027
11	Coriolis	CMF-400	34.1	0.1	882	0.23%	96.9	-0.5	37	-1	-2.63%	1.00206	-0.00028
12	Coriolis	CMF-400	33.9	-0.2	882	0.00%	95.9	-1	38	1	2.70%	1.00247	0.00041
13	Coriolis	CMF-400	34	0.1	883	0.11%	95.6	-0.3	38	0	0.00%	1.0025	0.00003
14	Coriolis	CMF-400	34.1	0.1	882	-0.11%	90.5	-5.1	37	-1	-2.63%	1.00268	0.00018
15	Coriolis	CMF-400	33.9	-0.2	887	0.57%	80	-10.5	37	0	0.00%	1.00355	0.00087
16	Coriolis	CMF-400	34	0.1	893	0.68%	82.3	2.3	36	-1	-2.70%	1.00328	-0.00027
17	Coriolis	CMF-400	33.7	-0.3	892	-0.11%	76.4	-5.9	37	1	2.78%	1.00352	0.00024
18	Coriolis	CMF-400	33.8	0.1	891	-0.11%	76.8	0.4	37	0	0.00%	1.00372	0.00020
19	Coriolis	CMF-400	33.8	0	897	0.67%	74.5	-2.3	36	-1	-2.70%	1.00365	-0.00007
20	Coriolis	CMF-400	33.6	-0.2	893	-0.45%	69.5	-5	36	0	0.00%	1.00428	0.00063
21	Coriolis	CMF-400	33.9	0.3	899	0.67%	74.2	4.7	36	0	0.00%	1.00381	-0.00047
Maximum			34.1	0.7	1105	25.14%	97.4	4.7	40	3	8.11%	1.00428	0.00087
Minimum			33.1	-0.4	880	-20.18%	69.5	-10.5	36	-2	-5.00%	1.00182	-0.00065
Average												1.00299	

Appendix G

PROVING RESULTS

Meter 2

Proving No.	Meter		Density (API Gravity)		Flow Rate (BPH)		Meter Temperature (deg F)		Meter Pressure (psig)			Meter Factor	
	Type	Model	Value	Difference from Previous	Value	Difference from Previous	Value	Difference from Previous	Value	Difference from Previous	Difference from Previous	Value	Difference from Previous
1	PD	E3-81	50.7		212		104.8		142			1.00163	
2	PD	E3-81	52.1	1.4	161	-24.06%	98.2	-6.6	136	-6	-4.23%	1.00138	-0.00025
3	PD	E3-81	50.2	-1.9	212	31.68%	111.5	13.3	145	9	6.62%	1.00217	0.00079
4	PD	E3-81	47	-3.2	210	-0.94%	114	2.5	120	-25	-17.24%	1.00169	-0.00048
5	PD	E3-81	50.5	3.5	225	7.14%	111.2	-2.8	140	20	16.67%	1.00227	0.00058
6	PD	E3-81	50.8	0.3	253	12.44%	111	-0.2	140	0	0.00%	1.00253	0.00026
7	PD	E3-81	50.2	-0.6	236	-6.72%	105	-6	140	0	0.00%	1.00136	-0.00117
8	PD	E3-81	50.7	0.5	138	-41.53%	98.8	-6.2	140	0	0.00%	1.00328	0.00192
9	PD	E3-81	50.6	-0.1	249	80.43%	103.6	4.8	140	0	0.00%	1.00285	-0.00043
10	PD	E3-81	51.9	1.3	249	0.00%	103.6	0	125	-15	-10.71%	1.00182	-0.00103
11	PD	E3-81	50.1	-1.8	249	0.00%	98	-5.6	135	10	8.00%	1.001	-0.00082
Maximum			52.1	3.5	253	80.43%	114	13.3	145	20	16.67%	1.00328	0.00192
Minimum			47	-3.2	138	-41.53%	98	-6.6	120	-25	-17.24%	1.001	-0.00117
Average												1.00200	

Appendix H

PROVING RESULTS
Meter 3

Proving No.	Meter		Density (API Gravity)		Flow Rate (BPH)		Meter Temperature (deg F)		Meter Pressure (psig)			Meter Factor	
	Type	Model	Value	Difference from Previous	Value	Difference from Previous	Value	Difference from Previous	Value	Difference from Previous	Difference from Previous	Value	Difference from Previous
1	PD	SD-30-DI	53.7		150		88.9		65			0.99861	
2	PD	SD-30-DI	52.7	-1	170	13.33%	95.2	6.3	65	0	0.00%	0.99955	0.00094
3	PD	SD-30-DI	51.5	-1.2	126	-25.88%	96.7	1.5	53.6	-11.4	-17.54%	1.00031	0.00076
4	PD	SD-30-DI	50.8	-0.7	172	36.51%	98.7	2	43	-10.6	-19.78%	1.001	0.00069
5	PD	SD-30-DI	51.8	1	172	0.00%	97.2	-1.5	75	32	74.42%	1.00058	-0.00042
6	PD	SD-30-DI	47.3	-4.5	151	-12.21%	106.6	9.4	35	-40	-53.33%	1.0035	0.00292
7	PD	SD-30-DI	59.9	12.6	299	98.01%	93	-13.6	40	5	14.29%	1.00331	-0.00019
8	PD	SD-30-DI	55.6	-4.3	285	-4.68%	87.2	-5.8	60	20	50.00%	1.0013	-0.00201
9	PD	SD-30-DI	54.8	-0.8	155	-45.61%	81.2	-6	62	2	3.33%	0.99972	-0.00158
10	PD	SD-30-DI	51.3	-3.5	224	44.52%	100.6	19.4	60	-2	-3.23%	0.99952	-0.00020
11	PD	SD-30-DI	51.1	-0.2	218	-2.68%	91.7	-8.9	62	2	3.33%	0.99991	0.00039
12	PD	SD-30-DI	51.1	0	218	0.00%	94.2	2.5	53	-9	-14.52%	1.0004	0.00049
13	PD	SD-30-DI	50	-1.1	218	0.00%	96.3	2.1	70	17	32.08%	1.00129	0.00089
Maximum			59.9	12.6	299	98.01%	106.6	19.4	75	32	74.42%	1.0035	0.00292
Minimum			47.3	-4.5	126	-45.61%	81.2	-13.6	35	-40	-53.33%	0.99861	-0.00201
Average												1.00099	

Appendix I

PROVING RESULTS

Meter 4

Proving No.	Meter		Density (API Gravity)		Flow Rate (BPH)		Meter Temperature (deg F)		Meter Pressure (psig)			Meter Factor	
	Type	Model	Value	Difference from Previous	Value	Difference from Previous	Value	Difference from Previous	Value	Difference from Previous	Difference from Previous	Value	Difference from Previous
1	PD	E3-S1	47.5		340		83.3		105			1.00038	
2	PD	E3-S1	47.7	0.2	350	2.94%	80.4	-2.9	110	5	4.76%	1.00071	0.00033
3	PD	E3-S1	48.4	0.7	315	-10.00%	77.2	-3.2	115	5	4.55%	1.00083	0.00012
4	PD	E3-S1	47.3	-1.1	370	17.46%	85.2	8	100	-15	-13.04%	1.00126	0.00043
5	PD	E3-S1	48	0.7	335	-9.46%	87	1.8	110	10	10.00%	1.00148	0.00022
6	PD	E3-S1	47.1	-0.9	340	1.49%	86	-1	105	-5	-4.55%	1.00094	-0.00054
7	PD	E3-S1	48.2	1.1	360	5.88%	71.9	-14.1	110	5	4.76%	1.00048	-0.00046
8	PD	E3-S1	48.2	0	270	-25.00%	68.5	-3.4	130	20	18.18%	0.99981	-0.00067
9	PD	E3-S1	47.4	-0.8	330	22.22%	69.2	0.7	120	-10	-7.69%	1.00101	0.00120
10	PD	E3-S1	47	-0.4	225	-31.82%	52.7	-16.5	135	15	12.50%	0.99852	-0.00249
11	PD	E3-S1	47.8	0.8	350	55.56%	70	17.3	120	-15	-11.11%	1.0006	0.00208
Maximum			48.4	1.1	370	55.56%	87	17.3	135	20	18.18%	1.00148	0.00208
Minimum			47	-1.1	225	-31.82%	52.7	-16.5	100	-15	-13.04%	0.99852	-0.00249
Average												1.00055	

Appendix J

See subsequent pages

Carbon Steel Validation Testing

Meter 047073 with all Stainless Components

Date	Heating Value	Relative Density	Carbon Dioxide	Nitrogen	Methane	Ethane	Propane	Iso Butane	N Butane	Iso Pentane	N Pentane	Hexane
4/5/2018 10:00 AM	1295.258	0.76838	1.8555	0.3557	74.2665	13.2938	6.1797	0.7941	1.9478	0.4155	0.4814	0.41
4/6/2018 10:00 AM	1294.4113	0.76789	1.8588	0.356	74.2807	13.3098	6.173	0.7928	1.9396	0.4113	0.4744	0.4035
4/7/2018 10:00 AM	1295.4421	0.76842	1.8516	0.3543	74.272	13.2892	6.176	0.7972	1.9507	0.4161	0.481	0.4119
4/8/2018 10:00 AM	1294.7004	0.76798	1.8547	0.3527	74.3059	13.2884	6.1562	0.7955	1.9436	0.4149	0.4789	0.4092
4/9/2018 10:00 AM	1293.0767	0.76698	1.859	0.3508	74.3711	13.2876	6.1324	0.7926	1.9265	0.4085	0.4693	0.4024
4/10/2018 10:00 AM	1289.7033	0.76477	1.8554	0.3521	74.5466	13.2455	6.0843	0.7802	1.8917	0.3987	0.4577	0.3879
4/11/2018 10:00 AM	1321.514	0.78499	1.8328	0.3689	72.635	13.7174	6.9478	0.8672	2.225	0.4538	0.5337	0.4186
4/12/2018 10:00 AM	1327.49	0.78891	1.8365	0.3709	72.2918	13.7945	7.0927	0.882	2.278	0.4651	0.5505	0.438
4/13/2018 10:00 AM	1322.5429	0.78582	1.8421	0.371	72.4681	13.8175	7.0404	0.8625	2.2137	0.4453	0.5234	0.4161
4/14/2018 10:00 AM	1322.4927	0.78577	1.8396	0.3727	72.5227	13.7573	7.0241	0.8654	2.2264	0.4458	0.523	0.423
4/15/2018 10:00 AM	1324.9158	0.7873	1.8402	0.369	72.4715	13.7338	7.008	0.873	2.2547	0.4606	0.5458	0.4435
4/16/2018 10:00 AM	1309.962	0.77798	1.8571	0.3687	73.3459	13.4919	6.6347	0.8299	2.1056	0.435	0.5099	0.4212
4/17/2018 10:00 AM	1304.2501	0.77437	1.8583	0.3736	73.5454	13.5048	6.5832	0.8104	2.0477	0.4141	0.482	0.3804
4/18/2018 10:00 AM	1315.5875	0.78117	1.8296	0.372	72.9504	13.6439	6.8487	0.8436	2.1608	0.4346	0.5115	0.4048
4/19/2018 10:00 AM	1315.4872	0.78126	1.8377	0.3734	72.9977	13.606	6.8131	0.8436	2.1509	0.4371	0.5136	0.4268
4/20/2018 10:00 AM	1300.1478	0.77716	1.8613	0.3539	74.0204	13.3209	6.2794	0.8082	2.0025	0.428	0.4972	0.4282
4/21/2018 10:00 AM	1294.6096	0.76799	1.8601	0.351	74.3595	13.2209	6.1422	0.7952	1.9558	0.4189	0.4845	0.412
4/22/2018 10:00 AM	1298.5497	0.77062	1.8668	0.3493	74.1721	13.2509	6.1899	0.8076	1.9968	0.4315	0.5011	0.434
4/23/2018 10:00 AM	1294.8008	0.76807	1.86	0.3462	74.3537	13.2422	6.1239	0.7987	1.9549	0.4198	0.4848	0.4158
4/24/2018 10:00 AM	1293.9585	0.76752	1.8601	0.3462	74.3779	13.2448	6.1222	0.7974	1.9478	0.418	0.4818	0.404
4/25/2018 10:00 AM	1294.8959	0.76818	1.8634	0.3457	74.3444	13.2452	6.1211	0.8007	1.9574	0.4212	0.4859	0.4149
4/26/2018 10:00 AM	1294.6278	0.76822	1.8758	0.3472	74.3431	13.2402	6.1198	0.799	1.9501	0.4211	0.4841	0.4196
4/27/2018 10:00 AM	1294.7489	0.76824	1.8718	0.3478	74.3234	13.2589	6.1271	0.7993	1.9523	0.4209	0.4843	0.4141
4/28/2018 10:00 AM	1294.5373	0.76811	1.8723	0.3477	74.34	13.2492	6.122	0.7993	1.9514	0.4197	0.4834	0.415
4/29/2018 10:00 AM	1293.6246	0.76744	1.867	0.3478	74.4082	13.2223	6.1067	0.7953	1.9406	0.417	0.4806	0.4145
4/30/2018 10:00 AM	1294.6416	0.76817	1.8712	0.3481	74.3511	13.2399	6.1139	0.7983	1.9511	0.4202	0.4848	0.4212
5/1/2018 10:00 AM	1293.9597	0.76779	1.8737	0.3506	74.3657	13.2349	6.119	0.7956	1.9473	0.4189	0.484	0.4103
5/2/2018 10:00 AM	1291.7522	0.76636	1.8734	0.3497	74.4587	13.2318	6.0913	0.7891	1.9227	0.4118	0.4738	0.3975
5/3/2018 10:00 AM	1290.1629	0.7653	1.872	0.3487	74.5317	13.2271	6.0646	0.7861	1.9092	0.4061	0.466	0.3895
5/4/2018 10:00 AM	1293.5018	0.76745	1.8713	0.3496	74.4076	13.2199	6.1027	0.7937	1.9424	0.4169	0.4819	0.414
5/5/2018 10:00 AM	1292.9377	0.7671	1.872	0.3495	74.4332	13.2191	6.0902	0.793	1.9373	0.4152	0.4781	0.4125
5/6/2018 10:00 AM	1294.095	0.76785	1.8731	0.3486	74.3956	13.2142	6.0976	0.7952	1.9436	0.4212	0.4902	0.4206
5/7/2018 10:00 AM	1296.0205	0.76912	1.8728	0.3521	74.3174	13.2074	6.1369	0.7951	1.9598	0.4239	0.494	0.4408
5/8/2018 10:00 AM	1294.8699	0.76839	1.8717	0.3543	74.3299	13.2205	6.15	0.7942	1.9561	0.4196	0.4858	0.418
5/9/2018 10:00 AM	1294.8755	0.76839	1.8718	0.3546	74.3347	13.2135	6.1514	0.793	1.9552	0.4199	0.4868	0.4192

Meter 047308 with carbon steel valve and nipple													
Date	Heating Value	Relative Density	Carbon Dioxide	Nitrogen	Methane	Ethane	Propane	Iso Butane	N Butane	Iso Pentane	N Pentane	Hexane	
4/5/2018 10:00 AM	1295.5277	0.7686	1.8579	0.3563	74.2431	13.3022	6.1876	0.7949	1.9491	0.4165	0.4823	0.4102	
4/6/2018 10:00 AM	1294.5076	0.76799	1.8603	0.3572	74.2706	13.3123	6.1757	0.7929	1.9409	0.4114	0.4746	0.404	
4/7/2018 10:00 AM	1296.0024	0.76885	1.8557	0.3545	74.2312	13.3026	6.1875	0.7992	1.9552	0.4176	0.4825	0.4139	
4/8/2018 10:00 AM	1295.0609	0.76827	1.8579	0.3534	74.2769	13.2971	6.1642	0.7976	1.9485	0.4155	0.4794	0.4096	
4/9/2018 10:00 AM	1293.277	0.76719	1.8636	0.3514	74.3486	13.2953	6.1363	0.7939	1.9298	0.409	0.4698	0.4022	
4/10/2018 10:00 AM	1289.892	0.76498	1.8606	0.3527	74.5205	13.2566	6.0897	0.7812	1.8941	0.3993	0.4582	0.387	
4/11/2018 10:00 AM	1322.6219	0.78579	1.8383	0.3684	72.5704	13.7298	6.9616	0.8726	2.2419	0.4584	0.5396	0.4191	
4/12/2018 10:00 AM	1326.791	0.78853	1.8403	0.3708	72.3215	13.7907	7.073	0.8817	2.2765	0.4632	0.5476	0.4345	
4/13/2018 10:00 AM	1322.3491	0.78572	1.8432	0.3717	72.4724	13.8166	7.0392	0.8628	2.2139	0.4444	0.5217	0.414	
4/14/2018 10:00 AM	1322.8902	0.78608	1.8433	0.3727	72.4749	13.7838	7.0377	0.8676	2.2314	0.4463	0.5228	0.4195	
4/15/2018 10:00 AM	1325.6809	0.7879	1.8462	0.3696	72.4204	13.7455	7.0212	0.8766	2.2623	0.4634	0.549	0.4459	
4/16/2018 10:00 AM	1309.9124	0.77806	1.8632	0.37	73.3293	13.5002	6.6368	0.8313	2.1055	0.4355	0.5096	0.4186	
4/17/2018 10:00 AM	1304.0008	0.77436	1.8664	0.375	73.5316	13.5162	6.585	0.8105	2.0436	0.4132	0.4805	0.3779	
4/18/2018 10:00 AM	1315.5065	0.78123	1.8355	0.3734	72.9241	13.6667	6.857	0.8435	2.153	0.4329	0.5092	0.4046	
4/19/2018 10:00 AM	1315.5332	0.78142	1.8451	0.3746	72.9665	13.6185	6.8282	0.8451	2.1503	0.4363	0.5117	0.4238	
4/20/2018 10:00 AM	1300.1515	0.77171	1.8666	0.3558	73.9963	13.3349	6.2853	0.8091	2.0023	0.4279	0.4961	0.4258	
4/21/2018 10:00 AM	1293.9771	0.76774	1.8684	0.3523	74.3598	13.2334	6.1386	0.7941	1.9487	0.4171	0.4816	0.4061	
4/22/2018 10:00 AM	1298.156	0.77051	1.8746	0.351	74.1661	13.2615	6.1868	0.8073	1.9922	0.4306	0.4995	0.4306	
4/23/2018 10:00 AM	1294.7418	0.7682	1.8696	0.3475	74.3212	13.2609	6.1324	0.8002	1.9541	0.4191	0.483	0.4119	
4/24/2018 10:00 AM	1293.5126	0.7674	1.8692	0.3478	74.3714	13.2561	6.1201	0.7968	1.9416	0.4167	0.4797	0.4008	
4/25/2018 10:00 AM	1294.8385	0.76827	1.8704	0.347	74.322	13.2609	6.1236	0.801	1.9553	0.4211	0.4855	0.4131	
4/26/2018 10:00 AM	1294.9234	0.76838	1.8731	0.3482	74.3398	13.2326	6.1209	0.7998	1.9554	0.4229	0.4863	0.421	
4/27/2018 10:00 AM	1294.8459	0.76828	1.8702	0.3478	74.3305	13.2486	6.1247	0.8	1.9558	0.4219	0.4855	0.4151	
4/28/2018 10:00 AM	1294.8014	0.76825	1.8707	0.3472	74.3334	13.2484	6.1227	0.8003	1.9549	0.4214	0.4856	0.4153	
4/29/2018 10:00 AM	1293.7637	0.76751	1.8656	0.3475	74.4082	13.2209	6.104	0.7955	1.9422	0.4182	0.4823	0.4156	
4/30/2018 10:00 AM	1294.9062	0.76831	1.8696	0.3479	74.3482	13.2342	6.1143	0.7991	1.955	0.4221	0.4874	0.4222	
5/1/2018 10:00 AM	1293.8628	0.76769	1.8712	0.3506	74.3798	13.2279	6.1149	0.7951	1.9464	0.4194	0.4846	0.4102	
5/2/2018 10:00 AM	1291.9847	0.76649	1.8727	0.3493	74.4428	13.2401	6.0964	0.7899	1.9255	0.4122	0.4746	0.3966	
5/3/2018 10:00 AM	1289.8165	0.76508	1.8717	0.3489	74.5532	13.2171	6.058	0.7857	1.9086	0.4057	0.4655	0.3857	
5/4/2018 10:00 AM	1293.7908	0.76762	1.8697	0.35	74.3974	13.2191	6.1071	0.7944	1.9459	0.4181	0.4837	0.4146	
5/5/2018 10:00 AM	1293.4483	0.76737	1.8689	0.3493	74.4145	13.221	6.0965	0.7947	1.9438	0.4172	0.4807	0.4135	
5/6/2018 10:00 AM	1294.1913	0.76791	1.8728	0.3484	74.3985	13.2075	6.0966	0.7958	1.9449	0.4222	0.4918	0.4215	
5/7/2018 10:00 AM	1296.4511	0.76933	1.8688	0.3518	74.3057	13.2055	6.1421	0.7965	1.9662	0.4258	0.4968	0.4407	
5/8/2018 10:00 AM	1294.9996	0.76845	1.8707	0.3539	74.3318	13.2147	6.1491	0.7947	1.9584	0.4208	0.4876	0.4184	
5/9/2018 10:00 AM	1294.935	0.76842	1.8714	0.3534	74.3352	13.2132	6.15	0.7937	1.9566	0.42	0.4868	0.4195	

Difference SS-CS

Heating Value	Relative Density	Carbon Dioxide	Nitrogen	Methane	Ethane	Propane	Iso Butane	N Butane	Iso Pentane	N Pentane	Hexane
-0.2697	-0.00022	-0.0024	-0.0006	0.0234	-0.0084	-0.0079	-0.0008	-0.0013	-0.001	-0.0009	-0.0002
-0.0963	-1E-04	-0.0015	-0.0012	0.0101	-0.0025	-0.0027	-0.0001	-0.0013	-1E-04	-0.0002	-0.0005
-0.5603	-0.00043	-0.0041	-0.0002	0.0408	-0.0134	-0.0115	-0.002	-0.0045	-0.0015	-0.0015	-0.002
-0.3605	-0.00029	-0.0032	-0.0007	0.029	-0.0087	-0.008	-0.0021	-0.0049	-0.0006	-0.0005	-0.0004
-0.2003	-0.00021	-0.0046	-0.0006	0.0225	-0.0077	-0.0039	-0.0013	-0.0033	-0.0005	-0.0005	0.0002
-0.1887	-0.00021	-0.0052	-0.0006	0.0261	-0.0111	-0.0054	-0.001	-0.0024	-0.0006	-0.0005	0.0009
-1.1079	-0.0008	-0.0055	0.0005	0.0646	-0.0124	-0.0138	-0.0054	-0.0169	-0.0046	-0.0059	-0.0005
0.699	0.00038	-0.0038	1E-04	-0.0297	0.0038	0.0197	0.0003	0.0015	0.0019	0.0029	0.0035
0.1938	1E-04	-0.0011	-0.0007	-0.0043	0.0009	0.0012	-0.0003	-0.0002	0.0009	0.0017	0.0021
-0.3975	-0.00031	-0.0037	0	0.0478	-0.0265	-0.0136	-0.0022	-0.005	-0.0005	0.0002	0.0035
-0.7651	-0.0006	-0.006	-0.0006	0.0511	-0.0117	-0.0132	-0.0036	-0.0076	-0.0028	-0.0032	-0.0024
0.0496	-8E-05	-0.0061	-0.0013	0.0166	-0.0083	-0.0021	-0.0014	1E-04	-0.0005	0.0003	0.0026
0.2493	1E-05	-0.0081	-0.0014	0.0138	-0.0114	-0.0018	-1E-04	0.0041	0.0009	0.0015	0.0025
0.081	-6E-05	-0.0059	-0.0014	0.0263	-0.0228	-0.0083	1E-04	0.0078	0.0017	0.0023	0.0002
-0.046	-0.00016	-0.0074	-0.0012	0.0312	-0.0125	-0.0151	-0.0015	0.0006	0.0008	0.0019	0.003
-0.0037	-0.00011	-0.0053	-0.0019	0.0241	-0.014	-0.0059	-0.0009	0.0002	1E-04	0.0011	0.0024
0.6325	0.00025	-0.0083	-0.0013	-0.0003	-0.0125	0.0036	0.0011	0.0071	0.0018	0.0029	0.0059
0.3937	0.00011	-0.0078	-0.0017	0.006	-0.0106	0.0031	0.0003	0.0046	0.0009	0.0016	0.0034
0.059	-0.00013	-0.0096	-0.0013	0.0325	-0.0187	-0.0085	-0.0015	0.0008	0.0007	0.0018	0.0039
0.4459	0.00012	-0.0091	-0.0016	0.0065	-0.0113	0.0021	0.0006	0.0062	0.0013	0.0021	0.0032
0.0574	-9E-05	-0.007	-0.0013	0.0224	-0.0157	-0.0025	-0.0003	0.0021	0.0001	0.0004	0.0018
-0.2956	-0.00016	0.0027	-0.001	0.0033	0.0076	-0.0011	-0.0008	-0.0053	-0.0018	-0.0022	-0.0014
-0.097	-4E-05	0.0016	0	-0.0071	0.0103	0.0024	-0.0007	-0.0035	-0.001	-0.0012	-0.001
-0.2641	-0.00014	0.0016	0.0005	0.0066	0.0008	-0.0007	-0.001	-0.0035	-0.0017	-0.0022	-0.0003
-0.1391	-7E-05	0.0014	0.0003	0	0.0014	0.0027	-0.0002	-0.0016	-0.0012	-0.0017	-0.0011
-0.2646	-0.00014	0.0016	0.0002	0.0029	0.0057	-0.0004	-0.0008	-0.0039	-0.0019	-0.0026	-0.001
0.0969	1E-04	0.0025	0	-0.0141	0.007	0.0041	0.0005	0.0009	-0.0005	-0.0006	1E-04
-0.2325	-0.00013	0.0007	0.0004	0.0159	-0.0083	-0.0051	-0.0008	-0.0028	-0.0004	0.0008	0.0009
0.3464	0.00022	0.0003	-0.0002	-0.0215	0.01	0.0066	0.0004	0.0006	0.0004	0.0005	0.0028
-0.289	-0.00017	0.0016	-0.0004	0.0102	0.0008	-0.0044	-0.0007	-0.0035	-0.0012	-0.0018	-0.0006
-0.5106	-0.00027	0.0031	0.0002	0.0187	-0.0019	-0.0063	-0.0017	-0.0065	-0.002	-0.0026	-0.001
-0.0963	-6E-05	0.0003	0.0002	-0.0029	0.0067	0.001	-0.0006	-0.0013	-0.001	-0.0016	-0.0009
-0.4306	-0.00021	0.004	0.0003	0.0117	0.0019	-0.0052	-0.0014	-0.0064	-0.0019	-0.0028	0.0001
-0.1297	-6E-05	0.001	0.0004	-0.0019	0.0058	0.0009	-0.0005	-0.0023	-0.0012	-0.0018	-0.0004
-0.0595	-3E-05	0.0004	0.0012	-0.0005	0.0003	0.0014	-0.0007	-0.0014	-1E-04	0	-0.0003

% Difference SS-CS												
Heating Value	Relative Density	Carbon Dioxide	Nitrogen	Methane	Ethane	Propane	Iso Butane	N Butane	Iso Pentane	N Pentane	Hexane	
-0.02%	-0.03%	-0.13%	-0.17%	0.03%	-0.06%	-0.13%	-0.10%	-0.07%	-0.24%	-0.19%	-0.05%	
-0.01%	-0.01%	-0.08%	-0.34%	0.01%	-0.02%	-0.04%	-0.01%	-0.07%	-0.02%	-0.04%	-0.12%	
-0.04%	-0.06%	-0.22%	-0.06%	0.05%	-0.10%	-0.19%	-0.25%	-0.23%	-0.36%	-0.31%	-0.49%	
-0.03%	-0.04%	-0.17%	-0.20%	0.04%	-0.07%	-0.13%	-0.26%	-0.25%	-0.14%	-0.10%	-0.10%	
-0.02%	-0.03%	-0.25%	-0.17%	0.03%	-0.06%	-0.06%	-0.16%	-0.17%	-0.12%	-0.11%	0.05%	
-0.01%	-0.03%	-0.28%	-0.17%	0.04%	-0.08%	-0.09%	-0.13%	-0.13%	-0.15%	-0.11%	0.23%	
-0.08%	-0.10%	-0.30%	0.14%	0.09%	-0.09%	-0.20%	-0.62%	-0.76%	-1.01%	-1.11%	-0.12%	
0.05%	0.05%	-0.21%	0.03%	-0.04%	0.03%	0.28%	0.03%	0.07%	0.41%	0.53%	0.80%	
0.01%	0.01%	-0.06%	-0.19%	-0.01%	0.01%	0.02%	-0.03%	-0.01%	0.20%	0.32%	0.50%	
-0.03%	-0.04%	-0.20%	0.00%	0.07%	-0.19%	-0.19%	-0.25%	-0.22%	-0.11%	0.04%	0.83%	
-0.06%	-0.08%	-0.33%	-0.16%	0.07%	-0.09%	-0.19%	-0.41%	-0.34%	-0.61%	-0.59%	-0.54%	
0.00%	-0.01%	-0.33%	-0.35%	0.02%	-0.06%	-0.03%	-0.17%	0.00%	-0.11%	0.06%	0.62%	
0.02%	0.00%	-0.44%	-0.37%	0.02%	-0.08%	-0.03%	-0.01%	0.20%	0.22%	0.31%	0.66%	
0.01%	-0.01%	-0.32%	-0.38%	0.04%	-0.17%	-0.12%	0.01%	0.36%	0.39%	0.45%	0.05%	
0.00%	-0.02%	-0.40%	-0.32%	0.04%	-0.09%	-0.22%	-0.18%	0.03%	0.18%	0.37%	0.70%	
0.00%	-0.01%	-0.28%	-0.54%	0.03%	-0.11%	-0.09%	-0.11%	0.01%	0.02%	0.22%	0.56%	
0.05%	0.03%	-0.45%	-0.37%	0.00%	-0.09%	0.06%	0.14%	0.36%	0.43%	0.60%	1.43%	
0.03%	0.01%	-0.42%	-0.49%	0.01%	-0.08%	0.05%	0.04%	0.23%	0.21%	0.32%	0.78%	
0.00%	-0.02%	-0.52%	-0.38%	0.04%	-0.14%	-0.14%	-0.19%	0.04%	0.17%	0.37%	0.94%	
0.03%	0.02%	-0.49%	-0.46%	0.01%	-0.09%	0.03%	0.08%	0.32%	0.31%	0.44%	0.79%	
0.00%	-0.01%	-0.38%	-0.38%	0.03%	-0.12%	-0.04%	-0.04%	0.11%	0.02%	0.08%	0.43%	
-0.02%	-0.02%	0.14%	-0.29%	0.00%	0.06%	-0.02%	-0.10%	-0.27%	-0.43%	-0.45%	-0.33%	
-0.01%	-0.01%	0.09%	0.00%	-0.01%	0.08%	0.04%	-0.09%	-0.18%	-0.24%	-0.25%	-0.24%	
-0.02%	-0.02%	0.09%	0.14%	0.01%	0.01%	-0.01%	-0.13%	-0.18%	-0.41%	-0.46%	-0.07%	
-0.01%	-0.01%	0.07%	0.09%	0.00%	0.01%	0.04%	-0.03%	-0.08%	-0.29%	-0.35%	-0.27%	
-0.02%	-0.02%	0.09%	0.06%	0.00%	0.04%	-0.01%	-0.10%	-0.20%	-0.45%	-0.54%	-0.24%	
0.01%	0.01%	0.13%	0.00%	-0.02%	0.05%	0.07%	0.06%	0.05%	-0.12%	-0.12%	0.02%	
-0.02%	-0.02%	0.04%	0.11%	0.02%	-0.06%	-0.08%	-0.10%	-0.15%	-0.10%	-0.17%	0.23%	
0.03%	0.03%	0.02%	-0.06%	-0.03%	0.08%	0.11%	0.05%	0.03%	0.10%	0.11%	0.72%	
-0.02%	-0.02%	0.09%	-0.11%	0.01%	0.01%	-0.07%	-0.09%	-0.18%	-0.29%	-0.37%	-0.14%	
-0.04%	-0.04%	0.17%	0.06%	0.03%	-0.01%	-0.10%	-0.21%	-0.34%	-0.48%	-0.54%	-0.24%	
-0.01%	-0.01%	0.02%	0.06%	0.00%	0.05%	0.02%	-0.08%	-0.07%	-0.24%	-0.33%	-0.21%	
-0.03%	-0.03%	0.21%	0.09%	0.02%	0.01%	-0.08%	-0.18%	-0.33%	-0.45%	-0.57%	0.02%	
-0.01%	-0.01%	0.05%	0.11%	0.00%	0.04%	0.01%	-0.06%	-0.12%	-0.29%	-0.37%	-0.10%	
0.00%	0.00%	0.02%	0.34%	0.00%	0.00%	0.02%	-0.09%	-0.07%	-0.02%	0.00%	-0.07%	
-0.01%	Average											
-0.08%	Min											
0.05%	Max											

Meter 047073 with all Stainless Components													
5/10/2018 10:00 AM	1294.8914	0.7684	1.8713	0.3544	74.3355	13.2112	6.151	0.7938	1.9594	0.4191	0.4855	0.4187	
5/11/2018 10:00 AM	1294.985	0.76844	1.8703	0.3541	74.3378	13.2172	6.1397	0.793	1.9552	0.4214	0.4897	0.4217	
5/12/2018 10:00 AM	1295.3925	0.76874	1.8739	0.352	74.328	13.2123	6.1374	0.7935	1.957	0.4254	0.4947	0.4252	
5/13/2018 10:00 AM	1293.5599	0.76752	1.869	0.3564	74.3793	13.2221	6.1387	0.7877	1.9423	0.4154	0.482	0.4072	
5/14/2018 10:00 AM	1292.8776	0.76709	1.8695	0.3562	74.4025	13.2199	6.1362	0.787	1.9414	0.4107	0.4745	0.402	
5/15/2018 10:00 AM	1296.1607	0.76917	1.868	0.3557	74.2712	13.227	6.175	0.796	1.9733	0.4203	0.4885	0.425	
5/16/2018 10:00 AM	1299.0687	0.77107	1.8685	0.3576	74.1633	13.2341	6.1935	0.7997	1.99	0.4324	0.5084	0.4526	
5/17/2018 10:00 AM	1297.6915	0.77021	1.8697	0.3582	74.2154	13.2232	6.1871	0.7964	1.983	0.4271	0.4992	0.4407	
5/18/2018 10:00 AM	1298.0935	0.77049	1.8711	0.358	74.2169	13.2145	6.1789	0.7963	1.9808	0.4284	0.5009	0.4542	
5/19/2018 10:00 AM	1297.0138	0.76981	1.8708	0.3592	74.2611	13.2095	6.1615	0.793	1.9764	0.4268	0.4987	0.4429	
5/20/2018 10:00 AM	1296.1414	0.76924	1.8719	0.3576	74.2918	13.2075	6.1601	0.7926	1.9698	0.4223	0.4905	0.4358	
5/21/2018 10:00 AM	1295.4812	0.76886	1.8775	0.3527	74.3591	13.1804	6.108	0.796	1.9667	0.4267	0.4962	0.4368	
5/22/2018 10:00 AM	1295.0685	0.76863	1.8795	0.3524	74.37	13.1842	6.1021	0.7953	1.9627	0.4261	0.4951	0.4327	
5/23/2018 10:00 AM	1294.3586	0.76811	1.8762	0.3515	74.4186	13.1695	6.0874	0.7932	1.9546	0.4259	0.4937	0.4294	
5/24/2018 10:00 AM	1293.636	0.76767	1.8778	0.3519	74.4224	13.1861	6.0874	0.7934	1.9526	0.4232	0.4897	0.4155	
5/25/2018 10:00 AM	1295.1145	0.76864	1.8796	0.351	74.3472	13.198	6.1183	0.797	1.9657	0.4264	0.4937	0.4231	
5/26/2018 10:00 AM	1289.9203	0.76529	1.878	0.3527	74.5464	13.1891	6.0722	0.7838	1.9201	0.4078	0.4679	0.382	
5/27/2018 10:00 AM	1294.2683	0.7681	1.8787	0.3529	74.4062	13.1822	6.0899	0.7915	1.9522	0.4243	0.4931	0.4288	
5/28/2018 10:00 AM	1296.2309	0.76943	1.8832	0.352	74.3266	13.1811	6.1117	0.7969	1.9713	0.4317	0.502	0.4436	
5/29/2018 10:00 AM	1292.8574	0.76726	1.8827	0.3522	74.4793	13.1686	6.0601	0.7862	1.9344	0.4199	0.4872	0.4295	
5/30/2018 10:00 AM	1295.4468	0.76905	1.8875	0.355	74.3352	13.1836	6.1176	0.7952	1.9673	0.4272	0.4956	0.4358	
5/31/2018 10:00 AM	1296.0179	0.76984	1.9091	0.3623	74.2431	13.2358	6.1236	0.7937	1.9686	0.4227	0.4867	0.4544	
6/1/2018 10:00 AM	1301.5987	0.77371	1.9138	0.382	73.8773	13.2827	6.3165	0.7994	2.0389	0.4309	0.5045	0.4541	
6/2/2018 10:00 AM	1300.5207	0.77306	1.9166	0.3825	73.9142	13.2813	6.3012	0.7979	2.0329	0.4296	0.5019	0.4419	
6/3/2018 10:00 AM	1301.0616	0.77341	1.9163	0.3828	73.9199	13.257	6.2953	0.7985	2.0405	0.4312	0.5048	0.4537	
6/4/2018 10:00 AM	1301.3463	0.77353	1.9165	0.3763	73.9549	13.2416	6.2598	0.8001	2.0355	0.4351	0.5104	0.4698	
6/5/2018 10:00 AM	1299.2203	0.77227	1.9232	0.3761	74.0034	13.2619	6.2425	0.7986	2.0198	0.4303	0.5019	0.4422	
6/6/2018 10:00 AM	1298.3851	0.77175	1.9235	0.3771	74.0378	13.2557	6.2367	0.7946	2.0098	0.4291	0.5002	0.4356	
6/7/2018 10:00 AM	1298.2523	0.77171	1.9272	0.3755	74.0516	13.2479	6.2277	0.7947	2.0083	0.4279	0.4996	0.4398	

Meter 047308 with all Stainless Components													
5/10/2018 10:00 AM	1295.1097	0.76855	1.8717	0.3546	74.335	13.2006	6.1505	0.795	1.9638	0.4204	0.4875	0.4207	
5/11/2018 10:00 AM	1295.1957	0.76856	1.8697	0.3539	74.335	13.2103	6.1417	0.7943	1.9588	0.4225	0.4916	0.4221	
5/12/2018 10:00 AM	1295.8283	0.76898	1.8719	0.3517	74.3148	13.21	6.1421	0.7953	1.9628	0.427	0.497	0.4273	
5/13/2018 10:00 AM	1293.4558	0.76745	1.8689	0.3559	74.3905	13.2187	6.13	0.7877	1.9417	0.4162	0.4829	0.4075	
5/14/2018 10:00 AM	1292.9954	0.76714	1.8681	0.3559	74.4031	13.2183	6.1343	0.7874	1.942	0.4118	0.4763	0.4027	
5/15/2018 10:00 AM	1296.5104	0.76937	1.8666	0.3554	74.2594	13.2256	6.1782	0.7971	1.9785	0.4232	0.4917	0.4242	
5/16/2018 10:00 AM	1299.2103	0.77114	1.8668	0.3582	74.1678	13.2207	6.1938	0.8009	1.9957	0.4341	0.5103	0.4517	
5/17/2018 10:00 AM	1297.9141	0.7703	1.8667	0.358	74.22	13.2134	6.1842	0.7975	1.9878	0.4291	0.5018	0.4415	
5/18/2018 10:00 AM	1298.079	0.77045	1.8693	0.3575	74.23	13.2043	6.1734	0.7968	1.9833	0.4292	0.5017	0.4544	
5/19/2018 10:00 AM	1297.0111	0.76975	1.8677	0.3591	74.2726	13.2022	6.1581	0.7933	1.9767	0.4274	0.5	0.4443	
5/20/2018 10:00 AM	1296.3457	0.76933	1.8691	0.3575	74.2907	13.202	6.162	0.7937	1.9738	0.4237	0.4923	0.4353	
5/21/2018 10:00 AM	1295.8499	0.76907	1.8761	0.3523	74.3425	13.1824	6.1156	0.7977	1.9711	0.4277	0.4973	0.4372	
5/22/2018 10:00 AM	1295.1503	0.76863	1.8768	0.352	74.3746	13.1801	6.1	0.7961	1.9654	0.4267	0.4957	0.4326	
5/23/2018 10:00 AM	1294.643	0.76825	1.8738	0.3512	74.4159	13.1641	6.0878	0.7943	1.9579	0.4279	0.4964	0.4307	
5/24/2018 10:00 AM	1293.8408	0.76779	1.877	0.3516	74.4199	13.1808	6.0865	0.7948	1.9577	0.4247	0.4913	0.4157	
5/25/2018 10:00 AM	1295.2711	0.76866	1.8746	0.3507	74.3538	13.1927	6.116	0.7976	1.968	0.4272	0.4953	0.4241	
5/26/2018 10:00 AM	1290.1765	0.76542	1.8758	0.3524	74.5457	13.1826	6.0724	0.7847	1.9232	0.4095	0.4702	0.3835	
5/27/2018 10:00 AM	1294.5015	0.76823	1.8775	0.3528	74.4085	13.1727	6.0854	0.7931	1.9578	0.4264	0.4954	0.4304	
5/28/2018 10:00 AM	1296.3823	0.76948	1.8803	0.3518	74.3338	13.171	6.1097	0.7978	1.9736	0.433	0.5042	0.4448	
5/29/2018 10:00 AM	1293.2493	0.76749	1.8816	0.3519	74.4699	13.1609	6.0656	0.7886	1.9404	0.4211	0.4888	0.4313	
5/30/2018 10:00 AM	1295.8307	0.76925	1.8846	0.3551	74.328	13.1786	6.1186	0.7967	1.9737	0.4295	0.4987	0.4366	
5/31/2018 10:00 AM	1296.2211	0.76992	1.9062	0.3624	74.2484	13.2243	6.1208	0.7952	1.975	0.4241	0.4886	0.455	
6/1/2018 10:00 AM	1301.8267	0.77384	1.9132	0.3813	73.8799	13.2731	6.3125	0.8008	2.0435	0.4323	0.507	0.4564	
6/2/2018 10:00 AM	1300.751	0.77316	1.9134	0.3824	73.9198	13.2704	6.2967	0.7992	2.0384	0.4319	0.5055	0.4423	
6/3/2018 10:00 AM	1301.344	0.77357	1.9153	0.3823	73.9069	13.2606	6.2997	0.7996	2.0426	0.4326	0.5068	0.4537	
6/4/2018 10:00 AM	1301.7084	0.77377	1.9162	0.3772	73.9363	13.2444	6.2656	0.8017	2.0393	0.4367	0.5116	0.4709	
6/5/2018 10:00 AM	1299.3403	0.77234	1.9232	0.3759	73.9988	13.2609	6.2444	0.7996	2.0217	0.4309	0.5028	0.4419	
6/6/2018 10:00 AM	1298.6033	0.77186	1.9215	0.3774	74.0363	13.2474	6.2381	0.7962	2.0154	0.4304	0.5016	0.4355	
6/7/2018 10:00 AM	1298.485	0.77188	1.9286	0.3755	74.0415	13.2463	6.2299	0.7957	2.0114	0.4291	0.5011	0.4409	

Difference SS-SS													
-0.2183	-0.00015	-0.0004	-0.0002	0.0005	0.0106	0.0005	-0.0012	-0.0044	-0.0013	-0.002	-0.002		
-0.2107	-0.00012	0.0006	0.0002	0.0028	0.0069	0.0008	-0.0013	-0.0036	-0.0011	-0.0019	-0.0004		
-0.4358	-0.00024	0.002	0.0003	0.0132	0.0023	0.0047	-0.0018	-0.0058	-0.0016	-0.0023	-0.0016		
0.1041	7E-05	1E-04	0.0005	-0.0112	0.0034	0.0087	0	0.0006	-0.0008	-0.0009	-0.0003		
-0.1178	-5E-05	0.0014	0.0003	-0.0006	0.0016	0.0019	-0.0004	-0.0006	-0.0011	-0.0018	-0.0007		
-0.3497	-0.0002	0.0014	0.0003	0.0118	0.0014	-0.0032	-0.0011	-0.0052	-0.0029	-0.0032	0.0008		
-0.1416	-7E-05	0.0017	-0.0006	-0.0045	0.0134	-0.0003	-0.0012	-0.0057	-0.0017	-0.0019	0.0009		
-0.2226	-9E-05	0.003	0.0002	-0.0046	0.0098	0.0029	-0.0011	-0.0048	-0.002	-0.0026	-0.0008		
0.0145	4E-05	0.0018	0.0005	-0.0131	0.0102	0.0055	-0.0005	-0.0025	-0.0008	-0.0008	-0.0002		
0.0027	6E-05	0.0031	0.0001	-0.0115	0.0073	0.0034	-0.0003	-0.0003	-0.0006	-0.0013	-1E-04		
-0.2043	-9E-05	0.0028	1E-04	0.0011	0.0055	-0.0019	-0.0011	-0.004	-0.0014	-0.0018	0.0005		
-0.3687	-0.00021	0.0014	0.0004	0.0166	-0.002	-0.0076	-0.0017	-0.0044	-0.001	-0.0011	-0.0004		
-0.0818	0	0.0027	0.0004	-0.0046	0.0041	0.0021	-0.0008	-0.0027	-0.0006	-0.0006	1E-04		
-0.2844	-0.00014	0.0024	0.0003	0.0027	0.0054	-0.0004	-0.0011	-0.0033	-0.002	-0.0027	-0.0013		
-0.2048	-0.00012	0.0008	0.0003	0.0025	0.0053	0.0009	-0.0014	-0.0051	-0.0015	-0.0016	-0.0002		
-0.1566	-2E-05	0.005	0.0003	-0.0066	0.0053	0.0023	-0.0006	-0.0023	-0.0008	-0.0016	-0.001		
-0.2562	-0.00013	0.0022	0.0003	0.0007	0.0065	-0.0002	-0.0009	-0.0031	-0.0017	-0.0023	-0.0015		
-0.2332	-0.00013	0.0012	1E-04	-0.0023	0.0095	0.0045	-0.0016	-0.0056	-0.0021	-0.0023	-0.0016		
-0.1514	-5E-05	0.0029	0.0002	-0.0072	0.0101	0.002	-0.0009	-0.0023	-0.0013	-0.0022	-0.0012		
-0.3919	-0.00023	0.0011	0.0003	0.0094	0.0077	-0.0055	-0.0024	-0.006	-0.0012	-0.0016	-0.0018		
-0.3839	-0.0002	0.0029	-0.0001	0.0072	0.005	-0.001	-0.0015	-0.0064	-0.0023	-0.0031	-0.0008		
-0.2032	-8E-05	0.0029	-1E-04	-0.0053	0.0115	0.0028	-0.0015	-0.0064	-0.0014	-0.0019	-0.0006		
-0.228	-0.00013	0.0006	0.0007	-0.0026	0.0096	0.004	-0.0014	-0.0046	-0.0014	-0.0025	-0.0023		
-0.2303	-1E-04	0.0032	1E-04	-0.0056	0.0109	0.0045	-0.0013	-0.0055	-0.0023	-0.0036	-0.0004		
-0.2824	-0.00016	0.001	0.0005	0.013	-0.0036	-0.0044	-0.0011	-0.0021	-0.0014	-0.002	0		
-0.3621	-0.00024	0.0003	-0.0009	0.0186	-0.0028	-0.0058	-0.0016	-0.0038	-0.0016	-0.0012	-0.0011		
-0.12	-7E-05	0	0.0002	0.0046	0.001	-0.0019	-0.001	-0.0019	-0.0006	-0.0009	0.0003		
-0.2182	-0.00011	0.002	-0.0003	0.0015	0.0083	-0.0014	-0.0016	-0.0056	-0.0013	-0.0014	1E-04		
-0.2327	-0.00017	-0.0014	0	0.0101	0.0016	-0.0022	-0.001	-0.0031	-0.0012	-0.0015	-0.0011		

% Difference SS-SS													
-0.02%	-0.02%	-0.02%	-0.02%	-0.06%	0.00%	0.08%	0.01%	-0.15%	-0.22%	-0.31%	-0.41%	-0.48%	
-0.02%	-0.02%	0.03%	0.11%	0.06%	0.00%	0.05%	-0.03%	-0.16%	-0.18%	-0.26%	-0.39%	-0.09%	
-0.03%	-0.03%	0.09%	0.11%	0.09%	0.02%	0.02%	-0.08%	-0.23%	-0.30%	-0.38%	-0.46%	-0.38%	
0.01%	0.01%	0.01%	0.01%	0.14%	-0.02%	0.03%	0.14%	0.00%	0.03%	-0.19%	-0.19%	-0.07%	
-0.01%	-0.01%	0.07%	0.07%	0.08%	0.00%	0.01%	0.03%	-0.05%	-0.03%	-0.27%	-0.38%	-0.17%	
-0.03%	-0.03%	0.07%	0.07%	0.08%	0.02%	0.01%	-0.05%	-0.14%	-0.26%	-0.69%	-0.66%	0.19%	
-0.01%	-0.01%	0.09%	0.09%	-0.17%	-0.01%	0.10%	0.00%	-0.15%	-0.29%	-0.39%	-0.37%	0.20%	
-0.02%	-0.01%	0.16%	0.16%	0.06%	-0.01%	0.07%	0.05%	-0.14%	-0.47%	-0.47%	-0.52%	-0.18%	
0.00%	0.01%	0.10%	0.10%	0.14%	-0.02%	0.08%	0.09%	-0.06%	-0.13%	-0.19%	-0.16%	-0.04%	
0.00%	0.01%	0.17%	0.17%	0.03%	-0.02%	0.06%	0.06%	-0.04%	-0.02%	-0.14%	-0.26%	-0.02%	
-0.02%	-0.01%	0.15%	0.15%	0.03%	0.00%	0.04%	-0.03%	-0.14%	-0.20%	-0.33%	-0.37%	0.11%	
-0.03%	-0.03%	0.07%	0.07%	0.11%	0.02%	-0.02%	-0.12%	-0.21%	-0.22%	-0.23%	-0.22%	-0.09%	
-0.01%	0.00%	0.14%	0.14%	0.11%	-0.01%	0.03%	0.03%	-0.10%	-0.14%	-0.14%	-0.12%	0.02%	
-0.02%	-0.02%	0.13%	0.13%	0.09%	0.00%	0.04%	-0.01%	-0.14%	-0.17%	-0.47%	-0.55%	-0.30%	
-0.02%	-0.02%	0.04%	0.04%	0.09%	0.00%	0.04%	0.01%	-0.18%	-0.26%	-0.35%	-0.33%	-0.05%	
-0.01%	0.00%	0.27%	0.27%	0.09%	-0.01%	0.04%	0.04%	-0.08%	-0.12%	-0.19%	-0.32%	-0.24%	
-0.02%	-0.02%	0.12%	0.12%	0.09%	0.00%	0.05%	0.00%	-0.11%	-0.16%	-0.42%	-0.49%	-0.39%	
-0.02%	-0.02%	0.06%	0.06%	0.03%	0.00%	0.07%	0.07%	-0.20%	-0.29%	-0.49%	-0.47%	-0.37%	
-0.01%	-0.01%	0.15%	0.15%	0.06%	-0.01%	0.08%	0.03%	-0.11%	-0.12%	-0.30%	-0.44%	-0.27%	
-0.03%	-0.03%	0.06%	0.06%	0.09%	0.01%	0.06%	-0.09%	-0.31%	-0.31%	-0.29%	-0.33%	-0.42%	
-0.03%	-0.03%	0.15%	0.15%	-0.03%	0.01%	0.04%	-0.02%	-0.19%	-0.33%	-0.54%	-0.63%	-0.18%	
-0.02%	-0.01%	0.15%	0.15%	-0.03%	-0.01%	0.09%	0.05%	-0.19%	-0.33%	-0.33%	-0.39%	-0.13%	
-0.02%	-0.02%	0.03%	0.03%	0.18%	0.00%	0.07%	0.06%	-0.18%	-0.23%	-0.32%	-0.50%	-0.51%	
-0.02%	-0.01%	0.17%	0.17%	0.03%	-0.01%	0.08%	0.07%	-0.16%	-0.27%	-0.54%	-0.72%	-0.09%	
-0.02%	-0.02%	0.05%	0.05%	0.13%	0.02%	-0.03%	-0.07%	-0.14%	-0.10%	-0.32%	-0.40%	0.00%	
-0.03%	-0.03%	0.02%	0.02%	-0.24%	0.03%	-0.02%	-0.09%	-0.20%	-0.19%	-0.37%	-0.24%	-0.23%	
-0.01%	-0.01%	0.00%	0.00%	0.05%	0.01%	0.01%	-0.03%	-0.13%	-0.09%	-0.14%	-0.18%	0.07%	
-0.02%	-0.01%	0.10%	0.10%	-0.08%	0.00%	0.06%	-0.02%	-0.20%	-0.28%	-0.30%	-0.28%	0.02%	
-0.02%	-0.02%	-0.07%	-0.07%	0.00%	0.01%	0.01%	-0.04%	-0.13%	-0.15%	-0.28%	-0.30%	-0.25%	
-0.02%	Average												
-0.03%	Min												
0.01%	Max												

Appendix K

See subsequent pages

Nonanes Plus vs. Hexanes Plus Heating Value Comparison

Sample Date	Hexanes Plus (Mole%)	C6+ Heating Value (BTU)	C9+ Heating Value (BTU)	Heating Value Difference (BTU)	Percent Difference (%)
29-Oct-18	0.1550	1105.18	1104.43	0.75	0.07%
23-Nov-18	0.0110	1136.62	1136.49	0.13	0.01%
23-Nov-18	0.0110	1136.62	1136.49	0.13	0.01%
23-Nov-18	0.0090	1136.42	1136.31	0.12	0.01%
23-Nov-18	0.0090	1136.35	1136.23	0.12	0.01%
8-Nov-18	0.1750	1085.79	1085.87	-0.08	-0.01%
23-Nov-18	0.0090	1136.29	1136.17	0.12	0.01%
23-Nov-18	0.0090	1136.25	1136.14	0.12	0.01%
13-Jun-18	0.5530	1278.20	1277.88	0.32	0.02%
13-Dec-18	0.1940	1212.64	1212.56	0.08	0.01%
30-Nov-18	0.0060	1002.01	1001.98	0.03	0.00%
30-May-18	0.1760	1165.13	1165.18	-0.05	0.00%
11-Dec-18	0.2710	1078.11	1078.32	-0.21	-0.02%
11-Dec-18	0.0770	1250.34	1250.53	-0.19	-0.01%
8-Nov-18	0.1780	1085.29	1085.16	0.14	0.01%
21-Nov-18	0.3670	1108.33	1108.47	-0.14	-0.01%
21-Nov-18	0.3670	1108.06	1108.20	-0.14	-0.01%
22-Jan-19	0.1500	1102.16	1102.43	-0.27	-0.02%
6-Nov-18	0.2050	1090.15	1090.17	-0.02	0.00%
13-Jan-19	0.0610	1283.43	1283.59	-0.16	-0.01%
13-Jan-19	0.0610	1283.15	1283.31	-0.16	-0.01%
11-Dec-18	0.0090	1160.53	1160.47	0.06	0.00%
11-Dec-18	0.0090	1160.53	1160.47	0.06	0.00%
11-Dec-18	0.0090	1160.53	1160.47	0.06	0.00%
11-Dec-18	0.0090	1160.53	1160.47	0.06	0.00%
11-Dec-18	0.0090	1160.53	1160.47	0.06	0.00%
19-Dec-18	0.1960	1101.50	1101.70	-0.20	-0.02%
11-Dec-18	0.0080	1160.19	1160.16	0.04	0.00%
11-Dec-18	0.0080	1160.18	1160.15	0.04	0.00%
11-Dec-18	0.0080	1159.92	1159.89	0.04	0.00%
11-Dec-18	0.0080	1159.90	1159.87	0.04	0.00%
11-Dec-18	0.0080	1159.27	1159.23	0.04	0.00%
11-Dec-18	0.0080	1159.21	1159.17	0.04	0.00%
11-Dec-18	0.2320	1128.26	1128.70	-0.44	-0.04%
9-Oct-18	0.1290	1089.64	1089.73	-0.09	-0.01%
10-Dec-18	0.2060	1127.98	1128.41	-0.43	-0.04%
22-Jan-19	0.1740	1108.79	1109.15	-0.36	-0.03%
10-Jul-18	0.2560	1058.33	1057.49	0.84	0.08%
29-Jan-19	0.3040	1116.59	1117.07	-0.48	-0.04%
14-Jan-19	0.2080	1136.56	1136.80	-0.24	-0.02%
11-Jan-19	0.0460	954.24	953.75	0.49	0.05%
11-Dec-18	0.2430	1115.71	1115.91	-0.21	-0.02%
28-Nov-18	0.2390	1103.63	1103.81	-0.18	-0.02%
17-Jan-19	0.1510	1074.30	1074.27	0.03	0.00%
29-Jan-19	0.3040	1114.62	1115.10	-0.48	-0.04%
5-Dec-18	0.0250	953.73	953.51	0.22	0.02%
19-Dec-18	0.1260	1054.77	1054.61	0.16	0.02%
29-Nov-18	0.2470	1079.18	1079.38	-0.19	-0.02%
11-Dec-18	0.2820	1140.64	1141.13	-0.49	-0.04%
14-Jan-19	0.1100	1092.88	1092.99	-0.11	-0.01%
7-Jan-19	0.2130	1124.03	1124.37	-0.34	-0.03%

10-Dec-18	0.2980	1135.41	1135.76	-0.35	-0.03%
29-Jan-19	0.1370	1076.78	1076.64	0.14	0.01%
10-Jan-19	0.2070	1105.56	1105.79	-0.23	-0.02%
1-Feb-19	0.1710	1083.56	1083.87	-0.31	-0.03%
11-Dec-18	0.2810	1139.24	1139.73	-0.49	-0.04%
10-Jan-19	0.2620	1097.85	1098.19	-0.34	-0.03%
26-Nov-18	0.1280	1213.88	1214.09	-0.21	-0.02%
19-Dec-18	0.2200	1093.75	1093.82	-0.08	-0.01%
25-Sep-18	0.2290	1105.20	1105.50	-0.30	-0.03%
30-Oct-18	0.2550	1120.98	1121.05	-0.08	-0.01%
17-Jan-19	0.3280	1112.16	1112.66	-0.50	-0.04%
17-Jan-19	0.3270	1111.74	1112.25	-0.50	-0.05%
24-Jan-19	0.2700	1215.89	1216.21	-0.33	-0.03%
8-Nov-18	0.4010	1115.35	1115.34	0.00	0.00%
29-Nov-18	0.2320	1106.53	1106.40	0.13	0.01%
19-Dec-18	0.1130	1057.32	1057.11	0.22	0.02%
19-Dec-18	0.2490	1113.64	1113.74	-0.09	-0.01%
13-Dec-18	0.2000	1104.75	1105.08	-0.33	-0.03%
11-Dec-18	0.3140	1205.87	1206.61	-0.74	-0.06%
30-Oct-18	0.2220	1105.30	1105.46	-0.16	-0.01%
26-Dec-18	0.2080	1100.87	1100.98	-0.11	-0.01%
25-Sep-18	0.2760	1117.77	1118.10	-0.33	-0.03%
8-Oct-18	0.4860	1083.41	1078.93	4.48	0.41%
4-Dec-18	0.2170	1111.67	1111.88	-0.22	-0.02%
7-Jan-19	0.1750	1101.52	1101.67	-0.15	-0.01%
28-Sep-18	0.2370	1088.33	1088.25	0.08	0.01%
15-Jul-18	0.2660	1311.81	1311.35	0.47	0.04%
27-Dec-18	0.0800	1012.65	1012.72	-0.07	-0.01%
29-Jan-19	0.0990	1070.67	1070.68	-0.02	0.00%
10-Dec-18	0.2650	1109.21	1109.46	-0.25	-0.02%
12-Jul-18	0.1770	1110.10	1110.07	0.03	0.00%
15-Jul-18	0.2660	1311.36	1310.90	0.47	0.04%
8-Jan-19	0.2000	1077.67	1077.67	-0.01	0.00%
12-Jun-18	0.1920	1110.89	1110.87	0.02	0.00%
3-Dec-18	0.2900	1195.72	1195.83	-0.11	-0.01%
13-Dec-18	0.1650	1109.77	1110.10	-0.33	-0.03%
31-Oct-18	0.1570	1104.80	1104.13	0.67	0.06%
4-Dec-18	0.2300	1110.81	1111.06	-0.25	-0.02%
28-Nov-18	0.2380	1111.00	1111.16	-0.16	-0.01%
4-Feb-19	0.2790	1083.30	1083.25	0.05	0.00%
18-Oct-18	0.2230	1225.91	1226.15	-0.24	-0.02%
11-Jul-18	0.9110	1167.59	1165.82	1.77	0.15%
29-Nov-18	0.1830	1104.27	1104.42	-0.15	-0.01%
5-Feb-19	0.1850	1195.16	1195.23	-0.06	-0.01%
17-Oct-18	0.4420	1108.69	1106.87	1.81	0.16%
13-Dec-18	0.2680	1108.00	1107.83	0.17	0.02%
13-Dec-18	0.2680	1108.00	1107.83	0.17	0.02%
15-Jan-19	0.1320	1085.73	1085.81	-0.08	-0.01%
28-Jan-19	0.2050	1105.40	1105.27	0.13	0.01%
28-Nov-18	0.2280	1124.45	1124.59	-0.14	-0.01%
7-Jan-19	0.2860	1213.27	1213.46	-0.19	-0.02%
7-Feb-18	0.2360	1232.19	1232.38	-0.19	-0.02%
25-Oct-18	0.2280	1117.93	1118.12	-0.19	-0.02%
13-Nov-18	0.2480	1099.63	1099.84	-0.21	-0.02%
31-Jan-19	0.2130	1092.85	1092.51	0.34	0.03%
27-Nov-18	0.3000	1113.48	1113.94	-0.46	-0.04%
25-Sep-18	0.2490	1106.86	1106.93	-0.07	-0.01%

5-Jan-19	0.1900	1206.96	1207.02	-0.05	0.00%
30-Oct-18	0.2160	1125.26	1125.34	-0.08	-0.01%
11-Sep-18	0.2370	1107.84	1107.95	-0.11	-0.01%
21-Nov-18	0.1340	1059.22	1058.99	0.23	0.02%
30-Jan-19	0.1090	1105.81	1105.80	0.01	0.00%
26-Jun-18	0.3190	1182.58	1182.62	-0.04	0.00%
10-Jun-18	0.3040	1298.09	1296.94	1.14	0.09%
28-Dec-18	0.2350	1135.86	1136.39	-0.54	-0.05%
21-Feb-18	0.2800	1257.13	1256.80	0.33	0.03%
5-Jan-19	0.2850	1196.29	1196.40	-0.11	-0.01%
19-Jun-18	0.2210	1114.70	1114.81	-0.10	-0.01%
4-Dec-18	0.1750	1020.92	1020.68	0.25	0.02%
13-Apr-18	0.3060	1203.52	1203.89	-0.37	-0.03%
30-Nov-18	0.0200	975.56	975.53	0.03	0.00%
7-Mar-18	0.2300	1161.06	1161.11	-0.05	0.00%
2-Oct-18	0.2510	1107.54	1107.60	-0.06	-0.01%
23-Jan-19	0.3000	1250.56	1251.25	-0.69	-0.06%
14-Jan-19	0.2330	1157.64	1158.01	-0.37	-0.03%
28-Jun-18	0.2580	1108.47	1108.52	-0.05	0.00%
28-Jun-18	0.2830	1111.67	1111.70	-0.03	0.00%
11-Oct-18	0.1710	1096.24	1096.20	0.04	0.00%
26-Apr-18	0.0190	948.36	948.26	0.09	0.01%
29-Nov-18	0.1640	1091.39	1091.43	-0.05	0.00%
5-Oct-18	0.2100	1208.97	1208.90	0.07	0.01%
4-Dec-18	0.0880	996.73	996.53	0.20	0.02%
8-Oct-18	0.2060	1098.18	1098.12	0.05	0.00%
13-Jul-18	0.5900	1219.28	1219.60	-0.32	-0.03%
8-Nov-18	0.0200	946.96	946.91	0.05	0.01%
26-Nov-18	0.4470	1117.02	1115.93	1.09	0.10%
26-Nov-18	0.4470	1117.02	1115.93	1.09	0.10%
29-Jan-19	0.2600	1111.55	1111.72	-0.17	-0.02%
30-Oct-18	0.2780	1115.00	1115.20	-0.20	-0.02%
3-Jan-19	0.2220	1132.77	1132.98	-0.20	-0.02%
27-Nov-18	0.3130	1104.30	1104.21	0.09	0.01%
24-Jan-19	0.1700	1234.89	1235.17	-0.28	-0.02%
11-Dec-18	0.1860	1089.87	1089.95	-0.08	-0.01%
4-Dec-18	0.1590	1112.86	1113.09	-0.23	-0.02%
18-Dec-18	0.2420	1115.35	1115.66	-0.31	-0.03%
31-Jan-19	0.1350	1080.78	1080.71	0.06	0.01%
28-Jan-19	0.2040	1091.47	1091.37	0.09	0.01%
15-Jan-19	0.1920	1085.64	1085.70	-0.06	-0.01%
28-Feb-18	0.3520	1185.68	1185.42	0.27	0.02%
2-Oct-18	0.1850	1110.36	1110.62	-0.26	-0.02%
28-Nov-18	0.1760	1087.32	1087.36	-0.05	0.00%
21-Nov-18	0.1770	1069.58	1069.31	0.27	0.03%
8-Oct-18	0.2860	1097.26	1097.52	-0.26	-0.02%
30-Nov-18	0.0130	1005.20	1005.11	0.09	0.01%
11-Oct-18	0.1940	1108.44	1108.39	0.05	0.00%
19-Dec-18	0.2660	1111.79	1111.84	-0.05	0.00%
13-Dec-18	0.2630	1115.41	1115.62	-0.21	-0.02%
17-Dec-18	0.1990	1106.66	1106.90	-0.24	-0.02%
8-Oct-18	0.2860	1096.90	1097.16	-0.26	-0.02%
3-Oct-18	0.2630	1108.11	1107.79	0.32	0.03%
10-Jul-18	0.2930	1233.00	1233.11	-0.11	-0.01%
18-Dec-18	0.2400	1108.34	1108.51	-0.17	-0.02%
8-Oct-18	0.2860	1096.82	1097.08	-0.26	-0.02%
12-Jun-18	0.2610	1144.68	1144.90	-0.22	-0.02%

10-Dec-18	0.2360	1123.15	1123.41	-0.27	-0.02%
30-Nov-18	0.0820	1002.47	1002.19	0.28	0.03%
27-Nov-18	0.3020	1109.69	1109.61	0.08	0.01%
13-Apr-18	0.3340	1225.58	1226.02	-0.44	-0.04%
28-Nov-18	0.2100	1081.16	1081.19	-0.02	0.00%
25-Sep-18	0.1710	1103.26	1103.19	0.07	0.01%
9-Oct-18	0.2200	1106.59	1106.05	0.54	0.05%
22-Jun-18	0.2310	1102.09	1102.05	0.04	0.00%
2-Oct-18	0.5370	1207.22	1205.84	1.38	0.11%
12-Nov-18	0.2850	1189.28	1189.53	-0.25	-0.02%
27-Sep-18	0.2460	1101.00	1101.11	-0.11	-0.01%
22-Jun-18	0.2740	1116.49	1116.62	-0.14	-0.01%
31-Jan-19	0.1910	1089.00	1089.14	-0.14	-0.01%
18-Jun-18	0.1340	1101.25	1101.24	0.02	0.00%
18-Dec-18	0.1670	1227.01	1227.40	-0.38	-0.03%
22-Jun-18	0.2890	1126.66	1126.93	-0.27	-0.02%
22-Jun-18	0.2570	1114.54	1114.52	0.02	0.00%
23-Jan-19	0.2300	1133.89	1134.17	-0.27	-0.02%
2-Jan-19	0.1420	1068.17	1067.98	0.19	0.02%
26-Jul-18	0.2740	1113.20	1113.23	-0.03	0.00%
10-Oct-18	0.1300	1053.35	1053.19	0.17	0.02%
27-Nov-18	0.2570	1180.96	1181.27	-0.31	-0.03%
4-Dec-18	0.4550	1121.27	1120.93	0.34	0.03%
10-Sep-18	0.3190	1216.89	1217.24	-0.35	-0.03%
3-Jan-19	0.2400	1142.76	1143.02	-0.27	-0.02%
3-Dec-18	0.1100	1089.62	1089.74	-0.11	-0.01%
27-Dec-18	0.1710	1323.01	1323.47	-0.46	-0.03%
27-Dec-18	0.1710	1323.01	1323.47	-0.46	-0.03%
29-Nov-18	0.2320	1089.70	1089.72	-0.02	0.00%
24-Jan-19	0.3110	1111.64	1112.01	-0.37	-0.03%
13-Dec-18	0.2350	1118.06	1118.12	-0.06	-0.01%
17-Dec-18	0.3390	1105.39	1105.01	0.38	0.03%
5-Sep-18	0.2070	1107.73	1107.89	-0.16	-0.01%
28-Nov-18	0.2400	1085.08	1085.01	0.07	0.01%
27-Dec-18	0.1710	1322.24	1322.70	-0.46	-0.03%
23-Jan-19	0.2760	1102.32	1102.29	0.03	0.00%
27-Dec-18	0.1710	1322.04	1322.50	-0.46	-0.03%
3-Jan-19	0.1690	1074.06	1073.97	0.09	0.01%
25-Oct-18	0.3150	1181.76	1182.22	-0.46	-0.04%
13-Nov-18	0.0860	1047.90	1047.76	0.14	0.01%
31-Jan-19	0.2370	1073.86	1073.88	-0.02	0.00%
9-Aug-18	0.3020	1175.83	1175.52	0.30	0.03%
26-Nov-18	0.2640	1221.60	1222.11	-0.51	-0.04%
13-Nov-18	0.2290	1110.59	1110.64	-0.05	0.00%
21-Nov-18	0.1820	1074.12	1073.83	0.30	0.03%
11-Sep-18	0.2730	1126.66	1126.90	-0.25	-0.02%
28-Jan-19	0.1990	1101.10	1100.99	0.12	0.01%
13-Sep-18	0.2620	1113.20	1113.54	-0.33	-0.03%
5-Feb-19	0.2690	1090.91	1091.09	-0.19	-0.02%
5-Feb-19	0.2690	1090.91	1091.09	-0.19	-0.02%
13-Dec-18	0.4710	1107.45	1107.90	-0.45	-0.04%
2-Oct-18	0.2820	1103.02	1103.15	-0.13	-0.01%
19-Dec-18	0.1230	1069.38	1069.10	0.28	0.03%
13-Sep-18	0.2600	1114.42	1114.50	-0.08	-0.01%
17-Sep-18	0.3140	1137.00	1137.45	-0.46	-0.04%
4-Dec-18	0.4420	1224.12	1224.98	-0.86	-0.07%
14-Jan-19	0.4840	1296.55	1296.35	0.20	0.02%

25-May-18	0.2300	1119.98	1120.10	-0.12	-0.01%
19-Jun-18	0.1960	1095.89	1095.76	0.14	0.01%
11-Oct-18	0.3160	1103.07	1102.94	0.13	0.01%
17-Dec-18	0.2540	1098.31	1098.38	-0.07	-0.01%
23-Jul-18	0.3300	1138.06	1138.16	-0.10	-0.01%
6-Dec-18	0.2530	1096.25	1096.16	0.09	0.01%
28-Jun-18	0.2050	1104.12	1103.88	0.25	0.02%
10-Nov-18	0.2420	1103.57	1103.61	-0.04	0.00%
16-Aug-18	0.2810	1112.51	1112.50	0.00	0.00%
4-Dec-18	0.2760	1090.62	1090.65	-0.03	0.00%
30-Jul-18	0.4710	1159.03	1159.22	-0.19	-0.02%
9-Jan-19	0.2470	1159.06	1159.45	-0.39	-0.03%
30-Aug-18	0.2650	1115.23	1115.28	-0.06	-0.01%
15-Jan-19	0.2430	1101.44	1101.49	-0.06	-0.01%
25-Sep-18	0.2450	1108.78	1108.92	-0.13	-0.01%
9-Aug-18	0.3460	1235.05	1235.11	-0.06	0.00%
30-Jul-18	0.4710	1158.59	1158.79	-0.19	-0.02%
20-Apr-18	0.3140	1093.12	1093.10	0.02	0.00%
30-Jul-18	0.4710	1158.50	1158.69	-0.19	-0.02%
26-Feb-18	0.3050	1256.70	1256.43	0.27	0.02%
5-Oct-18	0.3210	1218.77	1218.87	-0.10	-0.01%
6-Dec-18	0.1990	1087.09	1087.06	0.03	0.00%
18-Dec-18	0.2020	1244.78	1245.04	-0.26	-0.02%
28-Jun-18	0.2630	1098.72	1098.73	-0.01	0.00%
29-Mar-18	0.3660	1283.95	1284.10	-0.15	-0.01%
29-Oct-18	0.1560	1054.85	1054.34	0.51	0.05%
15-Jan-19	0.1710	1078.40	1078.19	0.21	0.02%
14-Nov-18	0.3640	1116.15	1116.32	-0.17	-0.01%
12-Nov-18	0.2440	1096.86	1096.82	0.05	0.00%
8-Dec-18	0.2120	1077.08	1077.09	-0.02	0.00%
11-Jan-19	0.2420	1126.48	1126.79	-0.30	-0.03%
18-May-18	0.2360	1091.46	1091.32	0.14	0.01%
31-Jan-19	0.2950	1089.64	1089.85	-0.21	-0.02%
13-Sep-18	0.2640	1116.37	1116.56	-0.19	-0.02%
10-Dec-18	0.2960	1148.41	1148.70	-0.30	-0.03%
11-Dec-18	0.2040	1239.97	1239.96	0.01	0.00%
2-Jan-19	0.3000	1102.12	1102.05	0.08	0.01%
24-Oct-18	0.2180	1102.62	1102.31	0.31	0.03%
30-Aug-18	0.2240	1109.99	1110.05	-0.07	-0.01%
30-Jul-18	0.1810	1058.31	1057.79	0.53	0.05%
21-Aug-18	0.0880	1008.50	1008.13	0.37	0.04%
17-Jul-18	0.3200	1222.01	1222.39	-0.37	-0.03%
11-Jun-18	0.3690	1114.92	1114.56	0.36	0.03%
4-Dec-18	0.2740	1086.96	1087.01	-0.05	0.00%
4-Dec-18	0.2740	1086.96	1087.01	-0.05	0.00%
4-Dec-18	0.2740	1086.96	1087.01	-0.05	0.00%
4-Dec-18	0.2740	1086.96	1087.01	-0.05	0.00%
4-Dec-18	0.2740	1086.96	1087.01	-0.05	0.00%
4-Dec-18	0.2740	1086.96	1087.01	-0.05	0.00%
4-Dec-18	0.2740	1086.96	1087.01	-0.05	0.00%
17-Jul-18	0.3190	1221.79	1222.17	-0.38	-0.03%
28-Nov-18	0.1720	1085.27	1085.24	0.04	0.00%
12-Nov-18	0.2180	1096.33	1096.34	-0.01	0.00%
19-Dec-18	0.3210	1252.44	1253.10	-0.66	-0.05%
20-Apr-18	0.1830	1061.43	1061.30	0.13	0.01%
23-Oct-18	0.2690	1106.90	1106.22	0.69	0.06%
27-Nov-18	0.2320	1078.47	1078.33	0.14	0.01%

2-Jan-19	0.2790	1100.47	1100.37	0.10	0.01%
21-Nov-18	0.2750	1085.74	1085.65	0.09	0.01%
15-Nov-18	0.2570	1153.31	1153.30	0.01	0.00%
17-May-18	0.2620	1110.57	1109.90	0.67	0.06%
17-May-18	0.1630	1067.50	1066.80	0.71	0.07%
17-Sep-18	0.2740	1121.00	1121.21	-0.21	-0.02%
31-Oct-18	0.2120	1110.84	1110.13	0.71	0.06%
20-Apr-18	0.1750	1064.93	1064.82	0.11	0.01%
8-Jan-19	0.3570	1141.23	1141.38	-0.15	-0.01%
10-Nov-18	0.2540	1105.48	1105.63	-0.15	-0.01%
10-Oct-18	0.1620	1056.08	1055.98	0.10	0.01%
17-Jan-19	0.2160	1102.06	1102.11	-0.05	0.00%
28-Jun-18	0.1420	1107.12	1106.85	0.27	0.02%
3-Jan-19	0.2920	1113.16	1113.43	-0.27	-0.02%
12-Nov-18	0.2860	1101.91	1102.00	-0.09	-0.01%
30-Jul-18	0.2640	1141.42	1141.19	0.23	0.02%
5-Jan-19	0.1840	1219.65	1219.70	-0.05	0.00%
27-Nov-18	0.2610	1092.49	1092.46	0.03	0.00%
29-Nov-18	0.3050	1078.32	1078.55	-0.24	-0.02%
13-Nov-18	0.2910	1103.65	1103.84	-0.19	-0.02%
16-May-18	0.3960	1283.28	1283.35	-0.07	-0.01%
14-Nov-18	0.1950	1082.75	1082.26	0.49	0.05%
26-Dec-18	0.0250	1028.69	1028.62	0.06	0.01%
24-Oct-18	0.1260	1061.76	1061.45	0.30	0.03%
24-Jan-19	0.2350	1073.43	1073.18	0.25	0.02%
26-Dec-18	0.1790	1091.85	1091.90	-0.05	0.00%
29-Jan-19	0.4280	1203.71	1204.41	-0.71	-0.06%
25-Jun-18	0.2180	1102.22	1101.93	0.29	0.03%
14-Jan-19	0.1700	1099.31	1099.44	-0.13	-0.01%
27-Nov-18	0.2710	1094.60	1094.67	-0.06	-0.01%
28-Jun-18	0.2730	1128.75	1128.95	-0.19	-0.02%
7-Dec-18	0.5040	1202.98	1203.98	-1.00	-0.08%
15-Aug-18	0.2690	1117.49	1117.29	0.21	0.02%
14-Nov-18	0.2850	1090.21	1090.28	-0.06	-0.01%
15-Jan-19	0.3420	1132.74	1132.82	-0.08	-0.01%
28-Nov-18	0.2470	1084.08	1083.94	0.14	0.01%
18-Dec-18	0.0700	1000.32	999.95	0.36	0.04%
30-Nov-18	0.0120	969.68	969.65	0.03	0.00%
11-Jul-18	0.2880	1149.25	1149.57	-0.32	-0.03%
22-Jan-19	0.2280	1075.60	1075.33	0.27	0.03%
8-Jan-19	0.3070	1128.56	1128.93	-0.37	-0.03%
12-Jun-18	0.2770	1121.94	1121.92	0.02	0.00%
7-Jan-19	0.5880	1197.85	1198.64	-0.80	-0.07%
11-Dec-18	0.3790	1129.88	1130.34	-0.46	-0.04%
10-Oct-18	0.1730	1049.33	1049.06	0.27	0.03%
9-Sep-18	0.3800	1245.02	1245.21	-0.19	-0.02%
28-Nov-18	0.2480	1083.06	1082.95	0.11	0.01%
15-Aug-18	0.2470	1090.05	1089.88	0.16	0.01%
19-Jul-18	0.3200	1084.87	1084.70	0.17	0.02%
16-Aug-18	0.1770	1086.25	1086.17	0.07	0.01%
22-Aug-18	0.1780	1096.06	1095.79	0.27	0.02%
16-Jan-19	0.2010	1087.39	1087.12	0.28	0.03%
10-Jul-18	0.5480	1162.00	1161.92	0.08	0.01%
28-Jan-19	0.1630	1084.08	1083.99	0.09	0.01%
5-Dec-18	0.3290	1116.23	1116.11	0.13	0.01%
5-Jun-18	0.2090	1087.13	1086.37	0.75	0.07%
12-Jun-18	0.2340	1102.18	1102.14	0.04	0.00%

25-Oct-18	0.1500	1005.57	1004.72	0.85	0.08%
16-Oct-18	0.1760	1070.23	1070.11	0.12	0.01%
15-Aug-18	0.2680	1115.30	1115.09	0.21	0.02%
15-Aug-18	0.2680	1115.30	1115.09	0.21	0.02%
10-Jul-18	0.5480	1161.29	1161.21	0.08	0.01%
28-Sep-18	0.2160	1085.51	1085.05	0.46	0.04%
22-Jan-19	0.2330	1074.42	1074.12	0.30	0.03%
20-Sep-18	0.4430	1278.03	1278.86	-0.83	-0.06%
14-Aug-18	0.2730	1272.51	1272.72	-0.22	-0.02%
31-Jan-19	0.2840	1098.63	1098.71	-0.08	-0.01%
23-Oct-18	0.4120	1223.37	1223.87	-0.49	-0.04%
11-Aug-18	0.3360	1218.63	1218.52	0.11	0.01%
24-Jan-19	0.2670	1106.09	1106.12	-0.03	0.00%
27-Jun-18	0.3380	1227.20	1227.46	-0.26	-0.02%
18-Sep-18	0.2280	1105.82	1105.60	0.21	0.02%
17-Jan-19	0.1730	1095.75	1095.61	0.14	0.01%
2-Jul-18	0.4130	1322.38	1323.49	-1.12	-0.08%
2-Jul-18	0.4130	1322.38	1323.49	-1.12	-0.08%
11-Aug-18	0.3350	1218.37	1218.25	0.11	0.01%
8-Feb-19	0.2810	1091.54	1091.56	-0.03	0.00%
19-Dec-18	0.2780	1289.16	1289.83	-0.68	-0.05%
27-Jun-18	0.3380	1227.03	1227.28	-0.26	-0.02%
10-Nov-18	0.3200	1111.22	1111.33	-0.11	-0.01%
28-Nov-18	0.1970	1099.34	1099.46	-0.12	-0.01%
6-Dec-18	0.3130	1125.13	1125.35	-0.22	-0.02%
16-Oct-18	0.1900	1063.13	1062.89	0.24	0.02%
17-May-18	0.1810	1069.38	1068.63	0.75	0.07%
22-Aug-18	0.2490	1169.95	1170.39	-0.44	-0.04%
28-Jun-18	0.2480	1115.99	1115.66	0.33	0.03%
12-Dec-18	0.2180	1099.56	1099.48	0.08	0.01%
15-Jan-19	0.2490	1122.15	1122.15	0.00	0.00%
31-Jan-19	0.2280	1084.38	1084.45	-0.08	-0.01%
13-Dec-18	0.2430	1094.22	1094.14	0.07	0.01%
5-Sep-18	0.1060	1105.28	1105.04	0.24	0.02%
17-Dec-18	0.2950	1309.94	1310.07	-0.13	-0.01%
11-Sep-18	0.2700	1114.08	1114.33	-0.25	-0.02%
10-Sep-18	0.2090	1112.47	1112.49	-0.01	0.00%
28-Jan-19	0.2810	1105.35	1105.28	0.06	0.01%
9-Jan-19	0.2640	1138.83	1139.08	-0.25	-0.02%
24-Oct-18	0.1380	1060.43	1060.16	0.27	0.03%
2-Jul-18	0.4100	1320.73	1321.86	-1.14	-0.09%
13-Sep-18	0.2650	1154.77	1154.94	-0.16	-0.01%
11-Oct-18	0.2570	1081.21	1080.84	0.37	0.03%
19-Jun-18	0.2290	1109.99	1110.04	-0.05	0.00%
10-Oct-18	0.1940	1060.25	1059.93	0.31	0.03%
14-Jan-19	0.1730	1264.26	1264.32	-0.06	-0.01%
16-Oct-18	0.3690	1128.62	1128.87	-0.25	-0.02%
10-Nov-18	0.2530	1107.72	1107.69	0.03	0.00%
17-Oct-18	0.4630	1288.08	1288.99	-0.91	-0.07%
25-Apr-18	0.5640	1236.36	1237.13	-0.78	-0.06%
30-Oct-18	0.3930	1210.62	1210.80	-0.18	-0.01%
28-Jan-19	0.1940	1184.87	1184.98	-0.11	-0.01%
29-Oct-18	0.1700	1077.70	1077.36	0.33	0.03%
12-Nov-18	0.3060	1098.32	1098.33	-0.01	0.00%
7-Jan-19	0.1550	1063.59	1063.50	0.09	0.01%
2-Jul-18	0.4100	1320.02	1321.16	-1.14	-0.09%
17-May-18	0.2040	1080.86	1079.88	0.98	0.09%

17-Jan-19	0.1990	1074.05	1073.97	0.08	0.01%
10-Oct-18	0.2060	1064.41	1064.19	0.22	0.02%
17-Jan-19	0.2030	1072.99	1072.79	0.20	0.02%
20-Apr-18	0.2000	1065.20	1064.92	0.27	0.03%
2-Jan-19	0.2570	1096.50	1096.33	0.16	0.01%
19-Oct-18	0.2420	1107.16	1107.26	-0.10	-0.01%
25-Oct-18	0.4760	1204.87	1205.43	-0.56	-0.05%
21-Aug-18	0.0410	1000.23	999.89	0.34	0.03%
7-Dec-18	0.2640	1085.31	1085.21	0.10	0.01%
10-Jul-18	0.5460	1157.54	1157.45	0.09	0.01%
7-Feb-19	0.1530	1078.33	1078.29	0.04	0.00%
31-Jan-19	0.1790	1067.94	1067.79	0.15	0.01%
11-Jun-18	0.1560	1080.52	1080.39	0.13	0.01%
20-Nov-18	0.2450	1078.61	1078.03	0.59	0.05%
17-Jan-19	0.2150	1094.02	1093.94	0.09	0.01%
13-Nov-18	0.1830	1076.06	1075.55	0.52	0.05%
14-Dec-18	0.3260	1131.84	1131.66	0.17	0.02%
27-Dec-18	0.0340	997.79	997.78	0.02	0.00%
12-Nov-18	0.2950	1099.49	1099.44	0.05	0.00%
13-Dec-18	0.3720	1124.16	1124.36	-0.20	-0.02%
18-Jun-18	0.3970	1239.83	1240.15	-0.32	-0.03%
8-Dec-18	0.1920	1067.89	1067.82	0.08	0.01%
22-Jan-19	0.2690	1241.34	1241.62	-0.28	-0.02%
26-Jul-18	0.2610	1118.48	1118.59	-0.12	-0.01%
9-Jan-19	0.2050	1100.49	1100.38	0.11	0.01%
12-Nov-18	0.3020	1093.57	1093.44	0.14	0.01%
5-Feb-19	0.2530	1071.39	1071.16	0.22	0.02%
17-Dec-18	0.2440	1108.46	1108.67	-0.21	-0.02%
29-Jan-19	0.2810	1159.43	1159.68	-0.25	-0.02%
15-Jan-19	0.3510	1087.76	1087.64	0.13	0.01%
11-Jun-18	0.3270	1123.97	1124.07	-0.10	-0.01%
17-Oct-18	0.3370	1337.72	1338.36	-0.65	-0.05%
31-Jan-19	0.2340	1106.75	1106.50	0.25	0.02%
9-Jan-19	0.3770	1136.57	1137.20	-0.63	-0.06%
14-Jan-19	0.2780	1258.72	1258.53	0.19	0.02%
14-Jan-19	0.2780	1258.72	1258.53	0.19	0.02%
8-Dec-18	0.2740	1085.43	1085.38	0.05	0.00%
27-Nov-18	0.4360	1127.79	1127.37	0.42	0.04%
11-Dec-18	0.0720	1032.95	1032.81	0.14	0.01%
7-Dec-18	0.2600	1090.38	1090.31	0.08	0.01%
27-Nov-18	0.2060	1087.68	1087.53	0.15	0.01%
16-Oct-18	0.2030	1055.75	1055.37	0.38	0.04%
30-Aug-18	0.2560	1108.83	1108.89	-0.06	-0.01%
30-Oct-18	0.4000	1308.46	1308.81	-0.36	-0.03%
20-Apr-18	0.1860	1055.28	1055.00	0.28	0.03%
6-Dec-18	0.4380	1215.25	1215.74	-0.49	-0.04%
8-Dec-18	0.2820	1088.77	1088.73	0.05	0.00%
26-Jun-18	0.5020	1187.05	1188.26	-1.21	-0.10%
25-Sep-18	0.4330	1323.08	1323.54	-0.46	-0.03%
3-Jan-19	0.2270	1132.91	1133.10	-0.19	-0.02%
9-Jan-19	0.3760	1162.71	1163.03	-0.32	-0.03%
25-Jun-18	0.2030	1098.93	1098.49	0.44	0.04%
8-Feb-19	0.2840	1096.40	1096.33	0.07	0.01%
28-Nov-18	0.1950	1052.37	1051.94	0.43	0.04%
29-Nov-18	0.2110	1080.45	1080.19	0.26	0.02%
15-Jan-19	0.4500	1144.43	1144.17	0.26	0.02%
6-Nov-18	0.2510	1136.09	1136.36	-0.27	-0.02%

17-Dec-18	0.1650	1062.20	1062.08	0.12	0.01%
17-Dec-18	0.1870	1069.11	1068.92	0.19	0.02%
23-Jul-18	0.2440	1108.92	1108.71	0.20	0.02%
13-Dec-18	0.2590	1118.42	1118.55	-0.13	-0.01%
2-Jan-19	0.2220	1086.52	1086.33	0.18	0.02%
27-Dec-18	0.2780	1197.71	1198.15	-0.44	-0.04%
16-Oct-18	0.1790	1060.85	1060.56	0.29	0.03%
6-Dec-18	0.3320	1097.67	1097.59	0.08	0.01%
29-Nov-18	0.2040	1076.15	1075.63	0.52	0.05%
2-Jan-19	0.2320	1091.07	1090.85	0.22	0.02%
3-Dec-18	0.5510	1281.15	1281.59	-0.44	-0.03%
10-Dec-18	0.2440	1117.87	1117.85	0.02	0.00%
12-Nov-18	0.2640	1093.45	1093.56	-0.11	-0.01%
29-Nov-18	0.1420	1054.23	1054.08	0.15	0.01%
23-Oct-18	0.2490	1106.05	1106.13	-0.09	-0.01%
15-Jan-19	0.2380	1092.47	1092.54	-0.07	-0.01%
26-Apr-18	0.1850	1040.33	1039.70	0.63	0.06%
10-Dec-18	0.2760	1260.13	1260.00	0.13	0.01%
10-Dec-18	0.2760	1260.13	1260.00	0.13	0.01%
4-Oct-18	0.3990	1120.94	1120.99	-0.05	0.00%
8-Jan-19	0.1920	1062.63	1062.33	0.30	0.03%
29-Aug-18	0.5190	1215.57	1216.41	-0.84	-0.07%
26-Apr-18	0.1790	982.54	981.74	0.81	0.08%
21-Nov-18	0.2430	1083.28	1083.17	0.10	0.01%
21-Jun-18	0.2600	1109.04	1109.15	-0.11	-0.01%
21-Nov-18	0.4040	1071.89	1071.82	0.07	0.01%
11-Dec-18	0.3350	1083.14	1082.93	0.21	0.02%
15-Feb-18	0.2500	1286.90	1286.89	0.01	0.00%
15-Feb-18	0.2500	1286.90	1286.89	0.01	0.00%
7-Nov-18	0.5710	1292.27	1293.44	-1.18	-0.09%
28-Nov-18	0.2560	1120.03	1120.22	-0.18	-0.02%
30-Jan-19	0.2740	1139.60	1139.24	0.36	0.03%
16-Oct-18	0.2910	1094.74	1094.72	0.02	0.00%
27-Nov-18	0.1900	1075.87	1075.58	0.29	0.03%
11-Jan-19	0.1770	1081.36	1081.24	0.12	0.01%
9-Oct-18	0.1430	1042.78	1042.41	0.37	0.04%
12-Oct-18	0.2690	1114.68	1114.98	-0.30	-0.03%
7-Nov-18	0.1810	1247.93	1248.06	-0.13	-0.01%
7-Nov-18	0.1810	1247.93	1248.06	-0.13	-0.01%
5-Dec-18	0.2250	1075.45	1075.43	0.02	0.00%
30-Aug-18	0.2400	1112.52	1112.53	-0.02	0.00%
30-Jan-19	0.3480	1158.35	1158.70	-0.34	-0.03%
6-Dec-18	0.2330	1108.35	1108.28	0.07	0.01%
30-Jan-19	0.3000	1119.50	1119.84	-0.34	-0.03%
26-Nov-18	0.1840	1090.82	1090.77	0.05	0.00%
5-Dec-18	0.4340	1139.52	1139.69	-0.17	-0.01%
15-May-18	0.1650	1035.89	1035.33	0.56	0.05%
8-Feb-19	0.2870	1089.39	1089.41	-0.02	0.00%
1-Feb-19	0.2110	1084.72	1084.52	0.20	0.02%
18-Dec-18	0.6200	1249.84	1250.82	-0.97	-0.08%
20-Nov-18	0.2650	1088.23	1088.37	-0.14	-0.01%
14-Jan-19	0.1390	1255.64	1255.85	-0.21	-0.02%
16-Oct-18	0.2960	1085.16	1084.75	0.42	0.04%
21-Nov-18	0.2940	1119.13	1119.48	-0.35	-0.03%
24-Jan-19	0.2680	1137.35	1137.12	0.22	0.02%
11-Jul-18	0.1410	1002.49	1001.97	0.53	0.05%
3-Jan-19	0.1660	1062.98	1062.69	0.29	0.03%

12-Jan-19	0.2070	1295.11	1295.58	-0.48	-0.04%
12-Jan-19	0.2070	1295.11	1295.58	-0.48	-0.04%
12-Jan-19	0.2070	1295.11	1295.58	-0.48	-0.04%
12-Jan-19	0.2070	1295.11	1295.58	-0.48	-0.04%
1-Feb-19	0.4540	1229.27	1230.06	-0.79	-0.06%
7-Nov-18	0.1280	1236.16	1236.17	-0.01	0.00%
3-Jan-19	0.1890	1066.42	1066.24	0.19	0.02%
30-Jan-19	0.2450	1082.83	1082.63	0.21	0.02%
16-Oct-18	0.2030	1060.24	1059.99	0.25	0.02%
30-Nov-18	0.2340	1065.47	1065.02	0.45	0.04%
14-Nov-18	0.4760	1122.22	1122.37	-0.14	-0.01%
9-Jan-19	0.2570	1101.36	1101.45	-0.09	-0.01%
10-May-18	0.1450	1035.78	1035.26	0.52	0.05%
9-Apr-18	0.4440	1250.42	1250.31	0.11	0.01%
10-Jan-19	0.0890	1046.54	1046.41	0.12	0.01%
23-Oct-18	0.1630	1063.18	1062.94	0.25	0.02%
15-Jan-19	0.2960	1122.96	1123.30	-0.33	-0.03%
27-Nov-18	0.3280	1076.60	1076.32	0.28	0.03%
5-Feb-19	0.3070	1089.08	1088.91	0.17	0.02%
30-Jan-19	0.1990	1059.41	1059.29	0.12	0.01%
10-Jan-19	0.2010	1106.26	1106.46	-0.20	-0.02%
3-Jan-19	0.1540	1064.15	1063.87	0.27	0.03%
30-Oct-18	0.2970	1224.86	1225.04	-0.18	-0.01%
31-Jan-19	0.1850	1069.58	1069.57	0.01	0.00%
17-Oct-18	0.3660	1207.41	1207.94	-0.53	-0.04%
5-Dec-18	0.4340	1137.23	1137.40	-0.17	-0.01%
5-Dec-18	0.4340	1137.23	1137.40	-0.17	-0.01%
5-Dec-18	0.4340	1137.23	1137.40	-0.17	-0.01%
5-Dec-18	0.4340	1137.23	1137.40	-0.17	-0.01%
5-Dec-18	0.4340	1137.23	1137.40	-0.17	-0.01%
5-Dec-18	0.4340	1137.23	1137.40	-0.17	-0.01%
5-Dec-18	0.4340	1137.23	1137.40	-0.17	-0.01%
24-Sep-18	0.2240	1113.29	1113.49	-0.20	-0.02%
10-Jan-19	0.2010	1105.73	1105.93	-0.20	-0.02%
17-Jan-19	0.2210	1081.75	1081.74	0.01	0.00%
12-Jan-19	0.2060	1293.65	1294.12	-0.47	-0.04%
30-Jan-19	0.2950	1168.48	1168.54	-0.06	0.00%
2-Jan-19	0.0370	1032.91	1032.73	0.18	0.02%
30-Jan-19	0.2190	1081.97	1081.95	0.03	0.00%
30-Jan-19	0.2320	1082.21	1082.18	0.02	0.00%
11-Oct-18	0.1790	1074.78	1074.55	0.22	0.02%
15-Jan-19	0.3220	1131.75	1131.82	-0.08	-0.01%
10-Jan-19	0.2010	1105.39	1105.59	-0.20	-0.02%
30-Jan-19	0.1780	1061.09	1061.02	0.08	0.01%
13-Dec-18	0.2700	1091.69	1091.94	-0.25	-0.02%
7-Nov-18	0.1280	1234.38	1234.38	-0.01	0.00%
7-Nov-18	0.1280	1234.38	1234.38	-0.01	0.00%
7-Nov-18	0.1280	1234.41	1234.42	-0.01	0.00%
27-Nov-18	0.2540	1110.53	1110.52	0.01	0.00%
23-Oct-18	0.3950	1264.90	1265.61	-0.71	-0.06%
17-May-18	0.2540	1103.76	1102.78	0.98	0.09%
10-Jan-19	0.2010	1105.12	1105.32	-0.20	-0.02%
19-Apr-18	0.1600	1053.90	1053.61	0.30	0.03%
29-Nov-18	0.1740	1070.06	1069.83	0.23	0.02%
10-Jan-19	0.2010	1104.91	1105.11	-0.20	-0.02%
12-Oct-18	0.3450	1103.23	1103.37	-0.14	-0.01%
10-Jan-19	0.2010	1104.85	1105.05	-0.20	-0.02%

3-Dec-18	0.7200	1358.18	1359.26	-1.08	-0.08%
23-Jan-19	0.2080	1116.24	1116.18	0.06	0.01%
19-Nov-18	0.2140	1054.75	1053.98	0.77	0.07%
26-Oct-18	0.1930	1057.53	1057.29	0.25	0.02%
28-Jun-18	0.1710	1069.74	1069.00	0.75	0.07%
30-Aug-18	0.2880	1129.96	1130.16	-0.20	-0.02%
18-Jun-18	0.5590	1220.98	1221.23	-0.25	-0.02%
7-Jan-19	0.3450	1134.56	1134.56	0.00	0.00%
16-Oct-18	0.4580	1126.95	1126.85	0.10	0.01%
26-Jul-18	0.2830	1076.47	1076.26	0.21	0.02%
24-Oct-18	0.2940	1106.87	1107.11	-0.23	-0.02%
11-Oct-18	0.3220	1088.27	1088.13	0.14	0.01%
9-Oct-18	0.2840	1100.13	1100.13	0.00	0.00%
27-Nov-18	0.2940	1103.39	1103.48	-0.09	-0.01%
13-Jun-18	0.1810	1124.66	1124.80	-0.14	-0.01%
6-Dec-18	0.2240	1136.39	1136.58	-0.19	-0.02%
4-Dec-18	0.1790	1067.62	1067.38	0.24	0.02%
17-Jan-19	0.2210	1077.84	1077.66	0.19	0.02%
6-Dec-18	0.2610	1093.69	1093.70	-0.01	0.00%
24-Oct-18	0.2300	1093.32	1093.31	0.01	0.00%
25-Sep-18	0.0800	1101.47	1101.54	-0.07	-0.01%
30-Nov-18	0.2220	1080.73	1080.58	0.15	0.01%
15-Jan-19	0.3990	1142.52	1142.29	0.24	0.02%
21-Feb-18	0.5520	1276.42	1275.70	0.72	0.06%
27-Jun-18	0.4620	1253.64	1253.61	0.04	0.00%
26-Nov-18	0.3130	1089.55	1089.23	0.32	0.03%
18-Dec-18	0.7740	1243.18	1244.57	-1.39	-0.11%
17-Jan-19	0.2450	1080.94	1080.69	0.25	0.02%
27-Jun-18	0.4620	1253.55	1253.51	0.04	0.00%
20-Nov-18	0.0420	1036.17	1036.01	0.16	0.02%
7-Jan-19	0.3540	1140.35	1140.72	-0.36	-0.03%
11-Jan-19	0.3340	1226.53	1227.02	-0.49	-0.04%
12-Jan-19	0.2060	1291.28	1291.76	-0.47	-0.04%
27-Nov-18	0.2420	1158.48	1158.42	0.06	0.01%
20-Nov-18	0.2390	1079.44	1078.88	0.56	0.05%
19-Dec-18	0.1470	1081.87	1081.74	0.12	0.01%
15-Jan-19	0.2900	1096.77	1097.07	-0.30	-0.03%
27-Nov-18	0.2230	1087.66	1087.35	0.31	0.03%
27-Oct-18	0.3100	1121.00	1121.18	-0.18	-0.02%
28-Nov-18	0.2730	1086.93	1086.74	0.19	0.02%
12-Dec-18	0.4290	1112.42	1112.49	-0.07	-0.01%
24-Jan-19	0.2310	1208.39	1208.77	-0.38	-0.03%
7-Dec-18	0.4450	1239.58	1240.22	-0.64	-0.05%
28-Jan-19	0.1990	1075.94	1075.79	0.15	0.01%
22-Jan-19	0.2170	1075.23	1075.02	0.21	0.02%
8-Dec-18	0.3100	1093.43	1093.22	0.20	0.02%
19-Apr-18	0.1990	1189.79	1189.33	0.46	0.04%
27-Nov-18	0.2760	1099.48	1099.45	0.03	0.00%
3-Dec-18	0.7190	1355.63	1356.71	-1.08	-0.08%
1-Feb-19	0.2780	1088.03	1087.86	0.17	0.02%
28-Nov-18	0.2880	1086.43	1086.23	0.20	0.02%
7-Dec-18	0.5340	1210.96	1211.14	-0.18	-0.02%
8-Jan-19	0.2010	1064.62	1064.27	0.34	0.03%
16-Nov-18	0.3380	1110.95	1110.72	0.24	0.02%
11-Sep-18	0.2700	1118.14	1118.28	-0.14	-0.01%
8-Dec-18	0.2730	1089.84	1089.73	0.12	0.01%
30-Jan-19	0.5920	1151.46	1151.53	-0.08	-0.01%

8-Jan-19	0.1920	1065.17	1064.82	0.35	0.03%
20-Nov-18	0.2760	1128.03	1127.52	0.51	0.05%
17-Jul-18	0.0010	950.99	950.97	0.02	0.00%
28-Nov-18	0.3580	1125.65	1126.05	-0.39	-0.04%
20-Sep-18	0.2440	1019.92	1019.42	0.50	0.05%
17-Dec-18	0.1630	1069.06	1068.97	0.09	0.01%
16-Oct-18	0.2040	1069.81	1069.57	0.23	0.02%
5-Feb-19	0.3150	1111.45	1111.60	-0.15	-0.01%
17-May-18	0.4880	1187.02	1186.53	0.49	0.04%
20-Nov-18	0.2710	1056.89	1056.46	0.43	0.04%
18-Dec-18	0.2590	1113.96	1114.09	-0.13	-0.01%
8-Jan-19	0.2050	1061.48	1061.14	0.34	0.03%
6-Dec-18	0.3870	1092.38	1092.80	-0.43	-0.04%
27-Nov-18	0.2510	1079.37	1079.16	0.21	0.02%
18-Jan-19	0.6160	1373.75	1374.81	-1.06	-0.08%
10-Jan-19	0.3060	1145.66	1145.95	-0.29	-0.03%
10-Jan-19	0.1740	1066.39	1066.06	0.33	0.03%
11-Oct-18	0.1900	1080.54	1080.54	0.00	0.00%
29-Oct-18	0.2040	1065.23	1064.80	0.43	0.04%
15-Aug-18	0.8960	1176.53	1176.22	0.31	0.03%
8-Nov-18	0.2040	1089.76	1089.44	0.32	0.03%
6-Dec-18	0.2740	1099.89	1099.81	0.08	0.01%
27-Nov-18	0.3750	1104.88	1104.82	0.06	0.01%
1-Dec-18	0.3000	1092.10	1091.90	0.20	0.02%
7-Nov-18	0.2930	1200.78	1201.34	-0.56	-0.05%
30-Jan-19	0.2970	1136.94	1137.34	-0.40	-0.04%
3-Jan-19	0.2150	1082.21	1081.82	0.39	0.04%
23-Aug-18	0.4030	1237.62	1238.01	-0.39	-0.03%
5-Feb-19	0.2730	1091.01	1090.79	0.22	0.02%
29-Jan-19	0.3230	1124.53	1124.66	-0.13	-0.01%
1-Feb-19	1.0790	1411.24	1412.36	-1.12	-0.08%
11-Jul-18	0.0910	1046.47	1046.07	0.40	0.04%
7-Dec-18	0.2730	1087.87	1087.67	0.20	0.02%
17-Jan-19	0.1540	1056.55	1056.39	0.17	0.02%
25-Oct-18	0.1680	1027.08	1026.52	0.56	0.05%
9-Jan-19	0.2160	1076.19	1075.99	0.20	0.02%
26-Nov-18	0.1540	1033.05	1032.36	0.68	0.07%
8-Jan-19	0.2150	1072.42	1072.05	0.37	0.03%
16-Oct-18	0.2810	1114.14	1114.35	-0.22	-0.02%
27-Oct-18	0.3360	1113.88	1113.99	-0.11	-0.01%
24-Jul-18	0.3150	1121.24	1121.28	-0.04	0.00%
29-Jan-19	0.3230	1128.88	1129.07	-0.19	-0.02%
11-Oct-18	0.5600	1183.65	1184.34	-0.69	-0.06%
24-Jan-19	0.3790	1197.16	1197.86	-0.70	-0.06%
5-Dec-18	0.1910	1071.69	1071.55	0.14	0.01%
12-Jun-18	0.3660	1125.11	1125.14	-0.04	0.00%
13-Dec-18	0.2800	1091.45	1091.40	0.05	0.00%
11-Oct-18	0.1690	1071.28	1071.03	0.25	0.02%
12-Oct-18	0.5460	1233.94	1234.67	-0.73	-0.06%
28-Nov-18	0.3110	1115.14	1115.12	0.02	0.00%
17-Dec-18	0.1830	1063.49	1063.32	0.17	0.02%
18-Dec-18	0.3040	1224.27	1224.57	-0.30	-0.02%
21-Nov-18	0.2040	1085.01	1085.03	-0.02	0.00%
24-Nov-18	0.3210	1120.44	1120.00	0.44	0.04%
18-Dec-18	0.4160	1098.09	1098.24	-0.15	-0.01%
28-Oct-18	0.3180	1135.99	1136.06	-0.08	-0.01%
5-Dec-18	0.2540	1083.95	1083.54	0.41	0.04%

18-Jan-19	0.6160	1372.38	1373.44	-1.06	-0.08%
11-Jul-18	0.0070	1004.68	1004.64	0.03	0.00%
7-Dec-18	0.8470	1378.98	1381.17	-2.19	-0.16%
27-Nov-18	0.4010	1058.26	1057.77	0.49	0.05%
15-Jan-19	0.3570	1150.37	1150.41	-0.04	0.00%
26-Nov-18	0.2310	1082.97	1082.65	0.32	0.03%
27-Apr-18	0.3560	1178.11	1178.50	-0.39	-0.03%
19-Apr-18	0.3380	1282.61	1282.48	0.14	0.01%
19-Apr-18	0.3380	1282.61	1282.48	0.14	0.01%
15-Jan-19	0.2630	1100.68	1100.66	0.03	0.00%
28-Jan-19	0.2460	1093.29	1093.12	0.17	0.02%
8-Nov-18	0.1990	1080.61	1080.24	0.37	0.03%
24-Oct-18	0.3050	1096.76	1096.66	0.09	0.01%
12-Dec-18	0.2860	1128.17	1128.08	0.09	0.01%
9-Nov-18	0.3770	1099.65	1099.53	0.13	0.01%
23-Jan-19	0.2550	1113.96	1113.89	0.07	0.01%
16-Oct-18	0.3390	1108.32	1108.33	-0.01	0.00%
27-Oct-18	0.3810	1115.03	1115.05	-0.03	0.00%
26-Oct-18	0.2300	1069.68	1069.60	0.08	0.01%
7-Dec-18	0.4870	1174.48	1175.07	-0.59	-0.05%
10-Sep-18	0.2250	1115.79	1115.86	-0.06	-0.01%
5-Feb-19	0.2910	1092.27	1092.13	0.14	0.01%
14-Dec-18	0.4620	1172.01	1172.47	-0.46	-0.04%
31-Aug-18	0.1300	1013.14	1012.70	0.44	0.04%
12-Dec-18	0.2980	1091.74	1091.64	0.10	0.01%
20-Apr-18	0.2400	1073.82	1073.54	0.29	0.03%
20-Mar-18	0.8170	1195.52	1194.16	1.37	0.11%
5-Feb-19	0.1930	1068.20	1068.05	0.16	0.01%
16-Jan-19	0.4890	1220.78	1221.70	-0.92	-0.08%
11-Oct-18	0.3780	1147.67	1147.97	-0.30	-0.03%
9-Oct-18	0.2070	1065.52	1065.14	0.38	0.04%
12-Dec-18	0.3150	1102.92	1102.84	0.08	0.01%
23-Jan-19	0.1220	1079.25	1079.13	0.12	0.01%
13-Dec-18	0.2190	1082.21	1081.98	0.22	0.02%
1-Oct-18	0.2900	1310.46	1310.64	-0.18	-0.01%
16-Oct-18	0.2610	1119.57	1119.80	-0.22	-0.02%
15-Jan-19	0.4150	1128.14	1128.14	0.00	0.00%
19-Sep-18	0.5150	1183.95	1183.80	0.15	0.01%
10-Oct-18	0.1510	1048.92	1048.68	0.25	0.02%
8-Oct-18	0.2830	1125.60	1125.76	-0.16	-0.01%
10-Oct-18	0.1870	1072.81	1072.58	0.23	0.02%
29-Nov-18	0.1290	1046.85	1046.62	0.23	0.02%
9-Jun-18	0.0730	1238.60	1238.56	0.04	0.00%
29-Jan-19	0.3220	1120.34	1120.46	-0.13	-0.01%
1-Feb-19	0.3870	1240.66	1240.94	-0.28	-0.02%
10-Jan-19	0.2270	1084.26	1084.15	0.11	0.01%
8-Jan-19	0.2730	1105.59	1105.51	0.08	0.01%
24-Jul-18	0.2500	1134.75	1134.86	-0.11	-0.01%
17-Dec-18	0.2820	1266.99	1266.80	0.19	0.02%
17-Apr-18	0.1770	1068.41	1068.14	0.27	0.03%
27-Oct-18	0.3690	1116.97	1117.14	-0.17	-0.02%
1-Feb-19	1.0750	1407.65	1408.76	-1.11	-0.08%
31-Aug-18	0.0930	987.31	986.74	0.57	0.06%
8-Nov-18	0.2330	1083.77	1083.46	0.31	0.03%
21-Sep-18	0.2430	1096.34	1096.10	0.24	0.02%
27-Nov-18	0.5640	1122.31	1122.26	0.05	0.00%
11-Oct-18	0.1860	1095.91	1095.70	0.21	0.02%

5-Feb-19	0.1420	1054.81	1054.66	0.16	0.02%
26-Nov-18	0.3430	1119.30	1119.23	0.07	0.01%
6-Dec-18	0.2220	1082.61	1082.39	0.22	0.02%
17-Oct-18	0.4360	1296.63	1297.52	-0.89	-0.07%
28-Nov-18	0.3780	1097.32	1097.26	0.06	0.01%
10-Jan-19	0.3350	1139.25	1139.49	-0.24	-0.02%
13-Oct-18	0.3480	1140.27	1140.52	-0.25	-0.02%
26-Feb-18	0.4900	1284.61	1284.50	0.11	0.01%
16-Oct-18	0.2410	1069.13	1068.74	0.39	0.04%
7-Dec-18	1.3970	1459.42	1462.57	-3.15	-0.22%
27-Nov-18	0.1180	1051.46	1051.20	0.26	0.02%
27-Nov-18	0.3260	1130.26	1130.36	-0.11	-0.01%
28-Jun-18	0.1280	1093.97	1093.68	0.30	0.03%
13-Jan-19	0.2190	1358.57	1359.34	-0.77	-0.06%
13-Jan-19	0.2190	1358.57	1359.34	-0.77	-0.06%
13-Jan-19	0.2190	1358.57	1359.34	-0.77	-0.06%
25-Oct-18	0.2830	1042.29	1041.78	0.50	0.05%
19-Oct-18	0.3970	1125.65	1125.68	-0.03	0.00%
30-Nov-18	0.1100	1008.81	1008.48	0.33	0.03%
12-Nov-18	0.3230	1089.75	1090.26	-0.51	-0.05%
26-Oct-18	0.2240	1065.46	1065.34	0.13	0.01%
15-May-18	0.1700	1084.92	1084.76	0.16	0.01%
5-Dec-18	0.1160	1053.89	1053.75	0.14	0.01%
24-Oct-18	0.2910	1105.04	1104.95	0.09	0.01%
3-Jan-19	0.1910	1075.79	1075.49	0.30	0.03%
27-Mar-18	0.3220	1270.31	1270.44	-0.12	-0.01%
17-Apr-18	0.1980	1067.51	1067.05	0.46	0.04%
30-Jan-19	0.3380	1148.52	1148.57	-0.05	0.00%
12-Dec-18	0.2960	1113.96	1114.01	-0.05	0.00%
12-Dec-18	0.3340	1292.52	1292.12	0.40	0.03%
12-Dec-18	0.3340	1292.52	1292.12	0.40	0.03%
23-Oct-18	0.3630	1224.33	1224.76	-0.43	-0.04%
12-Oct-18	0.1660	1060.95	1060.68	0.27	0.03%
10-Jan-19	0.2220	1095.15	1095.00	0.15	0.01%
9-Jan-19	0.2740	1138.48	1138.44	0.05	0.00%
19-Oct-18	0.3720	1120.82	1121.02	-0.20	-0.02%
12-Dec-18	0.3150	1092.32	1092.12	0.20	0.02%
18-Dec-18	0.6280	1284.01	1284.85	-0.85	-0.07%
9-Oct-18	0.4950	1123.79	1123.92	-0.13	-0.01%
17-Jan-19	0.2960	1099.95	1099.85	0.11	0.01%
8-Jan-19	0.3720	1126.19	1126.01	0.18	0.02%
8-Nov-18	0.5420	1213.33	1213.62	-0.29	-0.02%
28-Jan-19	0.2610	1081.70	1081.49	0.21	0.02%
11-Oct-18	0.2720	1108.34	1108.45	-0.11	-0.01%
8-Jan-19	0.2820	1120.95	1120.80	0.16	0.01%
29-Jan-19	0.2700	1109.16	1109.33	-0.17	-0.02%
18-Jan-19	0.4370	1323.81	1324.24	-0.42	-0.03%
13-Jan-19	0.2180	1357.44	1358.20	-0.76	-0.06%
25-Jan-19	0.3590	1283.39	1284.25	-0.86	-0.07%
15-Jan-19	0.2310	1093.84	1093.51	0.33	0.03%
11-Oct-18	0.4210	1123.91	1124.34	-0.43	-0.04%
13-Jan-19	0.2180	1357.25	1358.02	-0.76	-0.06%
8-Feb-19	0.2970	1092.37	1092.33	0.04	0.00%
8-Jan-19	0.2240	1068.50	1067.98	0.52	0.05%
13-Dec-18	0.3620	1119.79	1119.92	-0.13	-0.01%
19-Sep-18	0.5300	1245.56	1246.00	-0.43	-0.03%
17-Apr-18	0.2590	1071.82	1071.35	0.47	0.04%

23-Oct-18	0.4390	1199.31	1199.78	-0.47	-0.04%
3-Jan-19	0.1910	1057.33	1056.96	0.37	0.04%
14-Jun-18	0.4780	1093.77	1093.05	0.72	0.07%
30-Aug-18	0.0860	992.81	992.47	0.34	0.03%
30-Oct-18	0.2260	1061.58	1061.15	0.42	0.04%
15-May-18	0.2410	1043.01	1042.34	0.67	0.06%
14-Dec-18	0.3300	1115.63	1115.80	-0.17	-0.02%
23-Oct-18	0.2330	1067.87	1067.55	0.31	0.03%
17-May-18	0.2310	1073.98	1073.21	0.78	0.07%
9-Jun-18	0.6050	1394.85	1394.74	0.11	0.01%
26-Jul-18	0.2700	1123.41	1123.60	-0.19	-0.02%
24-Oct-18	0.3220	1106.06	1106.04	0.02	0.00%
24-Oct-18	0.3050	1100.22	1100.20	0.03	0.00%
12-Jun-18	0.5490	1121.16	1120.36	0.80	0.07%
6-Dec-18	0.3320	1093.83	1093.22	0.61	0.06%
19-Apr-18	0.1820	1057.03	1056.76	0.27	0.03%
8-Feb-19	0.3100	1090.40	1090.40	0.00	0.00%
8-Dec-18	0.2400	1075.38	1075.22	0.16	0.01%
8-Dec-18	0.2610	1079.35	1079.23	0.12	0.01%
19-Nov-18	0.1770	1050.61	1050.30	0.31	0.03%
26-Oct-18	0.2540	1079.17	1078.94	0.23	0.02%
13-Dec-18	0.3400	1295.72	1296.05	-0.33	-0.03%
18-Dec-18	0.2330	1101.81	1101.81	0.00	0.00%
15-Jan-19	0.3300	1111.23	1111.43	-0.20	-0.02%
20-Nov-18	0.2520	1056.34	1055.31	1.03	0.10%
13-Jun-18	0.5480	1120.66	1119.86	0.80	0.07%
28-Jan-19	0.1980	1079.39	1079.26	0.13	0.01%
31-Aug-18	0.1220	1013.93	1013.55	0.38	0.04%
21-Nov-18	0.1920	1084.49	1084.42	0.07	0.01%
23-Oct-18	0.2210	1067.01	1066.74	0.28	0.03%
17-Jul-18	0.2840	1094.77	1094.51	0.26	0.02%
16-May-18	0.5100	1306.79	1306.61	0.18	0.01%
4-Jun-18	0.3530	1113.12	1111.76	1.36	0.12%
7-Dec-18	0.2930	1114.05	1114.11	-0.06	-0.01%
1-Dec-18	0.2740	1094.49	1094.37	0.12	0.01%
27-Oct-18	0.3500	1107.00	1106.97	0.03	0.00%
9-Nov-18	0.3770	1107.40	1107.35	0.05	0.00%
12-Dec-18	0.3120	1113.35	1113.37	-0.02	0.00%
28-Nov-18	0.3210	1103.74	1103.66	0.08	0.01%
29-Nov-18	0.2460	1093.41	1093.31	0.10	0.01%
6-Sep-18	0.2150	1068.21	1067.85	0.37	0.03%
8-Jan-19	0.3990	1135.97	1136.07	-0.10	-0.01%
12-Oct-18	0.5830	1190.87	1191.43	-0.56	-0.05%
11-Oct-18	0.7410	1202.88	1203.21	-0.32	-0.03%
4-Dec-18	0.3850	1108.06	1107.99	0.07	0.01%
26-Jun-18	0.3460	1101.94	1101.31	0.64	0.06%
18-Jun-18	0.3480	1121.27	1120.03	1.24	0.11%
25-Jan-19	0.3730	1110.76	1110.77	-0.01	0.00%
10-Oct-18	0.2380	1075.78	1075.49	0.29	0.03%
18-May-18	0.4300	1160.60	1159.74	0.86	0.07%
29-Nov-18	0.3080	1097.39	1097.33	0.06	0.01%
5-Feb-19	0.2680	1079.17	1079.03	0.14	0.01%
18-Jan-19	1.0780	1442.87	1445.84	-2.97	-0.21%
21-Sep-18	0.3710	1116.10	1116.26	-0.16	-0.01%
16-Oct-18	0.3530	1113.04	1112.99	0.06	0.01%
7-Dec-18	0.2170	1102.88	1102.92	-0.03	0.00%
30-Nov-18	0.2440	1084.59	1084.32	0.27	0.03%

20-Sep-18	0.0920	1000.00	999.42	0.58	0.06%
15-Nov-18	0.3010	1099.68	1099.81	-0.13	-0.01%
30-Nov-18	0.2540	1273.15	1273.10	0.05	0.00%
21-Sep-18	0.3710	1115.94	1116.09	-0.16	-0.01%
30-Nov-18	0.2960	1100.07	1099.69	0.39	0.04%
7-Dec-18	0.8620	1470.50	1472.77	-2.28	-0.15%
18-Oct-18	0.5420	1267.27	1267.94	-0.68	-0.05%
23-Jul-18	0.2220	1095.04	1094.69	0.36	0.03%
15-Jan-19	0.2360	1086.10	1085.87	0.23	0.02%
4-Feb-19	0.2690	1072.32	1071.71	0.61	0.06%
20-Nov-18	0.3620	1089.28	1089.00	0.27	0.03%
28-Nov-18	0.6510	1286.57	1286.62	-0.05	0.00%
4-Oct-18	0.7230	1282.29	1283.27	-0.97	-0.08%
27-Nov-18	0.2840	1088.44	1088.35	0.09	0.01%
25-Apr-18	0.3640	1083.80	1083.35	0.45	0.04%
19-Apr-18	0.3270	1266.66	1266.78	-0.12	-0.01%
6-Dec-18	0.3280	1099.77	1099.46	0.30	0.03%
5-Feb-19	0.1740	1067.96	1067.86	0.10	0.01%
13-Nov-18	0.1860	1074.06	1073.57	0.49	0.05%
13-Dec-18	0.6380	1188.56	1188.71	-0.15	-0.01%
25-Oct-18	0.2620	1097.48	1097.34	0.14	0.01%
3-Jan-19	0.2080	1071.45	1071.17	0.28	0.03%
9-Jan-19	0.3350	1126.00	1126.14	-0.13	-0.01%
17-May-18	0.1280	1049.59	1048.94	0.65	0.06%
14-Nov-18	0.3410	1104.74	1104.74	0.00	0.00%
11-Oct-18	0.2780	1160.53	1160.88	-0.35	-0.03%
29-Nov-18	0.1770	1070.43	1070.11	0.32	0.03%
17-Jan-19	0.3510	1126.08	1125.93	0.15	0.01%
27-Nov-18	0.3010	1092.58	1092.32	0.26	0.02%
29-Nov-18	0.3330	1098.91	1098.92	-0.01	0.00%
17-Jan-19	0.2840	1084.78	1084.36	0.42	0.04%
18-Jan-19	0.4360	1320.08	1320.50	-0.42	-0.03%
24-Jan-19	0.3190	1294.90	1295.22	-0.32	-0.02%
26-Jul-18	0.2550	1116.76	1116.84	-0.08	-0.01%
15-Jan-19	0.4290	1158.43	1158.52	-0.09	-0.01%
27-Nov-18	0.3530	1126.62	1126.73	-0.11	-0.01%
18-Jan-19	0.8820	1444.76	1446.44	-1.69	-0.12%
12-Dec-18	0.2610	1090.41	1090.37	0.03	0.00%
9-Jan-19	0.6940	1141.46	1142.20	-0.74	-0.06%
6-Dec-18	0.3370	1142.97	1143.18	-0.21	-0.02%
17-Sep-18	0.2100	1106.40	1106.43	-0.03	0.00%
15-Aug-18	0.3060	1090.95	1090.40	0.55	0.05%
19-Oct-18	0.3280	1137.95	1138.15	-0.20	-0.02%
19-Dec-18	0.8590	1275.23	1276.74	-1.51	-0.12%
27-Nov-18	0.1420	1031.56	1031.08	0.48	0.05%
14-Nov-18	0.3300	1100.80	1100.58	0.22	0.02%
11-Apr-18	0.4420	1332.09	1332.11	-0.02	0.00%
13-Dec-18	0.2260	1096.79	1096.59	0.20	0.02%
24-Apr-18	0.1160	1052.87	1052.65	0.22	0.02%
10-Jan-19	0.2170	1079.35	1079.04	0.31	0.03%
8-Oct-18	0.5700	1223.39	1223.67	-0.27	-0.02%
11-Oct-18	0.3140	1123.79	1123.89	-0.11	-0.01%
4-Dec-18	0.3840	1105.23	1105.15	0.08	0.01%
4-Dec-18	0.3840	1105.23	1105.15	0.08	0.01%
4-Dec-18	0.3840	1105.23	1105.15	0.08	0.01%
4-Dec-18	0.3840	1105.23	1105.15	0.08	0.01%
4-Dec-18	0.3840	1105.23	1105.15	0.08	0.01%

4-Dec-18	0.3840	1105.23	1105.15	0.08	0.01%
4-Dec-18	0.3840	1105.23	1105.15	0.08	0.01%
4-Dec-18	0.3840	1105.23	1105.15	0.08	0.01%
4-Dec-18	0.3840	1105.23	1105.15	0.08	0.01%
8-Oct-18	0.3400	1107.38	1107.33	0.05	0.00%
19-Apr-18	0.4340	1310.68	1310.88	-0.20	-0.02%
14-Nov-18	0.3060	1081.60	1081.50	0.10	0.01%
18-Jan-19	1.0760	1441.06	1444.03	-2.97	-0.21%
24-Jul-18	0.3200	1117.11	1117.29	-0.18	-0.02%
14-Aug-18	0.1180	1052.77	1052.21	0.56	0.05%
21-Nov-18	0.2230	1076.38	1076.13	0.25	0.02%
19-Oct-18	0.4470	1133.90	1134.13	-0.22	-0.02%
17-Dec-18	0.2000	1073.49	1073.35	0.14	0.01%
28-Sep-18	0.1480	1061.59	1061.13	0.46	0.04%
23-Jan-19	0.3720	1146.59	1146.56	0.03	0.00%
30-Oct-18	0.2390	1060.93	1060.38	0.55	0.05%
8-Oct-18	0.3250	1123.88	1123.95	-0.07	-0.01%
29-Jan-19	0.3560	1271.36	1270.73	0.62	0.05%
4-Dec-18	0.1180	1222.81	1222.97	-0.16	-0.01%
13-Jul-18	0.5250	1312.90	1313.96	-1.06	-0.08%
13-Jul-18	0.5250	1312.90	1313.96	-1.06	-0.08%
18-May-18	0.2590	1105.13	1103.99	1.14	0.10%
12-Dec-18	0.2290	1116.01	1116.27	-0.26	-0.02%
28-Nov-18	0.4970	1143.08	1143.06	0.02	0.00%
30-May-18	0.4120	1176.67	1176.70	-0.03	0.00%
8-Oct-18	0.3310	1118.01	1118.22	-0.22	-0.02%
30-Jan-19	0.2980	1188.38	1188.32	0.06	0.01%
18-Oct-18	0.3400	1102.40	1101.86	0.55	0.05%
1-Dec-18	0.2620	1081.35	1081.10	0.25	0.02%
4-Feb-19	0.1970	1068.11	1067.51	0.59	0.06%
29-Oct-18	0.1850	1042.61	1041.84	0.77	0.07%
27-Nov-18	0.2100	1092.64	1092.49	0.14	0.01%
12-Jul-18	0.1830	1348.12	1348.21	-0.09	-0.01%
6-Dec-18	0.2520	1110.68	1110.80	-0.12	-0.01%
15-Jan-19	0.3330	1103.35	1103.49	-0.14	-0.01%
15-Jan-19	0.3100	1111.82	1111.88	-0.06	-0.01%
23-Oct-18	0.2320	1099.18	1099.18	-0.01	0.00%
6-Dec-18	0.2990	1099.04	1098.76	0.28	0.03%
15-Nov-18	0.2080	1065.78	1065.39	0.39	0.04%
4-Dec-18	0.1180	1221.72	1221.88	-0.16	-0.01%
2-Oct-18	0.2550	1099.54	1099.67	-0.12	-0.01%
29-Jan-19	0.3040	1177.45	1177.56	-0.11	-0.01%
18-Oct-18	0.5130	1091.35	1091.39	-0.04	0.00%
14-Dec-18	0.4210	1142.01	1142.28	-0.26	-0.02%
15-Aug-18	0.2840	1121.38	1121.54	-0.16	-0.01%
11-Dec-18	0.2530	1127.23	1127.37	-0.14	-0.01%
29-Jan-19	0.2150	1132.61	1132.60	0.01	0.00%
29-Nov-18	0.4560	1260.94	1260.37	0.57	0.05%
7-Jan-19	0.4890	1169.37	1169.62	-0.25	-0.02%
25-Oct-18	0.1810	1054.55	1054.21	0.34	0.03%
15-Jan-19	0.3130	1163.74	1164.26	-0.53	-0.05%
26-Nov-18	0.2390	1090.80	1090.65	0.15	0.01%
8-Oct-18	0.3350	1122.02	1122.16	-0.13	-0.01%
31-Jan-19	0.2080	1071.74	1071.57	0.17	0.02%
14-Nov-18	0.3210	1099.83	1099.75	0.07	0.01%
4-Jan-19	0.3590	1109.17	1109.27	-0.10	-0.01%
29-Nov-18	0.2170	1075.37	1075.18	0.19	0.02%

29-Nov-18	0.2700	1088.92	1088.87	0.05	0.00%
8-Jan-19	0.2620	1082.97	1082.38	0.58	0.05%
28-Nov-18	0.1890	1097.08	1097.03	0.05	0.00%
9-Jan-19	0.3880	1137.12	1137.37	-0.24	-0.02%
17-Dec-18	0.2950	1075.59	1075.01	0.59	0.05%
12-Oct-18	0.2170	1065.98	1065.67	0.31	0.03%
17-Sep-18	0.1980	1099.39	1099.58	-0.19	-0.02%
25-Oct-18	0.3200	1105.45	1105.26	0.19	0.02%
31-Jan-19	0.3420	1129.98	1130.30	-0.33	-0.03%
24-Jan-19	0.2910	1137.47	1137.79	-0.32	-0.03%
10-Oct-18	0.1630	1046.65	1046.24	0.41	0.04%
13-Jul-18	0.5240	1310.94	1312.00	-1.06	-0.08%
23-Jul-18	0.3140	1113.58	1113.35	0.24	0.02%
30-Nov-18	0.0270	968.46	968.23	0.24	0.02%
9-Jan-19	0.2910	1102.89	1102.83	0.06	0.01%
12-Oct-18	0.3290	1094.22	1094.18	0.03	0.00%
12-Oct-18	0.3320	1135.12	1135.35	-0.23	-0.02%
27-Nov-18	0.3650	1128.77	1128.79	-0.02	0.00%
16-Oct-18	0.2460	1068.16	1067.75	0.41	0.04%
14-Dec-18	0.6300	1135.15	1135.11	0.04	0.00%
6-Dec-18	0.3160	1097.02	1096.81	0.21	0.02%
7-Feb-19	0.4110	1119.42	1119.41	0.01	0.00%
27-Mar-18	0.5760	1285.77	1285.81	-0.05	0.00%
29-Oct-18	0.2900	1084.67	1083.65	1.02	0.09%
12-Dec-18	0.3640	1110.07	1109.81	0.26	0.02%
12-Dec-18	0.3050	1096.75	1096.54	0.21	0.02%
27-Sep-18	0.3330	1097.74	1097.64	0.10	0.01%
5-Jun-18	0.5330	1198.76	1198.41	0.35	0.03%
30-Jan-19	0.2270	1168.98	1169.00	-0.02	0.00%
6-Dec-18	1.5560	1494.50	1498.67	-4.18	-0.28%
15-Aug-18	0.2840	1119.67	1119.83	-0.16	-0.01%
15-Aug-18	0.2840	1119.67	1119.83	-0.16	-0.01%
4-Dec-18	0.4510	1093.39	1093.10	0.29	0.03%
7-Dec-18	0.2490	1106.11	1106.17	-0.06	-0.01%
5-Feb-19	0.1710	1057.90	1057.64	0.26	0.02%
8-Jan-19	0.1960	1067.61	1067.24	0.37	0.03%
18-Jun-18	0.4560	1157.36	1156.24	1.12	0.10%
3-Jan-19	0.3720	1098.78	1098.58	0.20	0.02%
11-Oct-18	0.1860	1059.86	1059.45	0.41	0.04%
11-Jan-19	0.2100	1080.93	1080.58	0.35	0.03%
29-Nov-18	0.5610	1207.97	1207.39	0.58	0.05%
23-Oct-18	0.2320	1070.25	1069.82	0.43	0.04%
11-Oct-18	0.1770	1082.21	1082.02	0.19	0.02%
19-Dec-18	0.8560	1271.29	1272.81	-1.52	-0.12%
3-Aug-18	0.0820	1043.82	1043.56	0.26	0.02%
11-Oct-18	0.2360	1075.37	1075.02	0.36	0.03%
7-Dec-18	1.1880	1513.00	1516.51	-3.51	-0.23%
14-Jun-18	0.2080	1083.83	1083.02	0.81	0.07%
18-May-18	0.2150	1266.73	1265.81	0.92	0.07%
3-Oct-18	0.5420	1128.56	1127.22	1.34	0.12%
12-Dec-18	0.2640	1071.12	1070.59	0.53	0.05%
12-Dec-18	0.3110	1093.06	1092.98	0.09	0.01%
25-Jan-19	0.3610	1055.91	1055.83	0.08	0.01%
18-Jan-19	0.8780	1440.36	1442.05	-1.69	-0.12%
30-Nov-18	0.2490	1082.68	1082.19	0.48	0.04%
11-Sep-18	0.2700	1114.32	1114.62	-0.30	-0.03%
5-Oct-18	0.1300	1070.10	1069.79	0.30	0.03%

20-Apr-18	0.2010	1071.40	1071.00	0.40	0.04%
12-Oct-18	0.4000	1133.11	1133.43	-0.32	-0.03%
7-Dec-18	1.1290	1536.84	1539.86	-3.02	-0.20%
30-Nov-18	0.3140	1285.29	1285.11	0.18	0.01%
30-Nov-18	0.3140	1285.29	1285.11	0.18	0.01%
22-Jan-19	0.2400	1108.31	1108.42	-0.11	-0.01%
18-Jun-18	0.3170	1125.62	1124.77	0.85	0.08%
9-Jan-19	0.2280	1083.28	1082.97	0.31	0.03%
31-Oct-18	0.1840	1068.09	1067.85	0.24	0.02%
20-Aug-18	0.5400	1164.27	1164.80	-0.53	-0.05%
6-Dec-18	0.2290	1112.08	1112.09	-0.01	0.00%
13-Oct-18	0.3520	1114.35	1114.57	-0.22	-0.02%
22-Jan-19	0.3020	1114.57	1114.81	-0.24	-0.02%
17-Jan-19	0.3510	1131.18	1131.24	-0.06	-0.01%
23-Aug-18	0.4750	1259.81	1260.34	-0.53	-0.04%
12-Jun-18	0.7510	1178.05	1177.10	0.95	0.08%
27-Sep-18	0.5310	1206.43	1207.37	-0.94	-0.08%
11-Oct-18	0.1640	1084.82	1084.67	0.14	0.01%
21-Mar-18	0.3170	1234.91	1235.00	-0.10	-0.01%
4-Oct-18	0.7190	1275.54	1276.51	-0.96	-0.08%
4-Oct-18	0.7190	1275.54	1276.51	-0.96	-0.08%
19-Apr-18	0.2100	1065.03	1064.68	0.35	0.03%
2-Oct-18	0.3000	1122.51	1122.41	0.10	0.01%
8-Oct-18	0.3480	1122.60	1122.79	-0.19	-0.02%
12-Dec-18	0.2450	1095.34	1095.20	0.14	0.01%
22-Jun-18	0.2250	1114.12	1113.80	0.32	0.03%
2-Aug-18	0.6670	1224.08	1225.53	-1.45	-0.12%
15-Jan-19	0.2830	1100.53	1100.55	-0.03	0.00%
5-Feb-19	0.2830	1089.24	1089.07	0.17	0.02%
7-Jan-19	0.3900	1151.33	1151.61	-0.28	-0.02%
14-Nov-18	0.3000	1115.27	1115.37	-0.11	-0.01%
14-Dec-18	0.2540	1090.00	1090.00	0.00	0.00%
16-Oct-18	0.5130	1090.12	1089.02	1.10	0.10%
14-May-18	0.4420	1143.68	1142.83	0.84	0.07%
2-Jan-19	0.1870	1084.40	1084.31	0.09	0.01%
6-Dec-18	0.7810	1492.67	1494.42	-1.75	-0.12%
1-Feb-19	0.2720	1081.92	1081.79	0.14	0.01%
15-Jan-19	0.2770	1099.05	1098.95	0.10	0.01%
25-Oct-18	0.2580	1084.05	1083.57	0.49	0.04%
21-Jan-19	0.3350	1271.88	1271.17	0.71	0.06%
16-Oct-18	0.2260	1067.59	1067.30	0.29	0.03%
2-Jul-18	0.7660	1129.13	1126.49	2.64	0.23%
29-Nov-18	0.3240	1099.67	1099.72	-0.05	0.00%
5-Feb-19	0.2950	1087.54	1087.34	0.21	0.02%
29-Jan-19	0.3050	1271.27	1270.97	0.29	0.02%
15-Jan-19	0.3630	1129.27	1129.26	0.01	0.00%
15-Jan-19	0.3300	1107.67	1107.75	-0.08	-0.01%
22-May-18	0.3170	1211.82	1212.04	-0.22	-0.02%
17-Jan-19	0.3680	1099.51	1099.29	0.22	0.02%
7-Feb-19	0.3010	1088.85	1088.52	0.32	0.03%
7-Dec-18	0.2060	1093.65	1093.59	0.05	0.00%
16-Oct-18	0.3180	1128.35	1128.45	-0.11	-0.01%
8-Oct-18	0.3050	1112.11	1112.24	-0.13	-0.01%
25-Oct-18	0.0440	992.46	992.19	0.26	0.03%
18-Apr-18	0.2740	1077.79	1077.19	0.60	0.06%
10-Oct-18	0.1950	1062.35	1062.00	0.35	0.03%
12-Nov-18	0.1940	1071.80	1071.45	0.35	0.03%

25-Oct-18	0.2670	1102.36	1102.44	-0.07	-0.01%
19-Nov-18	0.5120	1162.47	1162.62	-0.14	-0.01%
6-Feb-19	0.2110	1088.39	1088.37	0.02	0.00%
29-Nov-18	0.2750	1099.77	1099.68	0.09	0.01%
5-Dec-18	0.2730	1094.33	1094.35	-0.02	0.00%
9-Jan-19	0.4210	1152.11	1152.47	-0.36	-0.03%
10-Jan-19	0.3260	1131.67	1131.77	-0.11	-0.01%
26-Jun-18	0.4630	1167.33	1167.67	-0.34	-0.03%
4-Dec-18	0.2790	1104.77	1104.65	0.12	0.01%
3-Jan-19	0.3170	1096.74	1096.60	0.14	0.01%
27-Nov-18	0.2980	1094.78	1094.64	0.14	0.01%
12-Dec-18	0.5320	1141.79	1141.75	0.04	0.00%
7-Dec-18	0.1950	1096.66	1096.54	0.12	0.01%
11-Dec-18	0.2870	1080.02	1079.59	0.43	0.04%
12-Oct-18	0.2870	1078.46	1078.15	0.31	0.03%
17-Jan-19	0.3700	1113.52	1113.60	-0.08	-0.01%
24-Jul-18	0.3770	1118.14	1118.09	0.05	0.00%
22-Oct-18	0.3390	1250.07	1250.08	-0.01	0.00%
15-Oct-18	0.5230	1153.12	1153.34	-0.22	-0.02%
28-Nov-18	0.3740	1129.44	1129.37	0.07	0.01%
12-Dec-18	0.2270	1073.23	1073.01	0.22	0.02%
23-Jan-19	0.4590	1114.89	1115.09	-0.20	-0.02%
23-Jan-19	0.4590	1114.89	1115.09	-0.20	-0.02%
28-Aug-18	0.3680	1120.88	1120.32	0.56	0.05%
8-Oct-18	0.4030	1122.52	1122.68	-0.16	-0.01%
6-Feb-19	0.1520	1066.68	1066.54	0.14	0.01%
25-Sep-18	0.2750	1338.95	1339.55	-0.60	-0.04%
15-Jan-19	0.3150	1106.35	1106.31	0.04	0.00%
17-Jul-18	0.2690	1094.02	1093.47	0.56	0.05%
7-Dec-18	0.3020	1090.43	1090.36	0.07	0.01%
13-Dec-18	0.2580	1087.48	1086.93	0.55	0.05%
26-Dec-18	0.0160	1018.82	1018.77	0.05	0.00%
12-Dec-18	0.2520	1116.01	1115.99	0.02	0.00%
27-Aug-18	0.2670	1057.84	1057.15	0.69	0.06%
27-Nov-18	0.1240	1028.30	1027.75	0.54	0.05%
27-Nov-18	0.3550	1120.15	1120.07	0.08	0.01%
17-Dec-18	0.2220	1099.93	1099.83	0.10	0.01%
8-Jan-19	0.3090	1143.01	1143.16	-0.16	-0.01%
1-Feb-19	0.2240	1074.30	1074.23	0.07	0.01%
27-Aug-18	0.1920	1031.78	1031.03	0.75	0.07%
12-Dec-18	0.2780	1272.43	1272.31	0.11	0.01%
5-Sep-18	0.5440	1176.73	1177.70	-0.97	-0.08%
26-Oct-18	0.2310	1071.26	1071.12	0.14	0.01%
22-Oct-18	0.3030	1075.89	1075.20	0.69	0.06%
26-Jun-18	0.5040	1294.84	1294.88	-0.05	0.00%
9-Jan-19	0.2580	1095.35	1095.21	0.14	0.01%
29-Aug-18	0.3150	1091.11	1091.06	0.04	0.00%
24-Apr-18	0.1910	1062.63	1062.30	0.33	0.03%
10-Jan-19	0.3500	1289.29	1289.58	-0.29	-0.02%
13-Dec-18	0.2270	1120.22	1120.30	-0.08	-0.01%
9-Jan-19	0.2350	1091.82	1091.68	0.14	0.01%
29-Nov-18	0.3480	1102.27	1102.25	0.02	0.00%
7-Dec-18	0.2600	1097.68	1097.72	-0.04	0.00%
16-Nov-18	0.3990	1113.93	1113.61	0.31	0.03%
4-Dec-18	0.3100	1100.14	1099.72	0.42	0.04%
10-Oct-18	0.3340	1111.00	1110.97	0.04	0.00%
29-Aug-18	0.3140	1090.62	1090.58	0.05	0.00%

17-Dec-18	0.3510	1095.81	1095.43	0.38	0.03%
10-Oct-18	0.1670	1051.98	1051.64	0.34	0.03%
19-Nov-18	0.5680	1184.03	1184.65	-0.62	-0.05%
16-Oct-18	0.3430	1112.59	1112.79	-0.20	-0.02%
6-Nov-18	0.2800	1167.19	1167.68	-0.49	-0.04%
23-Oct-18	0.3930	1096.50	1096.45	0.06	0.01%
4-Dec-18	0.1540	993.08	992.90	0.18	0.02%
28-Nov-18	0.2410	1105.53	1105.31	0.22	0.02%
4-Dec-18	0.3590	1090.16	1089.69	0.47	0.04%
4-Dec-18	0.3590	1090.16	1089.69	0.47	0.04%
4-Dec-18	0.3590	1090.16	1089.69	0.47	0.04%
4-Dec-18	0.3590	1090.16	1089.69	0.47	0.04%
17-Jan-19	0.3320	1098.82	1098.80	0.02	0.00%
14-Nov-18	0.0970	1243.97	1243.95	0.02	0.00%
23-Oct-18	0.4100	1193.24	1193.60	-0.36	-0.03%
25-Oct-18	0.2530	1081.47	1081.05	0.43	0.04%
13-Sep-18	0.3170	1296.41	1296.32	0.10	0.01%
13-Sep-18	0.3170	1296.41	1296.32	0.10	0.01%
10-Dec-18	0.3450	1285.52	1285.76	-0.25	-0.02%
10-Dec-18	0.3450	1285.52	1285.76	-0.25	-0.02%
6-Nov-18	0.3490	1174.58	1175.31	-0.73	-0.06%
9-Oct-18	0.4320	1103.67	1103.18	0.49	0.04%
15-Jan-19	0.3220	1109.07	1109.08	-0.02	0.00%
12-Oct-18	0.3430	1122.86	1122.85	0.01	0.00%
13-Jul-18	0.5220	1303.31	1304.36	-1.05	-0.08%
17-Jul-18	0.3270	1122.66	1122.27	0.39	0.03%
20-Apr-18	0.9340	1263.76	1264.05	-0.28	-0.02%
11-Oct-18	0.4100	1138.50	1138.37	0.13	0.01%
12-Oct-18	0.3460	1113.25	1113.23	0.02	0.00%
2-Aug-18	0.5530	1196.14	1197.12	-0.98	-0.08%
10-Oct-18	0.3360	1116.53	1116.60	-0.07	-0.01%
24-Jul-18	0.3490	1121.09	1121.18	-0.09	-0.01%
10-Oct-18	0.6880	1159.19	1159.26	-0.07	-0.01%
12-Dec-18	0.3630	1109.49	1109.52	-0.03	0.00%
5-Feb-19	0.1540	1044.37	1044.03	0.33	0.03%
29-Nov-18	0.3200	1088.43	1087.97	0.46	0.04%
22-Jan-19	0.2440	1068.54	1068.03	0.52	0.05%
12-Oct-18	0.4440	1135.89	1135.64	0.25	0.02%
7-Aug-18	0.7410	1169.17	1170.76	-1.59	-0.14%
17-Dec-18	0.1730	1065.27	1065.11	0.16	0.02%
23-Jan-19	0.2340	1075.31	1075.01	0.30	0.03%
4-Dec-18	0.2630	1096.64	1096.48	0.16	0.01%
25-Sep-18	0.3780	1106.10	1105.71	0.39	0.04%
14-Mar-18	0.5010	1309.22	1309.27	-0.05	0.00%
17-Jan-19	0.3410	1113.94	1114.07	-0.13	-0.01%
16-Oct-18	0.1050	1049.13	1048.97	0.16	0.02%
1-Feb-19	0.3040	1105.47	1105.57	-0.11	-0.01%
25-Oct-18	0.1890	1061.27	1060.98	0.29	0.03%
14-Nov-18	1.1650	1155.22	1153.45	1.77	0.15%
25-Sep-18	0.5030	1206.23	1206.65	-0.42	-0.03%
11-Oct-18	0.3210	1126.33	1126.30	0.03	0.00%
14-Jan-19	0.1830	1060.47	1060.12	0.35	0.03%
7-Dec-18	0.2510	1120.01	1120.33	-0.32	-0.03%
21-Jun-18	0.4680	1157.33	1157.60	-0.27	-0.02%
5-Oct-18	0.5030	1137.11	1137.71	-0.60	-0.05%
4-Dec-18	0.3190	1092.36	1092.09	0.27	0.02%
4-Dec-18	0.3190	1092.36	1092.09	0.27	0.02%

4-Dec-18	0.3190	1092.36	1092.09	0.27	0.02%
4-Dec-18	0.3190	1092.36	1092.09	0.27	0.02%
4-Dec-18	0.3190	1092.36	1092.09	0.27	0.02%
4-Dec-18	0.3190	1092.36	1092.09	0.27	0.02%
4-Dec-18	0.3190	1092.36	1092.09	0.27	0.02%
4-Dec-18	0.3190	1092.36	1092.09	0.27	0.02%
6-Dec-18	0.3770	1112.76	1112.54	0.22	0.02%
9-Oct-18	0.1660	1050.90	1050.54	0.36	0.03%
4-Dec-18	0.4240	1090.45	1090.29	0.17	0.02%
4-Dec-18	0.4240	1090.45	1090.29	0.17	0.02%
4-Dec-18	0.4240	1090.45	1090.29	0.17	0.02%
4-Dec-18	0.4240	1090.45	1090.29	0.17	0.02%
4-Dec-18	0.4240	1090.45	1090.29	0.17	0.02%
4-Dec-18	0.4240	1090.45	1090.29	0.17	0.02%
4-Dec-18	0.4240	1090.45	1090.29	0.17	0.02%
4-Dec-18	0.4240	1090.45	1090.29	0.17	0.02%
14-Nov-18	0.2690	1081.00	1080.58	0.42	0.04%
11-Oct-18	0.2420	1076.31	1075.99	0.32	0.03%
29-Nov-18	0.3210	1105.51	1105.45	0.06	0.01%
16-Oct-18	0.2870	1120.40	1120.41	-0.02	0.00%
25-Sep-18	0.7340	1205.70	1206.89	-1.19	-0.10%
11-Jul-18	0.2930	1066.16	1066.01	0.15	0.01%
10-Dec-18	0.3110	1277.33	1277.11	0.22	0.02%
25-Oct-18	0.2070	1074.30	1074.07	0.23	0.02%
20-Nov-18	0.2850	1126.21	1126.16	0.04	0.00%
9-Nov-18	0.3880	1109.99	1109.81	0.18	0.02%
11-Oct-18	0.5660	1179.47	1180.08	-0.62	-0.05%
25-Oct-18	0.1730	1075.65	1074.75	0.90	0.08%
28-Oct-18	0.7840	1248.03	1249.05	-1.02	-0.08%
17-Apr-18	0.2130	1077.63	1077.49	0.14	0.01%
7-Dec-18	0.2510	1093.63	1093.60	0.03	0.00%
19-Nov-18	0.3450	1105.01	1104.71	0.31	0.03%
8-Jan-19	0.2360	1072.13	1071.77	0.36	0.03%
9-Nov-18	0.4080	1103.09	1102.54	0.55	0.05%
14-Nov-18	0.3360	1114.72	1114.61	0.11	0.01%
22-Oct-18	0.2340	1267.61	1267.68	-0.07	-0.01%
23-Jan-19	0.3250	1114.36	1114.34	0.03	0.00%
9-Jan-19	0.2390	1099.29	1098.96	0.33	0.03%
3-Jan-19	0.2200	1073.03	1072.76	0.27	0.03%
8-Feb-19	0.3070	1084.30	1084.14	0.16	0.02%
13-Dec-18	0.4130	1110.45	1110.16	0.29	0.03%
13-Dec-18	0.3890	1123.93	1123.72	0.22	0.02%
24-Sep-18	0.0760	1000.46	1000.06	0.40	0.04%
8-Oct-18	0.4390	1130.55	1130.74	-0.19	-0.02%
4-Dec-18	0.3410	1092.73	1092.34	0.40	0.04%
21-Nov-18	0.1970	1064.88	1064.52	0.37	0.03%
12-Oct-18	0.4100	1131.14	1130.65	0.49	0.04%
14-Dec-18	0.4500	1202.38	1202.82	-0.44	-0.04%
17-Apr-18	0.3230	1087.79	1087.16	0.63	0.06%
10-Oct-18	0.4380	1119.21	1119.17	0.04	0.00%
14-Dec-18	0.3380	1102.53	1102.41	0.12	0.01%
10-Oct-18	0.2830	1083.38	1083.06	0.31	0.03%
16-Oct-18	0.3160	1108.78	1108.32	0.46	0.04%
4-Oct-18	0.2350	1135.72	1135.70	0.03	0.00%
1-Feb-19	0.3030	1103.33	1103.43	-0.10	-0.01%
10-Oct-18	0.3620	1127.36	1127.48	-0.12	-0.01%
8-Nov-18	0.7120	1409.00	1410.64	-1.65	-0.12%
8-Nov-18	0.7120	1409.00	1410.64	-1.65	-0.12%

17-Jan-19	0.3420	1095.12	1094.96	0.16	0.01%
4-Jun-18	0.1850	1052.16	1050.95	1.21	0.11%
6-Nov-18	0.2360	1087.34	1087.10	0.23	0.02%
28-Jan-19	0.4830	1221.22	1221.97	-0.75	-0.06%
27-Nov-18	0.3420	1125.51	1125.51	-0.01	0.00%
19-Oct-18	0.4280	1297.99	1298.91	-0.91	-0.07%
19-Oct-18	0.4280	1297.99	1298.91	-0.91	-0.07%
19-Oct-18	0.4280	1297.99	1298.91	-0.91	-0.07%
22-Jan-19	0.2760	1079.01	1078.45	0.56	0.05%
19-Sep-18	0.5000	1261.46	1262.03	-0.57	-0.05%
13-Nov-18	0.4470	1088.13	1087.12	1.00	0.09%
22-Jan-19	0.1940	1185.77	1185.83	-0.06	-0.01%
21-Sep-18	0.2400	1086.14	1086.08	0.06	0.01%
1-Feb-19	0.2510	1079.03	1078.91	0.12	0.01%
25-Oct-18	0.2430	1073.98	1073.51	0.47	0.04%
28-Aug-18	0.3910	1106.18	1105.70	0.47	0.04%
20-Nov-18	0.3640	1119.77	1119.81	-0.04	0.00%
24-Jan-19	0.4110	1268.89	1268.67	0.22	0.02%
9-Nov-18	0.3800	1108.24	1107.98	0.27	0.02%
16-Nov-18	0.3910	1102.15	1101.66	0.50	0.05%
11-Oct-18	0.5640	1177.35	1177.97	-0.62	-0.05%
11-Oct-18	0.5640	1177.35	1177.97	-0.62	-0.05%
17-Dec-18	0.5130	1172.73	1172.83	-0.10	-0.01%
19-Sep-18	0.4840	1220.37	1220.34	0.02	0.00%
19-Oct-18	0.4270	1297.28	1298.19	-0.91	-0.07%
19-Oct-18	0.4270	1297.28	1298.19	-0.91	-0.07%
19-Oct-18	0.4270	1297.28	1298.19	-0.91	-0.07%
19-Oct-18	0.4270	1297.28	1298.19	-0.91	-0.07%
1-Dec-18	0.2870	1081.85	1081.52	0.33	0.03%
6-Dec-18	0.3040	1083.51	1083.16	0.35	0.03%
12-Dec-18	0.2920	1144.26	1144.59	-0.33	-0.03%
9-Oct-18	0.2630	1086.49	1086.26	0.22	0.02%
11-Apr-18	0.6320	1292.81	1291.23	1.59	0.12%
23-Oct-18	0.3180	1104.51	1104.55	-0.04	0.00%
3-Jan-19	0.3710	1145.32	1145.57	-0.25	-0.02%
25-Apr-18	0.2560	1035.15	1034.48	0.67	0.07%
9-Oct-18	0.3490	1114.05	1114.06	-0.01	0.00%
23-Jul-18	0.2020	1079.54	1078.94	0.60	0.06%
23-Aug-18	0.4150	1282.12	1282.53	-0.41	-0.03%
25-Oct-18	0.3140	1102.87	1102.80	0.08	0.01%
10-Jan-19	0.2660	1127.47	1127.55	-0.08	-0.01%
17-Jul-18	0.3260	1118.23	1117.84	0.39	0.03%
17-Jul-18	0.3260	1118.23	1117.84	0.39	0.03%
4-Jan-19	0.3220	1103.73	1103.80	-0.07	-0.01%
19-Oct-18	0.4270	1296.90	1297.81	-0.91	-0.07%
17-Dec-18	0.2350	1076.76	1076.58	0.18	0.02%
26-Jun-18	0.3840	1190.33	1190.88	-0.55	-0.05%
24-Jan-19	0.4290	1130.15	1130.13	0.02	0.00%
5-Dec-18	0.3160	1096.16	1095.77	0.39	0.04%
13-Apr-18	0.2610	1073.25	1072.82	0.44	0.04%
23-Oct-18	0.2420	1068.35	1067.85	0.49	0.05%
31-Aug-18	0.3260	1051.89	1051.36	0.53	0.05%
23-Oct-18	0.3300	1113.49	1113.46	0.03	0.00%
6-Dec-18	1.4310	1652.89	1656.99	-4.11	-0.25%
17-Dec-18	0.2040	1068.44	1068.25	0.19	0.02%
28-Nov-18	0.2960	1097.37	1097.38	-0.01	0.00%
12-Dec-18	0.2660	1083.02	1082.65	0.37	0.03%

10-May-18	0.2550	1061.10	1060.25	0.84	0.08%
17-Jan-19	0.2240	1076.87	1076.59	0.28	0.03%
21-Nov-18	0.3200	1099.63	1099.21	0.42	0.04%
9-Jan-19	0.3730	1166.54	1166.83	-0.28	-0.02%
11-Oct-18	0.4270	1161.75	1162.05	-0.30	-0.03%
17-Jan-19	0.3340	1085.96	1085.77	0.19	0.02%
10-Oct-18	0.3380	1165.19	1165.67	-0.47	-0.04%
6-Aug-18	0.2860	1255.76	1255.51	0.25	0.02%
18-Jun-18	0.5400	1211.03	1211.23	-0.20	-0.02%
5-Oct-18	0.2050	1079.16	1079.06	0.09	0.01%
30-May-18	0.3530	1122.37	1122.07	0.30	0.03%
28-Nov-18	0.4900	1280.06	1280.34	-0.28	-0.02%
19-Oct-18	0.4270	1296.12	1297.03	-0.91	-0.07%
20-Nov-18	0.3560	1120.62	1120.66	-0.04	0.00%
8-Nov-18	0.7100	1406.99	1408.65	-1.66	-0.12%
8-Nov-18	0.7100	1406.99	1408.65	-1.66	-0.12%
21-Aug-18	0.3470	1107.93	1107.72	0.22	0.02%
7-Dec-18	0.3050	1094.57	1094.59	-0.03	0.00%
4-Dec-18	0.3390	1089.68	1089.29	0.40	0.04%
4-Dec-18	0.3390	1089.68	1089.29	0.40	0.04%
4-Dec-18	0.3390	1089.68	1089.29	0.40	0.04%
4-Dec-18	0.3390	1089.68	1089.29	0.40	0.04%
4-Dec-18	0.3390	1089.68	1089.29	0.40	0.04%
4-Dec-18	0.3390	1089.68	1089.29	0.40	0.04%
4-Dec-18	0.3390	1089.68	1089.29	0.40	0.04%
4-Dec-18	0.3390	1089.68	1089.29	0.40	0.04%
23-Oct-18	0.3170	1111.46	1111.43	0.03	0.00%
6-Dec-18	0.6380	1155.02	1155.08	-0.06	-0.01%
11-Oct-18	0.2170	1070.41	1069.97	0.44	0.04%
25-Sep-18	0.5520	1320.99	1321.02	-0.04	0.00%
15-Jan-19	0.2640	1096.57	1096.24	0.33	0.03%
1-Aug-18	0.4870	1163.11	1162.99	0.13	0.01%
21-Jan-19	0.4100	1272.11	1271.55	0.56	0.04%
10-Apr-18	0.9950	1288.88	1287.83	1.06	0.08%
18-Oct-18	0.3150	1136.98	1137.25	-0.27	-0.02%
18-Dec-18	0.3530	1108.61	1108.71	-0.09	-0.01%
27-Nov-18	0.1350	1039.86	1039.50	0.36	0.03%
28-Oct-18	0.7820	1244.60	1245.62	-1.01	-0.08%
28-Oct-18	0.7820	1244.60	1245.62	-1.01	-0.08%
18-May-18	0.3210	1110.53	1110.03	0.50	0.05%
27-Nov-18	0.1520	1030.80	1030.24	0.56	0.05%
28-Aug-18	0.5130	1314.57	1314.59	-0.02	0.00%
22-Mar-18	0.6960	1256.17	1255.53	0.64	0.05%
6-Feb-19	0.2450	1078.48	1078.28	0.20	0.02%
8-Nov-18	0.4360	1109.55	1109.53	0.02	0.00%
11-Oct-18	0.2960	1094.84	1094.24	0.61	0.06%
26-Oct-18	0.3090	1080.81	1080.71	0.10	0.01%
17-Dec-18	0.3750	1099.11	1098.55	0.56	0.05%
11-Jun-18	0.4960	1334.56	1334.78	-0.22	-0.02%
19-Dec-18	0.3300	1252.05	1252.80	-0.75	-0.06%
13-Apr-18	0.2400	1071.51	1071.12	0.39	0.04%
26-Jul-18	0.2240	1068.18	1067.79	0.39	0.04%
19-Nov-18	0.5320	1182.78	1183.30	-0.52	-0.04%
19-Nov-18	0.5040	1127.53	1127.39	0.14	0.01%
17-Apr-18	0.2350	1070.93	1070.58	0.34	0.03%
4-Sep-18	0.4270	1099.11	1099.38	-0.27	-0.02%
24-Nov-18	0.2980	1108.86	1108.88	-0.02	0.00%

16-Oct-18	0.5580	1143.74	1143.26	0.48	0.04%
13-Sep-18	0.4120	1323.39	1323.76	-0.37	-0.03%
11-Oct-18	0.4970	1184.05	1184.58	-0.52	-0.04%
24-Apr-18	0.2140	1065.64	1065.29	0.35	0.03%
22-Sep-18	0.2150	1089.89	1089.79	0.10	0.01%
24-Jan-19	0.3650	1120.28	1120.56	-0.28	-0.02%
7-Jan-19	0.5280	1135.59	1135.28	0.31	0.03%
1-Jun-18	0.4500	1284.61	1284.39	0.23	0.02%
8-Jan-19	0.1990	1066.78	1066.40	0.37	0.04%
4-Dec-18	0.3520	1092.99	1092.77	0.22	0.02%
11-Oct-18	0.2340	1068.44	1068.05	0.39	0.04%
24-May-18	0.5280	1094.17	1092.05	2.12	0.19%
31-Jan-19	0.2610	1073.97	1073.68	0.29	0.03%
30-Nov-18	0.3110	1103.26	1102.82	0.44	0.04%
12-Dec-18	0.2520	1075.98	1075.79	0.20	0.02%
29-Jun-18	0.3020	1112.79	1112.41	0.38	0.03%
15-Oct-18	0.3470	1157.68	1157.96	-0.28	-0.02%
25-Oct-18	0.2800	1086.89	1086.45	0.44	0.04%
29-Nov-18	0.3940	1213.75	1214.16	-0.41	-0.03%
23-Oct-18	0.3790	1116.78	1116.93	-0.15	-0.01%
14-Jul-18	0.7550	1314.62	1313.83	0.79	0.06%
14-Jul-18	0.7530	1314.45	1313.68	0.77	0.06%
14-Jul-18	0.7530	1314.45	1313.68	0.77	0.06%
23-Oct-18	0.2520	1073.59	1073.01	0.58	0.05%
15-Nov-18	0.2750	1263.40	1263.55	-0.15	-0.01%
12-Oct-18	0.2010	1065.72	1065.27	0.46	0.04%
28-Jun-18	0.2630	1110.50	1110.15	0.35	0.03%
25-Oct-18	0.3610	1108.91	1108.69	0.22	0.02%
13-Dec-18	0.2130	1120.75	1120.74	0.00	0.00%
11-Oct-18	0.2350	1080.67	1080.42	0.25	0.02%
16-Oct-18	0.2880	1122.19	1122.36	-0.17	-0.02%
10-Dec-18	0.3330	1132.07	1132.28	-0.20	-0.02%
1-Feb-19	0.2520	1076.92	1076.74	0.18	0.02%
12-Dec-18	0.2970	1121.26	1121.49	-0.23	-0.02%
10-Jan-19	0.2030	1074.98	1074.77	0.22	0.02%
13-Dec-18	0.2170	1091.99	1091.70	0.28	0.03%
2-Aug-18	0.4130	1176.10	1176.58	-0.48	-0.04%
12-Oct-18	0.5390	1183.87	1184.27	-0.40	-0.03%
26-Feb-18	0.6180	1333.00	1332.70	0.30	0.02%
27-Nov-18	0.3120	1081.19	1080.67	0.52	0.05%
6-Dec-18	1.4290	1649.90	1654.00	-4.10	-0.25%
12-Oct-18	0.5840	1125.39	1125.08	0.31	0.03%
14-Nov-18	0.3840	1111.68	1111.33	0.34	0.03%
11-Oct-18	0.2370	1069.30	1068.89	0.41	0.04%
28-Aug-18	0.4230	1131.93	1131.35	0.57	0.05%
5-Feb-19	0.2920	1074.79	1073.88	0.91	0.08%
25-Sep-18	0.5490	1317.48	1317.52	-0.05	0.00%
25-Sep-18	0.5490	1317.49	1317.53	-0.05	0.00%
6-Dec-18	0.3260	1091.34	1091.15	0.20	0.02%
6-Dec-18	1.2190	1499.54	1502.56	-3.02	-0.20%
4-Dec-18	0.2110	1100.28	1100.46	-0.18	-0.02%
14-Jul-18	0.7530	1313.22	1312.45	0.77	0.06%
17-Apr-18	0.3180	1085.80	1084.89	0.92	0.08%
3-Jan-19	0.3070	1106.64	1106.60	0.04	0.00%
13-Dec-18	0.4080	1108.60	1108.27	0.33	0.03%
10-Dec-18	0.2950	1146.02	1146.23	-0.21	-0.02%
28-Mar-18	0.8570	1310.89	1309.58	1.32	0.10%

28-Feb-18	0.4000	1275.56	1275.36	0.20	0.02%
17-Jan-19	0.3420	1112.60	1112.62	-0.02	0.00%
28-Nov-18	0.3300	1111.44	1111.44	-0.01	0.00%
2-Aug-18	0.4500	1087.86	1086.81	1.05	0.10%
26-Sep-18	0.3400	1271.16	1271.27	-0.11	-0.01%
7-Jan-19	0.5180	1161.90	1161.98	-0.08	-0.01%
15-Jan-19	0.3440	1113.84	1113.89	-0.05	0.00%
11-Oct-18	0.3570	1087.99	1087.86	0.13	0.01%
28-Nov-18	0.2610	1118.21	1118.21	0.00	0.00%
19-Nov-18	0.2950	1104.70	1104.50	0.19	0.02%
24-Oct-18	0.2980	1105.31	1105.31	0.00	0.00%
17-Apr-18	0.1840	1055.70	1055.33	0.37	0.04%
5-Oct-18	0.2930	1138.80	1139.01	-0.21	-0.02%
21-Jan-19	1.2560	1421.10	1423.42	-2.33	-0.16%
6-Aug-18	0.3320	1181.82	1181.94	-0.11	-0.01%
9-Oct-18	0.4980	1131.15	1130.74	0.41	0.04%
5-Dec-18	0.2000	1071.40	1071.24	0.16	0.01%
6-Dec-18	0.3070	1091.09	1090.81	0.28	0.03%
28-Nov-18	0.3270	1116.04	1115.79	0.25	0.02%
9-Oct-18	0.2940	1113.59	1113.60	-0.01	0.00%
5-Feb-19	0.1250	1034.60	1034.35	0.25	0.02%
23-Oct-18	0.3170	1109.55	1109.55	0.00	0.00%
28-Nov-18	0.3520	1107.87	1107.73	0.14	0.01%
26-Nov-18	0.2890	1094.98	1094.36	0.62	0.06%
17-Dec-18	0.3460	1111.18	1111.16	0.02	0.00%
11-Oct-18	0.2050	1066.05	1065.58	0.47	0.04%
8-Jan-19	0.3150	1083.16	1082.96	0.20	0.02%
29-Jan-19	0.3050	1138.97	1139.26	-0.29	-0.03%
16-Oct-18	0.4030	1106.17	1105.33	0.84	0.08%
22-Jun-18	0.3270	1129.67	1129.50	0.17	0.02%
17-Oct-18	0.3130	1192.00	1191.83	0.17	0.01%
6-Aug-18	0.2840	1250.26	1250.00	0.25	0.02%
17-May-18	0.4040	1272.14	1272.22	-0.08	-0.01%
31-Oct-18	0.6030	1258.06	1257.71	0.35	0.03%
28-Jun-18	0.2310	1110.29	1109.78	0.51	0.05%
6-Feb-19	0.1710	1067.36	1067.16	0.20	0.02%
4-Oct-18	0.3590	1097.10	1096.91	0.19	0.02%
9-Apr-18	0.5180	1278.95	1278.53	0.41	0.03%
29-Nov-18	0.3930	1253.51	1253.02	0.49	0.04%
6-Dec-18	0.2510	1107.42	1107.56	-0.14	-0.01%
4-Dec-18	0.3330	1104.03	1103.82	0.21	0.02%
24-May-18	0.4100	1226.81	1226.61	0.20	0.02%
10-Dec-18	0.2900	1144.23	1144.45	-0.22	-0.02%
6-Nov-18	0.3010	1098.64	1098.37	0.27	0.02%
19-Jul-18	0.5470	1171.05	1171.57	-0.51	-0.04%
13-Dec-18	0.2820	1096.45	1096.46	-0.02	0.00%
23-Aug-18	0.7290	1330.28	1330.97	-0.69	-0.05%
5-Dec-18	0.1680	1057.27	1056.94	0.33	0.03%
24-Apr-18	0.2720	1074.15	1073.64	0.52	0.05%
20-Apr-18	0.2380	1079.89	1079.43	0.45	0.04%
5-Feb-19	0.2630	1093.87	1093.83	0.04	0.00%
20-Nov-18	0.4110	1124.52	1123.62	0.90	0.08%
3-Jan-19	0.2280	1121.93	1121.35	0.58	0.05%
29-Jan-19	0.4010	1163.92	1164.22	-0.30	-0.03%
21-Nov-18	0.2410	1091.00	1090.80	0.20	0.02%
8-Oct-18	0.3510	1111.89	1111.95	-0.06	-0.01%
24-Jan-19	0.5990	1202.02	1202.88	-0.86	-0.07%

31-Aug-18	0.4390	1021.86	1021.36	0.50	0.05%
15-Nov-18	0.3830	1119.45	1119.57	-0.12	-0.01%
13-Dec-18	0.2230	1101.64	1101.25	0.39	0.04%
7-Nov-18	0.3450	1093.09	1093.11	-0.02	0.00%
21-Jun-18	0.3870	1088.56	1087.69	0.87	0.08%
24-Nov-18	0.3910	1107.45	1107.18	0.27	0.02%
7-Nov-18	0.3190	1099.02	1099.00	0.02	0.00%
6-Dec-18	1.2180	1497.25	1500.26	-3.02	-0.20%
8-Jan-19	0.4500	1111.48	1110.99	0.49	0.04%
10-Oct-18	0.5780	1121.47	1120.36	1.12	0.10%
7-Dec-18	0.2920	1110.93	1110.96	-0.03	0.00%
27-Nov-18	0.4000	1132.18	1132.05	0.13	0.01%
17-Dec-18	0.3810	1112.57	1112.43	0.14	0.01%
10-Oct-18	0.2630	1101.42	1101.45	-0.03	0.00%
5-Feb-19	0.2200	1053.95	1053.21	0.74	0.07%
16-Oct-18	0.5360	1129.95	1129.67	0.28	0.02%
18-Dec-18	0.4010	1127.06	1126.77	0.28	0.03%
11-Oct-18	0.4940	1121.29	1120.82	0.48	0.04%
31-Jul-18	0.1790	1078.94	1078.34	0.59	0.06%
11-Oct-18	0.2480	1069.72	1069.30	0.42	0.04%
12-Oct-18	0.2950	1078.10	1077.61	0.49	0.05%
21-Sep-18	0.1930	1091.93	1091.94	-0.01	0.00%
23-Nov-18	0.0330	1394.09	1394.15	-0.06	0.00%
26-Oct-18	0.2910	1082.88	1082.73	0.16	0.01%
24-Oct-18	0.1990	1071.04	1070.75	0.29	0.03%
13-Apr-18	0.2270	1066.43	1065.96	0.47	0.04%
22-Sep-18	0.3240	1096.83	1096.77	0.06	0.01%
15-Jan-19	0.4380	1147.81	1148.14	-0.33	-0.03%
23-Jan-19	0.8440	1308.59	1307.69	0.90	0.07%
23-Jan-19	0.8440	1308.59	1307.69	0.90	0.07%
16-Aug-18	0.2950	1267.51	1267.44	0.07	0.01%
16-Aug-18	0.2950	1267.51	1267.44	0.07	0.01%
28-Aug-18	0.3110	1093.86	1093.31	0.55	0.05%
5-Dec-18	1.7650	1403.56	1408.88	-5.32	-0.38%
22-Sep-18	0.3240	1096.41	1096.35	0.06	0.01%
26-Oct-18	0.2280	1065.21	1065.06	0.15	0.01%
13-Dec-18	0.3360	1101.94	1102.10	-0.16	-0.01%
23-Oct-18	0.2560	1071.72	1071.06	0.67	0.06%
1-Feb-19	0.6140	1424.20	1425.05	-0.85	-0.06%
30-Oct-18	0.3220	1288.36	1288.26	0.11	0.01%
30-Oct-18	0.3220	1288.36	1288.26	0.11	0.01%
26-Jun-18	0.4690	1165.64	1166.02	-0.38	-0.03%
25-Oct-18	0.2980	1085.57	1085.00	0.57	0.05%
10-Oct-18	0.2460	1075.37	1075.04	0.33	0.03%
21-Jan-19	1.2530	1417.92	1420.25	-2.32	-0.16%
6-Feb-19	0.3720	1098.20	1097.95	0.25	0.02%
7-Dec-18	0.3650	1101.13	1101.02	0.11	0.01%
16-Oct-18	0.4120	1120.27	1120.21	0.06	0.01%
25-Jun-18	0.9150	1310.24	1310.51	-0.28	-0.02%
13-Oct-18	0.4390	1120.70	1120.42	0.28	0.03%
12-Oct-18	0.4190	1142.05	1142.25	-0.20	-0.02%
6-Sep-18	0.6130	1217.05	1217.03	0.02	0.00%
12-Jul-18	0.4370	1332.23	1331.90	0.33	0.02%
14-Jan-19	0.7860	1360.21	1361.27	-1.06	-0.08%
6-Nov-18	0.3460	1107.47	1106.79	0.68	0.06%
17-Jan-19	0.5730	1199.67	1200.92	-1.25	-0.10%
12-Oct-18	0.2100	1062.56	1062.18	0.38	0.04%

9-Oct-18	0.2940	1074.86	1074.35	0.51	0.05%
10-Oct-18	0.4550	1106.96	1106.29	0.67	0.06%
13-Jul-18	0.2890	1134.23	1134.45	-0.22	-0.02%
23-Jan-19	0.2110	1088.56	1088.08	0.48	0.04%
27-Sep-18	0.2560	1090.23	1090.03	0.20	0.02%
11-Oct-18	0.4230	1157.87	1157.99	-0.13	-0.01%
11-Oct-18	0.4230	1157.87	1157.99	-0.13	-0.01%
4-Oct-18	0.3810	1123.57	1123.80	-0.23	-0.02%
28-Jun-18	0.4110	1104.17	1103.72	0.45	0.04%
11-Sep-18	0.5210	1126.45	1126.31	0.14	0.01%
9-Oct-18	0.2670	1080.52	1080.00	0.51	0.05%
19-Apr-18	0.1970	1057.31	1056.82	0.49	0.05%
11-Jan-19	0.3940	1177.91	1178.47	-0.56	-0.05%
5-Feb-19	0.1300	1041.40	1041.08	0.32	0.03%
28-Jun-18	0.4110	1103.96	1103.50	0.45	0.04%
24-Apr-18	0.2250	1072.82	1072.51	0.31	0.03%
2-Jan-19	0.3990	1119.31	1119.48	-0.17	-0.02%
19-Nov-18	0.2050	1043.74	1042.72	1.02	0.10%
27-Sep-18	0.2890	1088.00	1087.73	0.28	0.03%
11-Oct-18	0.4260	1138.56	1138.45	0.11	0.01%
7-Jan-19	0.5550	1130.94	1130.42	0.52	0.05%
7-Nov-18	0.3500	1278.10	1278.04	0.06	0.00%
7-Nov-18	0.3500	1278.10	1278.04	0.06	0.00%
23-May-18	0.2610	1228.49	1228.22	0.28	0.02%
22-Jan-19	0.2900	1101.19	1101.22	-0.03	0.00%
6-Nov-18	0.3480	1099.76	1099.56	0.20	0.02%
13-Dec-18	0.3210	1084.09	1083.52	0.57	0.05%
26-Oct-18	0.2930	1076.27	1075.95	0.31	0.03%
25-Oct-18	0.3830	1109.95	1109.91	0.04	0.00%
16-Oct-18	0.2800	1111.61	1111.48	0.13	0.01%
27-Sep-18	0.3240	1085.41	1085.07	0.35	0.03%
9-Oct-18	0.3250	1136.97	1137.33	-0.36	-0.03%
14-Dec-18	0.7430	1364.39	1365.33	-0.94	-0.07%
10-Oct-18	0.3120	1149.57	1150.04	-0.47	-0.04%
25-Jan-19	0.4060	1272.10	1273.22	-1.12	-0.09%
17-Dec-18	0.3910	1103.75	1103.34	0.41	0.04%
1-Feb-19	0.6130	1422.30	1423.14	-0.85	-0.06%
6-Dec-18	0.3460	1096.80	1096.63	0.17	0.02%
10-Dec-18	0.2840	1124.51	1124.47	0.04	0.00%
4-Oct-18	0.4720	1133.46	1133.57	-0.11	-0.01%
14-Dec-18	0.4650	1128.78	1128.95	-0.16	-0.01%
12-Jun-18	0.4950	1219.56	1220.07	-0.51	-0.04%
14-Jan-19	0.7850	1358.57	1359.62	-1.06	-0.08%
4-Oct-18	0.3800	1128.24	1128.36	-0.11	-0.01%
7-Aug-18	0.3610	1128.11	1128.21	-0.09	-0.01%
7-Feb-19	0.2940	1084.14	1084.02	0.11	0.01%
25-May-18	0.7090	1355.85	1354.21	1.65	0.12%
5-Oct-18	0.5140	1138.69	1138.32	0.38	0.03%
19-Apr-18	0.2040	1063.04	1062.59	0.45	0.04%
28-Oct-18	0.3330	1097.76	1097.42	0.34	0.03%
11-Oct-18	0.4350	1113.32	1113.01	0.31	0.03%
11-Oct-18	0.4280	1142.81	1142.81	0.00	0.00%
8-Oct-18	0.3380	1113.16	1113.07	0.08	0.01%
23-Nov-18	0.0320	1391.01	1391.06	-0.05	0.00%
28-Nov-18	0.3790	1159.80	1160.04	-0.24	-0.02%
9-Oct-18	0.3770	1146.16	1146.78	-0.62	-0.05%
12-Dec-18	0.2390	1091.59	1091.53	0.06	0.01%

22-Aug-18	0.4460	1206.46	1206.84	-0.37	-0.03%
27-Jul-18	0.3000	1123.28	1122.52	0.76	0.07%
23-Jan-19	0.3730	1300.59	1300.81	-0.22	-0.02%
11-Oct-18	0.3760	1127.91	1128.13	-0.22	-0.02%
8-Jan-19	0.3900	1131.51	1131.43	0.08	0.01%
16-Oct-18	0.3480	1121.64	1121.91	-0.27	-0.02%
5-Dec-18	1.7600	1400.36	1405.67	-5.30	-0.38%
7-Feb-19	0.2840	1106.17	1106.30	-0.12	-0.01%
17-Jul-18	0.2110	1093.48	1093.23	0.25	0.02%
5-Oct-18	0.4490	1122.70	1122.76	-0.06	-0.01%
4-Dec-18	0.3940	1108.09	1107.84	0.25	0.02%
6-Feb-19	0.2410	1081.19	1080.91	0.28	0.03%
17-Jan-19	0.3180	1106.79	1106.70	0.08	0.01%
23-Nov-18	0.0320	1390.13	1390.18	-0.05	0.00%
11-Oct-18	0.5910	1154.75	1154.28	0.47	0.04%
30-Oct-18	0.3210	1284.63	1284.52	0.11	0.01%
30-Oct-18	0.3210	1284.63	1284.52	0.11	0.01%
28-Aug-18	0.5580	1168.96	1168.80	0.16	0.01%
6-Sep-18	0.4590	1154.86	1154.56	0.29	0.03%
28-Aug-18	0.4630	1185.94	1185.74	0.20	0.02%
15-Oct-18	0.3920	1173.18	1173.67	-0.49	-0.04%
29-Nov-18	0.2660	1087.54	1087.45	0.08	0.01%
30-Jan-19	0.2640	1114.48	1113.93	0.55	0.05%
6-Feb-19	0.2250	1083.72	1083.65	0.07	0.01%
9-Jan-19	0.2080	1071.93	1071.70	0.23	0.02%
11-Oct-18	0.5010	1127.98	1127.59	0.39	0.03%
5-Dec-18	0.3640	1092.26	1092.05	0.21	0.02%
5-Dec-18	0.3640	1092.26	1092.05	0.21	0.02%
5-Dec-18	0.3640	1092.26	1092.05	0.21	0.02%
5-Dec-18	0.3640	1092.26	1092.05	0.21	0.02%
5-Dec-18	0.3640	1092.26	1092.05	0.21	0.02%
5-Dec-18	0.3640	1092.26	1092.05	0.21	0.02%
5-Dec-18	0.3640	1092.26	1092.05	0.21	0.02%
5-Dec-18	0.3640	1092.26	1092.05	0.21	0.02%
5-Dec-18	0.3640	1092.26	1092.05	0.21	0.02%
4-Dec-18	0.2890	1088.32	1088.02	0.30	0.03%
25-Oct-18	0.5210	1194.24	1193.82	0.42	0.04%
8-Jan-19	0.3230	1104.15	1104.01	0.14	0.01%
16-Oct-18	0.3690	1085.04	1085.15	-0.11	-0.01%
23-Oct-18	0.4060	1213.33	1213.78	-0.45	-0.04%
26-Sep-18	0.3580	1098.37	1098.18	0.19	0.02%
12-Dec-18	0.3230	1097.02	1096.97	0.04	0.00%
31-Jan-19	0.3410	1091.43	1091.56	-0.13	-0.01%
12-Dec-18	0.3030	1100.40	1100.12	0.28	0.03%
10-Oct-18	0.3730	1120.78	1120.81	-0.03	0.00%
6-Nov-18	0.4960	1315.81	1315.79	0.02	0.00%
6-Feb-19	0.3060	1085.39	1085.32	0.07	0.01%
9-Oct-18	0.2150	1086.14	1086.05	0.09	0.01%
26-Nov-18	0.2990	1091.05	1090.88	0.18	0.02%
24-Oct-18	0.2590	1079.53	1078.95	0.58	0.05%
17-Oct-18	0.4260	1227.31	1227.76	-0.46	-0.04%
22-Jan-19	0.3640	1128.48	1128.39	0.09	0.01%
15-Jan-19	0.3540	1109.14	1109.19	-0.05	0.00%
27-Sep-18	0.3130	1088.26	1087.93	0.33	0.03%
18-Jul-18	0.5020	1189.31	1188.70	0.62	0.05%
13-Dec-18	0.2340	1075.18	1074.77	0.41	0.04%
15-Jan-19	0.2540	1099.09	1099.07	0.02	0.00%

10-Oct-18	0.3740	1120.79	1120.87	-0.08	-0.01%
13-Apr-18	0.2670	1073.74	1073.12	0.62	0.06%
11-Sep-18	0.3740	1108.80	1108.07	0.74	0.07%
11-Sep-18	0.3740	1108.80	1108.07	0.74	0.07%
24-May-18	0.4340	1278.79	1277.58	1.21	0.09%
24-May-18	0.4340	1278.79	1277.58	1.21	0.09%
13-Jun-18	0.6240	1265.20	1264.64	0.56	0.04%
11-Oct-18	0.2680	1075.96	1075.52	0.44	0.04%
17-Jan-19	0.1950	1073.69	1073.69	0.00	0.00%
9-Oct-18	0.3130	1143.89	1143.96	-0.06	-0.01%
7-Dec-18	0.3020	1092.34	1091.89	0.45	0.04%
7-Jan-19	0.6720	1296.60	1296.86	-0.27	-0.02%
25-Oct-18	0.2810	1080.24	1079.62	0.63	0.06%
14-Aug-18	0.4380	1330.69	1331.00	-0.31	-0.02%
17-Jul-18	0.2100	1090.79	1090.54	0.25	0.02%
17-Jul-18	0.2100	1090.79	1090.54	0.25	0.02%
5-Sep-18	0.4560	1177.09	1177.61	-0.52	-0.04%
15-Oct-18	0.5140	1178.41	1178.58	-0.17	-0.01%
23-Jan-19	0.4000	1132.51	1132.36	0.14	0.01%
25-Oct-18	0.3720	1103.26	1103.09	0.17	0.02%
1-Dec-18	0.2960	1098.36	1098.25	0.11	0.01%
7-Dec-18	0.2250	1091.76	1091.58	0.18	0.02%
29-Jan-19	0.2650	1095.09	1095.00	0.09	0.01%
14-Dec-18	0.7410	1360.57	1361.51	-0.94	-0.07%
21-Jun-18	0.6610	1211.62	1212.17	-0.55	-0.05%
17-Jan-19	0.3360	1105.47	1105.48	-0.02	0.00%
6-Nov-18	0.3450	1107.08	1106.91	0.17	0.02%
5-Dec-18	0.4270	1124.01	1123.74	0.26	0.02%
9-May-18	0.2640	1081.91	1082.01	-0.10	-0.01%
17-Dec-18	0.3310	1102.74	1102.56	0.17	0.02%
14-Nov-18	0.3210	1108.77	1108.66	0.10	0.01%
11-Oct-18	0.3070	1116.28	1116.32	-0.03	0.00%
9-Oct-18	0.3610	1114.53	1114.59	-0.06	-0.01%
12-Dec-18	0.5530	1157.33	1156.91	0.41	0.04%
23-Jan-19	0.3720	1297.18	1297.40	-0.21	-0.02%
23-Jan-19	0.3720	1297.18	1297.40	-0.21	-0.02%
23-Jan-19	0.3720	1297.16	1297.37	-0.21	-0.02%
12-Jun-18	0.7560	1229.25	1228.75	0.50	0.04%
25-Sep-18	0.7040	1236.45	1237.14	-0.69	-0.06%
11-Oct-18	0.2740	1088.88	1088.56	0.33	0.03%
14-Dec-18	0.3720	1138.93	1138.98	-0.05	0.00%
15-Jan-19	0.3210	1106.92	1106.99	-0.07	-0.01%
17-Dec-18	0.3500	1263.15	1262.76	0.39	0.03%
23-Jan-19	0.2240	1111.48	1111.47	0.02	0.00%
24-Nov-18	0.3810	1108.76	1108.54	0.22	0.02%
23-Oct-18	0.3460	1114.24	1114.27	-0.03	0.00%
4-Jan-19	0.3150	1109.44	1109.58	-0.13	-0.01%
18-Apr-18	0.3110	1083.17	1082.43	0.74	0.07%
28-Aug-18	0.3900	1309.38	1309.43	-0.05	0.00%
28-Aug-18	0.3900	1309.38	1309.43	-0.05	0.00%
8-Jan-19	0.4050	1133.72	1133.71	0.02	0.00%
24-Nov-18	0.3540	1104.93	1104.60	0.33	0.03%
25-Jun-18	0.9100	1303.29	1303.57	-0.27	-0.02%
12-Dec-18	0.2630	1110.85	1110.71	0.14	0.01%
16-Oct-18	0.3860	1123.80	1123.54	0.27	0.02%
29-Jan-19	0.2910	1101.37	1101.35	0.02	0.00%
5-Dec-18	0.3310	1091.45	1090.99	0.47	0.04%

12-Dec-18	0.3050	1085.10	1084.85	0.25	0.02%
29-Jan-19	0.2680	1116.06	1116.11	-0.05	0.00%
7-Aug-18	0.3910	1151.27	1151.37	-0.10	-0.01%
13-Apr-18	0.2980	1081.07	1080.49	0.58	0.05%
7-Dec-18	0.2780	1098.02	1097.99	0.03	0.00%
12-Dec-18	0.3360	1149.48	1149.83	-0.35	-0.03%
22-Jan-19	0.2490	1079.95	1079.63	0.32	0.03%
13-Oct-18	0.3940	1120.62	1120.32	0.30	0.03%
24-Sep-18	0.5990	1290.20	1290.60	-0.41	-0.03%
12-Dec-18	0.3140	1099.66	1099.75	-0.09	-0.01%
2-Oct-18	0.5200	1140.75	1140.49	0.27	0.02%
18-Apr-18	0.3380	1096.75	1096.16	0.59	0.05%
5-Dec-18	0.1770	1063.63	1063.36	0.27	0.03%
7-Jan-19	0.6710	1293.41	1293.67	-0.26	-0.02%
27-Nov-18	0.4380	1129.50	1129.02	0.48	0.04%
17-Apr-18	0.3420	1094.67	1093.99	0.67	0.06%
7-Dec-18	0.2790	1095.71	1095.62	0.09	0.01%
9-Oct-18	0.3680	1162.89	1163.30	-0.41	-0.04%
13-Dec-18	0.2960	1092.66	1092.72	-0.05	0.00%
10-Oct-18	0.3840	1116.48	1115.95	0.53	0.05%
18-Sep-18	0.2760	1265.85	1265.75	0.10	0.01%
24-May-18	0.4320	1275.52	1274.30	1.21	0.10%
24-May-18	0.4320	1275.52	1274.30	1.21	0.10%
26-Oct-18	0.1670	1053.73	1053.40	0.34	0.03%
25-Apr-18	0.2670	1081.79	1081.35	0.44	0.04%
12-Dec-18	0.2760	1093.38	1093.04	0.34	0.03%
29-Jan-19	0.3170	1160.86	1160.95	-0.09	-0.01%
6-Dec-18	0.3240	1088.34	1087.58	0.76	0.07%
16-Nov-18	0.3610	1110.75	1110.00	0.75	0.07%
7-Dec-18	0.3310	1104.68	1104.58	0.09	0.01%
18-Sep-18	0.3510	1279.04	1278.88	0.16	0.01%
18-Sep-18	0.3510	1279.04	1278.88	0.16	0.01%
6-Dec-18	0.3130	1118.78	1118.83	-0.04	0.00%
7-Aug-18	0.5400	1198.14	1198.47	-0.33	-0.03%
16-Oct-18	0.2560	1074.05	1073.55	0.51	0.05%
12-Dec-18	0.2270	1092.89	1092.61	0.28	0.03%
1-Feb-19	0.2480	1093.70	1093.66	0.04	0.00%
17-Jan-19	0.3690	1117.67	1117.79	-0.12	-0.01%
5-Oct-18	0.1800	1059.11	1058.86	0.25	0.02%
19-Apr-18	0.1910	1049.74	1049.20	0.54	0.05%
6-Feb-19	0.2210	1095.00	1094.86	0.15	0.01%
31-Aug-18	0.3630	1288.11	1288.34	-0.22	-0.02%
19-Jul-18	0.3600	1152.68	1152.26	0.42	0.04%
6-Nov-18	0.3230	1089.21	1088.86	0.35	0.03%
21-Sep-18	0.1930	1077.85	1077.74	0.11	0.01%
28-Jan-19	0.6950	1227.09	1226.27	0.83	0.07%
7-Dec-18	0.4140	1105.36	1104.75	0.61	0.05%
14-Feb-18	0.8050	1359.51	1359.08	0.43	0.03%
21-Aug-18	0.3000	1104.16	1103.80	0.36	0.03%
17-Apr-18	0.3250	1081.14	1079.78	1.35	0.13%
17-Jan-19	0.3560	1109.75	1109.91	-0.15	-0.01%
9-Oct-18	0.5400	1155.04	1154.98	0.05	0.00%
22-Sep-18	0.2540	1076.02	1075.69	0.33	0.03%
10-Dec-18	0.3820	1293.39	1293.58	-0.19	-0.01%
10-Dec-18	0.3820	1293.39	1293.58	-0.19	-0.01%
16-Nov-18	0.4200	1118.27	1117.77	0.50	0.04%
9-Jul-18	0.3680	1123.81	1123.46	0.36	0.03%

6-Sep-18	0.4980	1180.54	1181.23	-0.69	-0.06%
18-Apr-18	0.4040	1109.51	1108.77	0.74	0.07%
9-Jan-19	0.2280	1070.76	1070.29	0.47	0.04%
19-Apr-18	0.2260	1058.42	1057.89	0.53	0.05%
8-Jan-19	0.3620	1085.95	1084.81	1.14	0.10%
26-Nov-18	0.2840	1105.18	1104.93	0.25	0.02%
8-Jan-19	0.2020	1070.76	1070.26	0.50	0.05%
7-Nov-18	0.3510	1098.27	1098.01	0.26	0.02%
11-Sep-18	0.3950	1104.64	1104.25	0.38	0.03%
29-Aug-18	0.3300	1271.65	1271.40	0.25	0.02%
11-Sep-18	0.3720	1102.68	1101.94	0.74	0.07%
11-Sep-18	0.3720	1102.68	1101.94	0.74	0.07%
11-Sep-18	0.3720	1102.68	1101.94	0.74	0.07%
11-Sep-18	0.3720	1102.68	1101.94	0.74	0.07%
11-Sep-18	0.3720	1102.68	1101.94	0.74	0.07%
11-Sep-18	0.3720	1102.68	1101.94	0.74	0.07%
11-Sep-18	0.3720	1102.68	1101.94	0.74	0.07%
11-Oct-18	0.5230	1124.47	1123.66	0.81	0.07%
6-Feb-19	0.2470	1083.35	1083.23	0.12	0.01%
6-Dec-18	0.3680	1120.64	1120.85	-0.21	-0.02%
16-Oct-18	0.5600	1139.92	1139.68	0.24	0.02%
28-Aug-18	0.3880	1307.03	1307.08	-0.05	0.00%
28-Aug-18	0.3880	1306.95	1307.00	-0.05	0.00%
14-Jan-19	0.5280	1418.64	1419.00	-0.36	-0.03%
27-Jul-18	0.3000	1094.57	1094.42	0.15	0.01%
24-Oct-18	0.2280	1075.61	1075.24	0.36	0.03%
25-Jan-19	0.2880	1130.71	1130.98	-0.27	-0.02%
7-Dec-18	0.3970	1100.92	1100.50	0.42	0.04%
12-Dec-18	0.2240	1161.11	1161.33	-0.22	-0.02%
4-Dec-18	0.3610	1104.51	1104.31	0.19	0.02%
11-Oct-18	0.5340	1134.48	1134.05	0.43	0.04%
20-Nov-18	0.3430	1088.39	1087.98	0.41	0.04%
28-Nov-18	0.3030	1115.92	1115.79	0.13	0.01%
25-Oct-18	0.2790	1089.64	1089.15	0.49	0.04%
23-Jan-19	0.2230	1106.71	1106.69	0.02	0.00%
28-Jan-19	0.4070	1235.54	1235.27	0.27	0.02%
9-Oct-18	0.1930	1123.01	1122.88	0.13	0.01%
25-Apr-18	0.1850	1069.68	1069.42	0.26	0.02%
7-Dec-18	0.2340	1090.35	1090.16	0.19	0.02%
10-Dec-18	0.3990	1145.01	1145.27	-0.26	-0.02%
15-Jan-19	0.3750	1272.41	1271.64	0.77	0.06%
17-Dec-18	0.1870	1103.53	1103.69	-0.16	-0.01%
15-Jan-19	0.3750	1272.38	1271.61	0.77	0.06%
7-Nov-18	0.3690	1116.21	1115.91	0.30	0.03%
4-Feb-19	0.2740	1110.18	1110.02	0.17	0.02%
13-Sep-18	0.5880	1140.16	1139.68	0.49	0.04%
3-Oct-18	0.4030	1139.30	1139.45	-0.15	-0.01%
16-Oct-18	0.3450	1115.28	1115.39	-0.12	-0.01%
14-Nov-18	0.4640	1219.50	1219.47	0.02	0.00%
24-Sep-18	0.5420	1232.57	1232.83	-0.26	-0.02%
9-Oct-18	0.4550	1114.19	1113.46	0.72	0.06%
3-Nov-18	0.3120	1075.65	1075.22	0.43	0.04%
22-Jan-19	0.1940	1085.65	1085.63	0.02	0.00%
24-Jan-19	0.2450	1104.83	1104.88	-0.05	0.00%
8-Nov-18	0.2480	1077.01	1076.70	0.30	0.03%
11-Oct-18	0.4430	1123.57	1122.95	0.63	0.06%
14-Jan-19	0.3810	1285.83	1285.87	-0.04	0.00%

14-Jan-19	0.3810	1285.83	1285.87	-0.04	0.00%
14-Jan-19	0.5280	1417.21	1417.57	-0.36	-0.03%
10-May-18	0.2540	1058.89	1058.09	0.80	0.08%
27-Sep-18	0.2860	1086.21	1086.11	0.10	0.01%
27-Sep-18	0.3380	1100.15	1099.93	0.22	0.02%
6-Dec-18	0.3640	1112.08	1112.01	0.08	0.01%
30-Aug-18	0.3430	1296.28	1296.36	-0.08	-0.01%
23-Jan-19	0.2490	1149.34	1149.27	0.06	0.01%
24-Jan-19	0.4580	1123.33	1122.98	0.36	0.03%
30-Aug-18	0.3430	1295.40	1295.48	-0.08	-0.01%
17-Jan-19	0.2890	1125.42	1125.40	0.02	0.00%
10-Jan-19	0.2390	1134.83	1134.77	0.06	0.01%
24-Jan-19	0.4650	1147.80	1147.50	0.30	0.03%
6-Jan-19	1.4780	1351.18	1353.79	-2.60	-0.19%
6-Feb-19	0.2480	1091.80	1091.85	-0.05	0.00%
24-Jan-19	0.3220	1117.74	1117.65	0.09	0.01%
29-Nov-18	0.3360	1143.10	1142.47	0.63	0.06%
30-May-18	0.5480	1101.84	1100.77	1.08	0.10%
17-Sep-18	0.2070	1114.45	1114.69	-0.24	-0.02%
22-Oct-18	0.1730	1071.69	1071.24	0.45	0.04%
11-Oct-18	0.3270	1138.91	1138.83	0.09	0.01%
20-Nov-18	0.3360	1108.95	1108.97	-0.02	0.00%
9-Oct-18	0.5070	1159.98	1160.13	-0.16	-0.01%
5-Dec-18	0.2220	1068.24	1067.92	0.32	0.03%
14-Dec-18	0.4770	1145.29	1145.24	0.04	0.00%
17-Jan-19	0.4510	1124.24	1123.93	0.31	0.03%
11-Sep-18	0.3930	1100.85	1100.47	0.38	0.03%
11-Sep-18	0.3930	1100.85	1100.47	0.38	0.03%
11-Sep-18	0.3930	1100.85	1100.47	0.38	0.03%
11-Sep-18	0.3930	1100.85	1100.47	0.38	0.03%
20-Sep-18	0.3270	1095.78	1095.43	0.34	0.03%
24-Jan-19	0.3700	1119.75	1119.59	0.16	0.01%
19-Apr-18	0.3520	1266.50	1266.29	0.21	0.02%
25-Jan-19	0.4140	1120.02	1119.94	0.08	0.01%
17-Apr-18	0.0890	996.22	995.81	0.41	0.04%
7-Nov-18	0.2610	1097.13	1096.92	0.21	0.02%
31-Jul-18	0.2010	1080.57	1079.84	0.73	0.07%
19-Oct-18	0.6240	1322.23	1323.46	-1.22	-0.09%
19-Oct-18	0.6240	1322.23	1323.46	-1.22	-0.09%
6-Dec-18	0.2880	1087.56	1087.27	0.29	0.03%
24-Jan-19	0.2790	1109.63	1109.58	0.05	0.00%
7-Nov-18	0.2970	1092.02	1091.34	0.69	0.06%
9-Jan-19	0.2320	1063.98	1063.57	0.41	0.04%
16-Oct-18	0.4220	1107.12	1106.40	0.72	0.07%
13-Dec-18	0.4320	1124.44	1123.95	0.49	0.04%
27-Nov-18	0.1160	1040.18	1039.84	0.34	0.03%
18-Jul-18	0.2830	1089.31	1088.98	0.33	0.03%
7-Nov-18	0.3130	1098.98	1098.87	0.10	0.01%
10-Dec-18	0.1480	1041.30	1040.93	0.36	0.03%
4-Oct-18	0.3450	1098.40	1098.42	-0.02	0.00%
5-Oct-18	0.1000	1022.52	1022.09	0.42	0.04%
5-Oct-18	0.3850	1073.22	1072.64	0.58	0.05%
9-Oct-18	0.3750	1114.74	1114.68	0.06	0.01%
11-Oct-18	0.4350	1124.96	1124.46	0.50	0.04%
10-Oct-18	0.3730	1145.67	1145.34	0.32	0.03%
6-Nov-18	0.4200	1104.46	1103.76	0.71	0.06%
4-Jan-19	0.8050	1264.44	1265.06	-0.62	-0.05%

19-Sep-18	0.5150	1231.88	1232.26	-0.38	-0.03%
6-Dec-18	0.3000	1109.70	1109.76	-0.05	0.00%
19-Oct-18	0.6230	1320.78	1321.99	-1.22	-0.09%
21-Jan-19	0.6160	1365.81	1366.95	-1.14	-0.08%
21-Jan-19	0.6160	1365.81	1366.95	-1.14	-0.08%
6-Nov-18	0.5230	1317.21	1317.09	0.12	0.01%
31-Jan-19	0.4370	1130.70	1131.21	-0.50	-0.04%
7-Dec-18	0.2870	1092.28	1092.03	0.25	0.02%
25-Sep-18	0.2830	1086.11	1085.74	0.37	0.03%
18-Jul-18	0.2830	1087.76	1087.43	0.33	0.03%
18-Jul-18	0.2830	1087.76	1087.43	0.33	0.03%
27-Sep-18	0.3530	1077.04	1076.77	0.28	0.03%
19-Oct-18	0.6230	1320.61	1321.83	-1.22	-0.09%
12-Oct-18	0.4330	1136.13	1136.33	-0.20	-0.02%
9-Oct-18	0.2380	1081.65	1081.41	0.23	0.02%
13-Dec-18	0.3380	1105.86	1105.53	0.33	0.03%
8-Jan-19	0.4000	1121.67	1121.85	-0.18	-0.02%
27-Mar-18	0.2870	1279.38	1279.52	-0.13	-0.01%
27-Mar-18	0.2870	1279.38	1279.52	-0.13	-0.01%
7-Dec-18	0.3210	1105.25	1104.99	0.26	0.02%
13-Nov-18	0.1770	1079.90	1079.25	0.65	0.06%
23-Jan-19	0.4810	1162.20	1162.33	-0.13	-0.01%
18-Jan-19	0.3700	1104.44	1104.19	0.25	0.02%
21-Jan-19	0.6160	1365.11	1366.25	-1.14	-0.08%
6-Dec-18	0.4640	1116.97	1116.70	0.27	0.02%
14-Jan-19	0.7150	1351.33	1352.35	-1.03	-0.08%
17-Dec-18	0.3080	1099.66	1099.22	0.44	0.04%
23-Jan-19	0.2780	1143.03	1143.05	-0.02	0.00%
7-Dec-18	1.4860	1415.93	1418.63	-2.70	-0.19%
19-Dec-18	1.0460	1339.24	1342.40	-3.16	-0.24%
19-Oct-18	0.6230	1319.85	1321.06	-1.22	-0.09%
19-Nov-18	0.3360	1095.00	1094.79	0.21	0.02%
29-Jan-19	0.2040	1100.73	1100.61	0.12	0.01%
12-Feb-19	0.2790	1083.30	1083.15	0.16	0.01%
1-Oct-18	0.4360	1087.05	1085.24	1.82	0.17%
19-Oct-18	0.6220	1319.49	1320.71	-1.22	-0.09%
5-Dec-18	0.2320	1089.17	1088.73	0.44	0.04%
7-Dec-18	0.3660	1110.42	1110.31	0.11	0.01%
9-Jan-19	0.2270	1081.04	1080.78	0.25	0.02%
11-Sep-18	0.3040	1091.24	1091.17	0.08	0.01%
17-Jan-19	0.3340	1114.41	1114.46	-0.05	0.00%
13-Nov-18	0.2630	1120.70	1120.19	0.50	0.05%
3-Jan-19	0.4240	1150.26	1150.42	-0.16	-0.01%
11-Jan-19	0.2860	1129.28	1129.18	0.11	0.01%
25-Sep-18	0.5020	1171.73	1172.24	-0.51	-0.04%
17-Apr-18	0.2760	1072.80	1072.18	0.61	0.06%
18-Jul-18	0.6170	1190.46	1190.35	0.11	0.01%
21-Jan-19	0.6150	1363.93	1365.06	-1.13	-0.08%
18-Dec-18	0.4720	1266.13	1266.07	0.06	0.00%
23-Oct-18	0.4040	1293.10	1293.50	-0.40	-0.03%
6-Jan-19	0.7600	1424.20	1425.65	-1.45	-0.10%
24-Oct-18	0.3180	1096.45	1096.32	0.13	0.01%
18-May-18	0.4110	1110.12	1109.32	0.80	0.07%
28-Nov-18	0.2220	1086.91	1086.87	0.05	0.00%
1-Aug-18	0.6140	1187.96	1188.25	-0.30	-0.02%
1-Dec-18	0.2680	1079.51	1079.28	0.23	0.02%
25-Jul-18	0.6760	1261.17	1261.95	-0.78	-0.06%

4-Jan-19	0.8030	1261.96	1262.58	-0.62	-0.05%
22-Sep-18	0.3280	1106.03	1105.92	0.11	0.01%
17-Jan-19	1.5120	1409.91	1413.39	-3.48	-0.25%
14-Jan-19	0.6450	1370.12	1371.03	-0.91	-0.07%
15-Jan-19	0.2740	1108.10	1108.09	0.01	0.00%
10-Oct-18	0.7240	1134.97	1132.67	2.30	0.20%
23-Jan-19	0.3230	1169.29	1169.24	0.04	0.00%
10-Dec-18	0.7740	1399.84	1400.54	-0.70	-0.05%
10-Jan-19	0.9540	1427.34	1429.70	-2.36	-0.17%
23-Jul-18	0.6930	1180.51	1181.83	-1.32	-0.11%
6-Jan-19	1.4730	1346.55	1349.14	-2.59	-0.19%
13-Dec-18	0.3820	1102.99	1102.80	0.19	0.02%
6-Dec-18	1.4110	1496.53	1500.11	-3.58	-0.24%
20-Jun-18	0.5830	1345.41	1345.56	-0.16	-0.01%
12-Oct-18	0.5910	1246.32	1246.69	-0.38	-0.03%
4-Dec-18	0.3360	1094.54	1094.27	0.27	0.02%
11-Dec-18	0.2940	1078.68	1078.11	0.56	0.05%
14-Jan-19	0.7130	1349.41	1350.44	-1.03	-0.08%
10-Oct-18	0.3700	1107.93	1107.26	0.67	0.06%
8-Jan-19	0.3930	1143.06	1143.22	-0.16	-0.01%
24-Oct-18	0.2240	1070.59	1070.15	0.44	0.04%
13-Sep-18	0.3170	1280.16	1279.96	0.19	0.02%
13-Sep-18	0.3170	1280.16	1279.96	0.19	0.02%
5-Oct-18	0.4110	1131.49	1131.63	-0.14	-0.01%
22-Aug-18	0.5400	1131.75	1131.13	0.62	0.05%
4-Jan-19	0.3270	1094.18	1094.16	0.02	0.00%
4-Dec-18	0.3710	1097.02	1096.47	0.55	0.05%
6-Nov-18	0.5210	1313.82	1313.72	0.10	0.01%
7-Aug-18	0.5830	1183.65	1183.91	-0.26	-0.02%
6-Nov-18	0.5210	1313.81	1313.70	0.10	0.01%
9-Oct-18	0.3050	1098.60	1098.49	0.11	0.01%
6-Sep-18	0.5820	1216.72	1216.33	0.39	0.03%
22-Jan-19	0.3210	1128.59	1128.39	0.20	0.02%
19-Oct-18	0.6210	1317.12	1318.34	-1.22	-0.09%
23-May-18	0.2300	1063.52	1063.07	0.45	0.04%
12-Dec-18	0.3700	1128.84	1128.91	-0.07	-0.01%
9-Jan-19	0.5020	1166.07	1166.28	-0.21	-0.02%
6-Dec-18	0.4210	1105.30	1104.81	0.49	0.04%
13-Oct-18	0.3280	1124.02	1124.47	-0.45	-0.04%
24-Nov-18	0.5150	1138.94	1138.78	0.16	0.01%
10-Oct-18	0.3140	1110.30	1109.86	0.45	0.04%
10-Oct-18	0.2570	1139.30	1139.46	-0.16	-0.01%
6-Jan-19	0.7600	1422.51	1423.95	-1.45	-0.10%
6-Dec-18	0.2730	1082.62	1082.24	0.38	0.03%
9-Jan-19	0.3180	1119.77	1119.58	0.19	0.02%
12-Dec-18	0.4290	1116.95	1116.56	0.38	0.03%
7-Dec-18	0.2390	1088.72	1088.49	0.23	0.02%
26-Jun-18	0.4380	1331.23	1330.83	0.40	0.03%
4-Jan-19	0.3670	1097.78	1097.61	0.17	0.02%
24-Oct-18	0.2560	1074.22	1073.56	0.66	0.06%
17-May-18	0.3930	1273.37	1273.13	0.23	0.02%
7-Aug-18	0.4010	1247.32	1247.15	0.17	0.01%
15-Nov-18	0.4180	1145.71	1146.32	-0.61	-0.05%
25-Oct-18	0.2320	1074.35	1073.98	0.37	0.03%
25-Jan-19	0.3520	1096.63	1096.01	0.62	0.06%
18-Dec-18	0.3690	1134.26	1134.20	0.06	0.01%
16-Oct-18	0.3630	1096.36	1095.57	0.79	0.07%

4-Dec-18	0.4330	1089.23	1089.05	0.19	0.02%
4-Dec-18	0.4330	1089.23	1089.05	0.19	0.02%
4-Dec-18	0.4330	1089.23	1089.05	0.19	0.02%
4-Dec-18	0.4330	1089.23	1089.05	0.19	0.02%
19-Oct-18	0.6200	1316.09	1317.31	-1.21	-0.09%
15-Jan-19	0.3930	1273.76	1273.28	0.48	0.04%
15-Jan-19	0.3930	1273.76	1273.28	0.48	0.04%
14-Jan-19	0.6440	1367.77	1368.68	-0.91	-0.07%
4-Jan-19	0.2810	1095.74	1095.61	0.13	0.01%
20-Sep-18	0.2730	1075.44	1074.96	0.47	0.04%
10-Jan-19	0.9530	1425.17	1427.53	-2.35	-0.17%
18-May-18	0.4430	1098.05	1097.66	0.39	0.04%
17-Jul-18	0.5350	1189.51	1189.88	-0.38	-0.03%
5-Oct-18	0.2230	1130.65	1130.44	0.21	0.02%
29-Aug-18	0.3920	1098.52	1098.10	0.42	0.04%
6-Dec-18	1.4090	1494.30	1497.87	-3.57	-0.24%
27-Sep-18	0.2620	1105.07	1105.03	0.05	0.00%
15-May-18	0.0450	1034.57	1034.47	0.09	0.01%
30-Oct-18	0.1790	1070.12	1069.71	0.41	0.04%
7-Dec-18	1.1670	1464.54	1465.61	-1.08	-0.07%
15-Sep-18	0.2180	1080.44	1080.31	0.14	0.01%
18-May-18	0.3220	1115.53	1114.01	1.52	0.14%
9-Jan-19	0.4640	1165.84	1165.94	-0.11	-0.01%
23-Jan-19	0.6090	1202.47	1203.29	-0.82	-0.07%
11-Oct-18	0.5460	1134.42	1133.75	0.67	0.06%
12-Jul-18	0.3450	1274.09	1273.85	0.24	0.02%
12-Jul-18	0.3450	1274.09	1273.85	0.24	0.02%
1-Feb-19	0.2920	1089.68	1089.53	0.15	0.01%
25-Oct-18	0.3670	1109.93	1109.89	0.05	0.00%
22-Jan-19	0.2480	1081.53	1081.18	0.35	0.03%
6-Dec-18	0.3800	1115.26	1115.00	0.25	0.02%
24-Oct-18	0.3560	1109.05	1108.99	0.06	0.01%
19-Apr-18	0.2370	1065.37	1064.99	0.37	0.04%
15-Aug-18	0.2510	1267.71	1267.68	0.03	0.00%
3-Jan-19	0.3670	1125.63	1125.95	-0.32	-0.03%
9-Oct-18	0.4120	1153.10	1153.23	-0.13	-0.01%
24-Jan-19	0.3340	1146.04	1146.31	-0.27	-0.02%
11-Sep-18	0.6040	1152.06	1152.25	-0.19	-0.02%
25-Sep-18	0.4380	1285.63	1285.75	-0.11	-0.01%
19-Dec-18	1.0400	1333.81	1336.99	-3.18	-0.24%
9-Oct-18	0.4170	1116.40	1116.73	-0.33	-0.03%
10-Dec-18	0.7700	1395.95	1396.65	-0.70	-0.05%
10-Oct-18	0.6390	1152.42	1151.70	0.72	0.06%
7-Dec-18	1.4800	1410.74	1413.45	-2.71	-0.19%
20-Jun-18	0.3360	1084.03	1083.40	0.63	0.06%
25-Jan-19	0.2680	1118.15	1118.21	-0.06	-0.01%
28-Nov-18	0.2460	1079.14	1078.76	0.38	0.04%
23-Jan-19	0.4840	1299.49	1299.10	0.39	0.03%
23-Jan-19	0.4840	1299.49	1299.10	0.39	0.03%
1-Feb-19	1.0710	1305.80	1306.42	-0.62	-0.05%
9-Jan-19	0.4960	1137.77	1137.64	0.13	0.01%
11-Oct-18	0.3050	1049.18	1047.55	1.62	0.15%
22-Aug-18	0.4740	1222.27	1222.56	-0.29	-0.02%
10-Dec-18	0.2930	1092.66	1092.07	0.59	0.05%
2-Oct-18	0.3240	1099.44	1099.04	0.40	0.04%
30-Oct-18	0.1880	1072.30	1072.02	0.28	0.03%
9-Oct-18	0.5970	1161.18	1160.64	0.54	0.05%

30-Jan-19	0.3210	1121.99	1121.87	0.12	0.01%
6-Dec-18	0.3210	1086.76	1086.36	0.40	0.04%
4-Dec-18	0.3120	1098.68	1098.69	-0.01	0.00%
5-Feb-19	0.1850	1070.22	1070.02	0.21	0.02%
1-Feb-19	1.0700	1305.19	1305.83	-0.64	-0.05%
25-Sep-18	0.2990	1081.90	1081.39	0.51	0.05%
13-Nov-18	0.5010	1198.43	1198.49	-0.06	0.00%
1-Aug-18	0.7790	1193.90	1193.90	0.00	0.00%
24-Jan-19	0.2980	1110.81	1110.59	0.22	0.02%
24-Jan-19	0.2980	1110.81	1110.59	0.22	0.02%
12-Sep-18	0.6640	1072.54	1069.88	2.67	0.25%
9-May-18	0.5210	1272.23	1272.14	0.09	0.01%
25-Sep-18	0.2310	1075.43	1075.27	0.16	0.01%
1-Oct-18	0.4220	1116.22	1115.85	0.37	0.03%
12-Jul-18	0.3590	1274.50	1274.27	0.23	0.02%
12-Jul-18	0.3590	1274.50	1274.27	0.23	0.02%
10-Oct-18	0.4060	1130.57	1130.23	0.33	0.03%
24-Apr-18	0.2080	1070.13	1069.81	0.32	0.03%
4-Dec-18	0.3670	1106.18	1106.01	0.16	0.01%
30-Oct-18	0.2110	1083.65	1083.34	0.31	0.03%
19-Apr-18	0.3250	1078.88	1078.03	0.85	0.08%
1-Feb-19	0.2770	1086.74	1086.62	0.12	0.01%
14-Dec-18	0.2470	1089.51	1089.24	0.27	0.02%
24-Jan-19	0.3220	1109.70	1109.59	0.11	0.01%
4-Oct-18	0.4540	1125.07	1125.27	-0.20	-0.02%
11-Jun-18	0.4310	1198.64	1198.59	0.06	0.00%
7-Dec-18	0.2410	1098.20	1097.81	0.38	0.03%
8-May-18	0.2000	1063.44	1063.00	0.45	0.04%
15-Oct-18	0.7110	1190.95	1191.04	-0.09	-0.01%
29-Jun-18	0.2310	1096.17	1095.92	0.25	0.02%
24-Oct-18	0.2270	1067.78	1067.25	0.53	0.05%
24-Aug-18	0.3190	1060.18	1059.75	0.43	0.04%
1-Feb-19	0.2900	1086.66	1086.52	0.14	0.01%
29-Jan-19	0.4440	1137.09	1137.16	-0.07	-0.01%
28-Oct-18	0.2310	1067.30	1066.57	0.74	0.07%
22-Sep-18	0.2860	1078.18	1077.81	0.37	0.03%
2-Jan-19	0.3650	1149.90	1150.19	-0.28	-0.02%
14-Nov-18	0.3320	1101.27	1101.10	0.17	0.02%
24-Apr-18	0.3440	1079.02	1078.24	0.77	0.07%
15-Jan-19	0.3270	1092.88	1092.84	0.04	0.00%
18-Sep-18	0.3270	1076.25	1075.69	0.56	0.05%
17-Jan-19	1.5060	1404.25	1407.72	-3.47	-0.25%
1-Feb-19	0.3460	1093.65	1093.95	-0.30	-0.03%
4-Dec-18	0.3600	1107.86	1107.79	0.08	0.01%
18-Jul-18	0.6080	1176.94	1176.69	0.26	0.02%
16-Oct-18	0.3660	1085.01	1084.39	0.62	0.06%
26-Nov-18	0.4200	1101.64	1101.08	0.55	0.05%
10-Dec-18	1.4630	1392.72	1395.36	-2.64	-0.19%
25-Jun-18	0.6230	1157.25	1157.28	-0.03	0.00%
28-Oct-18	0.3400	1139.08	1139.15	-0.07	-0.01%
16-Oct-18	0.4540	1105.61	1104.58	1.03	0.09%
29-Jan-19	0.3250	1097.73	1097.28	0.45	0.04%
18-May-18	0.4050	1117.95	1117.16	0.79	0.07%
29-Jun-18	0.1810	1084.18	1083.63	0.54	0.05%
18-Oct-18	0.3750	1259.20	1259.79	-0.60	-0.05%
7-Dec-18	0.3300	1105.63	1105.39	0.24	0.02%
3-Oct-18	0.6020	1152.08	1151.88	0.20	0.02%

4-Oct-18	1.2900	1362.22	1362.31	-0.09	-0.01%
4-Oct-18	1.2900	1362.22	1362.31	-0.09	-0.01%
4-Oct-18	1.2900	1362.22	1362.31	-0.09	-0.01%
4-Oct-18	1.2900	1362.22	1362.31	-0.09	-0.01%
4-Oct-18	1.2900	1362.22	1362.31	-0.09	-0.01%
4-Oct-18	1.2900	1362.22	1362.31	-0.09	-0.01%
30-Nov-18	0.1660	1048.47	1048.17	0.30	0.03%
17-Apr-18	0.4550	1300.50	1300.26	0.25	0.02%
17-Apr-18	0.4550	1300.50	1300.26	0.25	0.02%
16-Oct-18	0.5080	1130.67	1130.26	0.41	0.04%
7-Feb-19	0.1620	1076.69	1076.59	0.10	0.01%
2-Oct-18	0.4740	1115.74	1114.75	0.99	0.09%
11-Dec-18	1.0960	1323.61	1325.43	-1.82	-0.14%
3-Oct-18	0.3030	1136.28	1136.38	-0.10	-0.01%
10-Jul-18	0.6580	1255.69	1255.44	0.24	0.02%
6-Feb-19	0.2920	1107.20	1107.21	-0.01	0.00%
16-Nov-18	0.3800	1113.73	1113.43	0.30	0.03%
23-Jun-18	0.5510	1111.56	1110.27	1.29	0.12%
10-Jan-19	0.3590	1127.80	1127.91	-0.11	-0.01%
9-Jan-19	0.2580	1085.33	1085.14	0.19	0.02%
4-Oct-18	1.2900	1361.58	1361.67	-0.09	-0.01%
4-Oct-18	1.2900	1361.57	1361.66	-0.09	-0.01%
25-Aug-18	0.2580	1081.85	1081.71	0.14	0.01%
6-Dec-18	0.2830	1099.99	1099.79	0.20	0.02%
30-May-18	0.4210	1102.70	1101.99	0.72	0.06%
23-Jan-19	0.6360	1179.93	1180.06	-0.14	-0.01%
25-Sep-18	0.4880	1137.95	1137.51	0.45	0.04%
23-Oct-18	0.7250	1249.65	1250.84	-1.19	-0.10%
6-Dec-18	0.3880	1115.04	1114.68	0.36	0.03%
30-Apr-18	0.4920	1277.84	1277.71	0.13	0.01%
18-Apr-18	0.3320	1090.00	1089.03	0.97	0.09%
12-Dec-18	0.6450	1170.22	1170.17	0.05	0.00%
9-Oct-18	0.3640	1099.31	1098.84	0.47	0.04%
14-Nov-18	0.4710	1139.66	1139.68	-0.02	0.00%
22-May-18	0.6260	1288.74	1289.32	-0.58	-0.04%
13-Dec-18	0.2340	1087.15	1086.98	0.17	0.02%
18-Jul-18	0.6200	1294.18	1294.91	-0.73	-0.06%
9-Oct-18	0.4480	1124.28	1123.99	0.28	0.02%
4-Oct-18	1.2890	1360.85	1360.94	-0.09	-0.01%
11-Sep-18	0.2410	1073.18	1072.92	0.26	0.02%
27-Nov-18	0.4310	1127.28	1127.21	0.06	0.01%
27-Sep-18	0.2290	1072.81	1072.33	0.48	0.04%
8-Jan-19	0.3520	1147.54	1147.88	-0.34	-0.03%
15-Jan-19	0.4700	1293.22	1292.71	0.51	0.04%
19-Sep-18	0.4480	1204.11	1203.95	0.15	0.01%
1-Feb-19	0.2910	1087.60	1087.49	0.12	0.01%
7-Dec-18	0.3080	1095.05	1095.02	0.04	0.00%
7-Nov-18	0.3290	1089.12	1088.72	0.40	0.04%
9-Jan-19	0.3530	1174.79	1175.26	-0.47	-0.04%
9-Oct-18	0.3780	1153.75	1154.01	-0.26	-0.02%
3-May-18	0.2910	1093.33	1092.69	0.65	0.06%
4-Oct-18	0.3860	1101.65	1101.11	0.54	0.05%
12-Apr-18	0.3230	1282.13	1281.99	0.14	0.01%
30-Oct-18	0.4540	1087.24	1086.30	0.95	0.09%
10-Oct-18	0.4310	1148.68	1148.56	0.12	0.01%
16-Aug-18	0.4110	1115.85	1114.98	0.87	0.08%
9-Jul-18	0.5820	1151.22	1151.07	0.15	0.01%

18-Sep-18	0.2730	1079.02	1078.72	0.30	0.03%
13-Dec-18	0.3020	1098.88	1098.83	0.05	0.00%
17-Apr-18	0.7710	1360.22	1359.51	0.71	0.05%
8-Feb-19	0.3440	1097.61	1097.44	0.17	0.02%
8-Jan-19	0.4980	1139.62	1139.59	0.02	0.00%
19-Jun-18	0.3390	1100.24	1099.96	0.28	0.03%
5-Oct-18	0.3200	1124.62	1124.54	0.08	0.01%
13-Dec-18	0.4200	1147.26	1147.30	-0.04	0.00%
13-Jun-18	0.2640	1076.42	1076.00	0.42	0.04%
6-Nov-18	0.2990	1111.81	1111.67	0.14	0.01%
28-Sep-18	0.2410	1102.75	1102.35	0.41	0.04%
3-Oct-18	0.2830	1115.73	1115.64	0.09	0.01%
13-Jun-18	0.3420	1095.57	1095.15	0.42	0.04%
2-Jan-19	0.3940	1131.06	1131.29	-0.24	-0.02%
25-Oct-18	0.3290	1106.01	1105.92	0.09	0.01%
18-Dec-18	0.4830	1131.30	1130.79	0.51	0.05%
10-Dec-18	0.4350	1150.23	1150.37	-0.14	-0.01%
6-Nov-18	0.2550	1086.34	1086.00	0.34	0.03%
2-Oct-18	0.4800	1122.46	1121.84	0.62	0.06%
13-Dec-18	0.4220	1164.06	1164.55	-0.49	-0.04%
24-May-18	0.3360	1090.90	1090.11	0.79	0.07%
27-Sep-18	0.3670	1097.32	1096.91	0.41	0.04%
14-Dec-18	0.4250	1137.66	1137.67	0.00	0.00%
20-Aug-18	0.1970	1058.76	1058.28	0.48	0.05%
23-Jan-19	0.2980	1112.37	1112.38	-0.02	0.00%
13-Dec-18	0.4430	1138.13	1137.82	0.32	0.03%
24-Jan-19	0.3210	1101.85	1101.57	0.28	0.03%
10-Dec-18	1.4570	1388.47	1391.12	-2.65	-0.19%
14-Nov-18	0.3150	1095.18	1094.93	0.25	0.02%
19-Nov-18	0.3320	1090.34	1089.64	0.70	0.06%
4-Oct-18	0.2450	1110.02	1109.98	0.04	0.00%
5-Feb-19	0.1840	1069.53	1069.32	0.21	0.02%
29-Nov-18	0.3620	1084.98	1084.87	0.11	0.01%
9-Oct-18	0.3690	1144.76	1145.08	-0.32	-0.03%
9-Oct-18	0.3640	1159.47	1159.55	-0.08	-0.01%
11-Dec-18	1.0930	1319.38	1321.20	-1.81	-0.14%
29-Oct-18	0.2030	1288.23	1288.21	0.03	0.00%
6-Aug-18	0.5940	1154.50	1153.92	0.58	0.05%
6-Aug-18	0.5940	1154.49	1153.91	0.58	0.05%
29-Oct-18	0.2030	1288.12	1288.10	0.03	0.00%
27-Nov-18	0.3570	1109.08	1108.89	0.19	0.02%
21-Feb-18	0.4700	1275.98	1275.13	0.85	0.07%
14-Nov-18	0.3090	1094.35	1094.18	0.17	0.02%
12-Oct-18	0.6090	1143.62	1143.04	0.58	0.05%
20-Nov-18	0.2440	1068.13	1067.19	0.93	0.09%
2-Aug-18	0.4950	1173.70	1173.48	0.22	0.02%
12-Jun-18	0.5160	1136.12	1135.32	0.80	0.07%
12-Nov-18	1.3440	1436.04	1438.48	-2.44	-0.17%
12-Oct-18	0.4960	1120.28	1119.63	0.65	0.06%
12-Dec-18	0.2520	1151.66	1151.71	-0.05	0.00%
30-Oct-18	0.2140	1077.54	1077.15	0.39	0.04%
28-Oct-18	0.4390	1173.37	1173.73	-0.36	-0.03%
28-Oct-18	0.4390	1173.37	1173.73	-0.36	-0.03%
25-Sep-18	0.7870	1223.37	1222.98	0.38	0.03%
6-Aug-18	0.5600	1291.87	1292.33	-0.46	-0.04%
25-Sep-18	0.7630	1385.64	1386.59	-0.95	-0.07%
30-May-18	0.4160	1125.97	1125.44	0.53	0.05%

5-Feb-19	0.2960	1096.32	1096.20	0.12	0.01%
7-Dec-18	0.3010	1094.45	1094.35	0.10	0.01%
18-Sep-18	0.5290	1137.11	1136.89	0.22	0.02%
16-Oct-18	0.3870	1091.72	1090.75	0.97	0.09%
10-Oct-18	0.6160	1145.55	1144.67	0.87	0.08%
11-Sep-18	0.2790	1085.96	1085.66	0.30	0.03%
26-Apr-18	0.2510	1072.83	1072.22	0.61	0.06%
27-Nov-18	0.1280	1028.40	1027.81	0.60	0.06%
13-Jul-18	0.3380	1133.65	1133.76	-0.11	-0.01%
10-Oct-18	0.1830	1117.20	1117.18	0.02	0.00%
15-Oct-18	0.5490	1143.28	1142.74	0.54	0.05%
25-Jan-19	0.3920	1107.67	1107.16	0.51	0.05%
19-Jul-18	0.1580	1074.79	1074.13	0.66	0.06%
28-Oct-18	1.5410	1321.47	1322.97	-1.50	-0.11%
11-Jan-19	0.2800	1112.23	1111.84	0.39	0.04%
11-Jan-19	0.2460	1098.11	1097.87	0.24	0.02%
13-Dec-18	0.5020	1152.60	1152.04	0.55	0.05%
24-Oct-18	0.2140	1070.52	1070.12	0.40	0.04%
1-Aug-18	0.4680	1183.21	1183.23	-0.02	0.00%
6-Dec-18	0.3810	1091.37	1090.64	0.72	0.07%
3-Dec-18	0.5060	1305.43	1305.96	-0.53	-0.04%
13-Dec-18	0.3760	1120.65	1120.25	0.39	0.04%
16-Nov-18	0.3950	1112.95	1112.71	0.25	0.02%
9-Nov-18	0.3950	1107.36	1107.04	0.32	0.03%
30-May-18	0.2840	1079.36	1078.47	0.89	0.08%
5-Oct-18	0.5320	1139.55	1139.73	-0.18	-0.02%
24-May-18	0.3350	1087.64	1086.85	0.78	0.07%
10-Jan-19	0.4850	1148.74	1149.02	-0.28	-0.02%
29-Jan-19	0.2650	1129.20	1129.05	0.15	0.01%
14-Sep-18	0.2630	1077.01	1076.77	0.24	0.02%
31-Oct-18	0.1380	1087.56	1087.21	0.34	0.03%
18-Sep-18	0.5040	1137.20	1137.20	0.00	0.00%
30-Aug-18	0.2020	1038.25	1037.59	0.67	0.06%
24-Nov-18	0.3180	1084.88	1084.57	0.30	0.03%
2-Oct-18	0.2910	1102.77	1102.44	0.33	0.03%
27-Nov-18	0.2100	1059.25	1058.30	0.95	0.09%
24-Nov-18	0.4100	1118.93	1118.64	0.29	0.03%
27-Sep-18	0.3020	1077.43	1076.49	0.95	0.09%
18-Sep-18	0.5280	1134.70	1134.48	0.22	0.02%
25-Apr-18	0.2600	1076.19	1075.67	0.52	0.05%
23-Jun-18	0.3350	1099.99	1099.85	0.15	0.01%
25-Sep-18	0.3200	1088.06	1087.61	0.45	0.04%
13-Jun-18	0.5210	1128.07	1127.25	0.82	0.07%
11-Oct-18	0.4530	1128.53	1127.95	0.58	0.05%
4-Oct-18	1.2840	1355.02	1355.10	-0.08	-0.01%
4-Oct-18	1.2840	1355.02	1355.10	-0.08	-0.01%
14-Dec-18	0.2640	1096.31	1095.96	0.35	0.03%
24-Oct-18	0.3490	1293.14	1293.26	-0.12	-0.01%
24-Oct-18	0.3490	1293.14	1293.26	-0.12	-0.01%
11-Jan-19	0.2800	1127.97	1127.61	0.36	0.03%
21-Sep-18	0.4020	1093.66	1092.97	0.69	0.06%
16-Oct-18	0.4800	1155.08	1154.85	0.23	0.02%
25-Jul-18	0.7710	1252.09	1251.79	0.30	0.02%
25-Sep-18	0.2840	1088.36	1087.77	0.58	0.05%
25-Sep-18	0.2670	1080.59	1080.22	0.38	0.03%
24-Jan-19	0.4320	1127.86	1127.38	0.49	0.04%
14-Dec-18	0.2030	1091.51	1091.32	0.19	0.02%

31-Jul-18	0.6880	1172.14	1170.98	1.16	0.10%
1-Feb-19	0.2960	1086.07	1085.84	0.23	0.02%
8-Jan-19	0.4910	1157.40	1157.78	-0.38	-0.03%
11-Oct-18	0.4940	1116.27	1115.45	0.82	0.07%
14-Nov-18	0.3010	1089.86	1089.61	0.25	0.02%
6-Dec-18	0.2980	1129.05	1129.06	-0.01	0.00%
22-Jan-19	0.2200	1061.12	1060.51	0.61	0.06%
10-Oct-18	0.3980	1119.32	1119.01	0.31	0.03%
5-Dec-18	0.3390	1095.46	1095.27	0.19	0.02%
25-Sep-18	0.5280	1143.08	1142.72	0.36	0.03%
15-Oct-18	0.3960	1093.27	1092.39	0.88	0.08%
23-Jan-19	0.3070	1145.14	1145.05	0.09	0.01%
19-Nov-18	0.3120	1076.49	1075.76	0.73	0.07%
24-Oct-18	0.2630	1061.12	1060.02	1.10	0.10%
5-Feb-19	0.6090	1286.03	1286.59	-0.56	-0.04%
4-Oct-18	0.6860	1369.69	1371.32	-1.63	-0.12%
15-Oct-18	0.5720	1151.38	1151.30	0.08	0.01%
20-Nov-18	0.0500	1025.17	1025.00	0.17	0.02%
18-Sep-18	0.3060	1083.85	1083.13	0.72	0.07%
1-Oct-18	0.3810	1131.48	1131.47	0.01	0.00%
12-Nov-18	1.3390	1431.70	1434.12	-2.43	-0.17%
12-Nov-18	1.3390	1431.70	1434.12	-2.43	-0.17%
20-Jul-18	0.3630	1272.72	1272.36	0.36	0.03%
23-Jan-19	0.3730	1107.39	1107.06	0.34	0.03%
17-Jan-19	0.3100	1113.24	1113.34	-0.10	-0.01%
9-May-18	0.3640	1178.84	1178.82	0.02	0.00%
6-Jan-19	1.0180	1359.44	1360.40	-0.95	-0.07%
27-Jun-18	0.3320	1271.22	1271.04	0.18	0.01%
27-Jun-18	0.3320	1271.22	1271.04	0.18	0.01%
25-Sep-18	0.4530	1128.57	1128.08	0.49	0.04%
2-Oct-18	0.5190	1171.63	1171.85	-0.22	-0.02%
9-Oct-18	0.3880	1152.13	1152.32	-0.19	-0.02%
17-Jan-19	2.5050	1371.14	1378.92	-7.78	-0.57%
4-Dec-18	0.2820	1131.21	1131.03	0.18	0.02%
18-Jul-18	0.3160	1273.93	1273.81	0.11	0.01%
8-May-18	0.4530	1299.88	1299.20	0.68	0.05%
5-Sep-18	0.5200	1191.42	1192.11	-0.69	-0.06%
23-Oct-18	0.3290	1207.78	1207.84	-0.06	0.00%
29-Jan-19	0.4460	1175.67	1175.82	-0.14	-0.01%
3-Dec-18	0.5030	1301.06	1301.60	-0.54	-0.04%
12-Sep-18	0.3000	1088.15	1087.74	0.41	0.04%
22-Sep-18	0.3930	1111.30	1111.04	0.25	0.02%
6-Dec-18	0.3480	1092.81	1092.16	0.64	0.06%
15-Apr-18	0.7870	1346.24	1345.97	0.27	0.02%
5-Feb-19	0.7320	1321.53	1322.71	-1.18	-0.09%
10-Oct-18	0.4530	1145.89	1145.62	0.27	0.02%
26-Sep-18	0.4070	1101.08	1100.59	0.49	0.04%
6-Sep-18	0.6300	1225.13	1225.01	0.12	0.01%
18-Apr-18	0.3710	1100.15	1099.48	0.67	0.06%
28-Oct-18	1.5350	1316.61	1318.10	-1.48	-0.11%
28-Oct-18	1.5350	1316.61	1318.10	-1.48	-0.11%
1-Aug-18	0.4310	1101.56	1100.95	0.62	0.06%
4-Oct-18	0.4910	1115.05	1114.95	0.09	0.01%
30-Aug-18	0.2790	1090.68	1090.56	0.13	0.01%
24-Jan-19	0.4460	1122.87	1122.61	0.26	0.02%
10-Oct-18	0.4890	1150.73	1150.45	0.28	0.02%
17-Jul-18	0.6650	1199.67	1200.21	-0.54	-0.05%

6-Feb-19	0.2380	1104.80	1104.75	0.05	0.00%
21-Sep-18	0.3350	1141.43	1141.42	0.00	0.00%
18-Jan-19	0.3460	1132.97	1132.90	0.07	0.01%
10-Oct-18	0.5580	1128.57	1127.63	0.94	0.08%
20-Nov-18	0.4130	1130.71	1130.57	0.14	0.01%
15-Nov-18	0.4130	1125.28	1125.16	0.13	0.01%
18-May-18	0.4570	1164.18	1163.07	1.11	0.10%
27-Nov-18	0.5330	1164.57	1164.85	-0.28	-0.02%
2-Jan-19	0.4160	1133.51	1133.70	-0.19	-0.02%
17-Jul-18	0.3760	1177.41	1177.43	-0.02	0.00%
2-Aug-18	0.0780	981.59	981.26	0.33	0.03%
28-Nov-18	0.3230	1082.95	1081.99	0.96	0.09%
22-Jan-19	0.5660	1138.49	1137.94	0.55	0.05%
16-Oct-18	0.5850	1099.32	1098.45	0.87	0.08%
24-Jan-19	0.3670	1093.43	1093.43	0.00	0.00%
30-May-18	0.4480	1110.85	1110.05	0.80	0.07%
1-Feb-19	0.2950	1082.06	1081.83	0.23	0.02%
25-Sep-18	0.7590	1379.44	1380.39	-0.94	-0.07%
5-Oct-18	0.4660	1102.22	1101.69	0.53	0.05%
28-Nov-18	0.4190	1130.13	1129.78	0.35	0.03%
5-Feb-19	0.3170	1093.79	1093.55	0.24	0.02%
5-Oct-18	0.5020	1148.45	1148.57	-0.12	-0.01%
22-Jan-19	0.2190	1105.68	1105.68	0.00	0.00%
17-Jan-19	0.2200	1093.09	1092.99	0.10	0.01%
26-Oct-18	0.2790	1073.18	1072.75	0.43	0.04%
3-Jan-19	0.3460	1117.38	1117.45	-0.07	-0.01%
5-Feb-19	0.2490	1078.44	1078.09	0.34	0.03%
24-Jul-18	0.1510	1071.94	1071.20	0.73	0.07%
18-Dec-18	1.3890	1456.37	1458.80	-2.43	-0.17%
1-Oct-18	0.3110	1099.74	1099.59	0.15	0.01%
10-Dec-18	0.4720	1111.75	1111.57	0.18	0.02%
12-Dec-18	0.2530	1091.97	1091.79	0.19	0.02%
9-Aug-18	0.2280	1036.54	1035.60	0.93	0.09%
9-Oct-18	0.3250	1095.88	1095.68	0.20	0.02%
7-Feb-19	0.1920	1074.31	1074.13	0.17	0.02%
13-Jun-18	0.4410	1102.03	1100.88	1.15	0.10%
13-Dec-18	0.2770	1138.69	1138.85	-0.16	-0.01%
22-Jan-19	0.2990	1097.10	1096.97	0.13	0.01%
17-Dec-18	0.2870	1096.40	1096.05	0.35	0.03%
28-Oct-18	0.4120	1139.77	1139.92	-0.15	-0.01%
24-Apr-18	0.2530	1069.45	1068.94	0.52	0.05%
23-Jul-18	0.6260	1348.20	1348.38	-0.18	-0.01%
18-Sep-18	0.5690	1130.53	1129.88	0.65	0.06%
11-Dec-18	0.6740	1169.05	1168.91	0.14	0.01%
28-Nov-18	0.2250	1083.09	1082.99	0.10	0.01%
2-Oct-18	0.4750	1140.42	1140.44	-0.02	0.00%
16-Oct-18	0.5140	1135.02	1135.10	-0.08	-0.01%
30-Oct-18	0.3890	1121.59	1121.42	0.18	0.02%
7-Jan-19	0.2480	1077.22	1076.96	0.27	0.02%
22-Jan-19	0.2440	1076.16	1075.47	0.69	0.06%
3-Oct-18	0.4650	1135.22	1134.94	0.28	0.02%
24-Sep-18	0.3450	1110.00	1109.96	0.04	0.00%
24-Jan-19	0.4710	1135.12	1134.57	0.55	0.05%
28-Jun-18	0.0580	1097.69	1097.77	-0.08	-0.01%
24-Jan-19	0.2230	1258.77	1259.17	-0.41	-0.03%
22-Aug-18	0.3310	1106.89	1106.75	0.14	0.01%
7-Feb-19	0.3170	1084.08	1083.99	0.09	0.01%

11-May-18	0.8330	1288.84	1289.00	-0.16	-0.01%
12-Dec-18	0.3680	1112.81	1112.33	0.48	0.04%
6-Dec-18	0.2720	1106.96	1106.99	-0.03	0.00%
2-Aug-18	0.2850	1061.80	1060.78	1.02	0.10%
3-Aug-18	0.3550	1134.71	1134.55	0.16	0.01%
19-Oct-18	0.3200	1130.55	1130.67	-0.11	-0.01%
14-Aug-18	0.6870	1274.26	1273.65	0.61	0.05%
17-Jan-19	0.2370	1116.65	1116.40	0.25	0.02%
24-Jan-19	0.3830	1119.22	1119.02	0.20	0.02%
8-Nov-18	0.2000	1092.19	1092.01	0.18	0.02%
29-Jan-19	0.3980	1151.52	1151.75	-0.24	-0.02%
10-Jan-19	0.3220	1131.39	1131.60	-0.21	-0.02%
14-Jun-18	0.6170	1112.34	1111.42	0.92	0.08%
4-Sep-18	0.3170	1087.31	1086.83	0.49	0.04%
7-Aug-18	0.5790	1209.26	1209.31	-0.06	0.00%
17-Jul-18	0.4050	1312.40	1312.02	0.39	0.03%
22-Sep-18	0.3430	1099.53	1099.26	0.27	0.02%
20-Nov-18	0.3970	1110.10	1109.84	0.25	0.02%
2-Oct-18	0.3210	1082.74	1081.93	0.81	0.08%
6-Aug-18	0.5560	1282.28	1282.73	-0.45	-0.04%
18-Oct-18	0.3120	1299.07	1298.98	0.10	0.01%
18-Oct-18	0.3120	1299.07	1298.98	0.10	0.01%
13-Jun-18	0.3280	1142.45	1142.68	-0.23	-0.02%
20-Jun-18	0.2820	1072.39	1071.81	0.58	0.05%
11-Jul-18	0.3010	1087.73	1087.65	0.08	0.01%
15-Jan-19	0.3750	1159.78	1160.07	-0.29	-0.03%
12-Dec-18	0.2340	1089.28	1089.04	0.23	0.02%
18-Jan-19	0.5580	1298.39	1299.48	-1.09	-0.08%
1-Feb-19	0.2690	1074.69	1074.50	0.19	0.02%
26-Apr-18	0.3230	1081.46	1080.21	1.25	0.12%
6-Jan-19	1.0140	1354.11	1355.06	-0.95	-0.07%
9-Oct-18	0.3270	1110.21	1110.17	0.03	0.00%
9-Oct-18	0.5130	1138.66	1138.38	0.28	0.02%
24-Apr-18	0.1950	1063.79	1063.29	0.50	0.05%
24-Apr-18	0.2070	1064.54	1064.10	0.44	0.04%
2-Aug-18	0.2830	1061.60	1060.44	1.16	0.11%
19-Nov-18	0.3160	1084.27	1083.86	0.41	0.04%
23-Oct-18	0.4690	1231.63	1232.39	-0.76	-0.06%
4-Dec-18	0.3110	1104.46	1104.33	0.13	0.01%
17-Jan-19	2.4940	1365.57	1373.32	-7.75	-0.57%
9-Oct-18	0.5490	1135.98	1135.40	0.59	0.05%
22-Sep-18	0.3920	1095.84	1095.17	0.67	0.06%
3-Aug-18	0.2420	1079.60	1079.41	0.19	0.02%
13-Dec-18	0.3410	1116.90	1116.90	0.00	0.00%
20-Sep-18	0.2710	1094.40	1094.20	0.19	0.02%
22-Jan-19	0.2790	1109.09	1109.32	-0.22	-0.02%
13-Dec-18	0.3850	1120.96	1120.31	0.65	0.06%
19-Jun-18	0.4010	1084.36	1083.07	1.28	0.12%
15-Apr-18	0.7830	1340.50	1340.23	0.26	0.02%
13-Jun-18	0.5820	1127.62	1126.21	1.41	0.13%
24-Jul-18	0.5900	1314.99	1314.80	0.19	0.01%
10-Oct-18	0.5030	1152.36	1151.92	0.44	0.04%
16-Jul-18	0.3180	1139.14	1139.25	-0.11	-0.01%
15-Jan-19	0.3230	1122.86	1122.79	0.07	0.01%
7-Nov-18	0.2330	1079.44	1079.14	0.30	0.03%
15-Nov-18	0.2230	1101.13	1100.98	0.16	0.01%
20-Sep-18	0.2530	1070.67	1070.27	0.40	0.04%

28-Nov-18	0.3090	1115.74	1115.77	-0.03	0.00%
27-Nov-18	0.3000	1100.41	1099.97	0.45	0.04%
14-Sep-18	0.1700	1067.35	1067.19	0.16	0.01%
5-Oct-18	0.4540	1112.90	1112.46	0.45	0.04%
24-Oct-18	0.2810	1073.95	1073.19	0.76	0.07%
14-Nov-18	0.2920	1097.24	1097.04	0.20	0.02%
27-Nov-18	0.1730	1075.31	1075.05	0.26	0.02%
11-Sep-18	0.6030	1113.61	1112.94	0.67	0.06%
24-Oct-18	0.2680	1072.70	1072.13	0.58	0.05%
10-Dec-18	0.4080	1142.67	1142.82	-0.15	-0.01%
14-Jun-18	0.0530	1101.13	1101.18	-0.05	0.00%
12-Dec-18	0.4200	1177.04	1177.43	-0.39	-0.03%
13-Dec-18	0.2870	1099.29	1099.17	0.12	0.01%
8-Sep-18	0.2180	1083.82	1083.76	0.06	0.01%
16-Oct-18	0.3180	1092.53	1092.02	0.51	0.05%
18-Jan-19	0.5560	1296.09	1297.18	-1.09	-0.08%
8-Jan-19	0.2380	1087.96	1087.66	0.30	0.03%
5-Dec-18	0.3970	1100.79	1100.38	0.41	0.04%
12-Sep-18	0.4080	1096.81	1096.03	0.77	0.07%
12-Sep-18	0.4080	1096.81	1096.03	0.77	0.07%
12-Sep-18	0.4080	1096.81	1096.03	0.77	0.07%
12-Sep-18	0.4080	1096.81	1096.03	0.77	0.07%
12-Sep-18	0.4080	1096.81	1096.03	0.77	0.07%
12-Sep-18	0.4080	1096.81	1096.03	0.77	0.07%
12-Sep-18	0.4080	1096.81	1096.03	0.77	0.07%
12-Sep-18	0.4080	1096.81	1096.03	0.77	0.07%
12-Sep-18	0.4080	1096.81	1096.03	0.77	0.07%
15-Jun-18	0.3130	1105.51	1105.27	0.23	0.02%
1-Feb-19	0.2130	1082.09	1081.82	0.27	0.02%
17-Dec-18	0.4180	1291.72	1291.08	0.64	0.05%
11-Jan-19	0.4810	1339.20	1339.28	-0.08	-0.01%
17-Dec-18	0.4180	1291.66	1291.02	0.64	0.05%
7-Aug-18	0.5760	1165.70	1165.84	-0.14	-0.01%
15-Nov-18	0.4150	1117.35	1117.14	0.21	0.02%
18-Jul-18	0.6860	1255.08	1255.73	-0.65	-0.05%
18-Jan-19	0.3740	1101.46	1101.13	0.33	0.03%
30-Nov-18	0.1990	1062.71	1062.44	0.27	0.03%
7-Dec-18	2.1210	1572.62	1578.37	-5.75	-0.37%
14-Sep-18	0.3670	1117.76	1117.45	0.31	0.03%
24-Apr-18	0.2720	1074.26	1073.65	0.61	0.06%
25-Sep-18	0.3350	1089.04	1088.63	0.41	0.04%
18-Dec-18	1.3840	1451.30	1453.72	-2.42	-0.17%
17-Sep-18	0.4810	1122.83	1122.56	0.26	0.02%
3-Oct-18	0.6280	1149.58	1149.03	0.55	0.05%
22-Jan-19	0.5060	1125.70	1125.30	0.39	0.04%
15-Sep-18	0.3090	1082.38	1081.92	0.47	0.04%
8-Mar-18	0.4730	1298.90	1298.57	0.33	0.03%
8-Mar-18	0.4730	1298.90	1298.57	0.33	0.03%
29-Jan-19	0.4640	1133.51	1132.94	0.57	0.05%
30-Aug-18	0.2620	1076.93	1076.04	0.89	0.08%
23-Jul-18	0.2710	1076.29	1076.42	-0.13	-0.01%
2-Oct-18	0.4780	1143.05	1142.59	0.46	0.04%
1-Oct-18	0.3340	1107.58	1107.14	0.44	0.04%
28-Feb-18	1.0490	1290.97	1291.25	-0.28	-0.02%
4-Sep-18	0.2910	1086.80	1086.63	0.17	0.02%
29-Jan-19	0.3480	1128.10	1127.96	0.14	0.01%
19-Sep-18	0.7240	1247.09	1248.14	-1.05	-0.08%
4-Jan-19	0.5210	1157.06	1157.16	-0.10	-0.01%

3-Oct-18	0.2740	1109.12	1108.72	0.39	0.04%
6-Feb-19	0.2280	1091.81	1091.68	0.12	0.01%
11-Jun-18	0.4560	1116.16	1115.42	0.74	0.07%
14-Sep-18	0.2120	1084.91	1084.74	0.17	0.02%
13-Dec-18	0.9620	1512.75	1512.81	-0.06	0.00%
22-Sep-18	0.3030	1103.68	1103.37	0.31	0.03%
25-Apr-18	0.2480	1081.37	1080.86	0.51	0.05%
23-Jun-18	0.4830	1103.77	1102.66	1.11	0.10%
7-Dec-18	0.3260	1090.45	1090.10	0.36	0.03%
4-Jan-19	0.2470	1091.33	1091.35	-0.03	0.00%
4-Dec-18	0.2740	1084.81	1084.59	0.22	0.02%
30-Jan-19	0.3750	1110.67	1110.34	0.34	0.03%
3-Jan-19	0.3430	1099.64	1099.50	0.14	0.01%
19-Sep-18	0.7580	1217.44	1216.56	0.87	0.07%
12-Jul-18	0.4430	1268.13	1268.65	-0.53	-0.04%
16-Oct-18	0.7680	1364.90	1366.52	-1.62	-0.12%
2-Oct-18	0.3120	1114.12	1113.70	0.42	0.04%
18-Dec-18	1.2270	1379.46	1381.20	-1.75	-0.13%
20-Sep-18	0.3230	1082.20	1081.64	0.56	0.05%
6-Nov-18	0.2830	1097.11	1096.96	0.16	0.01%
28-Nov-18	0.1790	1042.15	1041.30	0.85	0.08%
20-Sep-18	0.3120	1087.72	1087.38	0.33	0.03%
21-Sep-18	0.2270	1079.54	1079.44	0.10	0.01%
25-Jan-19	0.3550	1124.58	1124.56	0.02	0.00%
13-Jun-18	0.4800	1155.71	1155.66	0.05	0.00%
8-Dec-18	2.1890	1597.05	1601.67	-4.63	-0.29%
7-Sep-18	0.4630	1114.09	1113.87	0.22	0.02%
2-Aug-18	0.2450	1097.26	1097.13	0.13	0.01%
18-Dec-18	1.1280	1353.83	1354.81	-0.99	-0.07%
30-Oct-18	0.3490	1108.73	1108.21	0.52	0.05%
19-Sep-18	0.4450	1261.26	1261.89	-0.63	-0.05%
12-Sep-18	0.2630	1087.55	1087.19	0.36	0.03%
30-May-18	0.4290	1114.82	1114.07	0.75	0.07%
28-Sep-18	0.6040	1261.80	1261.42	0.38	0.03%
17-May-18	0.4730	1298.64	1298.05	0.59	0.05%
5-Feb-19	0.3530	1107.63	1107.53	0.09	0.01%
20-Sep-18	0.2900	1081.23	1080.73	0.49	0.05%
24-Jan-19	0.5100	1129.77	1129.44	0.33	0.03%
11-Jul-18	0.8220	1256.19	1256.18	0.01	0.00%
18-Jan-19	0.2750	1130.44	1130.56	-0.12	-0.01%
17-Jan-19	1.4570	1333.84	1337.31	-3.46	-0.26%
2-Oct-18	0.5410	1140.77	1140.36	0.41	0.04%
12-Oct-18	0.5810	1139.36	1138.82	0.54	0.05%
17-Jan-19	1.2320	1323.61	1326.28	-2.67	-0.20%
18-Dec-18	0.5260	1275.11	1275.59	-0.48	-0.04%
15-Jan-19	0.4040	1148.41	1148.46	-0.05	0.00%
19-Nov-18	0.0570	1036.83	1036.67	0.16	0.02%
20-Jun-18	0.3880	1112.92	1112.04	0.88	0.08%
3-Oct-18	0.5320	1134.28	1133.43	0.85	0.07%
25-Oct-18	0.3000	1103.75	1103.60	0.14	0.01%
23-Jun-18	0.3540	1102.60	1102.05	0.55	0.05%
17-Sep-18	0.3060	1104.01	1103.52	0.49	0.04%
5-Feb-19	0.2920	1147.19	1147.47	-0.27	-0.02%
29-Nov-18	0.4360	1197.06	1197.43	-0.37	-0.03%
23-May-18	0.3370	1088.33	1087.35	0.97	0.09%
17-Sep-18	0.5210	1096.07	1094.39	1.68	0.15%
6-Dec-18	0.4060	1106.47	1105.80	0.67	0.06%

16-Oct-18	0.7670	1362.89	1364.50	-1.62	-0.12%
18-Jul-18	0.2710	1090.71	1090.57	0.15	0.01%
17-Sep-18	0.4780	1118.73	1118.46	0.27	0.02%
24-Sep-18	0.4750	1107.66	1106.64	1.02	0.09%
9-Aug-18	0.3260	1101.43	1101.01	0.42	0.04%
28-Oct-18	0.4520	1141.49	1141.12	0.37	0.03%
19-Apr-18	0.2220	1061.13	1060.64	0.49	0.05%
7-Nov-18	0.3950	1106.20	1105.68	0.51	0.05%
5-Oct-18	0.4920	1153.78	1153.94	-0.17	-0.01%
12-Dec-18	0.3140	1091.66	1091.41	0.25	0.02%
12-Sep-18	0.3120	1095.40	1095.08	0.32	0.03%
13-Jun-18	0.5050	1161.85	1162.20	-0.35	-0.03%
29-Oct-18	0.4940	1108.76	1107.72	1.04	0.09%
30-May-18	0.4300	1116.05	1115.47	0.58	0.05%
13-Dec-18	0.5060	1123.48	1122.70	0.78	0.07%
16-Oct-18	0.7660	1362.11	1363.72	-1.61	-0.12%
16-Oct-18	0.3810	1112.89	1112.21	0.68	0.06%
30-Aug-18	0.0710	989.34	988.84	0.50	0.05%
11-Jan-19	0.4790	1334.62	1334.70	-0.08	-0.01%
18-Jan-19	0.4080	1137.54	1137.62	-0.08	-0.01%
15-Nov-18	0.3870	1121.52	1121.56	-0.04	0.00%
24-May-18	0.4360	1107.85	1107.51	0.34	0.03%
15-Oct-18	0.3680	1087.93	1086.92	1.01	0.09%
17-May-18	0.4720	1296.10	1295.51	0.59	0.05%
16-Jan-19	1.0270	1277.95	1279.10	-1.15	-0.09%
17-May-18	0.4720	1296.12	1295.52	0.59	0.05%
18-Sep-18	0.3340	1080.71	1080.02	0.69	0.06%
2-Oct-18	0.6020	1149.15	1149.18	-0.02	0.00%
4-Oct-18	1.7240	1632.47	1636.31	-3.84	-0.24%
15-Oct-18	0.6290	1142.92	1142.36	0.56	0.05%
20-Sep-18	0.4120	1103.56	1102.85	0.71	0.06%
17-Jul-18	0.6050	1125.03	1123.53	1.50	0.13%
7-Nov-18	0.3700	1097.94	1097.63	0.30	0.03%
10-Dec-18	0.4120	1110.48	1110.42	0.07	0.01%
11-Oct-18	0.4300	1112.21	1111.62	0.59	0.05%
20-Jun-18	0.4650	1121.70	1120.73	0.97	0.09%
9-Aug-18	0.3260	1099.41	1098.98	0.42	0.04%
26-Nov-18	0.2690	1065.37	1064.88	0.49	0.05%
29-Nov-18	0.3680	1107.37	1107.05	0.32	0.03%
5-Oct-18	0.3770	1115.64	1114.99	0.65	0.06%
20-Jul-18	0.4080	1102.75	1102.15	0.60	0.05%
19-Jun-18	0.3570	1100.07	1099.84	0.23	0.02%
24-Jul-18	0.2360	1070.04	1069.46	0.58	0.05%
30-Oct-18	0.2930	1085.65	1085.21	0.44	0.04%
25-Sep-18	0.4230	1135.60	1135.20	0.40	0.04%
3-Jul-18	0.5970	1115.54	1115.30	0.24	0.02%
12-Sep-18	0.3650	1092.91	1092.24	0.66	0.06%
28-Nov-18	0.3240	1074.93	1074.65	0.27	0.03%
30-Oct-18	0.2640	1100.42	1100.00	0.42	0.04%
19-Jun-18	0.3870	1096.69	1095.98	0.71	0.06%
6-Feb-19	0.2850	1093.14	1093.04	0.09	0.01%
9-Oct-18	0.3020	1102.88	1102.46	0.42	0.04%
30-Nov-18	0.1740	1047.92	1047.59	0.33	0.03%
15-Jan-19	0.3300	1110.35	1110.16	0.19	0.02%
19-Sep-18	0.4740	1266.91	1266.70	0.21	0.02%
3-Oct-18	0.4470	1161.74	1161.94	-0.20	-0.02%
6-Sep-18	0.3570	1101.15	1100.60	0.55	0.05%

13-Sep-18	0.2080	1271.20	1271.10	0.10	0.01%
13-Dec-18	0.4880	1139.61	1139.17	0.44	0.04%
23-Jan-19	0.4560	1154.14	1153.99	0.15	0.01%
27-Jul-18	0.1070	1047.89	1047.68	0.21	0.02%
26-Apr-18	0.3230	1085.37	1084.51	0.87	0.08%
18-Dec-18	1.2220	1374.70	1376.45	-1.75	-0.13%
6-Dec-18	1.6890	1584.41	1589.12	-4.71	-0.30%
20-Jun-18	0.3090	1079.38	1078.74	0.64	0.06%
6-Dec-18	1.5480	1651.26	1655.44	-4.18	-0.25%
13-Dec-18	0.3520	1103.40	1103.48	-0.08	-0.01%
18-Jul-18	0.5700	1242.07	1242.63	-0.56	-0.04%
6-Sep-18	0.4590	1116.31	1115.89	0.43	0.04%
18-Dec-18	0.5230	1271.19	1271.69	-0.50	-0.04%
6-Nov-18	0.3170	1096.44	1096.21	0.23	0.02%
18-Jul-18	0.5380	1228.40	1228.59	-0.19	-0.02%
6-Feb-19	0.2000	1074.85	1074.68	0.17	0.02%
9-Oct-18	0.2060	1079.85	1079.41	0.43	0.04%
23-Jun-18	0.3100	1088.54	1088.18	0.36	0.03%
18-Dec-18	1.1240	1348.91	1349.89	-0.98	-0.07%
5-Oct-18	0.3010	1098.23	1097.96	0.27	0.02%
8-Jan-19	0.3940	1131.75	1131.85	-0.11	-0.01%
15-Sep-18	0.2570	1082.92	1082.70	0.22	0.02%
6-Dec-18	0.3260	1106.57	1106.21	0.36	0.03%
17-Dec-18	0.3500	1094.94	1094.61	0.33	0.03%
13-Jul-18	0.2990	1089.84	1089.28	0.56	0.05%
2-Aug-18	0.3200	1102.41	1101.81	0.60	0.05%
4-Sep-18	0.3250	1089.91	1089.49	0.42	0.04%
18-Sep-18	0.3240	1107.05	1106.68	0.36	0.03%
24-Jul-18	0.3140	1070.52	1069.38	1.14	0.11%
13-Nov-18	0.8980	1402.31	1403.36	-1.05	-0.07%
22-Nov-18	1.1210	1283.33	1283.73	-0.40	-0.03%
15-Jan-19	0.4850	1192.01	1192.55	-0.54	-0.04%
4-Jan-19	0.4260	1104.66	1104.52	0.14	0.01%
13-Dec-18	0.3510	1102.14	1102.22	-0.08	-0.01%
5-Feb-19	0.3380	1105.70	1105.91	-0.22	-0.02%
21-Sep-18	0.2520	1093.86	1093.70	0.17	0.02%
4-Sep-18	0.4070	1100.57	1099.76	0.82	0.07%
12-Dec-18	0.4130	1167.58	1167.76	-0.19	-0.02%
11-Dec-18	0.8290	1353.46	1354.86	-1.40	-0.10%
15-Nov-18	0.4300	1124.57	1124.39	0.18	0.02%
24-Jul-18	0.8490	1254.34	1255.96	-1.62	-0.13%
7-Dec-18	0.4240	1115.63	1115.06	0.57	0.05%
9-Oct-18	0.6010	1168.24	1167.86	0.38	0.03%
23-Jul-18	0.4680	1302.74	1302.79	-0.05	0.00%
30-May-18	0.4430	1110.09	1109.31	0.78	0.07%
24-May-18	0.2560	1097.44	1097.10	0.34	0.03%
6-Dec-18	0.4350	1123.88	1123.61	0.27	0.02%
5-Feb-19	0.3200	1095.20	1095.19	0.02	0.00%
22-Jan-19	0.3550	1110.78	1110.75	0.03	0.00%
16-Jan-19	1.0240	1274.19	1275.34	-1.15	-0.09%
16-Nov-18	0.4850	1116.60	1115.97	0.63	0.06%
13-Dec-18	0.2720	1100.43	1100.36	0.08	0.01%
27-Sep-18	0.2160	1066.50	1066.15	0.35	0.03%
8-Aug-18	0.3000	1087.09	1087.02	0.07	0.01%
9-Oct-18	0.2490	1083.12	1082.92	0.21	0.02%
3-Jul-18	0.6100	1281.10	1281.67	-0.56	-0.04%
9-Jan-19	0.5140	1166.21	1166.25	-0.05	0.00%

17-Jan-19	1.2270	1318.08	1320.75	-2.67	-0.20%
9-Aug-18	0.2700	1105.64	1104.74	0.90	0.08%
16-Oct-18	0.4800	1109.92	1109.07	0.85	0.08%
15-Jan-19	0.3260	1098.58	1098.39	0.20	0.02%
1-Oct-18	0.4690	1120.00	1119.31	0.69	0.06%
6-Dec-18	2.1810	1487.51	1492.75	-5.24	-0.35%
4-Jan-19	0.4440	1104.79	1104.59	0.20	0.02%
9-Oct-18	0.5980	1151.04	1150.81	0.23	0.02%
13-Jun-18	0.3280	1089.56	1088.91	0.65	0.06%
25-Sep-18	0.3170	1095.97	1095.71	0.25	0.02%
20-Jun-18	0.3850	1101.96	1101.13	0.83	0.08%
23-May-18	0.2750	1092.93	1092.46	0.47	0.04%
30-May-18	0.4820	1115.00	1114.14	0.86	0.08%
9-Aug-18	0.2920	1064.50	1063.37	1.13	0.11%
14-Dec-18	0.4420	1138.88	1138.71	0.17	0.02%
22-Jun-18	0.3620	1098.71	1097.98	0.73	0.07%
27-Sep-18	0.2930	1086.87	1086.77	0.10	0.01%
29-Aug-18	0.1080	1049.48	1049.29	0.19	0.02%
17-Jan-19	1.3990	1378.48	1381.05	-2.57	-0.19%
25-Apr-18	0.3110	1076.43	1075.41	1.03	0.10%
19-Jun-18	0.3070	1088.50	1087.81	0.69	0.06%
17-Jul-18	0.2930	1097.13	1097.02	0.12	0.01%
15-Sep-18	0.2790	1085.96	1085.69	0.27	0.02%
13-Dec-18	0.9920	1523.41	1524.39	-0.98	-0.06%
25-Sep-18	0.5340	1138.01	1137.49	0.52	0.05%
9-Oct-18	0.3680	1123.32	1123.03	0.29	0.03%
26-Oct-18	0.3500	1075.19	1074.05	1.14	0.11%
7-Dec-18	2.0950	1630.51	1636.99	-6.48	-0.40%
29-Jan-19	0.3070	1099.64	1099.48	0.16	0.01%
1-Feb-19	0.3040	1090.19	1090.02	0.17	0.02%
7-Dec-18	1.0990	1588.54	1590.81	-2.26	-0.14%
17-Dec-18	0.4180	1126.64	1126.82	-0.17	-0.02%
8-Jan-19	0.4530	1163.18	1162.99	0.19	0.02%
1-Oct-18	0.4940	1158.35	1158.42	-0.07	-0.01%
3-May-18	0.3170	1104.13	1103.34	0.79	0.07%
23-Jun-18	0.2740	1093.30	1093.00	0.30	0.03%
15-Jan-19	0.3610	1113.95	1113.48	0.47	0.04%
19-Nov-18	0.1940	1054.68	1054.27	0.41	0.04%
15-Sep-18	0.2960	1084.38	1084.17	0.21	0.02%
23-May-18	0.3320	1108.32	1107.80	0.52	0.05%
18-Sep-18	0.3360	1102.23	1102.04	0.19	0.02%
3-Jul-18	0.6100	1278.91	1279.47	-0.56	-0.04%
3-Jul-18	0.6100	1278.91	1279.47	-0.56	-0.04%
20-Nov-18	0.3610	1105.96	1105.82	0.14	0.01%
18-Jan-19	0.5980	1298.74	1298.87	-0.14	-0.01%
18-Jul-18	0.8220	1296.17	1298.17	-2.00	-0.15%
26-Jul-18	0.2020	1053.47	1053.03	0.45	0.04%
7-Feb-19	0.2470	1098.90	1099.07	-0.17	-0.02%
4-Oct-18	0.2130	1073.30	1073.06	0.24	0.02%
12-Dec-18	0.3460	1089.11	1088.70	0.40	0.04%
16-Jul-18	0.3600	1255.41	1255.06	0.35	0.03%
8-Jan-19	1.1310	1391.60	1393.11	-1.50	-0.11%
26-Oct-18	0.2520	1076.58	1076.15	0.42	0.04%
14-Sep-18	0.2410	1081.12	1080.29	0.83	0.08%
7-Dec-18	1.9670	1570.05	1575.43	-5.38	-0.34%
29-Oct-18	0.3020	1075.79	1075.11	0.68	0.06%
7-Aug-18	0.9670	1228.97	1230.66	-1.69	-0.14%

6-Dec-18	1.6790	1576.89	1580.93	-4.04	-0.26%
2-Oct-18	0.4980	1274.86	1275.10	-0.24	-0.02%
12-Dec-18	0.3450	1087.26	1086.86	0.40	0.04%
1-Feb-19	0.2660	1086.78	1086.60	0.18	0.02%
3-Aug-18	0.1980	1061.10	1060.73	0.36	0.03%
17-Sep-18	0.7320	1180.51	1180.95	-0.43	-0.04%
29-Nov-18	0.2100	1064.33	1063.89	0.44	0.04%
20-Jun-18	0.3400	1091.68	1091.00	0.68	0.06%
6-Dec-18	0.3700	1104.95	1104.42	0.53	0.05%
1-Oct-18	0.4580	1137.21	1137.09	0.12	0.01%
9-May-18	0.2530	1088.05	1087.07	0.97	0.09%
15-Sep-18	0.2640	1088.57	1088.40	0.17	0.02%
18-Sep-18	0.2900	1080.32	1079.91	0.41	0.04%
20-Nov-18	0.3660	1114.79	1114.65	0.14	0.01%
12-Jul-18	0.2280	1068.70	1068.15	0.55	0.05%
14-Nov-18	0.3750	1157.95	1158.13	-0.18	-0.02%
8-Jan-19	0.4970	1162.18	1162.30	-0.12	-0.01%
5-Oct-18	0.2680	1112.33	1112.18	0.15	0.01%
25-Aug-18	0.2830	1086.63	1086.42	0.22	0.02%
30-Oct-18	0.3680	1112.98	1112.74	0.24	0.02%
26-Oct-18	0.2420	1073.51	1073.13	0.37	0.03%
1-Feb-19	0.3040	1087.61	1087.43	0.17	0.02%
10-Oct-18	0.4110	1116.46	1116.31	0.16	0.01%
4-Oct-18	2.0700	1582.99	1587.13	-4.14	-0.26%
25-Jan-19	0.3320	1079.90	1079.31	0.58	0.05%
20-Jun-18	0.3040	1084.50	1083.89	0.61	0.06%
11-Dec-18	0.8250	1348.81	1350.20	-1.39	-0.10%
23-Jun-18	0.4250	1099.10	1098.18	0.92	0.08%
25-Sep-18	0.5570	1144.03	1143.53	0.50	0.04%
7-Jan-19	0.5530	1187.47	1187.42	0.05	0.00%
13-Nov-18	0.8940	1397.17	1398.21	-1.04	-0.07%
13-Nov-18	0.8940	1397.17	1398.21	-1.04	-0.07%
22-Nov-18	1.1170	1277.91	1278.30	-0.39	-0.03%
20-Jun-18	0.3120	1095.29	1094.74	0.55	0.05%
11-Jul-18	0.3820	1099.89	1099.63	0.26	0.02%
11-Sep-18	0.5060	1126.21	1125.63	0.58	0.05%
24-Jan-19	0.3170	1124.29	1124.15	0.14	0.01%
20-Jun-18	0.4290	1095.74	1094.72	1.02	0.09%
25-May-18	0.4150	1117.39	1117.01	0.38	0.03%
28-Oct-18	0.5020	1115.98	1115.56	0.42	0.04%
20-Nov-18	0.3810	1117.06	1116.85	0.22	0.02%
16-Oct-18	0.5890	1244.63	1244.09	0.54	0.04%
29-Jan-19	0.2620	1090.47	1090.30	0.17	0.02%
16-Jul-18	0.3590	1252.48	1252.13	0.35	0.03%
12-Sep-18	0.4080	1094.49	1093.56	0.93	0.09%
12-Sep-18	0.4080	1094.49	1093.56	0.93	0.09%
12-Sep-18	0.4080	1094.49	1093.56	0.93	0.09%
12-Sep-18	0.4080	1094.49	1093.56	0.93	0.09%
10-Dec-18	0.2770	1133.84	1133.14	0.71	0.06%
23-May-18	0.3930	1086.84	1085.45	1.38	0.13%
24-May-18	0.3400	1086.29	1085.01	1.27	0.12%
30-Oct-18	0.2840	1090.11	1089.87	0.24	0.02%
22-Jan-19	0.5350	1162.31	1162.19	0.12	0.01%
10-Dec-18	1.6930	1438.81	1442.26	-3.45	-0.24%
31-May-18	0.3500	1072.88	1072.10	0.77	0.07%
22-Jan-19	0.4300	1143.64	1143.68	-0.05	0.00%
14-Sep-18	0.3430	1083.50	1082.61	0.89	0.08%

8-Dec-18	2.0580	1677.46	1683.71	-6.26	-0.37%
20-Sep-18	0.4840	1112.37	1111.27	1.10	0.10%
21-Jun-18	0.2570	1082.31	1081.82	0.49	0.05%
23-May-18	0.2310	1079.51	1079.17	0.34	0.03%
20-Nov-18	0.2840	1073.32	1072.49	0.83	0.08%
11-Dec-18	0.4580	1291.17	1290.61	0.56	0.04%
11-Dec-18	0.4580	1291.17	1290.61	0.56	0.04%
7-Dec-18	1.0970	1585.12	1587.37	-2.25	-0.14%
12-Sep-18	0.3380	1100.25	1099.94	0.31	0.03%
19-Jul-18	0.3840	1082.30	1080.82	1.49	0.14%
30-Jul-18	0.2000	1064.05	1063.71	0.34	0.03%
13-Dec-18	0.4150	1120.23	1119.75	0.48	0.04%
23-Jun-18	0.4870	1099.38	1098.08	1.29	0.12%
1-Oct-18	0.6140	1167.27	1166.98	0.28	0.02%
12-Oct-18	0.8090	1465.27	1466.90	-1.63	-0.11%
4-Aug-18	0.1940	1091.34	1091.09	0.26	0.02%
12-Jun-18	0.3880	1129.51	1129.74	-0.23	-0.02%
13-Jun-18	0.3660	1071.71	1070.84	0.87	0.08%
23-Jun-18	0.3460	1094.40	1093.93	0.47	0.04%
22-May-18	0.1970	1045.34	1044.82	0.53	0.05%
13-Jun-18	0.6180	1116.76	1114.15	2.61	0.23%
23-Jun-18	0.2940	1092.79	1092.46	0.33	0.03%
25-Aug-18	0.3250	1090.90	1090.56	0.34	0.03%
30-May-18	0.4010	1120.27	1119.82	0.45	0.04%
11-Jan-19	0.2500	1104.79	1104.52	0.27	0.02%
2-Oct-18	0.4960	1271.14	1271.39	-0.24	-0.02%
13-Dec-18	0.2810	1109.37	1109.28	0.09	0.01%
5-Feb-19	0.2740	1089.79	1089.72	0.07	0.01%
10-Jan-19	1.0230	1380.35	1381.26	-0.91	-0.07%
21-May-18	0.1390	1068.05	1067.54	0.50	0.05%
24-Jan-19	0.3880	1130.07	1130.75	-0.68	-0.06%
28-Nov-18	0.2460	1095.51	1095.30	0.20	0.02%
11-Sep-18	0.3630	1090.86	1090.45	0.41	0.04%
21-Sep-18	0.5080	1123.50	1122.71	0.80	0.07%
2-Oct-18	0.3630	1101.39	1100.72	0.67	0.06%
14-Jun-18	0.2730	1132.74	1132.66	0.07	0.01%
9-Aug-18	0.2500	1102.60	1102.07	0.52	0.05%
25-Jul-18	0.3100	1085.52	1084.88	0.64	0.06%
15-Oct-18	0.6340	1168.06	1167.97	0.10	0.01%
25-Apr-18	0.3250	1082.41	1081.32	1.09	0.10%
12-Jul-18	0.2930	1099.90	1099.68	0.22	0.02%
10-Jan-19	0.2750	1126.74	1126.86	-0.12	-0.01%
30-Oct-18	0.3150	1110.86	1110.75	0.11	0.01%
23-May-18	0.2700	1102.09	1101.80	0.29	0.03%
14-Sep-18	0.2440	1077.60	1077.34	0.27	0.02%
13-Jun-18	0.4300	1130.12	1130.55	-0.43	-0.04%
22-Jun-18	0.3430	1091.80	1091.47	0.34	0.03%
6-Sep-18	0.3910	1093.45	1092.84	0.61	0.06%
15-Jan-19	0.2820	1094.04	1093.35	0.69	0.06%
20-Sep-18	0.3630	1109.66	1109.34	0.31	0.03%
28-Aug-18	0.1830	1063.54	1063.21	0.33	0.03%
8-Jan-19	1.1270	1386.42	1387.91	-1.50	-0.11%
17-Jul-18	0.2120	1114.58	1114.38	0.20	0.02%
17-Jan-19	1.3920	1372.04	1374.60	-2.56	-0.19%
13-Dec-18	0.9880	1517.58	1518.56	-0.98	-0.06%
20-Nov-18	0.3580	1153.43	1153.08	0.36	0.03%
23-Aug-18	0.3270	1091.48	1091.23	0.25	0.02%

13-Dec-18	0.2110	1074.58	1074.18	0.40	0.04%
20-Jun-18	0.3300	1079.93	1079.14	0.78	0.07%
31-May-18	0.4770	1084.44	1082.97	1.47	0.14%
22-Aug-18	0.3580	1111.88	1112.01	-0.13	-0.01%
23-Aug-18	0.2980	1121.90	1121.86	0.05	0.00%
20-Sep-18	0.2450	1065.90	1065.49	0.41	0.04%
18-Dec-18	0.9040	1448.02	1449.79	-1.77	-0.12%
31-May-18	0.4050	1078.00	1076.65	1.34	0.12%
15-Jun-18	0.4530	1108.62	1107.66	0.97	0.09%
5-Sep-18	0.3250	1083.38	1082.89	0.49	0.05%
18-Jan-19	0.2590	1089.77	1089.41	0.36	0.03%
1-Oct-18	0.6460	1163.05	1162.64	0.41	0.04%
5-Feb-19	0.3450	1099.27	1099.04	0.23	0.02%
25-Sep-18	0.3710	1091.59	1090.92	0.67	0.06%
19-Jun-18	0.3980	1086.71	1085.65	1.06	0.10%
22-Aug-18	0.3690	1100.08	1100.03	0.05	0.00%
17-Sep-18	0.3980	1106.66	1106.27	0.39	0.04%
12-Dec-18	0.3390	1138.71	1138.96	-0.25	-0.02%
7-Sep-18	0.4940	1119.31	1118.72	0.59	0.05%
24-Jan-19	0.5850	1191.77	1192.54	-0.76	-0.06%
12-Oct-18	0.8060	1461.89	1463.51	-1.63	-0.11%
12-Oct-18	0.8060	1461.89	1463.51	-1.63	-0.11%
14-Jun-18	0.3890	1093.21	1091.92	1.29	0.12%
18-May-18	0.1170	1025.78	1025.24	0.54	0.05%
9-Oct-18	0.9200	1417.78	1419.48	-1.71	-0.12%
14-Aug-18	0.2920	1102.70	1101.72	0.99	0.09%
17-Jul-18	0.2100	1111.82	1111.62	0.20	0.02%
17-Jul-18	0.2100	1111.82	1111.62	0.20	0.02%
25-Sep-18	0.5350	1133.62	1133.04	0.59	0.05%
9-Oct-18	0.5440	1125.11	1124.77	0.34	0.03%
2-Aug-18	0.5430	1177.85	1177.68	0.18	0.02%
17-Apr-18	0.2980	1077.10	1075.84	1.26	0.12%
13-Jun-18	0.2930	1083.21	1082.73	0.47	0.04%
19-Sep-18	0.3250	1098.35	1098.24	0.11	0.01%
3-Jan-19	0.3500	1099.53	1099.42	0.11	0.01%
23-Jun-18	0.3520	1099.75	1099.27	0.48	0.04%
15-Sep-18	0.2770	1078.11	1077.74	0.37	0.03%
9-Aug-18	0.2590	1058.71	1058.08	0.63	0.06%
31-May-18	0.4020	1080.49	1079.40	1.09	0.10%
25-Sep-18	0.4190	1119.35	1119.20	0.15	0.01%
13-Dec-18	0.4420	1121.33	1120.75	0.58	0.05%
25-Sep-18	0.4200	1127.33	1126.63	0.70	0.06%
26-Sep-18	0.2660	1296.86	1296.83	0.03	0.00%
18-Sep-18	0.2930	1104.97	1104.44	0.53	0.05%
10-Jan-19	0.3300	1130.10	1130.07	0.03	0.00%
24-Aug-18	0.3710	1092.81	1091.61	1.19	0.11%
10-Dec-18	1.6860	1433.47	1436.92	-3.45	-0.24%
18-Dec-18	0.3700	1116.42	1115.96	0.46	0.04%
21-Sep-18	0.5340	1132.20	1131.41	0.79	0.07%
23-Jun-18	0.3750	1093.69	1093.00	0.69	0.06%
14-May-18	0.3640	1125.04	1123.98	1.06	0.09%
20-Nov-18	0.3410	1120.17	1120.27	-0.09	-0.01%
5-Feb-19	0.2800	1104.66	1104.79	-0.12	-0.01%
1-Dec-18	0.3600	1082.60	1081.63	0.97	0.09%
14-Dec-18	0.2940	1098.90	1098.60	0.30	0.03%
14-Jan-19	1.4530	1436.20	1439.66	-3.46	-0.24%
13-Dec-18	0.2430	1092.40	1092.20	0.21	0.02%

9-Jan-19	0.5280	1135.76	1135.07	0.68	0.06%
24-Jul-18	0.2650	1067.95	1067.26	0.69	0.06%
23-Jun-18	0.3350	1094.52	1094.24	0.28	0.03%
13-Dec-18	0.4350	1121.27	1120.95	0.31	0.03%
25-Sep-18	0.2860	1080.58	1079.83	0.75	0.07%
6-Dec-18	1.8850	1547.85	1552.85	-5.00	-0.32%
13-Aug-18	0.3090	1108.67	1107.70	0.97	0.09%
18-Jul-18	0.2940	1079.19	1078.53	0.66	0.06%
12-Jun-18	0.3910	1153.38	1153.37	0.02	0.00%
14-Nov-18	0.3280	1092.44	1092.06	0.39	0.04%
24-Jul-18	0.6290	1178.59	1178.71	-0.12	-0.01%
6-Nov-18	0.2080	1080.16	1079.63	0.53	0.05%
30-Aug-18	0.4580	1280.08	1280.13	-0.05	0.00%
4-Oct-18	1.0270	1542.99	1544.62	-1.63	-0.11%
16-Jun-18	0.2020	1085.52	1085.22	0.30	0.03%
9-Jan-19	0.3330	1127.96	1127.57	0.39	0.03%
4-Jan-19	0.4340	1127.18	1127.52	-0.34	-0.03%
25-Jan-19	0.5740	1168.11	1168.35	-0.24	-0.02%
9-Oct-18	0.2100	1061.84	1061.25	0.58	0.05%
14-Sep-18	0.3160	1086.29	1085.91	0.37	0.03%
12-Sep-18	0.2670	1061.96	1061.33	0.62	0.06%
28-Oct-18	0.5530	1132.06	1131.65	0.41	0.04%
10-Jan-19	1.0190	1374.95	1375.87	-0.91	-0.07%
13-Dec-18	0.2970	1094.32	1094.15	0.17	0.02%
17-May-18	0.5460	1115.80	1114.51	1.29	0.12%
29-Jan-19	0.5600	1181.83	1182.22	-0.40	-0.03%
25-Jul-18	0.3120	1081.20	1080.41	0.79	0.07%
20-Jun-18	0.3260	1083.72	1083.14	0.58	0.05%
6-Feb-19	0.2550	1086.50	1086.49	0.00	0.00%
8-Feb-19	0.3240	1091.69	1091.39	0.30	0.03%
26-Nov-18	0.5440	1160.16	1160.21	-0.05	0.00%
30-May-18	0.5620	1122.73	1121.71	1.02	0.09%
11-Jan-19	1.3460	1422.61	1424.87	-2.26	-0.16%
19-Nov-18	0.4060	1124.87	1124.31	0.56	0.05%
6-Dec-18	1.7870	1561.36	1566.09	-4.73	-0.30%
3-May-18	0.3140	1092.86	1092.16	0.70	0.06%
18-Dec-18	0.9000	1444.03	1445.81	-1.78	-0.12%
2-Oct-18	1.0610	1323.94	1323.36	0.58	0.04%
9-Oct-18	0.3710	1172.47	1172.77	-0.30	-0.03%
7-Dec-18	0.3990	1106.01	1105.71	0.30	0.03%
6-Nov-18	0.3470	1111.51	1111.11	0.40	0.04%
8-Jun-18	0.4100	1272.38	1272.60	-0.22	-0.02%
16-Jul-18	0.4720	1301.52	1301.04	0.48	0.04%
11-Jun-18	0.5110	1114.41	1113.03	1.38	0.12%
29-Nov-18	0.2760	1085.32	1085.16	0.16	0.01%
15-Oct-18	0.5740	1132.30	1131.96	0.34	0.03%
1-Nov-18	0.3210	1102.80	1102.29	0.51	0.05%
20-Nov-18	0.3500	1122.23	1122.18	0.05	0.00%
19-Jun-18	0.3700	1096.71	1096.06	0.65	0.06%
18-Sep-18	0.3960	1103.16	1102.87	0.30	0.03%
19-Jun-18	0.2160	1072.66	1072.12	0.54	0.05%
22-Jan-19	0.3450	1090.82	1089.91	0.91	0.08%
14-May-18	0.3050	1094.56	1093.88	0.69	0.06%
9-Oct-18	0.9160	1414.02	1415.75	-1.72	-0.12%
9-Oct-18	0.9160	1414.02	1415.75	-1.72	-0.12%
12-Jun-18	0.4480	1081.32	1080.25	1.08	0.10%
20-Dec-18	1.6020	1390.76	1391.72	-0.96	-0.07%

24-Aug-18	0.4820	1085.65	1084.41	1.24	0.11%
12-Sep-18	0.3510	1088.91	1088.24	0.67	0.06%
22-Aug-18	0.3090	1136.26	1136.36	-0.10	-0.01%
6-Nov-18	0.4120	1104.43	1103.80	0.63	0.06%
26-Sep-18	0.2640	1293.48	1293.45	0.03	0.00%
26-Sep-18	0.2640	1293.51	1293.48	0.03	0.00%
22-May-18	0.2960	1082.06	1081.44	0.62	0.06%
25-Sep-18	0.3410	1068.89	1068.16	0.72	0.07%
25-Oct-18	0.3270	1104.19	1103.96	0.22	0.02%
11-Sep-18	0.3130	1088.34	1088.08	0.25	0.02%
22-Jan-19	0.2900	1106.72	1106.60	0.12	0.01%
7-Aug-18	0.2570	1080.67	1080.64	0.03	0.00%
22-Jan-19	0.7750	1195.32	1196.39	-1.07	-0.09%
15-Sep-18	0.4550	1102.54	1101.27	1.26	0.11%
22-Jan-19	0.4300	1092.57	1091.56	1.01	0.09%
9-Oct-18	0.2800	1094.04	1093.57	0.47	0.04%
18-Jun-18	0.3750	1106.87	1106.03	0.85	0.08%
27-Sep-18	0.1990	1072.06	1071.76	0.30	0.03%
23-Jan-19	0.7130	1296.79	1296.02	0.77	0.06%
9-Nov-18	1.7280	1568.06	1572.49	-4.43	-0.28%
20-Sep-18	0.4000	1128.15	1128.16	-0.01	0.00%
15-Nov-18	0.4280	1122.61	1122.50	0.11	0.01%
2-Oct-18	0.4470	1100.81	1099.94	0.87	0.08%
25-Sep-18	0.2600	1078.27	1077.88	0.39	0.04%
23-Jun-18	0.3880	1099.42	1098.50	0.92	0.08%
24-May-18	0.3650	1068.07	1066.49	1.58	0.15%
22-Jun-18	0.3180	1093.96	1093.56	0.40	0.04%
15-Oct-18	0.5720	1129.75	1129.41	0.34	0.03%
24-Nov-18	0.4250	1117.00	1116.70	0.31	0.03%
20-Sep-18	0.3450	1085.69	1085.49	0.20	0.02%
9-Aug-18	0.3470	1052.61	1051.57	1.03	0.10%
11-Sep-18	0.3210	1078.89	1078.09	0.79	0.07%
20-Sep-18	0.3280	1122.68	1122.48	0.20	0.02%
22-Jun-18	0.3200	1093.10	1092.69	0.42	0.04%
2-Jan-19	0.4920	1179.00	1179.52	-0.52	-0.04%
14-Sep-18	0.2480	1079.37	1079.01	0.36	0.03%
20-Sep-18	0.3690	1113.63	1113.18	0.45	0.04%
3-Oct-18	0.3000	1106.62	1106.22	0.40	0.04%
11-Jan-19	1.3430	1419.61	1421.87	-2.26	-0.16%
12-Sep-18	0.2890	1076.44	1076.02	0.42	0.04%
8-Jun-18	0.5790	1311.71	1312.92	-1.21	-0.09%
17-Dec-18	0.4190	1111.33	1111.07	0.26	0.02%
12-Jul-18	0.6860	1305.06	1304.38	0.67	0.05%
9-Aug-18	0.6570	1185.85	1185.47	0.38	0.03%
8-Jun-18	0.4100	1268.90	1269.12	-0.22	-0.02%
8-Jan-19	0.2090	1082.19	1081.73	0.45	0.04%
29-Jan-19	0.3550	1147.87	1147.73	0.14	0.01%
13-Jun-18	0.4410	1095.16	1093.34	1.82	0.17%
9-Nov-18	1.4870	1600.76	1604.57	-3.80	-0.24%
13-Dec-18	0.3000	1090.84	1090.92	-0.08	-0.01%
12-Sep-18	0.3350	1092.06	1091.37	0.69	0.06%
18-Sep-18	0.3060	1085.95	1085.50	0.45	0.04%
23-Jan-19	0.4760	1143.72	1143.11	0.61	0.05%
20-Sep-18	0.4290	1113.75	1113.34	0.41	0.04%
1-Oct-18	0.4570	1116.53	1116.15	0.38	0.03%
8-Jan-19	0.3810	1156.41	1156.38	0.03	0.00%
16-Jun-18	0.2440	1092.01	1091.61	0.40	0.04%

14-Jan-19	1.4470	1430.83	1434.27	-3.44	-0.24%
10-Dec-18	0.3210	1111.33	1111.21	0.12	0.01%
4-Oct-18	1.7910	1609.16	1612.70	-3.54	-0.22%
7-Sep-18	0.2670	1094.07	1093.70	0.37	0.03%
7-Dec-18	0.3210	1099.30	1098.91	0.40	0.04%
19-Jun-18	0.3960	1098.13	1097.34	0.79	0.07%
26-Nov-18	0.6690	1330.42	1331.05	-0.63	-0.05%
5-Feb-19	0.3010	1095.63	1095.46	0.18	0.02%
14-Jun-18	0.4310	1096.58	1095.33	1.25	0.11%
3-Oct-18	0.6210	1136.06	1134.71	1.36	0.12%
12-Jun-18	0.3970	1126.64	1126.93	-0.28	-0.03%
20-Aug-18	0.1650	1037.94	1037.26	0.69	0.07%
12-Dec-18	0.3790	1126.81	1126.71	0.09	0.01%
24-Jul-18	0.7040	1214.55	1214.78	-0.23	-0.02%
21-Sep-18	0.2980	1093.89	1093.18	0.71	0.07%
3-Aug-18	0.3090	1110.41	1110.08	0.33	0.03%
25-May-18	0.5360	1122.69	1121.50	1.19	0.11%
3-Jul-18	1.1000	1376.64	1378.83	-2.19	-0.16%
24-Sep-18	0.4930	1114.36	1112.95	1.41	0.13%
1-Jun-18	0.4170	1089.02	1087.91	1.11	0.10%
8-Sep-18	0.3490	1088.31	1087.97	0.34	0.03%
20-Nov-18	0.4620	1177.35	1177.53	-0.18	-0.02%
24-Jan-19	0.2890	1113.52	1113.64	-0.12	-0.01%
9-Oct-18	0.2640	1077.92	1077.07	0.85	0.08%
19-Dec-18	0.9180	1223.41	1223.07	0.34	0.03%
23-May-18	0.3500	1091.60	1090.10	1.49	0.14%
5-Dec-18	1.0940	1455.15	1456.98	-1.83	-0.13%
6-Nov-18	0.3020	1110.95	1110.71	0.24	0.02%
3-May-18	0.3550	1104.19	1103.28	0.91	0.08%
20-Sep-18	0.3890	1110.07	1109.67	0.41	0.04%
16-Jun-18	0.3040	1095.22	1095.07	0.15	0.01%
14-Jun-18	0.3950	1085.06	1084.04	1.02	0.09%
20-Jun-18	0.3380	1088.12	1087.40	0.72	0.07%
19-Jun-18	0.4710	1070.40	1068.95	1.46	0.14%
9-Oct-18	0.6130	1158.66	1158.09	0.57	0.05%
18-Sep-18	0.5280	1121.27	1120.28	0.99	0.09%
1-Oct-18	0.4370	1112.27	1111.47	0.80	0.07%
23-Jun-18	0.3310	1094.13	1093.49	0.64	0.06%
23-May-18	0.3100	1085.05	1084.41	0.64	0.06%
9-Oct-18	0.3070	1092.97	1092.74	0.22	0.02%
13-Dec-18	0.3100	1121.88	1121.89	-0.01	0.00%
2-Aug-18	0.2780	1102.86	1102.57	0.29	0.03%
11-Sep-18	0.2970	1094.12	1093.97	0.15	0.01%
22-Jun-18	0.5200	1100.89	1099.65	1.24	0.11%
7-Jun-18	0.5300	1278.38	1277.93	0.45	0.04%
1-Aug-18	0.2920	1108.48	1108.30	0.18	0.02%
28-Jan-19	0.3250	1132.92	1132.85	0.07	0.01%
14-Sep-18	0.2840	1090.05	1089.67	0.37	0.03%
2-Oct-18	0.5900	1157.07	1156.31	0.76	0.07%
8-Jun-18	0.5780	1308.26	1309.46	-1.21	-0.09%
15-Sep-18	0.2700	1080.65	1080.34	0.31	0.03%
4-Dec-18	0.2860	1098.92	1098.66	0.26	0.02%
21-Jun-18	0.4580	1093.56	1092.05	1.51	0.14%
14-Sep-18	0.3810	1088.66	1087.72	0.94	0.09%
13-Mar-18	0.4020	1317.37	1317.20	0.17	0.01%
20-Dec-18	1.5950	1385.19	1386.15	-0.96	-0.07%
23-Jul-18	0.2710	1121.86	1121.98	-0.12	-0.01%

17-Sep-18	0.5290	1109.28	1108.16	1.12	0.10%
17-Jan-19	0.6470	1158.16	1157.68	0.47	0.04%
16-Nov-18	0.5050	1128.00	1127.83	0.17	0.02%
13-Jul-18	0.4820	1156.72	1156.60	0.12	0.01%
30-May-18	0.3580	1087.37	1086.54	0.83	0.08%
18-Sep-18	0.4480	1118.37	1117.91	0.46	0.04%
19-Jun-18	0.4850	1105.42	1104.35	1.07	0.10%
12-Sep-18	0.3510	1091.27	1090.72	0.55	0.05%
29-Nov-18	0.2570	1074.36	1073.76	0.59	0.06%
13-Dec-18	0.3660	1088.60	1088.67	-0.08	-0.01%
28-Sep-18	0.2750	1079.27	1078.81	0.46	0.04%
7-Aug-18	0.5780	1106.05	1105.01	1.04	0.09%
28-Nov-18	0.3920	1144.73	1144.34	0.39	0.03%
17-Jan-19	0.3370	1092.02	1091.56	0.46	0.04%
20-Sep-18	0.4260	1117.01	1116.65	0.36	0.03%
16-Jul-18	0.4040	1127.26	1127.37	-0.11	-0.01%
13-Jun-18	0.4020	1083.69	1082.60	1.09	0.10%
3-Oct-18	0.4430	1096.22	1094.89	1.33	0.12%
25-Sep-18	0.3460	1094.06	1093.65	0.41	0.04%
14-Jun-18	0.3620	1108.07	1107.20	0.87	0.08%
19-Jun-18	0.5170	1104.33	1103.01	1.32	0.12%
1-Oct-18	0.4150	1330.73	1330.90	-0.17	-0.01%
23-May-18	0.2630	1097.15	1096.79	0.36	0.03%
3-Jul-18	0.4480	1150.01	1150.30	-0.28	-0.02%
23-Jun-18	0.3770	1101.08	1100.67	0.41	0.04%
12-Jun-18	0.4840	1154.29	1154.29	0.00	0.00%
14-Sep-18	0.3670	1102.29	1101.96	0.33	0.03%
7-Jun-18	0.4080	1085.51	1084.26	1.24	0.11%
7-Jun-18	0.4080	1085.51	1084.26	1.24	0.11%
7-Jun-18	0.4080	1085.51	1084.26	1.24	0.11%
7-Jun-18	0.4080	1085.51	1084.26	1.24	0.11%
22-Jun-18	0.2940	1091.39	1091.05	0.33	0.03%
18-Dec-18	1.3090	1385.71	1386.88	-1.17	-0.08%
26-Nov-18	0.6680	1326.59	1327.21	-0.63	-0.05%
29-Oct-18	0.2570	1087.37	1086.32	1.05	0.10%
25-Sep-18	0.3810	1097.96	1097.43	0.53	0.05%
20-Jun-18	0.5810	1112.84	1111.43	1.41	0.13%
3-Nov-18	0.7910	1285.52	1285.54	-0.02	0.00%
14-Jun-18	0.4230	1155.01	1154.96	0.06	0.00%
19-Jun-18	0.4370	1090.35	1089.11	1.25	0.11%
19-Aug-18	0.8900	1370.26	1371.01	-0.76	-0.06%
15-Oct-18	0.2900	1081.08	1080.51	0.57	0.05%
29-Oct-18	0.7740	1208.90	1208.49	0.40	0.03%
1-Oct-18	0.5990	1136.94	1135.69	1.26	0.11%
13-Jul-18	0.7230	1154.80	1153.99	0.82	0.07%
24-May-18	0.5200	1095.64	1093.95	1.68	0.15%
27-Sep-18	0.3030	1084.66	1084.45	0.20	0.02%
17-Dec-18	0.5080	1133.24	1132.92	0.32	0.03%
14-Sep-18	0.3040	1072.73	1072.11	0.62	0.06%
24-May-18	0.4140	1084.12	1082.43	1.69	0.16%
20-Nov-18	0.9850	1344.45	1345.15	-0.70	-0.05%
20-Sep-18	0.4310	1106.30	1105.69	0.60	0.05%
7-Jan-19	0.8370	1317.62	1318.25	-0.63	-0.05%
8-Sep-18	0.2770	1087.05	1086.81	0.24	0.02%
11-Jan-19	0.4020	1114.11	1113.76	0.36	0.03%
19-Sep-18	0.2990	1091.49	1091.25	0.23	0.02%
17-May-18	0.9720	1387.53	1388.07	-0.54	-0.04%

19-Jun-18	0.5200	1115.14	1113.96	1.18	0.11%
4-Aug-18	0.3030	1121.37	1121.45	-0.08	-0.01%
6-Jun-18	0.6200	1146.16	1144.72	1.44	0.13%
6-Feb-19	0.1510	1074.12	1073.70	0.42	0.04%
7-Aug-18	0.3620	1120.03	1118.96	1.07	0.10%
15-Jun-18	0.2890	1092.60	1092.10	0.50	0.05%
21-Jun-18	0.2910	1087.65	1087.24	0.41	0.04%
17-Jan-19	0.6450	1154.79	1154.33	0.47	0.04%
19-Sep-18	0.3240	1095.36	1095.12	0.24	0.02%
3-Jul-18	1.0960	1372.15	1374.34	-2.19	-0.16%
28-Sep-18	0.2780	1086.18	1085.58	0.60	0.06%
18-Sep-18	0.3920	1092.99	1092.05	0.94	0.09%
12-Jul-18	0.2700	1079.01	1078.37	0.64	0.06%
20-Nov-18	0.5300	1149.54	1149.24	0.30	0.03%
14-Aug-18	0.5190	1326.44	1326.14	0.31	0.02%
14-Aug-18	0.5190	1326.44	1326.14	0.31	0.02%
7-Sep-18	0.4640	1122.15	1121.75	0.40	0.04%
20-Nov-18	0.3920	1120.42	1120.29	0.14	0.01%
29-Jan-19	0.3420	1130.31	1130.23	0.08	0.01%
9-May-18	0.2560	1090.88	1090.20	0.68	0.06%
7-Sep-18	0.3780	1097.96	1097.71	0.25	0.02%
22-Jun-18	0.4710	1107.34	1106.13	1.21	0.11%
19-Dec-18	0.9130	1218.34	1218.00	0.33	0.03%
25-Apr-18	0.2710	1077.10	1076.46	0.64	0.06%
19-Jun-18	0.4500	1093.84	1092.61	1.23	0.11%
14-Sep-18	0.2380	1110.13	1110.02	0.11	0.01%
29-Oct-18	0.4210	1096.24	1095.26	0.98	0.09%
30-May-18	0.4650	1118.60	1117.87	0.73	0.07%
13-Jul-18	0.4440	1143.22	1143.63	-0.42	-0.04%
28-Sep-18	0.1920	1053.39	1052.92	0.48	0.05%
14-Sep-18	0.2680	1079.26	1078.74	0.52	0.05%
9-Aug-18	0.0420	1035.21	1035.15	0.06	0.01%
25-Sep-18	0.5270	1132.43	1131.81	0.62	0.05%
5-Dec-18	1.0900	1450.20	1452.03	-1.82	-0.13%
9-Aug-18	0.2540	1060.20	1059.38	0.82	0.08%
9-Oct-18	0.3910	1157.93	1158.14	-0.21	-0.02%
23-Jan-19	0.5030	1164.33	1164.36	-0.03	0.00%
3-Oct-18	0.2640	1121.88	1121.79	0.10	0.01%
18-May-18	0.7510	1238.88	1237.38	1.50	0.12%
17-Sep-18	0.4140	1106.88	1106.20	0.68	0.06%
11-Jun-18	0.3660	1086.07	1085.07	0.99	0.09%
3-Aug-18	0.1630	1050.34	1049.99	0.35	0.03%
19-Nov-18	0.8660	1468.56	1469.78	-1.22	-0.08%
25-Sep-18	0.3710	1102.54	1102.11	0.43	0.04%
14-Jun-18	0.3980	1098.14	1097.40	0.74	0.07%
16-Aug-18	0.1160	1027.66	1027.08	0.58	0.06%
15-Jun-18	0.6300	1116.06	1114.05	2.01	0.18%
19-Jun-18	0.3570	1088.24	1087.30	0.94	0.09%
6-Jun-18	1.0130	1370.26	1370.27	-0.02	0.00%
24-Oct-18	0.3560	1103.61	1103.23	0.38	0.03%
6-Dec-18	0.4850	1127.62	1127.08	0.54	0.05%
11-Jun-18	0.3220	1114.45	1113.88	0.57	0.05%
11-Jan-19	0.6380	1142.09	1142.02	0.07	0.01%
1-Jun-18	0.4720	1092.83	1091.47	1.36	0.12%
11-Sep-18	0.3100	1071.94	1071.08	0.86	0.08%
25-Jul-18	0.1700	1047.46	1046.93	0.53	0.05%
15-Jun-18	0.5900	1110.47	1108.80	1.68	0.15%

6-Jun-18	0.5030	1118.40	1117.38	1.02	0.09%
11-Sep-18	0.3310	1094.69	1094.23	0.46	0.04%
11-Sep-18	0.2920	1089.54	1089.19	0.35	0.03%
8-Jan-19	0.3990	1109.05	1108.69	0.36	0.03%
23-May-18	0.3040	1101.84	1101.14	0.70	0.06%
26-Jun-18	0.6220	1208.75	1208.63	0.12	0.01%
1-Jun-18	0.4510	1093.21	1091.96	1.25	0.11%
20-Sep-18	0.3950	1113.57	1113.23	0.34	0.03%
24-Aug-18	0.3980	1086.52	1085.63	0.89	0.08%
20-Sep-18	0.4970	1125.94	1125.37	0.57	0.05%
7-Feb-19	0.2880	1092.72	1092.60	0.12	0.01%
18-Jul-18	0.3230	1079.92	1079.15	0.76	0.07%
18-May-18	0.5570	1103.13	1100.90	2.22	0.20%
3-Oct-18	0.2960	1096.52	1095.96	0.57	0.05%
1-Oct-18	0.4580	1120.32	1119.95	0.37	0.03%
8-Aug-18	0.2660	1075.84	1075.55	0.30	0.03%
19-Aug-18	0.5140	1281.42	1281.77	-0.36	-0.03%
13-Sep-18	0.4250	1103.86	1102.70	1.16	0.10%
27-Dec-18	1.1050	1781.01	1783.58	-2.58	-0.14%
25-Jan-19	0.3530	1128.93	1128.98	-0.06	-0.01%
5-Oct-18	0.3830	1109.69	1109.53	0.16	0.01%
14-Sep-18	0.2810	1085.51	1085.23	0.28	0.03%
23-Aug-18	0.5160	1135.64	1134.68	0.96	0.08%
23-Aug-18	0.3310	1074.13	1072.98	1.16	0.11%
12-Sep-18	0.3620	1090.69	1090.04	0.65	0.06%
31-May-18	0.4850	1081.29	1079.88	1.41	0.13%
14-Sep-18	0.3070	1088.59	1088.02	0.57	0.05%
7-Jan-19	0.8340	1313.46	1314.09	-0.63	-0.05%
1-Jun-18	0.4330	1088.41	1087.22	1.19	0.11%
20-Jun-18	0.3150	1092.25	1091.65	0.59	0.05%
14-Sep-18	0.3000	1093.19	1092.85	0.34	0.03%
19-Sep-18	0.2840	1087.34	1086.99	0.35	0.03%
8-Jan-19	1.7520	1530.59	1532.76	-2.18	-0.14%
30-May-18	0.4050	1101.89	1101.24	0.65	0.06%
17-Jul-18	0.3650	1128.85	1128.22	0.63	0.06%
11-Sep-18	0.2520	1071.37	1070.87	0.50	0.05%
18-Jul-18	0.2970	1082.51	1081.99	0.51	0.05%
6-Oct-18	0.7970	1391.38	1391.96	-0.58	-0.04%
7-Dec-18	0.3650	1101.64	1101.27	0.37	0.03%
29-Aug-18	0.5180	1120.87	1119.74	1.12	0.10%
18-Jul-18	0.3000	1081.90	1081.18	0.71	0.07%
1-Oct-18	0.4110	1324.24	1324.42	-0.18	-0.01%
18-Dec-18	1.3030	1379.71	1380.88	-1.17	-0.09%
23-Oct-18	1.1630	1434.90	1437.10	-2.20	-0.15%
19-Jul-18	0.3290	1079.95	1079.04	0.91	0.08%
19-Sep-18	0.3730	1092.62	1091.98	0.64	0.06%
3-Nov-18	0.7870	1279.29	1279.30	-0.01	0.00%
19-Aug-18	0.5120	1279.53	1279.89	-0.36	-0.03%
29-Jan-19	0.2790	1071.51	1070.92	0.59	0.06%
14-Sep-18	0.3520	1086.03	1085.45	0.58	0.05%
19-Sep-18	0.3070	1091.52	1090.87	0.66	0.06%
19-Aug-18	0.8850	1364.25	1365.01	-0.76	-0.06%
10-Sep-18	0.1620	1050.82	1050.49	0.33	0.03%
23-Aug-18	0.2790	1076.05	1075.55	0.50	0.05%
4-Jan-19	1.8490	1397.24	1399.50	-2.26	-0.16%
5-Oct-18	0.3450	1134.99	1134.65	0.34	0.03%
21-Sep-18	0.2330	1091.46	1091.33	0.13	0.01%

20-Jun-18	0.3440	1092.81	1092.21	0.61	0.06%
7-Sep-18	0.2690	1086.67	1086.20	0.47	0.04%
26-Dec-18	0.8820	1412.36	1413.04	-0.68	-0.05%
4-Oct-18	1.9930	1440.64	1442.78	-2.14	-0.15%
3-Oct-18	0.3830	1127.32	1127.40	-0.07	-0.01%
7-Nov-18	0.2740	1090.54	1090.20	0.34	0.03%
20-Jun-18	0.3880	1094.30	1093.51	0.80	0.07%
3-Oct-18	0.6260	1143.35	1143.72	-0.37	-0.03%
30-May-18	0.4480	1107.13	1104.46	2.66	0.24%
27-Sep-18	0.2050	1071.84	1071.46	0.38	0.03%
20-Sep-18	0.4040	1106.35	1105.67	0.68	0.06%
7-Aug-18	0.2580	1080.76	1080.21	0.55	0.05%
19-Aug-18	0.5120	1278.41	1278.77	-0.36	-0.03%
20-Jun-18	0.3020	1055.34	1054.05	1.29	0.12%
13-Jul-18	0.5660	1174.45	1174.44	0.01	0.00%
19-Nov-18	0.8630	1464.48	1465.69	-1.22	-0.08%
10-May-18	0.2620	1099.60	1098.84	0.76	0.07%
19-Sep-18	0.3230	1103.24	1103.13	0.11	0.01%
18-Jun-18	0.4070	1127.67	1127.19	0.47	0.04%
21-Jun-18	0.4550	1092.62	1091.38	1.25	0.11%
28-Oct-18	0.4830	1160.54	1160.71	-0.17	-0.01%
25-May-18	0.4760	1096.81	1095.81	0.99	0.09%
11-Sep-18	0.3040	1074.60	1073.25	1.35	0.13%
6-Sep-18	0.3170	1098.23	1097.88	0.35	0.03%
3-Oct-18	0.2790	1079.11	1078.60	0.52	0.05%
20-Jun-18	0.5210	1124.28	1122.66	1.62	0.14%
17-May-18	0.9680	1381.12	1381.65	-0.53	-0.04%
27-Nov-18	1.0310	1296.12	1294.62	1.49	0.12%
1-Oct-18	0.4330	1130.31	1130.15	0.16	0.01%
22-Aug-18	0.3770	1096.61	1095.78	0.83	0.08%
26-Jun-18	0.3500	1289.36	1289.04	0.33	0.03%
16-Jun-18	0.3890	1083.10	1082.12	0.98	0.09%
1-Oct-18	0.4360	1120.14	1119.50	0.64	0.06%
14-Dec-18	0.4380	1129.22	1128.76	0.46	0.04%
11-Jul-18	0.2460	1067.64	1067.01	0.63	0.06%
17-Jul-18	0.2820	1091.90	1091.53	0.36	0.03%
13-Jun-18	0.3900	1087.37	1086.31	1.07	0.10%
20-Sep-18	0.5010	1125.71	1125.00	0.72	0.06%
18-Dec-18	0.5090	1126.22	1125.61	0.61	0.05%
6-Jun-18	1.0090	1365.25	1365.27	-0.03	0.00%
1-Feb-19	0.2660	1085.08	1085.14	-0.05	0.00%
12-Jul-18	0.4340	1271.38	1270.61	0.78	0.06%
24-Aug-18	0.2610	1081.32	1080.80	0.52	0.05%
19-Nov-18	0.8620	1463.41	1464.62	-1.21	-0.08%
7-Sep-18	0.3750	1097.68	1097.02	0.66	0.06%
14-Sep-18	0.3240	1087.95	1087.60	0.35	0.03%
24-Jul-18	0.3840	1079.11	1077.36	1.75	0.16%
18-Oct-18	0.3250	1096.85	1096.81	0.03	0.00%
30-Aug-18	0.2660	1085.10	1084.86	0.24	0.02%
13-Jul-18	0.3680	1080.15	1078.95	1.20	0.11%
5-Nov-18	1.0610	1401.61	1402.63	-1.02	-0.07%
18-May-18	0.2690	1754.70	1754.55	0.15	0.01%
8-May-18	1.3050	1287.32	1287.51	-0.19	-0.01%
17-Jan-19	0.4320	1105.00	1104.45	0.55	0.05%
12-Dec-18	0.3730	1102.83	1102.53	0.30	0.03%
13-Dec-18	0.3560	1100.23	1099.89	0.33	0.03%
25-Sep-18	0.4170	1087.86	1086.88	0.98	0.09%

14-Jun-18	0.2900	1088.79	1088.39	0.39	0.04%
19-Sep-18	0.3600	1098.08	1097.93	0.15	0.01%
8-Jan-19	1.7480	1526.87	1529.04	-2.17	-0.14%
20-Sep-18	0.4310	1110.84	1110.44	0.40	0.04%
23-Aug-18	0.4090	1105.61	1105.38	0.22	0.02%
14-Jun-18	0.5270	1132.62	1131.84	0.79	0.07%
18-Sep-18	0.3920	1094.28	1093.45	0.83	0.08%
24-Aug-18	0.3850	1094.91	1094.44	0.47	0.04%
13-Jul-18	0.5690	1174.17	1174.12	0.05	0.00%
23-May-18	1.1890	1122.49	1115.76	6.73	0.60%
31-May-18	0.5110	1089.78	1087.60	2.18	0.20%
20-Jun-18	0.2580	1094.43	1094.07	0.36	0.03%
21-Sep-18	0.4540	1105.23	1103.85	1.38	0.12%
14-Sep-18	0.2870	1085.70	1085.09	0.61	0.06%
3-Jul-18	0.4420	1153.21	1153.04	0.17	0.01%
20-Jun-18	0.4490	1096.03	1095.10	0.93	0.08%
23-May-18	0.4160	1083.43	1081.71	1.72	0.16%
13-Jun-18	0.4270	1089.90	1088.72	1.18	0.11%
1-Feb-19	0.3140	1091.44	1090.83	0.61	0.06%
18-Jul-18	0.3100	1073.98	1073.12	0.86	0.08%
30-May-18	0.2960	1074.67	1074.07	0.61	0.06%
28-Aug-18	0.3590	1095.64	1095.03	0.62	0.06%
15-Jun-18	0.5670	1109.25	1107.40	1.85	0.17%
6-Feb-19	0.2560	1077.86	1077.64	0.22	0.02%
27-Sep-18	0.2150	1051.28	1050.47	0.81	0.08%
13-Dec-18	0.2650	1088.70	1088.40	0.30	0.03%
20-Sep-18	0.4180	1111.07	1110.47	0.60	0.05%
25-Apr-18	0.2770	1073.53	1072.57	0.96	0.09%
29-Oct-18	0.4000	1121.17	1120.16	1.00	0.09%
6-Aug-18	0.4720	1199.40	1199.50	-0.10	-0.01%
20-Nov-18	0.6210	1297.01	1297.20	-0.19	-0.01%
20-Nov-18	0.6210	1297.01	1297.20	-0.19	-0.01%
15-Jun-18	0.5940	1115.51	1113.66	1.86	0.17%
22-Jun-18	0.5200	1108.14	1106.77	1.36	0.12%
20-Jun-18	0.2980	1083.17	1082.56	0.61	0.06%
12-Jun-18	0.5360	1136.98	1136.27	0.71	0.06%
16-Oct-18	0.7350	1338.81	1339.08	-0.27	-0.02%
1-Nov-18	0.3290	1088.10	1086.96	1.15	0.11%
1-Nov-18	0.3360	1103.48	1103.14	0.35	0.03%
21-Sep-18	1.2870	1413.71	1414.99	-1.28	-0.09%
21-Sep-18	1.2870	1413.71	1414.99	-1.28	-0.09%
14-Sep-18	0.3010	1088.94	1088.48	0.47	0.04%
23-Oct-18	1.1590	1430.27	1432.47	-2.20	-0.15%
23-Oct-18	1.1590	1430.10	1432.30	-2.20	-0.15%
4-Aug-18	0.3000	1150.23	1150.44	-0.21	-0.02%
20-Aug-18	0.2770	1082.39	1082.08	0.31	0.03%
19-Sep-18	0.2610	1080.60	1080.22	0.38	0.04%
7-Dec-18	0.2730	1099.83	1099.61	0.22	0.02%
7-Feb-19	0.2330	1088.09	1088.01	0.09	0.01%
13-Jul-18	0.4560	1101.07	1099.97	1.10	0.10%
11-Jun-18	0.4200	1117.09	1116.51	0.58	0.05%
5-Jul-18	0.5290	1155.25	1155.41	-0.16	-0.01%
27-Nov-18	0.4710	1110.61	1109.78	0.84	0.08%
26-Jun-18	0.3480	1285.30	1284.98	0.32	0.02%
20-Jun-18	0.3340	1092.50	1091.92	0.58	0.05%
6-Sep-18	0.3940	1105.22	1104.72	0.49	0.04%
29-Oct-18	0.7690	1189.24	1188.75	0.49	0.04%

22-Aug-18	0.2480	1101.73	1101.37	0.36	0.03%
15-Apr-18	0.9770	1355.27	1354.85	0.42	0.03%
26-Dec-18	0.8790	1407.18	1407.86	-0.68	-0.05%
24-Sep-18	0.2530	1078.37	1077.90	0.47	0.04%
19-Nov-18	0.1850	1044.28	1043.63	0.65	0.06%
24-Jul-18	0.3760	1081.33	1080.13	1.21	0.11%
17-Sep-18	0.4380	1090.84	1089.43	1.41	0.13%
22-Jun-18	0.4700	1092.98	1091.50	1.48	0.14%
20-Sep-18	0.2950	1072.85	1072.12	0.73	0.07%
11-Sep-18	0.2850	1080.22	1079.76	0.46	0.04%
5-Sep-18	0.3810	1102.31	1102.01	0.30	0.03%
18-Sep-18	0.3220	1078.86	1078.35	0.51	0.05%
26-Nov-18	1.2730	1578.17	1579.97	-1.80	-0.11%
16-Apr-18	0.8540	1326.10	1325.87	0.23	0.02%
23-May-18	1.1850	1118.58	1111.87	6.71	0.60%
7-Sep-18	0.3880	1104.38	1103.84	0.54	0.05%
14-Aug-18	0.3040	1063.69	1062.62	1.08	0.10%
22-Jan-19	0.2980	1102.98	1103.02	-0.04	0.00%
6-Oct-18	0.7930	1383.74	1384.31	-0.57	-0.04%
6-Oct-18	0.7930	1383.74	1384.31	-0.57	-0.04%
20-Jun-18	0.3410	1092.69	1092.35	0.34	0.03%
14-Sep-18	0.2900	1082.34	1082.06	0.28	0.03%
31-Jul-18	0.4010	1104.97	1103.73	1.23	0.11%
12-Sep-18	0.2940	1084.88	1084.52	0.36	0.03%
24-May-18	0.4500	1098.16	1096.94	1.22	0.11%
16-Aug-18	0.1520	1030.32	1029.56	0.76	0.07%
19-Sep-18	0.3410	1092.18	1091.55	0.63	0.06%
16-Aug-18	0.1620	1032.55	1031.82	0.73	0.07%
6-Sep-18	0.3230	1094.56	1093.99	0.57	0.05%
16-Aug-18	0.4810	1109.51	1108.39	1.12	0.10%
20-Jun-18	0.4100	1084.04	1082.70	1.34	0.12%
6-Nov-18	0.3070	1103.73	1103.53	0.20	0.02%
19-Sep-18	0.3360	1091.66	1091.07	0.59	0.05%
28-Sep-18	0.2800	1075.16	1074.41	0.75	0.07%
13-Jun-18	0.3090	1087.04	1086.43	0.61	0.06%
9-Oct-18	0.8710	1177.04	1176.58	0.45	0.04%
3-Oct-18	0.2700	1103.80	1103.32	0.48	0.04%
15-Aug-18	0.4780	1116.62	1116.75	-0.13	-0.01%
10-Sep-18	0.2970	1066.77	1065.52	1.25	0.12%
16-Jul-18	0.3940	1112.66	1112.45	0.20	0.02%
9-Nov-18	1.1460	1348.08	1349.15	-1.07	-0.08%
12-Sep-18	0.3320	1082.88	1082.46	0.42	0.04%
11-Sep-18	0.2690	1081.53	1081.09	0.44	0.04%
20-Jun-18	0.5030	1119.83	1118.47	1.35	0.12%
20-Sep-18	0.5020	1119.02	1117.67	1.35	0.12%
26-Dec-18	0.8820	1392.53	1393.65	-1.12	-0.08%
9-Aug-18	0.3320	1065.85	1064.39	1.45	0.14%
18-Sep-18	0.3330	1100.42	1099.94	0.48	0.04%
20-Jun-18	0.3450	1083.18	1082.50	0.68	0.06%
18-Jul-18	0.2130	1062.52	1062.06	0.46	0.04%
13-Jul-18	0.5030	1137.82	1137.22	0.60	0.05%
19-Jun-18	0.3730	1102.94	1102.44	0.50	0.05%
16-Jul-18	0.7070	1185.07	1185.53	-0.46	-0.04%
20-Nov-18	0.4920	1148.66	1148.59	0.07	0.01%
13-Jun-18	0.4300	1090.88	1089.68	1.20	0.11%
8-Aug-18	0.3420	1101.14	1101.04	0.10	0.01%
13-Jul-18	0.5020	1123.09	1122.23	0.86	0.08%

25-May-18	0.3340	1173.11	1173.22	-0.11	-0.01%
20-Jun-18	0.3260	1105.09	1104.40	0.69	0.06%
10-Jan-19	0.3390	1128.66	1128.78	-0.13	-0.01%
14-Jun-18	0.4840	1103.47	1102.22	1.24	0.11%
11-Jul-18	0.1970	1058.54	1058.01	0.53	0.05%
5-Nov-18	1.0550	1395.18	1396.21	-1.03	-0.07%
5-Nov-18	1.0550	1395.18	1396.21	-1.03	-0.07%
3-May-18	0.3510	1101.52	1100.83	0.69	0.06%
4-Oct-18	1.9800	1432.21	1434.35	-2.13	-0.15%
4-Oct-18	1.9800	1432.21	1434.35	-2.13	-0.15%
11-Sep-18	0.5370	1102.27	1102.15	0.12	0.01%
11-Sep-18	0.3400	1091.73	1091.41	0.32	0.03%
13-Jul-18	0.3730	1104.59	1103.95	0.64	0.06%
12-Dec-18	0.3270	1104.01	1103.29	0.72	0.07%
20-Nov-18	0.4870	1127.99	1127.67	0.32	0.03%
15-Jun-18	0.4930	1112.49	1111.32	1.16	0.10%
20-Aug-18	0.6850	1161.17	1160.07	1.10	0.09%
18-Sep-18	0.5470	1124.84	1124.49	0.35	0.03%
24-Aug-18	0.4320	1101.57	1100.63	0.94	0.09%
18-Jul-18	0.3070	1075.01	1074.20	0.81	0.08%
26-Jul-18	0.3820	1118.09	1118.15	-0.05	0.00%
13-Dec-18	2.1530	1408.11	1406.32	1.80	0.13%
11-Sep-18	0.9880	1380.45	1381.09	-0.64	-0.05%
13-Dec-18	0.2850	1092.31	1092.16	0.16	0.01%
20-Sep-18	0.3000	1134.94	1134.89	0.05	0.00%
23-May-18	0.5020	1087.41	1085.48	1.93	0.18%
11-Jan-19	0.2560	1092.57	1092.27	0.30	0.03%
11-Sep-18	0.6090	1326.33	1326.99	-0.66	-0.05%
16-Oct-18	0.7310	1332.76	1333.02	-0.26	-0.02%
21-Sep-18	1.2810	1407.85	1409.13	-1.28	-0.09%
21-Sep-18	1.2810	1407.85	1409.13	-1.28	-0.09%
14-Dec-18	0.3090	1099.04	1098.54	0.50	0.05%
15-Aug-18	0.2890	1068.89	1068.46	0.43	0.04%
19-Nov-18	0.1920	1047.42	1046.92	0.51	0.05%
25-Sep-18	0.5860	1133.11	1132.04	1.07	0.09%
6-Jul-18	0.7790	1178.43	1178.01	0.42	0.04%
21-Sep-18	0.2920	1092.65	1092.45	0.20	0.02%
3-Jul-18	0.2580	1105.16	1104.98	0.17	0.02%
13-Sep-18	0.2900	1082.82	1082.46	0.36	0.03%
15-Jun-18	0.5530	1110.15	1108.53	1.62	0.15%
3-Oct-18	0.5980	1144.42	1143.75	0.68	0.06%
13-Dec-18	0.2510	1091.30	1090.97	0.32	0.03%
27-Jun-18	0.3640	1085.21	1084.14	1.07	0.10%
15-Jan-19	0.3870	1120.33	1120.34	-0.01	0.00%
22-Jun-18	0.4990	1104.84	1103.40	1.44	0.13%
9-Oct-18	1.3680	1358.04	1360.39	-2.35	-0.17%
20-Sep-18	0.4980	1123.14	1122.23	0.91	0.08%
22-Nov-18	1.2120	1309.99	1311.63	-1.64	-0.13%
14-Jun-18	0.3640	1119.42	1119.41	0.02	0.00%
14-Sep-18	0.2990	1086.34	1085.85	0.48	0.04%
14-Sep-18	0.2990	1086.34	1085.85	0.48	0.04%
6-Sep-18	0.3050	1088.80	1088.38	0.42	0.04%
13-Jun-18	0.3960	1095.21	1094.47	0.74	0.07%
11-Sep-18	0.6090	1325.30	1325.96	-0.66	-0.05%
20-Nov-18	0.6450	1169.52	1169.40	0.12	0.01%
8-Jun-18	0.3990	1321.24	1321.37	-0.13	-0.01%
3-Jan-19	0.5880	1105.34	1104.70	0.64	0.06%

15-Jun-18	0.5550	1109.04	1107.42	1.62	0.15%
12-Jun-18	0.3130	1147.42	1147.54	-0.12	-0.01%
11-Sep-18	0.6090	1324.83	1325.49	-0.66	-0.05%
24-Aug-18	0.3700	1090.58	1089.98	0.60	0.05%
21-Sep-18	0.4760	1101.99	1100.78	1.21	0.11%
30-May-18	0.3450	1115.78	1115.45	0.33	0.03%
3-Jul-18	0.5410	1065.90	1064.13	1.77	0.17%
13-Dec-18	0.4800	1123.77	1123.02	0.75	0.07%
20-Sep-18	0.4290	1119.85	1119.51	0.34	0.03%
5-Sep-18	0.2990	1095.66	1095.31	0.35	0.03%
24-Jan-19	0.5110	1146.68	1146.02	0.66	0.06%
8-Dec-18	2.1910	1461.05	1467.02	-5.97	-0.41%
22-Jun-18	0.2200	1093.70	1093.49	0.20	0.02%
7-Nov-18	0.3250	1084.57	1083.76	0.81	0.07%
9-Nov-18	1.6630	1499.99	1503.72	-3.73	-0.25%
2-Oct-18	0.6290	1147.26	1146.48	0.78	0.07%
5-Feb-19	0.3800	1077.49	1076.52	0.98	0.09%
11-Dec-18	0.3910	1103.06	1102.74	0.31	0.03%
13-Sep-18	0.3790	1094.42	1094.00	0.42	0.04%
22-Jun-18	0.5140	1124.83	1123.62	1.21	0.11%
1-Feb-19	0.2440	1091.43	1091.44	-0.01	0.00%
11-Sep-18	0.9860	1377.52	1378.16	-0.63	-0.05%
17-Jul-18	0.6020	1140.58	1139.50	1.08	0.09%
11-Jun-18	0.4920	1123.96	1123.15	0.82	0.07%
19-Jun-18	0.1520	1029.79	1029.18	0.61	0.06%
14-Jun-18	0.5370	1113.60	1112.12	1.48	0.13%
15-Jun-18	0.3960	1096.33	1095.65	0.68	0.06%
11-Jul-18	0.5160	1141.60	1141.10	0.49	0.04%
29-Nov-18	0.1980	1071.46	1071.50	-0.05	0.00%
21-Jun-18	0.4600	1099.97	1098.91	1.06	0.10%
7-Dec-18	1.1050	1355.36	1356.18	-0.81	-0.06%
19-Jun-18	0.3910	1104.55	1103.74	0.81	0.07%
25-May-18	0.5910	1127.18	1125.82	1.35	0.12%
22-Nov-18	1.2090	1307.62	1309.26	-1.64	-0.13%
9-Aug-18	0.3610	1123.02	1123.09	-0.07	-0.01%
20-Sep-18	0.4730	1128.94	1128.36	0.58	0.05%
16-Oct-18	1.2820	1414.27	1416.47	-2.20	-0.16%
20-Nov-18	0.4540	1121.50	1121.00	0.49	0.04%
16-Apr-18	0.8500	1319.03	1318.81	0.22	0.02%
16-Apr-18	0.8500	1319.03	1318.81	0.22	0.02%
8-Jan-19	0.4360	1150.92	1151.11	-0.19	-0.02%
22-Aug-18	0.3530	1094.55	1094.02	0.53	0.05%
22-Jan-19	0.3200	1123.17	1122.94	0.23	0.02%
5-Dec-18	0.3030	1082.22	1081.78	0.44	0.04%
16-Apr-18	1.4020	1402.67	1400.25	2.41	0.17%
19-Sep-18	0.4340	1092.76	1091.84	0.92	0.08%
7-Feb-19	0.2430	1080.68	1080.34	0.34	0.03%
2-Aug-18	0.2940	1105.63	1105.49	0.14	0.01%
20-Sep-18	0.3740	1128.74	1128.74	0.00	0.00%
13-Jun-18	0.4380	1086.24	1084.99	1.24	0.11%
20-Aug-18	0.4410	1120.52	1120.97	-0.45	-0.04%
23-Jun-18	0.4570	1103.35	1102.02	1.33	0.12%
26-Nov-18	1.2680	1571.74	1573.53	-1.79	-0.11%
26-Nov-18	1.2680	1571.74	1573.53	-1.79	-0.11%
24-May-18	0.5620	1095.61	1093.26	2.35	0.21%
22-Jan-19	0.2500	1095.07	1094.89	0.17	0.02%
20-Sep-18	0.4200	1140.25	1140.27	-0.02	0.00%

1-Jun-18	0.4160	1083.47	1082.24	1.23	0.11%
25-Apr-18	0.2900	1074.66	1073.85	0.81	0.08%
25-Jul-18	0.3790	1078.75	1077.45	1.31	0.12%
24-May-18	0.6560	1114.92	1112.13	2.79	0.25%
3-Jul-18	0.4900	1127.98	1127.52	0.46	0.04%
20-Jun-18	0.2630	1072.28	1071.84	0.44	0.04%
16-Jun-18	0.3920	1093.18	1092.46	0.72	0.07%
2-Aug-18	0.7070	1182.07	1182.95	-0.88	-0.07%
20-Jun-18	0.3530	1084.62	1084.30	0.32	0.03%
20-Sep-18	0.4840	1108.51	1107.71	0.80	0.07%
11-Jan-19	0.3840	1117.54	1117.52	0.02	0.00%
18-Sep-18	0.2470	1079.69	1079.13	0.56	0.05%
5-Dec-18	2.2100	1594.27	1598.12	-3.85	-0.24%
9-Oct-18	1.3630	1354.34	1356.72	-2.37	-0.18%
9-Oct-18	1.3630	1354.34	1356.72	-2.37	-0.18%
1-Jun-18	0.4130	1088.37	1087.29	1.08	0.10%
21-Jun-18	0.3530	1091.75	1091.16	0.59	0.05%
8-Aug-18	0.2280	1077.38	1077.12	0.26	0.02%
26-Jun-18	0.3580	1096.28	1095.72	0.56	0.05%
14-Jun-18	0.6940	1118.85	1116.89	1.96	0.18%
13-Sep-18	0.4060	1105.27	1104.77	0.50	0.05%
8-Jun-18	0.3970	1317.65	1317.78	-0.13	-0.01%
7-Jul-18	0.3420	1086.13	1085.48	0.65	0.06%
19-Dec-18	0.7820	1341.33	1342.30	-0.97	-0.07%
26-Dec-18	0.8780	1386.21	1387.32	-1.11	-0.08%
24-May-18	0.5880	1113.80	1111.32	2.48	0.22%
6-Jul-18	0.4150	1140.01	1140.01	0.00	0.00%
28-Jul-18	0.3360	1110.12	1110.05	0.08	0.01%
19-Sep-18	0.3210	1093.85	1093.35	0.50	0.05%
2-Aug-18	0.4170	1099.09	1098.72	0.38	0.03%
1-Aug-18	0.3050	1100.38	1100.11	0.28	0.03%
6-Jul-18	0.4350	1143.83	1143.94	-0.11	-0.01%
1-Nov-18	0.3280	1101.52	1101.18	0.34	0.03%
3-Jan-19	0.7720	1307.72	1308.20	-0.48	-0.04%
29-Oct-18	0.3000	1077.69	1076.74	0.95	0.09%
27-Sep-18	0.4970	1113.31	1112.78	0.53	0.05%
18-Jan-19	0.1150	1021.41	1020.84	0.57	0.06%
8-Aug-18	0.3470	1128.93	1128.47	0.46	0.04%
9-Jul-18	1.0190	1400.93	1396.91	4.02	0.29%
13-Sep-18	0.3710	1102.67	1102.29	0.38	0.03%
21-Jun-18	0.6140	1133.11	1131.60	1.51	0.13%
1-Dec-18	0.3790	1085.80	1084.76	1.04	0.10%
20-Jun-18	0.5030	1120.15	1118.93	1.22	0.11%
30-May-18	0.8270	1162.01	1160.72	1.29	0.11%
12-Nov-18	1.5570	1390.71	1393.24	-2.53	-0.18%
18-Jun-18	0.3310	1080.93	1080.05	0.88	0.08%
22-Nov-18	1.2070	1305.01	1306.64	-1.63	-0.12%
14-Jun-18	0.3300	1124.50	1124.38	0.12	0.01%
23-Jan-19	0.3040	1116.31	1116.41	-0.10	-0.01%
11-Jul-18	0.2470	1078.73	1078.03	0.70	0.06%
20-Sep-18	0.4490	1112.24	1111.28	0.96	0.09%
16-Nov-18	0.4290	1119.84	1119.75	0.09	0.01%
25-Jun-18	0.3660	1116.58	1116.41	0.17	0.02%
11-Sep-18	0.2600	1060.05	1059.23	0.82	0.08%
2-Oct-18	0.6140	1307.87	1308.40	-0.53	-0.04%
7-Feb-19	0.2620	1085.39	1085.29	0.09	0.01%
23-Jan-19	0.3980	1121.01	1121.08	-0.08	-0.01%

19-Jun-18	0.3270	1091.88	1091.39	0.50	0.05%
15-Jun-18	0.5010	1114.67	1113.28	1.38	0.12%
9-Nov-18	1.4470	1600.96	1605.03	-4.07	-0.25%
3-Dec-18	0.6520	1335.62	1335.40	0.22	0.02%
15-Jan-19	1.2550	1608.97	1611.31	-2.34	-0.15%
7-Aug-18	0.3430	1119.55	1119.56	-0.01	0.00%
19-Jun-18	0.1430	1029.36	1028.74	0.62	0.06%
20-Sep-18	0.4560	1118.13	1117.59	0.54	0.05%
19-Sep-18	0.3410	1112.63	1112.41	0.22	0.02%
20-Sep-18	0.4390	1105.50	1105.10	0.40	0.04%
15-Aug-18	0.3330	1102.63	1102.42	0.22	0.02%
9-Aug-18	0.3560	1098.34	1097.83	0.50	0.05%
3-Oct-18	0.5890	1142.39	1141.37	1.02	0.09%
10-Jul-18	0.4010	1127.46	1127.29	0.16	0.01%
10-Sep-18	0.1830	1054.98	1054.59	0.38	0.04%
5-Feb-19	0.3330	1106.58	1106.59	0.00	0.00%
23-May-18	0.3180	1079.60	1078.79	0.81	0.08%
21-Sep-18	0.3820	1100.50	1100.05	0.46	0.04%
17-Jul-18	0.5920	1132.59	1131.56	1.03	0.09%
20-Jun-18	0.3540	1095.38	1094.77	0.61	0.06%
11-Sep-18	0.3870	1108.69	1107.95	0.74	0.07%
13-Jul-18	0.7840	1190.54	1189.77	0.77	0.06%
16-Oct-18	1.2780	1410.35	1412.55	-2.20	-0.16%
13-Jul-18	0.4750	1089.56	1088.62	0.94	0.09%
16-Nov-18	0.3860	1108.60	1108.31	0.29	0.03%
5-Feb-19	0.2280	1070.08	1069.69	0.39	0.04%
28-Nov-18	0.3960	1085.13	1084.00	1.13	0.10%
16-Oct-18	1.2780	1410.13	1412.33	-2.20	-0.16%
1-Nov-18	0.3270	1090.52	1090.02	0.50	0.05%
18-Jan-19	0.3450	1118.67	1118.26	0.41	0.04%
15-Jun-18	0.5670	1113.70	1112.12	1.57	0.14%
5-Feb-19	0.3200	1097.79	1097.62	0.17	0.02%
17-Sep-18	0.5370	1121.75	1120.69	1.05	0.09%
6-Sep-18	0.4750	1110.19	1109.41	0.78	0.07%
6-Feb-19	0.3160	1095.28	1095.08	0.20	0.02%
28-Jul-18	0.2750	1110.41	1110.44	-0.03	0.00%
22-Jun-18	0.3350	1090.55	1089.99	0.56	0.05%
1-Nov-18	0.3200	1094.79	1094.16	0.63	0.06%
30-Aug-18	0.3300	1091.03	1090.63	0.39	0.04%
20-Jun-18	0.3480	1094.78	1094.05	0.73	0.07%
14-Aug-18	0.3120	1108.20	1106.86	1.33	0.12%
13-Sep-18	0.4920	1117.80	1116.94	0.86	0.08%
21-Jun-18	0.4550	1097.63	1096.36	1.27	0.12%
14-Sep-18	0.4350	1094.64	1093.89	0.75	0.07%
5-Sep-18	0.4180	1282.47	1282.86	-0.39	-0.03%
27-Sep-18	0.2640	1090.55	1090.02	0.53	0.05%
6-Jan-19	1.3410	1384.03	1386.24	-2.21	-0.16%
3-Aug-18	0.2910	1110.38	1110.13	0.25	0.02%
20-Sep-18	0.4420	1114.98	1114.49	0.49	0.04%
19-Sep-18	0.3860	1097.63	1096.94	0.69	0.06%
20-Jun-18	0.3740	1096.65	1096.19	0.45	0.04%
13-Sep-18	0.4150	1104.85	1104.02	0.83	0.08%
22-Jun-18	0.5530	1142.84	1141.60	1.24	0.11%
10-Jul-18	0.6750	1358.49	1358.58	-0.09	-0.01%
14-Jun-18	0.5560	1111.56	1110.08	1.48	0.13%
12-Jun-18	0.4210	1083.88	1082.56	1.32	0.12%
15-Jun-18	0.5670	1117.41	1115.82	1.59	0.14%

20-Jun-18	0.2960	1074.55	1073.88	0.67	0.06%
13-Sep-18	0.5220	1115.35	1114.24	1.11	0.10%
14-Sep-18	0.3620	1094.60	1093.90	0.70	0.06%
10-Dec-18	0.3670	1096.00	1095.83	0.16	0.01%
12-Jun-18	0.3040	1073.32	1072.44	0.88	0.08%
7-Sep-18	0.3710	1101.53	1100.79	0.74	0.07%
30-Nov-18	0.1460	1046.07	1045.83	0.23	0.02%
22-Jan-19	0.4820	1120.73	1120.02	0.71	0.06%
13-Dec-18	2.1380	1399.04	1397.26	1.78	0.13%
22-Jun-18	0.3480	1095.64	1095.10	0.53	0.05%
23-May-18	0.3540	1085.53	1084.77	0.76	0.07%
16-Oct-18	0.2190	1055.81	1055.17	0.64	0.06%
6-Sep-18	0.3210	1096.14	1095.55	0.60	0.05%
27-Dec-18	0.9560	1408.61	1409.72	-1.11	-0.08%
14-Aug-18	0.2390	1054.48	1054.27	0.21	0.02%
22-Jan-19	0.3560	1111.77	1111.77	0.00	0.00%
21-Sep-18	0.4750	1102.32	1100.96	1.36	0.12%
25-Sep-18	0.5120	1126.46	1126.30	0.16	0.01%
23-Jul-18	0.3510	1129.98	1129.98	0.00	0.00%
13-Sep-18	0.2620	1072.37	1071.83	0.55	0.05%
12-Sep-18	0.2460	1074.65	1074.20	0.45	0.04%
31-Jul-18	0.6060	1134.79	1133.82	0.97	0.09%
20-Jun-18	0.4490	1101.03	1100.07	0.96	0.09%
20-Nov-18	1.0990	1348.45	1349.26	-0.81	-0.06%
7-Dec-18	1.0990	1348.45	1349.26	-0.81	-0.06%
1-Nov-18	0.3260	1083.55	1082.90	0.65	0.06%
19-Sep-18	0.3390	1092.21	1091.85	0.35	0.03%
14-Sep-18	0.3300	1086.60	1086.09	0.51	0.05%
2-Oct-18	0.7930	1208.22	1208.17	0.05	0.00%
12-Sep-18	0.3350	1083.07	1082.46	0.62	0.06%
18-Sep-18	0.3500	1094.54	1094.03	0.52	0.05%
8-Jan-19	0.4720	1154.37	1153.84	0.52	0.05%
4-Jan-19	0.5520	1131.51	1131.88	-0.37	-0.03%
2-Nov-18	0.4920	1108.36	1107.20	1.17	0.11%
7-Sep-18	0.3250	1094.29	1093.62	0.67	0.06%
3-Dec-18	0.6500	1331.17	1330.94	0.23	0.02%
19-Dec-18	0.7780	1335.06	1336.02	-0.96	-0.07%
2-Aug-18	0.3510	1099.26	1098.94	0.32	0.03%
16-Jun-18	0.4290	1100.67	1100.02	0.66	0.06%
11-Dec-18	1.0030	1398.90	1399.03	-0.13	-0.01%
8-Jan-19	1.5850	1519.62	1521.36	-1.75	-0.12%
5-Jul-18	0.4590	1141.52	1141.32	0.20	0.02%
19-Sep-18	0.4090	1084.22	1083.34	0.88	0.08%
11-Sep-18	0.3370	1091.59	1091.25	0.34	0.03%
6-Jul-18	0.4670	1128.33	1127.75	0.57	0.05%
17-Sep-18	0.4790	1133.72	1132.45	1.27	0.11%
12-Sep-18	0.3010	1089.39	1088.94	0.45	0.04%
19-Sep-18	0.4230	1090.96	1089.94	1.02	0.09%
24-Aug-18	0.5350	1163.88	1163.65	0.22	0.02%
20-Sep-18	0.2320	1091.96	1091.71	0.25	0.02%
31-May-18	0.4250	1083.97	1082.69	1.28	0.12%
23-Jun-18	0.3210	1097.15	1096.78	0.37	0.03%
9-Nov-18	1.9440	1635.69	1640.23	-4.54	-0.28%
19-Nov-18	0.2870	1147.29	1146.57	0.72	0.06%
5-Sep-18	0.4170	1278.76	1279.14	-0.38	-0.03%
14-Jun-18	0.4400	1087.22	1085.56	1.66	0.15%
19-Jun-18	0.4330	1095.68	1094.73	0.95	0.09%

30-May-18	0.3820	1076.65	1075.47	1.18	0.11%
12-Nov-18	1.5510	1384.64	1387.15	-2.51	-0.18%
12-Nov-18	1.5510	1384.64	1387.15	-2.51	-0.18%
19-Jun-18	0.1970	1081.76	1080.64	1.12	0.10%
13-Sep-18	0.2840	1087.85	1087.36	0.49	0.05%
9-Jul-18	1.0130	1394.37	1390.38	3.99	0.29%
20-Aug-18	0.5500	1140.44	1139.94	0.50	0.04%
13-Jun-18	0.4390	1097.76	1096.67	1.10	0.10%
16-Apr-18	1.3930	1394.33	1391.93	2.39	0.17%
16-Apr-18	1.3930	1394.33	1391.93	2.39	0.17%
18-Sep-18	0.2990	1083.17	1082.66	0.51	0.05%
6-Jan-19	1.3380	1380.23	1382.43	-2.19	-0.16%
13-Jul-18	0.0690	1231.23	1231.34	-0.11	-0.01%
20-Jun-18	0.6330	1124.85	1123.03	1.82	0.16%
29-Oct-18	0.2690	1089.18	1088.94	0.24	0.02%
3-Oct-18	0.4030	1103.50	1103.07	0.44	0.04%
25-Sep-18	0.5660	1124.57	1123.85	0.71	0.06%
23-Jun-18	0.3600	1094.10	1093.23	0.86	0.08%
28-May-18	0.2120	1069.91	1069.52	0.39	0.04%
6-Feb-19	0.3220	1082.06	1081.83	0.23	0.02%
22-Jan-19	0.3930	1129.49	1129.46	0.03	0.00%
15-Jun-18	0.3380	1083.35	1082.64	0.71	0.07%
22-Jun-18	0.2530	1088.31	1088.09	0.22	0.02%
18-May-18	0.4210	1113.22	1110.59	2.63	0.24%
2-Jul-18	0.4190	1122.34	1122.25	0.09	0.01%
1-Nov-18	0.2430	1083.13	1082.61	0.53	0.05%
28-Nov-18	0.1290	1028.83	1028.35	0.48	0.05%
13-Jun-18	0.1430	1042.71	1042.24	0.47	0.04%
2-Oct-18	0.6100	1301.34	1301.87	-0.53	-0.04%
2-Oct-18	0.6100	1301.34	1301.87	-0.53	-0.04%
13-Sep-18	0.2510	1088.70	1088.41	0.28	0.03%
20-Jun-18	0.3860	1099.58	1098.93	0.65	0.06%
1-Jun-18	0.3850	1077.63	1076.54	1.09	0.10%
6-Jul-18	0.4450	1135.16	1135.16	0.00	0.00%
22-Aug-18	0.3660	1103.51	1102.89	0.62	0.06%
13-Jun-18	0.4950	1121.59	1120.26	1.33	0.12%
10-Jan-19	1.6750	1544.81	1546.52	-1.70	-0.11%
19-Sep-18	0.3470	1094.98	1094.64	0.34	0.03%
13-Jul-18	0.5560	1147.75	1146.93	0.82	0.07%
15-Aug-18	0.3790	1093.53	1093.25	0.28	0.03%
14-Jun-18	0.3930	1100.38	1099.56	0.82	0.07%
14-Sep-18	0.3120	1098.29	1097.97	0.31	0.03%
14-Sep-18	0.3150	1085.50	1085.05	0.45	0.04%
13-Sep-18	0.3920	1092.68	1091.79	0.89	0.08%
11-Jan-19	0.3370	1119.22	1119.00	0.22	0.02%
22-Aug-18	0.1570	1063.48	1063.11	0.37	0.04%
11-Jun-18	0.5520	1124.56	1123.14	1.42	0.13%
20-Jun-18	0.4880	1119.99	1118.98	1.00	0.09%
13-Jul-18	0.5580	1124.86	1123.77	1.09	0.10%
8-Sep-18	0.3150	1081.10	1080.65	0.45	0.04%
13-Sep-18	0.3520	1093.94	1093.57	0.37	0.03%
22-Jun-18	0.7590	1147.15	1144.96	2.19	0.19%
11-Sep-18	0.3830	1100.77	1100.05	0.72	0.07%
11-Sep-18	0.3830	1100.77	1100.05	0.72	0.07%
11-Sep-18	0.3830	1100.77	1100.05	0.72	0.07%
11-Sep-18	0.3830	1100.77	1100.05	0.72	0.07%
11-Sep-18	0.3830	1100.77	1100.05	0.72	0.07%

11-Sep-18	0.3830	1100.77	1100.05	0.72	0.07%
11-Sep-18	0.3830	1100.77	1100.05	0.72	0.07%
11-Sep-18	0.3830	1100.77	1100.05	0.72	0.07%
11-Sep-18	0.3830	1100.77	1100.05	0.72	0.07%
28-Aug-18	0.3340	1120.89	1120.94	-0.05	0.00%
13-Sep-18	0.3060	1087.19	1086.63	0.56	0.05%
27-Sep-18	0.3210	1068.50	1067.79	0.72	0.07%
23-Jun-18	0.5440	1097.48	1095.94	1.55	0.14%
27-Dec-18	1.0090	1370.16	1370.65	-0.49	-0.04%
13-Sep-18	0.3400	1094.16	1093.82	0.34	0.03%
20-Sep-18	0.7000	1161.72	1161.12	0.60	0.05%
13-Sep-18	0.3190	1085.68	1085.35	0.33	0.03%
14-Nov-18	0.3730	1110.47	1110.66	-0.19	-0.02%
14-Aug-18	0.2280	1047.34	1046.85	0.48	0.05%
17-Jan-19	1.5170	1340.67	1343.54	-2.88	-0.21%
9-Jul-18	0.4990	1228.42	1228.97	-0.54	-0.04%
9-Oct-18	0.3310	1078.92	1078.17	0.75	0.07%
27-Jun-18	0.2580	1053.77	1052.66	1.11	0.11%
21-Jun-18	0.4210	1095.42	1094.51	0.91	0.08%
15-Aug-18	0.3940	1080.90	1080.33	0.58	0.05%
19-Oct-18	0.5060	1137.79	1137.37	0.42	0.04%
2-Nov-18	0.3410	1089.88	1089.56	0.32	0.03%
5-Feb-19	0.2010	1056.40	1055.77	0.63	0.06%
19-Jul-18	0.3190	1080.96	1080.27	0.69	0.06%
8-Jan-19	1.5820	1516.45	1518.19	-1.74	-0.12%
6-Jul-18	0.6710	1157.81	1157.34	0.47	0.04%
27-Dec-18	0.9520	1403.72	1404.83	-1.11	-0.08%
20-Jun-18	0.2800	1081.95	1081.23	0.72	0.07%
19-Jul-18	0.7030	1324.48	1323.86	0.62	0.05%
19-Jul-18	0.7030	1324.48	1323.86	0.62	0.05%
11-Sep-18	0.3220	1087.49	1086.83	0.66	0.06%
30-Aug-18	0.1700	1061.90	1061.50	0.40	0.04%
15-Jun-18	0.5760	1094.03	1092.12	1.91	0.17%
20-Jun-18	0.3020	1080.71	1079.90	0.81	0.08%
14-Jun-18	0.3290	1093.21	1092.75	0.47	0.04%
24-Sep-18	0.7910	1189.57	1187.48	2.10	0.18%
14-Jun-18	0.4100	1100.58	1098.97	1.62	0.15%
19-Sep-18	0.3690	1107.99	1107.63	0.36	0.03%
12-Sep-18	0.3300	1070.12	1068.97	1.15	0.11%
2-Nov-18	0.3680	1085.02	1084.28	0.74	0.07%
14-Jun-18	0.8540	1172.42	1170.11	2.31	0.20%
3-Oct-18	0.3650	1108.41	1108.21	0.20	0.02%
13-Dec-18	0.3720	1097.92	1097.19	0.74	0.07%
31-Jan-19	0.3070	1064.30	1063.84	0.47	0.04%
12-Sep-18	0.4100	1093.72	1092.62	1.09	0.10%
12-Sep-18	0.4100	1093.72	1092.62	1.09	0.10%
9-Jul-18	1.1190	1431.45	1424.01	7.44	0.52%
24-Jul-18	0.2790	1080.10	1079.58	0.52	0.05%
14-Sep-18	0.3690	1101.36	1100.74	0.61	0.06%
21-Sep-18	0.2330	1090.63	1090.48	0.16	0.01%
7-Jul-18	0.4060	1104.57	1105.08	-0.52	-0.05%
23-Jan-19	0.6620	1166.78	1166.47	0.31	0.03%
12-Sep-18	0.3730	1076.25	1074.51	1.74	0.16%
13-Sep-18	0.3040	1081.32	1080.78	0.55	0.05%
5-Dec-18	2.1950	1584.81	1588.65	-3.84	-0.24%
13-Jul-18	0.0690	1227.74	1227.85	-0.11	-0.01%
10-Jul-18	0.6700	1351.51	1351.60	-0.09	-0.01%

15-Aug-18	0.3800	1101.41	1100.99	0.42	0.04%
29-Jan-19	0.3150	1108.68	1108.41	0.27	0.02%
13-Jul-18	0.5600	1124.53	1123.55	0.98	0.09%
17-Sep-18	0.3690	1101.38	1100.98	0.40	0.04%
17-May-18	0.2140	1054.36	1053.79	0.58	0.05%
13-Jul-18	0.6790	1161.34	1160.15	1.18	0.10%
25-Jul-18	0.2830	1075.25	1074.63	0.63	0.06%
20-Jun-18	0.6190	1123.60	1121.70	1.90	0.17%
21-Sep-18	0.6670	1267.17	1265.68	1.50	0.12%
6-Oct-18	1.0260	1382.59	1383.66	-1.07	-0.08%
6-Jul-18	0.4950	1169.53	1169.98	-0.45	-0.04%
20-Jun-18	0.5300	1135.53	1134.48	1.05	0.09%
6-Aug-18	0.2950	1252.21	1252.56	-0.35	-0.03%
14-Aug-18	0.2590	1064.94	1064.30	0.63	0.06%
9-Nov-18	1.7530	1608.92	1613.28	-4.36	-0.27%
21-Jun-18	0.3950	1100.64	1099.60	1.04	0.09%
13-Jul-18	0.4970	1132.98	1132.05	0.93	0.08%
3-Jan-19	0.7630	1296.53	1297.03	-0.50	-0.04%
10-Jan-19	1.6710	1542.10	1543.81	-1.71	-0.11%
12-Sep-18	0.5870	1129.60	1128.71	0.89	0.08%
13-Sep-18	0.2770	1091.37	1090.93	0.44	0.04%
4-Sep-18	0.4740	1274.69	1274.74	-0.05	0.00%
30-Nov-18	0.6010	1353.50	1352.75	0.75	0.06%
28-Aug-18	0.1990	1064.91	1064.36	0.55	0.05%
23-Jul-18	0.3310	1127.75	1127.83	-0.08	-0.01%
7-Sep-18	0.3520	1104.63	1104.16	0.48	0.04%
6-Nov-18	0.2540	1084.62	1083.97	0.65	0.06%
19-Jun-18	0.5200	1110.66	1109.30	1.36	0.12%
6-Sep-18	0.3950	1109.75	1109.34	0.41	0.04%
24-Aug-18	0.2660	1065.36	1064.08	1.28	0.12%
11-Sep-18	0.3400	1087.41	1086.96	0.45	0.04%
27-Sep-18	0.2480	1087.47	1087.14	0.33	0.03%
10-Dec-18	0.4340	1104.00	1103.18	0.82	0.07%
20-Sep-18	0.3580	1103.49	1102.68	0.80	0.07%
14-Jun-18	0.4180	1086.79	1085.51	1.27	0.12%
17-Jul-18	0.2810	1083.52	1082.94	0.57	0.05%
19-Sep-18	0.3580	1094.10	1093.69	0.41	0.04%
11-Dec-18	0.9990	1393.12	1393.25	-0.13	-0.01%
22-Jan-19	0.2870	1079.20	1078.63	0.57	0.05%
11-Jul-18	0.6520	1138.62	1137.73	0.89	0.08%
6-Jun-18	0.3850	1142.56	1142.66	-0.10	-0.01%
28-Jun-18	0.2720	1097.28	1097.00	0.28	0.03%
25-Jul-18	0.3340	1141.61	1140.82	0.79	0.07%
8-Aug-18	0.3120	1066.07	1065.03	1.05	0.10%
11-Dec-18	0.4530	1299.60	1299.17	0.43	0.03%
11-Jul-18	0.4900	1144.31	1144.18	0.13	0.01%
13-Jul-18	0.4480	1128.43	1127.92	0.51	0.05%
8-Jan-19	2.0730	1388.75	1393.50	-4.75	-0.34%
27-Jun-18	0.3700	1103.45	1103.60	-0.15	-0.01%
14-Jun-18	0.4950	1107.75	1106.87	0.88	0.08%
14-Jun-18	0.3700	1100.18	1099.43	0.76	0.07%
7-Sep-18	0.3410	1104.97	1104.71	0.26	0.02%
10-Sep-18	0.1660	1049.79	1049.42	0.37	0.04%
18-Sep-18	0.3610	1089.58	1089.05	0.53	0.05%
20-Sep-18	0.3650	1084.15	1083.37	0.78	0.07%
8-Jan-19	0.4760	1140.74	1140.72	0.02	0.00%
7-Aug-18	0.2610	1082.12	1081.56	0.56	0.05%

22-Aug-18	0.3550	1124.70	1124.52	0.18	0.02%
7-Aug-18	0.2140	1062.25	1061.55	0.70	0.07%
7-Aug-18	0.2140	1062.25	1061.55	0.70	0.07%
7-Aug-18	0.2140	1062.24	1061.54	0.70	0.07%
7-Aug-18	0.2140	1062.24	1061.54	0.70	0.07%
7-Aug-18	0.2140	1062.24	1061.54	0.70	0.07%
9-Nov-18	1.9370	1630.24	1634.79	-4.54	-0.28%
15-Jun-18	0.4830	1102.60	1101.25	1.35	0.12%
3-Jan-19	0.3080	1096.53	1096.46	0.07	0.01%
12-Jul-18	0.2300	1061.14	1060.46	0.68	0.06%
21-Jun-18	0.4450	1126.45	1125.60	0.85	0.08%
24-Sep-18	0.3830	1107.18	1106.49	0.69	0.06%
1-Nov-18	0.5480	1089.16	1087.03	2.12	0.19%
16-Jun-18	0.3630	1102.19	1101.70	0.49	0.04%
31-Jul-18	0.7870	1181.07	1179.92	1.14	0.10%
13-Sep-18	0.4190	1092.65	1091.79	0.86	0.08%
3-Oct-18	0.5460	1130.97	1130.45	0.52	0.05%
26-Jun-18	0.3330	1120.32	1119.98	0.35	0.03%
9-Nov-18	1.7710	1521.70	1525.06	-3.36	-0.22%
20-Jun-18	0.3420	1097.94	1097.15	0.79	0.07%
14-Sep-18	0.3270	1131.97	1131.80	0.17	0.02%
18-Sep-18	0.4550	1105.67	1104.72	0.94	0.09%
6-Sep-18	0.3020	1095.44	1094.97	0.47	0.04%
11-Jul-18	0.5290	1142.23	1142.13	0.09	0.01%
7-Jul-18	0.3790	1141.88	1142.03	-0.15	-0.01%
13-Apr-18	0.2890	1073.91	1073.23	0.67	0.06%
5-Jul-18	0.5560	1140.77	1140.64	0.12	0.01%
23-Jul-18	0.3490	1128.35	1128.33	0.02	0.00%
27-Dec-18	1.0050	1364.57	1365.05	-0.48	-0.03%
5-Oct-18	0.3640	1086.80	1085.77	1.04	0.10%
11-Sep-18	0.3400	1094.57	1094.09	0.49	0.04%
15-Jun-18	0.5120	1106.22	1105.03	1.19	0.11%
4-Sep-18	0.4730	1270.78	1270.82	-0.04	0.00%
17-Dec-18	0.2530	1066.78	1066.28	0.50	0.05%
3-Aug-18	0.2520	1086.31	1085.91	0.40	0.04%
6-Jul-18	0.6290	1171.97	1171.95	0.02	0.00%
16-Jul-18	0.2440	1051.96	1051.02	0.95	0.09%
8-Jan-19	2.0690	1386.30	1391.04	-4.75	-0.34%
5-Sep-18	0.4010	1278.68	1278.97	-0.29	-0.02%
14-Jun-18	0.4280	1090.19	1088.72	1.47	0.13%
1-Jun-18	0.5250	1111.92	1108.30	3.62	0.33%
14-Jun-18	0.5890	1118.83	1117.23	1.60	0.14%
11-Sep-18	0.3530	1094.02	1093.40	0.62	0.06%
21-Jun-18	0.3990	1073.01	1071.88	1.13	0.11%
18-Jun-18	0.3350	1096.80	1096.09	0.72	0.07%
20-Sep-18	0.5490	1149.92	1149.65	0.27	0.02%
15-Jun-18	0.3550	1100.89	1100.31	0.57	0.05%
2-Aug-18	0.3020	1081.53	1080.65	0.88	0.08%
7-Aug-18	0.3870	1105.60	1105.14	0.46	0.04%
11-Sep-18	0.3020	1088.88	1088.30	0.58	0.05%
6-Aug-18	0.2940	1247.25	1247.59	-0.34	-0.03%
23-May-18	0.3430	1107.57	1106.64	0.93	0.08%
20-Jun-18	0.2930	1089.58	1089.06	0.52	0.05%
25-Sep-18	0.2920	1079.87	1079.20	0.67	0.06%
15-Jun-18	0.3740	1095.59	1094.79	0.80	0.07%
23-Jul-18	0.3040	1122.67	1122.53	0.14	0.01%
16-Jun-18	0.3070	1093.86	1093.32	0.54	0.05%

7-Sep-18	0.2520	1094.33	1094.13	0.20	0.02%
14-Jun-18	0.3700	1086.28	1085.40	0.88	0.08%
13-Dec-18	0.4300	1159.70	1160.05	-0.36	-0.03%
14-Jun-18	0.3800	1097.84	1096.90	0.95	0.09%
13-Jun-18	0.4330	1107.76	1106.68	1.08	0.10%
12-Sep-18	0.3480	1093.84	1093.15	0.69	0.06%
30-May-18	0.2890	1107.04	1106.64	0.41	0.04%
17-Jul-18	0.6150	1141.69	1140.58	1.11	0.10%
15-Aug-18	0.3930	1084.64	1084.30	0.34	0.03%
10-Sep-18	0.2450	1050.92	1049.83	1.09	0.10%
25-May-18	0.5450	1122.19	1121.04	1.15	0.10%
18-Sep-18	0.3630	1083.89	1083.38	0.50	0.05%
11-Sep-18	0.3360	1091.28	1090.80	0.49	0.04%
20-Aug-18	0.2970	1075.19	1074.39	0.81	0.08%
27-Sep-18	0.3430	1080.19	1079.24	0.96	0.09%
5-Dec-18	1.4150	1569.92	1572.63	-2.71	-0.17%
8-Jun-18	0.8660	1374.76	1375.50	-0.73	-0.05%
16-Jun-18	0.3470	1103.55	1102.80	0.75	0.07%
24-Jan-19	0.3650	1110.00	1109.73	0.28	0.02%
12-Nov-18	1.3600	1441.85	1443.91	-2.06	-0.14%
19-Sep-18	0.4720	1307.22	1307.04	0.18	0.01%
23-Aug-18	0.4790	1131.83	1131.81	0.03	0.00%
13-Sep-18	0.3420	1078.28	1077.31	0.97	0.09%
17-Jan-19	1.5080	1333.29	1336.15	-2.86	-0.21%
5-Jun-18	0.3440	1074.69	1073.61	1.08	0.10%
6-Oct-18	1.0210	1376.75	1377.81	-1.06	-0.08%
6-Oct-18	1.0210	1376.75	1377.81	-1.06	-0.08%
28-Nov-18	0.2690	1091.03	1090.87	0.16	0.01%
14-Sep-18	0.4310	1101.02	1100.12	0.90	0.08%
9-Nov-18	2.0490	1546.68	1551.43	-4.75	-0.31%
12-Jul-18	0.2960	1115.35	1115.43	-0.08	-0.01%
9-Jan-19	0.3180	1140.27	1139.89	0.39	0.03%
12-Sep-18	0.3060	1079.94	1079.35	0.59	0.05%
15-Jun-18	0.3900	1109.83	1109.08	0.75	0.07%
5-Feb-19	0.3120	1092.92	1092.71	0.21	0.02%
15-Aug-18	0.3110	1085.85	1084.62	1.23	0.11%
6-Jun-18	0.6270	1145.22	1143.75	1.48	0.13%
13-Jul-18	0.4240	1133.69	1133.79	-0.10	-0.01%
4-Aug-18	0.3420	1116.05	1115.91	0.14	0.01%
27-Aug-18	0.3990	1085.88	1084.60	1.28	0.12%
10-Dec-18	0.2800	1086.52	1085.80	0.72	0.07%
14-Jun-18	0.4080	1101.65	1100.69	0.96	0.09%
3-Oct-18	0.3780	1146.09	1146.06	0.02	0.00%
5-Jul-18	0.5060	1155.43	1155.78	-0.36	-0.03%
14-Nov-18	0.4180	1116.16	1115.82	0.34	0.03%
19-Sep-18	0.4930	1119.19	1118.55	0.64	0.06%
3-Oct-18	0.5530	1132.98	1132.60	0.38	0.03%
5-Sep-18	0.3300	1085.90	1085.39	0.51	0.05%
8-Jun-18	0.9230	1422.57	1422.94	-0.37	-0.03%
11-Sep-18	0.2620	1085.09	1084.52	0.57	0.05%
6-Sep-18	0.3420	1098.86	1098.17	0.70	0.06%
7-Nov-18	0.2990	1096.70	1096.27	0.43	0.04%
16-Jul-18	0.5250	1113.14	1112.04	1.10	0.10%
14-Jun-18	0.4910	1103.40	1102.19	1.20	0.11%
20-Jun-18	0.2460	1073.17	1072.74	0.42	0.04%
13-Jul-18	0.6270	1132.17	1130.93	1.24	0.11%
30-May-18	0.3690	1086.00	1085.16	0.84	0.08%

2-Nov-18	1.0930	1381.19	1382.01	-0.82	-0.06%
6-Jul-18	0.5480	1157.80	1157.86	-0.07	-0.01%
2-Oct-18	1.2990	1400.41	1399.87	0.55	0.04%
9-Aug-18	0.2700	1091.82	1090.58	1.24	0.11%
19-Jun-18	0.7490	1159.74	1158.18	1.56	0.13%
20-Jun-18	0.2850	1098.66	1098.67	-0.01	0.00%
14-Sep-18	0.3820	1097.18	1096.67	0.51	0.05%
9-Jul-18	1.1120	1423.32	1415.92	7.40	0.52%
1-Oct-18	0.5910	1138.01	1137.62	0.38	0.03%
20-Sep-18	0.4240	1106.30	1105.61	0.69	0.06%
12-Sep-18	0.5830	1120.42	1119.54	0.88	0.08%
12-Sep-18	0.5830	1120.42	1119.54	0.88	0.08%
12-Sep-18	0.5830	1120.42	1119.54	0.88	0.08%
12-Sep-18	0.5830	1120.42	1119.54	0.88	0.08%
12-Sep-18	0.5830	1120.42	1119.54	0.88	0.08%
12-Sep-18	0.5830	1120.42	1119.54	0.88	0.08%
28-Aug-18	0.3150	1080.10	1079.58	0.52	0.05%
20-Aug-18	0.3670	1123.07	1123.03	0.04	0.00%
5-Sep-18	0.4000	1274.27	1274.55	-0.28	-0.02%
5-Nov-18	1.1730	1357.73	1358.37	-0.64	-0.05%
17-Jul-18	0.2390	1102.82	1102.52	0.30	0.03%
8-Sep-18	0.4250	1086.68	1086.50	0.19	0.02%
22-Jan-19	0.4130	1115.94	1115.57	0.38	0.03%
17-Sep-18	0.6520	1168.86	1168.56	0.30	0.03%
28-Aug-18	0.3030	1061.68	1060.53	1.15	0.11%
21-Jun-18	0.4260	1096.28	1095.38	0.90	0.08%
14-Jun-18	0.5070	1097.98	1096.51	1.47	0.13%
22-Aug-18	0.3330	1104.56	1104.43	0.13	0.01%
14-Jun-18	0.4780	1094.33	1093.03	1.30	0.12%
22-Jun-18	0.3180	1094.84	1094.39	0.45	0.04%
19-Jul-18	0.3000	1071.58	1070.79	0.80	0.07%
13-Nov-18	0.7230	1342.20	1342.68	-0.48	-0.04%
12-Sep-18	0.2390	1067.93	1067.15	0.78	0.07%
19-Sep-18	0.4700	1302.66	1302.48	0.18	0.01%
19-Sep-18	0.3600	1107.76	1107.46	0.30	0.03%
20-Sep-18	0.4530	1110.60	1109.82	0.79	0.07%
11-Sep-18	0.2400	1079.69	1079.01	0.68	0.06%
19-Sep-18	0.4700	1302.65	1302.47	0.18	0.01%
20-Aug-18	0.2960	1069.40	1068.59	0.81	0.08%
8-Aug-18	0.2480	1079.99	1079.97	0.02	0.00%
25-Sep-18	0.2890	1080.43	1079.79	0.64	0.06%
2-Nov-18	1.0920	1378.53	1379.35	-0.82	-0.06%
11-Jun-18	0.5230	1106.27	1104.65	1.62	0.15%
20-Jun-18	0.3870	1093.03	1092.26	0.77	0.07%
29-Aug-18	0.2950	1302.34	1302.08	0.26	0.02%
29-Aug-18	0.2950	1302.34	1302.08	0.26	0.02%
3-Jul-18	0.3590	1077.45	1076.11	1.34	0.12%
3-Aug-18	0.3080	1095.80	1095.67	0.13	0.01%
6-Sep-18	0.3410	1092.99	1092.42	0.57	0.05%
12-Nov-18	1.3550	1436.96	1439.01	-2.05	-0.14%
12-Nov-18	1.3550	1436.96	1439.01	-2.05	-0.14%
11-Sep-18	0.2130	1065.38	1064.95	0.44	0.04%
16-Jul-18	0.8100	1187.27	1186.29	0.99	0.08%
3-Jul-18	0.4780	1091.84	1090.60	1.24	0.11%
5-Jul-18	0.6710	1164.23	1163.44	0.79	0.07%
21-Jun-18	0.5850	1145.04	1143.64	1.40	0.12%

29-Oct-18	0.6920	1121.98	1119.40	2.58	0.23%
17-Sep-18	0.2960	1104.20	1103.60	0.61	0.05%
30-May-18	0.3390	1079.73	1079.06	0.67	0.06%
2-Nov-18	1.0910	1377.34	1378.15	-0.81	-0.06%
8-Jan-19	0.9440	1343.64	1344.88	-1.24	-0.09%
10-Dec-18	0.5540	1141.09	1141.00	0.08	0.01%
14-Jun-18	0.4060	1096.03	1095.07	0.96	0.09%
28-Aug-18	0.2070	1084.19	1083.68	0.51	0.05%
14-Jun-18	0.4060	1095.81	1094.86	0.96	0.09%
14-Jun-18	0.4060	1095.81	1094.86	0.96	0.09%
14-Jun-18	0.4060	1095.81	1094.86	0.96	0.09%
14-Jun-18	0.4060	1095.81	1094.86	0.96	0.09%
14-Jun-18	0.4060	1095.81	1094.86	0.96	0.09%
14-Jun-18	0.4060	1095.81	1094.86	0.96	0.09%
14-Jun-18	0.4060	1095.81	1094.86	0.96	0.09%
14-Jun-18	0.4060	1095.81	1094.86	0.96	0.09%
13-Jul-18	0.4290	1124.20	1123.38	0.82	0.07%
13-Dec-18	0.3750	1105.21	1104.93	0.28	0.03%
19-Sep-18	0.3780	1099.75	1099.17	0.58	0.05%
7-Aug-18	0.2920	1095.28	1095.08	0.20	0.02%
21-Jun-18	0.6160	1123.34	1121.57	1.77	0.16%
14-Sep-18	0.3400	1097.14	1096.50	0.64	0.06%
9-Aug-18	0.3120	1076.51	1075.65	0.86	0.08%
2-Oct-18	1.2950	1395.94	1395.39	0.56	0.04%
21-Jun-18	0.3490	1078.56	1077.74	0.82	0.08%
9-Aug-18	1.2780	1296.30	1296.98	-0.69	-0.05%
22-Aug-18	0.2880	1083.32	1082.89	0.42	0.04%
10-Jul-18	0.3370	1105.03	1104.55	0.48	0.04%
21-Jun-18	0.4660	1100.59	1099.52	1.07	0.10%
23-Jun-18	0.3890	1099.42	1098.61	0.81	0.07%
13-Sep-18	0.3600	1097.42	1097.07	0.35	0.03%
8-Jun-18	0.9200	1417.32	1417.68	-0.37	-0.03%
21-Jun-18	0.3420	1125.05	1124.54	0.51	0.05%
23-Jul-18	0.3640	1124.12	1124.14	-0.02	0.00%
10-Sep-18	0.2330	1063.13	1062.48	0.65	0.06%
14-Jun-18	0.3750	1094.72	1094.14	0.57	0.05%
8-Jan-19	0.5280	1159.09	1158.83	0.27	0.02%
29-Oct-18	0.3910	1110.84	1110.57	0.28	0.02%
7-Dec-18	0.4510	1111.99	1111.15	0.84	0.08%
3-Oct-18	0.4320	1120.70	1120.45	0.25	0.02%
8-Jun-18	0.8620	1367.05	1367.78	-0.73	-0.05%
13-Jul-18	0.4610	1126.72	1126.34	0.38	0.03%
11-Jun-18	0.4040	1101.87	1101.05	0.81	0.07%
28-Aug-18	0.4070	1103.52	1102.91	0.61	0.06%
7-Jun-18	0.5310	1109.05	1107.81	1.24	0.11%
9-Aug-18	0.2720	1103.44	1102.54	0.90	0.08%
11-Jun-18	0.5240	1112.02	1110.73	1.29	0.12%
14-Jun-18	0.4670	1111.22	1110.35	0.88	0.08%
10-Jan-19	1.2090	1460.14	1460.55	-0.41	-0.03%
14-Jun-18	0.4900	1096.06	1094.70	1.36	0.12%
21-Jun-18	0.3520	1094.83	1093.77	1.05	0.10%
13-Dec-18	0.3750	1102.94	1102.66	0.28	0.03%
5-Sep-18	0.3390	1097.32	1096.77	0.55	0.05%
7-Jun-18	0.3950	1091.77	1090.80	0.97	0.09%
7-Jun-18	0.3950	1091.77	1090.80	0.97	0.09%
7-Jun-18	0.3950	1091.77	1090.80	0.97	0.09%
7-Jun-18	0.3950	1091.77	1090.80	0.97	0.09%

7-Jun-18	0.3950	1091.77	1090.80	0.97	0.09%
7-Jun-18	0.3950	1091.77	1090.80	0.97	0.09%
7-Jun-18	0.3950	1091.77	1090.80	0.97	0.09%
7-Jun-18	0.3950	1091.77	1090.80	0.97	0.09%
23-Aug-18	0.2020	1067.00	1066.43	0.58	0.05%
19-Sep-18	0.3060	1099.02	1098.32	0.71	0.06%
30-Jul-18	0.4440	1102.05	1101.01	1.05	0.09%
22-Aug-18	0.3970	1124.47	1123.98	0.50	0.04%
11-Jun-18	0.3500	1086.86	1085.82	1.04	0.10%
5-Dec-18	1.4080	1562.53	1565.22	-2.69	-0.17%
14-Aug-18	0.3150	1065.63	1064.56	1.06	0.10%
26-Jun-18	0.3240	1117.15	1116.83	0.32	0.03%
21-Jun-18	0.3610	1098.57	1098.11	0.47	0.04%
11-Jun-18	0.4640	1106.87	1105.82	1.05	0.10%
12-Jun-18	0.4050	1082.84	1081.75	1.09	0.10%
17-May-18	0.4470	1117.30	1116.90	0.41	0.04%
20-Jun-18	0.3010	1064.72	1063.87	0.85	0.08%
23-May-18	0.3270	1062.77	1061.34	1.44	0.14%
20-Jun-18	0.4160	1081.35	1079.95	1.40	0.13%
20-Sep-18	0.3590	1134.56	1134.32	0.25	0.02%
27-Jul-18	0.2950	1124.85	1124.88	-0.03	0.00%
14-Sep-18	0.2930	1081.47	1081.12	0.34	0.03%
19-Sep-18	0.3510	1085.79	1085.14	0.65	0.06%
26-Jun-18	0.4660	1104.98	1103.82	1.16	0.11%
13-Jun-18	0.3910	1107.10	1106.18	0.92	0.08%
29-Jan-19	0.2170	1055.42	1054.82	0.60	0.06%
21-Sep-18	0.4600	1105.68	1104.66	1.02	0.09%
16-Jul-18	0.7610	1207.78	1207.42	0.35	0.03%
28-Aug-18	0.2350	1089.74	1089.31	0.44	0.04%
14-Jun-18	0.3620	1086.62	1086.01	0.61	0.06%
11-Jan-19	0.2750	1143.48	1143.18	0.31	0.03%
8-Jan-19	0.9400	1340.26	1341.52	-1.26	-0.09%
24-Oct-18	0.2070	1064.26	1063.87	0.39	0.04%
7-Jul-18	0.2890	1100.35	1100.52	-0.17	-0.02%
30-May-18	0.4120	1083.71	1082.54	1.17	0.11%
11-Jun-18	0.5960	1132.05	1130.73	1.32	0.12%
24-Jan-19	0.4890	1124.10	1123.94	0.16	0.01%
7-Jul-18	0.3660	1100.70	1101.08	-0.38	-0.03%
20-Jun-18	0.3850	1092.62	1091.81	0.81	0.07%
11-Sep-18	0.2780	1094.78	1094.46	0.32	0.03%
28-May-18	0.3190	1075.62	1074.83	0.79	0.07%
13-Jul-18	0.3870	1140.04	1140.33	-0.28	-0.02%
22-Aug-18	0.3150	1090.03	1089.47	0.56	0.05%
5-Nov-18	1.1670	1350.64	1351.27	-0.63	-0.05%
5-Nov-18	1.1670	1350.64	1351.27	-0.63	-0.05%
2-Oct-18	1.2900	1392.34	1391.81	0.53	0.04%
15-Jun-18	0.4890	1102.31	1100.97	1.34	0.12%
26-Nov-18	0.6730	1182.49	1182.26	0.23	0.02%
5-Jun-18	0.2640	1063.31	1062.48	0.83	0.08%
10-Jul-18	0.3660	1098.96	1098.41	0.55	0.05%
19-Sep-18	0.2950	1093.16	1092.67	0.49	0.04%
13-Sep-18	0.3330	1094.39	1093.88	0.51	0.05%
30-Jul-18	0.3870	1091.17	1090.43	0.73	0.07%
23-Jun-18	0.4060	1098.47	1097.42	1.05	0.10%
13-Jul-18	0.3870	1086.96	1085.90	1.06	0.10%
13-Nov-18	0.7190	1335.28	1335.76	-0.48	-0.04%
13-Nov-18	0.7190	1335.28	1335.76	-0.48	-0.04%

20-Jun-18	0.3560	1103.78	1102.99	0.80	0.07%
4-Sep-18	1.3860	1418.40	1420.10	-1.70	-0.12%
18-Sep-18	0.4530	1105.61	1104.65	0.96	0.09%
15-Jun-18	0.4160	1103.38	1102.69	0.69	0.06%
2-Jul-18	0.5200	1126.88	1125.59	1.30	0.12%
27-Sep-18	0.2260	1049.00	1048.14	0.86	0.08%
8-Jan-19	1.6090	1443.63	1445.84	-2.20	-0.15%
24-Jul-18	0.3740	1088.36	1087.51	0.86	0.08%
12-Sep-18	0.3000	1086.70	1086.14	0.57	0.05%
13-Sep-18	0.3580	1090.20	1089.55	0.64	0.06%
9-Jan-19	0.3320	1097.06	1096.68	0.39	0.04%
3-Oct-18	0.3040	1085.38	1084.80	0.58	0.05%
21-Jun-18	0.6520	1129.06	1127.22	1.84	0.16%
11-Sep-18	0.3410	1092.26	1091.66	0.60	0.05%
30-Jul-18	0.3730	1086.31	1085.47	0.84	0.08%
15-Jun-18	0.5460	1117.04	1115.52	1.52	0.14%
21-Jun-18	0.4020	1091.06	1089.82	1.24	0.11%
28-Aug-18	0.4820	1127.73	1127.74	-0.01	0.00%
24-Jul-18	0.3490	1085.64	1084.81	0.84	0.08%
5-Sep-18	0.3500	1094.64	1094.09	0.55	0.05%
20-Jun-18	0.9520	1158.94	1155.75	3.19	0.28%
30-Jul-18	0.4360	1106.26	1105.93	0.33	0.03%
21-Jun-18	0.4890	1117.80	1116.11	1.70	0.15%
19-Jun-18	0.1520	1029.96	1029.36	0.61	0.06%
29-Jan-19	0.3010	1102.36	1102.05	0.31	0.03%
24-Jan-19	0.6170	1159.22	1159.82	-0.60	-0.05%
17-Dec-18	0.2210	1056.14	1055.58	0.56	0.05%
20-Sep-18	0.3770	1112.02	1111.61	0.41	0.04%
24-Aug-18	0.3420	1090.29	1089.77	0.52	0.05%
22-Jun-18	0.2670	1079.90	1079.67	0.23	0.02%
13-Aug-18	0.1930	1045.52	1045.07	0.45	0.04%
9-Aug-18	1.2710	1289.90	1290.59	-0.69	-0.05%
9-Aug-18	0.4190	1159.56	1160.03	-0.47	-0.04%
10-Jan-19	1.2030	1455.52	1455.95	-0.43	-0.03%
9-Oct-18	1.5530	1414.63	1419.25	-4.62	-0.33%
2-Jul-18	0.5890	1157.70	1157.64	0.06	0.00%
12-Sep-18	0.3040	1094.91	1094.33	0.58	0.05%
22-Aug-18	0.1930	1056.34	1055.77	0.57	0.05%
13-Sep-18	0.4880	1107.26	1106.12	1.14	0.10%
25-Sep-18	0.4720	1114.49	1113.69	0.80	0.07%
14-Sep-18	0.2410	1068.13	1067.83	0.31	0.03%
28-Aug-18	0.1350	1056.31	1055.93	0.38	0.04%
12-Sep-18	0.2540	1091.59	1091.30	0.29	0.03%
13-Sep-18	0.3030	1095.06	1094.98	0.09	0.01%
27-Sep-18	0.2410	1083.12	1082.79	0.33	0.03%
19-Jun-18	0.6750	1134.22	1132.97	1.26	0.11%
17-Sep-18	0.4510	1139.68	1139.67	0.00	0.00%
22-Jun-18	0.5170	1131.23	1129.95	1.28	0.11%
13-Jun-18	0.2670	1080.56	1079.81	0.75	0.07%
28-May-18	0.3530	1086.70	1085.79	0.91	0.08%
22-Jun-18	0.4250	1102.16	1100.97	1.19	0.11%
23-Aug-18	0.2180	1063.88	1062.95	0.93	0.09%
26-Nov-18	1.7920	1668.32	1670.43	-2.11	-0.13%
12-Sep-18	1.0430	1390.58	1391.91	-1.33	-0.10%
22-Jan-19	0.4510	1129.17	1128.36	0.81	0.07%
13-Dec-18	2.7820	1913.67	1919.64	-5.97	-0.31%
30-Aug-18	0.1900	1055.12	1054.46	0.66	0.06%

10-Jan-19	0.3980	1109.59	1109.31	0.28	0.03%
14-Jun-18	0.5070	1117.14	1115.85	1.29	0.12%
10-Sep-18	0.2470	1059.16	1058.43	0.74	0.07%
22-Jun-18	0.4000	1102.49	1101.80	0.69	0.06%
7-Jul-18	0.4310	1107.93	1107.91	0.02	0.00%
7-Jun-18	0.8630	1115.49	1112.56	2.92	0.26%
27-Sep-18	0.2530	1075.93	1075.51	0.41	0.04%
15-Jun-18	0.5380	1107.21	1105.49	1.72	0.16%
7-Jan-19	0.3330	1109.15	1108.78	0.38	0.03%
13-Sep-18	0.2630	1074.44	1073.90	0.54	0.05%
20-Aug-18	0.3270	1053.79	1052.56	1.23	0.12%
19-Sep-18	1.2500	1360.53	1361.88	-1.35	-0.10%
18-Jan-19	0.4430	1102.61	1101.59	1.02	0.09%
1-Jun-18	0.3990	1098.86	1097.37	1.49	0.14%
26-Jul-18	0.3050	1105.82	1105.56	0.26	0.02%
15-Jun-18	0.3770	1086.15	1085.29	0.87	0.08%
5-Sep-18	0.3330	1092.74	1092.25	0.49	0.04%
4-Sep-18	0.5890	1281.64	1282.20	-0.57	-0.04%
13-Oct-18	0.2850	1107.25	1107.09	0.16	0.01%
14-Sep-18	0.3320	1091.13	1090.61	0.52	0.05%
27-Aug-18	0.2810	1063.91	1062.86	1.05	0.10%
30-Jul-18	0.1670	1071.01	1070.22	0.79	0.07%
13-Nov-18	0.8430	1346.47	1346.83	-0.36	-0.03%
19-Sep-18	0.3990	1090.25	1089.36	0.89	0.08%
12-Sep-18	0.3820	1094.38	1093.00	1.39	0.13%
12-Jul-18	0.5320	1131.42	1130.02	1.40	0.12%
30-Jul-18	0.5090	1111.12	1109.86	1.26	0.11%
21-Jun-18	0.4560	1096.36	1095.26	1.11	0.10%
9-Aug-18	1.1670	1330.92	1331.44	-0.52	-0.04%
20-Sep-18	0.4210	1105.82	1105.14	0.68	0.06%
7-Sep-18	0.2770	1093.01	1092.56	0.44	0.04%
15-Aug-18	0.4220	1099.51	1098.72	0.79	0.07%
8-Dec-18	2.2040	1574.07	1579.53	-5.46	-0.35%
13-Sep-18	0.3620	1094.33	1093.88	0.45	0.04%
13-Nov-18	1.3290	1577.18	1579.19	-2.01	-0.13%
13-Aug-18	0.4020	1140.36	1139.04	1.31	0.12%
28-Sep-18	0.2790	1101.11	1100.82	0.28	0.03%
13-Jun-18	0.3990	1079.65	1078.49	1.16	0.11%
12-Jun-18	0.4490	1082.53	1081.17	1.37	0.13%
13-Dec-18	0.6060	1176.16	1176.15	0.01	0.00%
9-Oct-18	1.5500	1411.21	1415.82	-4.61	-0.33%
24-Jul-18	0.3340	1085.17	1084.27	0.90	0.08%
9-May-18	0.3050	1086.00	1085.32	0.68	0.06%
20-Sep-18	0.3080	1078.77	1078.02	0.76	0.07%
22-Aug-18	0.3100	1089.49	1088.89	0.60	0.05%
18-Dec-18	1.7760	1398.31	1400.28	-1.97	-0.14%
9-Oct-18	1.5500	1411.09	1415.70	-4.61	-0.33%
12-Sep-18	0.3270	1090.93	1090.31	0.62	0.06%
7-Jul-18	0.3470	1121.65	1121.84	-0.19	-0.02%
17-Jul-18	0.2980	1074.80	1074.14	0.66	0.06%
28-Aug-18	0.2940	1070.96	1070.15	0.81	0.08%
28-Aug-18	0.2940	1070.96	1070.15	0.81	0.08%
28-Aug-18	0.2940	1070.96	1070.15	0.81	0.08%
17-Sep-18	0.4030	1129.90	1129.76	0.14	0.01%
18-Sep-18	0.3380	1094.87	1094.53	0.34	0.03%
29-Aug-18	0.3810	1081.23	1080.61	0.63	0.06%
28-May-18	0.3590	1090.75	1090.08	0.68	0.06%

28-Aug-18	0.2270	1070.03	1069.49	0.54	0.05%
28-Jul-18	0.2890	1104.17	1104.15	0.03	0.00%
13-Sep-18	0.4960	1100.99	1099.74	1.24	0.11%
16-Jul-18	0.5190	1127.04	1126.01	1.04	0.09%
15-Jun-18	0.5270	1115.41	1114.20	1.21	0.11%
7-Jul-18	0.3280	1086.27	1085.78	0.49	0.05%
27-Jul-18	0.2360	1068.67	1067.71	0.95	0.09%
28-Jun-18	0.5100	1115.73	1114.24	1.49	0.13%
30-Aug-18	0.3810	1082.19	1081.65	0.53	0.05%
2-Oct-18	0.6780	1181.69	1181.05	0.64	0.05%
4-Dec-18	0.3680	1093.02	1092.39	0.64	0.06%
14-Jun-18	0.4910	1100.04	1098.74	1.29	0.12%
21-Jun-18	0.4380	1099.53	1098.62	0.92	0.08%
30-Jul-18	0.4210	1086.32	1085.01	1.31	0.12%
30-Aug-18	0.3180	1085.67	1084.71	0.95	0.09%
5-Sep-18	0.3060	1098.26	1097.97	0.29	0.03%
12-Sep-18	0.3170	1095.36	1094.84	0.52	0.05%
20-Sep-18	0.8100	1166.86	1164.97	1.89	0.16%
30-Aug-18	0.2660	1086.02	1085.16	0.86	0.08%
13-Jul-18	0.0050	1051.74	1051.71	0.03	0.00%
8-May-18	1.0680	1302.65	1303.01	-0.36	-0.03%
3-Jan-19	0.4690	1137.09	1136.78	0.31	0.03%
26-Jun-18	0.2310	1071.76	1071.22	0.54	0.05%
16-Jul-18	0.3870	1109.34	1109.27	0.06	0.01%
13-Jun-18	0.2870	1095.42	1094.76	0.66	0.06%
15-Jun-18	0.4380	1119.49	1118.96	0.53	0.05%
14-Jun-18	0.3590	1093.21	1092.52	0.69	0.06%
15-Jun-18	0.4110	1078.24	1077.31	0.93	0.09%
22-Jun-18	0.4110	1115.21	1114.36	0.85	0.08%
1-Aug-18	0.4850	1174.70	1174.29	0.41	0.04%
5-Sep-18	0.3340	1099.73	1099.26	0.47	0.04%
19-Sep-18	1.2450	1355.66	1357.01	-1.36	-0.10%
19-Sep-18	1.2450	1355.66	1357.01	-1.36	-0.10%
17-Jul-18	0.1970	1067.11	1066.09	1.02	0.10%
7-Sep-18	0.3350	1090.59	1089.95	0.63	0.06%
20-Sep-18	0.3170	1093.83	1093.06	0.77	0.07%
17-Aug-18	0.3930	1116.08	1115.78	0.29	0.03%
24-Jan-19	0.6890	1181.56	1181.89	-0.32	-0.03%
23-May-18	0.4050	1083.11	1081.61	1.50	0.14%
14-Sep-18	0.2850	1081.97	1081.57	0.40	0.04%
30-May-18	0.3780	1098.22	1097.42	0.80	0.07%
9-Aug-18	0.4020	1150.63	1150.96	-0.33	-0.03%
10-Sep-18	0.2090	1054.35	1053.82	0.53	0.05%
12-Feb-19	0.4610	1140.82	1140.36	0.47	0.04%
12-Feb-19	0.4610	1140.82	1140.36	0.47	0.04%
5-Sep-18	0.3720	1104.49	1104.07	0.42	0.04%
13-Sep-18	0.3690	1096.36	1095.93	0.43	0.04%
20-Jun-18	0.3580	1088.45	1087.68	0.77	0.07%
14-Jun-18	0.3300	1097.72	1096.83	0.89	0.08%
2-Aug-18	0.3120	1076.00	1075.60	0.40	0.04%
11-Jul-18	0.2510	1072.11	1071.63	0.48	0.04%
20-Sep-18	0.6110	1145.56	1144.77	0.79	0.07%
4-Sep-18	0.5860	1275.78	1276.35	-0.56	-0.04%
14-Aug-18	0.2090	1049.97	1049.33	0.64	0.06%
17-Sep-18	0.2910	1071.80	1070.97	0.83	0.08%
21-Jun-18	0.5380	1121.28	1119.94	1.34	0.12%
5-Nov-18	1.4330	1529.20	1530.72	-1.51	-0.10%

13-Sep-18	0.2910	1085.78	1085.19	0.59	0.05%
15-Aug-18	0.4690	1100.88	1099.67	1.21	0.11%
31-May-18	0.4780	1090.73	1089.26	1.47	0.13%
20-Jun-18	0.3260	1094.37	1093.50	0.87	0.08%
21-Jun-18	0.3530	1096.40	1095.74	0.66	0.06%
5-Oct-18	0.9790	1289.95	1290.57	-0.61	-0.05%
20-Sep-18	0.4100	1093.67	1092.79	0.87	0.08%
8-Jan-19	1.5980	1434.60	1436.81	-2.22	-0.15%
19-Sep-18	1.0360	1389.16	1389.84	-0.69	-0.05%
6-Nov-18	0.3140	1102.16	1101.51	0.64	0.06%
9-Aug-18	0.2870	1100.58	1100.65	-0.07	-0.01%
2-Aug-18	0.2680	1077.75	1077.16	0.60	0.06%
12-Sep-18	0.2770	1079.05	1078.60	0.45	0.04%
16-Jun-18	0.3790	1091.25	1090.58	0.67	0.06%
19-Jul-18	0.3250	1085.06	1084.44	0.62	0.06%
10-Aug-18	0.2370	1070.06	1069.59	0.47	0.04%
23-Jun-18	0.5780	1106.32	1104.80	1.52	0.14%
13-Sep-18	0.4020	1090.69	1089.74	0.96	0.09%
11-Jun-18	0.6190	1298.20	1298.88	-0.67	-0.05%
13-Sep-18	0.3260	1080.08	1079.28	0.80	0.07%
11-Jul-18	0.2740	1082.95	1082.30	0.66	0.06%
29-Aug-18	0.1580	1051.34	1051.08	0.27	0.03%
13-Aug-18	0.2330	1065.26	1064.93	0.34	0.03%
2-Oct-18	0.2940	1083.52	1083.04	0.48	0.04%
19-Jun-18	0.1850	1051.36	1051.05	0.31	0.03%
24-Jul-18	0.3310	1089.27	1088.64	0.63	0.06%
4-Sep-18	1.3750	1407.91	1409.60	-1.69	-0.12%
4-Sep-18	1.3750	1407.91	1409.60	-1.69	-0.12%
25-Jun-18	0.6240	1134.30	1133.05	1.25	0.11%
3-Jul-18	0.5760	1125.10	1124.22	0.88	0.08%
13-Aug-18	0.1880	1041.87	1041.19	0.68	0.07%
30-May-18	0.2150	1160.03	1159.96	0.06	0.01%
15-Jun-18	0.4640	1102.11	1100.80	1.30	0.12%
28-Jun-18	0.3530	1110.25	1109.53	0.72	0.06%
13-Nov-18	0.8380	1338.93	1339.30	-0.37	-0.03%
13-Nov-18	0.8380	1338.93	1339.30	-0.37	-0.03%
8-Dec-18	2.1950	1568.16	1573.60	-5.44	-0.35%
9-Nov-18	2.1550	1586.56	1591.33	-4.77	-0.30%
18-Jun-18	0.3450	1100.47	1099.89	0.58	0.05%
30-Nov-18	0.5880	1326.43	1325.70	0.73	0.06%
27-Jun-18	0.3530	1089.52	1088.49	1.03	0.09%
19-Sep-18	0.2770	1095.54	1095.26	0.28	0.03%
5-Sep-18	0.3160	1099.65	1099.12	0.53	0.05%
1-Feb-19	1.0460	1318.68	1318.99	-0.31	-0.02%
9-Jul-18	0.3270	1093.76	1092.97	0.78	0.07%
19-Sep-18	0.3640	1097.50	1097.02	0.49	0.04%
7-Jul-18	0.3370	1097.68	1097.21	0.47	0.04%
12-Sep-18	1.0360	1381.32	1382.64	-1.32	-0.10%
12-Sep-18	0.3310	1092.77	1091.85	0.92	0.08%
26-Nov-18	1.7830	1660.31	1662.42	-2.11	-0.13%
26-Nov-18	1.7830	1660.31	1662.42	-2.11	-0.13%
4-Aug-18	0.3440	1135.84	1135.99	-0.15	-0.01%
8-Dec-18	2.6950	1515.79	1523.31	-7.52	-0.50%
3-Jul-18	0.4850	1137.03	1136.93	0.10	0.01%
8-Sep-18	0.3060	1079.30	1078.41	0.89	0.08%
11-Jul-18	0.5960	1162.72	1162.31	0.41	0.04%
6-Oct-18	0.9050	1381.88	1382.58	-0.71	-0.05%

9-Jul-18	0.4560	1170.78	1171.15	-0.36	-0.03%
7-Jul-18	0.3260	1087.93	1087.59	0.34	0.03%
14-Jun-18	0.5570	1098.98	1097.24	1.74	0.16%
14-Jun-18	0.5570	1098.98	1097.24	1.74	0.16%
14-Jun-18	0.5570	1098.98	1097.24	1.74	0.16%
14-Jun-18	0.5570	1098.98	1097.24	1.74	0.16%
14-Jun-18	0.5570	1098.98	1097.24	1.74	0.16%
14-Jun-18	0.5570	1098.98	1097.24	1.74	0.16%
14-Jun-18	0.5570	1098.98	1097.24	1.74	0.16%
13-Jul-18	0.3850	1142.52	1142.62	-0.10	-0.01%
22-Jan-19	0.6180	1179.84	1179.63	0.21	0.02%
13-Sep-18	0.2650	1074.02	1073.54	0.48	0.04%
7-Jul-18	0.4170	1142.74	1142.53	0.21	0.02%
9-Jul-18	1.1130	1421.72	1413.59	8.13	0.57%
11-Jun-18	0.5640	1116.30	1114.62	1.68	0.15%
14-Jun-18	0.6070	1115.70	1114.15	1.54	0.14%
10-Jan-19	1.9200	1507.12	1508.64	-1.52	-0.10%
30-May-18	0.3580	1081.30	1080.46	0.84	0.08%
10-Jul-18	0.6090	1346.31	1346.56	-0.25	-0.02%
18-Dec-18	1.7670	1390.70	1392.65	-1.96	-0.14%
5-Sep-18	0.5020	1302.17	1302.61	-0.43	-0.03%
5-Sep-18	0.5020	1302.17	1302.61	-0.43	-0.03%
9-Aug-18	0.5040	1113.21	1112.02	1.19	0.11%
27-Sep-18	0.2630	1094.28	1093.85	0.43	0.04%
6-Jun-18	0.3880	1132.85	1132.74	0.11	0.01%
16-Jul-18	0.3600	1100.06	1099.48	0.58	0.05%
14-Aug-18	0.1810	1051.98	1051.55	0.43	0.04%
25-Sep-18	0.4700	1124.41	1123.88	0.52	0.05%
12-Jun-18	0.4520	1132.04	1131.75	0.30	0.03%
9-Jul-18	1.1120	1420.23	1412.11	8.11	0.57%
24-May-18	0.6270	1114.80	1112.13	2.67	0.24%
20-Sep-18	0.4150	1105.75	1105.22	0.53	0.05%
12-Dec-18	0.5150	1141.77	1141.64	0.13	0.01%
7-Jun-18	0.4370	1107.32	1106.56	0.76	0.07%
20-Jun-18	0.2980	1117.70	1117.42	0.28	0.03%
12-Sep-18	0.3490	1084.96	1083.93	1.03	0.10%
14-Jun-18	0.4400	1092.28	1091.17	1.11	0.10%
20-Aug-18	0.4190	1085.48	1083.89	1.60	0.15%
10-Jul-18	0.2930	1081.13	1080.48	0.65	0.06%
2-Nov-18	0.3420	1092.99	1092.74	0.24	0.02%
21-Jan-19	1.3320	1504.04	1505.55	-1.51	-0.10%
15-Jun-18	0.3750	1107.96	1107.19	0.78	0.07%
11-Jul-18	0.2820	1075.79	1075.22	0.58	0.05%
15-Jun-18	0.3180	1087.27	1086.65	0.62	0.06%
10-Sep-18	0.2730	1078.24	1077.83	0.41	0.04%
12-Jun-18	0.3080	1076.34	1076.03	0.31	0.03%
5-Sep-18	0.3650	1079.72	1078.24	1.48	0.14%
11-Jun-18	0.6170	1293.00	1293.68	-0.67	-0.05%
9-Jul-18	1.1110	1419.08	1410.98	8.10	0.57%
4-Dec-18	0.4550	1107.02	1106.25	0.78	0.07%
15-Jun-18	0.5260	1104.57	1103.00	1.57	0.14%
14-Jun-18	0.4130	1081.77	1080.23	1.53	0.14%
27-Jul-18	0.3690	1127.96	1127.82	0.14	0.01%
20-Sep-18	0.3310	1090.80	1090.23	0.57	0.05%
24-Sep-18	0.2910	1082.96	1082.53	0.44	0.04%
7-Jul-18	0.4510	1127.63	1127.28	0.35	0.03%
10-Jan-19	1.9180	1504.66	1506.18	-1.51	-0.10%

15-Nov-18	0.4700	1116.02	1115.39	0.62	0.06%
19-Sep-18	0.3610	1100.72	1100.42	0.30	0.03%
6-Nov-18	0.3640	1113.58	1113.07	0.52	0.05%
10-Jul-18	0.6060	1343.26	1343.52	-0.26	-0.02%
10-Jul-18	0.6060	1343.25	1343.51	-0.26	-0.02%
1-Aug-18	0.2900	1141.34	1141.32	0.02	0.00%
9-Aug-18	0.3480	1111.62	1110.40	1.21	0.11%
20-Sep-18	0.3150	1076.05	1075.26	0.79	0.07%
11-Sep-18	0.8450	1423.31	1424.02	-0.71	-0.05%
24-Sep-18	0.9740	1202.94	1200.96	1.98	0.16%
16-Jul-18	0.6970	1180.27	1181.10	-0.83	-0.07%
11-Jul-18	0.2650	1073.23	1072.66	0.57	0.05%
5-Sep-18	0.5000	1299.22	1299.66	-0.43	-0.03%
10-Sep-18	0.2720	1076.89	1076.45	0.44	0.04%
13-Nov-18	1.3200	1567.10	1569.10	-2.00	-0.13%
13-Nov-18	1.3200	1567.10	1569.10	-2.00	-0.13%
9-May-18	0.3470	1109.14	1108.64	0.50	0.05%
17-Jul-18	0.3050	1086.05	1085.50	0.55	0.05%
9-Jan-19	0.3040	1116.22	1115.34	0.88	0.08%
17-Sep-18	0.5670	1115.70	1114.45	1.25	0.11%
22-Jun-18	0.4730	1105.18	1104.28	0.91	0.08%
13-Sep-18	0.2870	1082.65	1082.14	0.50	0.05%
28-Jun-18	0.3310	1092.19	1091.55	0.64	0.06%
12-Jul-18	0.3350	1117.88	1117.42	0.46	0.04%
19-Sep-18	1.0310	1382.03	1382.70	-0.68	-0.05%
15-Jun-18	0.4180	1106.41	1105.45	0.96	0.09%
14-Jun-18	0.4190	1104.31	1103.31	1.00	0.09%
21-Jun-18	0.4320	1091.05	1089.51	1.54	0.14%
15-Jun-18	0.3120	1078.69	1077.99	0.70	0.06%
28-Aug-18	0.3100	1076.86	1076.11	0.74	0.07%
13-Sep-18	0.3730	1090.39	1089.80	0.59	0.05%
23-Jan-19	0.6550	1171.24	1171.42	-0.19	-0.02%
20-Sep-18	0.4290	1106.06	1105.35	0.72	0.06%
9-Jul-18	0.5360	1137.56	1137.08	0.49	0.04%
5-Nov-18	1.4250	1521.34	1522.86	-1.53	-0.10%
5-Nov-18	1.4250	1521.34	1522.86	-1.53	-0.10%
22-Jan-19	0.4940	1128.49	1127.69	0.80	0.07%
23-May-18	0.3610	1101.04	1100.14	0.91	0.08%
15-Jun-18	0.5960	1113.09	1110.64	2.46	0.22%
1-Feb-19	1.0400	1311.83	1312.14	-0.31	-0.02%
3-Oct-18	0.4890	1143.31	1142.72	0.60	0.05%
9-Jan-19	0.2790	1081.16	1080.83	0.33	0.03%
20-Jun-18	0.3970	1117.67	1116.82	0.85	0.08%
6-Nov-18	0.4230	1102.99	1102.37	0.63	0.06%
16-Apr-18	1.3690	1297.53	1293.38	4.15	0.32%
13-Aug-18	0.2150	1057.01	1056.58	0.43	0.04%
5-Jun-18	0.3210	1066.16	1065.14	1.03	0.10%
5-Sep-18	0.5000	1296.56	1297.00	-0.43	-0.03%
12-Jun-18	0.4100	1097.72	1097.33	0.39	0.04%
20-Nov-18	0.4790	1132.66	1132.39	0.27	0.02%
8-Nov-18	0.2710	1103.54	1103.61	-0.07	-0.01%
9-Jul-18	0.6030	1153.36	1152.76	0.60	0.05%
20-Aug-18	0.3030	1082.03	1081.36	0.68	0.06%
10-Jul-18	0.3680	1117.85	1116.96	0.89	0.08%
23-Jul-18	0.5730	1127.27	1126.59	0.68	0.06%
7-Jul-18	0.4200	1146.93	1147.18	-0.25	-0.02%
4-Oct-18	2.1150	1561.72	1565.56	-3.84	-0.25%

15-Jun-18	0.3280	1085.79	1085.16	0.63	0.06%
24-Sep-18	1.2590	1536.90	1539.25	-2.35	-0.15%
24-Aug-18	0.3070	1075.69	1074.93	0.76	0.07%
6-Sep-18	0.3520	1092.42	1091.70	0.73	0.07%
7-Jul-18	0.4710	1147.36	1147.30	0.06	0.01%
24-Nov-18	0.3730	1110.47	1110.08	0.38	0.03%
15-Aug-18	0.1210	1035.17	1034.72	0.45	0.04%
14-Sep-18	0.4090	1105.54	1104.80	0.74	0.07%
3-Jan-19	0.4210	1123.70	1123.34	0.37	0.03%
23-Aug-18	0.3650	1102.19	1101.84	0.35	0.03%
11-Sep-18	0.3230	1096.42	1096.05	0.37	0.03%
20-Jun-18	0.3420	1107.41	1106.71	0.71	0.06%
27-Jun-18	0.4020	1098.87	1097.49	1.38	0.13%
6-Oct-18	0.9010	1374.49	1375.19	-0.70	-0.05%
6-Oct-18	0.9010	1374.49	1375.19	-0.70	-0.05%
17-Jan-19	2.3820	1440.10	1446.53	-6.43	-0.45%
30-Jul-18	0.5600	1120.50	1119.48	1.02	0.09%
4-Oct-18	2.2520	1572.14	1575.79	-3.65	-0.23%
11-Jul-18	0.2540	1070.53	1069.93	0.60	0.06%
16-Jul-18	0.6350	1160.72	1160.52	0.19	0.02%
12-Jul-18	0.2890	1088.67	1088.27	0.39	0.04%
21-Jun-18	0.3030	1097.81	1097.57	0.23	0.02%
5-Sep-18	0.3540	1092.26	1092.06	0.20	0.02%
5-Dec-18	1.0430	1368.45	1369.00	-0.55	-0.04%
5-Dec-18	1.0430	1368.45	1369.00	-0.55	-0.04%
15-Jan-19	0.8420	1349.67	1348.92	0.74	0.05%
14-Jun-18	0.6930	1191.78	1190.96	0.82	0.07%
27-Jul-18	0.4640	1131.50	1131.28	0.22	0.02%
5-Sep-18	1.0270	1281.35	1281.73	-0.38	-0.03%
13-Nov-18	2.1920	1465.19	1466.68	-1.49	-0.10%
17-Sep-18	0.3940	1143.12	1142.58	0.55	0.05%
28-Aug-18	0.3220	1093.28	1092.64	0.64	0.06%
7-Jun-18	0.4930	1106.12	1104.79	1.33	0.12%
11-Jul-18	0.5360	1158.87	1158.81	0.06	0.01%
18-Jan-19	0.4000	1095.03	1094.43	0.59	0.05%
29-Jul-18	1.4570	1421.63	1424.01	-2.38	-0.17%
5-Sep-18	0.2950	1092.20	1091.61	0.59	0.05%
28-Jun-18	0.2880	1090.47	1089.88	0.58	0.05%
10-Sep-18	0.3870	1085.72	1084.32	1.40	0.13%
2-Aug-18	0.2920	1076.16	1075.69	0.46	0.04%
9-Jan-19	0.2780	1077.13	1076.80	0.33	0.03%
30-Jul-18	0.4740	1104.27	1103.15	1.11	0.10%
27-Jun-18	0.3780	1098.31	1097.27	1.03	0.09%
23-Jan-19	0.3940	1117.74	1117.77	-0.02	0.00%
20-Jul-18	0.2980	1066.14	1065.35	0.78	0.07%
5-Dec-18	1.0420	1366.85	1367.39	-0.54	-0.04%
18-Jul-18	0.4100	1126.23	1125.78	0.46	0.04%
6-Jun-18	0.6200	1133.64	1131.89	1.75	0.15%
19-Sep-18	0.3610	1086.49	1085.78	0.72	0.07%
29-Aug-18	0.3400	1076.70	1076.20	0.50	0.05%
15-Aug-18	0.7450	1186.13	1185.35	0.78	0.07%
2-Jul-18	0.6300	1139.34	1138.59	0.75	0.07%
15-Jun-18	0.6750	1116.47	1113.45	3.01	0.27%
12-Jul-18	0.3450	1100.77	1100.13	0.64	0.06%
3-Jan-19	0.4850	1195.98	1196.30	-0.32	-0.03%
15-Jun-18	0.3570	1095.12	1094.32	0.79	0.07%
13-Nov-18	1.3150	1420.51	1422.02	-1.51	-0.11%

13-Sep-18	0.4550	1101.81	1100.41	1.41	0.13%
28-Aug-18	0.2280	1071.65	1070.91	0.74	0.07%
18-Sep-18	0.3850	1090.11	1089.14	0.97	0.09%
31-Oct-18	1.1260	1403.07	1400.42	2.65	0.19%
11-Jul-18	0.2420	1065.17	1064.57	0.60	0.06%
1-Aug-18	0.3390	1103.52	1103.34	0.18	0.02%
23-Aug-18	0.1860	1055.55	1054.92	0.64	0.06%
24-Aug-18	0.3810	1109.73	1109.31	0.42	0.04%
1-Aug-18	0.4020	1136.42	1136.70	-0.28	-0.02%
5-Nov-18	0.7580	1301.55	1302.04	-0.50	-0.04%
19-Sep-18	0.2580	1082.38	1081.79	0.58	0.05%
29-Aug-18	0.3420	1087.99	1087.25	0.74	0.07%
20-Sep-18	0.6740	1169.28	1168.41	0.87	0.07%
12-Jun-18	0.3900	1127.15	1126.11	1.04	0.09%
30-May-18	0.3330	1097.41	1096.95	0.46	0.04%
12-Nov-18	0.2140	1084.99	1085.02	-0.03	0.00%
8-Aug-18	0.2560	1079.35	1079.13	0.22	0.02%
21-Jun-18	0.3470	1091.90	1091.51	0.39	0.04%
24-Aug-18	0.3330	1099.98	1099.69	0.29	0.03%
18-Sep-18	0.3380	1087.45	1086.93	0.52	0.05%
3-Jul-18	0.6790	1156.35	1155.31	1.04	0.09%
3-Oct-18	0.5540	1165.71	1164.82	0.90	0.08%
12-Jul-18	0.3680	1100.93	1100.14	0.79	0.07%
24-Aug-18	0.3530	1091.37	1091.07	0.31	0.03%
2-Oct-18	0.8310	1261.03	1260.33	0.70	0.06%
10-Jul-18	0.3770	1093.77	1092.96	0.82	0.07%
20-Nov-18	0.4110	1122.12	1122.00	0.12	0.01%
3-Jul-18	0.3710	1102.80	1102.66	0.14	0.01%
11-Sep-18	0.8400	1414.81	1415.51	-0.70	-0.05%
11-Sep-18	0.8400	1414.81	1415.51	-0.70	-0.05%
13-Dec-18	2.3280	1623.74	1623.19	0.55	0.03%
1-Feb-19	1.2490	1381.06	1382.97	-1.91	-0.14%
19-Jun-18	0.5590	1146.04	1145.30	0.75	0.07%
20-Aug-18	0.2830	1066.99	1066.21	0.78	0.07%
13-Sep-18	0.4100	1097.41	1096.53	0.89	0.08%
20-Nov-18	0.2230	1063.49	1063.04	0.44	0.04%
24-Jul-18	0.6070	1354.43	1354.91	-0.48	-0.04%
24-Jul-18	0.6070	1354.43	1354.91	-0.48	-0.04%
22-Aug-18	0.6550	1136.69	1136.55	0.13	0.01%
24-Sep-18	1.2540	1531.19	1533.53	-2.34	-0.15%
24-Sep-18	1.2540	1531.19	1533.53	-2.34	-0.15%
28-Jul-18	0.3110	1097.63	1097.52	0.11	0.01%
17-Jan-19	2.3730	1434.71	1441.11	-6.40	-0.45%
11-Jul-18	0.6190	1159.43	1159.07	0.36	0.03%
5-Dec-18	1.0390	1363.29	1363.83	-0.54	-0.04%
18-Jul-18	0.4590	1149.87	1149.98	-0.11	-0.01%
6-Jun-18	0.4610	1109.66	1108.56	1.10	0.10%
30-May-18	0.1760	1060.43	1059.26	1.17	0.11%
21-Jun-18	0.3590	1083.42	1082.68	0.75	0.07%
18-Sep-18	0.3730	1095.69	1095.00	0.69	0.06%
18-Jan-19	0.2460	1084.11	1083.44	0.67	0.06%
27-Aug-18	0.3830	1086.68	1085.59	1.09	0.10%
25-Sep-18	0.2850	1085.65	1085.08	0.57	0.05%
10-Dec-18	0.4270	1107.48	1106.98	0.50	0.04%
15-Jun-18	0.4390	1111.02	1109.47	1.55	0.14%
14-Sep-18	0.3350	1084.77	1083.85	0.92	0.08%
12-Jul-18	0.5220	1117.67	1117.06	0.61	0.05%

11-Jun-18	0.5890	1119.97	1118.11	1.85	0.17%
9-Jul-18	0.5750	1165.46	1164.93	0.53	0.05%
7-Aug-18	0.3840	1110.68	1110.20	0.48	0.04%
13-Jul-18	0.7100	1137.69	1135.26	2.43	0.21%
12-Sep-18	0.3700	1073.87	1072.70	1.17	0.11%
7-Jun-18	0.5030	1107.39	1106.13	1.26	0.11%
28-Aug-18	0.2820	1079.23	1078.58	0.65	0.06%
16-Jul-18	0.6690	1174.45	1173.99	0.46	0.04%
21-Jun-18	0.4100	1093.14	1092.21	0.93	0.09%
29-Jul-18	1.4500	1415.76	1418.13	-2.37	-0.17%
11-Sep-18	0.2310	1065.15	1064.72	0.43	0.04%
24-Jul-18	0.6060	1352.40	1352.87	-0.47	-0.04%
4-Aug-18	0.2670	1119.20	1119.01	0.19	0.02%
14-Jun-18	0.3680	1095.00	1093.53	1.47	0.13%
18-Sep-18	0.2740	1087.61	1087.10	0.51	0.05%
28-Jul-18	0.0350	1087.97	1087.78	0.19	0.02%
7-Aug-18	1.1260	1317.14	1317.65	-0.51	-0.04%
12-Sep-18	0.3050	1094.74	1094.42	0.31	0.03%
24-Jul-18	0.6060	1351.63	1352.11	-0.47	-0.04%
14-Jun-18	0.4490	1099.24	1097.62	1.62	0.15%
24-Jan-19	0.7020	1122.80	1122.70	0.10	0.01%
14-Jun-18	0.3370	1091.14	1090.34	0.80	0.07%
2-Aug-18	0.3430	1155.09	1155.45	-0.36	-0.03%
24-Jul-18	0.6060	1351.53	1352.00	-0.47	-0.04%
24-Jul-18	0.6060	1351.49	1351.97	-0.47	-0.04%
18-Jul-18	0.3520	1140.75	1140.89	-0.14	-0.01%
5-Sep-18	1.0200	1273.40	1273.78	-0.37	-0.03%
2-Oct-18	1.0460	1301.51	1301.13	0.38	0.03%
23-Aug-18	0.3470	1089.26	1088.19	1.06	0.10%
9-Jul-18	0.5130	1152.74	1152.63	0.11	0.01%
10-Sep-18	0.2780	1063.80	1063.26	0.54	0.05%
27-Sep-18	0.2360	1085.61	1085.28	0.33	0.03%
5-Nov-18	0.7550	1296.20	1296.70	-0.50	-0.04%
23-Aug-18	0.3870	1085.16	1084.18	0.97	0.09%
12-Sep-18	0.3000	1104.08	1103.84	0.24	0.02%
4-Oct-18	2.0400	1523.29	1526.22	-2.94	-0.19%
15-Jun-18	0.4850	1115.20	1114.18	1.02	0.09%
13-Nov-18	1.3090	1414.53	1416.04	-1.51	-0.11%
13-Nov-18	1.3090	1414.53	1416.04	-1.51	-0.11%
9-Oct-18	0.8880	1398.96	1399.84	-0.88	-0.06%
15-Jun-18	0.4370	1104.74	1103.95	0.78	0.07%
13-Sep-18	0.3150	1083.20	1082.71	0.49	0.05%
22-Jan-19	0.4980	1132.13	1131.34	0.79	0.07%
6-Sep-18	0.3500	1090.50	1089.79	0.70	0.06%
24-May-18	0.2530	1081.20	1080.73	0.47	0.04%
20-Jun-18	0.5720	1120.94	1119.39	1.55	0.14%
5-Jul-18	0.5710	1157.03	1157.17	-0.14	-0.01%
22-Jun-18	0.2980	1094.56	1093.99	0.57	0.05%
26-Jul-18	0.3240	1078.03	1076.71	1.32	0.12%
27-Sep-18	0.2730	1069.23	1068.74	0.50	0.05%
15-Jun-18	0.4720	1100.92	1099.67	1.24	0.11%
7-Aug-18	0.3500	1088.40	1087.93	0.47	0.04%
13-Nov-18	2.1790	1456.47	1457.94	-1.47	-0.10%
13-Nov-18	2.1790	1456.47	1457.94	-1.47	-0.10%
17-Jul-18	0.2940	1096.36	1095.83	0.53	0.05%
30-Jul-18	0.3190	1101.21	1100.76	0.45	0.04%
28-May-18	0.3300	1095.36	1094.81	0.55	0.05%

3-Jul-18	0.6330	1144.76	1143.84	0.92	0.08%
20-Jul-18	0.2900	1060.18	1059.26	0.92	0.09%
2-Nov-18	0.3570	1087.91	1087.72	0.19	0.02%
12-Jun-18	0.7670	1130.18	1127.72	2.46	0.22%
9-May-18	0.3510	1097.85	1097.03	0.82	0.07%
14-Jun-18	0.4270	1117.25	1116.54	0.71	0.06%
10-Jul-18	0.5560	1162.68	1162.26	0.42	0.04%
12-Jul-18	0.2600	1065.51	1064.90	0.61	0.06%
13-Aug-18	0.2030	1064.32	1063.98	0.34	0.03%
13-Jul-18	0.2600	1074.63	1073.94	0.69	0.06%
17-Dec-18	0.8140	1299.97	1300.12	-0.15	-0.01%
17-Dec-18	0.8140	1299.97	1300.12	-0.15	-0.01%
9-May-18	0.3580	1092.37	1090.94	1.42	0.13%
16-Jul-18	1.1200	1392.62	1393.61	-0.99	-0.07%
24-Aug-18	0.4650	1100.13	1099.12	1.01	0.09%
25-Sep-18	0.2670	1077.50	1076.70	0.80	0.07%
15-Aug-18	0.4210	1104.69	1103.72	0.97	0.09%
24-Aug-18	0.3490	1092.52	1092.13	0.40	0.04%
3-Jan-19	0.3930	1128.61	1128.46	0.16	0.01%
9-Jul-18	0.6280	1156.25	1155.61	0.65	0.06%
11-Sep-18	0.2560	1082.83	1082.39	0.43	0.04%
16-Aug-18	0.2860	1068.90	1067.84	1.06	0.10%
16-Jul-18	0.4990	1119.61	1118.56	1.05	0.09%
12-Jan-19	1.0140	1343.31	1343.65	-0.34	-0.02%
6-Jul-18	0.3950	1085.58	1084.63	0.95	0.09%
23-Aug-18	0.3460	1085.20	1084.15	1.05	0.10%
23-Aug-18	0.3460	1085.20	1084.15	1.05	0.10%
1-Jun-18	0.4500	1104.38	1102.82	1.55	0.14%
21-Jun-18	0.4380	1094.17	1093.17	1.01	0.09%
19-Sep-18	0.3640	1080.29	1079.27	1.02	0.09%
8-Aug-18	0.4070	1097.74	1096.59	1.15	0.10%
22-Aug-18	0.5920	1131.10	1130.48	0.61	0.05%
1-Feb-19	1.2420	1374.05	1375.94	-1.90	-0.14%
2-Oct-18	0.8940	1221.35	1220.73	0.62	0.05%
7-Sep-18	0.3270	1089.92	1089.33	0.59	0.05%
29-Nov-18	0.3130	1097.84	1097.37	0.47	0.04%
25-Jul-18	0.2450	1100.86	1100.66	0.20	0.02%
11-Jul-18	0.2130	1062.47	1062.03	0.44	0.04%
5-Jun-18	0.3330	1079.59	1078.69	0.90	0.08%
5-Jul-18	0.8570	1309.08	1310.81	-1.73	-0.13%
22-Jan-19	0.4850	1125.94	1124.76	1.19	0.11%
4-Aug-18	0.5960	1157.05	1156.70	0.34	0.03%
20-Sep-18	0.8450	1177.52	1175.50	2.02	0.17%
29-Oct-18	0.7200	1184.66	1183.94	0.72	0.06%
27-Aug-18	0.6330	1132.60	1131.62	0.98	0.09%
5-Sep-18	0.3680	1099.99	1099.35	0.64	0.06%
27-Aug-18	0.2190	1066.49	1066.00	0.49	0.05%
19-Oct-18	0.8950	1357.09	1356.30	0.80	0.06%
30-Jan-19	0.4850	1147.55	1147.38	0.17	0.01%
21-Jun-18	0.9690	1176.40	1173.33	3.07	0.26%
23-Jul-18	0.4290	1115.17	1114.75	0.42	0.04%
20-Aug-18	0.5830	1175.62	1175.81	-0.19	-0.02%
12-Jul-18	0.4480	1102.44	1101.04	1.40	0.13%
19-Jun-18	0.4290	1092.38	1090.85	1.53	0.14%
2-Oct-18	0.8240	1250.45	1249.75	0.69	0.06%
2-Oct-18	0.8240	1250.45	1249.75	0.69	0.06%
6-Nov-18	0.4080	1102.08	1101.66	0.42	0.04%

18-Jun-18	0.3920	1084.50	1083.56	0.94	0.09%
6-Aug-18	0.6410	1152.94	1152.04	0.90	0.08%
14-Sep-18	0.3790	1086.04	1085.13	0.91	0.08%
11-Jul-18	0.4770	1129.66	1129.04	0.63	0.06%
6-Dec-18	2.2510	1619.71	1624.28	-4.56	-0.28%
13-Jul-18	0.6890	1141.81	1140.28	1.52	0.13%
13-Jul-18	0.6890	1141.81	1140.28	1.52	0.13%
22-May-18	0.2870	1051.37	1050.21	1.16	0.11%
13-Sep-18	0.3740	1097.65	1097.03	0.61	0.06%
13-Jul-18	0.3890	1105.23	1105.33	-0.09	-0.01%
18-Sep-18	0.3730	1098.63	1097.72	0.91	0.08%
20-Aug-18	0.3610	1115.51	1115.24	0.28	0.02%
15-Jun-18	0.5500	1121.06	1119.57	1.49	0.13%
22-Jun-18	0.3700	1094.61	1093.88	0.73	0.07%
11-Sep-18	1.0790	1441.24	1442.02	-0.79	-0.05%
25-Jul-18	0.3590	1124.45	1124.02	0.43	0.04%
9-Oct-18	0.8830	1392.37	1393.25	-0.88	-0.06%
9-Oct-18	0.8830	1392.37	1393.25	-0.88	-0.06%
21-Jun-18	0.4620	1106.53	1105.49	1.04	0.09%
7-Aug-18	0.3320	1084.67	1083.89	0.78	0.07%
28-Aug-18	0.3700	1116.08	1115.75	0.33	0.03%
2-Oct-18	1.0370	1293.45	1293.09	0.36	0.03%
2-Oct-18	1.0370	1293.45	1293.09	0.36	0.03%
5-Sep-18	0.3810	1101.38	1100.60	0.78	0.07%
27-Jul-18	1.0080	1424.36	1426.41	-2.05	-0.14%
22-Jan-19	0.4820	1121.71	1120.54	1.16	0.10%
21-Jun-18	0.9240	1179.66	1176.78	2.88	0.24%
17-Sep-18	0.4370	1114.07	1113.19	0.88	0.08%
3-Oct-18	0.4910	1131.72	1131.53	0.19	0.02%
27-Jun-18	0.3970	1098.78	1097.87	0.91	0.08%
22-Oct-18	1.8180	1512.23	1513.56	-1.34	-0.09%
11-Sep-18	1.0790	1440.39	1441.18	-0.79	-0.05%
1-Aug-18	0.4110	1128.11	1128.35	-0.24	-0.02%
3-Jul-18	0.4890	1128.41	1127.51	0.89	0.08%
22-Oct-18	1.7990	1506.82	1509.51	-2.69	-0.18%
11-Sep-18	1.0780	1440.09	1440.87	-0.78	-0.05%
19-Sep-18	0.3650	1094.88	1094.46	0.42	0.04%
21-Jun-18	0.7400	1129.02	1126.78	2.25	0.20%
9-Aug-18	0.3210	1078.24	1077.65	0.59	0.06%
6-Sep-18	0.5800	1294.15	1294.43	-0.27	-0.02%
25-Jul-18	0.2510	1070.56	1069.88	0.68	0.06%
15-Aug-18	0.3880	1095.68	1095.05	0.64	0.06%
21-Jun-18	0.5600	1131.46	1130.10	1.36	0.12%
13-Jun-18	0.4090	1099.41	1097.98	1.43	0.13%
26-Jul-18	0.6490	1149.16	1148.79	0.38	0.03%
12-Jul-18	0.4140	1110.97	1111.26	-0.28	-0.03%
15-Jan-19	0.3880	1143.18	1143.15	0.03	0.00%
16-Jul-18	0.4620	1112.15	1111.44	0.71	0.06%
7-Jul-18	0.3340	1115.29	1114.92	0.37	0.03%
6-Feb-19	0.3160	1084.31	1083.92	0.39	0.04%
2-Nov-18	2.9470	1707.62	1711.33	-3.71	-0.22%
24-Jul-18	0.2780	1070.60	1069.87	0.73	0.07%
27-Jun-18	0.2580	1070.14	1069.69	0.45	0.04%
27-Aug-18	0.2150	1069.68	1069.05	0.63	0.06%
12-Jan-19	1.0090	1336.55	1336.87	-0.32	-0.02%
19-Jun-18	0.1140	1027.51	1027.06	0.45	0.04%
16-Jul-18	0.6490	1136.89	1136.31	0.58	0.05%

6-Jun-18	0.4670	1094.25	1092.17	2.08	0.19%
15-Jun-18	0.5710	1111.34	1109.55	1.79	0.16%
28-Jun-18	0.3460	1100.79	1100.38	0.42	0.04%
13-Sep-18	0.3270	1102.73	1102.33	0.40	0.04%
16-Jul-18	0.4150	1089.39	1088.07	1.32	0.12%
29-Oct-18	1.3530	1380.22	1381.99	-1.77	-0.13%
16-Jul-18	1.1130	1384.81	1385.80	-1.00	-0.07%
16-Jul-18	1.1130	1384.81	1385.80	-1.00	-0.07%
30-Jul-18	0.3920	1088.19	1087.40	0.79	0.07%
27-Jul-18	1.0060	1421.39	1423.43	-2.04	-0.14%
7-Jun-18	0.4210	1096.98	1095.97	1.01	0.09%
19-Oct-18	0.8910	1351.29	1350.48	0.81	0.06%
19-Oct-18	0.8910	1351.29	1350.48	0.81	0.06%
23-Jul-18	0.1350	1064.17	1063.47	0.69	0.07%
6-Jul-18	0.4440	1149.88	1149.97	-0.08	-0.01%
27-Jul-18	1.0060	1421.14	1423.18	-2.04	-0.14%
13-Sep-18	0.3780	1081.07	1079.94	1.13	0.10%
5-Jul-18	0.8500	1301.33	1303.08	-1.75	-0.13%
13-Aug-18	0.2200	1061.66	1061.25	0.42	0.04%
14-Jun-18	0.1240	1034.49	1033.99	0.50	0.05%
13-Jun-18	0.6190	1138.80	1137.06	1.74	0.15%
7-Aug-18	0.4210	1144.01	1143.81	0.21	0.02%
11-Jul-18	0.4930	1139.26	1138.82	0.44	0.04%
14-Sep-18	0.4220	1109.45	1108.64	0.81	0.07%
24-Aug-18	0.3280	1099.27	1098.49	0.78	0.07%
21-Jun-18	0.3410	1079.19	1078.39	0.81	0.07%
18-Sep-18	0.3740	1083.62	1082.79	0.83	0.08%
18-Sep-18	0.3740	1083.62	1082.79	0.83	0.08%
18-Sep-18	0.3740	1083.62	1082.79	0.83	0.08%
18-Sep-18	0.3740	1083.62	1082.79	0.83	0.08%
18-Sep-18	0.3740	1083.62	1082.79	0.83	0.08%
18-Sep-18	0.3740	1083.62	1082.79	0.83	0.08%
18-Sep-18	0.3740	1083.62	1082.79	0.83	0.08%
7-Jul-18	0.3520	1117.61	1117.24	0.36	0.03%
24-Sep-18	1.3570	1342.13	1342.70	-0.57	-0.04%
24-May-18	0.2510	1073.94	1073.33	0.61	0.06%
24-Jul-18	0.3170	1073.70	1072.83	0.87	0.08%
14-Jun-18	0.4050	1118.53	1118.64	-0.11	-0.01%
13-Aug-18	0.2200	1061.14	1060.75	0.39	0.04%
5-Sep-18	0.3800	1089.53	1088.89	0.64	0.06%
7-Aug-18	0.3060	1081.66	1081.17	0.48	0.04%
16-Jul-18	0.5880	1145.93	1145.32	0.61	0.05%
2-Aug-18	0.3590	1108.09	1108.08	0.01	0.00%
9-May-18	0.3310	1114.57	1114.00	0.57	0.05%
28-Aug-18	0.2260	1067.09	1066.80	0.30	0.03%
25-Sep-18	0.6710	1207.51	1207.46	0.05	0.00%
24-Aug-18	0.2650	1066.24	1065.31	0.93	0.09%
28-Aug-18	0.2920	1084.75	1083.91	0.84	0.08%
21-Jun-18	0.3110	1089.32	1088.62	0.69	0.06%
15-Nov-18	0.4010	1114.01	1113.56	0.45	0.04%
12-Jul-18	1.1530	1187.42	1188.52	-1.10	-0.09%
6-Dec-18	2.2420	1613.03	1617.58	-4.55	-0.28%
18-Sep-18	0.3380	1089.85	1089.21	0.64	0.06%
26-Nov-18	1.6630	1590.68	1592.48	-1.81	-0.11%
19-Oct-18	0.3830	1082.53	1081.35	1.18	0.11%
2-Nov-18	2.3690	1624.54	1624.79	-0.25	-0.02%
30-Jul-18	0.2960	1087.37	1086.81	0.56	0.05%

6-Sep-18	0.3950	1100.63	1099.86	0.77	0.07%
9-Aug-18	0.4290	1134.32	1134.41	-0.09	-0.01%
31-Oct-18	0.8720	1294.54	1294.49	0.05	0.00%
11-Jul-18	0.2180	1059.16	1058.62	0.55	0.05%
16-Jan-19	0.8390	1220.37	1220.14	0.23	0.02%
7-Aug-18	0.6620	1153.17	1152.19	0.98	0.08%
9-Aug-18	0.3440	1123.69	1122.49	1.21	0.11%
16-Oct-18	1.1820	1380.09	1381.09	-1.00	-0.07%
19-Aug-18	1.3250	1345.06	1345.17	-0.11	-0.01%
7-Jun-18	0.4190	1091.18	1090.17	1.00	0.09%
7-Jun-18	0.4190	1091.18	1090.17	1.00	0.09%
7-Jun-18	0.4190	1091.18	1090.17	1.00	0.09%
7-Jun-18	0.4190	1091.18	1090.17	1.00	0.09%
26-Jun-18	0.9080	1196.29	1194.57	1.72	0.14%
19-Sep-18	0.2820	1074.91	1074.18	0.74	0.07%
2-Jul-18	0.5170	1122.07	1121.43	0.64	0.06%
8-Jan-19	0.7600	1305.16	1305.89	-0.74	-0.06%
9-Jul-18	0.3980	1147.42	1147.44	-0.02	0.00%
23-Aug-18	0.3130	1089.84	1088.95	0.89	0.08%
27-Aug-18	0.1260	1023.46	1022.84	0.62	0.06%
6-Sep-18	0.5760	1286.13	1286.39	-0.27	-0.02%
10-Jul-18	0.9030	1161.19	1160.85	0.34	0.03%
19-Jul-18	0.3190	1075.44	1074.84	0.59	0.06%
9-Aug-18	0.2670	1072.17	1071.57	0.60	0.06%
10-Jul-18	0.6600	1176.22	1176.09	0.13	0.01%
15-Jun-18	0.3030	1081.54	1081.04	0.50	0.05%
6-Aug-18	0.4580	1125.56	1125.59	-0.03	0.00%
15-Jun-18	0.5210	1124.34	1123.34	1.00	0.09%
25-Jun-18	0.3650	1125.12	1124.92	0.20	0.02%
26-Jul-18	0.3160	1137.15	1136.93	0.22	0.02%
7-Nov-18	1.0820	1348.79	1349.83	-1.04	-0.08%
5-Sep-18	0.3480	1092.17	1091.48	0.70	0.06%
9-Aug-18	0.6270	1156.10	1156.60	-0.50	-0.04%
22-Oct-18	1.8050	1502.50	1503.82	-1.33	-0.09%
3-Aug-18	0.3180	1130.94	1130.86	0.08	0.01%
2-Aug-18	0.5270	1161.88	1161.54	0.34	0.03%
18-Sep-18	0.2530	1084.86	1084.37	0.49	0.05%
14-Jun-18	0.3890	1099.17	1097.87	1.30	0.12%
14-Jan-19	0.7010	1711.97	1713.60	-1.63	-0.10%
8-Jan-19	0.7570	1301.83	1302.58	-0.75	-0.06%
31-Oct-18	0.8680	1289.68	1289.63	0.05	0.00%
31-Oct-18	0.8680	1289.68	1289.63	0.05	0.00%
25-Jul-18	0.4720	1131.35	1130.62	0.73	0.06%
2-Aug-18	0.5000	1138.05	1138.42	-0.36	-0.03%
29-Oct-18	1.3420	1370.89	1372.67	-1.78	-0.13%
16-Jul-18	0.2720	1084.05	1082.51	1.54	0.14%
3-Aug-18	0.3740	1106.14	1105.58	0.56	0.05%
22-Oct-18	0.2750	1064.44	1063.64	0.80	0.08%
11-Jul-18	0.3850	1115.73	1115.50	0.22	0.02%
10-Jul-18	0.4120	1177.71	1177.99	-0.28	-0.02%
9-Jul-18	0.5050	1131.50	1131.86	-0.36	-0.03%
2-Nov-18	1.1090	1374.96	1375.64	-0.68	-0.05%
22-Jan-19	0.3710	1094.88	1093.81	1.07	0.10%
15-Aug-18	0.3370	1090.90	1090.47	0.44	0.04%
15-Aug-18	0.3700	1126.60	1126.29	0.31	0.03%
10-Jul-18	0.4040	1108.93	1108.36	0.57	0.05%
14-Aug-18	0.2450	1046.69	1045.77	0.92	0.09%

27-Aug-18	0.4420	1105.45	1103.77	1.68	0.15%
8-Jan-19	1.3950	1482.64	1485.16	-2.52	-0.17%
1-Aug-18	0.2680	1075.98	1075.54	0.44	0.04%
29-Aug-18	0.3640	1086.62	1086.31	0.31	0.03%
5-Jan-19	1.6900	1400.64	1401.83	-1.19	-0.08%
16-Oct-18	1.1780	1374.33	1375.32	-0.99	-0.07%
16-Oct-18	1.1780	1374.33	1375.32	-0.99	-0.07%
11-Jul-18	0.2230	1055.06	1054.36	0.70	0.07%
1-Aug-18	0.2910	1073.63	1073.13	0.50	0.05%
24-May-18	0.3690	1100.11	1099.10	1.01	0.09%
28-Sep-18	0.3310	1109.28	1109.07	0.21	0.02%
7-Jul-18	0.4270	1123.80	1123.44	0.36	0.03%
30-Nov-18	0.1940	1053.23	1052.87	0.36	0.03%
12-Sep-18	0.3240	1083.94	1083.58	0.36	0.03%
7-Nov-18	1.0790	1344.38	1345.42	-1.04	-0.08%
31-Jan-19	0.5710	1151.82	1151.30	0.52	0.05%
27-Aug-18	0.3620	1098.29	1097.75	0.54	0.05%
21-Nov-18	1.1610	1447.16	1448.22	-1.06	-0.07%
9-Sep-18	1.0020	1371.45	1372.19	-0.74	-0.05%
25-Jul-18	0.7900	1193.65	1193.16	0.49	0.04%
26-Nov-18	1.6540	1582.81	1584.62	-1.81	-0.11%
26-Nov-18	1.6540	1582.81	1584.62	-1.81	-0.11%
6-Feb-19	0.2890	1097.09	1097.27	-0.18	-0.02%
18-Sep-18	0.3560	1087.52	1086.59	0.92	0.09%
7-Aug-18	0.2940	1076.50	1075.71	0.79	0.07%
6-Nov-18	0.3390	1083.67	1083.39	0.28	0.03%
24-Aug-18	0.8460	1361.70	1362.84	-1.14	-0.08%
24-Aug-18	0.8460	1361.70	1362.84	-1.14	-0.08%
20-Jul-18	0.2490	1075.91	1075.74	0.17	0.02%
30-Jul-18	0.3120	1099.71	1099.40	0.30	0.03%
7-Nov-18	1.0770	1342.43	1343.45	-1.03	-0.08%
11-Jun-18	0.3620	1081.61	1080.96	0.64	0.06%
18-Sep-18	0.4200	1099.57	1098.79	0.78	0.07%
5-Jun-18	0.2660	1057.20	1056.39	0.81	0.08%
16-Jul-18	0.4950	1117.01	1116.41	0.60	0.05%
7-Jun-18	0.4560	1118.66	1118.06	0.61	0.05%
6-Aug-18	0.4310	1136.84	1136.88	-0.03	0.00%
2-Nov-18	1.8070	1397.81	1400.53	-2.72	-0.19%
11-Jul-18	0.2420	1068.32	1067.72	0.61	0.06%
2-Nov-18	0.3310	1083.46	1082.94	0.52	0.05%
30-Jul-18	0.6290	1126.59	1125.76	0.83	0.07%
17-Jul-18	0.8410	1197.86	1197.50	0.35	0.03%
2-Nov-18	1.1050	1370.86	1371.52	-0.67	-0.05%
5-Jul-18	0.4490	1145.97	1146.18	-0.21	-0.02%
28-Jun-18	0.3900	1094.45	1093.73	0.71	0.07%
27-Aug-18	0.4480	1097.76	1096.69	1.07	0.10%
9-Aug-18	0.0370	1035.52	1035.46	0.06	0.01%
28-Aug-18	0.4150	1090.58	1089.52	1.06	0.10%
9-Aug-18	0.9380	1261.39	1261.28	0.11	0.01%
11-Sep-18	0.3480	1064.32	1062.36	1.95	0.18%
5-Jul-18	1.2340	1454.60	1455.71	-1.11	-0.08%
20-Aug-18	0.4160	1140.11	1140.20	-0.10	-0.01%
13-Dec-18	0.4510	1125.03	1124.69	0.34	0.03%
5-Jun-18	0.3390	1074.84	1073.76	1.08	0.10%
11-Sep-18	0.3110	1081.82	1081.10	0.72	0.07%
15-Jun-18	0.5840	1117.23	1115.61	1.62	0.15%
28-Aug-18	0.2590	1071.62	1070.55	1.06	0.10%

27-Jun-18	0.3680	1104.40	1103.18	1.22	0.11%
6-Sep-18	0.3840	1101.27	1100.58	0.69	0.06%
7-Jul-18	0.3380	1098.52	1098.43	0.09	0.01%
22-May-18	0.2410	1051.67	1050.86	0.81	0.08%
6-Jun-18	0.4630	1114.45	1113.38	1.07	0.10%
8-Jan-19	1.3900	1477.55	1480.06	-2.51	-0.17%
18-Sep-18	0.2870	1091.74	1091.33	0.41	0.04%
21-Jan-19	1.9420	1701.81	1705.17	-3.36	-0.20%
20-Jun-18	0.3830	1138.84	1138.35	0.49	0.04%
2-Nov-18	1.1040	1368.88	1369.55	-0.67	-0.05%
5-Oct-18	1.5550	1844.55	1847.43	-2.89	-0.16%
30-Aug-18	0.3140	1095.64	1094.71	0.93	0.09%
15-Nov-18	0.4880	1117.35	1116.79	0.57	0.05%
3-Jul-18	0.3580	1079.04	1078.07	0.97	0.09%
6-Jun-18	0.3920	1140.75	1140.49	0.26	0.02%
11-Jul-18	0.6110	1133.77	1132.59	1.18	0.10%
7-Jul-18	0.4150	1116.93	1116.85	0.08	0.01%
11-Jul-18	0.5390	1123.85	1122.97	0.88	0.08%
4-Dec-18	0.6460	1358.67	1358.09	0.57	0.04%
3-Jul-18	0.6230	1149.00	1146.87	2.13	0.19%
7-Aug-18	0.3900	1114.34	1114.38	-0.04	0.00%
15-Aug-18	0.4450	1119.22	1118.72	0.50	0.05%
21-Jun-18	0.5600	1131.95	1130.57	1.38	0.12%
1-Aug-18	0.5020	1131.03	1130.78	0.25	0.02%
13-Jul-18	0.3720	1145.06	1144.53	0.53	0.05%
4-Jan-19	1.0740	1320.13	1319.88	0.25	0.02%
7-Dec-18	0.7920	1358.13	1358.53	-0.40	-0.03%
5-Sep-18	0.3710	1099.96	1099.11	0.85	0.08%
30-May-18	0.3110	1137.18	1137.17	0.00	0.00%
28-Aug-18	0.1950	1058.79	1058.26	0.53	0.05%
3-Jul-18	0.5000	1109.64	1109.29	0.34	0.03%
7-Jun-18	0.4940	1109.59	1108.05	1.54	0.14%
20-Aug-18	0.5240	1144.31	1143.46	0.86	0.07%
23-Nov-18	2.5090	1575.56	1580.39	-4.83	-0.31%
9-Jul-18	0.6260	1162.99	1162.79	0.20	0.02%
5-Jul-18	0.5770	1231.59	1232.17	-0.58	-0.05%
2-Nov-18	1.8000	1393.17	1395.88	-2.71	-0.19%
5-Jul-18	0.3920	1156.16	1156.22	-0.05	0.00%
10-Jul-18	0.3380	1090.21	1089.52	0.70	0.06%
21-Nov-18	1.1560	1441.13	1442.18	-1.05	-0.07%
28-May-18	0.2670	1075.86	1075.44	0.42	0.04%
7-Jul-18	0.4700	1136.19	1136.08	0.11	0.01%
20-Sep-18	0.6420	1159.46	1157.21	2.25	0.19%
13-Aug-18	0.2950	1086.68	1086.39	0.29	0.03%
16-Jul-18	0.7850	1183.79	1182.52	1.27	0.11%
11-Jul-18	0.4640	1097.04	1096.48	0.55	0.05%
7-Jul-18	0.5240	1186.61	1187.06	-0.46	-0.04%
23-Jul-18	0.6240	1141.14	1140.35	0.80	0.07%
28-Aug-18	0.3090	1090.72	1090.10	0.63	0.06%
14-Sep-18	0.2840	1076.89	1076.15	0.74	0.07%
24-Nov-18	0.4760	1131.70	1131.45	0.25	0.02%
12-Jun-18	0.4780	1122.99	1121.23	1.75	0.16%
18-Dec-18	1.6190	1475.85	1477.13	-1.28	-0.09%
26-Jun-18	0.8150	1193.90	1191.90	2.00	0.17%
12-Jul-18	0.3410	1109.66	1109.48	0.19	0.02%
25-Jul-18	0.3640	1181.63	1181.73	-0.11	-0.01%
6-Jun-18	0.5000	1124.36	1123.30	1.06	0.09%

24-Sep-18	0.9570	1197.98	1196.06	1.92	0.16%
10-Jul-18	0.7220	1160.78	1159.86	0.92	0.08%
6-Nov-18	0.6480	1287.50	1287.55	-0.05	0.00%
5-Jan-19	1.6760	1391.16	1392.35	-1.19	-0.09%
16-Jul-18	0.5260	1101.91	1100.32	1.59	0.14%
20-Jun-18	0.4060	1085.28	1083.81	1.48	0.14%
2-Nov-18	1.7980	1391.23	1393.93	-2.70	-0.19%
10-Sep-18	0.2950	1062.21	1060.97	1.24	0.12%
19-Jul-18	0.8680	1148.62	1147.60	1.03	0.09%
24-May-18	0.3930	1086.10	1084.38	1.72	0.16%
21-Jun-18	0.3050	1092.43	1091.97	0.46	0.04%
7-Jul-18	0.4020	1098.73	1098.16	0.58	0.05%
26-Nov-18	0.4170	1124.64	1124.05	0.60	0.05%
25-Jun-18	0.9810	1380.16	1380.13	0.03	0.00%
24-Sep-18	0.3770	1084.33	1083.07	1.26	0.12%
23-Nov-18	2.4480	1682.80	1688.61	-5.81	-0.35%
24-Aug-18	0.4110	1154.58	1154.35	0.22	0.02%
22-Aug-18	0.3460	1083.73	1083.04	0.69	0.06%
13-Jan-19	0.7760	1253.73	1253.03	0.71	0.06%
6-Jun-18	0.4590	1107.43	1106.37	1.06	0.10%
6-Jun-18	0.4590	1107.43	1106.37	1.06	0.10%
6-Jun-18	0.4590	1107.43	1106.37	1.06	0.10%
6-Jun-18	0.4590	1107.43	1106.37	1.06	0.10%
6-Jun-18	0.4590	1107.43	1106.37	1.06	0.10%
6-Jun-18	0.4590	1107.43	1106.37	1.06	0.10%
6-Jun-18	0.4590	1107.43	1106.37	1.06	0.10%
7-Dec-18	0.7890	1353.50	1353.90	-0.40	-0.03%
9-Jul-18	0.7430	1177.43	1176.72	0.72	0.06%
19-Jul-18	0.3420	1099.43	1098.65	0.77	0.07%
12-Jun-18	0.3960	1126.35	1126.15	0.20	0.02%
9-May-18	0.3390	1100.55	1100.06	0.49	0.04%
18-May-18	1.4460	1301.97	1298.22	3.75	0.29%
27-Jun-18	0.3880	1097.90	1096.95	0.95	0.09%
6-Nov-18	0.3680	1097.52	1096.92	0.61	0.06%
23-Jul-18	0.1670	1071.62	1070.78	0.84	0.08%
22-Jan-19	0.6370	1150.65	1150.02	0.63	0.05%
22-Jun-18	0.4140	1103.79	1102.83	0.96	0.09%
14-Aug-18	0.1800	1051.76	1051.36	0.39	0.04%
2-Jul-18	0.8490	1178.70	1176.66	2.04	0.17%
2-Jul-18	0.8490	1178.70	1176.66	2.04	0.17%
11-Sep-18	0.2530	1074.68	1074.24	0.44	0.04%
23-Oct-18	1.4970	1580.98	1582.64	-1.66	-0.11%
7-Jun-18	0.4920	1103.15	1101.62	1.53	0.14%
7-Jun-18	0.4920	1103.15	1101.62	1.53	0.14%
7-Jun-18	0.4920	1103.15	1101.62	1.53	0.14%
7-Jun-18	0.4920	1103.15	1101.62	1.53	0.14%
7-Jun-18	0.4920	1103.15	1101.62	1.53	0.14%
7-Jun-18	0.4920	1103.15	1101.62	1.53	0.14%
7-Jun-18	0.4920	1103.15	1101.62	1.53	0.14%
3-Jul-18	0.3360	1114.83	1115.00	-0.17	-0.01%
17-Jul-18	0.4100	1111.03	1110.36	0.68	0.06%
9-Aug-18	0.2530	1071.35	1071.01	0.34	0.03%
22-Jun-18	0.4670	1105.16	1104.36	0.80	0.07%
7-Aug-18	0.2700	1072.73	1071.91	0.83	0.08%
23-Nov-18	2.4710	1577.75	1583.17	-5.42	-0.34%
5-Jul-18	1.2260	1445.49	1446.60	-1.10	-0.08%
5-Jul-18	1.2260	1445.49	1446.60	-1.10	-0.08%

1-Oct-18	0.6530	1141.68	1140.64	1.04	0.09%
26-Jul-18	0.3270	1106.58	1106.18	0.41	0.04%
1-Jun-18	0.4440	1107.72	1105.11	2.61	0.24%
9-Oct-18	1.3400	1443.10	1444.12	-1.02	-0.07%
12-Sep-18	0.3220	1062.62	1061.30	1.32	0.12%
26-Jun-18	0.3590	1098.98	1098.19	0.79	0.07%
20-Jun-18	0.3410	1097.37	1096.64	0.73	0.07%
28-Nov-18	1.9220	1573.73	1575.75	-2.02	-0.13%
7-Aug-18	0.3520	1113.40	1113.27	0.13	0.01%
25-Jul-18	0.5180	1186.57	1186.60	-0.02	0.00%
7-Aug-18	0.3150	1094.28	1093.92	0.37	0.03%
11-Sep-18	0.3880	1100.26	1099.35	0.91	0.08%
11-Sep-18	0.3880	1100.26	1099.35	0.91	0.08%
11-Sep-18	0.3880	1100.26	1099.35	0.91	0.08%
11-Sep-18	0.3880	1100.26	1099.35	0.91	0.08%
11-Sep-18	0.3880	1100.26	1099.35	0.91	0.08%
11-Sep-18	0.3880	1100.26	1099.35	0.91	0.08%
11-Sep-18	0.3880	1100.26	1099.35	0.91	0.08%
27-Sep-18	0.2810	1065.75	1064.89	0.87	0.08%
28-May-18	0.2830	1085.47	1084.88	0.59	0.05%
12-Jun-18	0.3760	1121.42	1121.11	0.31	0.03%
7-Jul-18	0.4010	1141.65	1141.58	0.06	0.01%
11-Jul-18	0.6030	1137.24	1136.08	1.16	0.10%
13-Aug-18	0.3170	1074.08	1073.32	0.75	0.07%
5-Jul-18	0.3410	1141.48	1141.45	0.03	0.00%
3-Jul-18	0.5690	1139.80	1139.19	0.61	0.05%
23-Nov-18	2.1990	1618.58	1623.13	-4.55	-0.28%
5-Jul-18	0.3650	1107.52	1107.32	0.20	0.02%
28-Aug-18	0.6410	1155.34	1154.94	0.40	0.03%
9-Aug-18	0.4480	1122.94	1122.54	0.39	0.04%
11-Sep-18	0.2690	1090.71	1090.76	-0.05	0.00%
11-Sep-18	0.2690	1090.71	1090.76	-0.05	0.00%
24-May-18	0.4650	1092.73	1091.06	1.67	0.15%
6-Nov-18	0.6450	1280.51	1280.56	-0.05	0.00%
13-Jan-19	0.7730	1248.17	1247.46	0.71	0.06%
28-Jun-18	0.4170	1095.98	1095.27	0.70	0.06%
13-Nov-18	1.1680	1329.17	1329.37	-0.21	-0.02%
7-Aug-18	0.3940	1132.55	1132.60	-0.05	0.00%
5-Sep-18	0.3340	1090.48	1089.60	0.88	0.08%
11-Jul-18	0.4890	1133.98	1133.68	0.30	0.03%
11-Dec-18	1.0700	1398.40	1398.46	-0.06	0.00%
7-Aug-18	0.6050	1138.51	1137.77	0.73	0.06%
29-Oct-18	0.1800	1048.43	1047.60	0.83	0.08%
6-Aug-18	0.3650	1103.54	1102.87	0.67	0.06%
22-Jun-18	0.3820	1093.58	1092.52	1.06	0.10%
13-Nov-18	1.4200	1596.00	1597.71	-1.71	-0.11%
4-Jan-19	1.0650	1309.35	1309.09	0.26	0.02%
6-Nov-18	0.6440	1279.18	1279.22	-0.05	0.00%
7-Jun-18	0.5280	1115.40	1114.28	1.11	0.10%
9-Jul-18	0.5440	1159.72	1160.32	-0.60	-0.05%
5-Sep-18	0.3760	1098.26	1097.57	0.69	0.06%
3-Oct-18	0.3570	1086.09	1085.17	0.91	0.08%
20-Aug-18	0.2100	1056.91	1056.54	0.37	0.04%
9-Jul-18	0.3910	1104.91	1104.17	0.74	0.07%
10-Sep-18	0.4120	1104.82	1103.84	0.98	0.09%
27-Aug-18	0.3950	1105.82	1105.05	0.77	0.07%
23-Aug-18	0.2090	1062.79	1062.14	0.65	0.06%

18-Dec-18	1.6100	1467.14	1468.41	-1.27	-0.09%
18-May-18	1.4390	1294.80	1291.06	3.74	0.29%
9-Oct-18	1.3360	1438.52	1439.53	-1.01	-0.07%
9-Jul-18	0.4840	1106.94	1105.62	1.31	0.12%
9-Oct-18	1.3360	1438.42	1439.43	-1.01	-0.07%
30-Jul-18	0.2900	1084.95	1084.50	0.45	0.04%
13-Nov-18	1.1580	1540.67	1541.32	-0.65	-0.04%
4-Aug-18	0.3320	1097.36	1097.18	0.18	0.02%
21-Aug-18	1.2290	1579.51	1581.14	-1.63	-0.10%
12-Jun-18	0.4440	1101.97	1100.89	1.08	0.10%
26-Jun-18	0.3560	1094.14	1093.46	0.68	0.06%
15-Jun-18	0.5090	1096.85	1095.49	1.35	0.12%
23-Jul-18	0.5500	1189.91	1189.95	-0.05	0.00%
10-Sep-18	0.4100	1107.61	1106.53	1.08	0.10%
14-Jun-18	0.4320	1101.73	1099.96	1.77	0.16%
19-Jul-18	0.4920	1108.15	1107.23	0.92	0.08%
20-Nov-18	0.4180	1109.03	1109.03	0.00	0.00%
2-Aug-18	0.2650	1072.00	1071.20	0.80	0.07%
12-Jul-18	0.3790	1074.14	1072.59	1.55	0.14%
22-May-18	0.2960	1052.19	1050.95	1.23	0.12%
24-Sep-18	1.4580	1218.63	1213.34	5.29	0.43%
3-Jul-18	0.5770	1166.14	1165.86	0.29	0.02%
24-Jul-18	0.8290	1349.28	1350.11	-0.83	-0.06%
29-Aug-18	0.2010	1062.37	1061.58	0.78	0.07%
9-Jul-18	0.7180	1165.86	1165.22	0.64	0.05%
29-Jan-19	0.3630	1142.02	1142.11	-0.09	-0.01%
20-Sep-18	0.8290	1187.32	1185.72	1.60	0.13%
9-May-18	1.6200	1526.99	1529.74	-2.75	-0.18%
27-Jun-18	0.3560	1106.89	1106.50	0.39	0.04%
23-Aug-18	0.3030	1089.39	1088.84	0.55	0.05%
12-Jun-18	0.4290	1093.12	1091.98	1.14	0.10%
25-Jun-18	0.9730	1368.96	1368.93	0.03	0.00%
22-Nov-18	0.7380	1400.72	1401.05	-0.33	-0.02%
12-Jun-18	0.4290	1092.29	1091.15	1.14	0.10%
12-Jun-18	0.4290	1092.29	1091.15	1.14	0.10%
12-Jun-18	0.4290	1092.29	1091.15	1.14	0.10%
12-Jun-18	0.4290	1092.29	1091.15	1.14	0.10%
12-Jun-18	0.4290	1092.29	1091.15	1.14	0.10%
12-Jun-18	0.4290	1092.29	1091.15	1.14	0.10%
12-Jun-18	0.4290	1092.29	1091.15	1.14	0.10%
12-Jun-18	0.4290	1092.29	1091.15	1.14	0.10%
24-Jan-19	0.4350	1118.99	1118.79	0.20	0.02%
13-Aug-18	0.2800	1083.80	1082.41	1.39	0.13%
13-Nov-18	0.9310	1393.36	1393.80	-0.44	-0.03%
23-Jul-18	0.3720	1130.70	1130.72	-0.02	0.00%
5-Jul-18	0.6000	1172.36	1172.32	0.03	0.00%
13-Aug-18	0.1560	1037.72	1037.11	0.61	0.06%
7-Aug-18	0.3190	1102.10	1101.27	0.82	0.07%
17-Aug-18	0.3050	1104.62	1104.25	0.38	0.03%
30-Jul-18	0.2840	1075.94	1075.41	0.53	0.05%
17-Sep-18	0.3990	1093.95	1092.86	1.10	0.10%
7-Jul-18	0.6760	1148.26	1147.19	1.06	0.09%
12-Sep-18	0.3680	1095.08	1094.36	0.72	0.07%
22-Oct-18	0.2350	1054.60	1053.84	0.76	0.07%
3-Oct-18	0.5100	1130.84	1130.78	0.06	0.01%
26-Jun-18	0.3600	1099.59	1098.95	0.64	0.06%
11-Dec-18	1.0650	1391.83	1391.90	-0.07	-0.01%

7-Aug-18	0.2620	1062.47	1061.58	0.89	0.08%
17-Jul-18	0.2320	1062.15	1061.51	0.64	0.06%
12-Jul-18	0.2550	1072.75	1072.18	0.57	0.05%
24-Aug-18	0.3230	1084.70	1084.40	0.30	0.03%
15-Aug-18	0.3730	1087.73	1087.48	0.25	0.02%
24-May-18	0.5120	1103.58	1101.55	2.02	0.18%
21-Jun-18	0.9100	1191.57	1189.20	2.36	0.20%
11-Sep-18	0.4940	1115.66	1114.88	0.77	0.07%
29-Jul-18	0.7020	1366.15	1365.21	0.94	0.07%
14-Jun-18	0.4330	1097.86	1096.40	1.46	0.13%
28-Jun-18	0.5040	1100.37	1098.85	1.52	0.14%
24-Aug-18	0.8880	1377.00	1378.20	-1.20	-0.09%
11-Jun-18	0.4770	1097.20	1095.89	1.31	0.12%
7-Aug-18	0.4040	1109.14	1108.52	0.61	0.06%
20-Nov-18	2.0110	1463.41	1465.90	-2.49	-0.17%
20-Nov-18	2.0110	1463.41	1465.90	-2.49	-0.17%
13-Nov-18	0.9290	1389.86	1390.29	-0.43	-0.03%
17-Sep-18	0.3020	1097.74	1097.38	0.36	0.03%
29-Aug-18	0.4360	1326.51	1326.30	0.21	0.02%
27-Aug-18	0.2490	1077.14	1076.67	0.47	0.04%
29-Oct-18	0.4490	1094.12	1092.71	1.41	0.13%
17-Jul-18	0.4890	1186.40	1186.70	-0.29	-0.02%
2-Aug-18	0.3890	1192.20	1192.63	-0.43	-0.04%
25-Jul-18	0.2990	1173.08	1173.08	0.00	0.00%
5-Jul-18	0.7980	1198.04	1197.39	0.65	0.05%
27-Jul-18	0.3910	1127.91	1127.83	0.08	0.01%
19-Jul-18	0.4580	1073.64	1072.53	1.11	0.10%
22-Nov-18	0.7340	1395.46	1395.80	-0.34	-0.02%
22-Nov-18	0.7340	1395.46	1395.80	-0.34	-0.02%
13-Nov-18	0.9280	1388.55	1388.99	-0.44	-0.03%
8-Aug-18	0.3110	1093.61	1093.13	0.47	0.04%
1-Aug-18	0.4730	1110.49	1109.48	1.01	0.09%
16-Jul-18	0.4810	1121.98	1121.51	0.47	0.04%
27-Aug-18	0.2700	1066.43	1065.98	0.45	0.04%
3-Aug-18	0.3450	1090.32	1089.76	0.56	0.05%
26-Jun-18	0.3450	1092.68	1092.08	0.60	0.05%
7-Aug-18	0.3250	1138.51	1138.11	0.41	0.04%
20-Aug-18	0.4320	1139.79	1139.81	-0.02	0.00%
13-Nov-18	1.1570	1317.80	1318.02	-0.23	-0.02%
13-Nov-18	1.1570	1317.80	1318.02	-0.23	-0.02%
20-Nov-18	1.1590	1352.08	1351.21	0.87	0.06%
20-Nov-18	1.1590	1352.08	1351.21	0.87	0.06%
25-Jul-18	0.2720	1078.07	1077.57	0.50	0.05%
13-Aug-18	0.4800	1104.65	1103.26	1.39	0.13%
14-Aug-18	1.1210	1321.65	1321.81	-0.16	-0.01%
14-Aug-18	1.1210	1321.65	1321.81	-0.16	-0.01%
21-Aug-18	1.2230	1571.04	1572.65	-1.61	-0.10%
15-Nov-18	0.6070	1122.24	1121.64	0.60	0.05%
23-Jul-18	0.3090	1127.85	1127.96	-0.11	-0.01%
10-Sep-18	0.4050	1096.55	1095.49	1.06	0.10%
10-Sep-18	0.4050	1096.55	1095.49	1.06	0.10%
10-Sep-18	0.4050	1096.55	1095.49	1.06	0.10%
10-Sep-18	0.4050	1096.55	1095.49	1.06	0.10%
20-Nov-18	0.5830	1158.74	1158.28	0.46	0.04%
6-Aug-18	0.4510	1106.75	1106.54	0.22	0.02%
10-Jan-19	1.4340	1405.49	1406.26	-0.76	-0.05%
10-Sep-18	0.2850	1075.53	1074.98	0.55	0.05%

22-Jun-18	0.3780	1097.86	1097.14	0.71	0.06%
19-Jul-18	0.2770	1065.78	1064.96	0.81	0.08%
13-Sep-18	0.4070	1103.76	1102.95	0.81	0.07%
24-Aug-18	0.3650	1096.53	1096.03	0.50	0.05%
8-Dec-18	2.9680	1523.55	1531.73	-8.19	-0.54%
24-Jul-18	0.8240	1339.88	1340.69	-0.82	-0.06%
27-Sep-18	0.2420	1059.44	1058.72	0.72	0.07%
14-Jun-18	0.3730	1088.81	1087.87	0.94	0.09%
11-Sep-18	0.4910	1108.99	1108.21	0.78	0.07%
11-Sep-18	0.4910	1108.99	1108.21	0.78	0.07%
11-Sep-18	0.4910	1108.99	1108.21	0.78	0.07%
11-Sep-18	0.4910	1108.99	1108.21	0.78	0.07%
27-Jul-18	0.3970	1127.79	1127.69	0.10	0.01%
12-Jul-18	0.3270	1092.75	1092.83	-0.07	-0.01%
12-Sep-18	0.4120	1082.16	1080.62	1.54	0.14%
7-Aug-18	1.1930	1460.47	1462.14	-1.68	-0.11%
19-Jul-18	0.3830	1107.17	1106.76	0.41	0.04%
24-Aug-18	0.5300	1108.38	1107.22	1.16	0.10%
25-Aug-18	0.4950	1107.10	1106.08	1.02	0.09%
7-Aug-18	0.3260	1107.95	1107.66	0.30	0.03%
6-Jun-18	0.3740	1096.13	1095.19	0.95	0.09%
24-Jul-18	1.0480	1423.20	1424.50	-1.30	-0.09%
26-Jul-18	0.4620	1162.08	1162.19	-0.11	-0.01%
6-Jun-18	0.5650	1112.60	1111.10	1.50	0.13%
6-Jun-18	0.5650	1112.60	1111.10	1.50	0.13%
6-Jun-18	0.5650	1112.60	1111.10	1.50	0.13%
6-Jun-18	0.5650	1112.60	1111.10	1.50	0.13%
6-Jun-18	0.5650	1112.60	1111.10	1.50	0.13%
6-Jun-18	0.5650	1112.60	1111.10	1.50	0.13%
6-Jun-18	0.5650	1112.60	1111.10	1.50	0.13%
6-Jun-18	0.5650	1112.60	1111.10	1.50	0.13%
6-Jun-18	0.5750	1115.54	1113.99	1.54	0.14%
19-Jun-18	0.2140	1063.12	1062.54	0.58	0.05%
29-Jul-18	0.6970	1357.61	1356.68	0.93	0.07%
14-Sep-18	0.3460	1092.28	1091.64	0.64	0.06%
9-Jul-18	0.3520	1124.61	1124.18	0.43	0.04%
20-Nov-18	0.6790	1178.15	1178.18	-0.03	0.00%
26-Jul-18	0.8980	1258.17	1258.51	-0.33	-0.03%
30-Jul-18	0.3250	1115.08	1114.86	0.22	0.02%
6-Aug-18	0.3130	1074.93	1074.17	0.76	0.07%
7-Jul-18	0.3790	1146.13	1145.60	0.53	0.05%
3-Jul-18	0.4260	1148.48	1148.30	0.18	0.02%
22-Jun-18	0.3690	1100.02	1099.34	0.69	0.06%
17-Aug-18	0.3330	1121.67	1121.42	0.25	0.02%
27-Aug-18	0.2740	1077.75	1077.03	0.72	0.07%
24-Jul-18	1.0470	1421.30	1422.60	-1.30	-0.09%
12-Sep-18	0.3870	1092.74	1091.73	1.00	0.09%
11-Jul-18	0.2020	1072.16	1071.53	0.63	0.06%
7-Nov-18	0.5770	1302.63	1303.07	-0.44	-0.03%
31-Jul-18	0.7840	1218.11	1217.73	0.38	0.03%
13-Nov-18	1.1460	1526.02	1526.68	-0.66	-0.04%
13-Nov-18	1.1460	1526.02	1526.68	-0.66	-0.04%
4-Oct-18	1.3760	1334.03	1333.69	0.34	0.03%
26-Jun-18	0.7500	1191.13	1188.53	2.59	0.22%
24-Jul-18	1.0460	1419.97	1421.26	-1.29	-0.09%
7-Jul-18	0.4450	1149.97	1149.84	0.13	0.01%
28-Jun-18	0.3610	1091.91	1091.05	0.86	0.08%
7-Jul-18	0.3740	1127.06	1126.28	0.78	0.07%

9-Oct-18	0.2400	1083.94	1083.58	0.36	0.03%
10-Jan-19	1.4250	1398.14	1398.92	-0.78	-0.06%
12-Jun-18	0.4380	1084.29	1082.94	1.35	0.12%
29-Aug-18	1.4160	1418.92	1420.98	-2.06	-0.15%
29-Aug-18	1.4160	1418.92	1420.98	-2.06	-0.15%
23-Jul-18	0.3970	1119.85	1119.42	0.44	0.04%
9-Jul-18	0.3110	1099.51	1099.11	0.40	0.04%
7-Aug-18	1.1870	1454.12	1455.80	-1.68	-0.12%
24-Aug-18	0.2400	1066.74	1066.11	0.62	0.06%
2-Aug-18	0.5230	1120.50	1119.91	0.60	0.05%
23-Jul-18	0.4540	1132.94	1132.65	0.30	0.03%
17-Dec-18	1.6110	1346.84	1345.61	1.23	0.09%
9-Jul-18	0.5840	1160.06	1159.62	0.45	0.04%
21-Jun-18	1.0720	1178.09	1174.57	3.53	0.30%
10-Jul-18	0.4930	1124.74	1123.81	0.93	0.08%
11-Jun-18	0.8640	1144.63	1141.54	3.09	0.27%
9-Jul-18	0.3020	1103.91	1103.62	0.29	0.03%
17-Jul-18	0.3110	1095.51	1095.01	0.50	0.05%
27-Aug-18	0.3160	1079.08	1078.17	0.91	0.08%
22-Jun-18	0.3450	1096.71	1096.29	0.41	0.04%
22-Jun-18	0.3890	1103.44	1102.68	0.75	0.07%
7-Nov-18	0.5750	1297.94	1298.38	-0.44	-0.03%
5-Dec-18	0.8460	1327.45	1327.83	-0.37	-0.03%
9-Aug-18	0.3080	1076.13	1074.92	1.21	0.11%
6-Aug-18	0.3620	1083.25	1082.87	0.39	0.04%
5-Sep-18	0.7960	1336.39	1336.08	0.31	0.02%
3-Sep-18	1.3540	1414.90	1416.18	-1.29	-0.09%
20-Aug-18	0.2940	1046.48	1045.23	1.25	0.12%
30-Jul-18	0.3100	1078.75	1077.74	1.01	0.09%
14-Aug-18	0.6030	1128.56	1127.14	1.42	0.13%
7-Aug-18	0.3210	1108.61	1108.29	0.32	0.03%
16-Jul-18	0.2020	1074.34	1073.12	1.22	0.11%
16-Aug-18	0.3200	1088.62	1088.02	0.60	0.06%
2-Oct-18	0.8320	1333.96	1333.86	0.10	0.01%
26-Jul-18	0.3950	1118.18	1117.90	0.28	0.03%
8-Jun-18	2.1110	1643.16	1645.43	-2.27	-0.14%
14-Aug-18	0.2340	1053.88	1053.29	0.59	0.06%
22-Jun-18	0.4120	1100.59	1099.20	1.38	0.13%
18-Jul-18	0.4070	1108.32	1107.86	0.46	0.04%
5-Jul-18	0.5940	1200.50	1201.08	-0.59	-0.05%
18-Sep-18	0.4040	1091.67	1090.80	0.86	0.08%
18-Sep-18	0.4040	1091.67	1090.80	0.86	0.08%
18-Sep-18	0.4040	1091.67	1090.80	0.86	0.08%
18-Sep-18	0.4040	1091.67	1090.80	0.86	0.08%
18-Sep-18	0.4040	1091.67	1090.80	0.86	0.08%
22-Jun-18	0.3680	1092.63	1091.78	0.84	0.08%
7-Nov-18	0.5740	1295.55	1295.99	-0.43	-0.03%
3-Oct-18	0.4750	1134.14	1133.95	0.19	0.02%
6-Jun-18	0.4050	1096.38	1095.37	1.01	0.09%
2-Jan-19	0.2030	1083.37	1083.20	0.17	0.02%
6-Jun-18	0.5700	1104.78	1103.24	1.54	0.14%
6-Jun-18	0.5700	1104.78	1103.24	1.54	0.14%
6-Jun-18	0.5700	1104.78	1103.24	1.54	0.14%
6-Jun-18	0.5700	1104.78	1103.24	1.54	0.14%
6-Jun-18	0.5700	1104.78	1103.24	1.54	0.14%
6-Jun-18	0.5700	1104.78	1103.24	1.54	0.14%
6-Jun-18	0.5700	1104.78	1103.24	1.54	0.14%

26-Jun-18	0.8720	1202.15	1201.26	0.89	0.07%
10-Jul-18	0.3780	1102.10	1101.56	0.54	0.05%
24-Jul-18	0.5900	1293.53	1293.66	-0.14	-0.01%
21-Jun-18	0.2360	1044.84	1044.09	0.74	0.07%
1-Aug-18	0.2940	1080.81	1079.90	0.92	0.08%
3-Aug-18	0.6160	1150.60	1149.85	0.75	0.07%
23-Jun-18	0.4740	1105.47	1104.44	1.03	0.09%
26-Jun-18	0.3810	1099.69	1099.01	0.68	0.06%
3-Aug-18	0.2530	1116.92	1116.22	0.69	0.06%
5-Jul-18	0.7600	1185.54	1185.02	0.52	0.04%
28-Aug-18	0.5040	1139.66	1139.03	0.64	0.06%
6-Aug-18	0.3860	1113.09	1112.58	0.51	0.05%
20-Nov-18	1.0280	1316.28	1315.95	0.33	0.02%
7-Jun-18	0.6000	1122.24	1120.73	1.50	0.13%
7-Jul-18	0.4350	1138.45	1138.26	0.19	0.02%
6-Jul-18	0.5550	1149.81	1149.84	-0.03	0.00%
19-Aug-18	1.4060	1327.82	1325.85	1.96	0.15%
20-Aug-18	0.3540	1096.53	1095.75	0.78	0.07%
29-Aug-18	0.2880	1057.27	1056.27	1.00	0.09%
3-Sep-18	1.3500	1410.63	1411.91	-1.28	-0.09%
5-Dec-18	0.8430	1322.07	1322.44	-0.37	-0.03%
18-Sep-18	0.4030	1094.53	1093.77	0.76	0.07%
18-Sep-18	0.4030	1094.53	1093.77	0.76	0.07%
18-Sep-18	0.4030	1094.53	1093.77	0.76	0.07%
9-Jul-18	0.9230	1370.16	1364.43	5.73	0.42%
28-May-18	0.4290	1091.81	1090.28	1.53	0.14%
20-Jul-18	0.5100	1098.29	1097.49	0.80	0.07%
2-Nov-18	0.3980	1085.29	1084.89	0.40	0.04%
22-Aug-18	0.4960	1123.23	1122.64	0.59	0.05%
15-Aug-18	0.6270	1129.22	1127.84	1.38	0.12%
6-Jun-18	0.4380	1114.24	1113.25	0.99	0.09%
27-Jun-18	0.4190	1103.56	1102.82	0.74	0.07%
13-Aug-18	0.2090	1042.47	1041.67	0.80	0.08%
1-Aug-18	0.3840	1128.44	1128.25	0.20	0.02%
17-Jul-18	0.4990	1174.72	1174.07	0.66	0.06%
23-Jul-18	0.3270	1124.79	1124.07	0.72	0.06%
1-Aug-18	0.3960	1114.98	1114.67	0.32	0.03%
27-Aug-18	0.3500	1088.79	1088.10	0.69	0.06%
17-Dec-18	1.6000	1337.70	1336.48	1.22	0.09%
2-Dec-18	1.4720	1593.68	1595.39	-1.71	-0.11%
19-Oct-18	1.6220	1608.80	1610.92	-2.11	-0.13%
16-Jul-18	0.4670	1134.51	1134.50	0.01	0.00%
10-Jul-18	0.3110	1092.25	1091.75	0.50	0.05%
18-Oct-18	1.1160	1374.39	1374.36	0.03	0.00%
12-Jul-18	0.9710	1270.83	1271.27	-0.45	-0.04%
8-Oct-18	1.1620	1307.27	1305.23	2.04	0.16%
18-Jan-19	0.4360	1126.20	1126.19	0.02	0.00%
3-Oct-18	0.3280	1096.62	1096.20	0.42	0.04%
3-Oct-18	0.3280	1096.62	1096.20	0.42	0.04%
12-Jun-18	0.3760	1131.73	1131.75	-0.02	0.00%
9-Jul-18	0.9210	1367.39	1361.65	5.73	0.42%
30-May-18	0.5150	1128.41	1124.70	3.72	0.33%
18-Sep-18	0.3040	1090.70	1090.26	0.44	0.04%
13-Aug-18	0.1910	1060.09	1059.72	0.37	0.04%
13-Jan-19	1.0350	1349.81	1351.01	-1.20	-0.09%
2-Oct-18	0.8260	1325.50	1325.40	0.09	0.01%
22-Jun-18	0.3370	1098.60	1098.25	0.34	0.03%

11-Jun-18	0.5920	1104.06	1101.71	2.35	0.21%
8-Aug-18	0.2420	1066.55	1066.13	0.42	0.04%
2-Jul-18	0.8590	1365.59	1366.68	-1.09	-0.08%
19-Jul-18	0.3130	1092.12	1091.18	0.94	0.09%
13-Jul-18	0.3270	1124.52	1124.30	0.22	0.02%
20-Nov-18	1.0220	1309.02	1308.69	0.33	0.03%
20-Nov-18	1.0220	1309.02	1308.69	0.33	0.03%
20-Nov-18	0.8910	1180.94	1181.55	-0.61	-0.05%
27-Jun-18	0.3410	1092.84	1091.94	0.91	0.08%
3-Oct-18	0.2830	1078.77	1078.14	0.63	0.06%
7-Aug-18	0.3450	1100.86	1099.62	1.24	0.11%
18-Oct-18	0.4590	1339.27	1339.19	0.08	0.01%
5-Sep-18	0.7900	1324.91	1324.58	0.32	0.02%
5-Sep-18	0.7900	1324.91	1324.58	0.32	0.02%
29-May-18	1.4120	1355.15	1351.30	3.85	0.28%
29-May-18	1.4120	1355.15	1351.30	3.85	0.28%
4-Jan-19	0.4330	1101.02	1100.67	0.35	0.03%
3-Jul-18	0.3550	1110.11	1109.94	0.16	0.01%
14-Aug-18	0.3020	1072.45	1071.64	0.81	0.08%
7-Jun-18	0.4700	1122.77	1122.18	0.58	0.05%
8-Sep-18	1.5070	1403.36	1404.49	-1.14	-0.08%
14-Sep-18	0.3480	1095.77	1095.18	0.59	0.05%
9-Jul-18	0.4990	1162.79	1162.45	0.33	0.03%
6-Jun-18	0.4360	1106.87	1105.86	1.00	0.09%
6-Jun-18	0.4360	1106.59	1105.59	1.00	0.09%
6-Jun-18	0.4360	1106.59	1105.59	1.00	0.09%
6-Jun-18	0.4360	1106.59	1105.59	1.00	0.09%
8-Jun-18	2.0970	1632.69	1634.95	-2.26	-0.14%
5-Feb-19	1.0780	1178.85	1177.59	1.25	0.11%
24-Jul-18	0.5830	1281.94	1282.09	-0.16	-0.01%
3-Aug-18	0.4070	1123.14	1122.45	0.69	0.06%
26-Jul-18	0.3020	1074.89	1073.68	1.20	0.11%
7-Aug-18	0.3290	1109.48	1108.92	0.56	0.05%
10-Sep-18	0.1990	1059.07	1058.48	0.59	0.06%
3-Aug-18	0.3890	1103.24	1103.28	-0.05	0.00%
18-Oct-18	1.1090	1366.84	1366.81	0.03	0.00%
18-Oct-18	1.1090	1366.84	1366.81	0.03	0.00%
14-Aug-18	0.2040	1071.53	1070.42	1.11	0.10%
11-Jul-18	0.3560	1126.81	1126.58	0.23	0.02%
2-Jul-18	0.8560	1360.24	1361.32	-1.08	-0.08%
9-Jul-18	0.9160	1359.91	1354.22	5.69	0.42%
19-Jul-18	0.3190	1095.65	1094.99	0.66	0.06%
15-Jun-18	0.2900	1096.40	1096.03	0.37	0.03%
7-Aug-18	0.2440	1067.62	1067.09	0.54	0.05%
12-Jul-18	0.5460	1112.15	1111.60	0.55	0.05%
25-Aug-18	0.2960	1089.25	1088.88	0.37	0.03%
7-Aug-18	0.4060	1096.52	1095.86	0.66	0.06%
7-Jul-18	2.1280	1430.50	1417.09	13.41	0.94%
7-Aug-18	0.3640	1146.25	1145.93	0.31	0.03%
20-Aug-18	0.5420	1094.34	1093.92	0.42	0.04%
5-Sep-18	1.5360	1478.59	1478.50	0.09	0.01%
10-Sep-18	0.4570	1114.44	1113.56	0.88	0.08%
23-Aug-18	0.2900	1066.55	1065.50	1.05	0.10%
12-Jul-18	0.9600	1258.96	1259.42	-0.46	-0.04%
17-Jul-18	0.2920	1093.60	1093.00	0.61	0.06%
26-Jul-18	0.5410	1153.00	1152.18	0.82	0.07%
15-Jun-18	0.5900	1115.88	1114.13	1.75	0.16%

7-Jul-18	0.4050	1123.51	1123.20	0.31	0.03%
13-Jan-19	1.0280	1338.97	1340.15	-1.18	-0.09%
11-Jun-18	0.4010	1095.33	1093.89	1.44	0.13%
9-Jul-18	0.2640	1078.58	1077.98	0.61	0.06%
1-Aug-18	0.2770	1077.96	1077.21	0.75	0.07%
12-Nov-18	0.2420	1109.82	1109.73	0.08	0.01%
10-Sep-18	0.4870	1104.14	1103.25	0.89	0.08%
10-Sep-18	0.4870	1104.14	1103.25	0.89	0.08%
10-Sep-18	0.4870	1104.14	1103.25	0.89	0.08%
10-Sep-18	0.4870	1104.14	1103.25	0.89	0.08%
10-Sep-18	0.4870	1104.14	1103.25	0.89	0.08%
10-Sep-18	0.4870	1104.14	1103.25	0.89	0.08%
10-Sep-18	0.4870	1104.14	1103.25	0.89	0.08%
3-Jul-18	0.3880	1097.20	1096.67	0.53	0.05%
24-Jul-18	0.2200	1063.12	1062.22	0.90	0.08%
7-Jul-18	0.3850	1091.83	1090.88	0.96	0.09%
1-Aug-18	0.8740	1238.33	1238.61	-0.29	-0.02%
31-Jul-18	0.3340	1069.49	1068.47	1.02	0.09%
27-Sep-18	1.4460	1566.23	1566.73	-0.51	-0.03%
22-Aug-18	0.4900	1142.13	1142.10	0.03	0.00%
12-Sep-18	0.3230	1081.21	1080.54	0.67	0.06%
24-Jul-18	0.9100	1329.12	1329.32	-0.20	-0.01%
18-Sep-18	0.5080	1139.48	1138.39	1.09	0.10%
11-Jun-18	0.5820	1099.83	1097.92	1.91	0.17%
22-May-18	0.3910	1069.99	1068.33	1.66	0.15%
8-Sep-18	1.4930	1391.73	1392.87	-1.14	-0.08%
8-Sep-18	1.4930	1391.73	1392.87	-1.14	-0.08%
29-Aug-18	0.3650	1090.52	1090.13	0.39	0.04%
13-Jul-18	0.2750	1076.25	1075.62	0.62	0.06%
16-Aug-18	0.3590	1112.75	1112.45	0.30	0.03%
24-Aug-18	0.3170	1089.23	1088.35	0.88	0.08%
26-Jul-18	0.6450	1184.62	1184.45	0.17	0.01%
17-Sep-18	0.4700	1109.21	1108.61	0.60	0.05%
6-Aug-18	0.5330	1184.18	1184.27	-0.09	-0.01%
17-Jul-18	0.4500	1128.99	1128.40	0.59	0.05%
24-May-18	0.4180	1104.69	1103.07	1.62	0.15%
20-Aug-18	0.2630	1070.93	1070.30	0.63	0.06%
14-Aug-18	0.5970	1117.36	1115.77	1.58	0.14%
10-Sep-18	0.4530	1105.50	1104.63	0.87	0.08%
10-Sep-18	0.4530	1105.50	1104.63	0.87	0.08%
10-Sep-18	0.4530	1105.50	1104.63	0.87	0.08%
10-Sep-18	0.4530	1105.50	1104.63	0.87	0.08%
10-Sep-18	0.4530	1105.50	1104.63	0.87	0.08%
10-Sep-18	0.4530	1105.50	1104.63	0.87	0.08%
10-Sep-18	0.4530	1105.50	1104.63	0.87	0.08%
27-Sep-18	2.7530	1667.97	1671.53	-3.56	-0.21%
13-Aug-18	0.3170	1112.07	1110.72	1.35	0.12%
15-Jun-18	0.3470	1088.22	1087.62	0.60	0.06%
31-Oct-18	1.5740	1460.85	1457.09	3.76	0.26%
15-Jun-18	0.5320	1097.39	1095.91	1.48	0.13%
12-Jul-18	0.3610	1107.37	1107.32	0.06	0.01%
27-Jun-18	0.5530	1153.29	1153.02	0.27	0.02%
7-Jul-18	0.4920	1157.85	1157.59	0.25	0.02%
24-Sep-18	0.4150	1090.98	1090.36	0.62	0.06%
19-Jul-18	0.2510	1081.28	1080.06	1.22	0.11%
6-Aug-18	0.3560	1078.53	1077.48	1.05	0.10%
17-Dec-18	0.7350	1345.06	1344.73	0.33	0.02%

9-Aug-18	0.2970	1100.29	1100.07	0.22	0.02%
13-Nov-18	1.7260	1651.47	1653.77	-2.30	-0.14%
25-May-18	0.8180	1223.31	1222.00	1.31	0.11%
9-Jul-18	1.1210	1465.39	1459.13	6.26	0.43%
19-Jul-18	0.3440	1090.95	1089.98	0.97	0.09%
3-Aug-18	0.3760	1140.48	1140.48	0.00	0.00%
8-Aug-18	0.4180	1135.74	1135.47	0.27	0.02%
16-Aug-18	0.1950	1064.33	1063.76	0.57	0.05%
22-Jun-18	0.4170	1096.35	1095.38	0.97	0.09%
15-Aug-18	0.3860	1109.47	1108.95	0.52	0.05%
24-Jul-18	1.1170	1381.42	1382.17	-0.75	-0.05%
13-Nov-18	2.0490	1688.10	1690.68	-2.58	-0.15%
18-Jan-19	0.3660	1099.70	1098.85	0.86	0.08%
30-May-18	0.4670	1089.04	1087.67	1.37	0.13%
26-Jun-18	0.4010	1096.74	1095.85	0.88	0.08%
11-Sep-18	0.2650	1082.03	1080.88	1.15	0.11%
23-Jun-18	0.4180	1106.03	1105.13	0.89	0.08%
12-Sep-18	0.3850	1092.59	1091.46	1.13	0.10%
12-Jun-18	0.7830	1165.78	1164.08	1.70	0.15%
7-Jul-18	0.4450	1143.68	1143.86	-0.19	-0.02%
15-Nov-18	0.5120	1136.77	1136.66	0.11	0.01%
12-Jul-18	0.2460	1118.39	1118.27	0.12	0.01%
9-Jul-18	1.1190	1462.84	1456.59	6.26	0.43%
16-Jul-18	0.4950	1133.43	1133.29	0.14	0.01%
12-Jun-18	0.3880	1089.03	1088.00	1.04	0.10%
9-Jul-18	1.1190	1462.67	1456.41	6.26	0.43%
17-Dec-18	0.7330	1341.50	1341.17	0.33	0.02%
18-Sep-18	0.5050	1130.98	1129.89	1.09	0.10%
18-Sep-18	0.5050	1130.98	1129.89	1.09	0.10%
18-Sep-18	0.5050	1130.98	1129.89	1.09	0.10%
5-Jan-19	0.7690	1275.49	1276.01	-0.52	-0.04%
5-Sep-18	1.5230	1466.18	1466.10	0.08	0.01%
10-Sep-18	0.3840	1089.42	1088.36	1.06	0.10%
10-Sep-18	0.3840	1089.42	1088.36	1.06	0.10%
10-Sep-18	0.3840	1089.42	1088.36	1.06	0.10%
10-Sep-18	0.3840	1089.42	1088.36	1.06	0.10%
10-Sep-18	0.3840	1089.42	1088.36	1.06	0.10%
10-Sep-18	0.3840	1089.42	1088.36	1.06	0.10%
10-Sep-18	0.3840	1089.42	1088.36	1.06	0.10%
27-Jun-18	0.6180	1356.96	1357.34	-0.39	-0.03%
6-Jul-18	0.3870	1108.67	1108.54	0.13	0.01%
31-Jul-18	0.2190	1051.14	1050.47	0.67	0.06%
10-Aug-18	0.3780	1084.27	1083.24	1.03	0.10%
6-Jun-18	0.4820	1107.26	1104.51	2.75	0.25%
6-Aug-18	0.2960	1077.82	1077.37	0.45	0.04%
14-Sep-18	0.6190	1283.57	1282.73	0.84	0.07%
7-Jun-18	0.6530	1136.26	1134.79	1.48	0.13%
23-Aug-18	0.2040	1072.39	1071.65	0.73	0.07%
10-Aug-18	1.1960	1357.14	1358.51	-1.37	-0.10%
12-Sep-18	1.7420	1507.68	1510.22	-2.54	-0.17%
24-Jul-18	0.3660	1074.94	1073.99	0.95	0.09%
8-Aug-18	0.2610	1073.24	1072.55	0.69	0.06%
17-Jul-18	0.3190	1100.86	1100.40	0.47	0.04%
18-Sep-18	0.3980	1099.26	1099.06	0.20	0.02%
28-Aug-18	0.2480	1064.52	1063.37	1.15	0.11%
5-Jun-18	1.1040	1573.70	1573.27	0.43	0.03%
31-Oct-18	1.5660	1452.88	1449.13	3.75	0.26%

31-Oct-18	1.5660	1452.88	1449.13	3.75	0.26%
8-Aug-18	0.3510	1119.71	1119.23	0.47	0.04%
25-May-18	0.6000	1159.97	1159.05	0.92	0.08%
2-Oct-18	0.6150	1254.41	1253.99	0.42	0.03%
20-Aug-18	0.3270	1081.59	1080.68	0.91	0.08%
7-Aug-18	1.2580	1412.47	1413.23	-0.77	-0.05%
24-Aug-18	0.2220	1064.93	1064.24	0.69	0.06%
5-Sep-18	1.5720	1348.13	1347.85	0.28	0.02%
1-Oct-18	0.9270	1331.96	1332.74	-0.78	-0.06%
1-Oct-18	0.9270	1331.96	1332.74	-0.78	-0.06%
16-Aug-18	0.6360	1148.10	1147.37	0.73	0.06%
8-Aug-18	0.5560	1149.31	1148.16	1.15	0.10%
17-Jul-18	0.3400	1086.05	1085.21	0.85	0.08%
17-Jul-18	0.4850	1181.35	1181.01	0.34	0.03%
30-Jul-18	0.4460	1103.42	1102.51	0.92	0.08%
19-Jul-18	0.4310	1123.23	1122.77	0.45	0.04%
12-Jul-18	0.7670	1191.81	1191.57	0.24	0.02%
27-Jun-18	0.6150	1350.52	1350.92	-0.40	-0.03%
30-Jul-18	0.2040	1055.61	1055.05	0.56	0.05%
2-Oct-18	0.7260	1265.00	1264.16	0.84	0.07%
13-Aug-18	0.2850	1079.92	1079.44	0.47	0.04%
29-May-18	1.0550	1357.04	1354.79	2.24	0.17%
29-May-18	1.0550	1357.04	1354.79	2.24	0.17%
29-Aug-18	0.2540	1049.15	1048.11	1.04	0.10%
29-May-18	1.5160	1362.24	1356.90	5.33	0.39%
29-May-18	1.5160	1362.24	1356.90	5.33	0.39%
8-Sep-18	0.7630	1344.37	1345.09	-0.72	-0.05%
30-Oct-18	0.3870	1114.63	1114.81	-0.18	-0.02%
17-Jul-18	0.5710	1134.99	1134.60	0.39	0.03%
5-Jan-19	0.7640	1265.26	1265.77	-0.51	-0.04%
21-Jun-18	0.2410	1041.75	1041.01	0.75	0.07%
3-Jul-18	0.4800	1103.58	1102.80	0.79	0.07%
9-May-18	0.3380	1090.70	1089.54	1.16	0.11%
27-Sep-18	2.1120	1629.54	1629.05	0.49	0.03%
12-Sep-18	0.3690	1082.51	1081.07	1.44	0.13%
10-Dec-18	0.2860	1129.73	1129.92	-0.18	-0.02%
27-Jun-18	0.3820	1098.62	1097.68	0.94	0.09%
5-Jun-18	1.0990	1566.85	1566.44	0.41	0.03%
7-Aug-18	0.4300	1127.34	1126.95	0.39	0.04%
12-Sep-18	0.3790	1078.80	1077.70	1.10	0.10%
12-Sep-18	0.3790	1078.80	1077.70	1.10	0.10%
12-Sep-18	0.3790	1078.80	1077.70	1.10	0.10%
12-Sep-18	0.3790	1078.80	1077.70	1.10	0.10%
12-Sep-18	0.3790	1078.80	1077.70	1.10	0.10%
12-Sep-18	0.3790	1078.80	1077.70	1.10	0.10%
12-Sep-18	0.3790	1078.80	1077.70	1.10	0.10%
7-Jul-18	0.4450	1130.94	1130.70	0.24	0.02%
8-Sep-18	0.7610	1341.97	1342.69	-0.72	-0.05%
24-Jul-18	0.2600	1088.72	1087.58	1.14	0.11%
12-Jul-18	0.3870	1110.81	1110.84	-0.03	0.00%
12-Sep-18	1.7310	1499.02	1501.55	-2.53	-0.17%
12-Sep-18	1.7310	1499.02	1501.55	-2.53	-0.17%
7-Jul-18	2.0900	1406.39	1393.20	13.19	0.94%
7-Jul-18	2.0900	1406.39	1393.20	13.19	0.94%
10-Aug-18	1.1870	1347.25	1348.61	-1.36	-0.10%
28-Nov-18	0.7140	1314.10	1314.73	-0.63	-0.05%
8-Sep-18	0.7600	1340.77	1341.49	-0.72	-0.05%

13-Nov-18	2.0330	1676.12	1678.70	-2.58	-0.15%
13-Nov-18	2.0330	1676.12	1678.70	-2.58	-0.15%
6-Jul-18	0.1630	1069.30	1068.78	0.52	0.05%
23-Oct-18	3.3370	1604.96	1603.78	1.19	0.07%
6-Jul-18	0.3920	1141.66	1141.65	0.01	0.00%
8-Aug-18	0.3950	1115.74	1115.41	0.33	0.03%
12-Jun-18	0.4070	1091.87	1090.73	1.13	0.10%
5-Jun-18	1.6490	1424.32	1420.68	3.64	0.26%
17-Jul-18	0.4470	1155.57	1155.06	0.51	0.04%
18-May-18	0.9700	1217.35	1215.77	1.57	0.13%
7-Nov-18	1.7150	1414.19	1416.29	-2.10	-0.15%
7-Aug-18	0.4200	1124.64	1124.22	0.42	0.04%
11-Jun-18	0.5140	1108.65	1107.48	1.17	0.11%
7-Jul-18	0.4200	1140.41	1140.10	0.31	0.03%
9-Jul-18	0.4310	1103.16	1101.91	1.25	0.11%
7-Aug-18	1.2480	1402.67	1403.45	-0.78	-0.06%
2-Oct-18	0.6100	1242.95	1242.52	0.43	0.03%
2-Oct-18	0.6100	1242.58	1242.15	0.43	0.03%
23-Aug-18	0.3600	1094.81	1094.06	0.74	0.07%
20-Aug-18	0.2350	1075.73	1075.26	0.47	0.04%
18-May-18	0.9670	1215.09	1213.53	1.56	0.13%
24-Aug-18	0.3670	1099.06	1098.62	0.44	0.04%
5-Sep-18	1.5590	1337.11	1336.84	0.27	0.02%
12-Jul-18	1.0610	1311.53	1311.75	-0.22	-0.02%
2-Oct-18	0.7200	1254.35	1253.51	0.84	0.07%
2-Oct-18	0.7200	1254.35	1253.51	0.84	0.07%
12-Jul-18	0.3100	1083.87	1083.18	0.70	0.06%
25-Jun-18	1.2120	1423.17	1422.91	0.26	0.02%
12-Sep-18	0.3740	1143.74	1143.42	0.32	0.03%
27-Jun-18	0.2950	1081.11	1080.09	1.03	0.09%
7-Aug-18	0.2050	1068.18	1067.75	0.43	0.04%
24-Aug-18	1.8390	1418.76	1420.81	-2.05	-0.14%
24-Aug-18	1.8390	1418.76	1420.81	-2.05	-0.14%
11-Dec-18	1.5590	1425.75	1427.52	-1.77	-0.12%
17-Dec-18	2.0530	1494.16	1496.05	-1.89	-0.13%
5-Jul-18	0.4560	1130.99	1131.00	-0.02	0.00%
24-Jul-18	0.8670	1255.73	1256.16	-0.42	-0.03%
24-Jul-18	1.1000	1360.52	1361.27	-0.75	-0.06%
1-Aug-18	0.5380	1138.06	1137.94	0.12	0.01%
11-Jun-18	0.5120	1102.99	1101.82	1.17	0.11%
11-Jun-18	0.5120	1102.99	1101.82	1.17	0.11%
11-Jun-18	0.5120	1102.99	1101.82	1.17	0.11%
11-Jun-18	0.5120	1102.99	1101.82	1.17	0.11%
11-Jun-18	0.5120	1102.99	1101.82	1.17	0.11%
11-Jun-18	0.5120	1102.99	1101.82	1.17	0.11%
11-Jun-18	0.5120	1102.99	1101.82	1.17	0.11%
11-Jun-18	0.5120	1102.99	1101.82	1.17	0.11%
11-Jun-18	0.5120	1102.99	1101.82	1.17	0.11%
24-Aug-18	0.3600	1076.81	1075.87	0.94	0.09%
5-Sep-18	1.3630	1393.51	1393.08	0.43	0.03%
7-Aug-18	1.3160	1521.62	1521.76	-0.14	-0.01%
27-Sep-18	2.2530	1684.13	1686.06	-1.92	-0.11%
29-Aug-18	0.2680	1075.50	1074.34	1.17	0.11%
26-Jun-18	0.3960	1114.28	1113.13	1.15	0.10%
24-Jul-18	0.8650	1252.71	1253.13	-0.41	-0.03%
24-Jul-18	0.8650	1252.06	1252.48	-0.41	-0.03%
28-Jun-18	0.3470	1086.83	1086.24	0.60	0.05%

7-Nov-18	1.7050	1405.53	1407.62	-2.09	-0.15%
7-Nov-18	1.7040	1405.11	1407.20	-2.08	-0.15%
12-Jul-18	0.3710	1090.68	1090.14	0.53	0.05%
12-Jul-18	1.0550	1304.16	1304.38	-0.22	-0.02%
17-Sep-18	0.4370	1088.40	1087.21	1.19	0.11%
17-Sep-18	0.4370	1088.40	1087.21	1.19	0.11%
17-Sep-18	0.4370	1088.40	1087.21	1.19	0.11%
17-Sep-18	0.4370	1088.40	1087.21	1.19	0.11%
28-Aug-18	0.2580	1068.35	1067.64	0.71	0.07%
9-Aug-18	0.2450	1068.83	1068.00	0.83	0.08%
24-Sep-18	0.3590	1083.37	1082.31	1.06	0.10%
28-Nov-18	0.3250	1118.63	1118.79	-0.16	-0.01%
13-Sep-18	0.3790	1115.04	1114.31	0.72	0.06%
6-Jun-18	0.5330	1103.61	1102.48	1.13	0.10%
6-Jun-18	0.5330	1103.61	1102.48	1.13	0.10%
6-Jun-18	0.5330	1103.61	1102.48	1.13	0.10%
6-Jun-18	0.5330	1103.61	1102.48	1.13	0.10%
6-Jun-18	0.5330	1103.61	1102.48	1.13	0.10%
6-Jun-18	0.5330	1103.61	1102.48	1.13	0.10%
6-Jun-18	0.5330	1103.61	1102.48	1.13	0.10%
6-Jun-18	0.5330	1103.61	1102.48	1.13	0.10%
7-Jul-18	0.3340	1114.14	1113.81	0.33	0.03%
28-Nov-18	0.3250	1117.92	1118.09	-0.16	-0.01%
5-Jun-18	1.6360	1412.82	1409.19	3.62	0.26%
11-Dec-18	1.5510	1419.06	1420.84	-1.77	-0.12%
11-Nov-18	0.9500	1323.20	1324.26	-1.06	-0.08%
7-Jul-18	0.4800	1147.51	1147.24	0.27	0.02%
6-Oct-18	1.5500	1410.46	1411.46	-0.99	-0.07%
22-Oct-18	2.0930	1635.05	1637.83	-2.78	-0.17%
11-Jul-18	0.4110	1083.17	1081.89	1.28	0.12%
26-Jul-18	0.4960	1165.47	1165.29	0.18	0.02%
31-Aug-18	0.7650	1320.72	1321.45	-0.74	-0.06%
31-Aug-18	0.7650	1320.72	1321.45	-0.74	-0.06%
31-Aug-18	1.4900	1474.13	1476.08	-1.95	-0.13%
31-Aug-18	1.4900	1474.13	1476.08	-1.95	-0.13%
7-Jul-18	0.5210	1154.91	1154.48	0.44	0.04%
8-Aug-18	0.5640	1118.55	1117.13	1.43	0.13%
8-Aug-18	0.3900	1100.39	1100.40	-0.02	0.00%
16-Jul-18	0.9130	1228.14	1227.38	0.76	0.06%
12-Jul-18	0.4020	1100.63	1100.09	0.55	0.05%
12-Sep-18	0.3140	1089.40	1088.82	0.58	0.05%
8-Aug-18	0.3740	1064.67	1062.88	1.79	0.17%
16-Aug-18	0.2360	1070.37	1069.71	0.66	0.06%
16-Apr-18	0.2180	1028.23	1027.24	0.99	0.10%
24-Aug-18	2.1430	1465.09	1468.94	-3.85	-0.26%
24-Aug-18	2.1430	1465.09	1468.94	-3.85	-0.26%
17-Dec-18	2.0350	1482.04	1483.93	-1.89	-0.13%
13-Dec-18	2.0980	1654.66	1657.27	-2.61	-0.16%
13-Dec-18	2.0980	1654.66	1657.27	-2.61	-0.16%
13-Dec-18	2.0980	1654.66	1657.27	-2.61	-0.16%
7-Aug-18	1.3050	1510.35	1510.50	-0.15	-0.01%
7-Aug-18	1.3050	1510.35	1510.50	-0.15	-0.01%
27-Sep-18	2.1770	1678.26	1680.02	-1.76	-0.10%
6-Oct-18	1.5410	1402.82	1403.81	-0.99	-0.07%
6-Oct-18	1.5410	1402.82	1403.81	-0.99	-0.07%
18-Sep-18	0.5030	1093.12	1091.38	1.73	0.16%
5-Sep-18	1.3490	1380.37	1379.96	0.42	0.03%

25-Jun-18	1.1980	1406.90	1406.64	0.26	0.02%
2-Nov-18	2.4520	1687.47	1685.83	1.64	0.10%
29-Jul-18	2.3800	1535.43	1536.72	-1.29	-0.08%
9-Aug-18	0.2870	1076.81	1076.17	0.64	0.06%
25-Sep-18	3.2950	1617.14	1615.18	1.96	0.12%
15-Jun-18	0.2690	1083.45	1083.18	0.27	0.02%
25-Sep-18	3.2300	1637.39	1637.36	0.04	0.00%
9-Aug-18	0.3260	1095.64	1094.77	0.87	0.08%
17-Dec-18	2.6210	1596.62	1599.69	-3.07	-0.19%
24-Aug-18	1.2260	1416.93	1418.65	-1.72	-0.12%
24-Aug-18	1.2260	1416.93	1418.65	-1.72	-0.12%
17-Sep-18	0.4780	1106.62	1105.25	1.36	0.12%
10-Sep-18	0.5080	1104.73	1103.15	1.58	0.14%
10-Sep-18	0.5080	1104.73	1103.15	1.58	0.14%
10-Sep-18	0.5080	1104.73	1103.15	1.58	0.14%
10-Sep-18	0.5080	1104.73	1103.15	1.58	0.14%
11-Jun-18	0.4090	1122.67	1121.52	1.14	0.10%
9-Aug-18	0.4340	1156.87	1156.88	-0.01	0.00%
23-Jul-18	0.4460	1127.84	1127.41	0.43	0.04%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
18-Sep-18	0.5120	1117.81	1116.37	1.44	0.13%
11-Nov-18	0.9400	1309.50	1310.55	-1.05	-0.08%
13-Dec-18	2.0920	1649.45	1652.05	-2.60	-0.16%
28-Aug-18	0.4620	1126.57	1125.51	1.06	0.09%
13-Jul-18	0.8590	1315.08	1314.80	0.28	0.02%
29-Jul-18	2.3720	1530.38	1531.67	-1.29	-0.08%
11-Nov-18	0.9390	1308.25	1309.30	-1.05	-0.08%
29-Jul-18	2.3710	1529.92	1531.21	-1.29	-0.08%
20-Jul-18	0.3850	1080.89	1080.03	0.85	0.08%
21-Jul-18	1.4060	1491.91	1493.05	-1.14	-0.08%
17-Sep-18	0.5170	1093.89	1092.67	1.22	0.11%
17-Sep-18	0.5170	1093.89	1092.67	1.22	0.11%
17-Sep-18	0.5170	1093.89	1092.67	1.22	0.11%
17-Sep-18	0.5170	1093.89	1092.67	1.22	0.11%
17-Sep-18	0.5170	1093.89	1092.67	1.22	0.11%
17-Sep-18	0.5170	1093.89	1092.67	1.22	0.11%
17-Sep-18	0.5170	1093.89	1092.67	1.22	0.11%
17-Sep-18	0.5170	1093.89	1092.67	1.22	0.11%
1-Nov-18	3.5290	1694.73	1696.59	-1.86	-0.11%
13-Jul-18	0.6160	1262.49	1262.99	-0.50	-0.04%
13-Dec-18	2.0890	1647.05	1649.64	-2.59	-0.16%
26-Jul-18	0.5880	1182.90	1182.79	0.11	0.01%
8-Aug-18	0.4150	1088.06	1086.53	1.53	0.14%
11-Nov-18	1.0250	1340.60	1341.69	-1.09	-0.08%
9-Aug-18	0.4250	1140.34	1140.25	0.09	0.01%
5-Jan-19	0.7490	1290.84	1291.50	-0.66	-0.05%

27-Sep-18	2.3660	1653.30	1655.18	-1.88	-0.11%
13-Dec-18	2.0840	1643.35	1645.95	-2.60	-0.16%
19-Jul-18	0.3030	1101.99	1101.35	0.64	0.06%
13-Jan-19	1.0690	1296.95	1296.38	0.57	0.04%
13-Sep-18	0.5420	1106.97	1106.11	0.86	0.08%
13-Sep-18	0.5420	1106.97	1106.11	0.86	0.08%
17-Sep-18	0.4730	1095.01	1093.66	1.35	0.12%
17-Sep-18	0.4730	1095.01	1093.66	1.35	0.12%
17-Sep-18	0.4730	1095.01	1093.66	1.35	0.12%
17-Sep-18	0.4730	1095.01	1093.66	1.35	0.12%
17-Sep-18	0.4730	1095.01	1093.66	1.35	0.12%
17-Sep-18	0.4730	1095.01	1093.66	1.35	0.12%
17-Sep-18	0.4730	1095.01	1093.66	1.35	0.12%
17-Sep-18	0.4730	1095.01	1093.66	1.35	0.12%
17-Sep-18	0.4730	1095.01	1093.66	1.35	0.12%
21-Oct-18	3.7660	1676.45	1674.08	2.37	0.14%
17-Jul-18	0.8070	1348.19	1347.31	0.88	0.07%
17-Jul-18	0.8070	1348.19	1347.31	0.88	0.07%
23-Nov-18	2.6270	1593.60	1598.36	-4.76	-0.30%
12-Jun-18	1.3010	1328.73	1329.42	-0.69	-0.05%
9-Jul-18	0.5430	1136.60	1136.49	0.11	0.01%
19-Jul-18	0.3340	1083.42	1082.44	0.98	0.09%
2-Nov-18	0.4490	1087.57	1086.29	1.28	0.12%
4-Sep-18	1.5800	1381.40	1380.33	1.07	0.08%
13-Dec-18	2.0800	1640.46	1643.05	-2.59	-0.16%
13-Sep-18	0.5510	1105.08	1103.20	1.88	0.17%
13-Sep-18	0.5510	1105.08	1103.20	1.88	0.17%
22-Aug-18	0.4350	1136.11	1135.79	0.31	0.03%
22-May-18	1.1500	1248.35	1243.95	4.40	0.35%
17-Jul-18	0.3290	1093.57	1092.73	0.84	0.08%
17-Dec-18	2.5990	1583.23	1586.26	-3.04	-0.19%
29-Aug-18	0.2750	1069.22	1068.33	0.90	0.08%
1-Feb-19	2.1200	1605.08	1607.31	-2.23	-0.14%
7-Aug-18	0.4160	1153.56	1153.65	-0.09	-0.01%
12-Jun-18	1.2960	1324.40	1325.10	-0.70	-0.05%
6-Aug-18	0.9610	1212.51	1211.66	0.85	0.07%
1-Nov-18	3.5080	1685.34	1687.20	-1.86	-0.11%
27-Sep-18	2.2490	1658.09	1659.81	-1.72	-0.10%
5-Jan-19	0.7440	1282.77	1283.41	-0.65	-0.05%
13-Jan-19	1.0620	1290.28	1289.73	0.55	0.04%
16-Aug-18	0.2270	1083.69	1082.96	0.73	0.07%
21-Jul-18	1.3930	1480.16	1481.30	-1.14	-0.08%
21-Jul-18	1.3930	1480.16	1481.30	-1.14	-0.08%
6-Jun-18	0.5320	1111.43	1110.26	1.17	0.11%
6-Jun-18	0.5320	1111.43	1110.26	1.17	0.11%
6-Jun-18	0.5320	1111.43	1110.26	1.17	0.11%
6-Jun-18	0.5320	1111.43	1110.26	1.17	0.11%
6-Jun-18	0.5320	1111.43	1110.26	1.17	0.11%
6-Jun-18	0.5320	1111.43	1110.26	1.17	0.11%
6-Jun-18	0.5320	1111.43	1110.26	1.17	0.11%
6-Jun-18	0.5320	1111.43	1110.26	1.17	0.11%
6-Jun-18	0.5320	1111.43	1110.26	1.17	0.11%
17-Jul-18	0.3850	1173.02	1172.94	0.08	0.01%
13-Jul-18	0.8490	1299.44	1299.16	0.28	0.02%
1-Aug-18	0.5950	1127.57	1126.61	0.95	0.08%
21-Jun-18	0.3600	1079.84	1078.88	0.96	0.09%
1-Aug-18	0.4040	1089.88	1088.71	1.17	0.11%

1-Nov-18	3.5030	1682.81	1684.65	-1.85	-0.11%
22-Aug-18	0.4320	1129.16	1128.84	0.32	0.03%
20-Nov-18	1.5020	1372.77	1374.01	-1.24	-0.09%
20-Nov-18	1.5020	1372.77	1374.01	-1.24	-0.09%
17-Sep-18	0.4640	1091.73	1090.69	1.04	0.10%
17-Sep-18	0.4640	1091.73	1090.69	1.04	0.10%
17-Sep-18	0.4640	1091.73	1090.69	1.04	0.10%
17-Sep-18	0.4640	1091.73	1090.69	1.04	0.10%
17-Sep-18	0.4640	1091.73	1090.69	1.04	0.10%
17-Sep-18	0.4640	1091.73	1090.69	1.04	0.10%
17-Sep-18	0.4640	1091.73	1090.69	1.04	0.10%
17-Sep-18	0.4640	1091.73	1090.69	1.04	0.10%
19-Oct-18	1.2530	1362.95	1363.03	-0.08	-0.01%
17-Aug-18	0.4970	1114.65	1113.36	1.29	0.12%
28-Aug-18	0.2790	1068.10	1066.53	1.56	0.15%
7-Jul-18	0.4560	1149.17	1149.05	0.13	0.01%
18-Jan-19	0.3380	1136.22	1136.39	-0.17	-0.01%
6-Jul-18	0.3390	1112.39	1112.07	0.32	0.03%
26-Jun-18	0.2600	1049.69	1048.75	0.93	0.09%
27-Jun-18	0.6820	1382.38	1382.34	0.05	0.00%
24-Aug-18	0.2420	1054.08	1052.94	1.14	0.11%
16-Jul-18	1.3440	1592.95	1591.26	1.69	0.11%
22-Jun-18	0.5870	1111.08	1109.19	1.89	0.17%
11-Nov-18	1.0100	1321.18	1322.25	-1.07	-0.08%
18-Sep-18	1.4120	1358.89	1360.34	-1.44	-0.11%
22-Oct-18	3.0630	1668.25	1672.93	-4.67	-0.28%
8-Aug-18	0.3970	1118.84	1118.31	0.53	0.05%
17-Jul-18	1.3720	1456.22	1455.25	0.97	0.07%
7-Sep-18	2.3640	1627.61	1631.05	-3.43	-0.21%
11-Nov-18	1.0090	1319.92	1320.99	-1.07	-0.08%
8-Aug-18	0.3390	1123.52	1122.94	0.57	0.05%
19-Oct-18	1.2470	1354.74	1354.80	-0.06	0.00%
11-Sep-18	0.6110	1189.87	1189.44	0.43	0.04%
19-Oct-18	1.2470	1354.10	1354.17	-0.06	0.00%
13-Jan-19	1.2690	1320.82	1320.37	0.45	0.03%
22-Aug-18	1.4380	1569.24	1570.68	-1.43	-0.09%
11-Jul-18	1.4310	1246.13	1245.44	0.69	0.06%
24-Sep-18	0.9280	1381.42	1382.39	-0.97	-0.07%
17-Jul-18	1.1180	1248.86	1248.32	0.54	0.04%
4-Oct-18	2.8900	1706.68	1711.90	-5.21	-0.31%
15-Jun-18	0.4080	1075.59	1074.54	1.05	0.10%
9-Aug-18	0.2250	1072.98	1072.23	0.75	0.07%
27-Jun-18	0.6750	1371.17	1371.13	0.04	0.00%
20-Aug-18	0.3780	1091.63	1091.26	0.37	0.03%
16-Jul-18	0.4730	1133.58	1132.87	0.71	0.06%
23-Jun-18	0.5750	1102.08	1100.37	1.72	0.16%
18-Sep-18	1.4030	1351.32	1352.76	-1.44	-0.11%
8-Aug-18	0.3480	1108.87	1108.33	0.54	0.05%
18-Sep-18	4.4460	1669.18	1673.25	-4.07	-0.24%
8-Aug-18	0.3680	1093.33	1092.97	0.36	0.03%
5-Jun-18	2.3120	1442.72	1438.12	4.60	0.32%
20-Nov-18	1.0970	1387.16	1388.58	-1.43	-0.10%
20-Nov-18	1.0970	1387.16	1388.58	-1.43	-0.10%
18-Sep-18	1.4020	1349.61	1351.05	-1.44	-0.11%
16-Jul-18	1.3350	1582.23	1580.55	1.68	0.11%
11-Sep-18	0.6070	1181.52	1181.08	0.44	0.04%

11-Sep-18	0.6070	1181.52	1181.08	0.44	0.04%
11-Sep-18	0.6070	1181.52	1181.08	0.44	0.04%
11-Sep-18	0.6070	1181.52	1181.08	0.44	0.04%
11-Sep-18	0.6070	1181.52	1181.08	0.44	0.04%
18-Sep-18	1.0400	1408.81	1409.62	-0.81	-0.06%
24-Sep-18	0.9220	1373.97	1374.94	-0.97	-0.07%
6-Aug-18	0.3430	1079.91	1079.21	0.69	0.06%
17-Jul-18	1.3620	1445.81	1444.83	0.97	0.07%
16-Jul-18	1.5510	1543.01	1539.85	3.15	0.20%
7-Jun-18	0.3010	1092.27	1092.09	0.19	0.02%
26-Jul-18	0.4790	1159.80	1159.29	0.51	0.04%
10-Jul-18	0.2860	1074.95	1074.15	0.80	0.07%
10-Sep-18	0.4620	1108.85	1107.58	1.27	0.11%
22-Aug-18	1.4280	1559.06	1560.49	-1.42	-0.09%
17-Jul-18	0.5310	1174.63	1174.39	0.24	0.02%
11-Sep-18	0.6250	1333.51	1334.10	-0.59	-0.04%
8-Aug-18	0.2760	1084.35	1083.75	0.60	0.06%
23-Nov-18	2.5210	1628.77	1633.96	-5.19	-0.32%
5-Jan-19	2.2030	1535.12	1537.17	-2.05	-0.13%
11-Sep-18	0.6240	1331.11	1331.70	-0.59	-0.04%
17-Jul-18	0.3640	1085.15	1084.33	0.83	0.08%
11-Sep-18	0.7800	1341.97	1342.92	-0.95	-0.07%
13-Aug-18	0.7540	1213.83	1212.35	1.48	0.12%
24-Jul-18	1.4250	1460.72	1463.26	-2.54	-0.17%
11-Sep-18	0.6240	1329.06	1329.64	-0.59	-0.04%
24-Jul-18	1.4230	1459.15	1461.68	-2.53	-0.17%
5-Jun-18	2.2930	1431.75	1427.19	4.56	0.32%
5-Jun-18	2.2930	1431.75	1427.19	4.56	0.32%
9-Oct-18	1.5760	1452.99	1454.25	-1.26	-0.09%
14-Jun-18	0.3860	1088.94	1087.86	1.08	0.10%
18-Sep-18	1.0320	1397.86	1398.67	-0.80	-0.06%
18-Sep-18	1.0320	1397.86	1398.67	-0.80	-0.06%
21-Oct-18	3.7110	1606.38	1605.08	1.29	0.08%
24-Jul-18	1.4210	1457.46	1459.99	-2.53	-0.17%
1-Feb-19	1.4540	1349.40	1350.11	-0.71	-0.05%
5-Oct-18	1.5890	1356.33	1357.96	-1.62	-0.12%
2-Jul-18	0.8850	1362.76	1364.30	-1.54	-0.11%
9-Aug-18	0.3940	1161.30	1160.48	0.81	0.07%
5-Aug-18	2.1180	1397.21	1396.55	0.66	0.05%
28-Aug-18	0.4250	1169.49	1169.56	-0.06	-0.01%
10-Sep-18	0.4560	1094.67	1093.42	1.25	0.11%
10-Sep-18	0.4560	1094.67	1093.42	1.25	0.11%
10-Sep-18	0.4560	1094.67	1093.42	1.25	0.11%
10-Sep-18	0.4560	1094.67	1093.42	1.25	0.11%
21-Jun-18	0.5450	1088.33	1086.63	1.70	0.16%
19-Jul-18	0.6990	1126.07	1123.40	2.67	0.24%
16-Jul-18	1.5350	1528.77	1525.64	3.12	0.20%
8-Aug-18	0.3590	1113.81	1113.52	0.28	0.03%
9-Oct-18	1.5680	1445.42	1446.67	-1.25	-0.09%
9-Aug-18	0.5930	1143.47	1142.07	1.40	0.12%
5-Aug-18	2.1110	1392.75	1392.10	0.65	0.05%
2-Aug-18	0.3150	1091.59	1090.92	0.68	0.06%
12-Jul-18	0.9820	1298.34	1297.51	0.83	0.06%
25-Sep-18	3.1500	1687.52	1689.41	-1.89	-0.11%
11-Sep-18	0.7710	1329.01	1329.96	-0.95	-0.07%
11-Sep-18	0.7710	1329.01	1329.96	-0.95	-0.07%
21-Jun-18	0.3510	1064.87	1063.77	1.10	0.10%

22-Jul-18	1.8700	1500.23	1500.32	-0.09	-0.01%
28-Aug-18	0.3410	1104.33	1103.98	0.35	0.03%
28-Aug-18	0.3410	1104.33	1103.98	0.35	0.03%
23-Aug-18	0.3570	1084.85	1084.05	0.80	0.07%
7-Aug-18	1.6330	1516.45	1518.56	-2.11	-0.14%
5-Oct-18	1.5770	1346.36	1347.98	-1.62	-0.12%
5-Oct-18	1.5770	1346.36	1347.98	-1.62	-0.12%
21-Nov-18	0.2960	1068.82	1067.57	1.25	0.12%
5-Aug-18	2.1050	1389.06	1388.42	0.65	0.05%
5-Jan-19	2.1770	1518.42	1520.47	-2.04	-0.13%
22-Jul-18	1.8650	1496.06	1496.14	-0.08	-0.01%
22-Jul-18	1.8650	1495.82	1495.90	-0.08	-0.01%
5-Jan-19	0.9630	1291.02	1291.87	-0.85	-0.07%
19-Jul-18	0.6920	1116.12	1113.47	2.65	0.24%
29-Aug-18	1.4220	1422.61	1424.62	-2.02	-0.14%
1-Feb-19	1.4360	1333.59	1334.30	-0.71	-0.05%
2-Jul-18	0.8750	1347.18	1348.70	-1.52	-0.11%
26-Jul-18	0.5070	1105.75	1104.16	1.59	0.14%
26-Jul-18	0.5070	1105.75	1104.16	1.59	0.14%
5-Jan-19	0.9600	1287.61	1288.45	-0.85	-0.07%
12-Jul-18	0.9720	1287.70	1286.89	0.81	0.06%
12-Jul-18	0.7500	1158.56	1158.18	0.39	0.03%
12-Jul-18	0.7500	1158.56	1158.18	0.39	0.03%
25-Sep-18	4.0990	1780.46	1785.19	-4.73	-0.27%
25-Sep-18	4.6600	1856.04	1862.73	-6.69	-0.36%
12-Jun-18	0.5180	1104.63	1103.21	1.43	0.13%
23-Nov-18	2.7270	1623.64	1628.04	-4.40	-0.27%
11-Sep-18	0.2960	1073.97	1073.22	0.75	0.07%
27-Jun-18	2.4250	1562.34	1562.27	0.07	0.00%
13-Dec-18	2.0650	1664.55	1667.22	-2.67	-0.16%
21-May-18	0.3710	1065.08	1063.69	1.39	0.13%
27-Sep-18	2.6490	1581.08	1581.26	-0.17	-0.01%
21-Jun-18	0.3160	1058.03	1057.00	1.02	0.10%
24-Aug-18	0.9590	1346.24	1347.58	-1.35	-0.10%
24-Aug-18	0.9590	1346.24	1347.58	-1.35	-0.10%
4-Aug-18	1.4480	1229.10	1228.59	0.50	0.04%
27-Jun-18	2.4210	1560.15	1560.08	0.07	0.00%
28-Oct-18	1.1030	1300.42	1299.41	1.01	0.08%
22-Jul-18	2.1230	1521.52	1521.92	-0.40	-0.03%
6-Aug-18	0.2760	1074.60	1074.03	0.57	0.05%
4-Aug-18	1.4450	1226.18	1225.68	0.50	0.04%
27-Jun-18	2.4180	1558.24	1558.16	0.08	0.00%
24-Jul-18	1.2190	1439.78	1441.34	-1.56	-0.11%
28-May-18	0.2590	1076.56	1076.31	0.25	0.02%
28-May-18	0.2590	1076.56	1076.31	0.25	0.02%
4-Aug-18	1.4420	1223.82	1223.32	0.50	0.04%
25-Sep-18	4.1710	1794.61	1797.68	-3.08	-0.17%
4-Oct-18	1.4820	1327.34	1326.34	0.99	0.07%
10-Jan-19	1.8450	1409.08	1408.44	0.64	0.05%
23-Nov-18	2.8150	1599.35	1604.63	-5.28	-0.33%
29-May-18	1.8410	1441.03	1433.75	7.29	0.51%
20-Jul-18	2.2270	1392.86	1395.74	-2.88	-0.21%
11-Sep-18	1.3200	1371.59	1370.94	0.65	0.05%
7-Jul-18	0.4190	1091.24	1089.69	1.55	0.14%
24-Jul-18	1.2160	1437.20	1438.76	-1.56	-0.11%
24-Jul-18	1.2160	1436.80	1438.36	-1.56	-0.11%
28-Oct-18	1.0980	1294.07	1293.07	1.00	0.08%

27-Jul-18	2.8210	1522.31	1524.11	-1.80	-0.12%
13-Jun-18	2.2730	1631.78	1633.88	-2.10	-0.13%
4-Oct-18	2.7540	1594.05	1598.85	-4.79	-0.30%
9-Aug-18	0.3600	1133.19	1132.54	0.65	0.06%
22-Jul-18	2.1080	1511.03	1511.44	-0.41	-0.03%
20-Jul-18	2.2160	1385.99	1388.86	-2.86	-0.21%
20-Jul-18	2.2160	1385.99	1388.86	-2.86	-0.21%
10-Jan-19	1.8320	1399.51	1398.87	0.64	0.05%
1-Feb-19	1.4670	1399.60	1400.54	-0.94	-0.07%
21-Sep-18	0.3210	1092.39	1092.67	-0.28	-0.03%
20-Jul-18	1.1500	1310.38	1310.34	0.04	0.00%
14-Aug-18	0.2860	1097.05	1095.94	1.12	0.10%
29-Oct-18	0.3190	1107.28	1107.07	0.21	0.02%
8-May-18	0.4000	1118.24	1116.96	1.28	0.11%
22-Jun-18	0.5110	1104.08	1102.60	1.47	0.13%
6-Jun-18	2.5500	1501.68	1502.06	-0.37	-0.02%
22-Jul-18	2.3560	1542.50	1544.12	-1.62	-0.10%
11-Sep-18	1.3040	1355.86	1355.24	0.63	0.05%
13-Jul-18	2.1580	1329.92	1321.32	8.60	0.65%
1-Feb-19	1.4560	1389.95	1390.90	-0.94	-0.07%
20-Jul-18	1.1420	1301.58	1301.54	0.04	0.00%
20-Jul-18	1.1420	1301.58	1301.54	0.04	0.00%
10-Jul-18	0.2830	1079.85	1078.96	0.88	0.08%
7-Sep-18	2.4550	1602.55	1605.30	-2.75	-0.17%
27-Jul-18	2.7860	1503.81	1505.58	-1.78	-0.12%
27-Jul-18	2.7860	1503.81	1505.58	-1.78	-0.12%
30-May-18	0.3100	1125.06	1125.01	0.05	0.00%
3-Jul-18	0.9610	1166.86	1163.27	3.58	0.31%
29-Jul-18	1.7660	1508.54	1508.51	0.03	0.00%
10-Sep-18	1.8170	1620.68	1622.03	-1.35	-0.08%
28-Aug-18	0.2180	1055.12	1054.11	1.01	0.10%
22-Jul-18	2.3440	1534.69	1536.29	-1.60	-0.10%
13-Jun-18	2.2450	1613.11	1615.19	-2.08	-0.13%
22-Jul-18	2.3430	1534.04	1535.63	-1.60	-0.10%
29-Jul-18	1.7620	1506.02	1506.00	0.02	0.00%
16-Aug-18	0.3050	1075.71	1074.59	1.12	0.10%
29-Jul-18	1.7600	1503.41	1503.38	0.03	0.00%
6-Jun-18	2.5240	1486.84	1487.21	-0.37	-0.02%
31-Aug-18	0.7040	1340.16	1340.78	-0.63	-0.05%
14-Sep-18	2.1830	1568.10	1566.53	1.57	0.10%
14-Sep-18	2.1830	1568.10	1566.53	1.57	0.10%
13-Jun-18	1.3770	1542.56	1544.38	-1.82	-0.12%
22-Oct-18	1.6590	1506.06	1507.78	-1.72	-0.11%
7-Sep-18	2.4350	1590.06	1592.79	-2.73	-0.17%
23-Jul-18	1.2160	1324.46	1323.51	0.95	0.07%
7-Sep-18	2.9740	1621.06	1625.27	-4.21	-0.26%
18-Jul-18	0.5420	1134.21	1133.86	0.35	0.03%
29-Jul-18	2.0580	1562.24	1562.86	-0.62	-0.04%
29-Jul-18	2.1340	1531.40	1531.31	0.09	0.01%
27-Jun-18	3.0280	1465.70	1445.62	20.08	1.37%
29-Jul-18	2.0520	1557.61	1558.24	-0.62	-0.04%
29-Jul-18	2.0520	1557.53	1558.15	-0.62	-0.04%
23-Oct-18	0.0880	1282.28	1282.46	-0.18	-0.01%
13-Jun-18	1.3700	1534.61	1536.44	-1.82	-0.12%
6-Jul-18	0.5190	1162.28	1162.13	0.16	0.01%
27-Jun-18	3.0230	1463.50	1443.45	20.05	1.37%
14-Sep-18	2.5410	1652.75	1653.07	-0.33	-0.02%

13-Jul-18	0.7510	1271.61	1271.81	-0.20	-0.02%
14-Nov-18	1.8160	1601.60	1602.39	-0.79	-0.05%
29-Jul-18	2.1270	1526.72	1526.62	0.10	0.01%
29-Jul-18	2.1270	1526.69	1526.59	0.10	0.01%
27-Jun-18	3.0180	1460.99	1440.97	20.01	1.37%
23-Jul-18	1.2020	1309.84	1308.91	0.93	0.07%
23-Jul-18	1.2020	1309.84	1308.91	0.93	0.07%
25-Sep-18	1.3310	1561.43	1560.19	1.25	0.08%
9-Jul-18	0.7870	1258.73	1258.74	-0.01	0.00%
11-Nov-18	1.1450	1312.73	1313.95	-1.22	-0.09%
8-Aug-18	1.6730	1323.64	1325.55	-1.90	-0.14%
7-Nov-18	0.9070	1310.75	1311.32	-0.57	-0.04%
23-Aug-18	0.2620	1069.94	1069.26	0.68	0.06%
22-Aug-18	1.7340	1603.54	1605.23	-1.70	-0.11%
8-Aug-18	1.6680	1319.97	1321.89	-1.92	-0.15%
9-Aug-18	0.4360	1129.14	1128.67	0.47	0.04%
8-Aug-18	1.6670	1319.13	1321.04	-1.91	-0.14%
3-Aug-18	0.3940	1088.81	1087.82	0.99	0.09%
11-Nov-18	1.1370	1303.86	1305.06	-1.20	-0.09%
11-Nov-18	1.1370	1303.86	1305.06	-1.20	-0.09%
14-Nov-18	1.8020	1589.64	1590.44	-0.79	-0.05%
14-Nov-18	1.8020	1589.64	1590.44	-0.79	-0.05%
28-Aug-18	0.2450	1063.02	1061.98	1.04	0.10%
7-Nov-18	0.9020	1301.91	1302.47	-0.56	-0.04%
7-Nov-18	0.9020	1301.91	1302.47	-0.56	-0.04%
9-Jul-18	0.7800	1247.64	1247.65	-0.01	0.00%
3-Aug-18	0.3930	1082.57	1081.57	1.00	0.09%
18-Sep-18	3.3240	1675.56	1679.69	-4.12	-0.25%
25-Sep-18	2.5930	1718.41	1720.72	-2.31	-0.13%
29-Aug-18	0.2570	1067.72	1067.19	0.53	0.05%
13-Jul-18	0.7380	1251.60	1251.81	-0.21	-0.02%
17-Sep-18	3.5400	1706.91	1710.77	-3.86	-0.23%
22-Aug-18	1.7180	1590.10	1591.78	-1.68	-0.11%
8-Aug-18	1.3250	1554.72	1556.38	-1.66	-0.11%
29-May-18	2.4880	1469.27	1460.98	8.29	0.56%
29-May-18	2.4880	1469.27	1460.98	8.29	0.56%
4-Aug-18	1.9190	1437.91	1440.19	-2.27	-0.16%
22-Jul-18	2.2100	1470.64	1470.18	0.45	0.03%
15-May-18	0.4350	1312.81	1312.49	0.32	0.02%
23-Jul-18	1.1850	1341.27	1340.40	0.87	0.06%
5-Aug-18	0.9670	1316.79	1317.74	-0.96	-0.07%
25-Jun-18	0.4480	1120.41	1119.75	0.66	0.06%
24-Jul-18	1.3570	1355.44	1356.62	-1.18	-0.09%
26-Jul-18	0.3250	1075.04	1074.58	0.46	0.04%
24-Jul-18	1.3550	1353.75	1354.92	-1.17	-0.09%
15-May-18	0.4330	1307.99	1307.67	0.32	0.02%
24-Jul-18	1.3540	1352.59	1353.76	-1.17	-0.09%
6-Oct-18	1.4330	1392.15	1393.64	-1.50	-0.11%
17-Aug-18	1.3050	1387.42	1387.35	0.07	0.00%
19-Oct-18	0.8080	1322.53	1323.24	-0.71	-0.05%
22-Jul-18	2.1940	1460.80	1460.35	0.45	0.03%
4-Aug-18	1.9030	1426.34	1428.59	-2.24	-0.16%
29-Oct-18	0.9660	1325.84	1326.70	-0.86	-0.07%
22-Jul-18	2.1910	1459.37	1458.93	0.44	0.03%
8-Aug-18	1.3140	1541.57	1543.20	-1.63	-0.11%
22-Oct-18	3.2990	1721.52	1728.09	-6.57	-0.38%
9-Jun-18	0.9110	1485.23	1485.50	-0.27	-0.02%

6-Oct-18	1.4250	1385.33	1386.83	-1.50	-0.11%
6-Oct-18	1.4250	1385.33	1386.83	-1.50	-0.11%
19-Jul-18	0.9540	1223.11	1221.78	1.33	0.11%
17-Aug-18	1.2820	1376.70	1376.90	-0.20	-0.01%
1-Feb-19	1.9180	1608.15	1609.39	-1.24	-0.08%
5-Aug-18	0.9550	1301.81	1302.76	-0.95	-0.07%
17-Aug-18	1.2960	1377.58	1377.51	0.07	0.01%
11-Sep-18	0.3870	1155.50	1155.32	0.18	0.02%
25-Sep-18	3.0150	1676.51	1678.10	-1.60	-0.10%
19-Jul-18	0.9490	1218.36	1217.05	1.31	0.11%
23-Oct-18	4.1260	1773.67	1774.50	-0.83	-0.05%
29-Aug-18	0.2400	1060.57	1059.55	1.01	0.10%
19-Oct-18	0.8020	1310.75	1311.44	-0.69	-0.05%
19-Oct-18	0.8000	1309.64	1310.34	-0.69	-0.05%
11-Sep-18	0.3850	1150.90	1150.72	0.18	0.02%
9-Jun-18	0.9010	1470.21	1470.50	-0.29	-0.02%
18-May-18	0.7410	1144.47	1142.89	1.58	0.14%
25-Sep-18	2.1040	1663.81	1664.25	-0.44	-0.03%
21-Jul-18	1.7360	1420.45	1421.35	-0.90	-0.06%
18-May-18	0.7340	1136.96	1135.39	1.56	0.14%
7-Jul-18	4.1240	1549.69	1506.52	43.17	2.79%
7-Jul-18	4.1240	1549.69	1506.52	43.17	2.79%
25-Sep-18	2.5670	1698.99	1701.12	-2.12	-0.13%
11-Aug-18	1.9560	1630.75	1631.35	-0.59	-0.04%
23-Jul-18	2.0170	1426.26	1427.21	-0.95	-0.07%
9-Jul-18	0.6570	1235.65	1236.11	-0.46	-0.04%
6-Aug-18	0.3080	1073.62	1073.10	0.52	0.05%
7-Sep-18	3.1430	1694.94	1700.83	-5.89	-0.35%
25-Sep-18	1.8880	1489.84	1493.04	-3.19	-0.21%
25-Sep-18	1.8880	1489.84	1493.04	-3.19	-0.21%
11-Sep-18	1.5960	1402.86	1402.94	-0.08	-0.01%
14-Sep-18	4.0940	1789.40	1797.76	-8.37	-0.47%
6-Jun-18	2.9370	1595.12	1592.96	2.16	0.14%
21-Jul-18	1.7180	1405.58	1406.46	-0.89	-0.06%
21-Jul-18	1.7180	1405.58	1406.46	-0.89	-0.06%
9-Jan-19	0.0250	1003.40	1003.35	0.05	0.00%
31-Oct-18	1.2060	1306.60	1302.52	4.07	0.31%
23-Oct-18	3.0200	1580.37	1573.61	6.76	0.43%
14-Sep-18	2.3730	1635.45	1633.67	1.78	0.11%
17-Jul-18	0.3800	1066.54	1064.24	2.30	0.22%
9-Jul-18	0.6530	1227.81	1228.27	-0.45	-0.04%
25-Sep-18	2.0770	1642.75	1643.18	-0.43	-0.03%
23-Jul-18	1.9980	1412.99	1413.94	-0.95	-0.07%
23-Jul-18	1.9980	1412.99	1413.94	-0.95	-0.07%
31-Oct-18	1.1990	1298.97	1294.92	4.05	0.31%
27-Sep-18	2.4010	1649.39	1651.82	-2.43	-0.15%
17-Jul-18	0.3770	1059.00	1056.71	2.29	0.22%
17-Jul-18	0.3770	1059.00	1056.71	2.29	0.22%
28-Nov-18	2.1200	1621.67	1621.97	-0.31	-0.02%
21-Jul-18	1.2720	1320.79	1320.24	0.56	0.04%
6-Jun-18	2.9080	1580.27	1578.13	2.14	0.14%
11-Sep-18	1.5760	1385.85	1385.93	-0.08	-0.01%
11-Sep-18	1.5760	1385.85	1385.93	-0.08	-0.01%
11-Aug-18	1.9270	1607.70	1608.30	-0.60	-0.04%
17-Apr-18	0.0100	971.95	971.87	0.08	0.01%
10-Jun-18	1.4110	1548.49	1547.99	0.50	0.03%
10-Jun-18	1.4110	1548.49	1547.99	0.50	0.03%

10-Jun-18	1.4110	1548.49	1547.99	0.50	0.03%
7-Jul-18	4.0500	1522.27	1479.83	42.43	2.79%
7-Jul-18	4.0500	1522.27	1479.83	42.43	2.79%
7-Jul-18	4.0500	1522.27	1479.83	42.43	2.79%
18-Jan-19	0.4710	1129.18	1129.29	-0.11	-0.01%
18-Jun-18	3.4180	1567.89	1553.58	14.31	0.91%
18-Jun-18	3.4180	1567.89	1553.58	14.31	0.91%
23-Jul-18	1.4640	1382.60	1383.72	-1.12	-0.08%
25-Sep-18	1.8560	1465.47	1468.61	-3.14	-0.21%
25-Sep-18	1.8560	1465.24	1468.38	-3.14	-0.21%
21-Jul-18	1.2600	1309.33	1308.79	0.55	0.04%
21-Jul-18	1.2600	1309.33	1308.79	0.55	0.04%
25-Sep-18	3.9060	1780.32	1784.30	-3.98	-0.22%
27-Sep-18	2.6210	1653.30	1655.94	-2.64	-0.16%
27-Sep-18	2.4670	1605.24	1608.32	-3.07	-0.19%
21-Dec-18	2.1030	1499.52	1501.75	-2.23	-0.15%
21-Dec-18	2.1030	1499.52	1501.75	-2.23	-0.15%
23-Jul-18	1.4520	1372.12	1373.24	-1.12	-0.08%
10-Jun-18	1.3940	1530.61	1530.12	0.49	0.03%
9-Jan-19	0.0280	996.97	996.90	0.07	0.01%
18-Sep-18	0.7780	1322.63	1322.98	-0.35	-0.03%
7-Aug-18	0.6260	1146.41	1144.44	1.97	0.17%
27-Sep-18	2.6850	1736.72	1739.57	-2.85	-0.16%
24-Aug-18	1.6760	1433.13	1436.35	-3.21	-0.22%
24-Aug-18	1.6760	1433.13	1436.35	-3.21	-0.22%
18-Jun-18	3.3610	1542.84	1528.77	14.07	0.91%
18-Jun-18	3.3610	1542.63	1528.56	14.07	0.91%
17-Apr-18	0.0100	939.26	939.18	0.08	0.01%
18-Sep-18	3.0430	1722.97	1721.21	1.76	0.10%
18-Sep-18	0.7720	1312.38	1312.72	-0.34	-0.03%
18-Jan-19	1.3500	1512.08	1513.64	-1.56	-0.10%
10-Jun-18	1.3810	1516.05	1515.57	0.48	0.03%
7-Jun-18	0.4070	1104.01	1103.46	0.54	0.05%
22-Oct-18	2.7990	1626.14	1630.06	-3.92	-0.24%
5-Aug-18	0.7220	1314.61	1314.99	-0.38	-0.03%
21-Dec-18	2.0670	1474.61	1476.80	-2.19	-0.15%
21-Dec-18	2.0670	1474.56	1476.75	-2.19	-0.15%
5-Jun-18	0.6130	1214.69	1214.54	0.16	0.01%
27-Sep-18	2.3620	1680.44	1682.04	-1.60	-0.10%
18-Sep-18	0.3070	1091.11	1090.76	0.35	0.03%
22-Oct-18	2.6860	1662.39	1666.89	-4.50	-0.27%
5-Aug-18	0.7150	1302.61	1302.99	-0.38	-0.03%
3-Sep-18	2.3680	1597.71	1600.21	-2.50	-0.16%
3-Sep-18	2.3680	1597.71	1600.21	-2.50	-0.16%
3-Sep-18	2.3680	1597.71	1600.21	-2.50	-0.16%
18-Sep-18	2.2960	1583.40	1582.14	1.27	0.08%
10-Jul-18	1.5420	1328.78	1323.30	5.48	0.41%
5-Jun-18	0.6520	1160.29	1160.13	0.16	0.01%
11-Aug-18	1.7370	1599.00	1599.42	-0.41	-0.03%
8-Aug-18	0.5610	1157.14	1156.03	1.11	0.10%
15-Sep-18	2.9800	1652.25	1655.10	-2.84	-0.17%
3-Sep-18	2.3540	1588.65	1591.14	-2.48	-0.16%
15-Sep-18	3.0550	1659.42	1662.18	-2.76	-0.17%
3-Sep-18	2.3440	1581.52	1583.99	-2.47	-0.16%
7-Nov-18	0.5060	1324.62	1325.33	-0.70	-0.05%
15-Sep-18	3.6740	1765.19	1770.96	-5.77	-0.33%
10-Jul-18	1.5200	1309.59	1304.18	5.41	0.41%

28-Jul-18	2.0770	1475.52	1475.94	-0.43	-0.03%
15-Sep-18	2.5710	1645.48	1648.68	-3.20	-0.19%
12-Aug-18	1.4600	1355.03	1355.58	-0.55	-0.04%
11-Aug-18	1.7100	1575.13	1575.54	-0.41	-0.03%
21-Jul-18	0.9150	1253.35	1252.55	0.80	0.06%
10-Jul-18	0.3300	1078.82	1077.88	0.95	0.09%
27-Sep-18	2.5840	1679.87	1682.62	-2.75	-0.16%
9-Jun-18	0.9680	1575.11	1575.33	-0.22	-0.01%
28-Jul-18	2.0510	1457.60	1458.02	-0.42	-0.03%
28-Jul-18	2.0510	1457.60	1458.02	-0.42	-0.03%
21-Jul-18	0.9100	1245.35	1244.55	0.81	0.06%
21-Jul-18	0.9100	1245.35	1244.55	0.81	0.06%
25-Sep-18	3.1710	1699.09	1699.36	-0.27	-0.02%
17-Sep-18	3.3000	1588.29	1592.66	-4.37	-0.28%
14-Sep-18	3.1300	1652.74	1657.62	-4.88	-0.30%
12-Aug-18	1.4380	1335.12	1335.66	-0.54	-0.04%
22-Oct-18	4.0360	1842.21	1850.22	-8.01	-0.43%
14-Jul-18	0.9230	1320.99	1318.65	2.34	0.18%
9-Jun-18	0.9600	1562.84	1563.05	-0.22	-0.01%
9-Jun-18	0.9600	1562.84	1563.05	-0.22	-0.01%
7-Sep-18	3.3140	1768.62	1775.16	-6.54	-0.37%
18-Jul-18	1.7970	1481.64	1482.54	-0.90	-0.06%
17-Sep-18	3.5260	1692.78	1695.06	-2.27	-0.13%
14-Jul-18	0.9100	1301.17	1298.87	2.31	0.18%
7-Sep-18	3.1690	1697.16	1704.10	-6.94	-0.41%
7-Jul-18	2.2210	1470.20	1451.66	18.54	1.26%
7-Jul-18	2.2210	1470.20	1451.66	18.54	1.26%
18-Jul-18	1.7720	1461.84	1462.74	-0.90	-0.06%
18-Oct-18	0.0060	839.28	839.20	0.08	0.01%
5-Jun-18	1.4680	1572.29	1568.76	3.53	0.22%
29-Aug-18	0.2580	1063.43	1062.64	0.79	0.07%
27-Jul-18	2.9240	1471.63	1471.43	0.20	0.01%
7-Jul-18	2.2040	1458.94	1440.55	18.39	1.26%
7-Jul-18	2.2040	1458.94	1440.55	18.39	1.26%
7-Jul-18	2.2040	1458.94	1440.55	18.39	1.26%
29-Oct-18	0.2140	1094.23	1094.25	-0.02	0.00%
5-Jun-18	1.4610	1563.68	1560.17	3.52	0.22%
21-Jul-18	2.0650	1387.18	1385.99	1.19	0.09%
27-Jul-18	2.8880	1454.12	1453.91	0.21	0.01%
27-Jul-18	2.8880	1454.12	1453.91	0.21	0.01%
14-Sep-18	2.1730	1617.70	1615.53	2.17	0.13%
21-Jul-18	2.0420	1371.66	1370.48	1.18	0.09%
21-Jul-18	2.0420	1371.66	1370.48	1.18	0.09%
9-Jun-18	1.8900	1390.25	1385.10	5.15	0.37%
4-Oct-18	2.0030	1527.13	1527.26	-0.13	-0.01%
4-Oct-18	2.0030	1527.13	1527.26	-0.13	-0.01%
14-Sep-18	3.0300	1647.38	1651.91	-4.54	-0.28%
15-Sep-18	2.7840	1597.24	1599.30	-2.06	-0.13%
18-Oct-18	1.7840	1537.64	1539.87	-2.24	-0.15%
14-Sep-18	2.9850	1690.97	1695.66	-4.69	-0.28%
14-Sep-18	2.1370	1591.04	1588.91	2.14	0.13%
14-Sep-18	2.1370	1591.04	1588.91	2.14	0.13%
18-Sep-18	2.9950	1604.25	1605.35	-1.10	-0.07%
14-Sep-18	3.0040	1633.63	1638.13	-4.50	-0.28%
14-Sep-18	3.0040	1633.63	1638.13	-4.50	-0.28%
14-Sep-18	3.0040	1633.63	1638.13	-4.50	-0.28%
14-Sep-18	3.0040	1633.63	1638.13	-4.50	-0.28%

4-Oct-18	2.0030	1528.38	1528.51	-0.13	-0.01%
28-Aug-18	0.2110	1094.89	1094.81	0.08	0.01%
9-Jun-18	1.8440	1357.37	1352.35	5.02	0.37%
4-Oct-18	1.9510	1488.15	1488.29	-0.13	-0.01%
6-Jul-18	2.8420	1445.89	1416.80	29.09	2.01%
8-Aug-18	0.8950	1323.45	1324.47	-1.01	-0.08%
14-Sep-18	3.3340	1716.15	1720.66	-4.50	-0.26%
18-Sep-18	3.3830	1688.06	1690.53	-2.46	-0.15%
21-Nov-18	1.7530	1487.33	1484.34	2.98	0.20%
21-Nov-18	1.7530	1487.33	1484.34	2.98	0.20%
8-Aug-18	0.8820	1303.41	1304.38	-0.98	-0.08%
6-Jul-18	2.7800	1414.97	1386.48	28.49	2.01%
18-Sep-18	4.8330	1735.92	1738.52	-2.60	-0.15%
14-Sep-18	2.3840	1713.08	1716.23	-3.15	-0.18%
14-Sep-18	2.8060	1686.76	1690.88	-4.12	-0.24%
14-Sep-18	2.1760	1639.61	1642.02	-2.41	-0.15%
7-Sep-18	3.1050	1656.87	1661.73	-4.86	-0.29%
8-Aug-18	1.1680	1425.04	1425.96	-0.93	-0.07%
27-Jul-18	2.2010	1456.27	1457.46	-1.19	-0.08%
8-Aug-18	1.1630	1418.72	1419.63	-0.92	-0.06%
10-Aug-18	2.1110	1447.19	1450.85	-3.67	-0.25%
2-Sep-18	3.0060	1693.06	1694.55	-1.49	-0.09%
14-Sep-18	3.4660	1687.14	1691.70	-4.56	-0.27%
7-Aug-18	1.9230	1680.06	1681.53	-1.47	-0.09%
27-Jul-18	2.1710	1437.20	1438.38	-1.18	-0.08%
27-Jul-18	2.1710	1437.20	1438.38	-1.18	-0.08%
2-Sep-18	2.9720	1674.19	1675.67	-1.47	-0.09%
10-Aug-18	2.0780	1424.99	1428.60	-3.61	-0.25%
14-Sep-18	3.4340	1672.22	1676.74	-4.52	-0.27%
14-Sep-18	4.0900	1699.69	1713.19	-13.49	-0.79%
7-Aug-18	1.9040	1664.64	1666.11	-1.47	-0.09%
11-Aug-18	2.0320	1586.02	1584.24	1.78	0.11%
14-Sep-18	2.0400	1606.75	1609.03	-2.28	-0.14%
14-Sep-18	3.5200	1751.08	1756.08	-5.00	-0.29%
11-Aug-18	2.0190	1576.25	1574.48	1.77	0.11%
14-Sep-18	3.3710	1767.71	1772.24	-4.53	-0.26%
14-Sep-18	3.3180	1732.52	1736.95	-4.43	-0.26%
3-Sep-18	3.2130	1682.17	1684.82	-2.64	-0.16%
14-Sep-18	4.7730	2310.16	2325.94	-15.78	-0.68%
3-Sep-18	3.9840	1714.02	1718.07	-4.05	-0.24%
3-Sep-18	3.1320	1599.98	1602.08	-2.10	-0.13%
17-Sep-18	3.3060	1671.52	1671.00	0.52	0.03%
3-Sep-18	2.3150	1506.26	1503.12	3.14	0.21%
17-Jul-18	1.2350	1292.38	1289.68	2.69	0.21%
17-Jul-18	1.2250	1283.21	1280.55	2.66	0.21%
17-Jul-18	1.2250	1283.21	1280.55	2.66	0.21%
17-Sep-18	3.2370	1637.91	1637.41	0.51	0.03%
14-Sep-18	4.6760	2265.37	2280.86	-15.49	-0.68%
3-Sep-18	3.6270	1659.09	1662.16	-3.06	-0.18%
9-Aug-18	2.1680	1598.57	1596.74	1.84	0.11%
9-Aug-18	2.1360	1575.12	1573.31	1.81	0.12%
1-Sep-18	2.7880	1620.67	1621.11	-0.44	-0.03%
15-Sep-18	3.2000	1674.33	1676.29	-1.96	-0.12%
17-Sep-18	2.2560	1600.89	1600.60	0.29	0.02%
15-Sep-18	3.4350	1761.62	1764.14	-2.52	-0.14%
17-Sep-18	2.4690	1625.29	1623.17	2.13	0.13%
15-Sep-18	3.1610	1654.63	1656.56	-1.93	-0.12%

17-Sep-18	2.6150	1630.68	1629.02	1.67	0.10%
17-Sep-18	2.2170	1574.45	1574.18	0.27	0.02%
17-Sep-18	2.1940	1617.48	1617.48	-0.01	0.00%
14-Sep-18	0.3440	1091.70	1091.24	0.46	0.04%
30-May-18	0.0930	995.99	995.69	0.31	0.03%
17-Sep-18	3.3690	1729.05	1731.02	-1.96	-0.11%
13-Apr-18	0.3320	1163.29	1163.73	-0.44	-0.04%
1-Dec-19	0.0030	987.48	987.47	0.01	0.00%
1-Nov-19	0.0030	987.48	987.47	0.01	0.00%
1-Oct-19	0.0030	987.48	987.47	0.01	0.00%
1-Sep-19	0.0030	987.48	987.47	0.01	0.00%
1-Aug-19	0.0030	987.48	987.47	0.01	0.00%
1-Jan-20	0.0030	994.12	994.11	0.01	0.00%
1-May-20	0.0020	993.39	993.38	0.02	0.00%
17-Apr-20	0.0020	993.39	993.38	0.02	0.00%
3-Apr-20	0.0230	1235.12	1235.20	-0.08	-0.01%
31-Mar-20	0.0070	1130.79	1130.81	-0.02	0.00%
31-Mar-20	0.0070	1130.51	1130.53	-0.02	0.00%
11-Nov-19	0.0210	1222.28	1222.35	-0.07	-0.01%
11-Nov-19	0.0210	1222.47	1222.54	-0.07	-0.01%
11-Nov-19	0.0210	1221.30	1221.37	-0.07	-0.01%
11-Nov-19	0.0210	1222.02	1222.09	-0.07	-0.01%
3-Apr-20	0.0230	1236.11	1236.19	-0.08	-0.01%
3-Apr-20	0.0230	1236.11	1236.19	-0.08	-0.01%
11-Nov-19	0.0210	1218.18	1218.26	-0.07	-0.01%
11-Nov-19	0.0210	1218.18	1218.26	-0.07	-0.01%
11-Nov-19	0.0210	1223.27	1223.34	-0.07	-0.01%
11-Nov-19	0.0210	1223.27	1223.34	-0.07	-0.01%
9-Jun-20	0.0140	1071.46	1071.51	-0.05	0.00%
28-Mar-20	0.0120	1108.33	1108.37	-0.04	0.00%
1-Sep-19	0.0030	1056.24	1056.24	0.00	0.00%
1-Aug-19	0.0050	1041.41	1041.42	-0.01	0.00%
1-Jul-19	0.0020	1034.79	1034.79	0.00	0.00%
1-Mar-20	0.0040	1049.19	1049.20	-0.01	0.00%
1-Feb-20	0.0020	1047.42	1047.42	0.00	0.00%
1-Jan-20	0.0040	1049.21	1049.22	-0.01	0.00%
1-Sep-19	0.0030	1056.97	1056.97	0.00	0.00%
1-Dec-19	0.0020	1048.64	1048.64	0.00	0.00%
1-Aug-19	0.0080	1044.39	1044.33	0.06	0.01%
1-Jul-19	0.0020	1038.05	1038.05	0.00	0.00%
1-Mar-20	0.0040	1049.67	1049.68	-0.01	0.00%
1-Feb-20	0.0020	1047.98	1047.98	0.00	0.00%
1-Jan-20	0.0030	1049.56	1049.56	0.00	0.00%
22-Oct-08	0.0030	1021.13	1021.13	0.00	0.00%
15-Apr-20	0.0020	1046.11	1046.09	0.02	0.00%
1-Dec-19	0.0020	1049.59	1049.59	0.00	0.00%
1-Aug-19	0.0030	1044.32	1044.32	0.00	0.00%
1-Jul-19	0.0030	1037.88	1037.86	0.02	0.00%
1-Mar-20	0.0040	1049.37	1049.38	-0.01	0.00%
1-Feb-20	0.0020	1047.69	1047.69	0.00	0.00%
1-Jan-20	0.0030	1049.56	1049.57	0.00	0.00%
1-Dec-19	0.0020	1048.61	1048.61	0.00	0.00%
1-Aug-19	0.0050	1044.39	1044.41	-0.01	0.00%
1-Jul-19	0.0020	1037.97	1037.97	0.00	0.00%
1-Mar-20	0.0040	1049.65	1049.66	-0.01	0.00%
1-Feb-20	0.0020	1047.66	1047.66	0.00	0.00%
1-Jan-20	0.0040	1049.54	1049.54	-0.01	0.00%

22-Nov-19	0.0060	1073.33	1073.28	0.05	0.00%
2-Dec-19	0.0060	1054.92	1054.88	0.05	0.00%
22-Nov-19	0.0060	1073.33	1073.28	0.05	0.00%
1-Feb-20	0.0060	1047.47	1047.42	0.05	0.00%
22-Nov-19	0.0060	1073.33	1073.28	0.05	0.00%
2-Dec-19	0.0060	1076.90	1076.85	0.05	0.00%
22-Nov-19	0.0060	1073.33	1073.28	0.05	0.00%
30-Apr-20	0.0060	1072.65	1072.60	0.05	0.00%
1-Feb-20	0.0060	1072.79	1072.75	0.05	0.00%
2-Dec-19	0.0060	1077.00	1076.95	0.05	0.00%
22-Nov-19	0.0060	1073.33	1073.28	0.05	0.00%
30-Apr-20	0.0060	1072.82	1072.78	0.05	0.00%
22-Nov-19	0.0060	1072.91	1072.87	0.05	0.00%
1-Sep-19	0.0020	1088.00	1088.00	0.00	0.00%
1-Aug-19	0.0030	1070.94	1070.94	0.00	0.00%
1-Jul-19	0.0030	1082.75	1082.75	0.00	0.00%
1-Nov-19	0.0030	1154.62	1154.62	0.00	0.00%
1-Oct-19	0.0040	1139.74	1139.75	-0.01	0.00%
1-Sep-19	0.0030	1176.17	1176.18	0.00	0.00%
1-Aug-19	0.0020	1254.73	1254.73	0.00	0.00%
1-Jul-19	0.0030	1184.63	1184.64	0.00	0.00%
1-Mar-20	0.0050	1163.88	1163.88	0.00	0.00%
1-Feb-20	0.0040	1156.25	1156.26	-0.01	0.00%
1-Jan-20	0.0050	1160.18	1160.18	0.00	0.00%
1-Sep-19	0.0020	1087.94	1087.94	0.00	0.00%
1-Aug-19	0.0030	1055.23	1055.24	0.00	0.00%
1-Jul-19	0.0030	1066.08	1066.08	0.00	0.00%
1-Sep-19	0.0020	1087.94	1087.94	0.00	0.00%
1-Aug-19	0.0030	1055.23	1055.24	0.00	0.00%
1-Jul-19	0.0030	1059.62	1059.63	0.00	0.00%
1-Sep-19	0.0020	1088.00	1088.00	0.00	0.00%
1-Aug-19	0.0030	1070.94	1070.94	0.00	0.00%
1-Jul-19	0.0030	1082.75	1082.75	0.00	0.00%
1-Mar-20	0.0030	1099.65	1099.62	0.03	0.00%
4-Mar-20	0.0070	1097.81	1097.79	0.02	0.00%
1-Sep-19	0.0030	1086.37	1086.38	0.00	0.00%
1-Aug-19	0.0030	1070.93	1070.94	0.00	0.00%
1-Jul-19	0.0030	1082.81	1082.81	0.00	0.00%
1-Sep-19	0.0020	1087.86	1087.86	0.00	0.00%
1-Aug-19	0.0030	1070.95	1070.96	0.00	0.00%
1-Jul-19	0.0030	1082.69	1082.69	0.00	0.00%
1-Jul-19	0.0120	1210.82	1210.86	-0.04	0.00%
22-Nov-19	0.0060	1073.21	1073.16	0.05	0.00%
22-Nov-19	0.0060	1073.33	1073.28	0.05	0.00%
22-Nov-19	0.0060	1073.27	1073.23	0.05	0.00%
1-Dec-19	0.0050	985.36	985.35	0.01	0.00%
1-Nov-19	0.0050	985.36	985.35	0.01	0.00%
1-Oct-19	0.0050	985.36	985.35	0.01	0.00%
1-Sep-19	0.0050	985.36	985.35	0.01	0.00%
1-Aug-19	0.0050	985.36	985.35	0.01	0.00%
1-Jul-19	0.0050	985.36	985.35	0.01	0.00%
1-Jan-20	0.0050	992.06	992.04	0.01	0.00%
11-Nov-19	0.0280	1215.19	1215.28	-0.09	-0.01%
11-Nov-19	0.0280	1215.46	1215.55	-0.09	-0.01%
11-Nov-19	0.0220	1223.63	1223.70	-0.07	-0.01%
11-Nov-19	0.0220	1223.63	1223.70	-0.07	-0.01%
20-Dec-19	0.0160	1108.98	1109.02	-0.05	0.00%

1-Aug-19	0.2610	1099.74	1100.68	-0.94	-0.09%
1-Nov-19	0.0050	1049.71	1049.71	0.00	0.00%
1-Oct-19	0.0050	1050.65	1050.66	0.00	0.00%
1-Sep-19	0.0060	1051.97	1051.98	-0.01	0.00%
1-May-20	0.0050	1048.87	1048.87	0.00	0.00%
1-Apr-20	0.0060	1051.34	1051.34	-0.01	0.00%
1-Nov-19	0.0050	1049.91	1049.91	0.00	0.00%
1-Oct-19	0.0130	1051.41	1051.33	0.09	0.01%
1-Sep-19	0.0070	1053.95	1053.95	0.00	0.00%
1-May-20	0.0060	1051.26	1051.25	0.02	0.00%
1-Apr-20	0.0060	1052.47	1052.48	-0.01	0.00%
1-Nov-19	0.0050	1050.14	1050.15	0.00	0.00%
1-Oct-19	0.0070	1052.19	1052.18	0.01	0.00%
1-Sep-19	0.0070	1054.32	1054.31	0.01	0.00%
1-May-20	0.0060	1051.22	1051.21	0.02	0.00%
1-Apr-20	0.0060	1052.45	1052.46	-0.01	0.00%
1-Nov-19	0.0050	1049.94	1049.94	0.00	0.00%
1-Oct-19	0.0050	1051.43	1051.43	0.00	0.00%
1-Sep-19	0.0070	1053.90	1053.91	-0.01	0.00%
1-May-20	0.0060	1051.25	1051.24	0.02	0.00%
1-Apr-20	0.0060	1052.47	1052.48	-0.01	0.00%
1-Nov-19	0.0050	1049.95	1049.96	0.00	0.00%
1-Oct-19	0.0050	1051.46	1051.47	0.00	0.00%
1-May-20	0.0060	1051.37	1051.36	0.02	0.00%
1-Apr-20	0.0060	1052.60	1052.61	-0.01	0.00%
26-Jun-19	0.0060	1004.66	1004.63	0.03	0.00%
25-Jun-19	0.0100	969.28	969.26	0.02	0.00%
26-Jun-19	0.0090	1003.58	1003.55	0.03	0.00%
21-May-20	0.0060	1004.03	1004.00	0.03	0.00%
26-Jun-19	0.0090	1003.58	1003.55	0.03	0.00%
19-Aug-19	0.0090	952.51	952.40	0.10	0.01%
19-Aug-19	0.0090	952.51	952.40	0.10	0.01%
18-Mar-20	0.0100	1047.77	1047.78	-0.01	0.00%
1-Nov-19	0.0070	1020.21	1020.21	0.00	0.00%
1-Oct-19	0.0080	1012.57	1012.57	0.00	0.00%
1-Aug-19	0.0080	1042.12	1042.12	0.00	0.00%
1-Mar-20	0.0140	1015.90	1015.74	0.16	0.02%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
3-Mar-20	0.0200	1613.15	1613.15	0.00	0.00%
1-Dec-19	0.0070	1163.73	1163.73	0.00	0.00%
1-May-20	0.0070	1185.73	1185.72	0.00	0.00%
1-Apr-20	0.0070	1172.05	1172.05	0.00	0.00%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
22-May-20	0.0130	1127.57	1127.54	0.03	0.00%
28-Aug-19	0.3440	1304.67	1305.92	-1.25	-0.10%
28-Aug-19	0.3440	1301.61	1302.86	-1.25	-0.10%
1-Jul-19	0.0130	991.81	991.78	0.03	0.00%
22-Jul-19	0.0350	1228.14	1228.25	-0.11	-0.01%
14-Jan-20	0.0320	1210.19	1210.29	-0.10	-0.01%
29-Mar-20	0.0520	1307.21	1307.39	-0.18	-0.01%
18-Sep-19	0.0180	1071.50	1071.53	-0.03	0.00%

28-Mar-20	0.0430	1328.13	1328.26	-0.13	-0.01%
1-Sep-19	0.0070	1052.05	1052.05	0.00	0.00%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
23-Sep-19	0.0170	1096.22	1096.11	0.12	0.01%
25-Jun-19	0.0130	1006.10	1006.03	0.07	0.01%
25-Jun-19	0.0130	1006.10	1006.03	0.07	0.01%
1-Jul-19	0.0120	1035.25	1035.25	0.01	0.00%
1-Apr-20	0.0110	1036.00	1036.00	0.00	0.00%
28-Feb-20	0.0170	1082.48	1082.50	-0.03	0.00%
1-Aug-19	0.0090	1245.12	1245.12	0.00	0.00%
10-Jun-19	0.0580	1251.01	1251.20	-0.19	-0.02%
10-Jun-19	0.0580	1250.94	1251.13	-0.19	-0.02%
17-Apr-19	0.0450	1213.09	1213.22	-0.13	-0.01%
6-Dec-19	0.0540	1251.66	1251.84	-0.18	-0.01%
9-Jun-20	0.0700	1296.43	1296.66	-0.24	-0.02%
25-Jun-19	0.0210	968.76	968.65	0.11	0.01%
1-Mar-20	0.0120	1062.98	1062.97	0.02	0.00%
1-Dec-19	0.0120	1091.27	1091.26	0.02	0.00%
1-Mar-20	0.0120	1087.97	1087.95	0.02	0.00%
1-Mar-20	0.0120	1087.38	1087.36	0.02	0.00%
1-May-20	0.0140	1041.04	1041.05	-0.01	0.00%
16-Aug-19	0.1950	1265.83	1266.52	-0.70	-0.06%
1-Mar-20	0.0130	1014.42	1014.42	0.00	0.00%
27-May-19	0.0740	1326.19	1326.37	-0.18	-0.01%
1-Jan-20	0.0150	1064.69	1064.67	0.03	0.00%
1-Dec-19	0.0130	1091.69	1091.67	0.02	0.00%
1-Dec-19	0.0140	1091.67	1091.65	0.02	0.00%
1-Mar-20	0.0130	1087.04	1087.02	0.02	0.00%
17-Jan-20	0.0160	1017.09	1017.04	0.05	0.00%
8-May-19	0.1570	1262.41	1262.94	-0.53	-0.04%
31-Mar-20	0.1710	1264.98	1265.56	-0.58	-0.05%
20-Mar-19	0.1620	1264.70	1265.25	-0.55	-0.04%
31-Mar-20	0.1680	1265.05	1265.62	-0.57	-0.05%
31-Mar-20	0.1650	1265.17	1265.73	-0.56	-0.04%
27-Mar-20	0.1060	1988.95	1989.23	-0.28	-0.01%
28-Aug-19	0.0160	1111.16	1111.13	0.03	0.00%
14-Jan-20	0.0580	1239.20	1239.36	-0.16	-0.01%
21-Nov-19	0.0830	1244.43	1244.68	-0.25	-0.02%
7-Apr-20	0.0570	1233.89	1234.05	-0.16	-0.01%
14-Jan-20	0.0580	1249.96	1250.12	-0.16	-0.01%
14-Jan-20	0.0580	1250.60	1250.76	-0.16	-0.01%
14-Jan-20	0.0580	1247.45	1247.61	-0.16	-0.01%
14-Jan-20	0.0580	1244.31	1244.47	-0.16	-0.01%
14-Jan-20	0.0580	1249.16	1249.32	-0.16	-0.01%
14-Jan-20	0.0580	1245.21	1245.37	-0.16	-0.01%
14-Jan-20	0.0580	1245.42	1245.58	-0.16	-0.01%
14-Jan-20	0.0580	1250.90	1251.06	-0.16	-0.01%
14-Jan-20	0.0580	1245.32	1245.48	-0.16	-0.01%

14-Jan-20	0.0580	1244.61	1244.77	-0.16	-0.01%
19-Aug-19	0.0230	1020.39	1020.22	0.17	0.02%
1-Apr-20	0.0170	1063.00	1062.98	0.03	0.00%
1-Apr-20	0.0170	1086.74	1086.71	0.03	0.00%
1-Jan-20	0.0170	1088.58	1088.56	0.03	0.00%
1-Apr-20	0.0170	1087.35	1087.32	0.03	0.00%
1-Jan-20	0.0170	1088.82	1088.80	0.03	0.00%
1-Apr-20	0.0170	1087.03	1087.01	0.03	0.00%
1-Jan-20	0.0170	1088.82	1088.80	0.03	0.00%
14-May-19	0.0160	949.45	949.39	0.05	0.01%
24-Jun-19	0.0210	1018.52	1018.45	0.07	0.01%
24-Jun-19	0.0210	1019.50	1019.43	0.07	0.01%
2-Jan-19	0.3560	1272.20	1273.48	-1.28	-0.10%
20-Mar-19	0.1170	1263.33	1263.70	-0.37	-0.03%
1-Nov-19	0.0190	1071.21	1071.18	0.03	0.00%
1-Nov-19	0.0190	1094.63	1094.61	0.03	0.00%
1-Nov-19	0.0210	1095.44	1095.41	0.03	0.00%
1-Nov-19	0.0210	1095.42	1095.38	0.03	0.00%
6-May-19	0.0210	952.97	952.90	0.07	0.01%
26-Dec-18	0.0250	1028.80	1028.74	0.06	0.01%
7-Jan-20	0.0260	1030.62	1030.56	0.06	0.01%
20-Mar-19	0.0980	1262.50	1262.79	-0.29	-0.02%
20-Mar-19	0.0980	1262.73	1263.02	-0.29	-0.02%
16-Aug-19	0.0360	1242.41	1242.46	-0.05	0.00%
16-Aug-19	0.0360	1240.30	1240.36	-0.05	0.00%
31-Jan-20	0.1120	2031.78	2032.10	-0.31	-0.02%
21-Feb-19	0.0360	1242.03	1242.08	-0.05	0.00%
24-Sep-19	0.5760	1404.87	1406.88	-2.01	-0.14%
24-Sep-19	0.5740	1401.50	1403.51	-2.01	-0.14%
20-Dec-19	0.0830	1250.95	1251.19	-0.24	-0.02%
1-Jun-19	0.0230	1069.46	1069.42	0.03	0.00%
1-Jul-19	0.0220	1069.35	1069.32	0.04	0.00%
1-Jul-19	0.0220	1069.35	1069.31	0.04	0.00%
1-Jul-19	0.0220	1069.35	1069.31	0.04	0.00%
5-Feb-20	0.0330	1032.45	1032.43	0.02	0.00%
26-Nov-19	0.0270	1032.38	1032.32	0.06	0.01%
26-Nov-19	0.0270	1030.54	1030.49	0.06	0.01%
25-Jun-19	0.0310	1028.83	1028.75	0.07	0.01%
2-Jun-20	0.0280	1125.63	1125.63	0.00	0.00%
2-Jun-20	0.0280	1125.46	1125.46	0.00	0.00%
2-Jun-20	0.0280	1124.52	1124.52	0.00	0.00%
20-Mar-19	0.0680	1261.42	1261.57	-0.15	-0.01%
20-Mar-19	0.0500	1261.24	1261.33	-0.08	-0.01%
16-Aug-19	0.0310	1247.66	1247.67	-0.01	0.00%
7-Feb-20	0.1400	1684.54	1684.91	-0.37	-0.02%
26-Feb-18	0.0250	1345.52	1345.45	0.07	0.01%
26-Feb-20	0.0610	1068.93	1068.77	0.16	0.01%
15-Aug-19	0.0360	1034.47	1034.44	0.03	0.00%
8-Feb-19	0.0360	1030.14	1030.07	0.08	0.01%
15-Aug-19	0.0360	1034.55	1034.52	0.03	0.00%
11-May-20	0.0340	1031.90	1031.81	0.10	0.01%
7-Jan-20	0.0340	1033.38	1033.28	0.10	0.01%
2-Dec-19	0.0300	1279.76	1279.76	0.00	0.00%
16-Aug-19	0.0300	1278.48	1278.48	0.00	0.00%
8-May-19	0.0310	1276.59	1276.59	0.00	0.00%
31-May-20	0.0300	1279.63	1279.63	0.00	0.00%
30-Apr-20	0.0290	1279.31	1279.31	0.00	0.00%

31-Mar-20	0.0300	1279.89	1279.89	0.00	0.00%
29-Feb-20	0.0300	1281.96	1281.96	0.00	0.00%
2-Dec-19	0.0300	1280.37	1280.37	0.00	0.00%
16-Aug-19	0.0300	1279.13	1279.13	0.00	0.00%
8-May-19	0.0310	1277.58	1277.58	0.00	0.00%
31-May-20	0.0300	1280.57	1280.57	0.00	0.00%
30-Apr-20	0.0290	1280.14	1280.14	0.00	0.00%
31-Mar-20	0.0300	1280.62	1280.62	0.00	0.00%
29-Feb-20	0.0300	1282.45	1282.45	0.00	0.00%
2-Dec-19	0.0300	1280.61	1280.61	0.00	0.00%
16-Aug-19	0.0300	1279.35	1279.35	0.00	0.00%
8-May-19	0.0310	1278.16	1278.16	0.00	0.00%
31-May-20	0.0300	1280.72	1280.72	0.00	0.00%
30-Apr-20	0.0290	1280.42	1280.42	0.00	0.00%
31-Mar-20	0.0300	1280.80	1280.80	0.00	0.00%
29-Feb-20	0.0300	1282.59	1282.59	0.00	0.00%
2-Dec-19	0.0300	1280.56	1280.56	0.00	0.00%
16-Aug-19	0.0300	1279.31	1279.31	0.00	0.00%
8-May-19	0.0310	1277.86	1277.87	0.00	0.00%
31-May-20	0.0300	1280.48	1280.48	0.00	0.00%
30-Apr-20	0.0290	1280.29	1280.29	0.00	0.00%
31-Mar-20	0.0300	1280.72	1280.72	0.00	0.00%
29-Feb-20	0.0300	1282.49	1282.49	0.00	0.00%
2-Dec-19	0.0300	1280.73	1280.73	0.00	0.00%
16-Aug-19	0.0300	1279.61	1279.61	0.00	0.00%
8-May-19	0.0310	1277.99	1277.99	0.00	0.00%
31-May-20	0.0300	1280.71	1280.71	0.00	0.00%
30-Apr-20	0.0290	1280.50	1280.50	0.00	0.00%
31-Mar-20	0.0300	1280.92	1280.92	0.00	0.00%
29-Feb-20	0.0300	1282.62	1282.62	0.00	0.00%
2-Dec-19	0.0300	1260.31	1260.31	0.00	0.00%
16-Aug-19	0.0290	1260.16	1260.15	0.00	0.00%
31-May-20	0.0300	1259.70	1259.70	0.00	0.00%
30-Apr-20	0.0290	1259.94	1259.93	0.00	0.00%
31-Mar-20	0.0310	1260.16	1260.16	0.00	0.00%
29-Feb-20	0.0330	1260.19	1260.20	-0.01	0.00%
2-Dec-19	0.0290	1260.02	1260.02	0.00	0.00%
8-May-19	0.0320	1258.36	1258.37	-0.01	0.00%
31-May-20	0.0300	1259.59	1259.59	0.00	0.00%
30-Apr-20	0.0290	1259.79	1259.78	0.00	0.00%
29-Feb-20	0.0310	1260.25	1260.26	0.00	0.00%
2-Dec-19	0.0290	1260.30	1260.30	0.00	0.00%
16-Aug-19	0.0290	1260.21	1260.21	0.00	0.00%
8-May-19	0.0290	1255.33	1255.33	0.00	0.00%
31-May-20	0.0300	1259.69	1259.69	0.00	0.00%
30-Apr-20	0.0290	1259.96	1259.95	0.00	0.00%
29-Feb-20	0.0310	1260.41	1260.41	0.00	0.00%
2-Dec-19	0.0320	1260.81	1260.82	-0.01	0.00%
16-Aug-19	0.0290	1260.49	1260.49	0.00	0.00%
8-May-19	0.0310	1258.59	1258.60	0.00	0.00%
31-May-20	0.0300	1260.07	1260.07	0.00	0.00%
30-Apr-20	0.0290	1260.30	1260.30	0.00	0.00%
29-Feb-20	0.0290	1260.43	1260.43	0.00	0.00%
2-Dec-19	0.0310	1260.49	1260.49	0.00	0.00%
16-Aug-19	0.0320	1260.14	1260.15	-0.01	0.00%
8-May-19	0.0320	1258.49	1258.50	-0.01	0.00%
31-May-20	0.0300	1259.64	1259.64	0.00	0.00%

30-Apr-20	0.0290	1259.82	1259.82	0.00	0.00%
31-Mar-20	0.0310	1260.11	1260.11	0.00	0.00%
29-Feb-20	0.0310	1260.17	1260.17	0.00	0.00%
2-Dec-19	0.0300	1260.42	1260.42	0.00	0.00%
16-Aug-19	0.0310	1260.25	1260.26	0.00	0.00%
8-May-19	0.0330	1258.94	1258.95	-0.01	0.00%
31-May-20	0.0300	1259.83	1259.83	0.00	0.00%
30-Apr-20	0.0290	1260.03	1260.03	0.00	0.00%
31-Mar-20	0.0310	1260.30	1260.31	0.00	0.00%
29-Feb-20	0.0310	1260.40	1260.40	0.00	0.00%
1-Oct-19	0.0300	1231.40	1231.40	0.00	0.00%
1-Oct-19	0.0300	1231.42	1231.42	0.00	0.00%
1-Feb-20	0.0310	1240.53	1240.54	0.00	0.00%
1-Oct-19	0.0300	1231.46	1231.46	0.00	0.00%
1-Jan-20	0.0300	1241.75	1241.75	0.00	0.00%
1-Oct-19	0.0300	1231.46	1231.46	0.00	0.00%
1-Jan-20	0.0300	1241.75	1241.75	0.00	0.00%
9-Nov-18	0.0330	1262.70	1262.71	-0.01	0.00%
21-Nov-19	0.0790	1355.54	1355.67	-0.13	-0.01%
21-Nov-19	0.0790	1354.70	1354.83	-0.13	-0.01%
1-Aug-19	0.2270	1084.75	1085.39	-0.63	-0.06%
1-Aug-19	0.2220	1086.20	1086.82	-0.61	-0.06%
1-Aug-19	0.2490	1099.47	1100.18	-0.72	-0.07%
19-Nov-19	0.2270	1263.75	1264.39	-0.64	-0.05%
19-Nov-19	0.2270	1263.75	1264.39	-0.64	-0.05%
25-Jun-18	0.0380	1139.58	1139.64	-0.05	0.00%
21-Aug-18	0.0410	1000.29	999.95	0.34	0.03%
21-Aug-18	0.0410	999.63	999.29	0.34	0.03%
16-May-18	0.0450	1052.53	1052.43	0.09	0.01%
28-Jan-20	0.0470	1027.90	1027.55	0.34	0.03%
9-Jul-19	0.0390	1036.10	1036.05	0.05	0.00%
17-May-19	0.0400	1033.63	1033.57	0.07	0.01%
11-May-20	0.0400	1035.34	1035.29	0.05	0.00%
5-Feb-20	0.0410	1035.08	1035.02	0.06	0.01%
1-Dec-19	0.0350	1239.08	1239.08	0.00	0.00%
1-Nov-19	0.0320	1234.00	1234.00	0.00	0.00%
1-Sep-19	0.0330	1230.28	1230.28	0.00	0.00%
1-Feb-20	0.0330	1240.64	1240.64	0.00	0.00%
1-Dec-19	0.0350	1239.09	1239.09	0.00	0.00%
1-Nov-19	0.0320	1233.98	1233.98	0.00	0.00%
1-Dec-19	0.0350	1239.08	1239.08	0.00	0.00%
1-Nov-19	0.0320	1233.95	1233.95	0.00	0.00%
1-Sep-19	0.0330	1230.64	1230.64	0.00	0.00%
1-Feb-20	0.0330	1240.66	1240.67	0.00	0.00%
1-Dec-19	0.0330	1238.95	1238.96	0.00	0.00%
1-Nov-19	0.0320	1233.95	1233.95	0.00	0.00%
1-Sep-19	0.0330	1230.46	1230.46	0.00	0.00%
1-Feb-20	0.0330	1240.69	1240.70	0.00	0.00%
18-Sep-19	0.1510	1362.67	1363.14	-0.48	-0.04%
25-Jun-19	0.0540	979.85	979.72	0.12	0.01%
25-Jun-19	0.0540	982.01	981.88	0.12	0.01%
4-Jun-19	0.0990	1131.82	1132.04	-0.22	-0.02%
1-May-20	0.0320	1063.75	1063.70	0.05	0.00%
1-May-20	0.0320	1085.89	1085.83	0.05	0.00%
20-Nov-18	0.0420	1034.43	1034.27	0.16	0.02%
1-Aug-19	0.0370	1235.22	1235.22	0.00	0.00%
1-Jul-19	0.0370	1235.11	1235.10	0.00	0.00%

1-Mar-20	0.0370	1243.84	1243.83	0.00	0.00%
1-Jan-20	0.0370	1242.12	1242.12	0.00	0.00%
1-Aug-19	0.0370	1235.26	1235.25	0.00	0.00%
1-Jul-19	0.0370	1235.08	1235.08	0.00	0.00%
1-Mar-20	0.0370	1243.84	1243.83	0.00	0.00%
1-Jan-20	0.0360	1242.07	1242.06	0.01	0.00%
1-Aug-19	0.0370	1235.26	1235.25	0.00	0.00%
1-Jul-19	0.0370	1235.08	1235.08	0.00	0.00%
1-Mar-20	0.0380	1243.85	1243.85	0.00	0.00%
1-Aug-19	0.0370	1235.22	1235.22	0.00	0.00%
1-Jul-19	0.0370	1235.08	1235.08	0.00	0.00%
1-Mar-20	0.0380	1243.85	1243.85	0.00	0.00%
27-Feb-19	0.0490	1336.78	1336.81	-0.03	0.00%
1-Jul-19	0.2090	1133.77	1134.29	-0.52	-0.05%
1-May-20	0.0340	1086.75	1086.70	0.05	0.00%
1-May-20	0.0340	1086.75	1086.70	0.05	0.00%
29-Apr-19	0.0450	996.48	996.23	0.25	0.03%
29-Apr-19	0.0450	996.48	996.23	0.25	0.03%
25-Feb-20	0.0440	985.58	985.42	0.16	0.02%
22-Nov-19	0.0460	1036.64	1036.56	0.08	0.01%
22-Nov-19	0.0460	1036.14	1036.06	0.08	0.01%
1-May-20	0.0390	1239.29	1239.29	0.00	0.00%
1-Apr-20	0.0390	1242.00	1241.99	0.00	0.00%
1-May-20	0.0390	1239.29	1239.28	0.00	0.00%
1-Apr-20	0.0390	1241.96	1241.95	0.00	0.00%
1-May-20	0.0390	1239.29	1239.29	0.00	0.00%
1-Apr-20	0.0390	1241.96	1241.95	0.00	0.00%
1-May-20	0.0390	1239.29	1239.29	0.00	0.00%
1-Apr-20	0.0390	1241.96	1241.95	0.00	0.00%
5-Feb-20	0.0920	1196.40	1196.60	-0.20	-0.02%
1-Sep-19	0.0360	1070.05	1070.00	0.05	0.00%
1-May-20	0.2000	1133.35	1133.81	-0.46	-0.04%
1-Sep-19	0.0380	1091.98	1091.92	0.06	0.01%
1-Sep-19	0.0370	1091.98	1091.93	0.05	0.00%
1-Sep-19	0.0370	1091.98	1091.93	0.05	0.00%
16-Jul-19	0.0780	1920.67	1920.82	-0.15	-0.01%
20-Dec-18	0.0860	1881.08	1881.25	-0.17	-0.01%
20-Dec-18	0.0860	1880.10	1880.28	-0.17	-0.01%
5-Feb-19	0.1130	1187.54	1187.82	-0.28	-0.02%
14-Feb-19	0.0900	1043.01	1043.05	-0.05	0.00%
23-Jan-20	0.1140	1264.61	1264.90	-0.30	-0.02%
5-Jun-19	0.0560	981.52	981.26	0.26	0.03%
29-Apr-19	0.0620	998.60	998.35	0.25	0.03%
16-Jan-20	0.1480	1249.47	1249.78	-0.32	-0.03%
13-Jun-19	0.1590	1257.71	1258.18	-0.48	-0.04%
16-Jan-20	0.1480	1250.14	1250.46	-0.32	-0.03%
16-Jan-20	0.1480	1250.14	1250.46	-0.32	-0.03%
1-Mar-20	0.2030	1080.65	1081.07	-0.43	-0.04%
7-Nov-19	0.0750	1050.81	1050.68	0.13	0.01%
7-Nov-19	0.0750	1050.81	1050.68	0.13	0.01%
30-May-19	0.0730	1006.42	1006.25	0.16	0.02%
1-Jul-19	0.2220	1122.73	1123.23	-0.50	-0.04%
18-Feb-20	0.0700	990.80	990.59	0.20	0.02%
28-May-20	0.0990	1012.48	1012.37	0.11	0.01%
1-Aug-19	0.0690	976.49	976.33	0.16	0.02%
1-Aug-19	0.0690	976.49	976.33	0.16	0.02%
20-Nov-18	0.0500	1025.46	1025.30	0.17	0.02%

30-Jul-19	0.0630	1233.39	1233.43	-0.04	0.00%
30-Jul-19	0.0630	1233.39	1233.43	-0.04	0.00%
11-Oct-19	0.1150	1283.34	1283.47	-0.13	-0.01%
11-Oct-19	0.1150	1282.51	1282.64	-0.13	-0.01%
10-Apr-19	0.2620	1278.01	1278.77	-0.76	-0.06%
17-Apr-19	0.1460	1242.16	1242.54	-0.38	-0.03%
17-Apr-19	0.1450	1235.42	1235.79	-0.38	-0.03%
17-Apr-19	0.1450	1236.17	1236.55	-0.38	-0.03%
17-Apr-19	0.1440	1230.16	1230.53	-0.37	-0.03%
3-Dec-19	0.0800	1063.79	1063.69	0.10	0.01%
4-Dec-19	0.0850	1089.01	1089.03	-0.02	0.00%
9-Jan-20	0.3330	1191.84	1192.72	-0.88	-0.07%
9-Jun-20	0.0820	1030.79	1030.41	0.37	0.04%
29-Aug-19	0.0730	1006.86	1006.71	0.16	0.02%
5-Jun-19	0.0640	996.38	996.16	0.22	0.02%
1-Apr-20	0.2010	1134.19	1134.58	-0.40	-0.04%
1-May-20	0.2150	1125.50	1125.95	-0.45	-0.04%
7-Jan-20	0.0670	1045.29	1045.20	0.09	0.01%
10-Oct-19	0.1170	1389.64	1389.86	-0.22	-0.02%
10-Oct-19	0.1170	1389.83	1390.05	-0.22	-0.02%
1-Oct-19	0.1680	1975.19	1975.52	-0.33	-0.02%
1-Oct-19	0.1680	1974.87	1975.20	-0.33	-0.02%
24-Jan-20	0.1490	1295.40	1295.70	-0.29	-0.02%
12-Feb-20	0.4630	1352.42	1353.96	-1.54	-0.11%
21-Dec-17	0.0620	1213.48	1213.53	-0.05	0.00%
23-Mar-20	0.1750	1312.19	1312.71	-0.52	-0.04%
23-Mar-20	0.1750	1313.36	1313.89	-0.52	-0.04%
12-Dec-19	0.0610	998.38	998.27	0.12	0.01%
1-Feb-20	0.1900	1132.62	1132.95	-0.33	-0.03%
25-Feb-20	0.0790	993.62	993.45	0.17	0.02%
5-Dec-19	0.0870	998.11	997.94	0.18	0.02%
20-Mar-20	0.0620	993.24	993.05	0.20	0.02%
2-Aug-18	0.0780	981.79	981.45	0.33	0.03%
31-May-19	0.1300	2104.32	2104.65	-0.33	-0.02%
1-Dec-19	0.0690	1252.37	1252.24	0.13	0.01%
1-Nov-19	0.0690	1252.37	1252.24	0.13	0.01%
1-Oct-19	0.0680	1247.84	1247.71	0.13	0.01%
1-May-20	0.0690	1252.37	1252.24	0.13	0.01%
1-Apr-20	0.0690	1252.37	1252.24	0.13	0.01%
1-Mar-20	0.0690	1252.37	1252.24	0.13	0.01%
1-Feb-20	0.0690	1252.37	1252.24	0.13	0.01%
1-Jan-20	0.0690	1252.37	1252.24	0.13	0.01%
12-Feb-20	0.2210	1306.13	1306.74	-0.61	-0.05%
14-Dec-17	0.0940	1508.15	1508.33	-0.18	-0.01%
7-Feb-20	0.1250	1266.63	1266.82	-0.19	-0.02%
14-Nov-19	0.0780	1020.57	1020.32	0.26	0.03%
14-Feb-19	0.1050	1041.22	1041.18	0.04	0.00%
23-Sep-19	0.0700	1000.16	999.87	0.29	0.03%
3-Aug-18	0.0820	1043.82	1043.56	0.26	0.02%
8-Jan-19	0.0780	1195.73	1195.81	-0.08	-0.01%
7-Apr-20	0.1890	1247.47	1248.01	-0.55	-0.04%
6-Dec-19	0.1790	1365.53	1365.98	-0.45	-0.03%
18-Sep-19	0.2560	1366.08	1366.90	-0.82	-0.06%
18-Feb-20	0.0810	1029.18	1028.95	0.23	0.02%
1-Jul-19	0.5470	1158.80	1160.45	-1.64	-0.14%
1-May-20	0.5140	1157.51	1159.03	-1.52	-0.13%
13-Dec-19	0.0670	1001.81	1001.65	0.16	0.02%

28-May-20	0.0840	993.07	992.80	0.27	0.03%
6-Sep-19	0.0710	993.52	993.16	0.37	0.04%
6-Sep-19	0.0710	992.01	991.65	0.37	0.04%
1-Dec-19	0.0640	1124.71	1124.72	-0.01	0.00%
1-Nov-19	0.0640	1124.71	1124.72	-0.01	0.00%
1-Oct-19	0.0640	1124.71	1124.72	-0.01	0.00%
1-Sep-19	0.0640	1124.71	1124.72	-0.01	0.00%
1-May-20	0.0640	1124.71	1124.72	-0.01	0.00%
1-Apr-20	0.0640	1124.71	1124.72	-0.01	0.00%
1-Mar-20	0.0640	1124.71	1124.72	-0.01	0.00%
1-Feb-20	0.0640	1124.71	1124.72	-0.01	0.00%
1-Jan-20	0.0640	1124.71	1124.72	-0.01	0.00%
5-Mar-19	0.1040	1735.39	1735.62	-0.22	-0.01%
1-Jul-19	0.0760	1244.92	1244.77	0.14	0.01%
22-Apr-19	0.1180	1818.00	1818.28	-0.28	-0.02%
8-Nov-19	0.1540	1372.92	1373.13	-0.21	-0.02%
8-Nov-19	0.1540	1372.92	1373.13	-0.21	-0.02%
10-Mar-20	0.1210	1235.80	1235.89	-0.10	-0.01%
26-Feb-18	0.0790	1228.01	1227.80	0.21	0.02%
13-Feb-20	0.2590	1187.75	1188.54	-0.79	-0.07%
7-Apr-20	0.1950	1283.61	1284.17	-0.56	-0.04%
7-Apr-20	0.1950	1284.76	1285.32	-0.56	-0.04%
7-Apr-20	0.1940	1275.79	1276.35	-0.56	-0.04%
7-Apr-20	0.1940	1277.42	1277.98	-0.56	-0.04%
7-Apr-20	0.1940	1277.02	1277.57	-0.56	-0.04%
7-Apr-20	0.1940	1276.93	1277.49	-0.56	-0.04%
7-Apr-20	0.1930	1270.39	1270.94	-0.55	-0.04%
7-Apr-20	0.1950	1284.76	1285.32	-0.56	-0.04%
7-Apr-20	0.1930	1271.40	1271.95	-0.55	-0.04%
7-Apr-20	0.1940	1274.69	1275.24	-0.56	-0.04%
1-Dec-19	0.2040	1095.99	1096.31	-0.32	-0.03%
8-Jan-19	0.0770	1057.80	1057.82	-0.02	0.00%
25-Feb-20	0.0880	1025.89	1025.53	0.36	0.04%
3-Apr-19	0.1780	1093.35	1093.46	-0.11	-0.01%
3-Apr-19	0.1780	1093.35	1093.46	-0.11	-0.01%
30-Oct-19	0.1550	1240.34	1240.70	-0.36	-0.03%
1-Apr-20	0.0860	1002.35	1001.89	0.46	0.05%
20-Jan-20	0.0770	1043.51	1043.47	0.04	0.00%
2-Jun-20	0.2490	1902.36	1903.02	-0.66	-0.03%
1-Sep-19	0.0800	1252.82	1252.67	0.15	0.01%
15-Jan-19	0.0940	1221.64	1221.68	-0.05	0.00%
13-Feb-19	0.1470	1236.10	1236.43	-0.33	-0.03%
13-Feb-19	0.1470	1235.93	1236.26	-0.33	-0.03%
9-Dec-19	0.2690	1238.11	1238.96	-0.84	-0.07%
25-Jan-19	0.0820	1237.05	1237.12	-0.07	-0.01%
11-Nov-19	0.1470	1207.77	1208.10	-0.33	-0.03%
22-Jul-19	0.2070	1273.60	1274.17	-0.58	-0.05%
22-Jul-19	0.2070	1273.08	1273.65	-0.58	-0.05%
22-Jul-19	0.2070	1269.21	1269.79	-0.58	-0.05%
	0.2060	1267.70	1268.27	-0.57	-0.05%
22-Jul-19	0.2070	1271.44	1272.01	-0.58	-0.05%
22-Jul-19	0.2070	1273.01	1273.59	-0.58	-0.05%
22-Jul-19	0.2060	1267.82	1268.39	-0.57	-0.05%
22-Jul-19	0.2070	1270.10	1270.68	-0.58	-0.05%
22-Jul-19	0.2070	1271.09	1271.67	-0.58	-0.05%
31-Jul-19	0.0890	1067.39	1067.15	0.25	0.02%
5-Dec-19	0.0870	1030.87	1030.65	0.22	0.02%

28-Aug-19	0.1040	985.83	985.40	0.43	0.04%
5-Jun-19	0.0930	996.03	995.80	0.23	0.02%
28-May-20	0.0960	1007.07	1006.90	0.17	0.02%
28-Aug-19	0.1060	981.93	981.45	0.48	0.05%
21-Mar-19	0.0680	994.97	994.68	0.29	0.03%
28-Aug-19	0.1060	981.93	981.45	0.48	0.05%
19-Mar-20	0.2570	1141.81	1142.47	-0.66	-0.06%
10-Jan-20	0.1260	1236.04	1236.17	-0.14	-0.01%
8-Jun-20	0.0980	1035.40	1035.09	0.30	0.03%
14-Nov-19	0.0940	1025.38	1025.11	0.27	0.03%
21-May-20	0.1460	1202.44	1202.68	-0.24	-0.02%
1-Apr-20	0.2270	1132.03	1132.39	-0.36	-0.03%
5-Dec-19	0.0880	990.83	990.52	0.31	0.03%
9-Apr-19	0.0830	1283.42	1283.48	-0.06	0.00%
5-Dec-19	0.1100	1903.31	1903.54	-0.23	-0.01%
5-Jun-20	0.1730	1307.33	1307.71	-0.38	-0.03%
1-Aug-19	0.0870	1255.06	1254.89	0.17	0.01%
14-Jan-20	0.1660	1273.79	1274.15	-0.37	-0.03%
11-Dec-19	0.2250	1306.11	1306.68	-0.57	-0.04%
15-Apr-20	0.1410	1309.53	1309.73	-0.20	-0.02%
25-Oct-19	0.2330	1295.36	1295.89	-0.52	-0.04%
25-Oct-19	0.2330	1295.37	1295.90	-0.52	-0.04%
25-Oct-19	0.2340	1296.54	1297.06	-0.53	-0.04%
25-Oct-19	0.2340	1296.54	1297.06	-0.53	-0.04%
25-Oct-19	0.2340	1296.54	1297.06	-0.53	-0.04%
19-Mar-19	0.2410	1335.40	1335.92	-0.52	-0.04%
29-Jan-19	0.0990	1070.67	1070.68	-0.02	0.00%
20-Feb-20	0.0970	1031.52	1031.40	0.12	0.01%
14-Feb-19	0.1630	1046.22	1046.16	0.06	0.01%
26-Mar-20	0.0950	1011.86	1011.69	0.16	0.02%
19-Jun-19	0.0820	998.93	998.53	0.40	0.04%
26-Feb-20	0.1000	1015.10	1014.99	0.11	0.01%
28-Oct-19	0.0910	1048.54	1048.48	0.06	0.01%
28-Oct-19	0.0910	1048.54	1048.48	0.06	0.01%
24-Jun-19	0.0890	1042.06	1041.93	0.13	0.01%
24-Jun-19	0.0890	1042.46	1042.32	0.13	0.01%
9-Apr-19	0.0840	1282.83	1282.89	-0.05	0.00%
9-Apr-19	0.0840	1283.46	1283.51	-0.05	0.00%
9-Apr-19	0.0840	1283.62	1283.67	-0.05	0.00%
9-Apr-19	0.0840	1283.68	1283.74	-0.05	0.00%
17-Apr-20	0.3330	1210.86	1211.92	-1.06	-0.09%
17-Sep-18	0.0780	1296.87	1296.82	0.05	0.00%
21-Dec-18	0.0910	1228.08	1228.05	0.03	0.00%
10-Jul-19	0.2040	1236.69	1237.19	-0.50	-0.04%
10-Jul-19	0.2000	1204.87	1205.35	-0.48	-0.04%
10-Jul-19	0.2040	1236.67	1237.17	-0.50	-0.04%
10-Jul-19	0.2000	1205.44	1205.92	-0.48	-0.04%
18-Sep-19	0.3840	1245.26	1246.43	-1.16	-0.09%
18-Sep-19	0.3840	1245.26	1246.43	-1.16	-0.09%
11-Jul-18	0.0910	1046.47	1046.07	0.40	0.04%
14-Jan-19	0.1100	1092.88	1092.99	-0.11	-0.01%
6-Mar-19	0.1450	1057.67	1057.56	0.11	0.01%
14-Nov-19	0.1020	1024.77	1024.40	0.37	0.04%
20-May-20	0.0880	1061.55	1061.14	0.41	0.04%
7-Feb-19	0.1530	1076.24	1076.20	0.04	0.00%
12-Apr-19	0.1450	1116.58	1116.67	-0.09	-0.01%
14-Feb-19	0.1530	1066.47	1066.32	0.15	0.01%

20-Feb-19	0.3570	1248.29	1249.25	-0.96	-0.08%
30-Oct-19	0.1710	1233.89	1234.28	-0.39	-0.03%
20-Nov-19	0.0900	1009.05	1008.85	0.20	0.02%
20-Nov-19	0.0900	1009.05	1008.85	0.20	0.02%
1-Apr-20	0.5000	1157.42	1158.77	-1.35	-0.12%
27-May-20	0.0940	995.58	995.35	0.23	0.02%
14-Apr-20	0.0900	1046.06	1045.94	0.11	0.01%
23-Feb-18	0.1240	1328.20	1328.32	-0.12	-0.01%
5-Oct-18	0.1090	1342.18	1342.32	-0.14	-0.01%
5-Oct-18	0.1090	1341.86	1342.00	-0.14	-0.01%
25-Oct-19	0.5210	1298.48	1300.23	-1.74	-0.13%
25-Oct-19	0.5200	1297.16	1298.90	-1.74	-0.13%
15-Apr-19	0.2510	1277.83	1278.55	-0.72	-0.06%
15-Apr-19	0.2510	1280.45	1281.17	-0.72	-0.06%
15-Apr-19	0.2510	1280.45	1281.17	-0.72	-0.06%
8-Jun-20	0.1400	1085.33	1085.32	0.01	0.00%
9-Dec-19	0.1090	1034.30	1034.00	0.30	0.03%
28-Apr-20	0.1740	1224.22	1224.53	-0.31	-0.03%
27-Feb-19	0.0740	992.61	992.32	0.29	0.03%
19-Nov-19	0.1180	1062.84	1062.90	-0.06	-0.01%
19-Nov-19	0.1180	1062.78	1062.84	-0.06	-0.01%
19-Nov-19	0.1180	1063.28	1063.34	-0.06	-0.01%
19-Nov-19	0.1180	1063.28	1063.34	-0.06	-0.01%
27-Apr-20	0.3120	1956.35	1957.31	-0.96	-0.05%
12-Feb-20	0.2430	1306.40	1306.97	-0.57	-0.04%
13-Nov-18	0.0900	1303.27	1303.10	0.17	0.01%
17-Sep-18	0.0850	1293.76	1293.66	0.10	0.01%
4-Feb-19	0.1380	1721.50	1721.62	-0.12	-0.01%
4-Feb-19	0.1380	1721.73	1721.85	-0.12	-0.01%
15-Apr-20	0.2530	1742.32	1743.08	-0.76	-0.04%
21-Jan-20	0.1390	1090.01	1090.05	-0.04	0.00%
8-Jun-20	0.1230	1085.24	1085.12	0.13	0.01%
18-Jun-19	0.1110	1029.69	1029.27	0.43	0.04%
18-Jun-19	0.1110	1029.69	1029.27	0.43	0.04%
14-Nov-19	0.1090	1024.94	1024.54	0.40	0.04%
16-May-19	0.1120	1027.37	1026.95	0.42	0.04%
7-Feb-19	0.1140	1042.61	1042.44	0.17	0.02%
5-Feb-20	0.1270	1051.57	1051.48	0.09	0.01%
14-Feb-19	0.1800	1078.44	1078.22	0.22	0.02%
16-Jan-20	0.1420	1080.72	1080.66	0.05	0.00%
18-Nov-19	0.1080	1038.50	1038.32	0.18	0.02%
18-Nov-19	0.1080	1038.50	1038.32	0.18	0.02%
7-Mar-18	0.3770	1405.13	1405.08	0.06	0.00%
28-Aug-19	0.1350	999.18	998.72	0.46	0.05%
21-Feb-20	0.0970	1051.36	1051.20	0.16	0.02%
23-Jan-18	0.1420	1272.18	1272.44	-0.27	-0.02%
19-Dec-18	0.1110	1210.37	1210.53	-0.16	-0.01%
2-Mar-20	0.2000	1243.15	1243.65	-0.49	-0.04%
18-Sep-19	0.2980	1374.83	1375.73	-0.90	-0.07%
19-Dec-19	0.1990	1124.10	1124.58	-0.47	-0.04%
19-Dec-19	0.1990	1124.42	1124.89	-0.47	-0.04%
6-Mar-19	0.1650	1063.00	1062.91	0.09	0.01%
6-Mar-19	0.1830	1076.21	1076.10	0.11	0.01%
26-Aug-19	0.1150	1024.81	1024.35	0.46	0.04%
16-May-19	0.1120	1026.58	1026.15	0.43	0.04%
29-Jul-19	0.1060	1033.21	1032.99	0.22	0.02%
29-Jul-19	0.1060	1033.21	1032.99	0.22	0.02%

12-Mar-19	0.1990	1084.41	1084.06	0.34	0.03%
11-May-20	0.1210	1043.41	1043.02	0.38	0.04%
9-Mar-20	0.1150	1068.88	1068.84	0.04	0.00%
30-Oct-19	0.2080	1232.95	1233.44	-0.49	-0.04%
26-Mar-20	0.1720	1153.20	1153.51	-0.30	-0.03%
1-Nov-19	0.2310	1145.39	1145.65	-0.26	-0.02%
30-May-18	0.0930	995.99	995.69	0.31	0.03%
16-Apr-19	0.1040	1047.65	1047.51	0.14	0.01%
2-Apr-20	0.1090	1067.24	1067.17	0.07	0.01%
22-Apr-20	0.1960	1291.04	1291.50	-0.46	-0.04%
11-Dec-19	0.2270	1292.72	1292.98	-0.26	-0.02%
16-Apr-20	0.1940	1280.62	1281.00	-0.38	-0.03%
30-Jan-19	0.0990	1223.83	1223.79	0.04	0.00%
11-Nov-19	0.1550	1229.28	1229.43	-0.15	-0.01%
11-Nov-19	0.1550	1229.28	1229.43	-0.15	-0.01%
12-May-20	0.1070	1049.58	1049.21	0.37	0.03%
2-Jan-20	0.1630	1087.66	1087.98	-0.31	-0.03%
7-Jan-20	0.1700	1163.17	1163.41	-0.24	-0.02%
31-Jan-19	0.1350	1080.78	1080.71	0.06	0.01%
25-Nov-19	0.1320	1078.43	1078.45	-0.02	0.00%
25-Nov-19	0.1320	1078.43	1078.45	-0.02	0.00%
25-Nov-19	0.1770	1170.17	1170.42	-0.25	-0.02%
25-Nov-19	0.1770	1170.17	1170.42	-0.25	-0.02%
18-Jun-19	0.1410	1038.06	1037.65	0.41	0.04%
18-Jun-19	0.1410	1038.06	1037.65	0.41	0.04%
20-May-20	0.1140	1026.20	1025.75	0.45	0.04%
12-Apr-19	0.1170	1026.96	1026.51	0.45	0.04%
26-Feb-20	0.1330	1051.57	1051.45	0.12	0.01%
5-Feb-20	0.1260	1047.21	1047.10	0.11	0.01%
14-Feb-19	0.1990	1101.71	1101.69	0.02	0.00%
14-Feb-19	0.1640	1054.22	1053.97	0.25	0.02%
19-Feb-19	0.1460	1068.93	1068.62	0.31	0.03%
4-Feb-20	0.1440	1069.86	1069.95	-0.09	-0.01%
12-Sep-19	0.1210	1014.33	1014.13	0.19	0.02%
5-Jun-19	0.1120	1002.04	1001.69	0.35	0.03%
30-Sep-19	0.1190	1055.56	1055.30	0.26	0.02%
6-Feb-20	0.1390	1951.07	1951.36	-0.29	-0.02%
25-Feb-20	0.2440	1257.19	1257.80	-0.62	-0.05%
17-Dec-18	0.0940	1243.52	1243.46	0.06	0.00%
11-Jun-20	0.1530	1230.86	1230.90	-0.04	0.00%
25-Sep-18	0.1890	1280.28	1280.55	-0.27	-0.02%
25-Sep-18	0.1890	1280.28	1280.55	-0.27	-0.02%
6-Apr-20	0.2230	1302.85	1303.18	-0.33	-0.03%
30-Sep-17	0.0810	1408.68	1408.20	0.48	0.03%
26-Jun-19	0.2900	1302.19	1303.01	-0.82	-0.06%
29-Mar-20	0.3250	1382.15	1383.14	-0.99	-0.07%
26-Jul-19	0.3420	1350.06	1351.11	-1.05	-0.08%
4-Apr-19	0.3280	1130.18	1130.84	-0.67	-0.06%
4-Apr-19	0.3280	1130.18	1130.84	-0.67	-0.06%
5-Feb-20	0.1320	1046.59	1046.45	0.14	0.01%
7-Feb-19	0.1470	1065.63	1065.61	0.02	0.00%
7-May-20	0.1230	1039.00	1038.78	0.22	0.02%
14-Feb-19	0.1820	1062.68	1062.30	0.38	0.04%
11-Nov-19	0.1240	1054.33	1054.15	0.18	0.02%
11-Nov-19	0.1230	1050.24	1050.06	0.19	0.02%
29-Aug-19	0.1320	1046.45	1046.18	0.27	0.03%
29-Aug-19	0.1320	1046.45	1046.18	0.27	0.03%

1-Nov-19	0.4770	1155.18	1156.33	-1.15	-0.10%
1-Feb-20	0.0820	1093.95	1093.83	0.12	0.01%
1-Mar-19	0.1220	1015.08	1014.68	0.40	0.04%
1-Jul-19	0.1150	1054.63	1054.40	0.24	0.02%
1-Jul-19	0.1150	1054.54	1054.30	0.24	0.02%
30-Sep-19	0.1190	1067.00	1066.84	0.16	0.01%
30-Sep-19	0.1190	1066.48	1066.33	0.16	0.01%
26-Mar-20	0.2680	1328.81	1329.50	-0.69	-0.05%
26-Mar-20	0.2690	1330.32	1331.01	-0.69	-0.05%
20-Jun-20	0.2680	1391.74	1392.46	-0.72	-0.05%
22-Mar-19	0.1190	1253.37	1253.18	0.19	0.01%
13-Feb-19	0.1730	1313.82	1314.26	-0.44	-0.03%
18-Dec-18	0.1170	1253.49	1253.60	-0.11	-0.01%
17-Apr-20	0.2290	1169.87	1170.39	-0.52	-0.04%
16-Oct-19	0.2680	1296.31	1296.96	-0.65	-0.05%
16-Oct-19	0.2680	1294.00	1294.65	-0.65	-0.05%
30-Jan-19	0.1200	1188.16	1188.21	-0.05	0.00%
9-May-19	4.5100	1730.67	1747.42	-16.75	-0.97%
3-Sep-19	0.2630	1364.98	1365.64	-0.67	-0.05%
3-Sep-19	0.2630	1365.08	1365.75	-0.67	-0.05%
3-Sep-19	0.2630	1365.07	1365.74	-0.67	-0.05%
3-Sep-19	0.2630	1365.22	1365.89	-0.67	-0.05%
26-Jun-19	0.3050	1298.59	1299.44	-0.85	-0.07%
14-Aug-18	0.1180	1052.77	1052.21	0.56	0.05%
28-Aug-18	0.1360	1058.54	1058.16	0.38	0.04%
9-Jun-20	0.1660	1092.18	1092.16	0.02	0.00%
2-Mar-20	0.1510	1053.65	1053.73	-0.08	-0.01%
5-Feb-20	0.1440	1054.77	1054.74	0.04	0.00%
5-Feb-19	0.1410	1051.89	1051.73	0.16	0.02%
4-Feb-20	0.1230	1039.55	1039.45	0.10	0.01%
7-Feb-19	0.1280	1043.75	1043.55	0.20	0.02%
11-Feb-20	0.1410	1066.27	1066.15	0.12	0.01%
19-May-20	0.1270	1037.86	1037.57	0.29	0.03%
16-May-19	0.1260	1050.11	1049.87	0.23	0.02%
5-Feb-19	0.1290	1038.81	1038.49	0.32	0.03%
21-Oct-09	0.1000	1061.13	1061.13	0.00	0.00%
28-Aug-19	0.1440	1012.16	1011.74	0.42	0.04%
28-Aug-19	0.1440	1012.16	1011.74	0.42	0.04%
31-Oct-19	0.1000	1007.51	1007.44	0.08	0.01%
31-Oct-19	0.1000	1007.51	1007.44	0.08	0.01%
27-Feb-20	0.2600	1494.46	1495.15	-0.68	-0.05%
27-Feb-20	0.2600	1493.46	1494.14	-0.68	-0.05%
27-Feb-20	0.2600	1494.46	1495.15	-0.68	-0.05%
9-Apr-20	0.1850	1238.32	1238.66	-0.35	-0.03%
15-Feb-19	0.2530	1288.94	1289.52	-0.58	-0.05%
21-Oct-19	0.1920	1102.84	1103.07	-0.23	-0.02%
19-Feb-19	0.1980	1113.87	1114.13	-0.26	-0.02%
19-Feb-19	0.1980	1113.87	1114.13	-0.26	-0.02%
15-Jan-19	0.1450	1099.04	1099.13	-0.09	-0.01%
15-Jan-19	0.1450	1099.04	1099.13	-0.09	-0.01%
4-Apr-19	0.2930	1099.41	1099.84	-0.44	-0.04%
6-Mar-19	0.1860	1068.62	1068.54	0.08	0.01%
31-Jan-19	0.1910	1089.00	1089.14	-0.14	-0.01%
4-Feb-20	0.1250	1041.38	1041.27	0.11	0.01%
7-Feb-19	0.1380	1048.66	1048.38	0.29	0.03%
10-Feb-20	0.1330	1041.69	1041.55	0.14	0.01%
13-Mar-19	0.1810	1106.54	1106.42	0.12	0.01%

6-Feb-19	0.2110	1086.08	1086.06	0.02	0.00%
23-Apr-20	0.1420	1045.86	1045.64	0.23	0.02%
3-Feb-20	0.1520	1072.40	1072.57	-0.17	-0.02%
7-Jan-19	0.2410	1267.71	1268.36	-0.65	-0.05%
12-Dec-19	0.1260	1015.62	1015.49	0.14	0.01%
1-Feb-20	0.0880	1069.61	1069.48	0.13	0.01%
28-May-20	0.1390	1033.62	1033.43	0.19	0.02%
26-Feb-20	0.1150	1009.19	1009.01	0.18	0.02%
29-Aug-19	0.2300	1335.59	1336.11	-0.52	-0.04%
13-Feb-19	0.1200	1314.45	1314.51	-0.06	0.00%
9-Apr-20	0.1620	1214.82	1215.01	-0.19	-0.02%
13-Feb-20	0.2010	1183.42	1183.74	-0.32	-0.03%
13-Feb-20	0.2010	1183.42	1183.74	-0.32	-0.03%
12-Nov-19	0.1780	1330.27	1330.19	0.08	0.01%
12-Nov-19	0.1780	1328.87	1328.80	0.08	0.01%
26-Mar-19	0.1500	1217.83	1217.65	0.18	0.01%
23-Jan-20	0.1590	1095.43	1095.42	0.00	0.00%
23-Jan-20	0.1590	1095.43	1095.42	0.00	0.00%
7-Nov-19	0.1180	1051.46	1051.17	0.30	0.03%
7-Nov-19	0.1180	1051.46	1051.17	0.30	0.03%
15-Jan-19	0.1320	1085.73	1085.81	-0.08	-0.01%
5-Dec-19	0.1390	1077.50	1077.37	0.13	0.01%
20-Feb-20	0.1340	1030.23	1029.75	0.48	0.05%
9-Oct-19	0.1640	1072.50	1072.32	0.19	0.02%
9-Oct-19	0.1640	1072.50	1072.32	0.19	0.02%
28-Aug-19	0.1400	1024.92	1024.31	0.61	0.06%
28-May-19	0.1360	1025.60	1025.07	0.53	0.05%
28-Aug-19	0.1400	1024.92	1024.31	0.61	0.06%
7-Nov-19	0.1480	1057.97	1057.89	0.08	0.01%
7-Nov-19	0.1480	1057.97	1057.89	0.08	0.01%
19-Feb-20	0.1460	1059.31	1059.16	0.15	0.01%
13-Mar-19	0.2050	1090.15	1090.04	0.11	0.01%
28-Jan-19	0.1940	1184.87	1184.98	-0.11	-0.01%
7-Jan-20	0.1510	1067.00	1066.96	0.03	0.00%
11-Nov-19	0.1370	1052.20	1052.07	0.12	0.01%
11-Nov-19	0.1370	1052.20	1052.07	0.12	0.01%
4-Feb-20	0.1280	1040.00	1039.98	0.02	0.00%
1-Oct-19	0.0920	1094.93	1094.79	0.14	0.01%
1-Oct-19	0.0910	1095.33	1095.19	0.14	0.01%
1-Feb-20	0.0900	1093.79	1093.67	0.13	0.01%
31-Oct-19	0.0780	992.32	992.07	0.24	0.02%
31-Oct-19	0.0780	992.32	992.07	0.24	0.02%
26-Mar-19	0.1320	1064.71	1064.44	0.27	0.03%
17-Jan-20	0.2910	1517.96	1518.76	-0.80	-0.05%
17-Jan-20	0.2910	1519.11	1519.90	-0.80	-0.05%
14-Nov-19	0.2000	1281.33	1281.69	-0.36	-0.03%
14-Nov-19	0.2000	1280.76	1281.12	-0.36	-0.03%
11-Oct-19	0.3660	1244.81	1245.83	-1.02	-0.08%
11-Oct-19	0.3660	1244.71	1245.73	-1.02	-0.08%
12-Feb-20	0.2170	1355.92	1356.36	-0.44	-0.03%
18-Feb-20	0.3440	1189.84	1190.60	-0.76	-0.06%
20-May-19	0.1840	1213.01	1213.37	-0.36	-0.03%
30-Jan-20	0.1690	1092.89	1092.98	-0.09	-0.01%
19-Aug-19	0.1750	1101.89	1102.00	-0.11	-0.01%
18-Jul-19	0.1780	1099.81	1099.80	0.01	0.00%
26-May-20	0.1740	1102.14	1102.31	-0.17	-0.02%
19-Aug-19	0.1750	1101.89	1102.00	-0.11	-0.01%

18-Jul-19	0.1780	1099.81	1099.80	0.01	0.00%
26-May-20	0.1740	1102.14	1102.31	-0.17	-0.02%
1-May-20	0.2290	1080.93	1081.04	-0.12	-0.01%
16-Jul-19	0.1570	1094.13	1093.99	0.14	0.01%
16-Jul-19	0.1570	1094.13	1093.99	0.14	0.01%
9-Jan-20	0.2140	1138.74	1138.89	-0.14	-0.01%
1-Nov-19	0.1620	1069.66	1069.50	0.17	0.02%
1-Nov-19	0.1620	1069.66	1069.50	0.17	0.02%
21-Feb-19	0.1610	1064.50	1064.28	0.22	0.02%
20-Feb-20	0.1610	1059.12	1059.05	0.07	0.01%
2-Dec-19	0.1440	1046.63	1046.29	0.34	0.03%
20-May-20	0.1350	1029.79	1029.30	0.49	0.05%
20-Feb-20	0.1370	1031.46	1031.03	0.43	0.04%
14-Nov-19	0.1360	1030.04	1029.57	0.47	0.05%
8-Jan-20	0.1490	1057.22	1057.08	0.14	0.01%
20-Jan-20	0.1570	1092.09	1092.07	0.03	0.00%
11-Feb-20	0.1540	1059.37	1059.22	0.15	0.01%
10-Feb-20	0.1570	1058.14	1057.70	0.44	0.04%
29-Nov-18	0.1830	1104.27	1104.42	-0.15	-0.01%
25-Feb-20	0.1560	1065.46	1065.47	-0.01	0.00%
22-Apr-20	0.1930	1197.99	1198.27	-0.28	-0.02%
30-Apr-19	0.1960	1076.00	1076.20	-0.20	-0.02%
5-Jun-19	0.1350	1014.23	1013.97	0.26	0.03%
1-Oct-19	0.0930	1094.89	1094.75	0.14	0.01%
5-Dec-19	0.1980	1071.92	1071.64	0.28	0.03%
15-May-18	0.1700	1084.92	1084.76	0.16	0.01%
5-Dec-19	0.1290	1015.23	1014.95	0.28	0.03%
22-Aug-19	0.1550	1059.44	1059.03	0.41	0.04%
22-Aug-19	0.1550	1059.44	1059.03	0.41	0.04%
1-Jul-19	0.1340	1057.73	1057.44	0.30	0.03%
11-Mar-20	0.2400	1250.30	1250.60	-0.30	-0.02%
25-Feb-19	0.1440	1278.08	1278.04	0.05	0.00%
28-Feb-18	0.1400	1282.52	1282.60	-0.08	-0.01%
20-Feb-19	0.1620	1236.68	1236.96	-0.27	-0.02%
7-Feb-20	0.2380	1308.39	1308.68	-0.29	-0.02%
10-Dec-19	0.2080	1330.78	1331.11	-0.33	-0.02%
6-Apr-20	0.5340	1342.25	1343.54	-1.28	-0.10%
13-Mar-18	0.1160	1246.87	1246.88	-0.01	0.00%
11-Dec-19	0.2050	1267.11	1267.43	-0.32	-0.03%
18-Dec-19	0.1760	1094.95	1095.08	-0.14	-0.01%
20-Aug-19	0.1490	1099.69	1099.63	0.06	0.01%
28-Oct-19	0.1460	1053.56	1053.03	0.53	0.05%
28-Oct-19	0.1460	1053.56	1053.03	0.53	0.05%
25-Oct-18	0.2280	1117.93	1118.12	-0.19	-0.02%
26-Nov-19	0.1520	1072.45	1072.40	0.05	0.00%
26-Nov-19	0.1530	1077.16	1077.12	0.04	0.00%
13-Nov-19	0.1890	1095.47	1095.56	-0.09	-0.01%
13-Nov-19	0.1890	1095.47	1095.56	-0.09	-0.01%
6-Nov-19	0.1460	1046.97	1046.76	0.21	0.02%
6-Nov-19	0.1460	1046.97	1046.76	0.21	0.02%
28-May-19	0.2240	1178.33	1178.57	-0.24	-0.02%
16-May-19	0.1410	1031.04	1030.50	0.53	0.05%
14-Nov-19	0.1350	1029.39	1028.90	0.50	0.05%
11-Jul-19	0.1510	1045.12	1044.64	0.47	0.05%
2-Mar-20	0.1390	1040.41	1040.22	0.19	0.02%
2-Mar-20	0.1480	1050.18	1050.10	0.08	0.01%
16-Apr-19	0.1430	1048.64	1048.34	0.30	0.03%

3-Oct-19	0.1530	1053.23	1052.96	0.28	0.03%
3-Oct-19	0.1530	1053.23	1052.96	0.28	0.03%
23-Apr-20	0.1500	1050.51	1050.34	0.17	0.02%
14-Jan-20	0.1790	1128.96	1128.97	-0.01	0.00%
6-Feb-19	0.1500	1064.31	1064.20	0.11	0.01%
25-Apr-19	0.2650	1276.55	1277.21	-0.65	-0.05%
25-Mar-20	0.2570	1178.20	1178.82	-0.63	-0.05%
1-Aug-19	0.0970	1051.91	1051.76	0.15	0.01%
11-Jul-18	0.1410	1002.49	1001.97	0.53	0.05%
15-Apr-20	0.1620	1055.07	1054.94	0.13	0.01%
30-Dec-19	0.1370	1066.00	1065.91	0.09	0.01%
25-Mar-20	0.2140	1273.63	1273.88	-0.25	-0.02%
17-Dec-19	0.2710	1311.30	1311.88	-0.58	-0.04%
11-Jul-18	0.0960	1345.71	1345.45	0.26	0.02%
11-Mar-20	0.2050	1275.03	1275.32	-0.29	-0.02%
11-Feb-19	0.1340	1244.00	1244.06	-0.06	0.00%
11-Feb-19	0.1340	1244.04	1244.10	-0.06	0.00%
24-Mar-20	0.1760	1094.05	1094.17	-0.11	-0.01%
13-May-19	0.1280	1049.50	1049.11	0.39	0.04%
2-Apr-20	0.1750	1095.70	1095.80	-0.10	-0.01%
23-Mar-20	0.1770	1095.10	1095.10	0.00	0.00%
29-Oct-19	0.1710	1097.40	1097.26	0.13	0.01%
29-Oct-19	0.1710	1097.40	1097.26	0.13	0.01%
27-Mar-20	0.4840	1106.16	1107.62	-1.46	-0.13%
6-Mar-19	0.1980	1070.95	1070.69	0.26	0.02%
21-Feb-19	0.1630	1056.70	1056.40	0.29	0.03%
21-Feb-19	0.1790	1070.14	1069.93	0.22	0.02%
14-Nov-19	0.1490	1027.23	1026.63	0.60	0.06%
26-Aug-19	0.1550	1026.57	1025.91	0.65	0.06%
5-Mar-19	0.1590	1052.65	1052.42	0.23	0.02%
1-Aug-19	0.1530	1045.98	1045.76	0.22	0.02%
26-Feb-20	0.1730	1068.78	1068.68	0.09	0.01%
1-Aug-19	0.1530	1045.98	1045.76	0.22	0.02%
6-Aug-19	0.1480	1043.47	1043.24	0.23	0.02%
6-Aug-19	0.1480	1043.47	1043.24	0.23	0.02%
3-Jan-19	0.1540	1064.15	1063.87	0.27	0.03%
1-Aug-19	0.1380	1037.92	1037.64	0.28	0.03%
1-Aug-19	0.1380	1037.92	1037.64	0.28	0.03%
27-Mar-20	0.1760	1075.55	1075.42	0.14	0.01%
30-Oct-19	0.2040	1176.51	1176.90	-0.39	-0.03%
30-Oct-19	0.2040	1176.58	1176.96	-0.39	-0.03%
20-Mar-19	0.3170	1172.74	1173.47	-0.73	-0.06%
1-Aug-19	0.2440	1132.82	1132.95	-0.13	-0.01%
1-Aug-19	0.0990	1074.58	1074.43	0.15	0.01%
15-Apr-20	0.1690	1042.92	1042.81	0.11	0.01%
29-Apr-19	0.1500	1032.86	1032.57	0.29	0.03%
29-Apr-19	0.1500	1032.86	1032.57	0.29	0.03%
8-Jan-20	0.3050	1313.76	1314.42	-0.67	-0.05%
16-Dec-19	0.2830	1277.84	1278.47	-0.63	-0.05%
28-Oct-19	0.3330	1304.88	1305.57	-0.68	-0.05%
28-Oct-19	0.3330	1304.87	1305.56	-0.68	-0.05%
21-Feb-19	0.1110	1304.60	1304.51	0.10	0.01%
26-Aug-19	0.2450	1336.14	1336.64	-0.50	-0.04%
26-Aug-19	0.2450	1336.14	1336.64	-0.50	-0.04%
3-Oct-18	0.1880	1314.70	1314.87	-0.17	-0.01%
3-Oct-18	0.1880	1314.70	1314.87	-0.17	-0.01%
21-Feb-19	0.1520	1167.83	1167.86	-0.03	0.00%

7-Apr-20	0.2620	1241.43	1241.51	-0.08	-0.01%
12-Feb-19	0.2560	1243.19	1243.54	-0.35	-0.03%
24-Apr-19	0.1490	1267.87	1267.98	-0.11	-0.01%
15-Oct-18	0.1420	1366.82	1366.96	-0.14	-0.01%
18-Apr-20	0.2830	1206.52	1207.16	-0.64	-0.05%
19-Nov-19	0.1840	1102.64	1102.81	-0.17	-0.02%
20-Apr-20	0.1840	1103.12	1103.24	-0.11	-0.01%
23-Mar-20	0.1820	1103.28	1103.42	-0.14	-0.01%
19-Nov-19	0.1840	1102.64	1102.81	-0.17	-0.02%
20-Apr-20	0.1840	1103.12	1103.24	-0.11	-0.01%
23-Mar-20	0.1820	1103.28	1103.42	-0.14	-0.01%
16-Sep-19	0.2280	1108.13	1108.35	-0.23	-0.02%
25-Sep-19	0.2440	1116.13	1116.59	-0.46	-0.04%
5-Nov-19	0.1840	1095.62	1095.75	-0.13	-0.01%
27-Apr-20	0.1750	1094.69	1094.75	-0.06	-0.01%
1-Apr-19	0.1510	1081.60	1081.47	0.13	0.01%
9-Jul-19	0.1350	1062.10	1061.93	0.17	0.02%
9-Jul-19	0.1350	1062.10	1061.93	0.17	0.02%
29-Jan-19	0.1370	1076.78	1076.64	0.14	0.01%
7-Feb-19	0.1610	1074.44	1074.35	0.09	0.01%
19-Feb-19	0.1570	1061.51	1061.40	0.11	0.01%
5-Apr-19	0.1920	1104.03	1104.12	-0.08	-0.01%
6-Mar-19	0.1480	1068.89	1068.80	0.09	0.01%
7-Mar-19	0.2220	1072.40	1072.05	0.36	0.03%
5-Mar-19	0.1610	1052.25	1051.83	0.42	0.04%
3-Jun-20	0.2470	1171.20	1171.62	-0.41	-0.04%
16-May-19	0.1520	1031.11	1030.55	0.56	0.05%
20-May-20	0.1450	1030.06	1029.53	0.53	0.05%
1-Aug-19	0.1600	1051.28	1051.11	0.17	0.02%
1-Aug-19	0.1600	1051.28	1051.11	0.17	0.02%
26-Feb-20	0.1590	1055.58	1055.49	0.09	0.01%
5-Feb-19	0.1740	1064.68	1064.58	0.10	0.01%
6-Nov-19	0.1480	1038.92	1038.53	0.39	0.04%
6-Nov-19	0.1480	1038.92	1038.53	0.39	0.04%
4-Feb-20	0.1390	1040.17	1040.00	0.18	0.02%
6-Feb-19	0.2270	1089.35	1089.22	0.13	0.01%
11-Feb-20	0.1600	1054.41	1054.25	0.17	0.02%
28-Mar-19	0.1700	1060.52	1060.47	0.05	0.00%
13-Mar-19	0.2180	1086.56	1086.34	0.22	0.02%
28-Jan-20	0.2080	1096.32	1096.67	-0.36	-0.03%
28-Jan-20	0.2080	1097.66	1098.02	-0.36	-0.03%
22-Apr-20	0.1590	1062.51	1062.19	0.32	0.03%
11-Feb-20	0.1670	1073.05	1072.79	0.26	0.02%
19-Feb-20	0.1640	1069.51	1069.35	0.16	0.01%
10-Oct-19	0.1530	1050.77	1050.59	0.19	0.02%
10-Oct-19	0.1530	1050.77	1050.59	0.19	0.02%
11-Feb-20	0.1740	1076.17	1076.12	0.05	0.00%
18-Nov-19	0.1390	1045.51	1045.32	0.19	0.02%
18-Nov-19	0.1390	1045.51	1045.32	0.19	0.02%
17-Jan-19	0.1510	1074.30	1074.27	0.03	0.00%
17-Jan-19	0.1510	1074.30	1074.27	0.03	0.00%
7-Mar-19	0.2150	1065.48	1065.23	0.25	0.02%
9-Dec-19	0.2330	1164.81	1165.25	-0.44	-0.04%
1-Feb-20	0.1010	1093.97	1093.82	0.15	0.01%
1-May-20	0.2450	1126.89	1127.37	-0.48	-0.04%
28-May-20	0.3610	1220.78	1221.38	-0.60	-0.05%
30-Apr-20	0.3030	1483.53	1483.87	-0.34	-0.02%

30-Apr-20	0.3030	1484.52	1484.86	-0.34	-0.02%
11-Jan-19	0.1300	1224.03	1224.08	-0.05	0.00%
20-Dec-18	0.1310	1277.48	1277.30	0.18	0.01%
22-Jan-19	0.1620	1159.57	1159.77	-0.21	-0.02%
4-Apr-19	0.1010	1279.81	1279.52	0.29	0.02%
23-Feb-20	0.1200	1183.56	1183.56	0.00	0.00%
10-Jun-19	0.3040	1282.05	1282.58	-0.53	-0.04%
10-Jun-19	0.3040	1281.96	1282.48	-0.53	-0.04%
10-Jun-19	0.3040	1278.46	1278.99	-0.53	-0.04%
10-Jun-19	0.3030	1276.42	1276.95	-0.52	-0.04%
11-Apr-19	0.1880	1103.48	1103.64	-0.16	-0.01%
11-Apr-19	0.1880	1104.29	1104.45	-0.16	-0.01%
10-Dec-19	0.1860	1096.20	1096.33	-0.14	-0.01%
20-Apr-20	0.1780	1068.29	1068.41	-0.12	-0.01%
11-Apr-19	0.1880	1103.68	1103.84	-0.16	-0.01%
11-Apr-19	0.1880	1103.54	1103.70	-0.16	-0.01%
11-Apr-19	0.1880	1104.15	1104.31	-0.16	-0.01%
6-May-19	0.1640	1092.81	1092.84	-0.03	0.00%
24-Feb-20	0.1630	1057.33	1057.10	0.23	0.02%
24-Jan-19	0.2910	1137.47	1137.79	-0.32	-0.03%
29-Jan-19	0.2700	1109.16	1109.33	-0.17	-0.02%
12-Mar-19	0.1590	1072.90	1072.79	0.11	0.01%
21-Jan-20	0.1920	1104.09	1104.19	-0.09	-0.01%
7-Jan-19	0.1550	1063.59	1063.50	0.09	0.01%
7-Mar-19	0.2200	1077.05	1076.91	0.14	0.01%
7-Mar-19	0.1590	1047.76	1047.41	0.34	0.03%
7-Mar-19	0.2330	1075.84	1075.51	0.34	0.03%
5-Mar-19	0.1710	1062.93	1062.67	0.26	0.02%
6-Nov-19	0.1530	1047.15	1047.01	0.14	0.01%
6-Nov-19	0.1530	1047.15	1047.01	0.14	0.01%
26-Feb-20	0.1720	1066.64	1066.68	-0.04	0.00%
5-Aug-19	0.1600	1047.93	1047.67	0.26	0.02%
7-Feb-19	0.1630	1050.67	1050.36	0.31	0.03%
5-Aug-19	0.1600	1047.93	1047.67	0.26	0.02%
9-Jun-20	0.2010	1089.15	1088.60	0.55	0.05%
20-Jan-20	0.1730	1081.35	1081.22	0.13	0.01%
11-Feb-20	0.2060	1100.46	1100.51	-0.05	0.00%
24-Sep-19	0.1890	1062.77	1062.72	0.06	0.01%
24-Sep-19	0.1890	1062.77	1062.72	0.06	0.01%
6-Feb-19	0.2460	1088.84	1088.90	-0.06	-0.01%
1-May-19	0.1790	1071.04	1070.95	0.09	0.01%
10-Oct-19	0.1580	1051.11	1050.94	0.17	0.02%
10-Oct-19	0.1580	1051.11	1050.94	0.17	0.02%
13-Feb-19	0.2830	1158.00	1158.49	-0.49	-0.04%
13-Feb-19	0.2970	1131.64	1131.95	-0.31	-0.03%
10-Oct-19	0.1570	1050.49	1050.26	0.23	0.02%
10-Oct-19	0.1570	1050.49	1050.26	0.23	0.02%
13-Feb-19	0.2350	1096.54	1096.77	-0.23	-0.02%
10-Feb-20	0.1540	1041.96	1041.75	0.21	0.02%
7-Feb-19	0.1650	1056.79	1056.39	0.40	0.04%
11-Apr-19	0.2660	1119.66	1120.00	-0.34	-0.03%
11-Apr-19	0.2650	1116.38	1116.71	-0.34	-0.03%
11-Apr-19	0.2660	1119.80	1120.14	-0.34	-0.03%
11-Apr-19	0.2650	1116.62	1116.96	-0.34	-0.03%
25-Feb-20	0.1570	1065.40	1065.27	0.13	0.01%
25-Jun-19	0.1630	1026.60	1026.36	0.24	0.02%
1-Jan-20	0.1950	1126.71	1126.61	0.10	0.01%

9-Apr-20	0.3030	1326.96	1327.72	-0.76	-0.06%
15-Aug-19	0.1680	1960.86	1961.18	-0.32	-0.02%
15-May-20	0.1920	1313.32	1313.59	-0.27	-0.02%
8-Nov-19	0.5660	1334.18	1335.77	-1.59	-0.12%
24-May-18	0.1320	1278.02	1277.84	0.18	0.01%
16-Oct-19	0.3230	1157.12	1157.90	-0.78	-0.07%
16-Oct-19	0.3230	1154.83	1155.61	-0.78	-0.07%
19-Dec-19	0.2910	1208.74	1209.42	-0.68	-0.06%
8-Feb-19	0.1180	1266.41	1266.43	-0.02	0.00%
17-Mar-20	0.3830	1202.12	1203.11	-0.99	-0.08%
7-May-20	0.2100	1290.76	1291.05	-0.29	-0.02%
1-Jan-20	0.2800	1196.57	1197.24	-0.67	-0.06%
26-Jun-19	0.3330	1351.85	1352.73	-0.88	-0.07%
26-Jun-19	0.3330	1352.94	1353.82	-0.88	-0.07%
20-Jun-19	0.1860	1101.42	1101.50	-0.08	-0.01%
10-Oct-19	0.1850	1095.19	1095.36	-0.16	-0.01%
24-Oct-19	0.1990	1071.25	1070.97	0.28	0.03%
16-Jul-19	0.1440	1059.31	1059.02	0.30	0.03%
16-Jul-19	0.1440	1059.31	1059.02	0.30	0.03%
27-Aug-19	0.1660	1059.46	1059.11	0.36	0.03%
27-Aug-19	0.1660	1059.46	1059.11	0.36	0.03%
26-Nov-19	0.2020	1077.32	1077.33	-0.01	0.00%
26-Nov-19	0.2020	1078.60	1078.61	-0.01	0.00%
6-Feb-20	0.2220	1104.75	1104.82	-0.07	-0.01%
8-Jun-20	0.1940	1096.67	1096.80	-0.13	-0.01%
4-Mar-20	0.1790	1065.58	1065.37	0.21	0.02%
9-Jun-20	0.2060	1089.37	1089.41	-0.04	0.00%
5-Feb-20	0.1620	1046.21	1045.86	0.36	0.03%
14-Nov-19	0.1600	1027.99	1027.33	0.66	0.06%
5-Feb-19	0.1830	1066.07	1065.87	0.21	0.02%
5-Feb-19	0.1540	1040.62	1040.29	0.33	0.03%
5-Feb-19	0.1700	1055.26	1055.00	0.26	0.02%
12-May-20	0.1620	1044.60	1044.26	0.34	0.03%
6-Nov-19	0.2020	1090.90	1090.81	0.09	0.01%
6-Nov-19	0.2020	1090.90	1090.81	0.09	0.01%
19-Feb-19	0.1780	1065.65	1065.47	0.18	0.02%
3-Jan-19	0.1690	1074.06	1073.97	0.09	0.01%
3-Jan-19	0.1660	1062.98	1062.69	0.29	0.03%
2-Apr-20	0.1830	1072.64	1072.45	0.19	0.02%
13-Mar-19	0.2420	1093.63	1093.54	0.09	0.01%
6-Feb-19	0.1500	1070.99	1070.58	0.42	0.04%
9-Jun-20	0.1960	1098.12	1098.11	0.02	0.00%
16-Apr-19	0.1500	1042.01	1041.66	0.35	0.03%
23-Apr-20	0.1630	1052.08	1051.88	0.20	0.02%
10-Oct-19	0.1600	1053.40	1053.15	0.25	0.02%
23-Apr-20	0.1650	1055.58	1055.43	0.16	0.01%
10-Oct-19	0.1600	1053.40	1053.15	0.25	0.02%
17-Apr-19	0.1530	1049.56	1049.31	0.25	0.02%
14-Feb-19	0.2370	1075.51	1075.15	0.37	0.03%
14-Apr-20	0.1620	1049.45	1049.25	0.20	0.02%
23-Apr-20	0.1940	1069.15	1069.02	0.14	0.01%
11-Oct-19	0.1880	1062.96	1062.83	0.13	0.01%
11-Oct-19	0.1880	1062.96	1062.83	0.13	0.01%
21-Jan-20	0.1880	1070.91	1070.74	0.17	0.02%
3-Aug-18	0.1630	1050.34	1049.99	0.35	0.03%
5-Mar-19	0.2020	1089.52	1089.68	-0.17	-0.02%
5-Mar-19	0.2020	1088.38	1088.55	-0.17	-0.02%

20-Nov-19	0.1540	1082.72	1082.62	0.10	0.01%
20-Nov-19	0.1540	1082.72	1082.62	0.10	0.01%
6-Nov-19	0.3000	1178.72	1179.45	-0.73	-0.06%
14-Jan-20	0.3190	1183.79	1184.54	-0.74	-0.06%
25-Mar-20	0.2070	1185.52	1185.74	-0.22	-0.02%
1-Mar-20	0.1070	1060.21	1060.05	0.16	0.01%
1-Aug-19	0.1060	1069.75	1069.60	0.16	0.01%
31-Oct-19	0.1570	1040.64	1040.54	0.09	0.01%
29-Oct-18	0.1850	1042.61	1041.84	0.77	0.07%
31-Oct-19	0.1570	1040.64	1040.54	0.09	0.01%
28-Feb-20	0.2120	1154.44	1154.89	-0.46	-0.04%
12-Feb-20	0.2550	1263.10	1263.59	-0.48	-0.04%
12-Feb-20	0.2550	1263.10	1263.59	-0.48	-0.04%
25-Oct-19	0.2550	1237.97	1238.47	-0.51	-0.04%
24-Oct-19	0.2840	1247.04	1247.67	-0.62	-0.05%
24-Oct-19	0.2840	1247.08	1247.70	-0.62	-0.05%
24-Oct-19	0.2840	1247.03	1247.66	-0.62	-0.05%
24-Oct-19	0.2840	1247.04	1247.67	-0.62	-0.05%
7-Feb-20	0.3030	1305.38	1306.06	-0.68	-0.05%
24-Mar-20	0.3870	1312.23	1312.73	-0.50	-0.04%
26-Feb-18	0.1510	1330.61	1330.70	-0.09	-0.01%
8-Jan-19	0.1740	1246.43	1246.51	-0.08	-0.01%
7-May-20	0.2130	1309.80	1310.09	-0.29	-0.02%
18-Jun-20	0.2510	1277.70	1278.09	-0.38	-0.03%
26-Jul-19	0.4320	1359.05	1360.37	-1.32	-0.10%
16-Sep-19	0.1970	1094.56	1094.70	-0.15	-0.01%
11-Nov-19	0.1370	1066.09	1065.80	0.29	0.03%
14-May-19	0.1390	1064.46	1064.08	0.38	0.04%
11-Nov-19	0.1370	1066.09	1065.80	0.29	0.03%
5-Nov-19	0.1940	1100.81	1100.98	-0.17	-0.02%
5-Sep-19	0.2180	1119.71	1119.90	-0.19	-0.02%
24-Oct-19	0.2030	1096.67	1096.38	0.29	0.03%
24-Oct-19	0.2030	1096.85	1096.56	0.29	0.03%
24-Oct-19	0.2030	1096.66	1096.37	0.29	0.03%
24-Oct-19	0.2030	1097.07	1096.78	0.29	0.03%
24-Oct-19	0.2030	1095.68	1095.39	0.29	0.03%
24-Oct-19	0.2030	1095.68	1095.39	0.29	0.03%
24-Oct-19	0.2040	1097.23	1096.94	0.29	0.03%
24-Oct-19	0.2030	1097.07	1096.78	0.29	0.03%
24-Oct-19	0.2030	1097.00	1096.71	0.29	0.03%
24-Oct-19	0.2030	1096.98	1096.69	0.29	0.03%
24-Oct-19	0.2040	1097.44	1097.15	0.29	0.03%
7-Oct-19	0.1480	1068.04	1067.85	0.20	0.02%
7-Oct-19	0.1480	1068.04	1067.85	0.20	0.02%
14-Jan-19	0.1700	1099.31	1099.44	-0.13	-0.01%
24-Feb-20	0.1740	1064.31	1064.11	0.20	0.02%
10-Apr-19	0.2080	1111.68	1111.80	-0.12	-0.01%
7-Jan-20	0.2030	1120.28	1120.43	-0.15	-0.01%
24-Oct-19	0.2130	1107.64	1107.88	-0.24	-0.02%
24-Oct-19	0.2130	1107.38	1107.62	-0.24	-0.02%
10-Apr-19	0.2380	1122.93	1123.21	-0.28	-0.02%
19-Dec-19	0.2340	1113.75	1114.18	-0.42	-0.04%
19-Dec-19	0.2340	1114.17	1114.60	-0.42	-0.04%
8-Jun-20	0.2120	1102.22	1102.41	-0.19	-0.02%
14-Feb-19	0.1870	1091.46	1091.45	0.00	0.00%
16-Apr-20	0.2150	1146.44	1146.72	-0.28	-0.02%
16-Apr-20	0.2120	1145.50	1145.81	-0.30	-0.03%

6-Feb-20	0.2160	1113.64	1113.51	0.13	0.01%
6-Nov-19	0.1580	1047.51	1047.32	0.19	0.02%
6-Nov-19	0.1580	1047.51	1047.32	0.19	0.02%
25-Nov-19	0.1760	1072.80	1072.94	-0.14	-0.01%
25-Nov-19	0.1760	1072.80	1072.94	-0.14	-0.01%
5-Feb-20	0.2750	1164.48	1164.99	-0.51	-0.04%
26-Aug-19	0.1680	1027.27	1026.53	0.73	0.07%
5-Mar-19	0.1580	1047.97	1047.64	0.33	0.03%
10-Feb-20	0.1860	1073.15	1073.17	-0.02	0.00%
27-May-20	0.1670	1028.28	1027.35	0.93	0.09%
12-Dec-19	0.1760	1082.95	1082.93	0.02	0.00%
18-Feb-19	0.1660	1050.25	1049.87	0.38	0.04%
13-Nov-19	0.1720	1080.24	1080.05	0.18	0.02%
7-Jan-20	0.1900	1087.58	1087.66	-0.08	-0.01%
7-Jan-20	0.1680	1068.14	1068.02	0.13	0.01%
25-Feb-20	0.2000	1100.34	1100.38	-0.05	0.00%
11-Feb-20	0.1860	1080.73	1080.63	0.11	0.01%
12-Feb-19	0.1600	1047.78	1047.36	0.42	0.04%
10-Mar-20	0.1810	1062.18	1062.13	0.06	0.01%
6-Feb-19	0.1700	1064.35	1064.15	0.20	0.02%
4-Feb-20	0.1810	1067.11	1067.16	-0.05	0.00%
29-May-19	0.1800	1058.06	1057.60	0.45	0.04%
29-May-19	0.1800	1058.06	1057.60	0.45	0.04%
18-Nov-19	0.1740	1055.31	1055.03	0.28	0.03%
18-Nov-19	0.1740	1055.31	1055.03	0.28	0.03%
22-Oct-19	0.3090	1230.25	1231.02	-0.77	-0.06%
21-May-20	0.2940	1229.57	1230.26	-0.69	-0.06%
10-May-18	0.1450	1035.78	1035.26	0.52	0.05%
10-May-18	0.1450	1035.78	1035.26	0.52	0.05%
1-Feb-19	0.1710	1082.99	1083.30	-0.31	-0.03%
19-Feb-19	0.1660	1042.39	1042.29	0.10	0.01%
19-Feb-19	0.1660	1042.39	1042.29	0.10	0.01%
22-Nov-19	0.1730	1153.51	1153.56	-0.05	0.00%
22-Nov-19	0.1730	1151.12	1151.17	-0.05	0.00%
13-Jan-20	0.3560	1368.41	1369.39	-0.98	-0.07%
15-Nov-19	0.3800	1241.86	1242.79	-0.93	-0.07%
19-May-20	0.4100	1255.90	1256.71	-0.81	-0.06%
15-Nov-19	0.3800	1241.86	1242.79	-0.93	-0.07%
4-Apr-19	0.1710	1218.58	1218.16	0.42	0.03%
12-Feb-20	0.2800	1251.27	1251.91	-0.64	-0.05%
30-Mar-20	0.4160	1279.17	1280.04	-0.87	-0.07%
24-Aug-18	0.1480	1250.35	1250.47	-0.11	-0.01%
25-Feb-20	0.2030	1094.64	1094.84	-0.21	-0.02%
22-Oct-19	0.1990	1103.54	1103.70	-0.16	-0.01%
18-Sep-19	0.2020	1103.67	1103.84	-0.17	-0.02%
22-Oct-19	0.1990	1103.54	1103.70	-0.16	-0.01%
18-Sep-19	0.2020	1103.67	1103.84	-0.17	-0.02%
4-Nov-19	0.2160	1085.41	1085.50	-0.09	-0.01%
4-Nov-19	0.2160	1085.41	1085.50	-0.09	-0.01%
12-Sep-19	0.2460	1110.48	1110.68	-0.20	-0.02%
10-Feb-20	0.1930	1097.20	1097.25	-0.05	0.00%
17-Apr-19	0.1580	1092.14	1091.71	0.42	0.04%
1-Mar-20	0.2240	1088.41	1088.35	0.06	0.01%
19-Mar-19	0.1440	1058.96	1058.79	0.17	0.02%
26-Aug-19	0.1490	1072.71	1072.43	0.28	0.03%
26-Aug-19	0.1490	1072.71	1072.43	0.28	0.03%
12-Feb-19	0.1790	1067.86	1067.58	0.28	0.03%

29-Apr-20	0.1840	1053.19	1052.79	0.40	0.04%
11-Jan-20	0.2620	1130.32	1130.61	-0.29	-0.03%
20-May-20	0.1910	1076.26	1076.13	0.13	0.01%
17-Aug-19	0.2030	1086.85	1086.65	0.20	0.02%
17-Aug-19	0.2030	1086.85	1086.65	0.20	0.02%
30-Dec-19	0.1690	1075.41	1075.26	0.15	0.01%
5-Feb-19	0.2610	1090.74	1090.70	0.04	0.00%
7-Mar-19	0.2320	1076.53	1076.28	0.26	0.02%
31-Jan-19	0.2280	1084.38	1084.45	-0.08	-0.01%
7-May-20	0.1740	1083.75	1083.70	0.05	0.00%
17-Apr-19	0.1650	1051.94	1051.72	0.22	0.02%
5-Mar-19	0.1650	1045.13	1044.75	0.37	0.04%
3-Sep-19	0.1630	1050.62	1050.40	0.22	0.02%
3-Sep-19	0.1630	1050.62	1050.40	0.22	0.02%
7-Feb-19	0.1750	1056.40	1056.10	0.30	0.03%
1-May-19	0.1600	1039.05	1038.59	0.46	0.04%
1-Aug-19	0.1590	1043.52	1043.22	0.29	0.03%
1-Aug-19	0.1590	1043.52	1043.22	0.29	0.03%
1-Aug-19	0.1640	1052.01	1051.80	0.21	0.02%
1-Aug-19	0.1640	1052.01	1051.80	0.21	0.02%
5-Feb-20	0.1700	1051.87	1051.68	0.19	0.02%
21-Nov-19	0.1940	1082.49	1082.52	-0.03	0.00%
21-Nov-19	0.1940	1082.49	1082.52	-0.03	0.00%
14-Feb-19	0.2410	1085.58	1085.43	0.16	0.01%
10-Jan-19	0.1740	1066.39	1066.06	0.33	0.03%
3-Jan-19	0.1910	1075.79	1075.49	0.30	0.03%
29-Jan-20	0.1810	1078.17	1078.06	0.10	0.01%
8-Apr-20	0.1700	1046.11	1045.75	0.36	0.03%
16-Apr-19	0.1580	1046.70	1046.43	0.27	0.03%
31-Jan-19	0.1790	1067.94	1067.79	0.15	0.01%
14-Apr-20	0.2100	1121.62	1121.76	-0.14	-0.01%
15-Apr-20	0.1740	1086.64	1086.45	0.20	0.02%
7-Jan-20	0.1750	1065.35	1065.24	0.11	0.01%
5-Mar-19	0.1630	1050.31	1049.97	0.34	0.03%
6-Aug-19	0.1690	1058.92	1058.73	0.19	0.02%
6-Aug-19	0.1690	1058.92	1058.73	0.19	0.02%
25-Feb-20	0.2100	1087.19	1087.14	0.05	0.00%
7-Feb-19	0.2330	1086.02	1085.93	0.09	0.01%
6-Feb-19	0.2210	1092.86	1092.71	0.15	0.01%
9-May-19	0.1630	1045.93	1045.40	0.53	0.05%
18-Apr-19	0.1760	1071.81	1071.74	0.06	0.01%
25-Feb-20	0.1680	1063.01	1062.89	0.12	0.01%
27-Nov-19	0.2990	1251.99	1252.74	-0.74	-0.06%
11-Dec-19	0.2860	1173.68	1174.34	-0.66	-0.06%
1-Oct-19	0.2100	1114.94	1115.21	-0.27	-0.02%
1-Oct-19	0.2100	1114.94	1115.21	-0.27	-0.02%
15-May-18	0.1650	1035.89	1035.33	0.56	0.05%
31-Mar-20	0.1450	1052.02	1051.74	0.28	0.03%
9-Apr-20	0.2820	1270.23	1270.84	-0.61	-0.05%
14-Jan-20	0.3450	1264.28	1264.98	-0.70	-0.06%
22-Apr-19	0.1430	1281.77	1281.86	-0.09	-0.01%
15-Apr-20	0.2120	1231.72	1231.98	-0.27	-0.02%
26-Dec-19	0.3780	1282.35	1283.27	-0.91	-0.07%
10-Apr-20	0.3510	1246.15	1246.78	-0.64	-0.05%
24-Jan-20	0.2950	1298.30	1298.96	-0.66	-0.05%
20-Mar-18	0.1520	1260.75	1260.64	0.11	0.01%
20-Feb-20	0.3700	1211.58	1212.54	-0.97	-0.08%

29-Aug-18	0.3320	1298.34	1299.24	-0.90	-0.07%
18-May-20	0.1960	1094.71	1094.73	-0.02	0.00%
27-Apr-20	0.2080	1094.86	1095.05	-0.19	-0.02%
27-Aug-19	0.2080	1096.24	1096.27	-0.04	0.00%
10-Sep-19	0.2430	1111.40	1111.67	-0.28	-0.02%
22-Aug-19	0.1980	1097.47	1097.60	-0.14	-0.01%
23-Jul-19	0.1990	1097.71	1097.82	-0.12	-0.01%
11-Jun-19	0.1740	1098.82	1098.88	-0.06	-0.01%
14-Aug-18	0.2040	1071.53	1070.42	1.11	0.10%
17-Jul-19	0.1590	1091.60	1091.21	0.39	0.04%
5-Mar-20	0.1940	1096.29	1096.36	-0.07	-0.01%
13-Feb-20	0.1950	1095.97	1096.03	-0.06	-0.01%
1-Mar-20	0.2280	1097.06	1096.99	0.07	0.01%
21-Jan-20	0.2120	1105.67	1105.90	-0.23	-0.02%
19-Mar-19	0.1860	1096.34	1096.56	-0.22	-0.02%
24-Feb-20	0.1780	1064.61	1064.47	0.14	0.01%
27-Nov-18	0.1730	1075.31	1075.05	0.26	0.02%
15-Aug-19	0.1750	1076.60	1076.30	0.29	0.03%
15-Aug-19	0.1750	1076.60	1076.30	0.29	0.03%
29-Aug-19	0.1740	1050.94	1050.67	0.27	0.03%
29-Aug-19	0.1740	1050.94	1050.67	0.27	0.03%
4-Apr-19	0.3110	1115.39	1115.78	-0.39	-0.04%
24-Mar-20	0.1870	1073.11	1072.93	0.19	0.02%
24-Mar-20	0.2030	1088.86	1088.85	0.01	0.00%
24-Oct-19	0.2160	1115.42	1115.63	-0.20	-0.02%
24-Oct-19	0.2160	1114.92	1115.12	-0.20	-0.02%
10-Apr-19	0.2440	1113.50	1113.66	-0.16	-0.01%
25-Jan-20	0.2300	1091.39	1091.45	-0.05	0.00%
7-Apr-20	0.2230	1130.75	1130.73	0.02	0.00%
11-Apr-19	0.3240	1148.44	1148.64	-0.20	-0.02%
30-Dec-19	0.2090	1104.23	1104.37	-0.14	-0.01%
7-Mar-19	0.2500	1073.71	1073.31	0.40	0.04%
26-Feb-19	0.1760	1065.40	1065.24	0.15	0.01%
10-Apr-19	0.2320	1168.14	1168.50	-0.36	-0.03%
21-Jan-20	0.1900	1072.12	1071.99	0.12	0.01%
5-Feb-20	0.1940	1061.93	1061.77	0.17	0.02%
14-Apr-20	0.1980	1085.53	1085.46	0.08	0.01%
23-Apr-20	0.1770	1050.75	1050.59	0.16	0.02%
3-Sep-19	0.1600	1045.13	1044.82	0.31	0.03%
3-Sep-19	0.1600	1045.13	1044.82	0.31	0.03%
12-Nov-19	0.2430	1093.83	1094.01	-0.19	-0.02%
12-Nov-19	0.2430	1093.83	1094.01	-0.19	-0.02%
17-Dec-19	0.2500	1092.40	1092.10	0.30	0.03%
20-Jan-20	0.1700	1066.25	1066.03	0.21	0.02%
7-Aug-19	0.1950	1091.03	1090.94	0.09	0.01%
7-Aug-19	0.1950	1091.03	1090.94	0.09	0.01%
1-Feb-19	0.2660	1083.39	1083.44	-0.05	0.00%
7-Jan-20	0.1880	1081.96	1081.96	-0.01	0.00%
2-Apr-20	0.1810	1062.94	1062.82	0.12	0.01%
6-Feb-19	0.2550	1083.56	1083.55	0.00	0.00%
12-Apr-19	0.2380	1135.66	1135.77	-0.11	-0.01%
22-Jan-20	0.2140	1147.66	1147.66	-0.01	0.00%
21-May-19	0.1750	1053.96	1053.59	0.37	0.04%
21-May-19	0.1750	1053.96	1053.59	0.37	0.04%
14-Aug-19	0.1680	1045.71	1045.31	0.39	0.04%
14-Aug-19	0.1680	1045.71	1045.31	0.39	0.04%
1-Oct-19	0.1810	1064.50	1064.25	0.25	0.02%

1-Oct-19	0.1810	1064.50	1064.25	0.25	0.02%
13-Jan-20	0.1800	1084.82	1084.69	0.13	0.01%
12-May-20	0.2330	1085.03	1085.04	0.00	0.00%
5-Feb-20	0.1880	1077.67	1077.68	-0.02	0.00%
13-May-20	0.1860	1073.77	1073.36	0.40	0.04%
18-Jun-19	0.4160	1179.45	1180.30	-0.84	-0.07%
1-Aug-19	0.1160	1071.74	1071.56	0.17	0.02%
19-Feb-19	0.1630	1034.64	1034.40	0.25	0.02%
21-Apr-20	0.1640	1023.85	1023.64	0.21	0.02%
30-Sep-19	0.2240	1082.31	1082.43	-0.12	-0.01%
30-Sep-19	0.2240	1082.00	1082.12	-0.12	-0.01%
28-Oct-19	0.2550	1348.31	1348.73	-0.42	-0.03%
18-Apr-18	0.1480	1274.00	1274.02	-0.02	0.00%
22-Feb-18	0.1340	1303.27	1303.36	-0.09	-0.01%
27-Nov-18	0.1800	1280.98	1281.23	-0.25	-0.02%
28-Feb-18	0.1830	1293.00	1293.16	-0.16	-0.01%
19-Feb-20	0.2970	1220.15	1220.82	-0.67	-0.06%
2-Jun-19	0.3100	1381.44	1381.99	-0.55	-0.04%
18-Dec-19	0.5430	1352.70	1354.20	-1.50	-0.11%
18-Dec-19	0.1990	1093.64	1093.62	0.03	0.00%
9-May-19	0.2260	1091.52	1091.84	-0.32	-0.03%
12-May-20	0.1550	1080.70	1080.36	0.34	0.03%
18-Sep-19	0.2030	1097.69	1097.78	-0.09	-0.01%
21-Oct-19	0.2080	1102.36	1102.52	-0.17	-0.02%
25-Feb-20	0.2050	1096.80	1096.62	0.18	0.02%
17-Apr-19	0.1670	1108.35	1108.12	0.23	0.02%
28-Jan-19	0.1630	1084.08	1083.99	0.09	0.01%
9-Apr-19	0.1660	1061.69	1061.17	0.52	0.05%
16-Jul-19	0.1710	1086.00	1085.75	0.25	0.02%
16-Jul-19	0.1710	1086.00	1085.75	0.25	0.02%
24-Feb-20	0.1740	1059.32	1059.04	0.27	0.03%
13-Feb-19	0.1840	1070.79	1070.69	0.10	0.01%
17-Dec-19	0.2640	1112.02	1112.53	-0.52	-0.05%
24-Jan-19	0.2450	1104.83	1104.88	-0.05	0.00%
18-Dec-19	0.2640	1115.39	1115.90	-0.52	-0.05%
7-May-20	0.1830	1082.85	1082.67	0.18	0.02%
10-Apr-19	0.2580	1116.87	1117.17	-0.30	-0.03%
24-Sep-19	0.2040	1082.69	1082.62	0.07	0.01%
24-Sep-19	0.2040	1082.69	1082.62	0.07	0.01%
30-Dec-19	0.1910	1087.50	1087.42	0.08	0.01%
10-Sep-19	0.1750	1050.76	1050.43	0.33	0.03%
10-Sep-19	0.1750	1050.76	1050.43	0.33	0.03%
4-Mar-20	0.1760	1055.11	1054.82	0.30	0.03%
11-Jun-19	0.2200	1094.58	1094.57	0.02	0.00%
29-May-19	0.1730	1044.85	1044.50	0.34	0.03%
5-Feb-20	0.1760	1049.37	1049.00	0.36	0.03%
5-Feb-20	0.1730	1049.22	1048.92	0.29	0.03%
27-Aug-19	0.2070	1045.97	1045.17	0.79	0.08%
8-Oct-19	0.1800	1052.53	1052.19	0.33	0.03%
8-Oct-19	0.1800	1052.53	1052.19	0.33	0.03%
3-Sep-19	0.1750	1051.92	1051.61	0.31	0.03%
3-Sep-19	0.1750	1051.92	1051.61	0.31	0.03%
5-Feb-19	0.1930	1064.55	1064.40	0.16	0.01%
13-May-19	0.1780	1051.19	1050.90	0.30	0.03%
5-Aug-19	0.1900	1060.28	1060.06	0.21	0.02%
5-Aug-19	0.1900	1060.28	1060.06	0.21	0.02%
14-Apr-20	0.2210	1079.92	1079.75	0.16	0.02%

13-Nov-19	0.1780	1074.76	1074.56	0.20	0.02%
13-Nov-19	0.1780	1074.76	1074.56	0.20	0.02%
13-Nov-19	0.1880	1087.72	1087.64	0.08	0.01%
3-Jan-19	0.1890	1066.42	1066.24	0.19	0.02%
29-May-19	0.1720	1066.68	1066.44	0.24	0.02%
2-Oct-19	0.1950	1084.96	1084.87	0.09	0.01%
2-Oct-19	0.1950	1084.96	1084.87	0.09	0.01%
2-Jan-19	0.1870	1084.40	1084.31	0.09	0.01%
8-Oct-19	0.1740	1048.31	1047.89	0.42	0.04%
8-Oct-19	0.1740	1048.31	1047.89	0.42	0.04%
21-Apr-20	0.1920	1090.23	1090.05	0.17	0.02%
11-Feb-20	0.1980	1084.79	1084.62	0.17	0.02%
17-Apr-19	0.1710	1056.48	1056.32	0.16	0.01%
12-May-20	0.2170	1098.52	1098.51	0.01	0.00%
16-Jun-20	0.1790	1060.27	1059.89	0.38	0.04%
8-Apr-19	0.2620	1097.46	1097.68	-0.23	-0.02%
13-Jan-20	0.1830	1078.44	1078.33	0.11	0.01%
23-Apr-20	0.1720	1048.08	1047.85	0.23	0.02%
8-May-19	0.2110	1068.43	1068.41	0.03	0.00%
16-Oct-18	0.1790	1060.85	1060.56	0.29	0.03%
10-Oct-19	0.1910	1067.22	1067.17	0.04	0.00%
10-Oct-19	0.1910	1067.22	1067.17	0.04	0.00%
4-Feb-20	0.1990	1067.62	1067.62	0.00	0.00%
14-Nov-19	0.1720	1046.42	1045.87	0.55	0.05%
30-Mar-20	0.1910	1078.19	1078.18	0.01	0.00%
26-May-20	0.2640	1172.32	1172.77	-0.45	-0.04%
6-May-20	0.4670	1184.79	1185.51	-0.73	-0.06%
23-Jan-19	0.3000	1250.56	1251.25	-0.69	-0.06%
16-Sep-19	0.2800	1172.10	1172.63	-0.52	-0.04%
21-Mar-19	0.1490	1060.13	1058.84	1.28	0.12%
30-Oct-19	0.2680	1237.26	1237.81	-0.55	-0.04%
30-Oct-19	0.2680	1237.53	1238.07	-0.55	-0.04%
1-Apr-20	2.7790	2102.98	2072.41	30.57	1.45%
6-Mar-19	0.1960	1171.97	1172.17	-0.20	-0.02%
24-Sep-19	0.5110	1837.62	1839.19	-1.58	-0.09%
24-Sep-19	0.5090	1832.28	1833.85	-1.57	-0.09%
14-Aug-19	0.1960	1241.51	1241.44	0.07	0.01%
27-Nov-18	0.1470	1276.16	1275.80	0.36	0.03%
9-Oct-19	0.2850	1307.92	1308.35	-0.43	-0.03%
9-Oct-19	0.2850	1308.14	1308.57	-0.43	-0.03%
15-Nov-19	0.3010	1302.47	1303.10	-0.63	-0.05%
15-Nov-19	0.3010	1299.41	1300.04	-0.63	-0.05%
8-Jan-20	0.3090	1282.03	1282.74	-0.71	-0.06%
26-Dec-18	0.1800	1137.02	1137.21	-0.18	-0.02%
1-Dec-19	0.1390	1283.41	1283.41	0.00	0.00%
1-Nov-19	0.1390	1283.41	1283.41	0.00	0.00%
1-Oct-19	0.1390	1283.41	1283.41	0.00	0.00%
1-Sep-19	0.1390	1283.41	1283.41	0.00	0.00%
1-Jul-19	0.1390	1283.41	1283.41	0.00	0.00%
1-Jan-20	0.1390	1283.41	1283.41	0.00	0.00%
24-Dec-19	0.2530	1237.62	1238.14	-0.51	-0.04%
20-Dec-19	0.1830	1080.04	1079.98	0.06	0.01%
18-Sep-19	0.2060	1096.62	1096.71	-0.08	-0.01%
25-Feb-20	0.2020	1094.97	1095.00	-0.03	0.00%
26-May-20	0.2130	1094.36	1094.56	-0.19	-0.02%
11-Nov-19	0.1470	1073.96	1073.62	0.34	0.03%
11-Nov-19	0.1470	1073.96	1073.62	0.34	0.03%

25-Jan-19	0.4060	1272.10	1273.22	-1.12	-0.09%
5-Mar-20	0.2040	1097.65	1097.67	-0.02	0.00%
4-Jun-19	0.1640	1084.04	1083.78	0.27	0.02%
8-Aug-19	0.2190	1104.55	1104.69	-0.14	-0.01%
24-Oct-19	0.2230	1104.76	1104.96	-0.21	-0.02%
15-Jan-19	0.1710	1078.40	1078.19	0.21	0.02%
25-Jul-19	0.2320	1116.27	1116.28	-0.01	0.00%
25-Jul-19	0.2320	1116.27	1116.28	-0.01	0.00%
25-Nov-19	0.1810	1066.62	1066.57	0.06	0.01%
21-May-20	0.1820	1065.45	1065.38	0.07	0.01%
25-Nov-19	0.1810	1066.62	1066.57	0.06	0.01%
29-Aug-19	0.1840	1066.36	1066.17	0.20	0.02%
29-Aug-19	0.1840	1066.36	1066.17	0.20	0.02%
12-Feb-19	0.1830	1071.81	1071.47	0.34	0.03%
21-Aug-19	0.2110	1079.14	1078.69	0.45	0.04%
21-Aug-19	0.2110	1079.14	1078.69	0.45	0.04%
11-Feb-20	0.1980	1101.40	1101.39	0.01	0.00%
27-Mar-19	0.2360	1097.29	1097.47	-0.18	-0.02%
29-Nov-19	0.2340	1089.51	1089.70	-0.19	-0.02%
29-Nov-19	0.2340	1089.51	1089.70	-0.19	-0.02%
26-Mar-20	0.2140	1084.68	1084.68	0.00	0.00%
22-Jan-19	0.1940	1085.65	1085.63	0.02	0.00%
21-Jan-20	0.2510	1110.41	1110.61	-0.20	-0.02%
7-Jan-20	0.2560	1139.08	1139.45	-0.37	-0.03%
12-Mar-19	0.2020	1087.31	1087.33	-0.02	0.00%
24-Mar-20	0.1990	1086.86	1086.81	0.05	0.00%
26-Mar-20	0.2590	1153.78	1154.14	-0.36	-0.03%
9-Jan-20	0.2450	1120.13	1120.32	-0.19	-0.02%
12-Jun-20	0.2130	1075.05	1074.94	0.11	0.01%
18-Mar-20	0.2180	1084.20	1084.02	0.18	0.02%
4-Sep-19	0.1760	1050.38	1050.08	0.30	0.03%
3-Mar-20	0.1900	1063.44	1063.25	0.19	0.02%
4-Sep-19	0.1760	1050.38	1050.08	0.30	0.03%
8-Jun-20	0.2200	1106.75	1106.91	-0.16	-0.01%
7-Dec-18	0.2510	1120.01	1120.33	-0.32	-0.03%
9-May-19	0.1790	1042.19	1041.52	0.67	0.06%
3-Dec-19	0.2110	1150.12	1150.23	-0.11	-0.01%
26-Feb-19	0.1860	1064.05	1063.96	0.09	0.01%
21-Jan-20	0.1940	1067.30	1067.11	0.20	0.02%
4-May-20	0.1840	1045.11	1044.63	0.48	0.05%
17-Apr-19	0.1800	1052.45	1052.23	0.23	0.02%
23-Apr-20	0.1800	1055.62	1055.57	0.05	0.01%
1-Aug-19	0.1790	1053.33	1053.04	0.29	0.03%
1-Aug-19	0.1790	1053.33	1053.04	0.29	0.03%
1-Aug-19	0.1810	1040.54	1039.95	0.59	0.06%
1-Aug-19	0.1810	1040.54	1039.95	0.59	0.06%
1-Aug-19	0.1930	1062.85	1062.66	0.19	0.02%
1-Aug-19	0.1930	1062.85	1062.66	0.19	0.02%
13-May-19	0.1860	1065.76	1065.56	0.20	0.02%
12-May-20	0.1960	1062.73	1062.55	0.17	0.02%
7-Nov-19	0.1950	1078.83	1078.87	-0.03	0.00%
7-Feb-19	0.1800	1046.35	1045.87	0.48	0.05%
21-Nov-19	0.1990	1072.97	1072.85	0.12	0.01%
21-Nov-19	0.1990	1072.97	1072.85	0.12	0.01%
19-Feb-19	0.1930	1085.68	1085.17	0.51	0.05%
7-Aug-19	0.1770	1050.41	1050.16	0.25	0.02%
7-Aug-19	0.1770	1050.41	1050.16	0.25	0.02%

9-May-19	0.1950	1090.74	1090.70	0.04	0.00%
11-Nov-19	0.1930	1063.61	1063.37	0.24	0.02%
11-Nov-19	0.1930	1063.61	1063.37	0.24	0.02%
11-Nov-19	0.1900	1089.94	1089.82	0.12	0.01%
11-Nov-19	0.1900	1089.94	1089.82	0.12	0.01%
6-Aug-19	0.1850	1077.43	1077.36	0.07	0.01%
6-Aug-19	0.1850	1077.43	1077.36	0.07	0.01%
11-Apr-19	0.1830	1066.70	1066.54	0.16	0.01%
7-Jan-20	0.1840	1064.52	1064.33	0.19	0.02%
15-Oct-19	0.2000	1138.09	1138.04	0.05	0.00%
15-Oct-19	0.2000	1138.09	1138.04	0.05	0.00%
26-Apr-19	0.1750	1051.45	1051.10	0.35	0.03%
17-Apr-19	0.1800	1061.54	1061.33	0.21	0.02%
27-Mar-20	0.1960	1073.93	1074.00	-0.08	-0.01%
28-Jan-20	0.2190	1107.63	1107.84	-0.22	-0.02%
9-Aug-19	0.1900	1067.75	1067.42	0.33	0.03%
9-Aug-19	0.1900	1067.75	1067.42	0.33	0.03%
28-Jan-19	0.1980	1079.39	1079.26	0.13	0.01%
11-Mar-20	0.1900	1068.21	1068.05	0.16	0.01%
20-May-20	0.1940	1062.94	1062.56	0.39	0.04%
28-Feb-19	0.2820	1081.18	1081.11	0.07	0.01%
7-Feb-19	0.1920	1071.65	1071.48	0.17	0.02%
12-May-20	0.2250	1086.41	1085.48	0.94	0.09%
28-Aug-19	0.1740	1060.89	1060.50	0.39	0.04%
14-Feb-19	0.1780	1062.15	1061.81	0.35	0.03%
28-Aug-19	0.1740	1060.89	1060.50	0.39	0.04%
25-Nov-19	0.1820	1065.46	1065.52	-0.05	0.00%
25-Nov-19	0.1820	1065.46	1065.52	-0.05	0.00%
24-Jan-20	0.2510	1178.75	1179.11	-0.36	-0.03%
23-Oct-19	0.2560	1147.09	1147.53	-0.43	-0.04%
23-Oct-19	0.2560	1147.09	1147.53	-0.43	-0.04%
31-Oct-19	0.1840	1053.46	1053.58	-0.12	-0.01%
31-Oct-19	0.1840	1053.46	1053.58	-0.12	-0.01%
28-Aug-19	0.2290	1019.29	1018.72	0.57	0.06%
21-Nov-19	0.1820	1058.96	1058.95	0.02	0.00%
21-Nov-19	0.1820	1058.96	1058.95	0.02	0.00%
30-May-18	0.1760	1165.13	1165.18	-0.05	0.00%
23-Sep-19	0.1920	1067.93	1067.75	0.18	0.02%
23-Sep-19	0.1930	1068.37	1068.17	0.19	0.02%
31-Mar-20	0.1910	1088.38	1088.48	-0.09	-0.01%
16-Aug-19	0.3940	1288.00	1288.96	-0.96	-0.07%
8-Jan-20	0.3680	1263.28	1264.03	-0.75	-0.06%
1-Mar-20	0.1720	1278.38	1278.05	0.33	0.03%
11-Feb-20	0.3180	1284.33	1284.72	-0.39	-0.03%
14-Aug-19	0.1990	1254.81	1254.73	0.08	0.01%
18-May-20	0.4090	1232.72	1233.75	-1.02	-0.08%
22-Apr-19	0.2200	1228.52	1228.13	0.39	0.03%
22-Apr-19	0.2200	1228.52	1228.13	0.39	0.03%
28-Jan-19	0.1210	1187.98	1187.52	0.46	0.04%
14-Aug-19	0.1970	1308.12	1308.29	-0.17	-0.01%
14-Aug-19	0.1970	1308.12	1308.29	-0.17	-0.01%
19-Dec-18	0.2180	1222.05	1222.15	-0.10	-0.01%
17-Mar-20	0.6180	1220.21	1222.05	-1.83	-0.15%
15-Aug-19	0.2700	1125.01	1125.39	-0.39	-0.03%
27-Feb-20	0.2310	1097.86	1098.03	-0.17	-0.02%
10-Sep-19	0.1660	1084.43	1084.19	0.24	0.02%
1-Mar-20	0.2110	1083.83	1083.63	0.20	0.02%

7-Oct-19	0.1590	1062.69	1062.28	0.41	0.04%
7-Oct-19	0.1590	1062.69	1062.28	0.41	0.04%
21-Aug-19	0.1830	1052.63	1052.13	0.50	0.05%
23-Aug-18	0.1860	1055.55	1054.92	0.64	0.06%
21-Aug-19	0.1830	1052.63	1052.13	0.50	0.05%
21-Aug-19	0.2060	1069.74	1069.30	0.45	0.04%
21-Aug-19	0.2060	1069.74	1069.30	0.45	0.04%
21-May-20	0.1830	1062.12	1061.79	0.34	0.03%
5-Feb-20	0.1810	1078.00	1077.97	0.03	0.00%
12-Apr-19	0.2320	1119.81	1119.91	-0.11	-0.01%
24-Oct-19	0.2380	1116.12	1116.30	-0.18	-0.02%
24-Oct-19	0.2380	1115.45	1115.63	-0.18	-0.02%
10-Apr-19	0.2690	1115.26	1115.64	-0.38	-0.03%
3-May-19	0.2260	1100.53	1100.61	-0.08	-0.01%
22-Jan-20	0.2530	1129.48	1129.73	-0.25	-0.02%
27-Mar-19	0.2400	1092.59	1092.63	-0.04	0.00%
1-Nov-19	0.2340	1080.71	1080.59	0.12	0.01%
1-Nov-19	0.2340	1080.71	1080.59	0.12	0.01%
13-Feb-20	0.2280	1075.60	1075.58	0.02	0.00%
22-Feb-19	0.2010	1075.46	1075.32	0.14	0.01%
17-Jan-19	0.2200	1093.09	1092.99	0.10	0.01%
28-Aug-19	0.1980	1067.40	1067.17	0.23	0.02%
28-Aug-19	0.1980	1067.40	1067.17	0.23	0.02%
8-Feb-20	0.2130	1067.39	1067.30	0.09	0.01%
5-Dec-19	0.2290	1126.82	1127.07	-0.25	-0.02%
7-Jan-20	0.2140	1147.08	1147.27	-0.19	-0.02%
10-Apr-19	0.2370	1168.73	1169.03	-0.30	-0.03%
11-Oct-19	0.1930	1067.81	1067.47	0.34	0.03%
15-Apr-20	0.2010	1070.38	1070.15	0.23	0.02%
11-Oct-19	0.1930	1067.81	1067.47	0.34	0.03%
28-May-19	0.1790	1050.57	1050.11	0.46	0.04%
23-Apr-20	0.1790	1052.58	1052.47	0.12	0.01%
3-Sep-19	0.1750	1052.70	1052.35	0.35	0.03%
3-Sep-19	0.1750	1052.70	1052.35	0.35	0.03%
2-Mar-20	0.1820	1048.07	1047.69	0.38	0.04%
5-Feb-20	0.1770	1050.75	1050.42	0.33	0.03%
26-Nov-19	0.1890	1067.13	1066.99	0.13	0.01%
19-Feb-20	0.1920	1066.89	1066.74	0.14	0.01%
26-Nov-19	0.1890	1067.13	1066.99	0.13	0.01%
19-Feb-20	0.2010	1072.26	1072.22	0.04	0.00%
8-Jan-19	0.1920	1062.63	1062.33	0.30	0.03%
8-Jan-20	0.1930	1062.45	1062.33	0.12	0.01%
12-Apr-19	0.2010	1070.90	1070.72	0.18	0.02%
28-Jan-19	0.1990	1075.94	1075.79	0.15	0.01%
1-Feb-19	0.2420	1088.37	1088.37	-0.01	0.00%
7-Jan-20	0.1980	1066.89	1066.77	0.12	0.01%
7-Jan-20	0.2100	1080.52	1080.47	0.05	0.00%
23-Jan-19	0.2230	1106.71	1106.69	0.02	0.00%
1-Oct-19	0.1840	1066.20	1065.98	0.23	0.02%
1-Oct-19	0.1840	1066.20	1065.98	0.23	0.02%
11-Apr-19	0.2070	1084.89	1084.86	0.03	0.00%
8-Apr-20	0.1820	1051.63	1051.26	0.37	0.04%
4-Feb-20	0.2150	1066.26	1066.25	0.01	0.00%
12-Jun-19	0.2160	1067.33	1067.11	0.22	0.02%
12-Jun-19	0.2160	1067.33	1067.11	0.22	0.02%
21-Aug-19	0.1820	1063.25	1062.88	0.36	0.03%
21-Aug-19	0.1820	1063.25	1062.88	0.36	0.03%

5-Feb-19	0.1830	1066.73	1066.53	0.20	0.02%
4-Feb-20	0.2060	1096.46	1096.54	-0.08	-0.01%
8-Jan-19	0.1990	1066.78	1066.40	0.37	0.04%
20-Jan-20	0.2010	1077.25	1077.02	0.23	0.02%
11-Jan-19	0.2420	1126.48	1126.79	-0.30	-0.03%
19-May-20	0.1680	1082.47	1081.84	0.64	0.06%
26-Feb-19	0.2100	1075.72	1075.03	0.69	0.06%
20-Jan-20	0.2570	1178.93	1179.25	-0.32	-0.03%
23-Apr-20	0.1950	1065.03	1064.95	0.08	0.01%
11-Oct-19	0.2120	1074.78	1074.52	0.27	0.02%
11-Oct-19	0.2120	1074.78	1074.52	0.27	0.02%
5-Feb-19	0.2680	1086.53	1086.71	-0.18	-0.02%
5-Feb-19	0.2680	1087.00	1087.18	-0.18	-0.02%
18-Apr-19	0.1910	1065.51	1065.25	0.26	0.02%
5-Feb-20	0.1990	1065.91	1065.87	0.04	0.00%
15-Apr-20	0.1960	1075.67	1075.49	0.17	0.02%
8-Jun-20	0.2190	1083.25	1083.18	0.06	0.01%
28-May-19	0.1870	1065.49	1065.13	0.36	0.03%
29-Apr-20	0.1870	1065.49	1065.13	0.36	0.03%
28-May-19	0.1870	1065.49	1065.13	0.36	0.03%
13-Dec-19	0.3820	1192.63	1193.52	-0.89	-0.07%
17-Jan-19	0.1950	1073.69	1073.69	0.00	0.00%
1-Apr-20	0.1240	1059.38	1059.20	0.18	0.02%
1-Aug-19	0.2810	1157.95	1158.02	-0.06	-0.01%
5-Jun-19	0.2000	1051.95	1051.59	0.36	0.03%
15-Apr-20	0.1950	1060.55	1060.48	0.07	0.01%
22-Aug-19	0.1850	1033.95	1033.53	0.43	0.04%
22-Aug-19	0.1850	1033.95	1033.53	0.43	0.04%
22-Aug-19	0.1770	1035.41	1035.02	0.39	0.04%
22-Aug-19	0.1770	1035.41	1035.02	0.39	0.04%
30-Oct-19	0.3100	1246.13	1246.74	-0.61	-0.05%
26-Sep-19	0.2520	1212.09	1212.30	-0.21	-0.02%
22-Jul-19	0.1980	1311.92	1311.78	0.14	0.01%
22-Jul-19	0.1980	1309.72	1309.58	0.14	0.01%
26-Sep-18	0.1960	1245.99	1245.97	0.02	0.00%
25-Oct-19	0.4790	1299.67	1300.93	-1.26	-0.10%
25-Oct-19	0.4780	1298.44	1299.70	-1.26	-0.10%
17-Mar-20	0.4500	1238.62	1239.79	-1.16	-0.09%
11-Dec-19	0.2870	1280.61	1281.03	-0.42	-0.03%
14-Apr-20	0.3510	1217.77	1218.57	-0.80	-0.07%
23-Apr-19	0.1650	1262.17	1262.16	0.01	0.00%
22-Apr-20	0.3960	1604.27	1605.33	-1.06	-0.07%
20-Apr-20	0.2080	1095.65	1095.68	-0.02	0.00%
25-Feb-20	0.2180	1108.07	1107.97	0.10	0.01%
25-Feb-20	0.2180	1108.07	1107.97	0.10	0.01%
11-Nov-19	0.1940	1114.70	1114.86	-0.16	-0.01%
11-Nov-19	0.1940	1114.70	1114.86	-0.16	-0.01%
25-Sep-19	0.2580	1115.81	1116.14	-0.33	-0.03%
5-May-20	0.1790	1051.62	1050.89	0.72	0.07%
3-Dec-19	0.2120	1100.23	1100.36	-0.13	-0.01%
11-Jul-19	0.2270	1106.42	1106.56	-0.14	-0.01%
9-Sep-19	0.2500	1108.86	1109.11	-0.25	-0.02%
12-Sep-19	0.2180	1103.49	1103.70	-0.20	-0.02%
23-Aug-19	0.1950	1056.76	1056.04	0.72	0.07%
23-Aug-19	0.1950	1056.76	1056.04	0.72	0.07%
25-Feb-20	0.1890	1062.45	1062.16	0.29	0.03%
28-May-19	0.2120	1057.67	1057.23	0.44	0.04%

28-May-19	0.2120	1057.67	1057.23	0.44	0.04%
14-Jan-20	0.2310	1118.25	1118.25	0.00	0.00%
9-Jan-20	0.2560	1124.06	1124.32	-0.26	-0.02%
12-Mar-19	0.2080	1084.65	1084.61	0.04	0.00%
24-Oct-19	0.2210	1098.86	1098.94	-0.09	-0.01%
24-Oct-19	0.2220	1102.84	1102.93	-0.09	-0.01%
10-Apr-19	0.2690	1119.38	1119.74	-0.36	-0.03%
25-Jan-20	0.2510	1093.65	1093.78	-0.13	-0.01%
14-Oct-19	0.2500	1107.49	1107.80	-0.30	-0.03%
14-Oct-19	0.2500	1107.49	1107.80	-0.30	-0.03%
14-Oct-19	0.2430	1109.68	1109.90	-0.22	-0.02%
14-Oct-19	0.2430	1109.68	1109.90	-0.22	-0.02%
17-Jan-20	0.2490	1094.56	1094.79	-0.23	-0.02%
13-Feb-20	0.2450	1077.76	1077.83	-0.07	-0.01%
11-Feb-20	0.2370	1084.65	1084.60	0.06	0.01%
12-Apr-19	0.2080	1072.27	1072.06	0.21	0.02%
17-Jan-19	0.2140	1091.99	1091.90	0.09	0.01%
4-Mar-20	0.1950	1064.98	1064.67	0.31	0.03%
9-Sep-19	0.1940	1060.00	1059.68	0.33	0.03%
9-Sep-19	0.1940	1060.00	1059.68	0.33	0.03%
9-Sep-19	0.1850	1055.71	1055.37	0.34	0.03%
1-Jun-20	0.1910	1060.61	1060.20	0.41	0.04%
1-Jun-20	0.1900	1057.29	1056.87	0.42	0.04%
3-Mar-20	0.1840	1056.12	1055.92	0.20	0.02%
20-Feb-20	0.2010	1066.68	1066.59	0.09	0.01%
20-Feb-20	0.2000	1074.08	1074.00	0.08	0.01%
8-May-19	0.1860	1050.17	1049.63	0.54	0.05%
11-May-20	0.1730	1048.08	1047.63	0.45	0.04%
26-Feb-19	0.1940	1072.38	1072.30	0.08	0.01%
8-Feb-20	0.2210	1069.28	1069.14	0.15	0.01%
26-Feb-19	0.1940	1072.38	1072.30	0.08	0.01%
5-Dec-19	0.2300	1112.26	1112.38	-0.13	-0.01%
8-Oct-19	0.1910	1053.93	1053.59	0.34	0.03%
8-Oct-19	0.1910	1053.93	1053.59	0.34	0.03%
5-Mar-19	0.1950	1058.16	1057.85	0.31	0.03%
2-Mar-20	0.1790	1048.74	1048.69	0.06	0.01%
3-Sep-19	0.1830	1055.15	1054.87	0.28	0.03%
3-Sep-19	0.1830	1055.15	1054.87	0.28	0.03%
1-Aug-19	0.1990	1064.47	1064.30	0.17	0.02%
1-Aug-19	0.1990	1064.47	1064.30	0.17	0.02%
26-Feb-20	0.1920	1073.02	1072.94	0.08	0.01%
1-Aug-19	0.1980	1063.18	1062.93	0.25	0.02%
1-Aug-19	0.1980	1063.18	1062.93	0.25	0.02%
1-Aug-19	0.1840	1048.48	1048.12	0.36	0.03%
25-Oct-19	0.1910	1061.00	1060.73	0.26	0.02%
25-Oct-19	0.1910	1061.00	1060.73	0.26	0.02%
5-Aug-19	0.1900	1060.65	1060.42	0.23	0.02%
5-Aug-19	0.1900	1060.65	1060.42	0.23	0.02%
10-Dec-19	0.2420	1135.24	1135.53	-0.29	-0.03%
7-Nov-19	0.1840	1067.36	1067.30	0.06	0.01%
7-Nov-19	0.1840	1067.36	1067.30	0.06	0.01%
11-Feb-20	0.2070	1080.16	1080.11	0.04	0.00%
19-Aug-19	0.1800	1051.75	1051.42	0.33	0.03%
19-Aug-19	0.1800	1051.75	1051.42	0.33	0.03%
8-Jan-19	0.1920	1065.17	1064.82	0.35	0.03%
16-Dec-19	0.2180	1093.96	1093.75	0.21	0.02%
20-Jan-20	0.2140	1077.83	1077.47	0.36	0.03%

9-May-19	0.2000	1092.53	1092.43	0.10	0.01%
11-Nov-19	0.2140	1095.57	1095.63	-0.07	-0.01%
11-Nov-19	0.2140	1095.57	1095.63	-0.07	-0.01%
28-Aug-18	0.1990	1064.91	1064.36	0.55	0.05%
11-Apr-19	0.1930	1089.49	1089.36	0.13	0.01%
10-Oct-19	0.1970	1066.47	1066.36	0.12	0.01%
10-Oct-19	0.1970	1066.47	1066.36	0.12	0.01%
11-Oct-19	0.2170	1067.87	1067.64	0.23	0.02%
11-Oct-19	0.2170	1067.87	1067.64	0.23	0.02%
6-Nov-19	0.1960	1075.12	1074.86	0.26	0.02%
8-May-19	0.1950	1079.21	1078.95	0.26	0.02%
8-May-19	0.1960	1078.31	1078.11	0.20	0.02%
13-Feb-20	0.2180	1081.32	1081.14	0.17	0.02%
29-Jan-19	0.2150	1132.61	1132.60	0.01	0.00%
12-Feb-19	0.1820	1065.65	1065.35	0.30	0.03%
16-Apr-19	0.1940	1057.39	1057.15	0.24	0.02%
16-Apr-19	0.1870	1056.08	1055.82	0.25	0.02%
11-Apr-19	0.1950	1069.57	1069.33	0.24	0.02%
8-Jan-20	0.1890	1053.49	1053.32	0.18	0.02%
6-Aug-19	0.1910	1044.26	1043.69	0.57	0.05%
6-Aug-19	0.1910	1044.26	1043.69	0.57	0.05%
7-Jan-20	0.1900	1061.78	1061.68	0.11	0.01%
14-Feb-19	0.1820	1066.12	1065.78	0.33	0.03%
20-Feb-19	0.1910	1063.81	1063.38	0.43	0.04%
12-Nov-19	0.4300	1175.10	1175.92	-0.82	-0.07%
14-May-19	0.4270	1170.67	1171.38	-0.72	-0.06%
12-Nov-19	0.4300	1175.10	1175.92	-0.82	-0.07%
10-Sep-19	0.4160	1168.00	1168.75	-0.75	-0.06%
10-Sep-19	0.4160	1168.00	1168.75	-0.75	-0.06%
3-Apr-20	0.4060	1183.75	1184.81	-1.06	-0.09%
3-Apr-19	0.2430	1105.40	1105.81	-0.41	-0.04%
22-Jan-20	0.1830	1058.24	1058.23	0.01	0.00%
10-Jan-20	0.3830	1338.34	1339.35	-1.00	-0.08%
22-Apr-19	0.1390	1211.52	1211.07	0.45	0.04%
8-Oct-19	0.2440	1342.97	1343.16	-0.19	-0.01%
8-Oct-19	0.2440	1342.97	1343.16	-0.19	-0.01%
21-May-18	0.1910	1297.57	1297.37	0.19	0.01%
8-Dec-17	0.2090	1226.60	1226.86	-0.25	-0.02%
4-Apr-19	0.2690	1198.12	1198.45	-0.33	-0.03%
1-Sep-19	0.1300	1268.63	1268.44	0.19	0.02%
1-Aug-19	0.1300	1268.63	1268.44	0.19	0.02%
1-Jul-19	0.1300	1268.63	1268.44	0.19	0.02%
22-Oct-19	0.2170	1098.99	1099.14	-0.16	-0.01%
23-Mar-20	0.2120	1095.24	1095.23	0.01	0.00%
19-Nov-19	0.2170	1095.38	1095.39	-0.01	0.00%
9-May-19	0.2060	1087.99	1088.13	-0.14	-0.01%
30-Jan-20	0.2680	1104.68	1104.68	0.00	0.00%
20-Mar-19	0.1900	1101.49	1100.42	1.07	0.10%
12-Aug-19	0.1980	1085.64	1085.60	0.05	0.00%
25-Jan-19	0.3590	1283.39	1284.25	-0.86	-0.07%
25-Jan-19	0.3590	1283.39	1284.25	-0.86	-0.07%
23-Apr-20	0.1970	1091.23	1090.37	0.86	0.08%
16-Sep-19	0.2400	1107.99	1108.18	-0.19	-0.02%
18-Jul-19	0.2240	1108.79	1108.92	-0.13	-0.01%
22-Aug-19	0.2240	1110.22	1110.42	-0.20	-0.02%
16-Sep-19	0.2520	1122.90	1123.19	-0.29	-0.03%
10-Oct-19	0.2140	1099.59	1099.72	-0.13	-0.01%

1-Jan-20	0.1850	1098.35	1098.00	0.34	0.03%
9-Apr-19	0.1770	1077.06	1076.84	0.22	0.02%
25-Nov-19	0.1810	1062.15	1061.98	0.18	0.02%
25-Nov-19	0.1810	1062.15	1061.98	0.18	0.02%
29-Aug-18	0.2010	1062.37	1061.58	0.78	0.07%
10-Apr-19	0.2750	1115.76	1116.10	-0.34	-0.03%
25-Jan-20	0.2560	1097.20	1097.34	-0.14	-0.01%
26-Mar-19	0.3480	1101.73	1101.83	-0.10	-0.01%
10-Oct-19	0.2150	1101.60	1101.66	-0.06	-0.01%
10-Oct-19	0.2150	1101.60	1101.66	-0.06	-0.01%
27-Mar-19	0.2670	1101.61	1101.83	-0.22	-0.02%
6-Mar-19	0.2150	1091.76	1091.74	0.02	0.00%
8-May-19	0.2070	1063.66	1063.60	0.06	0.01%
18-Feb-20	0.2320	1074.67	1074.58	0.10	0.01%
11-Feb-20	0.2350	1081.42	1081.44	-0.02	0.00%
5-Dec-19	0.2220	1074.82	1074.51	0.31	0.03%
30-Sep-19	0.2070	1077.34	1077.32	0.03	0.00%
30-Sep-19	0.2070	1077.34	1077.32	0.03	0.00%
6-Jan-20	0.1890	1073.98	1073.85	0.13	0.01%
2-Jan-19	0.2030	1083.37	1083.20	0.17	0.02%
5-Mar-20	0.2050	1066.37	1066.16	0.21	0.02%
5-Mar-20	0.2060	1070.51	1070.40	0.11	0.01%
14-Apr-20	0.2330	1127.30	1127.37	-0.06	-0.01%
28-Aug-19	0.1900	1043.38	1042.83	0.55	0.05%
6-Nov-19	0.1960	1063.24	1063.11	0.13	0.01%
6-Nov-19	0.1960	1063.24	1063.11	0.13	0.01%
4-May-20	0.1970	1046.67	1046.13	0.53	0.05%
23-Apr-20	0.1990	1057.28	1057.16	0.12	0.01%
5-Feb-20	0.1990	1064.32	1064.15	0.17	0.02%
1-Aug-19	0.1870	1076.04	1075.78	0.26	0.02%
1-Aug-19	0.1870	1076.04	1075.78	0.26	0.02%
7-Nov-19	0.2140	1098.91	1099.02	-0.11	-0.01%
7-Nov-19	0.2140	1098.91	1099.02	-0.11	-0.01%
11-Nov-19	0.1960	1046.66	1045.97	0.69	0.07%
11-Nov-19	0.1960	1046.66	1045.97	0.69	0.07%
7-Nov-19	0.1900	1058.58	1058.37	0.20	0.02%
7-Nov-19	0.1900	1058.58	1058.37	0.20	0.02%
20-Jun-19	0.2330	1083.73	1083.70	0.03	0.00%
20-Jun-19	0.2330	1083.73	1083.70	0.03	0.00%
13-Mar-19	0.2390	1116.06	1116.27	-0.21	-0.02%
9-Jan-19	0.2080	1071.93	1071.70	0.23	0.02%
8-Jan-20	0.2000	1065.32	1065.15	0.17	0.02%
8-Jan-20	0.1980	1069.53	1069.50	0.02	0.00%
16-Dec-19	0.2520	1091.38	1091.25	0.13	0.01%
26-Feb-19	0.1960	1080.55	1080.33	0.22	0.02%
3-Jul-19	0.2000	1070.15	1069.81	0.34	0.03%
3-Jul-19	0.2000	1070.15	1069.81	0.34	0.03%
11-Nov-19	0.2030	1084.19	1084.10	0.09	0.01%
11-Nov-19	0.2030	1084.19	1084.10	0.09	0.01%
13-May-20	0.2170	1092.85	1092.84	0.01	0.00%
20-Feb-20	0.2110	1098.73	1098.61	0.12	0.01%
1-Oct-19	0.2150	1079.54	1079.38	0.16	0.02%
1-Oct-19	0.2150	1079.54	1079.38	0.16	0.02%
11-Apr-19	0.1970	1070.11	1069.91	0.21	0.02%
3-Jan-19	0.1910	1057.33	1056.96	0.37	0.04%
4-Feb-20	0.2450	1072.70	1072.58	0.12	0.01%
30-Jan-19	0.2270	1168.98	1169.00	-0.02	0.00%

13-Dec-18	0.2270	1120.22	1120.30	-0.08	-0.01%
13-Dec-18	0.2270	1120.22	1120.30	-0.08	-0.01%
6-Nov-19	0.1990	1067.03	1066.75	0.28	0.03%
28-Feb-19	0.3070	1108.57	1108.83	-0.26	-0.02%
10-Oct-19	0.1950	1062.19	1061.97	0.22	0.02%
10-Oct-19	0.1950	1062.19	1061.97	0.22	0.02%
4-Feb-20	0.2120	1075.70	1075.67	0.02	0.00%
10-Feb-20	0.1960	1050.31	1049.66	0.65	0.06%
30-Apr-20	0.2860	1159.98	1159.96	0.02	0.00%
14-Nov-19	0.1870	1047.17	1046.59	0.58	0.06%
12-Apr-19	0.2140	1081.67	1081.64	0.03	0.00%
12-Apr-19	0.2140	1081.67	1081.64	0.03	0.00%
29-Oct-19	0.3860	1382.74	1383.71	-0.97	-0.07%
29-Oct-19	0.3840	1375.49	1376.46	-0.96	-0.07%
10-May-19	0.1740	1193.43	1193.47	-0.05	0.00%
27-Mar-20	0.4040	1192.19	1193.06	-0.87	-0.07%
11-Dec-19	0.3150	1251.17	1251.90	-0.73	-0.06%
25-Mar-20	0.3470	1274.57	1275.42	-0.85	-0.07%
21-May-20	0.2990	1194.75	1195.35	-0.60	-0.05%
18-Jun-19	0.3400	1170.51	1171.31	-0.80	-0.07%
6-Mar-19	0.1950	1033.61	1032.99	0.62	0.06%
1-Apr-20	0.2860	1209.10	1209.49	-0.40	-0.03%
21-Nov-19	0.1870	1058.70	1058.66	0.04	0.00%
21-Nov-19	0.1870	1058.70	1058.66	0.04	0.00%
30-Apr-20	0.1900	1067.81	1067.45	0.36	0.03%
16-Aug-19	0.3950	1287.97	1288.90	-0.93	-0.07%
16-Aug-19	0.3960	1288.13	1289.06	-0.93	-0.07%
16-Aug-19	0.3950	1288.27	1289.20	-0.93	-0.07%
18-Dec-19	0.2820	1260.88	1261.29	-0.41	-0.03%
4-Oct-19	0.3360	1291.43	1292.06	-0.63	-0.05%
4-Oct-19	0.3360	1291.60	1292.23	-0.63	-0.05%
30-Jan-20	0.3300	1316.77	1317.49	-0.72	-0.06%
9-Oct-19	0.5340	1347.99	1349.42	-1.43	-0.11%
30-Jan-20	0.3680	1349.84	1350.66	-0.82	-0.06%
27-Feb-19	0.2540	1284.93	1285.42	-0.50	-0.04%
3-Dec-18	0.2170	1229.66	1229.99	-0.32	-0.03%
28-Jan-19	0.1460	1250.68	1250.17	0.51	0.04%
10-Dec-19	0.3040	1256.07	1256.52	-0.45	-0.04%
22-Feb-18	0.1450	1269.26	1269.33	-0.06	-0.01%
30-Jan-19	0.1720	1238.35	1238.47	-0.12	-0.01%
27-Jun-19	0.1670	1023.83	1022.86	0.97	0.09%
14-Feb-20	0.3830	1302.97	1303.91	-0.93	-0.07%
19-Aug-19	0.2600	1232.09	1232.23	-0.14	-0.01%
19-Aug-19	0.2600	1230.56	1230.70	-0.14	-0.01%
24-Feb-20	0.3360	1304.37	1305.06	-0.69	-0.05%
12-Mar-20	0.3830	1342.97	1343.65	-0.68	-0.05%
12-Mar-20	0.1980	1082.59	1082.61	-0.02	0.00%
25-Sep-19	0.2380	1110.26	1110.42	-0.17	-0.02%
20-Nov-19	0.1730	1095.14	1094.99	0.15	0.01%
12-Sep-19	0.2690	1126.02	1126.39	-0.37	-0.03%
25-Sep-19	0.2060	1105.22	1105.23	-0.02	0.00%
14-Nov-19	0.2140	1097.43	1097.52	-0.09	-0.01%
14-Nov-19	0.2140	1097.27	1097.36	-0.09	-0.01%
16-Jan-20	0.2150	1096.80	1096.76	0.03	0.00%
1-Jan-20	0.1880	1098.21	1097.85	0.36	0.03%
15-Jan-19	0.1920	1085.64	1085.70	-0.06	-0.01%
27-Nov-18	0.2100	1059.25	1058.30	0.95	0.09%

14-Feb-19	0.1920	1058.35	1057.89	0.46	0.04%
7-Feb-19	0.2450	1096.53	1096.72	-0.19	-0.02%
13-Feb-19	0.1670	1075.76	1075.44	0.32	0.03%
4-Apr-19	0.2710	1080.18	1079.86	0.32	0.03%
12-Sep-19	0.2150	1087.23	1086.96	0.27	0.02%
12-Mar-19	0.2210	1094.61	1094.59	0.02	0.00%
12-Sep-19	0.2150	1087.23	1086.96	0.27	0.02%
2-Apr-20	0.2510	1094.61	1094.70	-0.09	-0.01%
24-Sep-19	0.2180	1085.31	1085.17	0.14	0.01%
24-Sep-19	0.2180	1085.31	1085.17	0.14	0.01%
11-Jan-20	0.2630	1124.02	1124.26	-0.24	-0.02%
7-Jan-20	0.2680	1137.29	1137.63	-0.34	-0.03%
9-Jan-20	0.2690	1126.62	1126.89	-0.27	-0.02%
7-Jan-20	0.3340	1150.97	1151.41	-0.44	-0.04%
11-Feb-20	0.2420	1077.07	1077.02	0.05	0.00%
12-Jun-19	0.2350	1073.97	1073.60	0.37	0.03%
6-Apr-20	0.2040	1077.33	1077.17	0.16	0.01%
4-Jan-19	0.2810	1095.74	1095.61	0.13	0.01%
6-Mar-19	0.2130	1089.84	1089.87	-0.03	0.00%
15-Jan-19	0.2430	1101.44	1101.49	-0.06	-0.01%
14-Aug-19	0.2180	1091.76	1091.20	0.56	0.05%
14-Aug-19	0.2180	1091.76	1091.20	0.56	0.05%
4-Mar-20	0.2010	1058.70	1058.36	0.34	0.03%
3-Jun-19	0.1920	1055.94	1055.49	0.45	0.04%
3-Jun-19	0.1920	1055.94	1055.49	0.45	0.04%
9-Apr-19	0.1810	1068.54	1068.30	0.25	0.02%
9-Apr-20	0.2280	1105.93	1105.89	0.04	0.00%
18-Feb-20	0.2220	1082.03	1080.91	1.12	0.10%
10-Dec-19	0.2480	1135.77	1136.01	-0.24	-0.02%
14-Mar-19	0.2240	1089.91	1089.79	0.12	0.01%
21-Nov-19	0.2220	1098.83	1098.78	0.05	0.00%
21-Nov-19	0.2220	1098.83	1098.78	0.05	0.00%
18-Feb-19	0.1690	1040.53	1040.20	0.33	0.03%
8-Jan-19	0.2010	1064.62	1064.27	0.34	0.03%
8-Jan-20	0.1920	1057.91	1057.77	0.14	0.01%
18-Feb-19	0.2470	1116.47	1116.43	0.04	0.00%
10-Jan-19	0.2220	1095.15	1095.00	0.15	0.01%
1-Feb-19	0.2110	1078.68	1078.42	0.26	0.02%
16-Aug-19	0.2000	1075.63	1075.32	0.32	0.03%
16-Aug-19	0.2000	1075.63	1075.32	0.32	0.03%
20-Feb-19	0.2230	1098.82	1098.64	0.18	0.02%
1-Oct-19	0.2020	1069.02	1068.73	0.29	0.03%
1-Oct-19	0.2020	1069.02	1068.73	0.29	0.03%
11-Apr-19	0.2050	1081.11	1080.98	0.13	0.01%
23-Jan-19	0.2080	1116.24	1116.18	0.06	0.01%
27-Aug-19	0.2110	1075.08	1074.87	0.22	0.02%
27-Aug-19	0.2110	1075.08	1074.87	0.22	0.02%
22-Jan-20	0.2440	1115.61	1115.74	-0.13	-0.01%
25-Oct-19	0.2010	1061.43	1061.23	0.20	0.02%
25-Oct-19	0.2010	1061.43	1061.23	0.20	0.02%
28-Aug-19	0.2280	1080.62	1080.34	0.28	0.03%
28-Aug-19	0.2280	1080.62	1080.34	0.28	0.03%
19-Feb-20	0.2540	1140.40	1140.52	-0.12	-0.01%
4-Feb-20	0.2060	1075.50	1075.41	0.09	0.01%
10-Jan-19	0.2030	1074.98	1074.77	0.22	0.02%
10-Jan-19	0.2170	1079.35	1079.04	0.31	0.03%
13-Mar-19	0.1760	1078.60	1078.33	0.27	0.02%

19-Jun-18	0.1850	1051.36	1051.05	0.31	0.03%
14-Jan-20	0.2210	1107.96	1107.95	0.00	0.00%
29-Jan-19	0.2040	1100.73	1100.61	0.12	0.01%
5-Mar-20	0.2190	1080.68	1080.59	0.09	0.01%
1-Nov-19	0.2170	1076.47	1076.55	-0.08	-0.01%
1-Nov-19	0.2170	1076.47	1076.55	-0.08	-0.01%
29-Apr-20	0.2040	1061.89	1061.59	0.30	0.03%
21-Apr-20	0.2650	1129.64	1129.86	-0.22	-0.02%
13-Feb-19	0.2310	1087.84	1087.66	0.18	0.02%
5-Feb-19	0.2740	1086.16	1086.09	0.07	0.01%
28-Apr-20	0.2440	1068.96	1068.03	0.93	0.09%
25-Nov-19	0.1840	1065.07	1064.87	0.20	0.02%
25-Nov-19	0.1840	1065.07	1064.87	0.20	0.02%
16-Dec-19	0.2250	1081.32	1081.33	-0.01	0.00%
23-Aug-18	0.2020	1067.00	1066.43	0.58	0.05%
15-Apr-20	0.1960	1067.43	1067.10	0.33	0.03%
11-Dec-19	0.3640	1282.55	1283.46	-0.91	-0.07%
21-May-20	0.3470	1290.60	1291.33	-0.74	-0.06%
15-May-19	0.2770	1175.72	1176.15	-0.43	-0.04%
30-Apr-20	0.2020	1098.87	1098.86	0.01	0.00%
5-Dec-19	0.1640	1019.35	1019.21	0.14	0.01%
13-Mar-20	0.2130	1061.83	1061.88	-0.05	0.00%
23-Sep-19	0.2270	1062.10	1061.52	0.57	0.05%
23-Sep-19	0.2270	1062.10	1061.52	0.57	0.05%
27-Jun-19	0.4090	1181.57	1182.77	-1.20	-0.10%
27-Jun-19	0.4090	1181.32	1182.52	-1.20	-0.10%
26-Mar-20	0.3210	1293.35	1293.89	-0.55	-0.04%
20-Feb-20	0.4150	1299.44	1300.44	-1.00	-0.08%
8-Feb-19	0.1960	1179.81	1179.88	-0.07	-0.01%
21-Aug-18	0.2190	1270.94	1271.14	-0.19	-0.02%
10-Jan-19	0.2040	1267.49	1267.60	-0.11	-0.01%
15-Feb-19	0.2190	1246.73	1246.85	-0.13	-0.01%
4-Jan-18	0.2460	1208.64	1208.86	-0.23	-0.02%
24-Apr-18	0.1900	1265.73	1265.69	0.04	0.00%
29-Mar-18	0.1710	1300.37	1300.46	-0.09	-0.01%
11-Oct-18	0.1750	1280.93	1281.11	-0.17	-0.01%
11-Oct-18	0.1750	1280.05	1280.22	-0.17	-0.01%
25-Jun-19	0.2160	1275.13	1275.13	0.00	0.00%
19-Mar-19	0.4260	1202.12	1203.22	-1.10	-0.09%
19-Jun-18	0.1640	1089.99	1089.34	0.65	0.06%
26-May-20	0.2710	1282.62	1282.96	-0.34	-0.03%
23-Jan-20	0.2070	1084.97	1084.91	0.06	0.01%
19-Aug-19	0.2250	1095.42	1095.52	-0.10	-0.01%
10-Jun-19	0.2420	1113.82	1114.05	-0.23	-0.02%
11-Jul-19	0.2480	1104.84	1104.96	-0.12	-0.01%
10-Sep-19	0.2530	1119.55	1119.75	-0.20	-0.02%
9-Sep-19	0.2540	1113.10	1113.30	-0.20	-0.02%
16-Jan-20	0.2230	1099.39	1099.33	0.06	0.01%
10-Oct-19	0.3350	1219.15	1219.89	-0.74	-0.06%
10-Oct-19	0.3350	1219.15	1219.89	-0.74	-0.06%
1-Feb-20	0.1920	1091.18	1090.81	0.36	0.03%
1-Feb-20	0.1930	1090.54	1090.18	0.36	0.03%
1-Jan-20	0.1910	1098.40	1098.03	0.37	0.03%
10-Jul-19	0.1660	1062.07	1061.78	0.29	0.03%
9-Apr-19	0.1920	1079.82	1079.43	0.39	0.04%
28-May-19	0.2010	1055.90	1055.26	0.63	0.06%
28-May-19	0.2010	1055.90	1055.26	0.63	0.06%

27-Aug-19	0.2040	1064.64	1064.10	0.54	0.05%
27-Aug-19	0.2040	1064.64	1064.10	0.54	0.05%
24-Mar-20	0.2260	1086.47	1086.40	0.08	0.01%
12-Sep-19	0.2010	1071.44	1071.01	0.43	0.04%
12-Sep-19	0.2010	1071.44	1071.01	0.43	0.04%
26-Mar-20	0.2450	1097.36	1097.35	0.01	0.00%
26-Mar-20	0.2230	1087.34	1087.32	0.02	0.00%
26-Jun-19	0.3010	1128.82	1128.96	-0.14	-0.01%
26-Jun-19	0.3010	1128.82	1128.96	-0.14	-0.01%
26-Jun-19	0.3010	1128.82	1128.96	-0.14	-0.01%
26-Jun-19	0.2810	1124.33	1124.33	0.00	0.00%
26-Jun-19	0.2810	1124.33	1124.33	0.00	0.00%
26-Jun-19	0.2810	1124.33	1124.33	0.00	0.00%
28-Mar-19	0.2370	1094.02	1093.98	0.03	0.00%
17-Jan-20	0.2850	1107.38	1107.66	-0.28	-0.03%
2-Jan-20	0.2860	1141.95	1142.26	-0.31	-0.03%
26-Mar-20	0.2190	1081.86	1081.76	0.10	0.01%
17-Mar-20	0.2350	1097.10	1097.17	-0.07	-0.01%
6-Feb-20	0.2590	1081.56	1081.52	0.04	0.00%
8-May-19	0.2270	1071.26	1071.33	-0.06	-0.01%
12-Feb-20	0.2340	1075.91	1075.79	0.12	0.01%
18-Apr-19	0.2070	1076.98	1076.94	0.04	0.00%
11-Sep-19	0.2010	1066.49	1066.29	0.19	0.02%
11-Sep-19	0.2010	1066.49	1066.29	0.19	0.02%
5-Mar-20	0.2180	1078.96	1078.97	-0.02	0.00%
5-Mar-20	0.2120	1085.76	1085.63	0.13	0.01%
5-Mar-19	0.2140	1065.30	1064.78	0.52	0.05%
4-Mar-20	0.2050	1056.55	1056.12	0.43	0.04%
4-Mar-20	0.1980	1067.15	1066.88	0.27	0.03%
5-Mar-19	0.2000	1058.40	1058.02	0.39	0.04%
9-Jun-20	0.2040	1095.02	1094.60	0.42	0.04%
28-Aug-19	0.2150	1070.86	1070.75	0.11	0.01%
28-Aug-19	0.2150	1070.86	1070.75	0.11	0.01%
21-Feb-19	0.2240	1069.77	1069.52	0.25	0.02%
7-Aug-19	0.2260	1068.44	1068.38	0.06	0.01%
26-Feb-19	0.2130	1072.22	1072.20	0.03	0.00%
7-Aug-19	0.2260	1068.44	1068.38	0.06	0.01%
8-May-19	0.1940	1044.58	1043.99	0.58	0.06%
5-Dec-19	0.2500	1142.07	1142.34	-0.27	-0.02%
15-Apr-20	0.2130	1063.13	1062.84	0.29	0.03%
24-Sep-19	0.2070	1056.39	1055.87	0.53	0.05%
30-Jul-19	0.1980	1044.54	1043.96	0.58	0.06%
25-Oct-19	0.1990	1058.70	1058.51	0.19	0.02%
25-Oct-19	0.1990	1058.70	1058.51	0.19	0.02%
5-Feb-20	0.1970	1051.82	1051.40	0.42	0.04%
7-Feb-19	0.2050	1064.78	1064.51	0.28	0.03%
25-Oct-19	0.1990	1056.71	1056.52	0.19	0.02%
25-Oct-19	0.1990	1056.71	1056.52	0.19	0.02%
18-Apr-19	0.2800	1140.94	1141.15	-0.21	-0.02%
10-Jan-19	0.3350	1139.25	1139.49	-0.24	-0.02%
7-Feb-19	0.2180	1052.04	1051.35	0.69	0.07%
1-May-19	0.2080	1082.88	1082.70	0.18	0.02%
1-May-19	0.2080	1082.88	1082.70	0.18	0.02%
16-Apr-20	0.2270	1098.25	1098.17	0.08	0.01%
8-Jan-19	0.2150	1072.42	1072.05	0.37	0.03%
29-Jul-19	0.2510	1102.77	1102.62	0.15	0.01%
27-Jan-20	0.2180	1068.21	1068.09	0.12	0.01%

29-Jul-19	0.2510	1102.77	1102.62	0.15	0.01%
20-Jan-20	0.2310	1083.56	1083.26	0.30	0.03%
19-Feb-20	0.2220	1088.36	1088.22	0.14	0.01%
26-Aug-19	0.2110	1068.05	1067.91	0.14	0.01%
26-Aug-19	0.2110	1068.05	1067.91	0.14	0.01%
3-Jan-19	0.2150	1082.21	1081.82	0.39	0.04%
14-May-19	0.2230	1089.18	1089.23	-0.04	0.00%
22-Apr-20	0.2260	1065.90	1065.23	0.67	0.06%
8-Oct-19	0.1890	1053.65	1053.26	0.40	0.04%
8-Oct-19	0.1890	1053.65	1053.26	0.40	0.04%
12-Apr-19	0.3050	1137.51	1137.72	-0.20	-0.02%
31-Oct-19	0.2660	1114.82	1115.19	-0.38	-0.03%
28-Jan-19	0.3250	1132.92	1132.85	0.07	0.01%
29-Jan-20	0.2640	1087.35	1087.40	-0.05	0.00%
13-Mar-19	0.2100	1083.21	1083.06	0.14	0.01%
31-Oct-19	0.2660	1114.82	1115.19	-0.38	-0.03%
3-Jan-19	0.2080	1071.45	1071.17	0.28	0.03%
28-Apr-20	0.2030	1060.51	1060.37	0.14	0.01%
20-Feb-19	0.3050	1138.97	1139.26	-0.29	-0.03%
6-Feb-19	0.2000	1072.28	1072.11	0.17	0.02%
1-Aug-19	0.2760	1167.39	1167.70	-0.32	-0.03%
1-Aug-19	0.2760	1167.39	1167.70	-0.32	-0.03%
11-Feb-20	0.2430	1109.50	1109.55	-0.05	0.00%
13-Feb-20	0.2710	1085.57	1085.64	-0.06	-0.01%
20-Aug-19	0.2180	1079.68	1079.60	0.08	0.01%
20-Aug-19	0.2180	1079.68	1079.60	0.08	0.01%
17-Dec-19	0.2440	1085.79	1086.04	-0.24	-0.02%
17-Dec-19	0.2440	1086.23	1086.48	-0.24	-0.02%
31-Oct-19	0.2660	1114.82	1115.19	-0.38	-0.03%
27-Mar-20	0.2120	1074.65	1074.58	0.08	0.01%
10-Feb-20	0.2150	1079.32	1079.11	0.21	0.02%
26-Aug-19	0.2000	1070.11	1069.81	0.30	0.03%
26-Aug-19	0.2000	1070.11	1069.81	0.30	0.03%
31-Oct-19	0.2660	1114.37	1114.75	-0.38	-0.03%
28-Apr-20	0.2340	1062.44	1061.60	0.83	0.08%
12-Jun-19	0.2060	1080.83	1080.33	0.50	0.05%
12-Jun-19	0.2060	1080.83	1080.33	0.50	0.05%
19-Feb-19	0.2010	1065.89	1065.68	0.20	0.02%
21-Nov-19	0.1920	1060.23	1059.96	0.26	0.02%
21-Nov-19	0.1920	1060.23	1059.96	0.26	0.02%
21-Jun-19	0.1840	1064.21	1063.99	0.22	0.02%
21-Jun-19	0.1840	1064.21	1063.99	0.22	0.02%
22-Oct-19	0.2030	1210.07	1210.23	-0.16	-0.01%
15-May-20	0.4210	1174.45	1175.05	-0.60	-0.05%
21-Jun-18	0.8620	1254.43	1253.46	0.97	0.08%
18-Jun-19	0.3120	1174.86	1175.43	-0.57	-0.05%
20-Nov-19	0.3140	1189.73	1190.40	-0.67	-0.06%
29-Oct-18	0.2040	1065.23	1064.80	0.43	0.04%
18-Dec-19	0.2720	1273.00	1273.22	-0.22	-0.02%
20-Nov-19	0.3220	1336.77	1337.48	-0.71	-0.05%
20-Nov-19	0.3210	1335.01	1335.71	-0.71	-0.05%
27-Feb-19	0.1630	1232.24	1232.20	0.03	0.00%
12-Nov-19	0.2230	1251.95	1252.11	-0.16	-0.01%
12-Nov-19	0.2230	1251.06	1251.22	-0.16	-0.01%
27-Dec-19	0.2630	1230.87	1230.97	-0.10	-0.01%
23-Dec-19	0.4670	1267.42	1268.35	-0.93	-0.07%
31-May-19	0.2010	1223.72	1223.86	-0.14	-0.01%

14-Jan-20	0.2520	1238.68	1238.91	-0.23	-0.02%
26-Mar-18	0.1830	1228.93	1229.10	-0.16	-0.01%
10-Apr-20	0.2580	1255.95	1256.02	-0.08	-0.01%
31-Dec-19	0.2490	1217.51	1217.68	-0.18	-0.01%
11-Apr-19	0.3230	1283.79	1283.94	-0.15	-0.01%
23-Jan-20	0.2270	1096.52	1096.40	0.13	0.01%
18-May-20	0.2320	1081.88	1081.93	-0.05	0.00%
20-Aug-19	0.2530	1119.57	1119.82	-0.25	-0.02%
16-Sep-19	0.2470	1112.21	1112.42	-0.21	-0.02%
18-Jul-19	0.2490	1112.55	1112.73	-0.18	-0.02%
11-Jul-19	0.2040	1100.39	1100.42	-0.02	0.00%
27-Aug-19	0.2290	1090.80	1090.79	0.01	0.00%
1-Feb-20	0.1960	1091.51	1091.14	0.37	0.03%
28-Jan-19	0.2040	1091.47	1091.37	0.09	0.01%
9-Apr-19	0.1860	1068.82	1068.32	0.50	0.05%
26-Aug-19	0.1740	1071.31	1071.00	0.32	0.03%
26-Aug-19	0.1740	1071.31	1071.00	0.32	0.03%
16-Jul-19	0.1930	1084.26	1084.11	0.15	0.01%
16-Jul-19	0.1930	1084.26	1084.11	0.15	0.01%
26-Feb-20	0.2310	1062.93	1062.53	0.40	0.04%
27-Feb-19	0.2150	1079.31	1079.24	0.07	0.01%
7-Jan-20	0.2730	1103.92	1104.20	-0.28	-0.03%
27-Feb-20	0.2080	1067.79	1067.45	0.34	0.03%
3-Jul-19	0.2560	1097.73	1097.60	0.13	0.01%
3-Jul-19	0.2560	1097.73	1097.60	0.13	0.01%
7-Aug-18	0.2140	1062.24	1061.54	0.70	0.07%
19-Feb-19	0.1900	1058.92	1058.60	0.32	0.03%
28-Aug-19	0.2210	1064.51	1063.89	0.62	0.06%
28-Aug-19	0.2210	1064.51	1063.89	0.62	0.06%
27-Mar-19	0.2600	1099.89	1100.04	-0.14	-0.01%
12-Mar-20	0.2250	1094.54	1094.58	-0.03	0.00%
29-Jun-20	0.2580	1128.30	1128.36	-0.05	0.00%
21-Jan-20	0.2920	1110.74	1111.04	-0.30	-0.03%
22-Jan-19	0.2400	1108.31	1108.42	-0.11	-0.01%
22-Jan-19	0.2190	1105.68	1105.68	0.00	0.00%
11-Apr-19	0.2880	1114.74	1115.09	-0.35	-0.03%
10-Apr-19	0.2690	1109.25	1109.44	-0.19	-0.02%
22-Jan-20	0.1980	1129.65	1129.57	0.08	0.01%
21-May-20	0.3010	1131.51	1132.13	-0.63	-0.06%
22-Oct-19	0.2300	1105.99	1106.03	-0.05	0.00%
22-Oct-19	0.2300	1105.99	1106.03	-0.05	0.00%
15-Jan-19	0.2380	1092.47	1092.54	-0.07	-0.01%
2-Apr-20	0.2650	1107.33	1107.39	-0.06	-0.01%
26-Oct-18	0.2300	1069.68	1069.60	0.08	0.01%
26-Oct-18	0.2300	1069.68	1069.60	0.08	0.01%
10-Dec-19	0.2310	1071.33	1071.20	0.13	0.01%
11-Mar-19	0.2200	1075.51	1075.30	0.20	0.02%
5-Feb-19	0.2940	1092.85	1092.74	0.11	0.01%
5-Mar-19	0.2190	1069.14	1068.66	0.48	0.04%
10-Sep-19	0.2170	1076.43	1076.30	0.13	0.01%
10-Sep-19	0.2170	1076.43	1076.30	0.13	0.01%
5-Feb-19	0.3010	1091.63	1091.45	0.18	0.02%
9-Jun-20	0.2590	1100.07	1100.16	-0.09	-0.01%
20-Feb-20	0.2150	1066.72	1066.60	0.12	0.01%
28-Aug-19	0.2120	1070.25	1070.15	0.10	0.01%
28-Aug-19	0.2120	1070.25	1070.15	0.10	0.01%
20-Aug-19	0.2500	1056.30	1055.38	0.92	0.09%

9-Jun-20	0.2870	1135.70	1136.07	-0.38	-0.03%
22-Nov-19	0.2050	1090.99	1090.61	0.38	0.04%
22-Nov-19	0.2050	1090.99	1090.61	0.38	0.04%
10-Apr-19	0.2770	1152.39	1152.79	-0.41	-0.04%
3-Jan-19	0.3080	1096.53	1096.46	0.07	0.01%
28-Aug-19	0.2030	1044.06	1043.48	0.57	0.05%
9-Apr-19	0.2740	1137.37	1137.52	-0.14	-0.01%
10-Apr-19	0.3330	1096.69	1097.13	-0.44	-0.04%
21-Jan-20	0.2130	1080.67	1080.58	0.09	0.01%
5-Aug-19	0.1960	1047.78	1047.31	0.48	0.05%
5-Aug-19	0.1960	1047.78	1047.31	0.48	0.05%
14-Mar-19	0.2170	1099.51	1099.36	0.15	0.01%
14-Mar-19	0.2370	1105.38	1105.32	0.06	0.01%
8-Jan-19	0.2050	1061.48	1061.14	0.34	0.03%
12-Feb-20	0.2370	1089.20	1089.06	0.14	0.01%
10-Jan-19	0.2270	1084.26	1084.15	0.11	0.01%
11-Jan-19	0.2750	1143.48	1143.18	0.31	0.03%
6-Feb-19	0.2840	1090.57	1090.47	0.10	0.01%
7-Aug-19	0.2520	1099.06	1099.10	-0.04	0.00%
7-Aug-19	0.2520	1099.06	1099.10	-0.04	0.00%
17-Sep-19	0.2120	1093.46	1093.31	0.16	0.01%
17-Sep-19	0.2120	1093.46	1093.31	0.16	0.01%
11-Nov-19	0.2130	1072.33	1072.25	0.09	0.01%
11-Nov-19	0.2130	1072.33	1072.25	0.09	0.01%
14-May-19	0.2200	1069.78	1069.68	0.10	0.01%
11-Apr-19	0.2200	1092.22	1092.08	0.14	0.01%
14-Apr-20	0.2840	1137.39	1137.68	-0.28	-0.02%
14-Apr-20	0.2340	1111.16	1111.24	-0.08	-0.01%
15-Jan-19	0.2540	1099.09	1099.07	0.02	0.00%
31-Mar-20	0.2230	1099.41	1099.36	0.05	0.00%
6-Nov-19	0.2410	1102.71	1102.72	0.00	0.00%
6-Nov-19	0.2410	1102.71	1102.72	0.00	0.00%
14-Apr-20	0.2310	1108.25	1108.17	0.08	0.01%
13-Apr-20	0.2310	1088.59	1088.40	0.19	0.02%
12-Feb-20	0.2210	1082.56	1082.44	0.13	0.01%
15-Sep-18	0.2180	1080.46	1080.33	0.14	0.01%
13-Nov-19	0.2880	1088.20	1088.26	-0.06	-0.01%
13-Nov-19	0.2880	1088.20	1088.26	-0.06	-0.01%
7-Aug-19	0.2170	1077.41	1077.25	0.16	0.02%
7-Aug-19	0.2170	1077.41	1077.25	0.16	0.02%
25-Jan-19	0.2880	1130.71	1130.98	-0.27	-0.02%
22-Apr-20	0.2610	1097.94	1097.97	-0.03	0.00%
7-Jan-20	0.2130	1084.34	1084.18	0.16	0.02%
3-Feb-20	0.2400	1113.29	1113.41	-0.12	-0.01%
4-Feb-20	0.2320	1180.43	1180.22	0.21	0.02%
16-May-19	0.1920	1040.28	1039.64	0.64	0.06%
20-Nov-19	0.2160	1073.62	1073.38	0.24	0.02%
20-Nov-19	0.2160	1073.62	1073.38	0.24	0.02%
28-Apr-20	0.2130	1059.87	1059.56	0.31	0.03%
11-Oct-19	0.2450	1092.92	1092.79	0.13	0.01%
11-Oct-19	0.2450	1092.92	1092.79	0.13	0.01%
21-Nov-19	0.2250	1079.05	1078.78	0.27	0.02%
21-Nov-19	0.2250	1079.05	1078.78	0.27	0.02%
27-Jun-19	0.2210	1080.78	1080.35	0.43	0.04%
3-Oct-19	0.2180	1075.79	1075.52	0.27	0.02%
3-Oct-19	0.2180	1075.79	1075.52	0.27	0.02%
23-Sep-19	0.2100	1065.97	1065.71	0.26	0.02%

23-Sep-19	0.2100	1065.97	1065.71	0.26	0.02%
17-Jul-19	0.2260	1069.28	1068.81	0.47	0.04%
17-Jul-19	0.2260	1069.28	1068.81	0.47	0.04%
10-Jun-20	0.2160	1074.01	1073.38	0.63	0.06%
28-Nov-18	0.1950	1052.37	1051.94	0.43	0.04%
10-Jan-20	0.2790	1083.60	1084.00	-0.39	-0.04%
16-Jan-20	0.3980	1192.55	1193.03	-0.48	-0.04%
20-Mar-19	0.4000	1173.84	1174.60	-0.76	-0.06%
25-Jun-19	0.3300	1177.90	1178.48	-0.58	-0.05%
31-Mar-20	0.1980	1083.72	1083.57	0.15	0.01%
16-Aug-19	0.3970	1288.13	1289.03	-0.90	-0.07%
15-Apr-20	0.3180	1266.90	1267.43	-0.53	-0.04%
15-Apr-20	0.3180	1266.90	1267.43	-0.53	-0.04%
21-Jan-20	0.3020	1244.61	1245.05	-0.43	-0.03%
21-Jan-20	0.3020	1244.61	1245.05	-0.43	-0.03%
13-Dec-18	0.1710	1271.56	1271.58	-0.02	0.00%
21-May-20	0.5090	1698.99	1700.42	-1.42	-0.08%
14-Apr-20	0.4830	1832.86	1834.30	-1.44	-0.08%
20-Nov-19	0.3110	1307.65	1308.12	-0.47	-0.04%
20-Nov-19	0.3110	1307.59	1308.06	-0.47	-0.04%
10-Mar-20	0.3060	1213.65	1214.24	-0.59	-0.05%
9-Jan-20	0.2890	1307.65	1308.05	-0.40	-0.03%
12-Mar-19	0.1760	1235.31	1235.39	-0.08	-0.01%
25-Mar-20	0.5180	1801.52	1803.08	-1.56	-0.09%
13-Nov-19	0.2450	1297.30	1297.46	-0.16	-0.01%
13-Nov-19	0.2440	1293.83	1293.99	-0.16	-0.01%
26-Nov-19	0.2870	1262.89	1263.22	-0.33	-0.03%
26-Nov-19	0.2870	1262.89	1263.22	-0.33	-0.03%
14-May-19	0.1750	1074.78	1074.39	0.40	0.04%
10-Dec-19	0.1890	1086.32	1085.86	0.47	0.04%
22-Aug-19	0.2470	1111.56	1111.73	-0.17	-0.02%
8-Jul-19	0.2390	1105.88	1105.96	-0.09	-0.01%
8-Jul-19	0.2390	1105.88	1105.96	-0.09	-0.01%
8-Jul-19	0.2390	1105.40	1105.49	-0.09	-0.01%
8-Jul-19	0.2390	1106.62	1106.70	-0.09	-0.01%
8-Jul-19	0.2390	1106.53	1106.61	-0.09	-0.01%
21-Nov-19	0.2260	1092.77	1092.84	-0.08	-0.01%
8-Jul-19	0.2390	1106.41	1106.50	-0.09	-0.01%
1-Dec-19	0.2020	1096.89	1096.52	0.37	0.03%
25-Sep-19	0.2400	1103.93	1103.99	-0.06	-0.01%
16-Jul-19	0.1810	1079.17	1078.85	0.32	0.03%
16-Jul-19	0.1810	1079.17	1078.85	0.32	0.03%
24-May-19	0.2110	1070.92	1070.81	0.12	0.01%
23-Aug-18	0.2090	1062.79	1062.14	0.65	0.06%
14-Feb-19	0.2090	1063.56	1063.07	0.49	0.05%
25-Jan-20	0.2640	1094.13	1094.09	0.04	0.00%
9-Jun-20	0.2620	1099.40	1099.52	-0.11	-0.01%
18-Nov-19	0.2230	1080.77	1080.46	0.31	0.03%
18-Nov-19	0.2230	1080.77	1080.46	0.31	0.03%
11-Jun-20	0.2220	1080.02	1079.76	0.27	0.02%
29-Nov-18	0.2040	1076.15	1075.63	0.52	0.05%
24-Sep-19	0.2390	1071.03	1070.69	0.34	0.03%
24-Sep-19	0.2390	1071.03	1070.69	0.34	0.03%
15-Jan-20	0.3700	1130.69	1131.19	-0.51	-0.04%
12-Sep-19	0.2230	1080.34	1080.10	0.24	0.02%
12-Sep-19	0.2230	1080.34	1080.10	0.24	0.02%
24-Oct-19	0.2630	1133.61	1133.84	-0.23	-0.02%

24-Oct-19	0.2630	1133.61	1133.84	-0.23	-0.02%
6-Sep-19	0.2360	1083.33	1083.06	0.27	0.03%
6-Sep-19	0.2360	1083.33	1083.06	0.27	0.03%
26-Mar-19	0.2350	1106.63	1106.66	-0.03	0.00%
20-Mar-19	0.2400	1083.77	1083.65	0.12	0.01%
3-Apr-20	0.2460	1122.32	1122.44	-0.11	-0.01%
16-Apr-19	0.2820	1123.47	1123.67	-0.20	-0.02%
2-Oct-19	0.2510	1095.59	1095.65	-0.06	-0.01%
2-Oct-19	0.2510	1095.59	1095.65	-0.06	-0.01%
9-Apr-19	0.2940	1103.34	1103.48	-0.14	-0.01%
22-Jan-20	0.2730	1121.49	1121.66	-0.18	-0.02%
20-May-20	0.2040	1070.39	1070.07	0.32	0.03%
9-Aug-19	0.2510	1080.57	1080.33	0.24	0.02%
14-Nov-19	0.2280	1077.40	1077.17	0.23	0.02%
14-Nov-19	0.2280	1077.40	1077.17	0.23	0.02%
20-May-20	0.2290	1086.46	1086.35	0.10	0.01%
23-Jan-20	0.2400	1083.36	1083.27	0.09	0.01%
9-Mar-20	0.2130	1066.19	1065.95	0.24	0.02%
5-Sep-19	0.2040	1060.88	1060.63	0.25	0.02%
5-Sep-19	0.2040	1060.88	1060.63	0.25	0.02%
8-Jun-20	0.2240	1105.00	1105.07	-0.07	-0.01%
8-Feb-20	0.2210	1064.09	1063.94	0.16	0.01%
22-Nov-19	0.2210	1089.37	1089.12	0.25	0.02%
22-Nov-19	0.2210	1089.37	1089.12	0.25	0.02%
11-Oct-19	0.2250	1069.75	1069.50	0.25	0.02%
11-Oct-19	0.2250	1069.75	1069.50	0.25	0.02%
21-May-20	0.2650	1183.73	1183.86	-0.13	-0.01%
30-Jan-19	0.2970	1136.94	1137.34	-0.40	-0.04%
13-May-19	0.2260	1098.21	1098.31	-0.10	-0.01%
20-May-20	0.2170	1067.94	1067.62	0.31	0.03%
10-Dec-19	0.2580	1132.89	1133.19	-0.30	-0.03%
7-Feb-19	0.2100	1053.42	1053.00	0.42	0.04%
7-Nov-19	0.2230	1078.75	1078.68	0.07	0.01%
7-Nov-19	0.2230	1078.75	1078.68	0.07	0.01%
23-Mar-20	0.2370	1106.46	1106.52	-0.06	-0.01%
10-Jul-19	0.2110	1062.26	1061.84	0.42	0.04%
10-Jul-19	0.2110	1062.26	1061.84	0.42	0.04%
8-Jan-20	0.2210	1072.52	1072.36	0.16	0.02%
16-Dec-19	0.2690	1118.83	1118.90	-0.07	-0.01%
9-Jan-19	0.2350	1091.82	1091.68	0.14	0.01%
7-Jan-20	0.2100	1066.57	1066.46	0.11	0.01%
24-Sep-19	0.2480	1073.82	1073.70	0.12	0.01%
24-Sep-19	0.2480	1073.82	1073.70	0.12	0.01%
11-Nov-19	0.2190	1078.61	1078.36	0.25	0.02%
14-May-19	0.2170	1077.95	1077.67	0.28	0.03%
11-Nov-19	0.2260	1085.43	1085.30	0.13	0.01%
20-Jan-20	0.2250	1110.74	1110.77	-0.03	0.00%
20-Feb-19	0.2530	1081.34	1081.06	0.28	0.03%
17-Apr-19	0.1980	1058.74	1058.49	0.24	0.02%
23-Apr-20	0.2030	1054.61	1054.37	0.23	0.02%
11-Feb-20	0.2500	1078.28	1078.21	0.08	0.01%
20-Jan-20	0.2440	1089.14	1089.01	0.12	0.01%
26-May-20	0.2230	1076.35	1076.12	0.24	0.02%
29-Aug-19	0.2270	1088.55	1088.49	0.06	0.01%
29-Aug-19	0.2270	1088.55	1088.49	0.06	0.01%
6-Feb-19	0.2230	1081.28	1081.22	0.06	0.01%
18-Feb-20	0.2290	1087.50	1087.37	0.13	0.01%

17-Sep-19	0.2570	1099.89	1099.88	0.01	0.00%
17-Sep-19	0.2570	1099.89	1099.88	0.01	0.00%
31-Jan-19	0.2080	1071.74	1071.57	0.17	0.02%
14-Feb-19	0.2960	1109.81	1109.87	-0.06	-0.01%
1-Feb-19	0.2110	1082.55	1082.35	0.20	0.02%
20-May-19	0.2200	1075.75	1075.40	0.36	0.03%
23-Jun-20	0.2050	1067.21	1066.97	0.25	0.02%
6-Feb-19	0.3050	1083.29	1083.22	0.07	0.01%
21-Nov-19	0.1910	1057.59	1057.20	0.38	0.04%
21-Nov-19	0.1910	1057.59	1057.20	0.38	0.04%
9-Jan-19	0.2160	1076.19	1075.99	0.20	0.02%
30-May-19	0.2200	1069.06	1068.33	0.73	0.07%
30-May-19	0.2200	1069.06	1068.33	0.73	0.07%
7-Jan-20	0.2410	1076.79	1076.66	0.12	0.01%
21-May-20	0.2070	1066.25	1065.91	0.34	0.03%
20-Nov-19	0.2150	1076.27	1076.26	0.01	0.00%
23-Apr-20	0.2370	1072.93	1072.58	0.34	0.03%
14-Feb-19	0.1990	1064.47	1064.21	0.26	0.02%
26-Nov-19	0.2160	1080.66	1080.77	-0.11	-0.01%
26-Nov-19	0.2160	1080.66	1080.77	-0.11	-0.01%
15-Aug-19	0.1980	1062.16	1061.79	0.36	0.03%
15-Aug-19	0.1980	1062.16	1061.79	0.36	0.03%
25-Mar-20	0.3070	1250.93	1251.52	-0.59	-0.05%
6-Mar-20	0.4350	1178.83	1179.21	-0.38	-0.03%
25-Apr-19	0.1800	1002.68	1002.21	0.48	0.05%
22-Aug-19	0.1910	1027.40	1026.80	0.60	0.06%
22-Aug-19	0.1910	1027.40	1026.80	0.60	0.06%
22-Feb-19	0.2000	1033.93	1033.51	0.42	0.04%
9-Apr-20	0.3050	1271.86	1272.32	-0.46	-0.04%
25-Feb-20	0.3360	1308.40	1309.16	-0.76	-0.06%
17-Jan-19	0.1760	1288.85	1288.86	-0.01	0.00%
10-Jan-19	0.2200	1259.94	1260.05	-0.11	-0.01%
5-Apr-19	0.1770	1264.50	1264.59	-0.10	-0.01%
9-Jul-19	0.1460	1194.91	1194.56	0.35	0.03%
9-Jul-19	0.1460	1194.91	1194.56	0.35	0.03%
9-Jul-19	0.1460	1194.91	1194.56	0.35	0.03%
25-Oct-19	0.4310	1232.28	1233.46	-1.18	-0.10%
25-Oct-19	0.4310	1230.48	1231.66	-1.18	-0.10%
20-Feb-18	0.2510	1335.54	1335.79	-0.26	-0.02%
8-Feb-19	0.2010	1275.14	1275.32	-0.18	-0.01%
11-Feb-20	0.2650	1221.10	1221.17	-0.07	-0.01%
19-Nov-19	0.2390	1038.45	1038.12	0.33	0.03%
19-Nov-19	0.2390	1036.85	1036.52	0.33	0.03%
24-Jan-18	0.1610	1245.68	1245.43	0.25	0.02%
31-Jan-18	0.1860	1336.79	1336.53	0.27	0.02%
1-Oct-19	0.4290	1221.72	1222.76	-1.04	-0.09%
1-Oct-19	0.4290	1221.72	1222.76	-1.04	-0.09%
10-Jun-19	0.3050	1263.57	1263.97	-0.40	-0.03%
20-May-20	0.2990	1317.47	1317.88	-0.41	-0.03%
13-Aug-19	0.2110	1104.17	1104.16	0.01	0.00%
17-Jan-20	0.3260	1222.69	1223.26	-0.56	-0.05%
22-Oct-19	0.2430	1107.21	1107.32	-0.11	-0.01%
1-Nov-19	0.2040	1085.49	1085.11	0.39	0.04%
15-Jul-19	0.2060	1096.17	1095.96	0.21	0.02%
15-Jul-19	0.2060	1096.17	1095.96	0.21	0.02%
21-Aug-19	0.2180	1062.05	1061.43	0.62	0.06%
14-Feb-19	0.2130	1066.23	1065.74	0.49	0.05%

21-Aug-19	0.2180	1062.05	1061.43	0.62	0.06%
25-Nov-19	0.2020	1066.38	1066.22	0.17	0.02%
25-Nov-19	0.2020	1066.38	1066.22	0.17	0.02%
23-Aug-18	0.2040	1072.39	1071.65	0.73	0.07%
8-Oct-19	0.2430	1121.45	1121.53	-0.08	-0.01%
8-Oct-19	0.2430	1121.45	1121.53	-0.08	-0.01%
12-Mar-19	0.1910	1063.40	1062.89	0.50	0.05%
24-Mar-20	0.2550	1091.55	1091.52	0.03	0.00%
24-Oct-19	0.2940	1116.65	1117.00	-0.36	-0.03%
24-Oct-19	0.2950	1119.09	1119.45	-0.36	-0.03%
25-Jan-20	0.2830	1093.46	1093.55	-0.09	-0.01%
29-Nov-19	0.2790	1100.10	1100.17	-0.07	-0.01%
29-Nov-19	0.2790	1100.10	1100.17	-0.07	-0.01%
29-Nov-19	0.2600	1095.53	1095.59	-0.06	-0.01%
10-Oct-19	0.2680	1108.19	1108.33	-0.14	-0.01%
10-Oct-19	0.2680	1108.19	1108.33	-0.14	-0.01%
10-Apr-19	0.2920	1110.62	1110.96	-0.33	-0.03%
16-Jan-20	0.2810	1103.71	1103.80	-0.09	-0.01%
14-Oct-19	0.2750	1128.57	1128.87	-0.30	-0.03%
14-Oct-19	0.2750	1128.57	1128.87	-0.30	-0.03%
9-Jan-20	0.3220	1131.96	1132.43	-0.47	-0.04%
24-Sep-19	0.2290	1083.43	1083.29	0.13	0.01%
24-Sep-19	0.2290	1083.43	1083.29	0.13	0.01%
24-Mar-20	0.2430	1089.84	1089.84	0.00	0.00%
13-Nov-18	0.2480	1099.63	1099.84	-0.21	-0.02%
19-Apr-19	0.2650	1119.69	1119.85	-0.16	-0.01%
16-Apr-19	0.4060	1102.17	1102.21	-0.05	0.00%
16-Apr-19	0.4060	1102.17	1102.21	-0.05	0.00%
4-Sep-19	0.2630	1087.59	1087.39	0.19	0.02%
4-Sep-19	0.2630	1087.59	1087.39	0.19	0.02%
20-May-20	0.2220	1073.61	1073.39	0.22	0.02%
29-Jan-20	0.2330	1075.70	1075.63	0.07	0.01%
28-Apr-20	0.2220	1069.74	1069.46	0.27	0.03%
12-Mar-19	0.2150	1082.27	1082.08	0.19	0.02%
7-Sep-19	0.2490	1091.91	1091.62	0.29	0.03%
20-Mar-19	0.2270	1088.92	1088.69	0.24	0.02%
7-Sep-19	0.2490	1091.91	1091.62	0.29	0.03%
19-Feb-19	0.2500	1098.18	1098.15	0.02	0.00%
18-Mar-20	0.2460	1087.23	1087.16	0.08	0.01%
11-Mar-19	0.2270	1078.01	1077.88	0.13	0.01%
4-Mar-20	0.2220	1072.25	1072.11	0.14	0.01%
5-Mar-20	0.2330	1077.59	1077.50	0.09	0.01%
2-Dec-19	0.1970	1060.95	1060.73	0.22	0.02%
21-Apr-20	0.2380	1088.75	1088.76	-0.01	0.00%
12-Mar-19	0.2390	1089.77	1089.75	0.02	0.00%
5-Dec-19	0.2430	1133.20	1133.39	-0.19	-0.02%
29-May-19	0.2130	1044.65	1044.05	0.60	0.06%
17-Jan-19	0.2370	1116.65	1116.40	0.25	0.02%
24-Oct-19	0.3100	1137.22	1137.72	-0.51	-0.04%
24-Oct-19	0.3100	1137.22	1137.72	-0.51	-0.04%
7-Mar-19	0.2200	1087.06	1086.96	0.10	0.01%
25-Oct-19	0.2050	1052.99	1052.69	0.30	0.03%
29-Apr-20	0.2080	1049.09	1048.78	0.31	0.03%
25-Oct-19	0.2050	1052.99	1052.69	0.30	0.03%
11-May-20	0.2410	1098.40	1098.38	0.02	0.00%
18-Feb-20	0.2320	1096.94	1096.92	0.02	0.00%
30-Apr-20	0.2170	1062.00	1061.78	0.22	0.02%

30-Apr-20	0.2070	1053.38	1053.17	0.20	0.02%
13-May-19	0.2200	1056.20	1055.62	0.58	0.06%
20-Feb-19	0.2410	1077.80	1077.48	0.32	0.03%
19-Feb-20	0.2220	1076.52	1076.42	0.10	0.01%
28-May-19	0.2240	1076.39	1076.22	0.17	0.02%
6-May-19	0.2340	1080.75	1080.43	0.32	0.03%
7-Nov-19	0.2060	1070.07	1069.77	0.30	0.03%
7-Nov-19	0.2060	1070.07	1069.77	0.30	0.03%
7-Nov-19	0.2220	1077.51	1077.40	0.11	0.01%
14-May-19	0.2210	1077.33	1077.23	0.09	0.01%
7-Nov-19	0.2250	1077.93	1077.79	0.14	0.01%
10-Dec-19	0.2450	1096.64	1096.58	0.06	0.01%
2-Jul-19	0.3030	1143.44	1143.34	0.10	0.01%
2-Jul-19	0.3030	1143.44	1143.34	0.10	0.01%
8-Jan-19	0.2380	1087.96	1087.66	0.30	0.03%
2-Apr-20	0.2170	1072.65	1072.57	0.08	0.01%
11-Nov-19	0.2250	1080.24	1080.09	0.16	0.01%
11-Nov-19	0.2290	1084.01	1083.80	0.21	0.02%
14-May-19	0.2310	1083.37	1083.11	0.26	0.02%
6-Feb-19	0.3150	1092.41	1092.23	0.18	0.02%
2-Oct-19	0.2420	1082.92	1082.86	0.06	0.01%
2-Oct-19	0.2420	1082.92	1082.86	0.06	0.01%
21-Apr-20	0.2380	1098.33	1098.33	0.01	0.00%
7-Nov-19	0.2380	1110.10	1110.04	0.05	0.00%
7-Nov-19	0.2380	1110.10	1110.04	0.05	0.00%
7-Mar-19	0.1930	1088.25	1088.08	0.17	0.02%
28-Aug-18	0.2270	1070.03	1069.49	0.54	0.05%
28-May-19	0.2320	1079.80	1079.54	0.26	0.02%
23-Jan-19	0.2490	1149.34	1149.27	0.06	0.01%
6-Nov-19	0.2370	1086.69	1086.49	0.19	0.02%
6-Nov-19	0.2370	1086.69	1086.49	0.19	0.02%
29-Jan-20	0.2740	1090.07	1090.15	-0.08	-0.01%
11-Jan-19	0.2800	1112.23	1111.84	0.39	0.04%
9-Jan-19	0.2280	1070.76	1070.29	0.47	0.04%
23-Apr-20	0.2170	1062.10	1061.89	0.21	0.02%
4-Sep-19	0.2680	1074.85	1074.68	0.17	0.02%
4-Sep-19	0.2680	1074.85	1074.68	0.17	0.02%
26-Feb-20	0.2380	1092.17	1092.26	-0.09	-0.01%
3-Jan-19	0.2200	1073.03	1072.76	0.27	0.03%
8-Jan-19	0.2240	1068.50	1067.98	0.52	0.05%
12-Sep-19	0.2310	1087.32	1087.10	0.22	0.02%
12-Sep-19	0.2310	1087.32	1087.10	0.22	0.02%
11-Mar-20	0.2050	1090.48	1090.32	0.16	0.01%
12-Sep-19	0.2700	1130.07	1130.23	-0.16	-0.01%
12-Sep-19	0.2700	1130.07	1130.23	-0.16	-0.01%
17-Dec-19	0.3000	1096.35	1096.92	-0.57	-0.05%
17-Dec-19	0.3020	1099.26	1099.82	-0.55	-0.05%
25-Jul-19	0.2060	1053.36	1052.88	0.48	0.05%
25-Jul-19	0.2060	1053.36	1052.88	0.48	0.05%
5-Mar-19	0.2080	1109.52	1109.52	-0.01	0.00%
5-Mar-19	0.2080	1108.41	1108.42	-0.01	0.00%
18-Apr-19	0.2140	1070.91	1070.58	0.33	0.03%
30-Jan-19	0.2640	1114.48	1113.93	0.55	0.05%
10-Jul-19	0.2190	1076.39	1075.90	0.49	0.05%
10-Jul-19	0.2190	1076.39	1075.90	0.49	0.05%
11-Jun-20	0.2210	1091.03	1090.52	0.51	0.05%
4-Feb-19	0.1970	1066.61	1066.01	0.59	0.06%

4-Feb-19	0.1970	1066.61	1066.01	0.59	0.06%
28-Aug-19	0.2130	1060.75	1060.08	0.67	0.06%
28-Aug-19	0.2130	1060.75	1060.08	0.67	0.06%
23-Aug-19	0.2200	1069.74	1069.33	0.41	0.04%
23-Aug-19	0.2200	1069.74	1069.33	0.41	0.04%
11-Dec-19	0.3030	1225.73	1226.29	-0.56	-0.05%
12-Sep-19	0.3120	1232.58	1233.08	-0.50	-0.04%
27-Nov-19	0.3650	1270.82	1271.70	-0.88	-0.07%
24-Jan-20	0.3370	1223.21	1223.94	-0.73	-0.06%
19-Mar-20	0.3950	1220.86	1221.83	-0.97	-0.08%
19-Feb-20	0.3110	1104.97	1105.33	-0.36	-0.03%
3-Apr-19	0.3360	1192.17	1192.83	-0.66	-0.06%
1-Feb-20	0.3560	1148.65	1148.84	-0.19	-0.02%
6-Jun-19	0.2030	1025.34	1024.94	0.41	0.04%
1-Jul-19	0.2240	1097.45	1097.53	-0.08	-0.01%
18-Feb-20	0.3030	1281.53	1282.07	-0.54	-0.04%
16-Aug-19	0.3980	1288.15	1289.02	-0.87	-0.07%
30-Sep-19	0.2770	1253.12	1253.48	-0.36	-0.03%
30-Mar-20	0.3470	1286.91	1287.47	-0.56	-0.04%
30-Sep-19	0.2770	1252.71	1253.07	-0.36	-0.03%
30-Sep-19	0.2770	1253.10	1253.46	-0.36	-0.03%
30-Mar-20	0.3470	1286.90	1287.46	-0.56	-0.04%
30-Sep-19	0.2770	1252.67	1253.03	-0.36	-0.03%
23-Oct-19	0.3440	1276.80	1277.37	-0.56	-0.04%
23-Oct-19	0.3440	1276.80	1277.37	-0.56	-0.04%
12-Sep-19	0.3510	1349.33	1349.96	-0.64	-0.05%
12-Sep-19	0.3510	1349.21	1349.85	-0.64	-0.05%
20-Sep-19	0.3760	1314.20	1315.00	-0.81	-0.06%
20-Sep-19	0.3760	1312.91	1313.71	-0.81	-0.06%
20-Sep-19	0.3760	1312.92	1313.72	-0.81	-0.06%
10-Jun-19	0.2500	1784.72	1785.06	-0.34	-0.02%
5-Nov-19	0.3760	1312.91	1313.76	-0.85	-0.06%
31-Jan-19	0.2790	1274.00	1274.38	-0.38	-0.03%
23-Sep-19	0.5690	1255.17	1256.54	-1.37	-0.11%
21-Aug-18	0.3450	1284.62	1285.55	-0.93	-0.07%
26-Feb-19	0.1660	1215.21	1215.14	0.07	0.01%
26-Mar-20	0.3270	1218.65	1219.23	-0.58	-0.05%
27-Mar-20	0.3150	1250.61	1251.13	-0.52	-0.04%
8-Jan-19	0.2220	1231.41	1231.57	-0.16	-0.01%
3-Apr-19	0.5220	1350.58	1351.92	-1.34	-0.10%
5-Sep-19	0.2260	1118.51	1118.72	-0.21	-0.02%
5-Sep-19	0.2260	1118.51	1118.72	-0.21	-0.02%
14-May-20	0.1750	1070.57	1070.35	0.22	0.02%
14-May-20	0.1770	1070.94	1070.72	0.22	0.02%
13-Aug-19	0.2580	1105.37	1105.46	-0.09	-0.01%
5-Sep-19	0.2730	1110.62	1110.81	-0.19	-0.02%
4-Mar-19	0.1980	1080.83	1080.71	0.12	0.01%
19-Aug-19	0.2500	1116.87	1117.00	-0.13	-0.01%
5-Mar-20	0.2380	1093.45	1093.49	-0.04	0.00%
7-Oct-19	0.1840	1077.70	1077.48	0.22	0.02%
7-Oct-19	0.1840	1077.70	1077.48	0.22	0.02%
20-Aug-19	0.2240	1065.37	1064.74	0.63	0.06%
20-Aug-19	0.2240	1065.37	1064.74	0.63	0.06%
21-May-19	0.2140	1066.99	1066.59	0.40	0.04%
21-May-19	0.2140	1066.99	1066.59	0.40	0.04%
25-Feb-20	0.2160	1061.89	1061.57	0.32	0.03%
27-Aug-19	0.2110	1050.20	1049.62	0.58	0.06%

27-Aug-19	0.2110	1050.20	1049.62	0.58	0.06%
26-Nov-19	0.2440	1092.68	1092.58	0.10	0.01%
26-Nov-19	0.2440	1092.68	1092.58	0.10	0.01%
29-Aug-19	0.2940	1131.78	1131.95	-0.17	-0.02%
29-Aug-19	0.2940	1130.91	1131.08	-0.17	-0.02%
29-Aug-19	0.2910	1124.41	1124.59	-0.18	-0.02%
29-Aug-19	0.2910	1124.41	1124.59	-0.18	-0.02%
25-Jan-20	0.2530	1094.96	1095.06	-0.10	-0.01%
24-Sep-19	0.2330	1084.81	1084.67	0.15	0.01%
24-Sep-19	0.2330	1084.81	1084.67	0.15	0.01%
24-Sep-19	0.2460	1091.85	1091.76	0.09	0.01%
24-Sep-19	0.2460	1091.85	1091.76	0.09	0.01%
12-Sep-19	0.2320	1083.54	1083.15	0.39	0.04%
12-Sep-19	0.2320	1083.54	1083.15	0.39	0.04%
23-Jul-19	0.2460	1116.92	1116.73	0.19	0.02%
23-Jul-19	0.2460	1116.92	1116.73	0.19	0.02%
11-Jan-20	0.3160	1131.23	1131.64	-0.41	-0.04%
26-Mar-20	0.2500	1091.91	1091.87	0.04	0.00%
23-Jan-19	0.3040	1116.31	1116.41	-0.10	-0.01%
21-Jan-20	0.3040	1121.17	1121.25	-0.08	-0.01%
25-Jun-19	0.2800	1119.46	1119.26	0.20	0.02%
25-Jun-19	0.2800	1119.46	1119.26	0.20	0.02%
25-Jun-19	0.2800	1119.46	1119.26	0.20	0.02%
22-Oct-19	0.2580	1118.00	1118.00	0.00	0.00%
22-Oct-19	0.2580	1118.00	1118.00	0.00	0.00%
8-May-19	0.2360	1071.98	1071.91	0.07	0.01%
18-Feb-20	0.2570	1078.05	1078.05	0.00	0.00%
20-May-20	0.2450	1085.14	1085.08	0.06	0.01%
5-Dec-19	0.2470	1074.79	1074.46	0.33	0.03%
12-Jun-19	0.2410	1067.62	1067.30	0.32	0.03%
12-Jun-19	0.2410	1067.62	1067.30	0.32	0.03%
5-Dec-19	0.2580	1084.50	1084.42	0.08	0.01%
5-Mar-20	0.2320	1082.11	1081.94	0.17	0.02%
30-Dec-19	0.2300	1087.03	1087.06	-0.04	0.00%
14-Feb-19	0.2450	1098.46	1098.52	-0.06	-0.01%
23-Mar-20	0.2370	1077.55	1077.32	0.23	0.02%
17-Mar-20	0.2550	1100.20	1100.32	-0.13	-0.01%
15-Jan-19	0.3130	1163.74	1164.26	-0.53	-0.05%
15-Jan-19	0.2960	1122.96	1123.30	-0.33	-0.03%
5-Mar-20	0.2310	1078.23	1078.12	0.10	0.01%
7-Mar-19	0.2400	1078.75	1078.45	0.30	0.03%
9-Sep-19	0.2150	1064.19	1063.95	0.25	0.02%
9-Sep-19	0.2150	1064.19	1063.95	0.25	0.02%
28-Aug-19	0.2210	1064.06	1063.86	0.21	0.02%
20-Feb-20	0.2220	1068.78	1068.63	0.16	0.01%
28-Aug-19	0.2210	1064.06	1063.86	0.21	0.02%
7-Oct-19	0.1920	1056.81	1056.42	0.39	0.04%
7-Oct-19	0.1920	1056.81	1056.42	0.39	0.04%
10-May-19	0.2370	1094.21	1093.89	0.32	0.03%
15-Apr-20	0.2880	1131.05	1131.30	-0.25	-0.02%
21-Jan-20	0.2480	1081.26	1081.23	0.03	0.00%
25-Nov-19	0.2240	1085.41	1085.58	-0.17	-0.02%
25-Nov-19	0.2240	1085.41	1085.58	-0.17	-0.02%
9-Apr-20	0.2460	1108.20	1108.17	0.03	0.00%
10-Apr-19	0.3110	1122.10	1122.42	-0.32	-0.03%
16-Jul-19	0.2590	1041.04	1039.77	1.28	0.12%
12-May-20	0.2720	1100.76	1100.64	0.12	0.01%

12-Dec-19	0.2540	1137.29	1137.53	-0.24	-0.02%
18-Feb-20	0.2260	1084.91	1084.70	0.21	0.02%
17-Apr-19	0.2010	1059.50	1059.35	0.15	0.01%
17-Apr-19	0.2070	1057.87	1057.62	0.25	0.02%
30-Jan-19	0.2190	1081.97	1081.95	0.03	0.00%
24-Apr-19	0.2110	1062.66	1062.48	0.18	0.02%
29-Apr-20	0.2140	1054.80	1054.55	0.24	0.02%
18-Feb-20	0.2150	1047.80	1046.88	0.92	0.09%
20-Feb-19	0.2300	1074.42	1074.10	0.32	0.03%
10-Dec-19	0.2650	1119.65	1119.91	-0.25	-0.02%
13-May-19	0.2290	1072.65	1072.45	0.20	0.02%
17-Apr-19	0.2490	1095.27	1095.06	0.21	0.02%
21-Nov-19	0.2460	1097.45	1097.40	0.05	0.00%
21-Nov-19	0.2460	1097.45	1097.40	0.05	0.00%
15-Jan-19	0.2310	1093.84	1093.51	0.33	0.03%
6-May-19	0.2430	1091.47	1091.39	0.09	0.01%
1-Feb-19	0.2470	1090.32	1090.28	0.04	0.00%
13-May-20	0.2490	1098.09	1098.08	0.00	0.00%
9-May-19	0.2240	1077.32	1077.06	0.27	0.02%
28-Mar-19	0.1960	1071.25	1071.01	0.23	0.02%
6-Jun-19	0.2450	1085.13	1084.93	0.20	0.02%
8-Apr-20	0.2790	1113.35	1113.41	-0.06	-0.01%
11-Apr-19	0.2290	1089.04	1089.02	0.02	0.00%
20-Feb-19	0.2410	1087.54	1087.30	0.24	0.02%
11-Apr-19	0.2290	1090.17	1089.93	0.24	0.02%
11-Apr-19	0.2230	1085.80	1085.67	0.13	0.01%
5-Nov-19	0.2370	1070.13	1069.95	0.19	0.02%
5-Nov-19	0.2370	1070.13	1069.95	0.19	0.02%
26-Jun-19	0.2610	1103.99	1103.94	0.04	0.00%
19-Feb-20	0.2480	1091.24	1091.23	0.01	0.00%
2-Jan-19	0.2320	1091.07	1090.85	0.22	0.02%
7-Jun-19	0.2410	1140.46	1140.33	0.13	0.01%
11-Apr-19	0.2250	1084.17	1083.78	0.38	0.04%
29-Jan-19	0.2810	1159.43	1159.68	-0.25	-0.02%
29-Jan-20	0.2730	1090.99	1091.03	-0.03	0.00%
27-May-20	0.2360	1076.00	1075.92	0.08	0.01%
14-Jan-20	0.2530	1118.52	1118.63	-0.10	-0.01%
17-Mar-20	0.2520	1100.23	1100.25	-0.02	0.00%
7-Mar-19	0.3360	1111.28	1111.28	0.00	0.00%
10-Mar-20	0.2360	1084.31	1084.42	-0.11	-0.01%
18-May-20	0.2240	1051.16	1050.42	0.73	0.07%
7-Jan-20	0.2290	1082.01	1081.94	0.07	0.01%
24-Apr-19	0.2260	1088.07	1088.02	0.05	0.00%
6-Feb-20	0.2620	1074.15	1073.94	0.21	0.02%
26-Jun-19	0.2170	1058.04	1057.73	0.31	0.03%
26-Jun-19	0.2170	1058.04	1057.73	0.31	0.03%
28-May-19	0.2410	1072.63	1072.16	0.47	0.04%
29-Apr-20	0.2030	1063.13	1062.79	0.34	0.03%
28-May-19	0.2410	1072.63	1072.16	0.47	0.04%
29-May-19	0.2410	1086.75	1086.65	0.10	0.01%
11-May-20	0.2370	1058.23	1057.44	0.79	0.07%
25-Feb-19	0.2260	1070.34	1070.04	0.30	0.03%
25-Feb-19	0.2260	1070.34	1070.04	0.30	0.03%
25-Feb-20	0.2070	1062.59	1062.35	0.24	0.02%
8-Apr-20	0.3380	1086.26	1086.54	-0.28	-0.03%
6-Mar-20	0.4890	1173.84	1174.87	-1.02	-0.09%
1-Jan-20	0.1550	1061.19	1060.99	0.20	0.02%

1-Feb-20	0.2620	1179.95	1179.76	0.19	0.02%
15-Aug-19	0.2130	1058.15	1057.88	0.26	0.02%
25-Apr-19	0.1970	1030.57	1029.90	0.67	0.07%
15-Apr-20	0.2270	1060.82	1060.73	0.09	0.01%
30-Jul-19	0.2340	1095.71	1095.65	0.07	0.01%
25-Mar-20	0.3190	1311.96	1312.46	-0.50	-0.04%
18-Dec-19	0.4200	1316.55	1317.58	-1.04	-0.08%
18-Dec-19	0.4190	1315.48	1316.52	-1.03	-0.08%
1-Jul-19	0.1730	1349.19	1349.19	0.00	0.00%
12-Nov-19	0.3340	1277.34	1277.92	-0.58	-0.05%
12-Nov-19	0.3340	1276.09	1276.67	-0.58	-0.05%
31-Mar-20	0.3050	1312.28	1312.70	-0.42	-0.03%
11-Feb-19	0.2020	1196.73	1196.43	0.30	0.03%
11-Feb-19	0.2020	1194.81	1194.50	0.30	0.03%
17-Mar-20	0.5150	1233.10	1234.16	-1.05	-0.09%
24-Apr-19	0.1500	1283.80	1283.58	0.22	0.02%
16-May-19	0.2080	1277.87	1278.01	-0.14	-0.01%
13-Nov-18	0.3110	1372.58	1372.78	-0.20	-0.01%
8-Feb-19	0.2360	1228.82	1228.98	-0.16	-0.01%
24-Sep-19	0.3860	1283.42	1283.99	-0.57	-0.04%
24-Sep-19	0.3860	1283.42	1283.99	-0.57	-0.04%
18-Feb-20	0.3900	1198.42	1199.20	-0.78	-0.06%
27-Mar-20	0.3150	1259.85	1260.37	-0.53	-0.04%
14-Dec-17	0.2490	1280.14	1278.66	1.48	0.12%
26-Feb-20	0.3260	1400.52	1400.74	-0.22	-0.02%
26-Feb-20	0.3260	1400.52	1400.74	-0.22	-0.02%
27-Jan-20	0.2370	1074.52	1074.14	0.37	0.03%
23-Dec-19	0.2350	1101.46	1101.31	0.16	0.01%
14-May-19	0.1800	1069.55	1069.21	0.34	0.03%
30-Mar-20	0.2720	1103.94	1104.05	-0.11	-0.01%
11-Jul-19	0.2470	1098.07	1097.93	0.14	0.01%
19-Nov-19	0.2420	1104.30	1104.28	0.02	0.00%
20-Aug-19	0.2690	1117.64	1117.85	-0.22	-0.02%
1-Dec-19	0.2120	1084.55	1084.15	0.40	0.04%
1-May-20	0.2130	1097.72	1097.32	0.40	0.04%
25-Jul-19	0.2130	1091.58	1091.32	0.26	0.02%
25-Jul-19	0.2130	1091.58	1091.32	0.26	0.02%
8-Aug-19	0.2400	1066.43	1065.93	0.49	0.05%
8-Aug-19	0.2400	1066.43	1065.93	0.49	0.05%
16-May-19	0.2310	1069.86	1069.14	0.72	0.07%
16-May-19	0.2310	1069.86	1069.14	0.72	0.07%
28-Aug-19	0.2230	1060.39	1059.68	0.71	0.07%
28-Aug-19	0.2230	1060.39	1059.68	0.71	0.07%
8-Oct-19	0.2740	1109.20	1109.39	-0.19	-0.02%
8-Oct-19	0.2740	1109.20	1109.39	-0.19	-0.02%
24-Mar-20	0.2450	1093.45	1093.36	0.09	0.01%
17-Apr-19	0.2650	1126.57	1126.63	-0.06	-0.01%
25-Jan-20	0.2570	1071.93	1071.69	0.25	0.02%
27-Mar-19	0.2810	1105.85	1105.79	0.06	0.01%
26-Mar-20	0.2370	1086.84	1086.82	0.02	0.00%
26-Mar-20	0.2420	1090.33	1090.17	0.16	0.01%
10-Dec-19	0.2920	1110.90	1111.24	-0.35	-0.03%
3-Jul-18	0.2580	1105.16	1104.98	0.17	0.02%
17-Jan-20	0.2990	1107.94	1108.18	-0.24	-0.02%
10-Apr-19	0.3000	1116.37	1116.67	-0.30	-0.03%
9-Jan-19	0.2570	1101.36	1101.45	-0.09	-0.01%
22-May-20	0.2500	1074.68	1074.62	0.05	0.00%

8-May-19	0.2360	1075.67	1075.64	0.04	0.00%
13-Feb-20	0.2680	1079.80	1079.69	0.11	0.01%
13-Feb-20	0.2670	1079.88	1079.77	0.11	0.01%
11-Feb-20	0.2650	1082.57	1082.46	0.12	0.01%
4-Sep-19	0.2560	1075.74	1075.39	0.36	0.03%
20-May-20	0.2290	1070.45	1070.24	0.21	0.02%
22-Jan-19	0.2330	1074.42	1074.12	0.30	0.03%
25-Oct-19	0.2300	1070.09	1069.83	0.27	0.02%
25-Oct-19	0.2300	1070.09	1069.83	0.27	0.02%
8-Jun-20	0.2320	1090.30	1090.16	0.14	0.01%
22-Feb-20	0.2730	1093.27	1093.25	0.02	0.00%
25-Oct-19	0.2670	1110.35	1110.29	0.06	0.01%
25-Oct-19	0.2670	1110.35	1110.29	0.06	0.01%
11-Sep-19	0.2220	1073.59	1073.37	0.22	0.02%
10-Sep-19	0.2270	1074.66	1074.51	0.15	0.01%
10-Sep-19	0.2270	1074.66	1074.51	0.15	0.01%
5-Feb-19	0.3170	1094.01	1093.85	0.16	0.01%
9-Sep-19	0.2210	1065.00	1064.73	0.27	0.03%
9-Sep-19	0.2210	1065.00	1064.73	0.27	0.03%
5-Mar-19	0.2240	1072.07	1071.72	0.35	0.03%
4-Sep-19	0.2070	1056.75	1056.36	0.39	0.04%
4-Sep-19	0.2070	1056.75	1056.36	0.39	0.04%
4-Dec-19	0.2680	1127.12	1127.34	-0.21	-0.02%
8-May-19	0.2190	1064.51	1064.04	0.47	0.04%
3-Dec-19	0.2690	1129.10	1129.28	-0.18	-0.02%
11-Feb-20	0.2440	1076.96	1076.96	-0.01	0.00%
17-Jun-19	0.2450	1124.39	1124.25	0.14	0.01%
17-Jun-19	0.2450	1124.39	1124.25	0.14	0.01%
22-Nov-19	0.2390	1092.25	1092.06	0.19	0.02%
22-Nov-19	0.2390	1092.25	1092.06	0.19	0.02%
24-Jun-19	0.2160	1048.66	1048.10	0.56	0.05%
29-May-19	0.2180	1050.07	1049.51	0.56	0.05%
15-Apr-20	0.2650	1132.09	1132.26	-0.17	-0.02%
21-May-20	0.2280	1078.93	1078.89	0.04	0.00%
8-Oct-19	0.2150	1057.31	1056.97	0.34	0.03%
8-Oct-19	0.2150	1057.31	1056.97	0.34	0.03%
5-Mar-19	0.2160	1055.44	1054.89	0.55	0.05%
5-Feb-19	0.2260	1066.66	1066.28	0.38	0.04%
19-Aug-19	0.2300	1052.37	1051.61	0.76	0.07%
18-Apr-19	0.2770	1150.59	1150.74	-0.16	-0.01%
7-Nov-19	0.2300	1079.59	1079.52	0.07	0.01%
12-May-20	0.2320	1076.82	1076.74	0.08	0.01%
7-Feb-19	0.2300	1063.15	1062.79	0.36	0.03%
27-Aug-19	0.2320	1075.52	1075.31	0.20	0.02%
27-Aug-19	0.2320	1075.52	1075.31	0.20	0.02%
20-Feb-19	0.2520	1090.01	1089.91	0.11	0.01%
13-May-19	0.2320	1071.43	1071.16	0.27	0.03%
7-Nov-19	0.2290	1077.58	1077.44	0.14	0.01%
7-Nov-19	0.2290	1077.58	1077.44	0.14	0.01%
14-Mar-19	0.2330	1095.15	1095.01	0.13	0.01%
17-Dec-19	0.2770	1096.04	1096.39	-0.35	-0.03%
13-Mar-19	0.2720	1126.99	1127.34	-0.35	-0.03%
23-Mar-20	0.2620	1103.95	1104.07	-0.13	-0.01%
23-Mar-20	0.2580	1115.65	1115.89	-0.24	-0.02%
20-May-20	0.2420	1078.73	1078.58	0.15	0.01%
12-Nov-19	0.2060	1084.56	1084.27	0.29	0.03%
12-Nov-19	0.2060	1084.56	1084.27	0.29	0.03%

11-Feb-20	0.2510	1091.02	1091.06	-0.03	0.00%
14-May-19	0.2250	1096.34	1096.26	0.08	0.01%
11-May-20	0.2290	1081.29	1081.18	0.10	0.01%
8-Oct-19	0.2340	1067.08	1066.71	0.37	0.03%
8-Oct-19	0.2340	1067.08	1066.71	0.37	0.03%
11-Jan-19	0.2500	1104.79	1104.52	0.27	0.02%
25-Feb-20	0.2350	1078.85	1078.81	0.04	0.00%
10-Dec-19	0.2730	1104.33	1104.19	0.13	0.01%
2-Apr-20	0.2350	1080.74	1080.67	0.06	0.01%
10-Dec-19	0.2540	1122.96	1122.85	0.11	0.01%
4-Oct-19	0.2990	1120.35	1120.30	0.05	0.00%
4-Oct-19	0.2990	1120.35	1120.30	0.05	0.00%
27-Aug-19	0.2310	1072.71	1072.33	0.38	0.04%
22-Apr-20	0.2370	1076.54	1076.11	0.44	0.04%
27-Aug-19	0.2400	1073.35	1073.06	0.29	0.03%
27-Aug-19	0.2400	1073.35	1073.06	0.29	0.03%
31-Mar-20	0.2580	1099.66	1099.58	0.08	0.01%
7-Aug-19	0.2180	1070.30	1070.08	0.22	0.02%
7-Aug-19	0.2180	1070.30	1070.08	0.22	0.02%
8-May-19	0.2250	1075.86	1075.71	0.16	0.01%
12-May-20	0.2480	1090.86	1090.60	0.26	0.02%
16-Apr-19	0.2470	1116.86	1116.91	-0.05	0.00%
7-May-20	0.2520	1121.08	1121.18	-0.10	-0.01%
17-Dec-19	0.2760	1095.26	1095.61	-0.35	-0.03%
17-Dec-19	0.2770	1097.28	1097.63	-0.35	-0.03%
27-Feb-20	0.2320	1071.02	1070.70	0.33	0.03%
26-Jun-19	0.2490	1078.61	1078.49	0.12	0.01%
26-Jun-19	0.2490	1078.61	1078.49	0.12	0.01%
6-Feb-19	0.2380	1101.69	1101.65	0.05	0.00%
17-Apr-19	0.2080	1057.05	1056.80	0.25	0.02%
10-Jul-19	0.2320	1068.92	1068.50	0.42	0.04%
19-Nov-19	0.2330	1072.14	1071.88	0.26	0.02%
30-May-19	0.2220	1081.01	1080.76	0.26	0.02%
19-Nov-19	0.2330	1072.14	1071.88	0.26	0.02%
2-Jul-19	0.2270	1135.05	1134.73	0.31	0.03%
2-Jul-19	0.2270	1135.05	1134.73	0.31	0.03%
27-Jan-20	0.2390	1086.43	1086.27	0.16	0.01%
22-Oct-19	0.2600	1093.64	1093.30	0.34	0.03%
22-Oct-19	0.2600	1093.64	1093.30	0.34	0.03%
25-Oct-19	0.2380	1085.51	1085.56	-0.05	0.00%
25-Oct-19	0.2380	1085.51	1085.56	-0.05	0.00%
10-Mar-20	0.1960	1053.36	1052.98	0.38	0.04%
30-Aug-19	0.2610	1074.52	1074.25	0.27	0.03%
30-Aug-19	0.2610	1074.52	1074.25	0.27	0.03%
28-Apr-20	0.2260	1060.67	1060.43	0.24	0.02%
20-Nov-19	0.2170	1073.02	1072.76	0.26	0.02%
20-Nov-19	0.2170	1073.02	1072.76	0.26	0.02%
5-Apr-19	0.3090	1098.01	1098.11	-0.10	-0.01%
17-Oct-19	0.2230	1067.92	1067.62	0.30	0.03%
17-Oct-19	0.2230	1067.92	1067.62	0.30	0.03%
25-Oct-19	0.2260	1067.57	1067.29	0.29	0.03%
25-Oct-19	0.2260	1067.57	1067.29	0.29	0.03%
31-Jan-19	0.2370	1073.86	1073.88	-0.02	0.00%
20-Mar-19	0.1940	1071.17	1070.65	0.52	0.05%
20-Mar-19	0.1940	1069.41	1068.89	0.52	0.05%
13-May-20	0.2250	1074.50	1074.21	0.29	0.03%
25-Jul-19	0.2190	1078.45	1078.12	0.33	0.03%

25-Jul-19	0.2190	1078.45	1078.12	0.33	0.03%
11-Apr-19	0.2230	1081.41	1081.22	0.19	0.02%
9-Apr-19	0.2150	1080.57	1080.22	0.34	0.03%
12-Nov-19	0.2400	1078.86	1078.56	0.30	0.03%
12-Nov-19	0.2400	1078.86	1078.56	0.30	0.03%
17-Jan-19	0.2240	1076.87	1076.59	0.28	0.03%
17-Jan-19	0.2240	1076.87	1076.59	0.28	0.03%
16-Aug-19	0.2370	1072.62	1072.31	0.31	0.03%
16-Aug-19	0.2370	1072.62	1072.31	0.31	0.03%
28-Feb-20	0.3830	1239.04	1239.86	-0.83	-0.07%
28-Jan-20	0.3740	1261.69	1262.55	-0.85	-0.07%
12-Nov-19	0.3320	1130.74	1131.36	-0.62	-0.05%
12-Nov-19	0.3320	1130.74	1131.36	-0.62	-0.05%
21-May-20	0.1710	1012.31	1012.07	0.25	0.02%
11-Jul-18	0.2880	1149.25	1149.57	-0.32	-0.03%
23-Jan-20	0.3400	1230.55	1230.92	-0.37	-0.03%
3-Mar-20	0.3240	1363.67	1364.19	-0.52	-0.04%
25-Nov-19	0.3870	1278.00	1278.68	-0.68	-0.05%
3-Sep-19	0.2280	1961.16	1961.56	-0.40	-0.02%
3-Apr-20	0.3670	1315.67	1316.46	-0.79	-0.06%
24-Oct-19	0.3070	1242.96	1243.35	-0.39	-0.03%
16-Apr-20	0.3880	1301.90	1302.84	-0.94	-0.07%
16-Apr-20	0.3880	1301.83	1302.77	-0.94	-0.07%
8-Feb-19	0.2360	1225.33	1225.67	-0.34	-0.03%
17-Jun-20	0.3500	1312.85	1313.36	-0.51	-0.04%
19-Nov-19	0.3160	1298.95	1299.50	-0.54	-0.04%
8-Aug-18	0.2040	1305.07	1305.10	-0.03	0.00%
26-Mar-20	0.3350	1228.27	1228.86	-0.60	-0.05%
22-Nov-19	0.5820	1250.71	1252.20	-1.49	-0.12%
22-Nov-19	0.5820	1250.71	1252.20	-1.49	-0.12%
7-Dec-18	0.1980	1133.70	1133.46	0.24	0.02%
18-Oct-18	0.2230	1225.91	1226.15	-0.24	-0.02%
18-Oct-18	0.2230	1225.91	1226.15	-0.24	-0.02%
18-Dec-19	0.3120	1278.51	1278.92	-0.40	-0.03%
27-Apr-20	0.2300	1086.26	1086.22	0.04	0.00%
26-Mar-20	0.3320	1108.97	1109.15	-0.18	-0.02%
3-Sep-19	0.3130	1113.01	1113.44	-0.43	-0.04%
29-Apr-19	0.2120	1060.20	1059.59	0.61	0.06%
12-Aug-19	0.2560	1107.54	1107.55	-0.02	0.00%
9-Sep-19	0.2550	1105.89	1105.99	-0.10	-0.01%
22-Jul-19	0.2130	1083.75	1083.13	0.62	0.06%
1-Feb-20	0.2160	1091.17	1090.76	0.41	0.04%
1-Jan-20	0.2160	1086.09	1085.68	0.41	0.04%
1-May-20	0.2160	1080.84	1080.43	0.41	0.04%
8-Jan-19	0.2020	1070.76	1070.26	0.50	0.05%
15-Jul-19	0.2010	1082.92	1082.71	0.21	0.02%
15-Jul-19	0.2010	1082.92	1082.71	0.21	0.02%
28-Jan-19	0.2050	1105.40	1105.27	0.13	0.01%
8-Jan-19	0.2560	1091.25	1091.02	0.23	0.02%
16-Jan-19	0.2010	1087.39	1087.12	0.28	0.03%
8-Jan-19	0.2090	1082.19	1081.73	0.45	0.04%
25-Nov-19	0.2240	1068.93	1068.81	0.12	0.01%
25-Nov-19	0.2240	1068.93	1068.81	0.12	0.01%
31-Jul-19	0.2740	1072.86	1072.29	0.57	0.05%
28-May-19	0.2390	1066.20	1065.77	0.43	0.04%
24-Mar-20	0.2460	1110.09	1110.04	0.05	0.00%
15-Jan-20	0.2580	1110.30	1110.45	-0.15	-0.01%

21-May-19	0.2260	1074.51	1074.13	0.38	0.04%
25-Nov-19	0.2100	1069.98	1069.74	0.23	0.02%
25-Nov-19	0.2100	1069.98	1069.74	0.23	0.02%
23-Aug-19	0.2310	1062.01	1061.22	0.78	0.07%
23-Aug-19	0.2310	1062.01	1061.22	0.78	0.07%
22-Jan-19	0.2500	1095.07	1094.89	0.17	0.02%
15-Oct-19	0.2600	1093.50	1093.50	0.01	0.00%
15-Oct-19	0.2600	1093.50	1093.50	0.01	0.00%
14-Oct-19	0.2790	1116.35	1116.43	-0.08	-0.01%
14-Oct-19	0.2790	1116.09	1116.17	-0.08	-0.01%
13-Nov-19	0.2700	1104.25	1104.39	-0.14	-0.01%
13-Nov-19	0.2700	1104.25	1104.39	-0.14	-0.01%
28-Feb-19	0.2470	1096.35	1096.38	-0.03	0.00%
20-Mar-19	0.2380	1084.67	1084.54	0.13	0.01%
22-Jan-19	0.2790	1109.09	1109.32	-0.22	-0.02%
25-Jun-19	0.2990	1130.19	1130.45	-0.25	-0.02%
25-Jun-19	0.2990	1130.19	1130.45	-0.25	-0.02%
25-Jun-19	0.2990	1130.19	1130.45	-0.25	-0.02%
21-Jan-20	0.3140	1113.98	1113.98	-0.01	0.00%
25-Jan-20	0.3030	1095.53	1095.60	-0.07	-0.01%
15-Apr-20	0.2510	1089.13	1089.08	0.04	0.00%
10-Dec-19	0.2480	1079.13	1079.04	0.09	0.01%
11-Feb-20	0.2730	1084.14	1084.12	0.02	0.00%
17-Aug-19	0.2660	1076.84	1076.58	0.26	0.02%
17-Aug-19	0.2660	1076.84	1076.58	0.26	0.02%
4-Mar-20	0.2580	1076.06	1075.65	0.41	0.04%
12-Jun-19	0.2650	1074.31	1073.85	0.46	0.04%
29-Jan-20	0.2320	1063.87	1063.56	0.32	0.03%
8-Jan-20	0.2410	1075.51	1075.28	0.22	0.02%
18-Feb-20	0.2740	1089.87	1089.87	0.00	0.00%
12-Mar-19	0.2290	1109.80	1109.68	0.13	0.01%
3-Mar-20	0.2400	1084.89	1084.81	0.08	0.01%
13-Feb-19	0.2520	1090.13	1090.18	-0.05	0.00%
15-Jan-19	0.2630	1100.68	1100.66	0.03	0.00%
23-Jan-20	0.2560	1091.51	1091.39	0.11	0.01%
23-Jan-20	0.2520	1093.85	1093.65	0.20	0.02%
8-Jun-20	0.2090	1112.02	1112.03	-0.01	0.00%
8-Jun-20	0.2100	1075.47	1075.33	0.14	0.01%
4-Mar-20	0.2540	1089.29	1089.26	0.03	0.00%
22-Nov-19	0.2480	1097.74	1097.57	0.17	0.02%
22-Nov-19	0.2480	1097.74	1097.57	0.17	0.02%
6-Dec-18	0.2610	1093.69	1093.70	-0.01	0.00%
6-Dec-18	0.2610	1093.69	1093.70	-0.01	0.00%
11-Oct-19	0.2550	1094.74	1094.38	0.36	0.03%
11-Oct-19	0.2550	1094.74	1094.38	0.36	0.03%
15-Oct-19	0.2760	1138.84	1138.93	-0.09	-0.01%
15-Oct-19	0.2760	1138.84	1138.93	-0.09	-0.01%
20-Aug-19	0.2380	1053.97	1053.27	0.70	0.07%
8-Oct-19	0.2130	1060.01	1059.67	0.34	0.03%
8-Oct-19	0.2130	1060.01	1059.67	0.34	0.03%
10-Dec-19	0.3130	1154.24	1154.69	-0.45	-0.04%
27-Aug-19	0.2220	1065.90	1065.57	0.33	0.03%
12-May-20	0.2420	1077.73	1077.54	0.19	0.02%
13-May-20	0.2400	1079.08	1078.86	0.22	0.02%
8-Jan-19	0.2360	1072.13	1071.77	0.36	0.03%
10-Jul-19	0.2230	1059.82	1059.23	0.59	0.06%
10-Jul-19	0.2230	1059.82	1059.23	0.59	0.06%

24-Jan-19	0.2350	1073.43	1073.18	0.25	0.02%
7-Nov-19	0.2280	1096.15	1096.06	0.10	0.01%
7-Nov-19	0.2320	1095.87	1095.75	0.12	0.01%
17-Jun-20	0.2630	1108.29	1108.18	0.11	0.01%
18-Feb-19	0.2420	1117.85	1117.75	0.09	0.01%
19-Feb-20	0.2360	1081.16	1081.00	0.16	0.01%
7-Aug-19	0.2410	1077.96	1077.91	0.05	0.00%
7-Aug-19	0.2410	1077.96	1077.91	0.05	0.00%
25-Mar-20	0.2280	1079.79	1079.66	0.13	0.01%
25-Mar-20	0.2430	1087.94	1087.79	0.15	0.01%
21-Jan-20	0.2630	1114.42	1114.52	-0.09	-0.01%
21-Jan-20	0.2500	1109.34	1109.43	-0.08	-0.01%
8-May-19	0.2290	1088.50	1088.24	0.26	0.02%
2-May-19	0.2560	1075.38	1075.04	0.33	0.03%
2-Apr-20	0.2460	1097.91	1097.86	0.05	0.00%
15-Jan-19	0.2360	1086.10	1085.87	0.23	0.02%
9-Oct-19	0.2540	1118.73	1118.71	0.02	0.00%
9-Oct-19	0.2540	1118.73	1118.71	0.02	0.00%
13-Feb-19	0.2570	1108.85	1108.89	-0.04	0.00%
18-Mar-20	0.2590	1076.12	1075.92	0.20	0.02%
14-Jan-20	0.2450	1100.49	1100.33	0.16	0.01%
14-Apr-20	0.2790	1127.29	1127.52	-0.23	-0.02%
11-Feb-20	0.3320	1154.84	1155.08	-0.24	-0.02%
5-Feb-19	0.2780	1101.46	1101.58	-0.12	-0.01%
29-Jan-20	0.2840	1087.94	1087.90	0.05	0.00%
23-Jan-19	0.2340	1075.31	1075.01	0.30	0.03%
24-Jan-19	0.2790	1109.63	1109.58	0.05	0.00%
29-Aug-19	0.2380	1069.18	1068.91	0.27	0.03%
29-Aug-19	0.2380	1069.18	1068.91	0.27	0.03%
10-Dec-19	0.2460	1086.92	1086.61	0.31	0.03%
18-Nov-19	0.2370	1080.74	1080.54	0.21	0.02%
7-Nov-19	0.2360	1122.14	1122.07	0.06	0.01%
7-Nov-19	0.2360	1122.14	1122.07	0.06	0.01%
17-Apr-19	0.2520	1096.02	1095.82	0.20	0.02%
26-Feb-20	0.2360	1088.59	1088.77	-0.18	-0.02%
6-May-19	0.2480	1067.23	1066.91	0.32	0.03%
6-May-19	0.2480	1067.23	1066.91	0.32	0.03%
15-May-19	0.2500	1081.94	1081.63	0.30	0.03%
15-May-19	0.2500	1081.94	1081.63	0.30	0.03%
8-Apr-19	0.2770	1083.67	1083.38	0.28	0.03%
8-Apr-19	0.2770	1083.67	1083.38	0.28	0.03%
15-May-19	0.2120	1081.66	1080.95	0.70	0.07%
15-May-19	0.2120	1081.66	1080.95	0.70	0.07%
9-Jun-20	0.2240	1079.52	1079.43	0.09	0.01%
13-Feb-19	0.1750	1252.44	1252.11	0.32	0.03%
26-May-17	0.2800	1357.49	1356.92	0.57	0.04%
21-May-20	0.3440	1250.27	1250.82	-0.55	-0.04%
24-Jan-20	0.3010	1206.99	1207.40	-0.41	-0.03%
8-Jan-19	0.3150	1201.81	1202.38	-0.57	-0.05%
3-Apr-20	0.4380	1198.10	1198.89	-0.80	-0.07%
23-Jul-18	0.2710	1076.29	1076.42	-0.13	-0.01%
15-May-20	0.4110	1170.86	1171.30	-0.44	-0.04%
15-Aug-19	0.2190	1057.85	1057.60	0.25	0.02%
30-Sep-19	0.2070	1081.98	1081.78	0.19	0.02%
30-Sep-19	0.2070	1081.82	1081.62	0.19	0.02%
28-Jan-20	0.3300	1302.57	1303.09	-0.53	-0.04%
28-Jan-20	0.3300	1302.64	1303.17	-0.53	-0.04%

20-Mar-19	0.3330	1271.09	1271.67	-0.58	-0.05%
20-Mar-19	0.3200	1231.46	1231.99	-0.53	-0.04%
26-Apr-19	0.2250	1300.83	1300.91	-0.08	-0.01%
30-Mar-20	0.4640	1320.86	1322.00	-1.14	-0.09%
16-Dec-19	0.4050	1319.47	1320.47	-1.00	-0.08%
18-Feb-20	0.3240	1249.56	1250.03	-0.47	-0.04%
13-Mar-20	0.3160	1316.92	1317.50	-0.58	-0.04%
19-Jul-19	0.2810	1310.80	1311.13	-0.33	-0.03%
19-Sep-19	0.3510	1306.49	1307.12	-0.62	-0.05%
19-Sep-19	0.3500	1303.27	1303.88	-0.62	-0.05%
12-Sep-19	0.3030	1319.72	1320.01	-0.29	-0.02%
12-Sep-19	0.3030	1319.50	1319.78	-0.29	-0.02%
17-Dec-18	0.1800	1263.65	1263.53	0.12	0.01%
17-Dec-18	0.1800	1261.45	1261.33	0.12	0.01%
31-Dec-19	0.3680	1335.25	1335.92	-0.66	-0.05%
28-Oct-19	0.3810	1372.25	1373.01	-0.77	-0.06%
28-Oct-19	0.3810	1371.82	1372.59	-0.77	-0.06%
19-Nov-19	0.3170	1300.27	1300.80	-0.54	-0.04%
3-Apr-19	0.2010	1228.54	1228.62	-0.08	-0.01%
10-May-19	0.2040	1185.90	1185.82	0.08	0.01%
9-Dec-19	0.4230	1271.24	1272.26	-1.02	-0.08%
9-Dec-19	0.4230	1271.24	1272.26	-1.02	-0.08%
8-Apr-19	0.2010	1205.46	1205.29	0.17	0.01%
11-Apr-19	0.2240	1178.50	1178.49	0.01	0.00%
11-Apr-19	0.2240	1178.12	1178.11	0.01	0.00%
23-Mar-18	0.1910	1250.34	1250.22	0.13	0.01%
27-Feb-20	0.3510	1290.66	1291.23	-0.57	-0.04%
27-Mar-20	0.3470	1216.68	1217.23	-0.55	-0.05%
15-Dec-19	0.3860	1346.79	1347.53	-0.74	-0.06%
26-Feb-20	0.4260	1324.63	1325.49	-0.86	-0.07%
30-Jan-19	0.3410	1287.07	1287.71	-0.64	-0.05%
30-Jul-19	0.2970	1186.97	1187.14	-0.17	-0.01%
9-Sep-19	0.2920	1117.27	1117.49	-0.22	-0.02%
27-Feb-20	0.2720	1113.06	1113.13	-0.08	-0.01%
12-Aug-19	0.3100	1114.60	1114.92	-0.32	-0.03%
23-Oct-19	0.2130	1093.65	1092.93	0.72	0.07%
23-Oct-19	0.2130	1093.65	1092.93	0.72	0.07%
15-Apr-19	0.2480	1087.31	1086.10	1.21	0.11%
20-Aug-19	0.2730	1119.28	1119.58	-0.30	-0.03%
1-Oct-19	0.2220	1086.10	1085.69	0.41	0.04%
1-May-20	0.2200	1080.99	1080.57	0.42	0.04%
22-Aug-19	0.2630	1108.60	1108.68	-0.08	-0.01%
19-Sep-19	0.2450	1086.10	1086.04	0.06	0.01%
19-Sep-19	0.2450	1086.10	1086.04	0.06	0.01%
8-May-19	0.2310	1080.49	1080.57	-0.07	-0.01%
8-May-19	0.2310	1080.49	1080.57	-0.07	-0.01%
18-Nov-19	0.2490	1080.52	1080.29	0.22	0.02%
18-Nov-19	0.2490	1080.52	1080.29	0.22	0.02%
21-Aug-19	0.2350	1068.67	1068.19	0.47	0.04%
21-Aug-19	0.2350	1068.67	1068.19	0.47	0.04%
29-Jan-19	0.3040	1114.62	1115.10	-0.48	-0.04%
9-Aug-18	0.2450	1068.83	1068.00	0.83	0.08%
19-May-20	0.2340	1082.21	1081.89	0.32	0.03%
12-Mar-19	0.2450	1087.79	1087.63	0.16	0.01%
2-Apr-20	0.2780	1096.23	1096.20	0.03	0.00%
24-Apr-19	0.2670	1099.09	1098.97	0.12	0.01%
26-Nov-19	0.2810	1095.92	1096.06	-0.15	-0.01%

26-Nov-19	0.2800	1094.77	1094.92	-0.14	-0.01%
21-Apr-20	0.2850	1120.19	1120.28	-0.09	-0.01%
17-Mar-20	0.2590	1088.93	1088.85	0.09	0.01%
6-Mar-19	0.2470	1094.33	1094.21	0.12	0.01%
10-Oct-19	0.2830	1109.95	1110.10	-0.15	-0.01%
10-Oct-19	0.2830	1109.95	1110.10	-0.15	-0.01%
2-Jul-19	0.2790	1112.10	1112.14	-0.04	0.00%
2-Jul-19	0.2790	1112.10	1112.14	-0.04	0.00%
2-Jul-19	0.2940	1127.35	1127.53	-0.18	-0.02%
2-Jul-19	0.2940	1127.35	1127.53	-0.18	-0.02%
11-Jan-20	0.3310	1134.72	1135.03	-0.31	-0.03%
26-Jun-19	0.3080	1132.78	1133.12	-0.34	-0.03%
26-Jun-19	0.3080	1132.78	1133.12	-0.34	-0.03%
26-Jun-19	0.3080	1132.78	1133.12	-0.34	-0.03%
15-Mar-19	0.2480	1088.06	1087.90	0.16	0.01%
13-Jun-19	0.2380	1092.32	1092.10	0.22	0.02%
7-May-20	0.2420	1093.10	1093.01	0.08	0.01%
13-Jun-19	0.2380	1092.32	1092.10	0.22	0.02%
7-Nov-19	0.3520	1143.47	1143.80	-0.33	-0.03%
7-Nov-19	0.3520	1143.47	1143.80	-0.33	-0.03%
29-Jan-19	0.3040	1116.59	1117.07	-0.48	-0.04%
18-Mar-20	0.2520	1073.02	1072.80	0.23	0.02%
12-Feb-20	0.2710	1084.17	1083.95	0.22	0.02%
12-Feb-20	0.2600	1081.07	1081.01	0.06	0.01%
16-Mar-20	0.2610	1102.07	1101.96	0.10	0.01%
4-Mar-20	0.2650	1088.04	1087.97	0.06	0.01%
4-Sep-19	0.2640	1075.32	1075.01	0.31	0.03%
12-Jun-20	0.2480	1072.87	1072.54	0.33	0.03%
2-Jan-19	0.2570	1096.50	1096.33	0.16	0.01%
5-Mar-19	0.2710	1088.45	1088.45	0.00	0.00%
26-Feb-19	0.2390	1069.58	1069.18	0.40	0.04%
26-Feb-19	0.2390	1069.58	1069.18	0.40	0.04%
26-Feb-19	0.2390	1069.58	1069.18	0.40	0.04%
26-Feb-19	0.2390	1069.58	1069.18	0.40	0.04%
22-Feb-20	0.2760	1089.97	1089.89	0.08	0.01%
15-Jan-19	0.2600	1094.91	1094.82	0.09	0.01%
2-Dec-19	0.2330	1074.07	1073.91	0.16	0.01%
2-Jun-20	0.2390	1074.69	1074.43	0.25	0.02%
11-Mar-19	0.2490	1079.72	1079.49	0.23	0.02%
5-Feb-19	0.3180	1091.61	1091.60	0.02	0.00%
4-Sep-19	0.2320	1061.00	1060.16	0.83	0.08%
4-Sep-19	0.2320	1061.00	1060.16	0.83	0.08%
4-Mar-20	0.2280	1067.16	1066.95	0.21	0.02%
3-Mar-20	0.2160	1061.75	1061.53	0.21	0.02%
20-Feb-20	0.2390	1059.66	1059.32	0.34	0.03%
17-Sep-19	0.2480	1088.98	1088.98	0.01	0.00%
17-Sep-19	0.2480	1088.98	1088.98	0.01	0.00%
1-Feb-19	0.2240	1071.40	1071.33	0.07	0.01%
3-Feb-20	0.2540	1093.88	1093.97	-0.09	-0.01%
4-May-20	0.2360	1065.48	1065.16	0.32	0.03%
22-Jan-19	0.2480	1081.53	1081.18	0.35	0.03%
30-Jan-19	0.2450	1082.83	1082.63	0.21	0.02%
30-Jan-19	0.2320	1082.21	1082.18	0.02	0.00%
3-Oct-19	0.2950	1101.38	1101.61	-0.23	-0.02%
3-Oct-19	0.2950	1101.38	1101.61	-0.23	-0.02%
25-Apr-19	0.2250	1065.36	1065.00	0.36	0.03%
6-Aug-19	0.2310	1053.31	1052.94	0.37	0.03%

6-Aug-19	0.2310	1053.31	1052.94	0.37	0.03%
9-Jan-20	0.2300	1100.01	1099.96	0.05	0.00%
9-Jan-19	0.2270	1081.04	1080.78	0.25	0.02%
12-Nov-19	0.3000	1098.86	1098.70	0.16	0.01%
12-Nov-19	0.3000	1098.86	1098.70	0.16	0.01%
2-Apr-20	0.2700	1107.16	1107.32	-0.16	-0.01%
2-Apr-20	0.2730	1097.39	1097.52	-0.13	-0.01%
14-May-19	0.2520	1098.11	1097.99	0.12	0.01%
2-Jul-19	0.2840	1103.02	1102.81	0.20	0.02%
2-Jul-19	0.2840	1103.02	1102.81	0.20	0.02%
24-Jan-20	0.2610	1086.58	1086.27	0.31	0.03%
19-Feb-20	0.2550	1108.07	1107.94	0.13	0.01%
12-Feb-19	0.3580	1103.29	1103.71	-0.42	-0.04%
13-Nov-19	0.2400	1078.64	1078.38	0.26	0.02%
24-Sep-19	0.2850	1093.03	1093.04	0.00	0.00%
24-Sep-19	0.2850	1093.03	1093.04	0.00	0.00%
12-Feb-19	0.2560	1102.70	1102.44	0.26	0.02%
20-Jun-19	0.3030	1139.20	1139.44	-0.23	-0.02%
11-Apr-19	0.2470	1099.82	1099.63	0.19	0.02%
7-Nov-19	0.2950	1125.60	1125.81	-0.21	-0.02%
23-Jan-19	0.2550	1113.96	1113.89	0.07	0.01%
18-Mar-20	0.2470	1069.94	1069.59	0.35	0.03%
24-Mar-20	0.2510	1071.22	1071.02	0.19	0.02%
30-Jan-19	0.2950	1168.48	1168.54	-0.06	0.00%
6-Aug-19	0.2440	1074.75	1074.50	0.25	0.02%
6-Aug-19	0.2440	1074.75	1074.50	0.25	0.02%
8-Jun-20	0.3300	1154.48	1155.05	-0.57	-0.05%
8-Jun-20	0.3300	1154.48	1155.05	-0.57	-0.05%
9-Apr-19	0.2420	1108.24	1108.02	0.21	0.02%
6-Apr-20	0.2490	1106.06	1106.09	-0.03	0.00%
13-Mar-19	0.2490	1075.25	1075.07	0.18	0.02%
17-Dec-19	0.3000	1118.41	1118.90	-0.49	-0.04%
11-Jan-19	0.2460	1098.11	1097.87	0.24	0.02%
14-Jan-20	0.2420	1093.54	1093.37	0.17	0.02%
17-Dec-19	0.3000	1118.41	1118.90	-0.49	-0.04%
14-May-20	0.2700	1076.18	1076.16	0.02	0.00%
14-Feb-19	0.2070	1070.52	1070.31	0.21	0.02%
17-Sep-19	0.2450	1076.13	1075.77	0.36	0.03%
17-Sep-19	0.2450	1076.13	1075.77	0.36	0.03%
16-Apr-20	0.1990	1094.53	1094.40	0.13	0.01%
12-Jun-19	0.2410	1077.90	1077.25	0.65	0.06%
12-Jun-19	0.2410	1077.90	1077.25	0.65	0.06%
17-Sep-19	0.3160	1138.88	1139.00	-0.13	-0.01%
17-Sep-19	0.3160	1138.88	1139.00	-0.13	-0.01%
6-Aug-19	0.2350	1072.31	1072.04	0.27	0.03%
6-Aug-19	0.2350	1072.31	1072.04	0.27	0.03%
17-Mar-20	0.2630	1087.43	1087.49	-0.06	-0.01%
3-Oct-19	0.2950	1101.38	1101.61	-0.23	-0.02%
3-Oct-19	0.2950	1101.38	1101.61	-0.23	-0.02%
16-Apr-20	0.2680	1114.15	1114.17	-0.02	0.00%
1-Nov-19	0.2890	1112.32	1112.40	-0.08	-0.01%
1-Nov-19	0.2890	1112.32	1112.40	-0.08	-0.01%
24-Apr-19	0.2260	1065.11	1064.78	0.33	0.03%
26-Feb-19	0.2390	1069.58	1069.18	0.40	0.04%
26-Feb-19	0.2390	1069.58	1069.18	0.40	0.04%
25-Oct-19	0.2310	1066.02	1065.79	0.23	0.02%
25-Oct-19	0.2310	1066.02	1065.79	0.23	0.02%

25-Oct-19	0.2320	1068.07	1067.86	0.20	0.02%
29-Apr-20	0.2350	1066.07	1065.84	0.23	0.02%
25-Oct-19	0.2320	1068.07	1067.86	0.20	0.02%
17-Apr-19	0.2130	1059.94	1059.73	0.21	0.02%
21-Jun-19	0.2610	1094.69	1094.72	-0.03	0.00%
11-May-20	0.2260	1073.75	1073.35	0.40	0.04%
9-Jan-19	0.2740	1138.48	1138.44	0.05	0.00%
17-Dec-19	0.3000	1118.41	1118.90	-0.49	-0.04%
27-Jun-19	0.2440	1078.82	1078.63	0.19	0.02%
17-Dec-19	0.2990	1117.31	1117.81	-0.50	-0.05%
20-Nov-19	0.2430	1076.25	1076.14	0.11	0.01%
20-Nov-19	0.2430	1076.25	1076.14	0.11	0.01%
11-Mar-19	0.2200	1074.57	1074.45	0.12	0.01%
16-Apr-20	0.2390	1085.72	1085.70	0.02	0.00%
27-Apr-20	0.2460	1079.20	1078.86	0.34	0.03%
20-Apr-20	0.2490	1073.39	1072.83	0.56	0.05%
1-May-19	0.2220	1066.63	1066.25	0.39	0.04%
1-May-19	0.2220	1066.63	1066.25	0.39	0.04%
19-Nov-19	0.2770	1214.51	1214.80	-0.29	-0.02%
12-Dec-19	0.3470	1163.73	1164.11	-0.38	-0.03%
9-Dec-19	0.3990	1177.79	1178.69	-0.91	-0.08%
5-Sep-19	0.3260	1194.72	1194.80	-0.08	-0.01%
5-Sep-19	0.3260	1194.72	1194.80	-0.08	-0.01%
16-Jan-20	0.3080	1246.97	1247.34	-0.37	-0.03%
1-Dec-19	0.1560	1063.20	1062.96	0.23	0.02%
1-Nov-19	0.1560	1068.14	1067.90	0.23	0.02%
10-May-19	0.2170	1059.64	1059.33	0.31	0.03%
27-Aug-19	0.2380	1052.00	1051.69	0.31	0.03%
27-Aug-19	0.2380	1052.00	1051.69	0.31	0.03%
20-May-20	0.4010	1511.67	1512.63	-0.96	-0.06%
20-May-20	0.4010	1512.74	1513.70	-0.96	-0.06%
19-Sep-19	0.3000	1272.89	1273.26	-0.37	-0.03%
19-Sep-19	0.3000	1272.88	1273.25	-0.37	-0.03%
20-Mar-19	0.3250	1247.63	1248.17	-0.55	-0.04%
20-Mar-19	0.3240	1242.96	1243.50	-0.54	-0.04%
20-Mar-19	0.3220	1240.26	1240.80	-0.53	-0.04%
21-Aug-19	0.3180	1258.65	1259.05	-0.40	-0.03%
18-Sep-19	0.3180	1247.77	1248.20	-0.43	-0.03%
18-Feb-20	0.3250	1248.08	1248.57	-0.48	-0.04%
31-May-19	0.1870	1274.47	1274.48	-0.01	0.00%
24-Feb-20	0.5940	1247.22	1248.77	-1.55	-0.12%
19-May-20	0.3530	1263.89	1264.31	-0.42	-0.03%
20-Feb-20	0.3260	1253.84	1254.26	-0.43	-0.03%
29-May-19	0.2610	1608.99	1609.40	-0.41	-0.03%
4-Dec-19	0.6720	1284.41	1286.22	-1.81	-0.14%
25-Sep-19	0.3900	1202.94	1203.71	-0.78	-0.06%
25-Sep-19	0.3900	1202.94	1203.71	-0.78	-0.06%
21-Dec-17	0.1950	1254.52	1254.71	-0.19	-0.01%
24-Jul-18	0.1950	1272.76	1272.57	0.19	0.01%
1-Feb-20	0.1830	1285.23	1285.24	0.00	0.00%
1-Feb-20	0.1840	1285.34	1285.35	-0.01	0.00%
1-Feb-20	0.1840	1285.77	1285.78	-0.01	0.00%
18-Mar-20	0.2920	1220.70	1221.21	-0.51	-0.04%
20-Aug-19	0.3310	1135.31	1135.84	-0.54	-0.05%
20-Aug-19	0.3310	1135.26	1135.79	-0.54	-0.05%
3-Oct-19	0.2390	1087.55	1087.53	0.03	0.00%
5-Nov-19	0.2390	1087.87	1087.85	0.03	0.00%

13-Aug-19	0.2390	1090.39	1090.49	-0.10	-0.01%
5-Nov-19	0.2390	1087.87	1087.85	0.03	0.00%
24-Sep-19	0.2750	1107.12	1107.20	-0.08	-0.01%
8-Aug-19	0.2490	1091.86	1091.83	0.03	0.00%
31-Jul-18	0.2010	1080.57	1079.84	0.73	0.07%
16-Sep-19	0.2700	1113.91	1114.19	-0.28	-0.03%
9-Sep-19	0.2480	1100.24	1100.29	-0.05	0.00%
11-Mar-20	0.2310	1088.46	1087.76	0.70	0.06%
1-Apr-20	0.2250	1098.14	1097.72	0.42	0.04%
23-Jul-19	0.2670	1105.38	1105.43	-0.05	0.00%
9-Apr-19	0.2280	1108.09	1108.05	0.04	0.00%
28-Jan-19	0.1990	1101.10	1100.99	0.12	0.01%
29-Jan-20	0.2890	1093.07	1093.24	-0.17	-0.02%
20-Aug-19	0.2360	1068.41	1067.72	0.69	0.06%
20-Aug-19	0.2360	1068.41	1067.72	0.69	0.06%
2-Aug-19	0.2520	1063.13	1062.61	0.52	0.05%
2-Aug-19	0.2520	1063.13	1062.61	0.52	0.05%
17-Jul-18	0.2100	1111.82	1111.62	0.20	0.02%
4-Jul-19	0.2910	1101.63	1101.63	0.00	0.00%
4-Jul-19	0.2910	1101.63	1101.63	0.00	0.00%
24-Jan-19	0.2890	1113.52	1113.64	-0.12	-0.01%
15-Jan-20	0.2690	1117.62	1117.70	-0.08	-0.01%
4-Sep-19	0.2650	1083.84	1083.21	0.63	0.06%
4-Sep-19	0.2650	1083.84	1083.21	0.63	0.06%
18-Sep-19	0.2700	1094.00	1093.69	0.31	0.03%
18-Sep-19	0.2700	1094.00	1093.69	0.31	0.03%
24-Mar-20	0.2800	1099.48	1099.45	0.03	0.00%
24-Apr-19	0.2980	1100.75	1100.71	0.04	0.00%
15-Apr-20	0.2780	1095.81	1095.81	0.00	0.00%
10-Apr-19	0.3200	1121.60	1121.92	-0.32	-0.03%
10-Apr-19	0.3140	1113.49	1113.75	-0.26	-0.02%
19-Mar-19	0.2480	1088.66	1088.58	0.08	0.01%
29-Mar-19	0.2480	1097.87	1097.68	0.20	0.02%
27-Mar-19	0.2800	1100.98	1101.01	-0.03	0.00%
6-Sep-19	0.2520	1087.91	1087.62	0.28	0.03%
6-Sep-19	0.2520	1087.91	1087.62	0.28	0.03%
20-Mar-19	0.2490	1088.45	1088.26	0.19	0.02%
7-Jan-20	0.2940	1140.36	1140.60	-0.24	-0.02%
24-Sep-19	0.2450	1087.09	1086.79	0.30	0.03%
24-Sep-19	0.2450	1087.09	1086.79	0.30	0.03%
18-Jan-19	0.2750	1130.44	1130.56	-0.12	-0.01%
10-Dec-19	0.2970	1108.26	1108.57	-0.31	-0.03%
4-Sep-19	0.2510	1094.13	1093.97	0.16	0.01%
4-Sep-19	0.2510	1094.13	1093.97	0.16	0.01%
6-Sep-19	0.2520	1089.80	1089.62	0.17	0.02%
6-Sep-19	0.2520	1089.80	1089.62	0.17	0.02%
12-Dec-19	0.2780	1145.11	1145.23	-0.11	-0.01%
22-May-20	0.2390	1061.93	1061.56	0.37	0.03%
13-Aug-19	0.2470	1073.42	1073.28	0.14	0.01%
18-Feb-20	0.2650	1076.34	1076.17	0.16	0.02%
27-May-20	0.2470	1071.84	1071.60	0.24	0.02%
20-Mar-19	0.2530	1090.64	1090.74	-0.10	-0.01%
20-Mar-19	0.2530	1090.64	1090.74	-0.10	-0.01%
16-Mar-20	0.2500	1076.34	1076.11	0.23	0.02%
20-May-20	0.2490	1087.14	1087.04	0.09	0.01%
4-Mar-20	0.2800	1090.51	1090.39	0.11	0.01%
23-Apr-19	0.2430	1067.96	1067.50	0.46	0.04%

6-Jan-20	0.2450	1088.83	1088.81	0.03	0.00%
25-Feb-20	0.2610	1088.42	1088.33	0.09	0.01%
10-Mar-20	0.2500	1111.16	1111.36	-0.20	-0.02%
22-Feb-20	0.2990	1102.14	1102.15	-0.01	0.00%
19-Feb-19	0.2560	1089.38	1089.39	-0.02	0.00%
6-Mar-19	0.2600	1097.28	1097.33	-0.05	0.00%
19-Feb-20	0.2910	1086.51	1086.27	0.24	0.02%
4-Jun-19	0.2380	1071.37	1071.09	0.28	0.03%
9-Mar-20	0.2420	1071.61	1071.25	0.36	0.03%
5-Feb-19	0.3320	1103.29	1103.30	-0.01	0.00%
5-Mar-20	0.2490	1080.49	1080.41	0.08	0.01%
4-Mar-20	0.2280	1066.32	1066.08	0.23	0.02%
1-May-19	0.2850	1117.55	1117.65	-0.09	-0.01%
9-Jun-20	0.2960	1150.80	1151.08	-0.28	-0.02%
10-May-19	0.2570	1094.22	1093.95	0.27	0.02%
16-Apr-19	0.2380	1059.92	1059.33	0.58	0.06%
28-Aug-19	0.2300	1055.97	1055.43	0.55	0.05%
11-Jul-19	0.2590	1086.33	1085.92	0.41	0.04%
16-Jul-19	0.2350	1050.74	1050.09	0.65	0.06%
16-Jul-19	0.2350	1050.74	1050.09	0.65	0.06%
5-Feb-20	0.2910	1122.32	1122.59	-0.27	-0.02%
11-Mar-20	0.2520	1077.47	1077.22	0.24	0.02%
12-Sep-19	0.2630	1087.41	1087.33	0.08	0.01%
12-Sep-19	0.2630	1087.41	1087.33	0.08	0.01%
11-Mar-20	0.2510	1080.04	1079.78	0.25	0.02%
6-Aug-19	0.2500	1081.15	1080.87	0.28	0.03%
6-Aug-19	0.2500	1081.15	1080.87	0.28	0.03%
25-Apr-19	0.2300	1067.51	1067.28	0.23	0.02%
27-Aug-19	0.2430	1072.46	1072.22	0.25	0.02%
27-Aug-19	0.2430	1072.46	1072.22	0.25	0.02%
15-Oct-19	0.2640	1087.27	1086.61	0.65	0.06%
15-Oct-19	0.2640	1087.27	1086.61	0.65	0.06%
28-May-19	0.2520	1082.74	1082.54	0.20	0.02%
7-May-19	0.2520	1087.95	1087.76	0.19	0.02%
5-Jun-19	0.2540	1078.54	1078.26	0.29	0.03%
16-Apr-20	0.2760	1108.24	1108.19	0.05	0.00%
10-Jul-19	0.2290	1060.94	1060.42	0.52	0.05%
10-Jul-19	0.2290	1060.94	1060.42	0.52	0.05%
19-Aug-19	0.2920	1115.45	1115.41	0.05	0.00%
19-Aug-19	0.2920	1115.45	1115.41	0.05	0.00%
18-Feb-19	0.2320	1082.66	1082.15	0.51	0.05%
3-Jul-19	0.2440	1080.91	1080.73	0.18	0.02%
3-Jul-19	0.2440	1080.91	1080.73	0.18	0.02%
3-Jul-19	0.2350	1070.59	1070.19	0.40	0.04%
3-Jul-19	0.2350	1070.59	1070.19	0.40	0.04%
20-Mar-19	0.2500	1090.38	1090.21	0.17	0.02%
17-Sep-19	0.2430	1087.96	1087.84	0.13	0.01%
17-Sep-19	0.2430	1087.96	1087.84	0.13	0.01%
13-May-20	0.2520	1079.76	1079.47	0.30	0.03%
24-Jul-19	0.2710	1111.58	1111.43	0.16	0.01%
24-Jul-19	0.2710	1111.58	1111.43	0.16	0.01%
28-Jan-20	0.2570	1088.08	1088.13	-0.05	0.00%
20-Feb-20	0.2490	1099.19	1099.14	0.05	0.00%
22-Jan-20	0.2750	1107.76	1107.65	0.11	0.01%
16-Oct-18	0.2410	1069.13	1068.74	0.39	0.04%
8-May-19	0.2580	1070.36	1069.92	0.44	0.04%
5-Nov-19	0.2770	1072.21	1071.74	0.47	0.04%

5-Nov-19	0.2770	1072.21	1071.74	0.47	0.04%
28-Jan-20	0.3080	1185.80	1186.02	-0.22	-0.02%
5-Feb-19	0.2910	1143.62	1143.90	-0.28	-0.02%
30-Aug-19	0.2960	1088.17	1088.09	0.08	0.01%
30-Aug-19	0.2960	1088.17	1088.09	0.08	0.01%
20-Apr-20	0.2600	1136.80	1136.78	0.02	0.00%
7-Aug-19	0.2320	1066.04	1065.60	0.44	0.04%
19-Feb-19	0.2290	1071.12	1070.94	0.18	0.02%
7-Aug-19	0.3050	1142.85	1143.07	-0.22	-0.02%
7-Aug-19	0.3050	1142.85	1143.07	-0.22	-0.02%
11-Jul-19	0.2280	1065.40	1064.98	0.42	0.04%
11-Jul-19	0.2280	1065.40	1064.98	0.42	0.04%
4-Feb-20	0.3840	1135.11	1135.66	-0.55	-0.05%
18-Mar-20	0.2530	1069.15	1069.06	0.09	0.01%
9-Jan-20	0.2510	1087.50	1087.28	0.22	0.02%
13-May-20	0.2420	1074.81	1074.52	0.29	0.03%
9-Jan-20	0.2930	1129.97	1130.03	-0.06	-0.01%
23-Jan-19	0.2780	1143.03	1143.05	-0.02	0.00%
25-Jan-19	0.2680	1118.15	1118.21	-0.06	-0.01%
3-Feb-20	0.2600	1098.83	1098.88	-0.05	0.00%
25-Oct-19	0.2330	1062.01	1061.72	0.29	0.03%
25-Oct-19	0.2330	1062.01	1061.72	0.29	0.03%
28-Feb-19	0.2490	1077.20	1077.05	0.15	0.01%
29-Apr-20	0.2350	1059.20	1058.95	0.25	0.02%
19-May-20	0.1960	1050.45	1049.90	0.55	0.05%
23-Apr-19	0.2310	1066.62	1066.15	0.47	0.04%
5-Sep-19	0.2330	1061.85	1061.51	0.34	0.03%
5-Sep-19	0.2330	1061.85	1061.51	0.34	0.03%
25-Feb-20	0.2480	1065.39	1064.86	0.52	0.05%
1-Feb-19	0.3030	1103.33	1103.43	-0.10	-0.01%
27-Mar-20	0.2230	1062.15	1061.91	0.24	0.02%
5-Feb-20	0.2030	1079.81	1079.41	0.40	0.04%
18-Dec-19	0.2710	1099.01	1099.34	-0.32	-0.03%
18-Dec-19	0.2710	1099.25	1099.57	-0.32	-0.03%
17-Dec-19	0.2640	1095.93	1096.12	-0.19	-0.02%
17-Dec-19	0.2640	1096.12	1096.31	-0.19	-0.02%
18-Dec-19	0.2470	1089.36	1089.47	-0.10	-0.01%
18-Dec-19	0.2650	1094.55	1094.78	-0.23	-0.02%
28-May-20	0.2570	1130.39	1129.97	0.43	0.04%
12-Jul-19	0.2610	1069.26	1068.76	0.50	0.05%
12-Jul-19	0.2610	1069.26	1068.76	0.50	0.05%
5-Mar-20	0.2320	1060.63	1060.27	0.36	0.03%
28-Aug-19	0.2340	1063.37	1062.79	0.58	0.05%
28-Aug-19	0.2340	1063.37	1062.79	0.58	0.05%
11-Mar-19	0.2430	1079.19	1078.92	0.28	0.03%
16-Apr-20	0.2450	1080.29	1080.16	0.13	0.01%
10-Mar-20	0.2370	1082.24	1082.09	0.15	0.01%
11-Mar-20	0.2550	1070.58	1070.47	0.11	0.01%
31-Jul-19	0.2430	1076.74	1076.43	0.31	0.03%
31-Jul-19	0.2430	1076.74	1076.43	0.31	0.03%
27-Aug-19	0.2340	1067.37	1066.98	0.39	0.04%
27-Aug-19	0.2340	1067.37	1066.98	0.39	0.04%
11-Feb-20	0.2480	1082.31	1082.24	0.08	0.01%
19-Mar-19	0.2010	1076.25	1075.81	0.44	0.04%
11-Dec-19	0.3840	1253.76	1254.64	-0.88	-0.07%
24-Jan-20	0.3990	1277.41	1278.34	-0.93	-0.07%
12-Dec-19	0.3960	1283.41	1284.30	-0.89	-0.07%

6-May-20	0.2140	1131.26	1130.97	0.29	0.03%
3-Apr-19	0.5210	1170.63	1171.91	-1.28	-0.11%
3-Apr-20	0.3790	1156.69	1157.46	-0.77	-0.07%
24-Jul-18	0.2500	1134.75	1134.86	-0.11	-0.01%
30-May-19	0.4130	1350.91	1351.97	-1.06	-0.08%
30-May-19	0.4130	1350.91	1351.97	-1.06	-0.08%
1-Dec-19	0.2230	1119.92	1119.49	0.43	0.04%
27-Nov-18	0.2420	1158.48	1158.42	0.06	0.01%
21-Feb-20	0.3180	1283.08	1283.37	-0.28	-0.02%
27-Nov-19	0.3760	1281.21	1281.82	-0.61	-0.05%
27-Nov-19	0.3750	1281.20	1281.82	-0.62	-0.05%
27-Nov-19	0.3760	1281.22	1281.83	-0.61	-0.05%
27-Nov-19	0.3750	1281.21	1281.83	-0.62	-0.05%
20-Feb-20	0.3300	1250.70	1251.12	-0.43	-0.03%
20-Feb-20	0.3410	1249.60	1249.95	-0.35	-0.03%
8-Oct-19	0.4370	1179.39	1180.39	-1.00	-0.08%
8-Oct-19	0.4370	1179.39	1180.39	-1.00	-0.08%
27-Mar-20	0.3610	1204.25	1204.79	-0.54	-0.04%
31-Mar-19	0.2180	1270.49	1270.44	0.05	0.00%
19-Dec-19	0.4500	1243.80	1244.90	-1.10	-0.09%
20-Oct-17	0.1850	1348.67	1348.49	0.19	0.01%
28-Feb-19	0.1990	1249.04	1249.17	-0.13	-0.01%
15-Apr-20	0.3820	1227.80	1228.53	-0.73	-0.06%
12-Dec-19	0.3130	1289.79	1290.20	-0.41	-0.03%
17-Feb-20	0.4010	1279.98	1280.74	-0.75	-0.06%
17-Feb-20	0.4010	1280.00	1280.75	-0.75	-0.06%
21-Nov-18	0.1980	1286.90	1287.03	-0.13	-0.01%
28-Jan-19	0.2640	1235.17	1235.57	-0.40	-0.03%
20-Mar-19	0.4250	1339.45	1340.00	-0.55	-0.04%
26-May-20	0.2400	1087.98	1087.92	0.07	0.01%
21-Feb-20	0.2170	1088.54	1088.04	0.50	0.05%
1-Apr-20	0.2270	1082.31	1081.88	0.44	0.04%
4-Apr-19	0.4080	1255.46	1256.33	-0.86	-0.07%
4-Apr-19	0.4080	1255.22	1256.09	-0.86	-0.07%
15-Jul-19	0.2120	1081.77	1081.36	0.42	0.04%
15-Jul-19	0.2120	1081.77	1081.36	0.42	0.04%
14-May-20	0.2340	1062.10	1061.51	0.59	0.06%
20-Aug-19	0.2420	1080.67	1080.46	0.20	0.02%
20-Aug-19	0.2420	1080.67	1080.46	0.20	0.02%
21-Aug-19	0.2390	1072.50	1071.92	0.58	0.05%
21-Aug-19	0.2390	1072.50	1071.92	0.58	0.05%
22-Jan-19	0.2980	1102.98	1103.02	-0.04	0.00%
26-Nov-19	0.2860	1094.68	1094.88	-0.20	-0.02%
26-Nov-19	0.2860	1093.22	1093.42	-0.20	-0.02%
24-Oct-19	0.2760	1124.24	1124.44	-0.20	-0.02%
24-Oct-19	0.2760	1123.86	1124.06	-0.20	-0.02%
21-Apr-20	0.2970	1121.06	1121.26	-0.19	-0.02%
24-Oct-19	0.3290	1129.52	1129.95	-0.43	-0.04%
24-Oct-19	0.3290	1129.52	1129.95	-0.43	-0.04%
8-Apr-20	0.2910	1100.82	1100.79	0.03	0.00%
3-Oct-19	0.2700	1099.29	1099.28	0.02	0.00%
3-Oct-19	0.2700	1099.29	1099.28	0.02	0.00%
28-Mar-19	0.2690	1103.87	1103.65	0.22	0.02%
14-Apr-20	0.2680	1106.85	1106.86	-0.02	0.00%
25-Jun-19	0.3110	1136.89	1137.12	-0.23	-0.02%
25-Jun-19	0.3110	1136.89	1137.12	-0.23	-0.02%
25-Jun-19	0.3110	1136.89	1137.12	-0.23	-0.02%

24-Jan-20	0.3460	1124.16	1124.28	-0.12	-0.01%
29-Jun-20	0.2840	1123.50	1123.56	-0.05	0.00%
9-Jan-20	0.3300	1149.17	1149.52	-0.36	-0.03%
10-Apr-20	0.2730	1104.46	1104.54	-0.08	-0.01%
10-Dec-19	0.3070	1118.03	1118.43	-0.39	-0.03%
22-Jan-20	0.3040	1111.85	1112.02	-0.17	-0.01%
29-Mar-19	0.2710	1091.12	1091.09	0.03	0.00%
29-Mar-19	0.2710	1091.12	1091.09	0.03	0.00%
24-Sep-19	0.2510	1084.56	1084.35	0.21	0.02%
24-Sep-19	0.2510	1084.56	1084.35	0.21	0.02%
26-Mar-20	0.2650	1094.12	1094.13	-0.01	0.00%
1-Nov-19	0.2800	1081.61	1081.45	0.16	0.01%
1-Nov-19	0.2800	1081.61	1081.45	0.16	0.01%
18-Feb-20	0.2720	1078.32	1078.14	0.17	0.02%
12-Feb-20	0.2750	1083.38	1083.23	0.15	0.01%
16-Mar-20	0.2500	1081.85	1081.73	0.11	0.01%
14-Sep-19	0.2570	1083.32	1083.22	0.09	0.01%
14-Sep-19	0.2710	1087.33	1087.21	0.13	0.01%
12-Mar-19	0.2620	1090.94	1090.90	0.05	0.00%
29-Jan-20	0.2550	1080.68	1080.72	-0.04	0.00%
28-Apr-20	0.2440	1063.68	1063.27	0.41	0.04%
6-Jan-20	0.2540	1096.16	1096.21	-0.05	0.00%
6-Apr-20	0.2550	1088.42	1088.44	-0.03	0.00%
11-Mar-20	0.2740	1088.20	1088.17	0.03	0.00%
14-Feb-19	0.2660	1094.66	1094.75	-0.09	-0.01%
18-Feb-20	0.2940	1102.01	1102.21	-0.20	-0.02%
25-Feb-20	0.2570	1075.59	1075.45	0.13	0.01%
7-Mar-19	0.2550	1088.82	1088.62	0.20	0.02%
11-Sep-19	0.2500	1086.30	1086.11	0.19	0.02%
11-Sep-19	0.2500	1086.30	1086.11	0.19	0.02%
6-Mar-19	0.2520	1087.96	1087.95	0.02	0.00%
22-Feb-20	0.2830	1085.87	1085.75	0.12	0.01%
1-Oct-19	0.2760	1116.30	1116.28	0.02	0.00%
1-Oct-19	0.2760	1116.30	1116.28	0.02	0.00%
10-Jan-19	0.3060	1145.66	1145.95	-0.29	-0.03%
7-Jan-20	0.3360	1148.83	1149.37	-0.54	-0.05%
4-Dec-19	0.2490	1099.62	1099.52	0.10	0.01%
10-Mar-20	0.2510	1081.12	1081.13	-0.01	0.00%
11-Feb-20	0.2590	1073.63	1073.46	0.16	0.02%
22-May-20	0.2340	1064.94	1064.59	0.35	0.03%
28-May-19	0.2430	1092.33	1092.34	0.00	0.00%
11-Jul-19	0.2450	1073.27	1072.75	0.52	0.05%
11-Jul-19	0.2450	1073.27	1072.75	0.52	0.05%
25-Oct-19	0.2380	1067.27	1067.03	0.24	0.02%
25-Oct-19	0.2380	1067.27	1067.03	0.24	0.02%
13-May-19	0.2450	1079.97	1079.86	0.11	0.01%
10-Dec-19	0.2780	1118.71	1118.95	-0.24	-0.02%
23-Mar-20	0.2440	1079.87	1079.54	0.33	0.03%
11-Jun-20	0.2810	1098.24	1098.06	0.18	0.02%
21-Nov-19	0.2490	1086.63	1086.49	0.14	0.01%
21-Nov-19	0.2490	1086.63	1086.49	0.14	0.01%
16-Apr-20	0.2680	1136.05	1136.18	-0.13	-0.01%
7-May-19	0.2330	1088.14	1087.84	0.30	0.03%
1-Mar-19	0.2710	1094.28	1094.24	0.04	0.00%
19-Aug-19	0.2420	1077.68	1077.40	0.27	0.03%
19-Aug-19	0.2420	1077.68	1077.40	0.27	0.03%
8-Jan-20	0.2330	1067.99	1067.79	0.20	0.02%

11-May-20	0.2810	1104.84	1104.70	0.14	0.01%
14-Apr-20	0.2680	1090.06	1090.04	0.02	0.00%
9-Jan-19	0.2580	1095.35	1095.21	0.14	0.01%
19-Feb-19	0.2570	1087.52	1087.22	0.31	0.03%
3-Jul-19	0.2460	1082.14	1081.73	0.41	0.04%
3-Jul-19	0.2460	1082.14	1081.73	0.41	0.04%
28-Mar-19	0.2760	1086.29	1086.28	0.02	0.00%
14-May-19	0.2430	1082.04	1081.80	0.24	0.02%
14-May-19	0.2660	1101.00	1100.83	0.17	0.02%
28-Jan-20	0.2580	1090.10	1090.06	0.05	0.00%
8-Jan-19	0.2730	1105.59	1105.51	0.08	0.01%
17-Jan-19	0.2890	1125.42	1125.40	0.02	0.00%
14-Jan-20	0.2740	1126.66	1126.60	0.06	0.01%
1-Oct-19	0.2420	1086.89	1086.63	0.26	0.02%
1-Oct-19	0.2420	1086.89	1086.63	0.26	0.02%
7-Nov-19	0.2900	1123.27	1123.36	-0.10	-0.01%
6-Aug-19	0.2510	1069.93	1069.76	0.17	0.02%
6-Aug-19	0.2510	1069.93	1069.76	0.17	0.02%
18-Mar-20	0.2730	1082.85	1082.70	0.15	0.01%
8-May-19	0.2420	1077.06	1076.83	0.23	0.02%
12-May-20	0.2520	1080.30	1080.01	0.29	0.03%
19-Mar-19	0.2510	1075.19	1074.80	0.39	0.04%
12-Sep-19	0.2640	1076.80	1076.59	0.22	0.02%
12-Sep-19	0.2640	1076.80	1076.59	0.22	0.02%
14-Mar-19	0.2470	1085.63	1085.48	0.15	0.01%
29-Jan-20	0.2980	1092.49	1092.51	-0.02	0.00%
19-Sep-19	0.2650	1087.38	1087.22	0.16	0.01%
19-Sep-19	0.2650	1087.38	1087.22	0.16	0.01%
7-Aug-19	0.2340	1072.98	1072.54	0.44	0.04%
13-Aug-19	0.2480	1078.20	1077.86	0.34	0.03%
13-Aug-19	0.2480	1078.20	1077.86	0.34	0.03%
27-Mar-19	0.2190	1063.51	1063.16	0.35	0.03%
13-Feb-20	0.2410	1073.17	1072.86	0.31	0.03%
7-Feb-19	0.2610	1082.64	1082.55	0.09	0.01%
8-May-19	0.2510	1088.40	1088.29	0.10	0.01%
11-Sep-19	0.2500	1085.48	1085.52	-0.04	0.00%
11-Sep-19	0.2500	1085.48	1085.52	-0.04	0.00%
23-May-19	0.2910	1130.46	1130.41	0.05	0.00%
27-Jul-18	0.2360	1068.67	1067.71	0.95	0.09%
6-Feb-19	0.2470	1081.00	1080.88	0.12	0.01%
26-Jun-19	0.2400	1063.40	1062.94	0.46	0.04%
26-Jun-19	0.2400	1063.40	1062.94	0.46	0.04%
15-Apr-20	0.2920	1108.72	1108.91	-0.19	-0.02%
8-Jun-20	0.2690	1078.17	1078.13	0.03	0.00%
26-Jun-19	0.2530	1084.54	1084.37	0.17	0.02%
26-Jun-19	0.2530	1084.54	1084.37	0.17	0.02%
15-May-19	0.2320	1074.97	1074.71	0.27	0.02%
15-May-19	0.2320	1074.97	1074.71	0.27	0.02%
5-Mar-20	0.2420	1068.00	1067.71	0.29	0.03%
3-Sep-19	0.2310	1048.64	1047.84	0.80	0.08%
3-Sep-19	0.2310	1048.64	1047.84	0.80	0.08%
5-Feb-19	0.2490	1076.79	1076.44	0.34	0.03%
11-Nov-19	0.2570	1096.97	1096.28	0.69	0.06%
11-Nov-19	0.2570	1096.97	1096.28	0.69	0.06%
5-Jun-19	0.2690	1067.50	1066.71	0.79	0.07%
20-May-20	0.2420	1080.51	1080.08	0.44	0.04%
19-Sep-19	0.2710	1079.62	1079.19	0.44	0.04%

19-Sep-19	0.2710	1079.62	1079.19	0.44	0.04%
31-Dec-19	0.3260	1240.51	1240.84	-0.33	-0.03%
22-Oct-19	0.3880	1220.17	1221.01	-0.84	-0.07%
28-Jan-20	0.3240	1199.81	1200.37	-0.56	-0.05%
1-Oct-19	0.1610	1066.24	1065.99	0.25	0.02%
6-Sep-19	0.2310	1038.27	1037.72	0.55	0.05%
6-Sep-19	0.2310	1038.27	1037.72	0.55	0.05%
30-May-19	0.1900	1035.20	1034.48	0.72	0.07%
30-May-19	0.1900	1035.20	1034.48	0.72	0.07%
22-Jan-20	0.2240	1061.67	1061.48	0.19	0.02%
17-Jan-20	0.3570	1260.06	1260.68	-0.61	-0.05%
12-Nov-19	0.3420	1300.12	1300.76	-0.63	-0.05%
17-Sep-19	0.3320	1253.17	1253.49	-0.33	-0.03%
30-Dec-19	0.3330	1250.56	1250.97	-0.41	-0.03%
17-Sep-19	0.3260	1247.00	1247.41	-0.40	-0.03%
13-Feb-20	0.3230	1300.22	1300.61	-0.39	-0.03%
13-Feb-20	0.3230	1299.54	1299.94	-0.39	-0.03%
28-Oct-19	0.5170	1346.18	1347.49	-1.31	-0.10%
28-Oct-19	0.5170	1346.15	1347.46	-1.31	-0.10%
8-May-20	0.8170	1286.04	1288.13	-2.09	-0.16%
1-Dec-19	0.2270	1284.74	1284.30	0.44	0.03%
25-Nov-19	0.4830	1306.89	1307.73	-0.84	-0.06%
26-Dec-19	0.3730	1255.78	1256.31	-0.53	-0.04%
25-Sep-19	0.5480	1288.24	1289.28	-1.04	-0.08%
25-Sep-19	0.5470	1284.80	1285.84	-1.03	-0.08%
12-Jun-18	0.1840	1282.33	1282.00	0.34	0.03%
12-Jun-18	0.1840	1282.33	1282.00	0.34	0.03%
8-Apr-19	0.2080	1231.29	1230.65	0.63	0.05%
19-Dec-19	0.4520	1246.91	1248.01	-1.10	-0.09%
23-Apr-19	0.1860	1315.16	1314.83	0.33	0.02%
18-Dec-18	0.2500	1263.41	1263.65	-0.24	-0.02%
20-Mar-19	0.1900	1212.11	1212.03	0.08	0.01%
19-Dec-18	0.2000	1287.87	1287.81	0.06	0.00%
27-Mar-19	0.2050	1304.17	1304.12	0.06	0.00%
22-Aug-19	0.4400	1265.94	1266.87	-0.93	-0.07%
19-Mar-19	0.4380	1259.23	1260.15	-0.92	-0.07%
22-Aug-19	0.4380	1258.66	1259.58	-0.92	-0.07%
22-Aug-19	0.4400	1265.84	1266.77	-0.93	-0.07%
19-Mar-19	0.4400	1264.66	1265.59	-0.93	-0.07%
22-Aug-19	0.4400	1264.82	1265.75	-0.93	-0.07%
22-Aug-19	0.4400	1265.92	1266.85	-0.93	-0.07%
19-Mar-19	0.4380	1259.59	1260.51	-0.92	-0.07%
22-Aug-19	0.4380	1259.99	1260.91	-0.92	-0.07%
9-Sep-19	0.2710	1107.83	1107.90	-0.07	-0.01%
1-Sep-19	0.2310	1086.78	1086.34	0.44	0.04%
1-Sep-19	0.2320	1101.85	1101.41	0.44	0.04%
1-Sep-19	0.2320	1100.82	1100.39	0.44	0.04%
1-Sep-19	0.2320	1101.36	1100.92	0.44	0.04%
29-Jan-19	0.2600	1111.55	1111.72	-0.17	-0.02%
5-Feb-20	0.2490	1085.22	1085.21	0.01	0.00%
5-Feb-20	0.2500	1088.27	1088.26	0.01	0.00%
27-Feb-20	0.2350	1069.17	1068.85	0.33	0.03%
9-Aug-18	0.3080	1076.13	1074.92	1.21	0.11%
16-Oct-19	0.2240	1078.32	1077.94	0.39	0.04%
16-Oct-19	0.2240	1078.32	1077.94	0.39	0.04%
23-Aug-19	0.2500	1066.24	1065.46	0.78	0.07%
23-Aug-19	0.2500	1066.24	1065.46	0.78	0.07%

2-Aug-19	0.3020	1062.82	1061.11	1.70	0.16%
2-Aug-19	0.3020	1062.82	1061.11	1.70	0.16%
28-May-19	0.2460	1064.70	1064.07	0.62	0.06%
28-Aug-18	0.2280	1071.65	1070.91	0.74	0.07%
22-Jan-19	0.3560	1111.77	1111.77	0.00	0.00%
22-Jan-19	0.3210	1128.59	1128.39	0.20	0.02%
18-Sep-19	0.2610	1084.70	1084.51	0.19	0.02%
18-Sep-19	0.2610	1084.70	1084.51	0.19	0.02%
13-Mar-19	0.2690	1098.45	1098.48	-0.03	0.00%
15-Apr-20	0.2920	1100.87	1100.97	-0.11	-0.01%
15-Oct-19	0.2790	1096.79	1096.70	0.09	0.01%
15-Oct-19	0.2790	1096.79	1096.70	0.09	0.01%
26-Nov-19	0.2690	1094.66	1094.68	-0.02	0.00%
26-Nov-19	0.2690	1093.86	1093.88	-0.02	0.00%
12-Apr-19	0.2850	1110.70	1110.78	-0.08	-0.01%
14-Oct-19	0.3060	1117.65	1117.83	-0.18	-0.02%
14-Oct-19	0.3060	1118.54	1118.72	-0.18	-0.02%
3-Oct-19	0.3050	1108.03	1108.09	-0.06	-0.01%
3-Oct-19	0.3050	1108.03	1108.09	-0.06	-0.01%
22-Oct-19	0.2880	1108.23	1107.90	0.33	0.03%
22-Oct-19	0.2880	1108.23	1107.90	0.33	0.03%
24-Jan-20	0.3360	1117.97	1118.04	-0.08	-0.01%
29-Nov-19	0.2920	1098.59	1098.73	-0.14	-0.01%
29-Nov-19	0.2920	1098.59	1098.73	-0.14	-0.01%
26-Mar-19	0.2900	1104.63	1104.64	-0.01	0.00%
7-Jan-20	0.3190	1144.45	1144.80	-0.35	-0.03%
21-Jan-20	0.3280	1113.44	1113.34	0.11	0.01%
2-Jul-19	0.3010	1127.19	1127.30	-0.11	-0.01%
2-Jul-19	0.3010	1127.19	1127.30	-0.11	-0.01%
24-Jan-20	0.3340	1129.23	1129.46	-0.23	-0.02%
2-Apr-20	0.2890	1100.66	1100.69	-0.03	0.00%
18-Oct-19	0.3030	1104.21	1104.24	-0.03	0.00%
18-Oct-19	0.3030	1104.21	1104.24	-0.03	0.00%
2-Oct-19	0.2800	1101.70	1101.72	-0.02	0.00%
2-Oct-19	0.2800	1101.70	1101.72	-0.02	0.00%
9-Jan-19	0.3770	1136.57	1137.20	-0.63	-0.06%
3-Sep-19	0.2340	1053.00	1052.18	0.82	0.08%
8-May-19	0.2640	1072.84	1072.52	0.33	0.03%
8-May-19	0.2690	1078.40	1078.11	0.28	0.03%
18-Feb-20	0.2740	1077.62	1077.52	0.10	0.01%
14-May-19	0.2740	1077.40	1077.13	0.27	0.03%
20-Mar-19	0.2640	1101.65	1101.61	0.04	0.00%
10-Dec-19	0.2680	1088.69	1088.59	0.09	0.01%
25-Oct-19	0.2610	1075.62	1075.28	0.34	0.03%
25-Oct-19	0.2610	1075.62	1075.28	0.34	0.03%
17-Oct-19	0.2400	1060.72	1060.29	0.42	0.04%
17-Oct-19	0.2400	1060.72	1060.29	0.42	0.04%
12-Mar-19	0.2650	1090.65	1090.63	0.02	0.00%
18-Mar-20	0.2790	1091.20	1091.06	0.14	0.01%
18-Mar-20	0.2640	1093.24	1093.17	0.08	0.01%
13-Jan-20	0.3480	1150.82	1151.27	-0.45	-0.04%
5-Sep-19	0.2490	1080.17	1079.92	0.25	0.02%
5-Sep-19	0.2490	1080.17	1079.92	0.25	0.02%
4-Sep-19	0.2460	1073.51	1073.21	0.30	0.03%
4-Sep-19	0.2460	1073.51	1073.21	0.30	0.03%
4-Sep-19	0.2260	1061.67	1061.30	0.36	0.03%
4-Sep-19	0.2260	1061.67	1061.30	0.36	0.03%

9-May-19	0.2600	1097.05	1096.91	0.14	0.01%
9-May-19	0.2600	1097.05	1096.91	0.14	0.01%
7-Nov-19	0.2310	1064.81	1064.33	0.48	0.05%
19-May-20	0.2460	1056.92	1056.27	0.65	0.06%
21-Nov-19	0.2550	1077.79	1077.74	0.05	0.00%
21-Nov-19	0.2550	1077.79	1077.74	0.05	0.00%
21-Nov-19	0.2550	1077.79	1077.74	0.05	0.00%
21-Nov-19	0.2550	1077.79	1077.74	0.05	0.00%
11-Feb-20	0.2760	1079.93	1079.76	0.17	0.02%
14-Aug-19	0.2330	1047.72	1046.80	0.92	0.09%
14-Aug-19	0.2330	1047.72	1046.80	0.92	0.09%
5-Mar-19	0.2570	1086.34	1086.17	0.18	0.02%
19-Feb-20	0.2790	1100.10	1100.13	-0.03	0.00%
5-Dec-19	0.2580	1123.40	1123.34	0.06	0.01%
5-Dec-19	0.2780	1129.61	1129.82	-0.21	-0.02%
29-Jan-19	0.2650	1095.09	1095.00	0.09	0.01%
21-May-20	0.2810	1104.39	1104.68	-0.28	-0.03%
17-Apr-19	0.2140	1064.52	1064.26	0.27	0.02%
10-Feb-20	0.2330	1089.91	1089.95	-0.04	0.00%
20-Aug-19	0.2420	1045.60	1044.33	1.27	0.12%
19-Feb-20	0.2600	1088.60	1088.65	-0.05	0.00%
13-May-19	0.2370	1075.62	1075.42	0.20	0.02%
15-Oct-19	0.2830	1111.70	1111.47	0.22	0.02%
15-Oct-19	0.2830	1111.70	1111.47	0.22	0.02%
24-Mar-20	0.2720	1094.84	1094.74	0.10	0.01%
15-Apr-20	0.2810	1114.09	1114.24	-0.16	-0.01%
15-Jan-20	0.3380	1133.37	1133.83	-0.46	-0.04%
3-Dec-19	0.2700	1118.29	1118.34	-0.05	0.00%
9-Jan-19	0.2580	1085.33	1085.14	0.19	0.02%
5-Dec-19	0.2570	1079.83	1079.74	0.09	0.01%
1-May-19	0.2490	1084.04	1083.86	0.18	0.02%
6-Apr-20	0.2610	1078.00	1077.74	0.26	0.02%
27-Aug-19	0.2550	1082.88	1082.59	0.29	0.03%
27-Aug-19	0.2550	1082.88	1082.59	0.29	0.03%
2-Oct-19	0.2630	1095.60	1095.43	0.17	0.02%
2-Oct-19	0.2630	1095.60	1095.43	0.17	0.02%
11-Apr-19	0.2510	1089.36	1089.30	0.06	0.01%
8-Mar-19	0.2660	1088.35	1088.18	0.17	0.02%
25-Apr-19	0.2880	1122.28	1122.34	-0.06	-0.01%
13-May-20	0.2700	1122.37	1122.37	0.00	0.00%
10-Jul-19	0.2450	1075.94	1075.50	0.44	0.04%
10-Jul-19	0.2450	1075.94	1075.50	0.44	0.04%
24-Mar-20	0.2730	1089.24	1089.04	0.19	0.02%
11-Apr-19	0.2620	1107.76	1107.58	0.18	0.02%
16-Dec-19	0.2780	1107.46	1107.19	0.27	0.02%
18-Apr-19	0.2410	1071.50	1071.17	0.33	0.03%
6-Feb-20	0.3410	1156.20	1156.77	-0.57	-0.05%
16-Jan-20	0.2600	1083.34	1082.94	0.39	0.04%
18-Apr-19	0.2380	1065.96	1065.61	0.35	0.03%
9-Apr-20	0.2540	1108.39	1108.36	0.03	0.00%
14-Apr-20	0.2690	1095.03	1094.97	0.06	0.01%
4-Feb-19	0.2730	1107.09	1106.92	0.17	0.02%
14-Mar-19	0.2610	1091.64	1091.67	-0.03	0.00%
19-Sep-19	0.2570	1080.65	1080.39	0.25	0.02%
19-Sep-19	0.2570	1080.65	1080.39	0.25	0.02%
20-Aug-19	0.2600	1075.29	1074.83	0.46	0.04%
20-Feb-19	0.2440	1079.14	1078.95	0.19	0.02%

20-Aug-19	0.2600	1075.29	1074.83	0.46	0.04%
11-Oct-19	0.2530	1070.98	1070.57	0.41	0.04%
11-Oct-19	0.2530	1070.98	1070.57	0.41	0.04%
13-Nov-19	0.2610	1083.91	1083.77	0.14	0.01%
13-Nov-19	0.2610	1083.91	1083.77	0.14	0.01%
2-Jul-19	0.2550	1088.91	1088.60	0.31	0.03%
2-Jul-19	0.2550	1088.91	1088.60	0.31	0.03%
2-Oct-19	0.2860	1108.49	1108.35	0.14	0.01%
2-Oct-19	0.2860	1108.49	1108.35	0.14	0.01%
6-Feb-19	0.2430	1076.22	1076.02	0.20	0.02%
11-Mar-20	0.2580	1077.72	1077.55	0.17	0.02%
20-Sep-19	0.2790	1090.18	1089.77	0.41	0.04%
20-Sep-19	0.2790	1090.18	1089.77	0.41	0.04%
19-Mar-19	0.2030	1071.80	1071.33	0.47	0.04%
13-Jul-18	0.2600	1074.63	1073.94	0.69	0.06%
27-Feb-19	0.2440	1076.53	1076.56	-0.03	0.00%
27-Feb-19	0.2440	1076.27	1076.30	-0.03	0.00%
27-Feb-19	0.2440	1078.41	1078.44	-0.03	0.00%
27-Feb-19	0.2440	1078.42	1078.46	-0.03	0.00%
21-Nov-19	0.2590	1083.80	1083.79	0.00	0.00%
21-Nov-19	0.2590	1083.80	1083.79	0.00	0.00%
7-Mar-19	0.2260	1067.37	1067.12	0.24	0.02%
7-May-19	0.2520	1071.52	1071.01	0.52	0.05%
7-May-19	0.2520	1071.52	1071.01	0.52	0.05%
5-Feb-20	0.2500	1082.70	1082.63	0.07	0.01%
9-Apr-19	0.2520	1084.29	1084.08	0.21	0.02%
9-Apr-19	0.2520	1084.29	1084.08	0.21	0.02%
13-May-20	0.2210	1077.84	1077.35	0.50	0.05%
4-Jun-19	0.2450	1070.37	1069.87	0.50	0.05%
4-Jun-19	0.2450	1070.37	1069.87	0.50	0.05%
10-Dec-19	0.2340	1069.33	1069.06	0.27	0.02%
20-Nov-19	0.2710	1090.94	1090.89	0.05	0.00%
20-Nov-19	0.2710	1090.94	1090.89	0.05	0.00%
20-Nov-18	0.2440	1068.13	1067.19	0.93	0.09%
27-Aug-19	0.2480	1063.95	1063.21	0.74	0.07%
27-Aug-19	0.2480	1063.95	1063.21	0.74	0.07%
7-May-20	0.2380	1068.77	1068.43	0.34	0.03%
5-Mar-20	0.2670	1080.85	1080.57	0.28	0.03%
31-Dec-19	0.3380	1248.32	1248.69	-0.37	-0.03%
10-Apr-20	0.4780	1195.97	1196.76	-0.78	-0.07%
26-Mar-20	0.4120	1255.73	1256.56	-0.83	-0.07%
29-Oct-18	0.1550	1105.18	1104.43	0.75	0.07%
17-Apr-20	0.5330	1181.03	1181.79	-0.76	-0.06%
25-Apr-19	0.2540	1066.05	1065.54	0.52	0.05%
23-Apr-19	0.2210	1085.25	1085.02	0.24	0.02%
20-Feb-20	0.3880	1330.93	1331.60	-0.67	-0.05%
20-Feb-20	0.3880	1331.54	1332.21	-0.67	-0.05%
30-Aug-19	0.3210	1267.19	1267.60	-0.41	-0.03%
30-Aug-19	0.3210	1265.22	1265.63	-0.41	-0.03%
30-Jan-20	0.3350	1275.82	1276.37	-0.54	-0.04%
16-Dec-19	0.3750	1283.52	1284.02	-0.50	-0.04%
16-Dec-19	0.3750	1283.52	1284.02	-0.50	-0.04%
21-May-20	0.3450	1265.59	1266.13	-0.54	-0.04%
21-May-20	0.3450	1265.59	1266.13	-0.54	-0.04%
20-Feb-19	0.2450	1257.57	1257.78	-0.21	-0.02%
31-Dec-19	0.3350	1249.34	1249.71	-0.38	-0.03%
30-Dec-19	0.3320	1248.22	1248.62	-0.40	-0.03%

20-May-20	0.3620	1287.81	1288.43	-0.63	-0.05%
20-May-20	0.3620	1287.14	1287.77	-0.63	-0.05%
25-Mar-20	0.4280	1293.39	1294.16	-0.77	-0.06%
25-Mar-20	0.4280	1293.37	1294.14	-0.77	-0.06%
1-Feb-20	0.2320	1296.26	1295.82	0.44	0.03%
25-Nov-19	0.4830	1291.64	1292.51	-0.87	-0.07%
11-Sep-19	0.4820	1280.85	1281.72	-0.88	-0.07%
10-Jan-19	0.2210	1267.01	1267.13	-0.12	-0.01%
22-Jan-19	0.1830	1166.22	1166.11	0.11	0.01%
21-Aug-18	0.2180	1265.92	1265.47	0.45	0.04%
29-Jan-19	0.2340	1283.69	1283.92	-0.24	-0.02%
21-Aug-19	0.5260	1306.31	1307.56	-1.25	-0.10%
18-May-18	0.2150	1266.73	1265.81	0.92	0.07%
29-Jan-20	0.4200	1265.58	1266.48	-0.90	-0.07%
16-Aug-18	0.1930	1195.93	1195.77	0.16	0.01%
8-Oct-19	0.4390	1332.18	1333.05	-0.87	-0.07%
8-Oct-19	0.4390	1332.33	1333.20	-0.87	-0.07%
25-Feb-20	0.2490	1088.47	1088.24	0.23	0.02%
1-Oct-19	0.2600	1174.98	1175.00	-0.02	0.00%
1-Oct-19	0.2600	1174.98	1175.00	-0.02	0.00%
29-Apr-19	0.2720	1182.98	1183.15	-0.17	-0.01%
7-Nov-19	0.2110	1073.00	1072.74	0.27	0.03%
7-Nov-19	0.2110	1073.00	1072.74	0.27	0.03%
24-Sep-19	0.2550	1099.53	1099.57	-0.04	0.00%
16-Jul-19	0.2470	1105.57	1105.43	0.14	0.01%
16-Jul-19	0.2470	1105.57	1105.43	0.14	0.01%
22-Jul-19	0.2490	1108.66	1108.41	0.25	0.02%
22-Jul-19	0.2490	1108.66	1108.41	0.25	0.02%
10-Jul-19	0.2360	1074.94	1074.23	0.71	0.07%
10-Jul-19	0.2360	1074.94	1074.23	0.71	0.07%
7-Feb-19	0.2420	1077.74	1077.40	0.33	0.03%
12-Feb-19	0.2530	1087.74	1087.51	0.22	0.02%
10-Dec-19	0.2420	1077.97	1077.81	0.16	0.01%
24-Aug-18	0.2660	1065.36	1064.08	1.28	0.12%
29-Jan-19	0.2680	1116.06	1116.11	-0.05	0.00%
29-Jan-19	0.2680	1116.06	1116.11	-0.05	0.00%
14-Jan-20	0.3010	1121.35	1121.53	-0.18	-0.02%
9-Jan-20	0.2940	1111.13	1111.30	-0.17	-0.02%
13-Mar-19	0.2700	1096.06	1096.01	0.05	0.00%
24-Apr-19	0.2940	1095.09	1095.08	0.01	0.00%
26-Nov-19	0.2870	1098.83	1098.77	0.06	0.01%
26-Nov-19	0.2860	1097.92	1097.85	0.07	0.01%
28-Jan-20	0.3180	1093.82	1093.69	0.13	0.01%
14-Jan-20	0.3300	1111.58	1111.89	-0.31	-0.03%
19-Mar-19	0.2630	1094.00	1093.95	0.05	0.00%
20-Sep-19	0.2650	1090.89	1090.74	0.15	0.01%
15-Mar-19	0.2630	1092.52	1092.47	0.05	0.00%
20-Sep-19	0.2650	1090.89	1090.74	0.15	0.01%
28-Mar-19	0.2950	1107.70	1107.67	0.03	0.00%
5-Mar-19	0.2590	1092.56	1092.38	0.18	0.02%
5-Mar-19	0.2660	1090.41	1090.21	0.20	0.02%
6-Sep-19	0.2680	1089.70	1089.40	0.30	0.03%
6-Sep-19	0.2680	1089.70	1089.40	0.30	0.03%
9-Apr-20	0.3190	1112.54	1112.73	-0.19	-0.02%
25-Jun-19	0.2790	1127.54	1127.47	0.06	0.01%
25-Jun-19	0.2790	1127.54	1127.47	0.06	0.01%
25-Jun-19	0.2790	1127.54	1127.47	0.06	0.01%

22-Jan-19	0.3020	1114.57	1114.81	-0.24	-0.02%
26-Jun-19	0.3270	1141.49	1141.67	-0.19	-0.02%
24-Apr-19	0.2980	1098.40	1098.29	0.11	0.01%
22-Jan-20	0.2960	1119.66	1119.70	-0.04	0.00%
29-Mar-19	0.2800	1098.19	1098.07	0.12	0.01%
12-Mar-20	0.2630	1091.63	1091.52	0.11	0.01%
1-Nov-19	0.2630	1069.91	1069.63	0.28	0.03%
1-Nov-19	0.2630	1069.91	1069.63	0.28	0.03%
22-May-20	0.2490	1070.46	1070.24	0.22	0.02%
12-Feb-20	0.2880	1084.21	1084.08	0.13	0.01%
14-Nov-19	0.2850	1086.26	1086.05	0.21	0.02%
14-May-19	0.2930	1084.69	1084.30	0.38	0.04%
14-Nov-19	0.2850	1086.26	1086.05	0.21	0.02%
12-Jun-20	0.2600	1087.29	1087.00	0.29	0.03%
10-Sep-19	0.2650	1076.23	1075.93	0.31	0.03%
10-Mar-20	0.2580	1078.04	1078.00	0.05	0.00%
10-Sep-19	0.2650	1076.23	1075.93	0.31	0.03%
29-Jan-20	0.2530	1074.46	1074.32	0.14	0.01%
25-Oct-19	0.2530	1068.71	1068.36	0.34	0.03%
25-Oct-19	0.2530	1068.71	1068.36	0.34	0.03%
8-Jan-20	0.2510	1075.61	1075.26	0.34	0.03%
17-Oct-19	0.2580	1071.94	1071.61	0.33	0.03%
17-Oct-19	0.2580	1071.94	1071.61	0.33	0.03%
1-Oct-19	0.2570	1085.14	1084.87	0.26	0.02%
12-Apr-19	0.2450	1083.22	1082.96	0.26	0.02%
1-Oct-19	0.2570	1085.14	1084.87	0.26	0.02%
6-Jan-20	0.2580	1093.39	1093.33	0.06	0.01%
30-Dec-19	0.2680	1100.84	1100.87	-0.03	0.00%
18-Feb-20	0.3010	1099.56	1099.64	-0.08	-0.01%
19-Feb-19	0.2400	1086.16	1086.13	0.03	0.00%
18-Mar-20	0.2740	1091.54	1091.51	0.02	0.00%
7-Mar-19	0.2700	1090.93	1090.91	0.02	0.00%
6-Mar-19	0.2570	1083.74	1083.82	-0.09	-0.01%
18-Mar-20	0.2790	1093.80	1093.80	0.00	0.00%
24-Sep-19	0.2510	1086.77	1086.55	0.22	0.02%
24-Sep-19	0.2510	1086.77	1086.55	0.22	0.02%
17-Mar-20	0.2700	1091.18	1091.19	-0.02	0.00%
15-Jan-19	0.2830	1100.53	1100.55	-0.03	0.00%
2-Jun-20	0.2520	1073.46	1072.99	0.47	0.04%
16-Apr-20	0.2770	1117.84	1117.83	0.01	0.00%
4-Dec-19	0.2820	1107.00	1107.11	-0.11	-0.01%
19-Nov-19	0.2680	1097.78	1097.64	0.14	0.01%
4-Dec-19	0.3090	1106.54	1106.75	-0.21	-0.02%
10-Mar-20	0.2640	1088.29	1088.22	0.08	0.01%
12-Mar-19	0.2810	1084.15	1084.00	0.15	0.01%
1-Feb-19	0.2490	1076.98	1076.86	0.12	0.01%
10-May-19	0.2620	1093.42	1093.15	0.27	0.02%
10-May-19	0.2620	1093.42	1093.15	0.27	0.02%
3-Jan-19	0.3500	1099.53	1099.42	0.11	0.01%
16-Jan-20	0.2740	1082.74	1082.59	0.15	0.01%
9-Apr-20	0.3020	1117.28	1117.28	-0.01	0.00%
15-Apr-20	0.2810	1108.26	1108.30	-0.04	0.00%
7-Mar-19	0.2550	1078.31	1078.17	0.13	0.01%
12-Sep-19	0.2630	1082.32	1082.19	0.13	0.01%
12-Sep-19	0.2630	1082.32	1082.19	0.13	0.01%
24-Apr-19	0.2270	1056.70	1056.33	0.37	0.03%
1-Aug-19	0.2390	1064.67	1064.36	0.31	0.03%

1-Aug-19	0.2390	1064.67	1064.36	0.31	0.03%
10-Dec-19	0.2920	1125.42	1125.65	-0.23	-0.02%
12-May-20	0.2490	1067.98	1067.56	0.42	0.04%
12-May-20	0.2630	1080.12	1079.88	0.25	0.02%
17-Apr-19	0.2830	1108.22	1108.05	0.18	0.02%
17-Sep-19	0.2420	1077.19	1076.97	0.21	0.02%
17-Sep-19	0.2420	1077.19	1076.97	0.21	0.02%
25-Mar-19	0.2840	1103.35	1103.51	-0.15	-0.01%
16-Jun-20	0.2310	1085.82	1085.65	0.17	0.02%
14-Mar-19	0.2710	1102.16	1102.12	0.04	0.00%
11-May-20	0.2710	1086.87	1086.78	0.09	0.01%
14-Feb-19	0.3550	1099.13	1098.64	0.49	0.04%
10-Jul-19	0.2510	1072.64	1072.21	0.43	0.04%
10-Jul-19	0.2510	1072.64	1072.21	0.43	0.04%
10-Jul-19	0.2450	1066.05	1065.53	0.52	0.05%
10-Jul-19	0.2450	1066.05	1065.53	0.52	0.05%
10-Jul-19	0.2530	1074.66	1074.21	0.46	0.04%
10-Jul-19	0.2530	1074.66	1074.21	0.46	0.04%
10-Jul-19	0.2580	1072.57	1072.14	0.43	0.04%
10-Jul-19	0.2580	1072.57	1072.14	0.43	0.04%
27-Jan-20	0.2950	1115.40	1115.54	-0.14	-0.01%
25-Mar-20	0.2680	1096.43	1096.40	0.03	0.00%
15-Jan-20	0.2650	1089.98	1089.77	0.21	0.02%
2-Oct-19	0.2550	1079.63	1079.16	0.47	0.04%
2-Oct-19	0.2550	1079.63	1079.16	0.47	0.04%
20-Feb-19	0.2650	1103.79	1103.49	0.30	0.03%
2-Jul-19	0.2500	1088.66	1088.40	0.26	0.02%
2-Jul-19	0.2500	1088.66	1088.40	0.26	0.02%
8-May-19	0.2630	1102.59	1102.48	0.12	0.01%
5-Mar-20	0.2730	1092.03	1091.96	0.07	0.01%
30-Apr-20	0.2540	1067.80	1067.56	0.24	0.02%
15-Mar-19	0.2680	1089.27	1089.24	0.03	0.00%
22-Feb-20	0.3120	1101.59	1101.56	0.03	0.00%
29-Jan-20	0.2930	1181.05	1181.24	-0.19	-0.02%
16-Dec-19	0.3060	1137.17	1137.26	-0.09	-0.01%
28-Apr-20	0.2580	1071.04	1070.68	0.36	0.03%
11-Apr-19	0.2800	1128.33	1128.33	0.01	0.00%
29-Jan-19	0.3170	1160.86	1160.95	-0.09	-0.01%
19-Sep-19	0.2670	1088.83	1088.51	0.31	0.03%
19-Sep-19	0.2670	1088.83	1088.51	0.31	0.03%
29-Jan-20	0.3050	1093.56	1093.59	-0.03	0.00%
11-Jun-19	0.2550	1084.25	1083.96	0.29	0.03%
11-Jun-19	0.2550	1084.25	1083.96	0.29	0.03%
26-Feb-20	0.2490	1087.65	1087.48	0.16	0.01%
10-Jul-18	0.2560	1058.33	1057.49	0.84	0.08%
19-Sep-19	0.2930	1078.71	1078.54	0.16	0.02%
19-Sep-19	0.2930	1078.71	1078.54	0.16	0.02%
14-Jan-20	0.2780	1099.64	1099.65	-0.02	0.00%
12-Sep-19	0.2530	1087.75	1087.39	0.37	0.03%
12-Sep-19	0.2530	1087.75	1087.39	0.37	0.03%
30-Aug-19	0.2760	1071.52	1070.93	0.59	0.06%
30-Aug-19	0.2760	1071.52	1070.93	0.59	0.06%
12-Mar-19	0.2050	1085.44	1085.46	-0.01	0.00%
12-Mar-19	0.2050	1084.08	1084.09	-0.01	0.00%
17-May-19	0.2720	1097.87	1097.86	0.01	0.00%
19-Feb-19	0.2490	1085.52	1085.55	-0.03	0.00%
7-Aug-19	0.2530	1069.20	1068.88	0.32	0.03%

7-Aug-19	0.2530	1069.20	1068.88	0.32	0.03%
4-Feb-20	0.2780	1079.91	1079.65	0.26	0.02%
24-Apr-19	0.2410	1072.99	1072.75	0.24	0.02%
23-Apr-19	0.2490	1078.36	1078.07	0.29	0.03%
21-Apr-20	0.3350	1124.46	1124.77	-0.31	-0.03%
28-May-19	0.2480	1067.73	1067.29	0.44	0.04%
19-Mar-19	0.2110	1077.63	1077.30	0.34	0.03%
30-Aug-19	0.3010	1108.48	1108.36	0.13	0.01%
30-Aug-19	0.3010	1108.48	1108.36	0.13	0.01%
29-Apr-20	0.2460	1061.58	1061.05	0.54	0.05%
20-Aug-19	0.2500	1073.18	1072.86	0.32	0.03%
20-Aug-19	0.2500	1073.18	1072.86	0.32	0.03%
6-Aug-19	0.2590	1080.65	1080.45	0.20	0.02%
6-Aug-19	0.2590	1080.65	1080.45	0.20	0.02%
29-Jun-20	0.2520	1075.45	1075.11	0.34	0.03%
3-Mar-20	0.2880	1120.32	1120.23	0.10	0.01%
3-Dec-19	0.2420	1078.59	1078.42	0.17	0.02%
16-Apr-19	0.2450	1078.41	1078.07	0.34	0.03%
5-Apr-19	0.3220	1087.61	1087.36	0.25	0.02%
7-Jan-19	0.2480	1077.22	1076.96	0.27	0.02%
12-Feb-19	0.2800	1084.33	1083.43	0.90	0.08%
12-Feb-19	0.2800	1084.33	1083.43	0.90	0.08%
4-Feb-20	0.2420	1084.03	1083.85	0.18	0.02%
14-May-20	0.2530	1070.23	1069.92	0.31	0.03%
20-Nov-19	0.2500	1078.33	1078.28	0.05	0.00%
25-Sep-18	0.2600	1078.27	1077.88	0.39	0.04%
8-Jan-19	0.2620	1082.97	1082.38	0.58	0.05%
20-Apr-20	0.2570	1075.59	1075.30	0.30	0.03%
24-Sep-19	0.4210	1236.10	1237.06	-0.96	-0.08%
11-Dec-19	0.3770	1224.94	1225.76	-0.82	-0.07%
25-Mar-20	0.3480	1202.04	1202.66	-0.62	-0.05%
15-May-20	0.4770	1169.49	1170.11	-0.62	-0.05%
27-Jan-20	0.3640	1150.54	1151.13	-0.58	-0.05%
20-Mar-20	0.2010	1040.83	1040.75	0.09	0.01%
9-Jan-20	0.3520	1168.88	1169.59	-0.71	-0.06%
10-May-19	0.2330	1059.83	1059.46	0.37	0.04%
7-Feb-20	0.2190	1083.07	1082.94	0.13	0.01%
8-Apr-20	0.3810	1304.72	1305.35	-0.62	-0.05%
8-Apr-20	0.3810	1305.55	1306.17	-0.62	-0.05%
21-Aug-19	0.3310	1264.20	1264.53	-0.32	-0.03%
21-Aug-19	0.3310	1264.20	1264.53	-0.32	-0.03%
18-Dec-19	0.3710	1279.95	1280.49	-0.54	-0.04%
26-Aug-19	0.4070	1275.74	1276.40	-0.65	-0.05%
21-Aug-19	0.4240	1294.68	1295.45	-0.77	-0.06%
15-Dec-19	0.4520	1311.37	1312.16	-0.79	-0.06%
20-Aug-19	0.2670	1279.93	1279.80	0.13	0.01%
20-Aug-19	0.2670	1278.01	1277.89	0.13	0.01%
21-Jan-20	0.3950	1333.30	1334.11	-0.81	-0.06%
11-Feb-19	0.2150	1262.83	1262.71	0.13	0.01%
1-Apr-20	0.2360	1295.43	1294.98	0.45	0.03%
19-Dec-18	0.2430	1272.20	1271.99	0.21	0.02%
19-Dec-18	0.2420	1270.35	1270.13	0.21	0.02%
20-Feb-20	0.3440	1248.53	1248.90	-0.37	-0.03%
20-Feb-20	0.3450	1250.22	1250.57	-0.35	-0.03%
8-May-18	0.2000	1329.83	1329.65	0.18	0.01%
2-Aug-19	0.2530	1302.53	1302.26	0.28	0.02%
2-Aug-19	0.2530	1302.53	1302.26	0.28	0.02%

16-Aug-19	0.3910	1235.93	1236.44	-0.51	-0.04%
16-Aug-19	0.3910	1235.93	1236.44	-0.51	-0.04%
18-Oct-18	0.1720	1235.98	1235.85	0.14	0.01%
29-Oct-18	0.2140	1230.21	1230.28	-0.08	-0.01%
11-Dec-19	0.4310	1292.46	1293.47	-1.01	-0.08%
25-Sep-18	0.2030	1268.88	1268.76	0.13	0.01%
5-Mar-19	0.5230	1260.30	1261.70	-1.41	-0.11%
12-Aug-19	0.3670	1105.60	1106.20	-0.59	-0.05%
1-Nov-19	0.2390	1103.65	1103.19	0.46	0.04%
1-Dec-19	0.2410	1097.14	1096.69	0.45	0.04%
1-Nov-19	0.2400	1103.72	1103.26	0.45	0.04%
5-May-20	0.2480	1101.83	1101.69	0.14	0.01%
15-Jul-19	0.2240	1088.19	1087.82	0.37	0.03%
15-Jul-19	0.2240	1088.19	1087.82	0.37	0.03%
19-Feb-19	0.2270	1076.18	1075.96	0.22	0.02%
16-Apr-19	0.2310	1099.83	1099.51	0.31	0.03%
9-Jul-19	0.3220	1115.60	1115.74	-0.14	-0.01%
9-Jul-19	0.3220	1115.60	1115.74	-0.14	-0.01%
24-Mar-20	0.2740	1094.18	1094.05	0.12	0.01%
24-Mar-20	0.2640	1095.24	1094.97	0.27	0.02%
19-Jun-19	0.2820	1096.64	1096.50	0.14	0.01%
24-Oct-19	0.3200	1119.58	1119.88	-0.30	-0.03%
24-Oct-19	0.3200	1119.58	1119.88	-0.30	-0.03%
14-Jan-20	0.3030	1103.26	1103.29	-0.03	0.00%
27-Mar-19	0.2820	1100.86	1100.75	0.11	0.01%
3-May-19	0.2910	1106.78	1106.80	-0.02	0.00%
3-Apr-20	0.3010	1103.19	1103.25	-0.06	-0.01%
22-Oct-19	0.3160	1117.70	1117.97	-0.27	-0.02%
22-Oct-19	0.3160	1117.70	1117.97	-0.27	-0.02%
21-May-20	0.3240	1144.81	1145.00	-0.19	-0.02%
17-Jan-20	0.3110	1095.90	1095.92	-0.03	0.00%
2-Oct-19	0.2900	1103.87	1104.19	-0.32	-0.03%
2-Oct-19	0.2900	1104.00	1104.32	-0.32	-0.03%
12-Apr-19	0.3230	1124.35	1124.63	-0.28	-0.03%
24-Jan-19	0.3880	1130.07	1130.75	-0.68	-0.06%
5-Nov-19	0.2740	1074.37	1074.03	0.34	0.03%
5-Nov-19	0.2740	1074.37	1074.03	0.34	0.03%
5-Nov-19	0.2820	1079.39	1079.25	0.14	0.01%
5-Nov-19	0.2820	1079.39	1079.25	0.14	0.01%
12-Feb-20	0.2870	1088.34	1088.26	0.08	0.01%
4-Jun-19	0.2870	1083.64	1083.22	0.42	0.04%
17-Aug-19	0.2790	1082.08	1081.79	0.29	0.03%
17-Aug-19	0.2790	1082.08	1081.79	0.29	0.03%
12-Mar-19	0.2750	1083.29	1083.26	0.03	0.00%
10-Dec-19	0.2750	1080.34	1080.13	0.20	0.02%
8-Mar-19	0.2550	1080.53	1080.45	0.09	0.01%
8-Mar-19	0.2510	1077.19	1077.06	0.13	0.01%
29-Jan-20	0.2540	1070.45	1070.27	0.18	0.02%
23-Apr-19	0.2530	1072.64	1072.31	0.33	0.03%
18-Apr-19	0.2470	1076.26	1076.14	0.12	0.01%
28-May-20	0.2640	1083.27	1083.08	0.18	0.02%
2-Jan-19	0.2790	1100.47	1100.37	0.10	0.01%
20-Mar-19	0.2750	1086.87	1086.66	0.21	0.02%
22-Apr-20	0.2650	1087.20	1087.14	0.06	0.01%
5-Mar-19	0.2720	1085.61	1085.62	-0.01	0.00%
4-Jun-19	0.2390	1071.66	1071.33	0.33	0.03%
4-Jun-19	0.2390	1071.66	1071.33	0.33	0.03%

24-Oct-19	0.3130	1129.50	1129.50	0.00	0.00%
24-Oct-19	0.3130	1129.50	1129.50	0.00	0.00%
19-Jul-19	0.2750	1080.15	1079.59	0.56	0.05%
19-Jul-19	0.2750	1080.15	1079.59	0.56	0.05%
4-Mar-20	0.2300	1066.02	1065.60	0.42	0.04%
3-Dec-19	0.2860	1129.22	1129.40	-0.18	-0.02%
3-Dec-19	0.2970	1141.59	1141.81	-0.22	-0.02%
1-Feb-19	0.2510	1074.23	1074.04	0.19	0.02%
11-Feb-20	0.2850	1084.87	1084.77	0.09	0.01%
7-Aug-19	0.2570	1053.37	1052.74	0.62	0.06%
7-Aug-19	0.2570	1053.37	1052.74	0.62	0.06%
7-Aug-19	0.2470	1064.95	1064.63	0.33	0.03%
7-Aug-19	0.2470	1064.95	1064.63	0.33	0.03%
7-Jan-20	0.3060	1132.54	1132.83	-0.29	-0.03%
31-Jan-19	0.3410	1091.43	1091.56	-0.13	-0.01%
10-Apr-19	0.3530	1128.53	1128.97	-0.44	-0.04%
10-Oct-19	0.2210	1070.74	1070.58	0.16	0.02%
10-Oct-19	0.2210	1070.74	1070.58	0.16	0.02%
14-Apr-20	0.2610	1080.53	1080.22	0.31	0.03%
12-May-20	0.2580	1078.42	1078.35	0.08	0.01%
6-Aug-19	0.2200	1046.31	1045.67	0.64	0.06%
6-Aug-19	0.2200	1046.31	1045.67	0.64	0.06%
17-Apr-19	0.2730	1110.78	1110.78	0.00	0.00%
15-Apr-20	0.2850	1113.39	1113.44	-0.06	-0.01%
23-Mar-20	0.2990	1119.79	1119.93	-0.13	-0.01%
12-Dec-19	0.2810	1098.28	1098.32	-0.03	0.00%
7-Nov-19	0.2710	1090.30	1090.04	0.26	0.02%
25-Mar-20	0.3050	1106.96	1106.81	0.16	0.01%
23-Sep-19	0.2710	1113.24	1113.24	0.00	0.00%
23-Sep-19	0.2710	1113.24	1113.24	0.00	0.00%
9-Jan-19	0.3530	1174.79	1175.26	-0.47	-0.04%
4-Jun-19	0.2730	1118.10	1117.88	0.22	0.02%
4-Jun-19	0.2730	1118.10	1117.88	0.22	0.02%
28-May-19	0.2620	1086.21	1086.11	0.11	0.01%
15-Jan-19	0.2640	1096.57	1096.24	0.33	0.03%
15-Jan-19	0.2770	1099.05	1098.95	0.10	0.01%
6-May-19	0.2800	1091.04	1090.99	0.05	0.00%
3-Sep-19	0.2750	1082.33	1082.14	0.19	0.02%
4-Mar-20	0.2480	1072.94	1072.72	0.22	0.02%
1-Mar-19	0.2650	1081.66	1081.54	0.12	0.01%
4-Mar-20	0.2870	1093.40	1093.42	-0.02	0.00%
20-Apr-20	0.2770	1087.78	1087.41	0.37	0.03%
29-Jul-19	0.3250	1135.82	1135.85	-0.03	0.00%
29-Jul-19	0.3250	1135.82	1135.85	-0.03	0.00%
26-Aug-19	0.2590	1079.69	1079.38	0.31	0.03%
26-Aug-19	0.2590	1079.69	1079.38	0.31	0.03%
3-Jul-19	0.2510	1067.83	1067.42	0.41	0.04%
3-Jul-19	0.2510	1067.83	1067.42	0.41	0.04%
25-Mar-20	0.2710	1092.22	1092.03	0.19	0.02%
11-Apr-19	0.2890	1111.96	1111.84	0.13	0.01%
8-Mar-19	0.2450	1070.68	1070.36	0.32	0.03%
19-Nov-19	0.2640	1099.45	1099.27	0.17	0.02%
29-Apr-20	0.2950	1115.41	1115.02	0.38	0.03%
5-Mar-20	0.2880	1107.62	1107.67	-0.05	0.00%
22-Jan-20	0.2950	1136.80	1136.79	0.02	0.00%
23-Jan-19	0.3230	1169.29	1169.24	0.04	0.00%
31-Mar-20	0.2830	1114.45	1114.35	0.09	0.01%

4-Mar-20	0.2830	1084.26	1084.19	0.07	0.01%
16-Dec-19	0.3190	1144.42	1144.58	-0.16	-0.01%
16-Apr-19	0.2540	1103.98	1103.69	0.29	0.03%
15-Apr-20	0.2710	1111.78	1111.80	-0.02	0.00%
17-Aug-19	0.2720	1076.22	1075.80	0.42	0.04%
17-Aug-19	0.2720	1076.22	1075.80	0.42	0.04%
27-Feb-19	0.3460	1149.07	1149.51	-0.43	-0.04%
29-Jan-20	0.2690	1082.99	1082.93	0.06	0.01%
30-Aug-19	0.2580	1062.95	1062.53	0.42	0.04%
30-Aug-19	0.2580	1062.95	1062.53	0.42	0.04%
7-Aug-19	0.2810	1148.52	1148.49	0.03	0.00%
7-Aug-19	0.2810	1148.52	1148.49	0.03	0.00%
13-May-20	0.2710	1074.96	1074.77	0.19	0.02%
12-Feb-19	0.4360	1134.96	1134.92	0.04	0.00%
12-Feb-19	0.3130	1127.58	1127.73	-0.16	-0.01%
11-Jan-19	0.2860	1129.28	1129.18	0.11	0.01%
1-Nov-19	0.2530	1067.57	1067.38	0.19	0.02%
1-Nov-19	0.2530	1067.57	1067.38	0.19	0.02%
26-May-20	0.2610	1088.87	1088.68	0.19	0.02%
12-Nov-19	0.2630	1084.06	1084.08	-0.02	0.00%
12-Nov-19	0.2630	1084.06	1084.08	-0.02	0.00%
11-Jan-19	0.2800	1127.97	1127.61	0.36	0.03%
4-Feb-20	0.2740	1091.50	1091.58	-0.08	-0.01%
11-Mar-20	0.2570	1077.21	1076.89	0.33	0.03%
8-May-20	0.2720	1096.36	1096.26	0.11	0.01%
11-Feb-20	0.2760	1075.40	1075.28	0.13	0.01%
24-Mar-20	0.2600	1086.09	1085.83	0.27	0.02%
11-Feb-20	0.2960	1101.54	1101.68	-0.14	-0.01%
11-Apr-19	0.4200	1134.35	1134.66	-0.31	-0.03%
24-Apr-19	0.2450	1073.03	1072.78	0.25	0.02%
12-Jul-18	0.2600	1065.51	1064.90	0.61	0.06%
8-Apr-20	0.2740	1098.63	1098.34	0.29	0.03%
13-May-19	0.2620	1104.95	1104.38	0.57	0.05%
7-Feb-19	0.2710	1084.25	1083.92	0.34	0.03%
19-Mar-19	0.2180	1071.59	1070.97	0.62	0.06%
19-Mar-19	0.2180	1071.59	1070.97	0.62	0.06%
27-Jun-19	0.2700	1070.73	1070.38	0.36	0.03%
27-Jun-19	0.2700	1070.73	1070.38	0.36	0.03%
16-Apr-20	0.2520	1081.37	1081.18	0.20	0.02%
10-Jun-20	0.2590	1080.95	1080.21	0.74	0.07%
28-Feb-19	0.2710	1091.44	1091.41	0.03	0.00%
10-Sep-19	0.2440	1070.50	1070.36	0.14	0.01%
10-Sep-19	0.2440	1070.50	1070.36	0.14	0.01%
25-Mar-19	0.2700	1078.89	1078.54	0.35	0.03%
9-Jun-20	0.2590	1075.06	1074.68	0.38	0.04%
26-Mar-19	0.2490	1080.48	1080.06	0.43	0.04%
2-May-19	0.2750	1072.43	1072.28	0.16	0.01%
2-May-19	0.2750	1072.43	1072.28	0.16	0.01%
3-Oct-19	0.2620	1075.21	1074.70	0.52	0.05%
3-Oct-19	0.2620	1075.21	1074.70	0.52	0.05%
25-Oct-19	0.2540	1069.15	1068.74	0.42	0.04%
25-Oct-19	0.2540	1069.15	1068.74	0.42	0.04%
26-Mar-19	0.2690	1076.84	1076.80	0.03	0.00%
23-Jan-20	0.3650	1236.74	1237.28	-0.54	-0.04%
21-May-20	0.3800	1219.68	1220.47	-0.79	-0.06%
16-Apr-19	0.4080	1181.63	1182.29	-0.65	-0.06%
27-May-20	0.4230	1167.63	1168.23	-0.60	-0.05%

25-Sep-19	0.4000	1179.35	1180.10	-0.75	-0.06%
1-Nov-19	0.2400	1124.50	1124.05	0.46	0.04%
1-Sep-19	0.2860	1132.11	1131.83	0.28	0.02%
30-Sep-19	0.2460	1108.29	1108.45	-0.16	-0.01%
30-Sep-19	0.2450	1106.46	1106.62	-0.16	-0.01%
1-Jul-19	0.2420	1093.96	1094.01	-0.05	0.00%
16-Mar-20	0.4090	1282.49	1282.92	-0.43	-0.03%
16-Apr-20	0.5010	1323.85	1325.16	-1.31	-0.10%
18-Feb-20	0.3550	1253.75	1254.01	-0.26	-0.02%
9-Jun-20	0.4710	1322.46	1323.56	-1.10	-0.08%
13-Mar-20	0.4130	1323.99	1324.79	-0.80	-0.06%
10-Sep-19	0.3190	1284.69	1284.80	-0.11	-0.01%
10-Sep-19	0.3190	1283.99	1284.10	-0.11	-0.01%
26-Aug-19	0.6140	1321.07	1322.38	-1.31	-0.10%
26-Aug-19	0.6140	1320.60	1321.91	-1.31	-0.10%
30-Jan-20	0.3140	1344.58	1345.03	-0.45	-0.03%
1-May-20	0.2400	1284.17	1283.71	0.46	0.04%
1-Jan-20	0.2400	1293.04	1292.59	0.46	0.04%
6-Sep-19	0.3680	1271.61	1272.05	-0.44	-0.03%
6-Sep-19	0.3680	1272.90	1273.34	-0.44	-0.03%
27-Dec-19	0.5010	1241.53	1242.52	-0.99	-0.08%
7-Feb-20	0.3590	1326.82	1327.44	-0.61	-0.05%
21-Nov-18	0.2330	1162.81	1162.93	-0.13	-0.01%
19-Nov-19	0.5540	1277.09	1277.99	-0.90	-0.07%
19-Nov-19	0.5560	1277.35	1278.26	-0.91	-0.07%
19-Mar-19	0.3310	1293.81	1294.32	-0.51	-0.04%
24-Jun-19	0.2290	1338.38	1338.20	0.18	0.01%
1-Mar-20	0.2010	1300.36	1300.36	0.00	0.00%
31-Mar-20	0.2000	1266.63	1266.63	0.00	0.00%
1-Nov-19	0.3160	1249.16	1249.53	-0.37	-0.03%
26-Mar-19	0.5250	1299.78	1300.82	-1.03	-0.08%
26-Mar-19	0.5250	1297.88	1298.92	-1.03	-0.08%
8-Jul-19	0.4330	1337.94	1338.78	-0.84	-0.06%
18-Jun-19	0.2610	1096.18	1096.17	0.00	0.00%
3-Oct-19	0.2860	1111.12	1111.18	-0.06	-0.01%
3-Oct-19	0.2860	1111.12	1111.18	-0.06	-0.01%
21-Jan-20	0.3830	1265.40	1266.04	-0.64	-0.05%
13-Apr-20	0.4120	1179.39	1180.13	-0.74	-0.06%
3-Dec-19	0.3390	1118.52	1118.91	-0.38	-0.03%
1-Nov-19	0.2440	1105.48	1105.02	0.46	0.04%
1-Oct-19	0.2460	1104.09	1103.64	0.45	0.04%
8-Oct-19	0.2980	1113.48	1113.85	-0.37	-0.03%
8-Oct-19	0.2980	1113.48	1113.85	-0.37	-0.03%
7-May-19	0.2610	1080.42	1080.08	0.34	0.03%
27-May-20	0.2580	1077.28	1076.94	0.34	0.03%
11-Apr-19	0.2410	1094.70	1094.32	0.38	0.03%
11-Apr-19	0.2410	1094.70	1094.32	0.38	0.03%
4-Jul-19	0.3350	1138.12	1138.29	-0.16	-0.01%
4-Jul-19	0.3350	1138.12	1138.29	-0.16	-0.01%
15-Jan-20	0.3140	1115.62	1115.84	-0.22	-0.02%
4-Mar-20	0.2410	1067.18	1066.48	0.70	0.07%
26-Nov-19	0.2950	1095.85	1095.88	-0.03	0.00%
26-Nov-19	0.2950	1096.06	1096.08	-0.03	0.00%
26-Nov-19	0.2940	1090.70	1090.39	0.31	0.03%
26-Nov-19	0.2940	1091.18	1090.86	0.31	0.03%
21-Nov-19	0.3160	1113.76	1113.89	-0.13	-0.01%
21-Nov-19	0.3160	1113.76	1113.89	-0.13	-0.01%

14-Jan-20	0.3180	1109.17	1109.30	-0.13	-0.01%
20-May-20	0.2840	1115.62	1115.52	0.09	0.01%
13-Nov-19	0.3140	1129.53	1129.42	0.11	0.01%
13-Nov-19	0.3140	1129.53	1129.42	0.11	0.01%
16-Apr-20	0.3220	1134.19	1134.46	-0.27	-0.02%
28-Mar-19	0.2920	1100.12	1100.12	0.00	0.00%
23-Apr-19	0.3010	1093.09	1092.93	0.16	0.01%
9-Apr-20	0.2690	1101.67	1101.63	0.03	0.00%
11-Jan-20	0.3780	1138.10	1138.44	-0.34	-0.03%
20-Sep-19	0.2700	1088.03	1087.77	0.26	0.02%
20-Sep-19	0.2700	1088.03	1087.77	0.26	0.02%
22-Apr-20	0.3090	1097.85	1097.67	0.18	0.02%
22-Jan-20	0.3230	1106.77	1106.87	-0.09	-0.01%
25-Jun-19	0.3140	1140.79	1140.87	-0.08	-0.01%
25-Jun-19	0.3140	1140.79	1140.87	-0.08	-0.01%
25-Jun-19	0.3140	1140.79	1140.87	-0.08	-0.01%
19-Apr-19	0.3030	1096.70	1096.94	-0.25	-0.02%
19-Apr-19	0.3030	1096.83	1097.07	-0.25	-0.02%
3-Oct-18	0.3030	1136.28	1136.38	-0.10	-0.01%
1-Nov-19	0.2810	1079.79	1079.62	0.17	0.02%
1-Nov-19	0.2810	1079.79	1079.62	0.17	0.02%
22-Feb-19	0.2600	1077.33	1077.21	0.12	0.01%
14-Nov-19	0.2680	1075.82	1075.58	0.24	0.02%
28-May-20	0.2650	1074.43	1074.12	0.31	0.03%
14-Nov-19	0.2680	1075.82	1075.58	0.24	0.02%
11-Sep-19	0.3010	1087.87	1087.63	0.24	0.02%
10-Dec-19	0.2780	1089.97	1089.88	0.08	0.01%
10-Mar-20	0.2740	1082.73	1082.53	0.20	0.02%
14-Sep-19	0.2680	1080.07	1079.90	0.17	0.02%
16-May-19	0.2790	1082.23	1081.96	0.27	0.02%
25-Mar-20	0.2720	1081.47	1081.30	0.17	0.02%
11-Oct-18	0.2740	1088.88	1088.56	0.33	0.03%
12-Jun-20	0.2670	1082.39	1082.04	0.34	0.03%
29-Jan-20	0.2510	1069.61	1069.40	0.21	0.02%
8-Jan-20	0.2640	1077.46	1077.20	0.26	0.02%
18-Apr-19	0.2580	1082.61	1082.35	0.26	0.02%
18-Apr-19	0.2460	1070.35	1070.11	0.24	0.02%
12-Mar-19	0.2700	1090.85	1090.69	0.16	0.01%
4-Sep-19	0.2790	1089.40	1089.16	0.24	0.02%
20-Feb-20	0.2530	1068.20	1067.79	0.41	0.04%
20-Feb-20	0.2530	1068.20	1067.79	0.41	0.04%
22-Feb-20	0.3010	1089.84	1089.81	0.03	0.00%
7-Mar-19	0.2730	1093.74	1093.59	0.15	0.01%
16-Apr-20	0.3160	1131.37	1131.68	-0.31	-0.03%
18-Mar-20	0.2800	1081.63	1081.50	0.14	0.01%
11-Sep-19	0.2560	1088.44	1088.24	0.20	0.02%
11-Sep-19	0.2560	1088.44	1088.24	0.20	0.02%
17-Mar-20	0.2640	1090.84	1090.53	0.31	0.03%
22-Feb-20	0.2890	1084.60	1084.44	0.16	0.01%
7-Jan-20	0.3630	1137.33	1137.38	-0.05	0.00%
9-Mar-20	0.2590	1073.71	1073.31	0.40	0.04%
16-Apr-20	0.3030	1110.15	1110.25	-0.09	-0.01%
2-May-19	0.3110	1104.33	1104.40	-0.07	-0.01%
3-Jun-19	0.2450	1072.94	1072.71	0.23	0.02%
3-Jun-19	0.2450	1072.94	1072.71	0.23	0.02%
5-Sep-19	0.2550	1079.23	1079.00	0.22	0.02%
5-Sep-19	0.2550	1079.23	1079.00	0.22	0.02%

5-Mar-19	0.2580	1092.23	1091.99	0.24	0.02%
8-Jan-19	0.2820	1118.53	1118.37	0.16	0.01%
18-Jun-20	0.2750	1091.14	1090.92	0.22	0.02%
4-Dec-19	0.3100	1133.88	1134.10	-0.22	-0.02%
17-Aug-19	0.2590	1075.10	1074.92	0.18	0.02%
17-Aug-19	0.2590	1075.10	1074.92	0.18	0.02%
5-Mar-19	0.2890	1091.36	1091.20	0.16	0.01%
9-Jun-20	0.2610	1139.46	1139.60	-0.14	-0.01%
22-Nov-19	0.2840	1092.32	1092.42	-0.10	-0.01%
22-Nov-19	0.2840	1092.32	1092.42	-0.10	-0.01%
16-Apr-19	0.2800	1093.88	1093.75	0.14	0.01%
20-Feb-19	0.3390	1113.71	1113.85	-0.14	-0.01%
29-May-19	0.2850	1116.98	1116.96	0.02	0.00%
29-May-19	0.2850	1116.98	1116.96	0.02	0.00%
12-Sep-19	0.2690	1078.97	1078.78	0.19	0.02%
12-Sep-19	0.2690	1078.97	1078.78	0.19	0.02%
7-Mar-19	0.2630	1080.26	1080.22	0.05	0.00%
23-Apr-20	0.2250	1062.21	1062.00	0.21	0.02%
10-Apr-19	0.2680	1121.04	1120.75	0.30	0.03%
16-Jan-20	0.2860	1104.54	1104.40	0.14	0.01%
12-Jul-19	0.2600	1070.50	1069.97	0.54	0.05%
12-Jul-19	0.2600	1070.50	1069.97	0.54	0.05%
7-May-20	0.2780	1100.56	1100.49	0.08	0.01%
28-Jan-19	0.2460	1093.29	1093.12	0.17	0.02%
26-Aug-19	0.2770	1126.26	1126.02	0.24	0.02%
26-Aug-19	0.2770	1126.26	1126.02	0.24	0.02%
3-Jul-19	0.2370	1069.62	1069.01	0.61	0.06%
3-Jul-19	0.2370	1069.62	1069.01	0.61	0.06%
13-May-20	0.2700	1087.38	1087.16	0.22	0.02%
29-May-19	0.2740	1092.69	1092.27	0.42	0.04%
21-Jan-20	0.2700	1108.68	1108.63	0.05	0.00%
22-Apr-20	0.2670	1072.51	1071.99	0.53	0.05%
10-Mar-20	0.2660	1081.25	1081.17	0.08	0.01%
22-Oct-19	0.2910	1097.42	1097.06	0.36	0.03%
22-Oct-19	0.2910	1097.42	1097.06	0.36	0.03%
19-Nov-19	0.2640	1092.61	1092.35	0.27	0.02%
30-Aug-19	0.2760	1090.19	1089.89	0.30	0.03%
30-Aug-19	0.2760	1090.19	1089.89	0.30	0.03%
12-Feb-20	0.2930	1085.50	1085.33	0.17	0.02%
23-Apr-20	0.2550	1067.15	1066.84	0.31	0.03%
16-Oct-19	0.3300	1124.90	1124.90	0.00	0.00%
16-Oct-19	0.3300	1124.90	1124.90	0.00	0.00%
25-Feb-20	0.3010	1119.42	1119.60	-0.18	-0.02%
31-Aug-19	0.3250	1122.13	1122.39	-0.26	-0.02%
31-Aug-19	0.3250	1122.13	1122.39	-0.26	-0.02%
21-Aug-19	0.2580	1080.92	1080.50	0.42	0.04%
12-Feb-19	0.2480	1088.02	1087.83	0.20	0.02%
27-Feb-20	0.2950	1128.64	1128.77	-0.13	-0.01%
21-Aug-19	0.2580	1080.92	1080.50	0.42	0.04%
7-Aug-19	0.3240	1121.40	1121.56	-0.16	-0.01%
7-Aug-19	0.3240	1121.40	1121.56	-0.16	-0.01%
1-Aug-19	0.2780	1105.60	1105.61	-0.01	0.00%
1-Aug-19	0.2780	1105.60	1105.61	-0.01	0.00%
15-Jan-20	0.3000	1105.49	1105.32	0.17	0.02%
6-Feb-20	0.3530	1151.84	1152.27	-0.43	-0.04%
19-Sep-19	0.2740	1086.87	1086.62	0.24	0.02%
19-Sep-19	0.2740	1086.87	1086.62	0.24	0.02%

13-Mar-19	0.2680	1085.44	1085.24	0.20	0.02%
27-Jun-19	0.2490	1078.32	1077.92	0.41	0.04%
27-Jun-19	0.2490	1078.32	1077.92	0.41	0.04%
19-Feb-19	0.2610	1083.34	1083.17	0.18	0.02%
20-Aug-19	0.2860	1098.70	1098.79	-0.09	-0.01%
20-Aug-19	0.2860	1098.70	1098.79	-0.09	-0.01%
21-Feb-19	0.2640	1088.18	1088.17	0.01	0.00%
11-Jul-19	0.2610	1076.65	1076.22	0.44	0.04%
11-Jul-19	0.2610	1076.65	1076.22	0.44	0.04%
25-Jun-19	0.2690	1075.30	1075.15	0.15	0.01%
25-Jun-19	0.2690	1075.30	1075.15	0.15	0.01%
10-Mar-20	0.2700	1086.23	1086.28	-0.05	0.00%
18-Feb-20	0.2750	1084.56	1084.38	0.18	0.02%
29-Jan-19	0.2620	1090.47	1090.30	0.17	0.02%
9-Aug-19	0.2860	1081.57	1081.35	0.22	0.02%
9-Aug-19	0.2860	1081.57	1081.35	0.22	0.02%
18-Nov-19	0.2610	1076.47	1076.07	0.41	0.04%
20-Feb-20	0.2530	1068.20	1067.79	0.41	0.04%
4-Feb-20	0.2830	1083.74	1083.47	0.27	0.02%
14-Feb-19	0.2280	1050.55	1049.88	0.67	0.06%
28-Feb-19	0.3740	1141.41	1141.30	0.11	0.01%
28-Feb-19	0.3740	1141.41	1141.30	0.11	0.01%
9-Jun-20	0.3010	1112.52	1112.72	-0.19	-0.02%
9-Jun-20	0.3010	1112.52	1112.72	-0.19	-0.02%
19-Sep-19	0.2750	1072.89	1072.34	0.55	0.05%
19-Sep-19	0.2750	1072.89	1072.34	0.55	0.05%
10-Dec-19	0.2740	1081.58	1081.24	0.34	0.03%
26-Jul-19	0.2880	1082.65	1081.96	0.70	0.06%
26-Mar-19	0.2530	1072.72	1072.37	0.35	0.03%
26-Mar-19	0.2530	1072.72	1072.37	0.35	0.03%
27-Aug-18	0.2740	1077.75	1077.03	0.72	0.07%
16-Aug-19	0.2780	1074.27	1073.89	0.38	0.04%
3-Jun-20	0.2920	1093.51	1093.37	0.14	0.01%
21-Nov-18	0.2750	1085.74	1085.65	0.09	0.01%
25-Nov-19	0.2340	1069.39	1069.17	0.21	0.02%
29-Aug-18	0.2680	1075.50	1074.34	1.17	0.11%
25-Nov-19	0.2340	1069.39	1069.17	0.21	0.02%
10-Jun-20	0.2640	1079.57	1079.04	0.53	0.05%
30-May-19	0.2360	1066.10	1065.56	0.54	0.05%
30-May-19	0.2360	1066.10	1065.56	0.54	0.05%
26-Apr-19	0.2540	1075.07	1074.57	0.50	0.05%
17-Mar-20	0.2500	1077.50	1077.31	0.19	0.02%
15-Apr-19	0.2590	1074.12	1073.79	0.33	0.03%
4-Dec-19	0.2690	1078.45	1078.40	0.06	0.01%
11-Feb-20	0.2510	1060.98	1060.68	0.29	0.03%
27-Aug-19	0.4160	1230.87	1231.74	-0.87	-0.07%
8-Apr-20	0.3570	1117.02	1117.24	-0.22	-0.02%
8-May-19	0.3900	1224.88	1225.72	-0.84	-0.07%
16-Jan-20	0.4670	1159.05	1159.90	-0.85	-0.07%
26-Jun-18	0.3190	1182.58	1182.62	-0.04	0.00%
14-Apr-20	0.2740	1081.88	1082.12	-0.24	-0.02%
5-Jun-19	0.3340	1047.79	1047.66	0.13	0.01%
5-Jun-19	0.3340	1047.79	1047.66	0.13	0.01%
18-Mar-20	0.3570	1249.87	1250.38	-0.51	-0.04%
21-Aug-19	0.4010	1286.15	1286.83	-0.68	-0.05%
27-Feb-20	0.4070	1332.03	1332.84	-0.81	-0.06%
28-Oct-19	0.4030	1278.14	1278.73	-0.59	-0.05%

24-Mar-20	0.3760	1294.12	1294.80	-0.69	-0.05%
10-Sep-19	0.3690	1332.85	1333.46	-0.61	-0.05%
22-Nov-19	0.4460	1355.00	1356.01	-1.02	-0.08%
22-Nov-19	0.4460	1354.35	1355.37	-1.02	-0.08%
12-May-20	0.4050	1311.71	1312.23	-0.52	-0.04%
12-Mar-20	0.5300	1276.70	1277.91	-1.21	-0.09%
18-Jul-19	0.3210	1293.05	1293.25	-0.20	-0.02%
18-Jul-19	0.3210	1293.42	1293.62	-0.20	-0.02%
1-Aug-19	0.2230	1317.60	1317.60	0.00	0.00%
9-Sep-19	0.3400	1243.79	1244.05	-0.26	-0.02%
9-Sep-19	0.3400	1243.79	1244.05	-0.26	-0.02%
25-Jan-19	0.2460	1296.41	1295.79	0.62	0.05%
20-Jun-19	0.2480	1172.59	1172.74	-0.15	-0.01%
18-Nov-19	0.3890	1287.24	1288.04	-0.80	-0.06%
18-Nov-19	0.3890	1287.24	1288.04	-0.80	-0.06%
18-Nov-19	0.3890	1287.24	1288.04	-0.80	-0.06%
18-Nov-19	0.3890	1287.24	1288.04	-0.80	-0.06%
2-Aug-19	0.3060	1344.14	1344.57	-0.44	-0.03%
2-Aug-19	0.3060	1344.14	1344.57	-0.44	-0.03%
27-Aug-19	0.4220	1282.46	1283.08	-0.62	-0.05%
27-Aug-19	0.4220	1279.82	1280.44	-0.62	-0.05%
8-Oct-19	0.8570	1220.28	1222.82	-2.55	-0.21%
8-Oct-19	0.8570	1220.28	1222.82	-2.55	-0.21%
22-May-18	0.1880	1246.45	1246.18	0.27	0.02%
21-Feb-19	0.2420	1270.99	1271.18	-0.19	-0.01%
9-Apr-20	0.3980	1307.61	1308.38	-0.77	-0.06%
31-Jan-20	0.3530	1247.57	1247.78	-0.21	-0.02%
14-May-19	0.2200	1298.90	1298.75	0.15	0.01%
14-May-19	0.2190	1297.83	1297.68	0.16	0.01%
25-Feb-20	0.4480	1258.96	1259.90	-0.94	-0.07%
5-Oct-18	0.2100	1232.13	1232.06	0.07	0.01%
4-Jan-19	0.2850	1146.74	1146.57	0.17	0.01%
1-Mar-20	0.2030	1295.43	1295.43	0.00	0.00%
1-Mar-20	0.2030	1295.43	1295.43	0.00	0.00%
2-Jun-19	0.5980	1311.18	1312.59	-1.40	-0.11%
2-Jun-19	0.5980	1311.18	1312.59	-1.40	-0.11%
26-May-20	0.3300	1304.43	1304.77	-0.34	-0.03%
28-May-20	0.2600	1089.84	1089.67	0.17	0.02%
23-Dec-19	0.2560	1087.51	1087.35	0.16	0.01%
14-May-19	0.1980	1099.04	1098.73	0.30	0.03%
13-Apr-20	0.3960	1218.30	1219.07	-0.77	-0.06%
8-Aug-19	0.2760	1101.36	1101.16	0.20	0.02%
18-Jul-19	0.3030	1119.38	1119.66	-0.28	-0.02%
1-Oct-19	0.2480	1102.98	1102.51	0.47	0.04%
7-Oct-19	0.2260	1081.56	1081.24	0.33	0.03%
7-Oct-19	0.2260	1081.56	1081.24	0.33	0.03%
7-Feb-19	0.2830	1103.73	1103.87	-0.13	-0.01%
14-May-20	0.2640	1074.78	1074.26	0.52	0.05%
25-Nov-19	0.2480	1063.78	1063.30	0.48	0.04%
25-Nov-19	0.2480	1063.78	1063.30	0.48	0.04%
19-Feb-20	0.2720	1077.91	1077.44	0.48	0.04%
31-Jul-19	0.2890	1069.81	1068.86	0.95	0.09%
31-Jul-19	0.2890	1069.81	1068.86	0.95	0.09%
3-Jul-19	0.3310	1115.68	1115.71	-0.03	0.00%
3-Jul-19	0.3310	1115.68	1115.71	-0.03	0.00%
9-Jul-19	0.3440	1136.35	1136.62	-0.27	-0.02%
9-Jul-19	0.3440	1136.35	1136.62	-0.27	-0.02%

12-Mar-19	0.2790	1093.03	1092.82	0.21	0.02%
18-Sep-19	0.2850	1095.82	1095.70	0.12	0.01%
18-Sep-19	0.2850	1095.82	1095.70	0.12	0.01%
28-Jan-20	0.3310	1101.12	1101.19	-0.07	-0.01%
28-Feb-19	0.2770	1090.92	1090.88	0.04	0.00%
26-Sep-19	0.2940	1092.56	1092.37	0.19	0.02%
26-Sep-19	0.2940	1092.94	1092.75	0.19	0.02%
14-Oct-19	0.3150	1117.04	1117.21	-0.17	-0.02%
14-Oct-19	0.3150	1116.62	1116.79	-0.17	-0.02%
27-Mar-19	0.3070	1102.28	1102.29	-0.01	0.00%
27-Mar-19	0.3050	1103.28	1103.15	0.13	0.01%
10-Oct-19	0.3170	1099.16	1099.15	0.02	0.00%
10-Oct-19	0.3170	1099.16	1099.15	0.02	0.00%
18-Apr-19	0.3080	1106.88	1106.76	0.12	0.01%
5-Mar-19	0.2800	1098.70	1098.61	0.10	0.01%
10-Oct-19	0.3010	1107.68	1107.71	-0.03	0.00%
10-Oct-19	0.3010	1107.68	1107.71	-0.03	0.00%
2-Apr-20	0.3170	1099.21	1099.46	-0.25	-0.02%
29-Jun-20	0.2830	1128.85	1128.89	-0.04	0.00%
25-Jun-20	0.2970	1138.51	1138.57	-0.06	0.00%
24-Mar-20	0.2770	1089.48	1089.38	0.10	0.01%
24-Jan-20	0.3720	1133.02	1133.35	-0.33	-0.03%
15-Oct-19	0.2840	1093.40	1093.24	0.17	0.02%
15-Oct-19	0.2840	1093.40	1093.24	0.17	0.02%
29-Nov-19	0.3060	1100.54	1100.55	-0.01	0.00%
29-Nov-19	0.3060	1100.54	1100.55	-0.01	0.00%
16-Apr-19	0.3080	1097.14	1097.18	-0.04	0.00%
20-Mar-19	0.2700	1089.33	1089.14	0.19	0.02%
19-Jun-20	0.2960	1100.77	1100.41	0.36	0.03%
20-Mar-19	0.2700	1089.33	1089.14	0.19	0.02%
5-Nov-19	0.2980	1083.74	1083.48	0.27	0.02%
5-Nov-19	0.2980	1083.74	1083.48	0.27	0.02%
10-Dec-19	0.2740	1080.42	1080.34	0.08	0.01%
28-Apr-20	0.2500	1062.79	1062.43	0.36	0.03%
4-Sep-19	0.2880	1092.12	1091.85	0.27	0.02%
5-Mar-20	0.2900	1090.45	1090.28	0.17	0.02%
4-Sep-19	0.2880	1092.12	1091.85	0.27	0.02%
4-Sep-19	0.2700	1081.34	1080.93	0.41	0.04%
4-Sep-19	0.2700	1081.34	1080.93	0.41	0.04%
28-May-20	0.2610	1080.84	1080.58	0.26	0.02%
6-Jan-20	0.2720	1098.10	1098.16	-0.06	-0.01%
1-Jun-20	0.2700	1082.77	1082.49	0.28	0.03%
24-Apr-19	0.3200	1103.67	1103.72	-0.05	0.00%
20-Mar-19	0.2640	1088.13	1087.77	0.36	0.03%
23-Mar-20	0.2850	1086.62	1086.39	0.23	0.02%
18-Mar-20	0.2760	1091.71	1091.61	0.11	0.01%
11-Sep-19	0.2900	1087.64	1087.46	0.18	0.02%
11-Sep-19	0.2900	1087.64	1087.46	0.18	0.02%
18-Mar-20	0.2600	1088.43	1088.16	0.27	0.02%
18-Mar-20	0.2880	1090.24	1090.14	0.10	0.01%
18-Jun-20	0.3160	1098.95	1098.72	0.23	0.02%
17-Jan-19	0.2960	1099.95	1099.85	0.11	0.01%
4-Mar-20	0.2680	1081.48	1081.37	0.11	0.01%
10-Sep-19	0.2520	1079.60	1079.42	0.17	0.02%
10-Sep-19	0.2520	1079.60	1079.42	0.17	0.02%
9-Sep-19	0.2360	1067.70	1067.42	0.29	0.03%
9-Sep-19	0.2360	1067.70	1067.42	0.29	0.03%

19-Nov-19	0.2870	1099.44	1099.28	0.16	0.01%
11-Jun-19	0.2380	1072.31	1072.03	0.27	0.03%
11-Jun-19	0.2380	1072.31	1072.03	0.27	0.03%
28-Aug-19	0.2550	1070.47	1069.96	0.50	0.05%
28-Aug-19	0.2550	1070.47	1069.96	0.50	0.05%
28-Feb-19	0.2730	1080.98	1080.80	0.18	0.02%
20-May-20	0.2660	1078.16	1077.99	0.17	0.02%
25-Apr-19	0.2990	1103.66	1103.69	-0.03	0.00%
5-Mar-19	0.2810	1095.15	1095.00	0.16	0.01%
14-May-20	0.2750	1091.53	1091.12	0.41	0.04%
21-Apr-20	0.2800	1113.82	1113.93	-0.11	-0.01%
31-Jan-19	0.2840	1098.63	1098.71	-0.08	-0.01%
31-Jan-19	0.2950	1089.64	1089.85	-0.21	-0.02%
20-Jan-20	0.2920	1098.97	1098.92	0.05	0.00%
16-Jan-20	0.2970	1093.40	1093.28	0.12	0.01%
6-Nov-19	0.3100	1137.75	1137.42	0.33	0.03%
6-Nov-19	0.3100	1137.75	1137.42	0.33	0.03%
20-Feb-19	0.3020	1107.38	1107.69	-0.30	-0.03%
24-Apr-19	0.2580	1070.25	1069.87	0.38	0.04%
18-Apr-19	0.3770	1180.18	1180.74	-0.56	-0.05%
9-Oct-19	0.2810	1098.39	1098.09	0.30	0.03%
9-Oct-19	0.2810	1098.39	1098.09	0.30	0.03%
15-Jan-20	0.3420	1136.35	1136.60	-0.25	-0.02%
18-Feb-19	0.2690	1085.55	1085.35	0.20	0.02%
11-May-20	0.2820	1094.06	1093.75	0.31	0.03%
17-Jun-20	0.2830	1096.56	1096.27	0.28	0.03%
27-Jan-20	0.3480	1150.46	1150.69	-0.24	-0.02%
10-Jun-20	0.2800	1110.20	1110.08	0.12	0.01%
14-May-19	0.2650	1084.05	1083.85	0.19	0.02%
13-May-20	0.2900	1106.88	1106.76	0.11	0.01%
27-May-20	0.3010	1112.65	1112.65	0.00	0.00%
14-Apr-20	0.3040	1109.69	1109.87	-0.17	-0.02%
21-Jan-20	0.3030	1120.40	1120.64	-0.25	-0.02%
2-Oct-19	0.2790	1093.15	1093.05	0.09	0.01%
2-Oct-19	0.2790	1093.15	1093.05	0.09	0.01%
10-Mar-20	0.2590	1072.90	1072.71	0.19	0.02%
22-Oct-19	0.2940	1088.11	1087.27	0.84	0.08%
22-Oct-19	0.2940	1088.11	1087.27	0.84	0.08%
29-Jan-19	0.3040	1177.45	1177.56	-0.11	-0.01%
8-Feb-20	0.2940	1076.37	1076.06	0.32	0.03%
15-Jan-19	0.3100	1111.82	1111.88	-0.06	-0.01%
4-Apr-19	0.3340	1113.66	1113.89	-0.23	-0.02%
22-Jan-19	0.2900	1106.72	1106.60	0.12	0.01%
31-Aug-19	0.3650	1160.84	1161.12	-0.28	-0.02%
31-Aug-19	0.3650	1160.84	1161.12	-0.28	-0.02%
7-Sep-19	0.2670	1080.73	1080.34	0.40	0.04%
7-Sep-19	0.2670	1080.73	1080.34	0.40	0.04%
23-Aug-18	0.2980	1121.90	1121.86	0.05	0.00%
26-May-20	0.3050	1129.82	1129.83	0.00	0.00%
3-Mar-20	0.2800	1084.42	1084.46	-0.04	0.00%
8-Apr-20	0.2800	1099.39	1099.13	0.27	0.02%
19-Sep-19	0.2790	1090.35	1090.12	0.22	0.02%
19-Sep-19	0.2790	1090.35	1090.12	0.22	0.02%
9-Jul-19	0.2500	1061.60	1061.08	0.52	0.05%
9-Jul-19	0.2500	1061.60	1061.08	0.52	0.05%
5-Mar-20	0.2850	1079.75	1079.36	0.39	0.04%
8-Mar-19	0.2500	1066.86	1066.55	0.31	0.03%

1-May-19	0.2780	1104.92	1104.79	0.14	0.01%
3-Sep-19	0.3860	1154.68	1154.75	-0.07	-0.01%
3-Sep-19	0.3860	1154.68	1154.75	-0.07	-0.01%
11-Oct-18	0.3070	1116.28	1116.32	-0.03	0.00%
12-Apr-19	0.2730	1090.36	1090.27	0.09	0.01%
26-Aug-19	0.2660	1072.88	1072.53	0.36	0.03%
12-Mar-19	0.2140	1083.85	1083.83	0.02	0.00%
12-Mar-19	0.2140	1082.70	1082.69	0.02	0.00%
1-Aug-19	0.2610	1103.34	1103.13	0.21	0.02%
1-Aug-19	0.2610	1103.34	1103.13	0.21	0.02%
6-Feb-19	0.2560	1074.86	1074.64	0.22	0.02%
7-Aug-19	0.2760	1075.91	1075.57	0.35	0.03%
7-Aug-19	0.2760	1075.91	1075.57	0.35	0.03%
12-Sep-19	0.3110	1117.40	1117.51	-0.11	-0.01%
12-Sep-19	0.3110	1117.40	1117.51	-0.11	-0.01%
11-Jul-19	0.2700	1075.01	1074.59	0.42	0.04%
11-Jul-19	0.2700	1075.01	1074.59	0.42	0.04%
13-Feb-19	0.2390	1089.63	1089.23	0.40	0.04%
7-Feb-19	0.2830	1103.73	1103.46	0.28	0.03%
31-Mar-20	0.2830	1103.97	1103.81	0.16	0.01%
5-Feb-20	0.2550	1069.44	1069.04	0.40	0.04%
29-Aug-19	0.2580	1071.72	1071.32	0.40	0.04%
29-Aug-19	0.2580	1071.72	1071.32	0.40	0.04%
12-Mar-19	0.2260	1101.48	1101.37	0.11	0.01%
29-May-19	0.3040	1089.24	1089.11	0.14	0.01%
12-Nov-19	0.3020	1090.28	1089.64	0.64	0.06%
12-Nov-19	0.3020	1090.28	1089.64	0.64	0.06%
9-Apr-19	0.2850	1086.54	1086.52	0.03	0.00%
4-Feb-19	0.2690	1070.22	1069.61	0.61	0.06%
4-Feb-19	0.2690	1070.22	1069.61	0.61	0.06%
8-Aug-19	0.2680	1068.62	1068.21	0.42	0.04%
8-Aug-19	0.2680	1068.62	1068.21	0.42	0.04%
12-May-20	0.2680	1069.21	1068.50	0.72	0.07%
25-Jul-19	0.2680	1076.69	1076.29	0.40	0.04%
25-Jul-19	0.2680	1076.69	1076.29	0.40	0.04%
5-Feb-19	0.2710	1096.88	1096.49	0.38	0.03%
5-Feb-19	0.2710	1096.88	1096.49	0.38	0.03%
25-Nov-19	0.2690	1078.17	1077.94	0.22	0.02%
25-Nov-19	0.2690	1078.17	1077.94	0.22	0.02%
30-Apr-20	0.2690	1083.04	1082.46	0.57	0.05%
26-Aug-19	0.2530	1077.37	1077.17	0.20	0.02%
26-Aug-19	0.2530	1077.37	1077.17	0.20	0.02%
27-Aug-19	0.2690	1067.07	1066.27	0.80	0.07%
11-May-20	0.2960	1106.73	1106.67	0.07	0.01%
18-Apr-19	0.3500	1216.08	1216.57	-0.49	-0.04%
18-Apr-19	0.3600	1184.18	1184.75	-0.57	-0.05%
18-Apr-19	0.3600	1184.18	1184.75	-0.57	-0.05%
5-Jun-19	0.2460	1019.66	1019.21	0.45	0.04%
16-Dec-19	0.3350	1258.45	1259.10	-0.64	-0.05%
29-Aug-19	0.3310	1287.61	1287.91	-0.29	-0.02%
29-Aug-19	0.3310	1288.09	1288.39	-0.29	-0.02%
25-Mar-20	0.3880	1285.56	1286.17	-0.61	-0.05%
13-Feb-20	0.3710	1280.84	1281.31	-0.48	-0.04%
13-Feb-20	0.3710	1280.84	1281.31	-0.48	-0.04%
8-Oct-19	0.4910	1258.78	1259.77	-0.99	-0.08%
8-Oct-19	0.4910	1258.82	1259.82	-0.99	-0.08%
21-Jan-19	0.2030	1239.99	1239.76	0.23	0.02%

18-Feb-20	0.4780	1314.84	1315.98	-1.14	-0.09%
23-Sep-19	0.3980	1305.91	1306.46	-0.55	-0.04%
11-Feb-19	0.2130	1269.47	1269.03	0.44	0.03%
11-Feb-19	0.2130	1269.36	1268.92	0.44	0.03%
19-Feb-20	0.4140	1311.87	1312.69	-0.82	-0.06%
19-Feb-20	0.4140	1311.79	1312.60	-0.82	-0.06%
15-Apr-20	0.4790	1332.33	1333.23	-0.90	-0.07%
1-Aug-19	0.2470	1291.04	1290.56	0.48	0.04%
18-Mar-20	0.4640	1300.22	1300.94	-0.72	-0.06%
8-Mar-19	0.2450	1238.16	1238.28	-0.13	-0.01%
25-Sep-19	0.3630	1248.19	1248.58	-0.38	-0.03%
25-Sep-19	0.3630	1247.79	1248.17	-0.38	-0.03%
26-Aug-19	0.2170	1234.00	1233.92	0.08	0.01%
26-Aug-19	0.2170	1234.14	1234.06	0.08	0.01%
5-Dec-18	0.2450	1277.90	1277.56	0.34	0.03%
23-Aug-18	0.2470	1325.08	1325.08	0.00	0.00%
31-Jan-20	0.3550	1251.99	1252.20	-0.21	-0.02%
18-Sep-19	0.3030	1117.24	1117.32	-0.08	-0.01%
18-Sep-19	0.3030	1117.24	1117.32	-0.08	-0.01%
11-Apr-19	0.2290	1298.71	1298.91	-0.20	-0.02%
11-Apr-19	0.2290	1298.70	1298.90	-0.20	-0.02%
6-Sep-19	0.7070	1283.16	1284.96	-1.80	-0.14%
6-Sep-19	0.7050	1279.61	1281.40	-1.80	-0.14%
22-Aug-18	0.1890	1159.52	1159.42	0.09	0.01%
9-Oct-19	0.3170	1245.22	1245.41	-0.19	-0.01%
9-Oct-19	0.3170	1245.29	1245.48	-0.19	-0.01%
5-Jun-17	0.2380	1283.12	1283.31	-0.19	-0.01%
26-Sep-18	0.2160	1303.24	1303.01	0.23	0.02%
26-Sep-18	0.2160	1302.04	1301.81	0.23	0.02%
12-Mar-19	0.2730	1295.17	1295.49	-0.32	-0.02%
1-Apr-20	0.2060	1298.33	1298.32	0.01	0.00%
4-Jun-19	0.3090	1241.56	1241.81	-0.25	-0.02%
4-Jun-19	0.3090	1241.56	1241.81	-0.25	-0.02%
7-Aug-19	0.3780	1258.89	1259.32	-0.43	-0.03%
21-Mar-20	0.3970	1291.09	1291.64	-0.55	-0.04%
11-Jun-19	0.9890	1398.93	1402.02	-3.09	-0.22%
11-Jun-19	0.9890	1398.93	1402.02	-3.09	-0.22%
24-Sep-19	0.2630	1091.48	1091.42	0.06	0.01%
9-Apr-20	0.2710	1109.32	1109.30	0.02	0.00%
24-Sep-19	0.2990	1108.43	1108.73	-0.30	-0.03%
23-Apr-19	0.3870	1206.80	1207.33	-0.53	-0.04%
1-Oct-19	0.2520	1105.71	1105.23	0.48	0.04%
1-Apr-20	0.2510	1084.61	1084.13	0.48	0.04%
26-Sep-19	0.2950	1096.82	1096.62	0.19	0.02%
19-Mar-19	0.2570	1088.68	1088.45	0.23	0.02%
21-Mar-19	0.2230	1081.99	1081.54	0.44	0.04%
20-Aug-19	0.2730	1080.91	1080.39	0.52	0.05%
20-Aug-19	0.2730	1080.91	1080.39	0.52	0.05%
13-Feb-19	0.4010	1165.17	1165.90	-0.73	-0.06%
7-Aug-19	0.3240	1121.24	1121.39	-0.14	-0.01%
10-Feb-20	0.2530	1118.41	1118.48	-0.07	-0.01%
7-Aug-19	0.3240	1121.24	1121.39	-0.14	-0.01%
20-Feb-19	0.2450	1083.98	1083.85	0.13	0.01%
20-Feb-19	0.2450	1083.98	1083.85	0.13	0.01%
6-Feb-20	0.2420	1086.07	1085.86	0.21	0.02%
10-Apr-19	0.2670	1078.54	1078.36	0.18	0.02%
10-Apr-19	0.2670	1078.54	1078.36	0.18	0.02%

14-Jan-20	0.2720	1090.98	1090.42	0.56	0.05%
18-Jul-18	0.2710	1090.71	1090.57	0.15	0.01%
9-Jan-20	0.3430	1100.69	1101.04	-0.35	-0.03%
12-Sep-19	0.2790	1094.19	1094.00	0.19	0.02%
12-Sep-19	0.2790	1094.19	1094.00	0.19	0.02%
24-Apr-19	0.3140	1097.67	1097.64	0.02	0.00%
15-Oct-19	0.3020	1094.47	1094.43	0.04	0.00%
15-Oct-19	0.3020	1094.47	1094.43	0.04	0.00%
14-Oct-19	0.3180	1122.73	1122.74	-0.01	0.00%
17-Apr-19	0.3190	1120.85	1120.96	-0.11	-0.01%
14-Oct-19	0.3180	1121.79	1121.80	-0.01	0.00%
10-Apr-20	0.3160	1110.64	1110.89	-0.25	-0.02%
10-Apr-20	0.3370	1122.34	1122.70	-0.35	-0.03%
14-Oct-19	0.3170	1109.58	1109.68	-0.10	-0.01%
14-Oct-19	0.3170	1109.29	1109.40	-0.10	-0.01%
11-Apr-19	0.3320	1136.57	1136.70	-0.13	-0.01%
14-Jan-20	0.3280	1106.14	1106.38	-0.24	-0.02%
8-May-19	0.2970	1111.71	1111.75	-0.04	0.00%
8-May-19	0.3040	1120.08	1120.20	-0.12	-0.01%
20-Sep-19	0.2790	1093.49	1093.26	0.23	0.02%
20-Sep-19	0.2790	1093.49	1093.26	0.23	0.02%
3-Oct-19	0.2830	1102.94	1102.86	0.08	0.01%
3-Oct-19	0.2830	1102.94	1102.86	0.08	0.01%
10-Oct-19	0.3260	1110.20	1110.33	-0.12	-0.01%
10-Oct-19	0.3260	1110.20	1110.33	-0.12	-0.01%
8-May-20	0.3040	1101.18	1101.14	0.04	0.00%
29-Nov-19	0.2730	1093.75	1093.56	0.19	0.02%
17-Mar-20	0.2820	1096.67	1096.68	-0.01	0.00%
19-Apr-19	0.3450	1129.13	1129.65	-0.52	-0.05%
19-Apr-19	0.3450	1129.14	1129.66	-0.52	-0.05%
20-Mar-19	0.2640	1086.44	1086.06	0.38	0.03%
5-Apr-19	0.3090	1127.83	1127.90	-0.06	-0.01%
23-Jan-19	0.2980	1112.37	1112.38	-0.02	0.00%
25-Jun-20	0.3020	1125.76	1125.77	-0.02	0.00%
24-Sep-19	0.2740	1088.05	1087.73	0.32	0.03%
24-Sep-19	0.2740	1088.05	1087.73	0.32	0.03%
16-May-19	0.3110	1125.94	1125.98	-0.04	0.00%
22-Jan-20	0.3700	1164.73	1164.92	-0.19	-0.02%
27-Feb-20	0.3020	1122.53	1122.78	-0.26	-0.02%
1-Nov-19	0.2900	1075.48	1075.18	0.30	0.03%
1-Nov-19	0.2900	1075.48	1075.18	0.30	0.03%
18-Mar-20	0.2740	1074.47	1074.33	0.14	0.01%
13-Feb-20	0.3020	1083.88	1083.73	0.15	0.01%
14-Nov-19	0.2950	1087.43	1087.04	0.39	0.04%
14-Nov-19	0.2950	1087.43	1087.04	0.39	0.04%
4-Dec-19	0.2660	1079.39	1078.89	0.51	0.05%
16-Mar-20	0.2840	1082.06	1081.80	0.26	0.02%
17-Sep-19	0.2800	1078.73	1078.60	0.14	0.01%
5-Nov-19	0.2860	1081.75	1081.51	0.24	0.02%
5-Nov-19	0.2860	1081.75	1081.51	0.24	0.02%
17-Aug-19	0.2920	1082.41	1082.07	0.34	0.03%
17-Aug-19	0.2920	1082.41	1082.07	0.34	0.03%
15-Apr-20	0.3130	1132.21	1132.44	-0.22	-0.02%
18-Apr-19	0.2600	1079.70	1079.53	0.17	0.02%
2-Jan-19	0.3000	1102.12	1102.05	0.08	0.01%
1-Jun-20	0.2730	1088.81	1088.52	0.29	0.03%
9-Jul-19	0.2700	1075.73	1075.48	0.25	0.02%

17-Oct-19	0.2720	1079.23	1079.04	0.20	0.02%
17-Oct-19	0.2720	1079.23	1079.04	0.20	0.02%
19-Feb-19	0.2910	1101.17	1101.27	-0.09	-0.01%
22-Feb-20	0.3000	1089.10	1089.05	0.05	0.00%
11-Sep-19	0.2790	1090.32	1090.26	0.06	0.01%
11-Sep-19	0.2790	1090.32	1090.26	0.06	0.01%
18-Mar-20	0.2710	1088.90	1088.57	0.33	0.03%
11-Sep-19	0.2740	1086.23	1086.01	0.23	0.02%
11-Sep-19	0.2740	1086.23	1086.01	0.23	0.02%
16-Apr-20	0.3090	1115.19	1115.33	-0.15	-0.01%
27-May-20	0.3400	1134.85	1134.75	0.09	0.01%
27-May-20	0.3400	1136.92	1136.83	0.09	0.01%
13-Feb-19	0.2720	1083.61	1083.52	0.09	0.01%
17-Mar-20	0.2940	1082.69	1082.51	0.17	0.02%
7-May-20	0.2670	1072.31	1071.67	0.64	0.06%
4-Sep-19	0.2870	1073.20	1072.76	0.44	0.04%
4-Sep-19	0.2870	1073.20	1072.76	0.44	0.04%
18-Jun-20	0.3110	1115.31	1115.37	-0.06	-0.01%
9-Sep-19	0.2530	1070.82	1070.59	0.22	0.02%
23-Jan-20	0.3150	1096.46	1096.36	0.10	0.01%
5-Mar-19	0.2710	1079.50	1079.31	0.19	0.02%
5-Mar-20	0.2570	1076.24	1076.02	0.22	0.02%
9-Sep-19	0.2610	1071.05	1070.82	0.23	0.02%
9-Sep-19	0.2610	1071.05	1070.82	0.23	0.02%
7-May-20	0.2620	1058.69	1057.78	0.91	0.09%
14-May-19	0.2950	1096.78	1096.64	0.14	0.01%
22-Nov-19	0.2850	1088.63	1088.36	0.28	0.03%
22-Nov-19	0.2850	1088.63	1088.36	0.28	0.03%
3-Dec-19	0.3110	1137.87	1138.13	-0.25	-0.02%
7-Oct-19	0.2840	1113.33	1113.21	0.12	0.01%
7-Oct-19	0.2840	1113.33	1113.21	0.12	0.01%
27-Feb-19	0.2810	1098.16	1098.08	0.08	0.01%
4-Mar-20	0.3260	1094.71	1094.78	-0.07	-0.01%
10-Mar-20	0.2650	1087.56	1087.48	0.08	0.01%
24-Jun-20	0.3040	1097.76	1097.45	0.31	0.03%
11-Jul-19	0.2760	1074.30	1073.84	0.45	0.04%
9-Apr-20	0.3240	1150.90	1151.10	-0.20	-0.02%
21-May-20	0.2780	1087.00	1087.06	-0.06	-0.01%
9-Apr-20	0.2890	1118.21	1118.23	-0.01	0.00%
21-Jan-20	0.2960	1091.78	1091.44	0.35	0.03%
27-Aug-19	0.3070	1080.60	1079.80	0.79	0.07%
10-Apr-19	0.3390	1126.20	1126.64	-0.44	-0.04%
7-Mar-19	0.2630	1083.84	1083.53	0.31	0.03%
9-Dec-19	0.2940	1090.21	1090.22	-0.02	0.00%
23-Mar-20	0.2990	1113.80	1113.88	-0.08	-0.01%
7-Nov-19	0.2800	1092.46	1092.09	0.37	0.03%
9-Jan-20	0.3120	1125.22	1125.19	0.03	0.00%
1-Apr-20	0.3030	1118.01	1118.20	-0.19	-0.02%
23-Jul-19	0.2950	1107.86	1107.61	0.25	0.02%
23-Jul-19	0.2950	1107.86	1107.61	0.25	0.02%
2-Apr-20	0.3130	1112.56	1112.75	-0.19	-0.02%
17-Jun-20	0.2960	1100.59	1100.27	0.33	0.03%
12-Feb-20	0.2990	1108.57	1108.60	-0.03	0.00%
12-Nov-19	0.3650	1103.77	1104.16	-0.38	-0.03%
12-Nov-19	0.3650	1103.77	1104.16	-0.38	-0.03%
14-Jan-20	0.2760	1103.45	1103.33	0.11	0.01%
16-Dec-19	0.3150	1101.32	1101.56	-0.24	-0.02%

14-Jan-20	0.3000	1118.29	1118.18	0.11	0.01%
13-May-20	0.2560	1071.90	1071.74	0.16	0.01%
10-Dec-19	0.2780	1097.73	1097.47	0.26	0.02%
5-Feb-20	0.3690	1115.96	1116.48	-0.53	-0.05%
8-Jan-20	0.3070	1099.84	1099.70	0.14	0.01%
3-Jul-19	0.2890	1120.00	1119.75	0.25	0.02%
3-Jul-19	0.2890	1120.00	1119.75	0.25	0.02%
13-Nov-19	0.2800	1083.82	1083.49	0.33	0.03%
13-Nov-19	0.2800	1083.82	1083.49	0.33	0.03%
4-Sep-19	0.2790	1085.31	1085.00	0.31	0.03%
4-Sep-19	0.2790	1085.31	1085.00	0.31	0.03%
21-Nov-19	0.2490	1070.94	1070.78	0.16	0.02%
21-Nov-19	0.2490	1070.94	1070.78	0.16	0.02%
30-Jan-19	0.3480	1158.35	1158.70	-0.34	-0.03%
4-Feb-20	0.3050	1083.53	1083.26	0.28	0.03%
21-Oct-19	0.2930	1088.93	1088.45	0.49	0.04%
21-Oct-19	0.2930	1088.93	1088.45	0.49	0.04%
31-Aug-19	0.3260	1126.20	1126.26	-0.06	-0.01%
31-Aug-19	0.3260	1126.20	1126.26	-0.06	-0.01%
14-Jan-20	0.3060	1137.53	1137.53	0.00	0.00%
19-Feb-19	0.2790	1085.11	1085.11	0.00	0.00%
14-Mar-19	0.2730	1090.86	1090.74	0.12	0.01%
4-Dec-19	0.2870	1093.61	1093.46	0.15	0.01%
11-Mar-20	0.2520	1077.74	1077.33	0.42	0.04%
14-May-20	0.4230	1131.04	1131.24	-0.20	-0.02%
29-Jan-19	0.3630	1142.02	1142.11	-0.09	-0.01%
15-Mar-19	0.2250	1088.66	1088.23	0.44	0.04%
29-Aug-19	0.2650	1068.60	1068.24	0.36	0.03%
29-Aug-19	0.2650	1068.60	1068.24	0.36	0.03%
30-Aug-19	0.3230	1111.38	1111.41	-0.03	0.00%
30-Aug-19	0.3230	1111.38	1111.41	-0.03	0.00%
9-May-19	0.2690	1087.47	1087.32	0.15	0.01%
7-May-20	0.2660	1068.24	1067.62	0.62	0.06%
18-Dec-19	0.2870	1085.55	1085.63	-0.08	-0.01%
20-Aug-19	0.2570	1059.98	1059.59	0.39	0.04%
20-Aug-19	0.2570	1059.98	1059.59	0.39	0.04%
27-May-20	0.3020	1125.25	1125.20	0.05	0.00%
8-Mar-19	0.2410	1069.03	1068.43	0.60	0.06%
11-Sep-19	0.2800	1083.37	1083.26	0.11	0.01%
11-Sep-19	0.2800	1083.37	1083.26	0.11	0.01%
24-Mar-20	0.2640	1082.48	1082.16	0.33	0.03%
14-Feb-19	0.5100	1099.37	1099.88	-0.51	-0.05%
27-Aug-19	0.2600	1062.38	1061.83	0.55	0.05%
14-Feb-19	0.2610	1090.05	1089.89	0.16	0.01%
15-Apr-19	0.2750	1071.82	1071.35	0.47	0.04%
13-May-20	0.3060	1086.79	1086.21	0.58	0.05%
2-Apr-20	0.2920	1084.92	1084.76	0.17	0.02%
9-Apr-19	0.2430	1078.33	1078.00	0.33	0.03%
9-Apr-19	0.2430	1078.33	1078.00	0.33	0.03%
20-Aug-19	0.2720	1071.20	1070.83	0.38	0.04%
27-Aug-18	0.2700	1066.43	1065.98	0.45	0.04%
20-Aug-19	0.2720	1071.20	1070.83	0.38	0.04%
24-Aug-18	0.2650	1066.24	1065.31	0.93	0.09%
20-Nov-19	0.2730	1077.27	1077.08	0.19	0.02%
20-Nov-19	0.2730	1077.27	1077.08	0.19	0.02%
10-Jul-18	0.3300	1078.82	1077.88	0.95	0.09%
28-Aug-18	0.2580	1068.35	1067.64	0.71	0.07%

16-Apr-20	0.2660	1084.32	1084.06	0.27	0.02%
23-Aug-19	0.2590	1080.24	1079.90	0.34	0.03%
23-Aug-19	0.2590	1080.24	1079.90	0.34	0.03%
21-May-20	0.3660	1252.50	1253.12	-0.62	-0.05%
30-Aug-18	0.2020	1038.25	1037.59	0.67	0.06%
30-Mar-20	0.3460	1278.10	1278.60	-0.50	-0.04%
30-Mar-20	0.3460	1278.07	1278.56	-0.50	-0.04%
11-Jun-20	0.3840	1339.08	1339.66	-0.58	-0.04%
10-Jun-20	0.3860	1299.17	1299.76	-0.59	-0.05%
27-Mar-20	0.4870	1313.87	1315.00	-1.13	-0.09%
21-May-19	0.2730	1332.36	1332.76	-0.39	-0.03%
21-May-19	0.2730	1332.31	1332.70	-0.39	-0.03%
16-Jun-20	0.4280	1275.53	1276.32	-0.78	-0.06%
15-Jun-20	0.5530	1371.23	1372.51	-1.28	-0.09%
30-Jan-20	0.3560	1247.18	1247.48	-0.30	-0.02%
22-Apr-18	0.5250	1310.27	1311.27	-1.00	-0.08%
24-May-19	0.2140	1267.70	1267.55	0.15	0.01%
26-Feb-18	0.2810	1378.00	1378.41	-0.40	-0.03%
18-Mar-20	0.4700	1207.21	1208.13	-0.92	-0.08%
30-Jan-19	0.2140	1259.73	1259.67	0.06	0.00%
11-Oct-19	0.6310	1246.91	1248.64	-1.73	-0.14%
11-Oct-19	0.6310	1246.91	1248.64	-1.73	-0.14%
21-Dec-17	0.2350	1259.58	1259.58	0.00	0.00%
14-Apr-19	0.2950	1201.86	1202.18	-0.32	-0.03%
29-Apr-19	0.2550	1233.27	1233.27	0.00	0.00%
1-Mar-20	0.2100	1295.15	1295.15	0.00	0.00%
1-May-20	0.2100	1233.28	1233.28	0.00	0.00%
6-Jul-19	0.3470	1343.44	1343.84	-0.40	-0.03%
6-Jul-19	0.3470	1343.44	1343.84	-0.40	-0.03%
10-Sep-19	0.3850	1270.18	1270.59	-0.42	-0.03%
10-Sep-19	0.3850	1270.18	1270.59	-0.42	-0.03%
21-Mar-19	0.2240	1082.06	1081.62	0.45	0.04%
22-Apr-20	0.2790	1087.03	1086.76	0.28	0.03%
21-Apr-20	0.2550	1078.19	1077.61	0.58	0.05%
15-Jan-20	0.2900	1111.08	1111.13	-0.05	0.00%
3-Jul-19	0.3310	1103.68	1103.63	0.05	0.00%
3-Jul-19	0.3310	1103.68	1103.63	0.05	0.00%
3-Sep-19	0.3140	1073.67	1072.82	0.85	0.08%
3-Sep-19	0.3140	1073.67	1072.82	0.85	0.08%
4-Sep-19	0.2970	1088.75	1088.29	0.47	0.04%
4-Sep-19	0.2970	1088.75	1088.29	0.47	0.04%
24-Apr-19	0.3220	1096.97	1096.75	0.22	0.02%
20-Jun-19	0.2880	1087.33	1086.92	0.41	0.04%
14-Oct-19	0.3280	1113.45	1113.63	-0.17	-0.02%
14-Oct-19	0.3280	1113.38	1113.55	-0.17	-0.02%
12-Nov-19	0.3330	1123.10	1123.34	-0.24	-0.02%
12-Nov-19	0.3330	1123.10	1123.34	-0.24	-0.02%
20-Sep-19	0.2880	1090.72	1090.48	0.24	0.02%
20-Sep-19	0.2880	1090.72	1090.48	0.24	0.02%
1-Oct-19	0.3020	1102.36	1102.23	0.13	0.01%
1-Oct-19	0.3020	1102.36	1102.23	0.13	0.01%
27-Mar-19	0.3050	1098.12	1098.10	0.02	0.00%
27-Mar-19	0.3050	1098.12	1098.10	0.02	0.00%
14-Apr-20	0.2920	1099.05	1099.02	0.03	0.00%
3-Oct-19	0.2950	1104.49	1104.31	0.19	0.02%
3-Oct-19	0.2950	1104.49	1104.31	0.19	0.02%
5-Apr-19	0.3270	1102.01	1101.96	0.05	0.00%

8-Apr-20	0.3160	1106.00	1106.15	-0.14	-0.01%
7-May-19	0.2980	1114.22	1114.18	0.04	0.00%
19-Mar-19	0.2730	1089.75	1089.57	0.19	0.02%
24-Jan-20	0.3370	1113.73	1113.83	-0.10	-0.01%
10-Oct-19	0.3210	1107.80	1107.89	-0.09	-0.01%
10-Oct-19	0.3210	1107.80	1107.89	-0.09	-0.01%
14-Oct-19	0.3280	1119.13	1119.32	-0.19	-0.02%
14-Oct-19	0.3280	1119.08	1119.27	-0.19	-0.02%
25-Jun-19	0.3570	1144.13	1144.35	-0.22	-0.02%
25-Jun-19	0.3570	1144.13	1144.35	-0.22	-0.02%
25-Jun-19	0.3570	1144.13	1144.35	-0.22	-0.02%
24-Jun-20	0.3670	1154.87	1155.04	-0.17	-0.01%
14-Jan-20	0.3020	1091.35	1091.41	-0.06	-0.01%
6-Feb-20	0.2900	1071.27	1070.85	0.42	0.04%
14-Nov-19	0.2930	1071.48	1071.12	0.36	0.03%
14-Nov-19	0.2930	1071.48	1071.12	0.36	0.03%
5-Nov-19	0.2930	1080.78	1080.54	0.24	0.02%
5-Nov-19	0.2930	1080.78	1080.54	0.24	0.02%
28-May-20	0.2840	1080.26	1079.92	0.34	0.03%
16-Mar-20	0.2810	1080.39	1080.07	0.32	0.03%
3-Dec-19	0.2770	1077.12	1076.77	0.35	0.03%
16-Jun-20	0.2800	1085.70	1085.36	0.34	0.03%
12-Jun-19	0.2930	1087.30	1087.03	0.27	0.02%
1-Feb-19	0.2710	1079.19	1079.06	0.13	0.01%
1-Feb-19	0.2750	1083.93	1083.81	0.12	0.01%
16-May-19	0.2920	1080.80	1080.47	0.33	0.03%
25-Oct-19	0.2690	1072.86	1072.51	0.35	0.03%
28-Apr-20	0.2720	1072.17	1071.85	0.32	0.03%
25-Oct-19	0.2690	1072.86	1072.51	0.35	0.03%
5-Mar-20	0.2820	1084.63	1084.46	0.17	0.02%
1-Jun-20	0.2790	1092.81	1092.59	0.22	0.02%
1-Jun-20	0.2790	1089.10	1088.88	0.22	0.02%
3-Apr-19	0.3180	1086.22	1086.20	0.02	0.00%
10-Mar-20	0.2950	1099.35	1099.22	0.13	0.01%
12-Mar-19	0.2960	1107.11	1107.18	-0.07	-0.01%
22-Feb-20	0.3210	1102.25	1102.29	-0.04	0.00%
22-Feb-20	0.3290	1104.12	1104.09	0.03	0.00%
11-Sep-19	0.2870	1090.50	1090.33	0.17	0.02%
11-Sep-19	0.2870	1090.50	1090.33	0.17	0.02%
11-Sep-19	0.2590	1090.59	1090.31	0.28	0.03%
11-Sep-19	0.2590	1090.59	1090.31	0.28	0.03%
1-May-19	0.2650	1068.75	1068.36	0.39	0.04%
1-May-19	0.2650	1068.75	1068.36	0.39	0.04%
7-Jan-20	0.3190	1111.01	1111.09	-0.08	-0.01%
16-Apr-20	0.3260	1130.03	1130.25	-0.22	-0.02%
23-Jul-19	0.2990	1088.11	1087.81	0.30	0.03%
23-Jul-19	0.2990	1088.11	1087.81	0.30	0.03%
4-Sep-19	0.2650	1074.27	1073.90	0.38	0.03%
4-Sep-19	0.2650	1074.27	1073.90	0.38	0.03%
4-Sep-19	0.2630	1073.04	1072.50	0.54	0.05%
4-Sep-19	0.2630	1073.04	1072.50	0.54	0.05%
4-Mar-20	0.2760	1075.92	1075.44	0.48	0.05%
9-Sep-19	0.2570	1091.04	1090.91	0.13	0.01%
9-Sep-19	0.2570	1091.04	1090.91	0.13	0.01%
4-Dec-19	0.2470	1077.44	1077.29	0.15	0.01%
22-Nov-19	0.3010	1094.46	1094.39	0.07	0.01%
22-Nov-19	0.3010	1094.46	1094.39	0.07	0.01%

3-Dec-19	0.3110	1136.83	1137.10	-0.27	-0.02%
17-Aug-19	0.2720	1070.48	1070.12	0.36	0.03%
17-Aug-19	0.2720	1070.48	1070.12	0.36	0.03%
20-Feb-20	0.3040	1105.65	1105.47	0.17	0.02%
10-May-19	0.2940	1095.30	1095.26	0.05	0.00%
28-May-20	0.3110	1096.16	1095.89	0.28	0.03%
16-Oct-19	0.3450	1152.57	1152.74	-0.18	-0.02%
16-Oct-19	0.3450	1152.57	1152.74	-0.18	-0.02%
9-Apr-19	0.2990	1110.00	1109.77	0.23	0.02%
28-May-19	0.2720	1078.69	1078.69	0.00	0.00%
20-May-19	0.2730	1062.70	1062.10	0.59	0.06%
11-Nov-19	0.2520	1053.33	1052.29	1.04	0.10%
11-Nov-19	0.2520	1053.33	1052.29	1.04	0.10%
26-May-20	0.2990	1082.37	1081.63	0.75	0.07%
13-May-19	0.2710	1078.08	1077.74	0.34	0.03%
17-Sep-19	0.2700	1096.30	1096.16	0.14	0.01%
23-Mar-20	0.2810	1097.46	1097.35	0.12	0.01%
17-Sep-19	0.2700	1096.30	1096.16	0.14	0.01%
20-Jun-19	0.3030	1127.34	1127.32	0.02	0.00%
20-Jun-19	0.3030	1127.34	1127.32	0.02	0.00%
16-Aug-19	0.2840	1093.65	1093.23	0.42	0.04%
1-Apr-20	0.3140	1118.01	1118.22	-0.20	-0.02%
16-Jan-20	0.2870	1102.35	1102.12	0.23	0.02%
11-May-20	0.2850	1086.33	1086.23	0.10	0.01%
13-May-20	0.2930	1093.30	1093.26	0.03	0.00%
22-Oct-19	0.3050	1088.84	1088.36	0.48	0.04%
22-Oct-19	0.3050	1088.84	1088.36	0.48	0.04%
20-Apr-20	0.2900	1091.41	1091.15	0.26	0.02%
1-May-19	0.2810	1101.98	1101.85	0.13	0.01%
7-May-20	0.2910	1106.27	1106.19	0.07	0.01%
12-Jul-19	0.2820	1083.18	1082.82	0.36	0.03%
12-Jul-19	0.2820	1083.18	1082.82	0.36	0.03%
13-Nov-19	0.2790	1081.85	1081.63	0.22	0.02%
3-Jul-19	0.2800	1092.45	1092.07	0.38	0.03%
3-Jul-19	0.2800	1092.45	1092.07	0.38	0.03%
26-Sep-19	0.3140	1097.64	1097.31	0.33	0.03%
26-Sep-19	0.3140	1097.64	1097.31	0.33	0.03%
17-Sep-19	0.2760	1093.96	1093.74	0.21	0.02%
17-Sep-19	0.2760	1093.96	1093.74	0.21	0.02%
27-May-20	0.3100	1118.15	1118.06	0.08	0.01%
14-Aug-19	0.3050	1110.50	1110.42	0.08	0.01%
14-Aug-19	0.3050	1110.50	1110.42	0.08	0.01%
8-May-19	0.2800	1096.05	1095.81	0.23	0.02%
12-May-20	0.2950	1090.58	1090.32	0.25	0.02%
20-May-20	0.2890	1081.85	1081.32	0.53	0.05%
24-Jul-19	0.2850	1142.06	1141.95	0.11	0.01%
24-Jul-19	0.2850	1142.06	1141.95	0.11	0.01%
21-Nov-19	0.2990	1099.77	1099.71	0.06	0.01%
18-Sep-19	0.3050	1117.09	1117.01	0.08	0.01%
18-Sep-19	0.3050	1117.09	1117.01	0.08	0.01%
11-Mar-20	0.2730	1077.89	1077.47	0.41	0.04%
19-Jun-20	0.3020	1093.04	1092.67	0.36	0.03%
5-Mar-20	0.2800	1077.41	1077.27	0.14	0.01%
27-Feb-19	0.2670	1086.07	1085.82	0.25	0.02%
18-Feb-20	0.3130	1110.01	1110.11	-0.10	-0.01%
30-Aug-19	0.2850	1084.92	1084.30	0.62	0.06%
30-Aug-19	0.2850	1084.92	1084.30	0.62	0.06%

23-Jul-19	0.2660	1076.72	1076.35	0.37	0.03%
23-Jul-19	0.2660	1076.72	1076.35	0.37	0.03%
1-May-19	0.2650	1073.09	1072.70	0.39	0.04%
1-May-19	0.2650	1068.32	1067.93	0.39	0.04%
3-Jul-19	0.2660	1078.61	1078.28	0.33	0.03%
3-Jul-19	0.2660	1078.61	1078.28	0.33	0.03%
30-Aug-19	0.3240	1106.42	1106.34	0.08	0.01%
30-Aug-19	0.3240	1106.42	1106.34	0.08	0.01%
18-Dec-19	0.2760	1086.39	1086.45	-0.06	-0.01%
12-Sep-19	0.2900	1096.22	1095.97	0.26	0.02%
12-Sep-19	0.2900	1096.22	1095.97	0.26	0.02%
9-Jan-20	0.2740	1094.33	1094.16	0.17	0.02%
31-Mar-20	0.2820	1093.12	1093.01	0.11	0.01%
25-Nov-19	0.2820	1133.47	1133.55	-0.08	-0.01%
25-Nov-19	0.2820	1133.47	1133.55	-0.08	-0.01%
16-Apr-19	0.2770	1145.13	1145.20	-0.07	-0.01%
20-May-19	0.2720	1074.16	1073.66	0.51	0.05%
21-Apr-20	0.2980	1124.08	1124.05	0.02	0.00%
26-Nov-19	0.3380	1143.86	1143.89	-0.04	0.00%
26-Nov-19	0.3380	1143.86	1143.89	-0.04	0.00%
15-Jan-20	0.2980	1102.61	1102.39	0.22	0.02%
22-Jan-20	0.2660	1079.16	1079.06	0.10	0.01%
12-Feb-19	0.2700	1074.76	1074.47	0.30	0.03%
18-Jun-20	0.2840	1088.12	1088.30	-0.18	-0.02%
18-Jun-20	0.2840	1088.12	1088.30	-0.18	-0.02%
31-Mar-20	0.2660	1078.09	1077.88	0.21	0.02%
23-Jan-20	0.2850	1096.01	1096.11	-0.09	-0.01%
4-Feb-20	0.2950	1092.87	1092.86	0.01	0.00%
6-Aug-19	0.2680	1068.11	1067.77	0.34	0.03%
6-Aug-19	0.2680	1068.11	1067.77	0.34	0.03%
20-Mar-19	0.2500	1066.42	1065.44	0.98	0.09%
18-Dec-19	0.2660	1075.73	1075.78	-0.05	0.00%
30-Jul-19	0.2700	1103.78	1103.56	0.21	0.02%
30-Jul-19	0.2700	1103.78	1103.56	0.21	0.02%
22-Apr-20	0.2850	1081.01	1080.87	0.14	0.01%
13-Apr-20	0.2690	1080.74	1080.48	0.26	0.02%
18-Jun-20	0.2850	1083.33	1082.96	0.37	0.03%
21-Apr-20	0.2850	1120.42	1120.26	0.16	0.01%
28-Feb-19	0.2660	1079.29	1079.09	0.20	0.02%
13-Feb-19	0.2580	1083.79	1083.73	0.05	0.00%
24-Mar-20	0.2650	1080.52	1080.22	0.30	0.03%
29-May-19	0.3530	1082.76	1080.92	1.84	0.17%
29-May-19	0.3530	1082.76	1080.92	1.84	0.17%
29-May-19	0.2690	1079.44	1079.36	0.07	0.01%
4-Jun-20	0.2920	1083.67	1083.16	0.51	0.05%
16-Apr-20	0.2580	1080.68	1080.23	0.45	0.04%
30-Apr-20	0.2590	1066.97	1066.66	0.31	0.03%
19-Jun-19	0.3270	1121.47	1121.44	0.03	0.00%
19-Jun-19	0.3270	1121.47	1121.44	0.03	0.00%
10-Dec-19	0.3050	1090.12	1089.70	0.42	0.04%
30-Oct-19	0.3870	1221.82	1222.68	-0.86	-0.07%
30-Oct-19	0.3870	1221.82	1222.68	-0.86	-0.07%
24-Sep-19	0.3720	1201.99	1202.61	-0.62	-0.05%
19-Mar-19	0.4080	1170.21	1170.89	-0.68	-0.06%
1-May-20	0.1810	1064.64	1064.37	0.27	0.03%
25-Jul-19	0.4230	1119.25	1119.85	-0.60	-0.05%
12-Feb-19	0.2620	1063.04	1062.72	0.32	0.03%

12-Feb-19	0.2510	1067.47	1067.29	0.19	0.02%
24-Jul-19	0.2440	1071.57	1071.21	0.36	0.03%
1-Apr-20	0.2550	1086.67	1086.69	-0.02	0.00%
28-Jan-20	0.3690	1302.97	1303.53	-0.55	-0.04%
27-Jun-19	0.2290	1245.65	1245.47	0.18	0.01%
27-Jun-19	0.2290	1245.51	1245.33	0.18	0.01%
27-Jan-20	0.3360	1276.57	1276.97	-0.40	-0.03%
11-Jun-20	0.3880	1302.77	1303.35	-0.59	-0.05%
28-Oct-19	0.4610	1298.29	1299.12	-0.83	-0.06%
12-Mar-20	0.4190	1292.54	1293.31	-0.77	-0.06%
28-Oct-19	0.4610	1298.29	1299.12	-0.83	-0.06%
12-Mar-20	0.4190	1292.54	1293.31	-0.77	-0.06%
18-Dec-18	0.2180	1247.50	1247.37	0.13	0.01%
12-Sep-19	0.3970	1296.17	1296.91	-0.74	-0.06%
25-Mar-20	0.3880	1318.57	1319.08	-0.52	-0.04%
15-Feb-19	0.2390	1238.11	1238.05	0.06	0.00%
12-Jun-19	0.4720	1333.08	1334.06	-0.99	-0.07%
17-Apr-19	0.2910	1289.29	1288.99	0.30	0.02%
17-Apr-19	0.2910	1288.39	1288.08	0.30	0.02%
11-Jun-20	0.3880	1291.63	1292.25	-0.62	-0.05%
26-May-20	0.4270	1325.80	1326.52	-0.72	-0.05%
13-Apr-18	0.2030	1241.63	1241.54	0.10	0.01%
2-Nov-18	0.2390	1269.94	1269.91	0.03	0.00%
26-Apr-19	0.2620	1294.14	1294.08	0.06	0.00%
21-May-19	0.1840	1290.30	1289.92	0.38	0.03%
30-Mar-20	0.4020	1345.06	1345.67	-0.60	-0.04%
30-Mar-20	0.4030	1348.30	1348.91	-0.61	-0.05%
18-Jun-19	0.3480	1248.64	1249.20	-0.56	-0.05%
27-Feb-18	0.2740	1228.80	1228.95	-0.14	-0.01%
15-Oct-18	0.2190	1189.60	1189.73	-0.13	-0.01%
27-Feb-18	0.2020	1130.50	1130.20	0.30	0.03%
1-Apr-20	0.2130	1252.05	1252.05	0.00	0.00%
11-Nov-19	0.2140	1101.29	1101.06	0.23	0.02%
11-Nov-19	0.2140	1101.29	1101.06	0.23	0.02%
8-May-20	0.2580	1080.58	1080.39	0.19	0.02%
8-Aug-19	0.2840	1064.64	1063.79	0.85	0.08%
8-Aug-19	0.2840	1064.64	1063.79	0.85	0.08%
29-Apr-20	0.2640	1065.85	1065.44	0.42	0.04%
17-May-19	0.2950	1091.76	1091.69	0.08	0.01%
17-May-19	0.2950	1091.76	1091.69	0.08	0.01%
12-Feb-19	0.2640	1091.46	1091.20	0.27	0.02%
15-Aug-19	0.2860	1075.78	1075.15	0.64	0.06%
15-Aug-19	0.2860	1075.78	1075.15	0.64	0.06%
3-Jul-19	0.3010	1083.50	1083.15	0.35	0.03%
18-Jul-18	0.2830	1087.76	1087.43	0.33	0.03%
3-Jul-19	0.3010	1083.50	1083.15	0.35	0.03%
24-Jan-19	0.3340	1146.04	1146.31	-0.27	-0.02%
18-Sep-19	0.2840	1088.62	1088.38	0.24	0.02%
18-Sep-19	0.2840	1088.62	1088.38	0.24	0.02%
18-Sep-19	0.2880	1090.59	1090.26	0.33	0.03%
18-Sep-19	0.2880	1090.59	1090.26	0.33	0.03%
12-Mar-19	0.2930	1100.44	1100.33	0.11	0.01%
26-Nov-19	0.3000	1101.38	1101.25	0.13	0.01%
26-Nov-19	0.3000	1101.49	1101.36	0.13	0.01%
26-Nov-19	0.3030	1091.70	1091.76	-0.06	-0.01%
26-Nov-19	0.3030	1091.51	1091.58	-0.06	-0.01%
12-Nov-19	0.3050	1120.42	1120.50	-0.08	-0.01%

7-May-19	0.3030	1128.16	1128.22	-0.06	-0.01%
4-Dec-19	0.2870	1096.45	1096.36	0.09	0.01%
29-Mar-19	0.2930	1098.84	1098.73	0.11	0.01%
28-Mar-19	0.3280	1108.10	1108.14	-0.04	0.00%
14-Apr-20	0.3110	1105.16	1105.24	-0.08	-0.01%
18-Apr-19	0.3380	1113.13	1113.16	-0.03	0.00%
16-Apr-20	0.3150	1113.14	1113.20	-0.06	-0.01%
6-Sep-19	0.2930	1097.34	1097.11	0.22	0.02%
6-Sep-19	0.2930	1097.34	1097.11	0.22	0.02%
10-Oct-19	0.3220	1112.83	1112.85	-0.02	0.00%
10-Oct-19	0.3220	1112.83	1112.85	-0.02	0.00%
20-Mar-19	0.2940	1100.38	1100.30	0.08	0.01%
24-Jun-20	0.3550	1136.49	1136.53	-0.04	0.00%
9-Oct-19	0.3010	1120.72	1120.71	0.01	0.00%
9-Oct-19	0.3010	1120.72	1120.71	0.01	0.00%
26-Feb-20	0.3640	1125.66	1126.03	-0.37	-0.03%
31-Mar-20	0.3360	1113.87	1114.17	-0.30	-0.03%
4-Jan-19	0.3150	1109.44	1109.58	-0.13	-0.01%
12-Mar-20	0.2860	1098.25	1098.03	0.22	0.02%
3-Mar-20	0.5160	1161.29	1162.63	-1.34	-0.12%
20-Mar-19	0.2830	1087.80	1087.50	0.30	0.03%
24-Sep-19	0.2880	1094.50	1094.39	0.11	0.01%
24-Sep-19	0.2880	1094.50	1094.39	0.11	0.01%
15-Oct-19	0.2890	1096.83	1096.58	0.25	0.02%
15-Oct-19	0.2890	1096.83	1096.58	0.25	0.02%
23-Jul-19	0.2850	1118.48	1118.46	0.02	0.00%
23-Jul-19	0.2850	1118.48	1118.46	0.02	0.00%
16-May-19	0.2770	1069.23	1068.77	0.47	0.04%
13-Feb-20	0.3060	1080.78	1080.53	0.25	0.02%
15-Aug-19	0.2900	1075.31	1074.82	0.49	0.05%
15-Aug-19	0.2900	1075.31	1074.82	0.49	0.05%
3-Dec-19	0.2840	1087.49	1087.24	0.25	0.02%
17-Sep-19	0.2860	1101.33	1101.08	0.25	0.02%
17-Sep-19	0.2860	1101.33	1101.08	0.25	0.02%
3-Dec-19	0.2960	1100.06	1099.89	0.17	0.02%
3-Dec-19	0.2790	1079.23	1079.05	0.18	0.02%
12-Jun-19	0.2790	1079.06	1078.79	0.27	0.02%
12-Jun-19	0.2790	1079.06	1078.79	0.27	0.02%
17-Aug-19	0.2900	1081.92	1081.66	0.27	0.02%
17-Aug-19	0.3040	1086.47	1086.15	0.32	0.03%
17-Aug-19	0.3040	1086.47	1086.15	0.32	0.03%
12-Jun-19	0.3060	1089.32	1089.00	0.32	0.03%
18-Apr-19	0.2840	1089.68	1089.45	0.23	0.02%
6-Apr-20	0.2960	1111.59	1111.60	-0.01	0.00%
6-Apr-20	0.3120	1130.13	1130.33	-0.20	-0.02%
12-Jun-19	0.2880	1074.40	1074.01	0.39	0.04%
12-Jun-19	0.2880	1074.40	1074.01	0.39	0.04%
31-Jul-19	0.2710	1077.15	1077.07	0.08	0.01%
17-Oct-19	0.2750	1075.51	1075.19	0.32	0.03%
17-Oct-19	0.2750	1075.51	1075.19	0.32	0.03%
1-Oct-19	0.2530	1076.13	1075.80	0.33	0.03%
1-Oct-19	0.2530	1076.13	1075.80	0.33	0.03%
3-Apr-19	0.3370	1086.87	1086.88	0.00	0.00%
11-Mar-20	0.2880	1085.86	1085.64	0.22	0.02%
20-Mar-19	0.2860	1088.84	1088.41	0.43	0.04%
7-Mar-19	0.2930	1091.91	1091.82	0.09	0.01%
19-Feb-20	0.3100	1086.39	1086.09	0.30	0.03%

19-Feb-20	0.3150	1092.83	1092.67	0.16	0.01%
11-Sep-19	0.2840	1091.72	1091.52	0.20	0.02%
11-Sep-19	0.2840	1091.72	1091.52	0.20	0.02%
17-Mar-20	0.2970	1083.99	1083.84	0.15	0.01%
9-Jan-20	0.2690	1073.19	1072.64	0.54	0.05%
8-Feb-19	0.2810	1090.17	1090.20	-0.03	0.00%
8-Feb-19	0.2860	1088.18	1088.19	-0.02	0.00%
10-Jan-19	0.3260	1131.67	1131.77	-0.11	-0.01%
24-Oct-19	0.2990	1106.01	1105.84	0.17	0.02%
24-Oct-19	0.2990	1106.01	1105.84	0.17	0.02%
12-Jun-20	0.2980	1106.75	1106.66	0.09	0.01%
6-Feb-20	0.3020	1097.65	1097.51	0.14	0.01%
9-Sep-19	0.2690	1073.93	1073.62	0.31	0.03%
9-Sep-19	0.2690	1073.93	1073.62	0.31	0.03%
21-Feb-19	0.2820	1078.43	1078.01	0.42	0.04%
6-Jun-19	0.2820	1086.21	1086.13	0.08	0.01%
6-Jun-19	0.2820	1086.21	1086.13	0.08	0.01%
29-Aug-19	0.2660	1076.27	1075.85	0.42	0.04%
29-Aug-19	0.2660	1076.27	1075.85	0.42	0.04%
6-May-20	0.2930	1093.33	1092.98	0.34	0.03%
27-Feb-19	0.2810	1094.06	1093.90	0.16	0.01%
4-Mar-20	0.2910	1086.02	1085.93	0.09	0.01%
14-May-20	0.2880	1092.88	1092.73	0.16	0.01%
11-Jul-19	0.2700	1064.31	1063.71	0.59	0.06%
9-Apr-20	0.3230	1139.41	1139.57	-0.16	-0.01%
9-Apr-20	0.2940	1136.23	1136.25	-0.02	0.00%
16-Apr-19	0.2820	1083.13	1082.63	0.51	0.05%
17-Apr-19	0.3090	1107.19	1107.28	-0.09	-0.01%
11-Mar-20	0.2860	1083.47	1083.35	0.12	0.01%
16-Apr-20	0.3510	1156.62	1156.97	-0.35	-0.03%
18-Jun-19	0.2910	1092.20	1091.68	0.52	0.05%
18-Jun-19	0.2910	1092.20	1091.68	0.52	0.05%
17-Sep-19	0.2850	1103.54	1103.33	0.21	0.02%
17-Sep-19	0.2850	1103.54	1103.33	0.21	0.02%
23-Mar-20	0.2870	1100.48	1100.35	0.13	0.01%
20-Jun-19	0.2900	1098.56	1098.61	-0.05	0.00%
20-Jun-19	0.2900	1098.56	1098.61	-0.05	0.00%
21-Nov-19	0.2780	1094.77	1094.87	-0.11	-0.01%
25-Mar-20	0.3400	1119.87	1119.90	-0.03	0.00%
3-Dec-19	0.3000	1122.06	1122.11	-0.05	0.00%
11-Apr-19	0.2950	1115.46	1115.34	0.12	0.01%
25-Jul-19	0.2740	1093.16	1092.98	0.18	0.02%
25-Jul-19	0.2740	1093.16	1092.98	0.18	0.02%
6-May-19	0.2760	1082.12	1081.88	0.23	0.02%
6-Nov-19	0.2810	1090.35	1090.20	0.16	0.01%
6-Nov-19	0.2810	1090.35	1090.20	0.16	0.01%
5-Jun-19	0.2910	1088.76	1088.48	0.28	0.03%
22-Oct-19	0.3130	1094.09	1093.70	0.39	0.04%
22-Oct-19	0.3130	1094.09	1093.70	0.39	0.04%
19-Aug-19	0.2920	1091.29	1091.18	0.11	0.01%
19-Aug-19	0.2920	1091.29	1091.18	0.11	0.01%
13-May-20	0.2810	1079.64	1079.37	0.27	0.02%
21-Feb-19	0.2770	1100.38	1100.16	0.22	0.02%
21-Feb-19	0.2770	1100.38	1100.16	0.22	0.02%
27-Aug-19	0.3030	1098.69	1098.58	0.12	0.01%
27-Aug-19	0.3030	1098.69	1098.58	0.12	0.01%
30-Aug-19	0.2790	1071.92	1071.42	0.50	0.05%

30-Aug-19	0.2790	1071.92	1071.42	0.50	0.05%
7-May-19	0.2850	1092.33	1092.10	0.22	0.02%
12-May-20	0.2840	1087.17	1086.86	0.32	0.03%
15-Oct-19	0.2630	1127.45	1127.22	0.24	0.02%
15-Oct-19	0.2630	1127.45	1127.22	0.24	0.02%
15-Aug-19	0.2770	1077.83	1077.43	0.40	0.04%
15-Aug-19	0.2770	1077.83	1077.43	0.40	0.04%
5-Feb-20	0.3060	1113.43	1113.66	-0.23	-0.02%
8-Apr-20	0.2580	1054.20	1053.52	0.68	0.06%
24-Jul-19	0.2840	1112.65	1112.62	0.04	0.00%
24-Jul-19	0.2840	1112.65	1112.62	0.04	0.00%
7-Aug-19	0.2950	1084.16	1083.81	0.35	0.03%
7-Aug-19	0.2950	1084.16	1083.81	0.35	0.03%
17-Aug-19	0.2840	1082.85	1082.63	0.21	0.02%
17-Aug-19	0.2840	1082.85	1082.63	0.21	0.02%
20-May-20	0.2860	1078.71	1078.54	0.17	0.02%
25-Jun-19	0.2750	1127.82	1127.44	0.38	0.03%
25-Jun-19	0.2750	1127.82	1127.44	0.38	0.03%
26-Mar-19	0.2960	1091.30	1091.08	0.21	0.02%
26-Mar-19	0.2960	1091.30	1091.08	0.21	0.02%
1-Feb-19	0.2680	1071.12	1070.92	0.20	0.02%
12-Jun-19	0.2720	1087.29	1086.98	0.32	0.03%
12-Jun-19	0.2720	1087.29	1086.98	0.32	0.03%
17-Jan-19	0.3100	1113.24	1113.34	-0.10	-0.01%
4-Oct-19	0.2790	1084.53	1083.99	0.54	0.05%
4-Oct-19	0.2790	1084.53	1083.99	0.54	0.05%
8-Apr-20	0.3310	1140.13	1140.27	-0.14	-0.01%
13-Feb-20	0.3370	1132.74	1133.04	-0.31	-0.03%
4-Feb-20	0.3060	1102.70	1102.90	-0.20	-0.02%
21-Nov-19	0.2780	1094.28	1094.39	-0.11	-0.01%
21-Nov-19	0.2780	1095.06	1095.17	-0.11	-0.01%
11-Feb-20	0.3100	1094.62	1094.31	0.31	0.03%
19-Nov-19	0.2810	1081.78	1081.52	0.26	0.02%
16-May-19	0.2730	1080.20	1079.88	0.32	0.03%
19-Nov-19	0.2970	1085.01	1084.86	0.16	0.01%
9-Jul-19	0.2580	1074.02	1073.60	0.42	0.04%
9-Jul-19	0.2580	1074.02	1073.60	0.42	0.04%
12-Sep-19	0.3130	1110.85	1110.80	0.06	0.01%
12-Sep-19	0.3130	1110.85	1110.80	0.06	0.01%
19-Mar-19	0.2700	1076.92	1076.58	0.34	0.03%
12-Jul-19	0.2800	1072.39	1071.89	0.50	0.05%
12-Jul-19	0.2800	1072.39	1071.89	0.50	0.05%
26-Feb-19	0.2660	1080.57	1080.35	0.22	0.02%
9-Jan-20	0.2690	1070.25	1069.71	0.54	0.05%
23-Jun-20	0.3120	1114.96	1114.96	-0.01	0.00%
13-Feb-19	0.2890	1089.95	1089.75	0.20	0.02%
28-Apr-20	0.2870	1081.73	1081.50	0.23	0.02%
22-Apr-20	0.2810	1079.66	1079.20	0.47	0.04%
6-Apr-20	0.2830	1100.43	1100.52	-0.09	-0.01%
5-Aug-19	0.2540	1070.95	1070.41	0.55	0.05%
5-Aug-19	0.2540	1070.95	1070.41	0.55	0.05%
11-Mar-20	0.2610	1080.38	1080.00	0.38	0.03%
26-Mar-19	0.2760	1080.65	1080.13	0.52	0.05%
26-Mar-19	0.2760	1080.65	1080.13	0.52	0.05%
10-May-19	0.3860	1128.85	1129.40	-0.55	-0.05%
10-May-19	0.3860	1128.85	1129.40	-0.55	-0.05%
11-Feb-20	0.3010	1093.73	1093.53	0.20	0.02%

20-Mar-19	0.2520	1068.20	1067.21	0.99	0.09%
13-May-20	0.2830	1079.70	1079.05	0.66	0.06%
26-Nov-19	0.2760	1077.02	1077.00	0.02	0.00%
26-Nov-19	0.2760	1077.02	1077.00	0.02	0.00%
13-May-19	0.2670	1067.95	1067.15	0.80	0.07%
13-May-19	0.2670	1067.95	1067.15	0.80	0.07%
25-Apr-18	0.2670	1081.79	1081.35	0.44	0.04%
13-May-20	0.2500	1079.03	1078.30	0.73	0.07%
12-Nov-19	0.3160	1092.76	1092.45	0.32	0.03%
12-Nov-19	0.3160	1092.76	1092.45	0.32	0.03%
4-Feb-20	0.2620	1084.09	1084.10	-0.01	0.00%
9-May-19	0.2480	1081.05	1080.41	0.64	0.06%
26-Mar-19	0.2690	1076.87	1076.54	0.34	0.03%
26-Mar-19	0.2690	1076.87	1076.54	0.34	0.03%
26-Mar-19	0.2690	1076.87	1076.54	0.34	0.03%
14-May-19	0.2510	1071.54	1070.53	1.01	0.09%
14-May-19	0.2510	1071.54	1070.53	1.01	0.09%
12-Jul-19	0.2890	1078.59	1078.24	0.35	0.03%
12-Jul-19	0.2890	1078.59	1078.24	0.35	0.03%
21-Nov-19	0.2750	1087.18	1087.08	0.10	0.01%
21-Nov-19	0.2750	1087.18	1087.08	0.10	0.01%
6-May-19	0.2890	1105.05	1105.07	-0.02	0.00%
25-Mar-20	0.4210	1223.90	1224.78	-0.88	-0.07%
23-Apr-20	0.5090	1294.58	1295.86	-1.28	-0.10%
28-Feb-20	0.4640	1282.55	1283.63	-1.07	-0.08%
8-Jan-19	0.3490	1204.01	1204.62	-0.60	-0.05%
6-May-20	0.2120	1128.63	1128.30	0.33	0.03%
9-Mar-20	0.3950	1119.33	1119.70	-0.37	-0.03%
30-Apr-20	0.2140	1068.07	1068.19	-0.12	-0.01%
1-Oct-19	0.4140	1233.04	1233.99	-0.94	-0.08%
8-Mar-19	0.3490	1210.79	1211.04	-0.25	-0.02%
22-Nov-19	0.3450	1298.73	1299.10	-0.37	-0.03%
22-Nov-19	0.3450	1295.82	1296.19	-0.37	-0.03%
12-Sep-19	0.3470	1286.03	1286.30	-0.27	-0.02%
27-Jun-19	0.2300	1246.43	1246.25	0.18	0.01%
27-Jun-19	0.2300	1246.30	1246.12	0.18	0.01%
23-Apr-20	0.4220	1299.79	1300.53	-0.74	-0.06%
17-Dec-19	0.4300	1312.49	1313.41	-0.92	-0.07%
17-Dec-19	0.4300	1312.51	1313.43	-0.92	-0.07%
9-Oct-19	0.3720	1292.40	1292.84	-0.43	-0.03%
8-Jan-20	0.4440	1306.36	1307.10	-0.74	-0.06%
9-Oct-19	0.3720	1292.19	1292.63	-0.43	-0.03%
9-Oct-19	0.3720	1291.99	1292.43	-0.43	-0.03%
8-Jan-20	0.4440	1306.15	1306.89	-0.74	-0.06%
9-Oct-19	0.3720	1291.93	1292.36	-0.43	-0.03%
31-Jan-20	0.3700	1253.03	1253.42	-0.39	-0.03%
1-Aug-19	0.2170	1399.38	1399.37	0.00	0.00%
10-Feb-20	0.4580	1293.30	1294.14	-0.85	-0.07%
15-Oct-18	0.2350	1271.50	1271.33	0.18	0.01%
19-Nov-18	0.3430	1173.06	1173.13	-0.07	-0.01%
1-Nov-19	0.2600	1295.86	1295.37	0.50	0.04%
1-Sep-19	0.2610	1295.78	1295.29	0.49	0.04%
17-Jun-19	0.2680	1263.69	1263.62	0.07	0.01%
6-Mar-19	0.3070	1219.17	1219.19	-0.02	0.00%
18-Apr-19	0.4080	1225.23	1225.91	-0.68	-0.06%
12-Dec-19	0.3720	1244.29	1244.93	-0.63	-0.05%
15-Nov-18	0.3410	1248.01	1248.47	-0.46	-0.04%

13-Sep-18	0.2080	1271.20	1271.10	0.10	0.01%
5-Oct-18	0.2310	1235.60	1235.53	0.07	0.01%
21-Feb-20	0.4390	1237.34	1238.18	-0.84	-0.07%
31-Jul-18	0.3290	1996.54	1997.08	-0.55	-0.03%
27-Aug-19	0.2790	1308.00	1308.25	-0.25	-0.02%
27-Aug-19	0.2780	1305.54	1305.78	-0.24	-0.02%
27-Mar-20	0.4010	1337.34	1338.11	-0.77	-0.06%
1-May-20	0.2160	1301.36	1301.35	0.01	0.00%
20-Mar-19	0.5060	1330.77	1331.43	-0.66	-0.05%
21-Nov-19	0.3710	1427.19	1427.60	-0.42	-0.03%
22-Oct-19	0.2660	1087.87	1087.50	0.37	0.03%
23-Apr-20	0.2690	1091.66	1090.68	0.98	0.09%
14-Jan-19	0.1830	1060.47	1060.12	0.35	0.03%
22-Jul-19	0.2170	1082.78	1082.40	0.38	0.03%
22-Jul-19	0.2170	1082.78	1082.40	0.38	0.03%
6-Feb-19	0.2890	1095.78	1095.96	-0.18	-0.02%
29-Aug-18	0.2750	1069.22	1068.33	0.90	0.08%
20-Aug-19	0.2870	1091.08	1090.71	0.38	0.03%
20-Aug-19	0.2870	1091.08	1090.71	0.38	0.03%
3-Oct-19	0.3260	1087.42	1087.47	-0.05	0.00%
3-Oct-19	0.3260	1087.42	1087.47	-0.05	0.00%
28-May-19	0.2820	1076.28	1075.72	0.55	0.05%
28-May-19	0.2820	1076.28	1075.72	0.55	0.05%
29-Jan-19	0.3220	1120.34	1120.46	-0.13	-0.01%
23-Aug-19	0.2310	1061.76	1061.14	0.62	0.06%
23-Aug-19	0.2310	1061.76	1061.14	0.62	0.06%
20-Feb-19	0.2750	1083.16	1082.56	0.60	0.06%
20-Feb-19	0.2750	1083.16	1082.56	0.60	0.06%
5-Apr-19	0.2880	1074.45	1073.90	0.55	0.05%
30-Aug-19	0.4140	1118.77	1119.05	-0.28	-0.03%
30-Aug-19	0.4140	1118.77	1119.05	-0.28	-0.03%
2-Jun-20	0.3250	1095.17	1094.83	0.34	0.03%
2-Jun-20	0.3250	1095.17	1094.83	0.34	0.03%
2-Jun-20	0.3250	1095.17	1094.83	0.34	0.03%
2-Jun-20	0.3250	1095.17	1094.83	0.34	0.03%
24-Mar-20	0.3020	1096.61	1096.55	0.06	0.01%
12-Mar-20	0.2980	1091.95	1091.84	0.11	0.01%
12-Mar-20	0.3040	1086.79	1086.63	0.16	0.01%
28-Jan-20	0.3190	1096.80	1096.70	0.09	0.01%
21-Apr-20	0.3230	1111.10	1111.28	-0.18	-0.02%
15-Jan-19	0.3220	1109.07	1109.08	-0.02	0.00%
15-Jan-19	0.3300	1107.67	1107.75	-0.08	-0.01%
7-May-19	0.2960	1112.33	1112.24	0.08	0.01%
19-May-20	0.2990	1113.82	1113.84	-0.02	0.00%
2-Oct-19	0.2910	1098.08	1097.87	0.21	0.02%
2-Oct-19	0.2910	1098.08	1097.87	0.21	0.02%
8-Apr-20	0.3150	1106.63	1106.49	0.14	0.01%
27-Mar-19	0.3190	1107.29	1107.31	-0.02	0.00%
1-Oct-19	0.2990	1102.26	1102.10	0.16	0.01%
1-Oct-19	0.2990	1102.26	1102.10	0.16	0.01%
24-Apr-19	0.3100	1090.71	1090.50	0.21	0.02%
4-Sep-19	0.2840	1095.95	1095.79	0.17	0.02%
4-Sep-19	0.2840	1095.95	1095.79	0.17	0.02%
26-Mar-19	0.3240	1112.96	1113.10	-0.14	-0.01%
11-Jan-20	0.3670	1132.08	1132.35	-0.27	-0.02%
18-Apr-19	0.3580	1119.15	1119.49	-0.34	-0.03%
26-Jun-19	0.2770	1127.26	1126.77	0.49	0.04%

26-Jun-19	0.2770	1127.26	1126.77	0.49	0.04%
16-Nov-19	0.3220	1102.54	1102.53	0.02	0.00%
16-Nov-19	0.3220	1102.54	1102.53	0.02	0.00%
1-Nov-19	0.2980	1076.55	1076.38	0.17	0.02%
1-Nov-19	0.2980	1076.55	1076.38	0.17	0.02%
18-Mar-20	0.2730	1072.75	1072.53	0.22	0.02%
21-Feb-19	0.2740	1081.65	1081.51	0.14	0.01%
14-Nov-19	0.3010	1085.14	1084.89	0.25	0.02%
14-Nov-19	0.3010	1085.14	1084.89	0.25	0.02%
21-Aug-19	0.2950	1081.90	1081.49	0.41	0.04%
20-Mar-19	0.2970	1094.68	1094.59	0.09	0.01%
4-Jun-19	0.3140	1094.31	1094.04	0.27	0.02%
4-Jun-19	0.3140	1094.31	1094.04	0.27	0.02%
16-Mar-20	0.2910	1086.24	1086.07	0.18	0.02%
3-Dec-19	0.3120	1086.38	1086.25	0.14	0.01%
18-Apr-19	0.2870	1081.98	1081.55	0.43	0.04%
23-Apr-19	0.2690	1072.93	1072.55	0.38	0.03%
17-Oct-19	0.2860	1077.31	1076.93	0.38	0.04%
17-Oct-19	0.2860	1077.31	1076.93	0.38	0.04%
12-Jun-19	0.3150	1092.02	1091.61	0.41	0.04%
12-Mar-19	0.2840	1084.61	1084.48	0.14	0.01%
8-Jun-20	0.3140	1109.01	1109.33	-0.32	-0.03%
14-Feb-19	0.2970	1099.58	1099.58	0.00	0.00%
28-Aug-19	0.2850	1081.51	1081.02	0.49	0.05%
28-Aug-19	0.2850	1081.51	1081.02	0.49	0.05%
23-Aug-19	0.3200	1090.84	1090.51	0.33	0.03%
23-Aug-19	0.3200	1090.84	1090.51	0.33	0.03%
18-Mar-20	0.3020	1094.54	1094.47	0.06	0.01%
28-Oct-19	0.3760	1172.73	1173.21	-0.49	-0.04%
28-Oct-19	0.3760	1172.73	1173.21	-0.49	-0.04%
24-Apr-19	0.3400	1122.49	1122.33	0.16	0.01%
16-Apr-20	0.3340	1123.30	1123.63	-0.33	-0.03%
19-Jun-20	0.3010	1106.46	1106.28	0.18	0.02%
4-Jun-19	0.2600	1060.94	1060.31	0.63	0.06%
4-Jun-19	0.2600	1060.94	1060.31	0.63	0.06%
18-Apr-19	0.2840	1109.60	1109.47	0.13	0.01%
6-Feb-20	0.3020	1101.45	1101.37	0.08	0.01%
14-Aug-19	0.3370	1094.23	1093.64	0.60	0.05%
14-Aug-19	0.3370	1094.23	1093.64	0.60	0.05%
5-Mar-20	0.2810	1082.45	1082.26	0.19	0.02%
6-Jun-19	0.3040	1093.32	1093.11	0.21	0.02%
29-May-19	0.2820	1081.69	1081.50	0.19	0.02%
29-May-19	0.2820	1081.69	1081.50	0.19	0.02%
7-Oct-19	0.3230	1134.39	1134.47	-0.08	-0.01%
7-Oct-19	0.3230	1134.39	1134.47	-0.08	-0.01%
3-Jun-20	0.3220	1135.99	1136.10	-0.11	-0.01%
17-Aug-19	0.2820	1076.04	1075.89	0.15	0.01%
17-Aug-19	0.2820	1076.04	1075.89	0.15	0.01%
9-Jun-20	0.3260	1140.39	1140.64	-0.25	-0.02%
26-Nov-19	0.3250	1143.43	1143.54	-0.12	-0.01%
26-Nov-19	0.3250	1143.43	1143.54	-0.12	-0.01%
28-Aug-19	0.2760	1067.64	1067.03	0.61	0.06%
15-Apr-20	0.2850	1082.82	1082.66	0.16	0.02%
20-Feb-20	0.3150	1093.40	1093.20	0.20	0.02%
12-Dec-19	0.3120	1123.26	1123.48	-0.22	-0.02%
14-Apr-20	0.3350	1139.78	1139.97	-0.19	-0.02%
27-Apr-20	0.3210	1123.89	1124.12	-0.23	-0.02%

10-Jun-20	0.3310	1144.02	1144.17	-0.15	-0.01%
2-Jun-20	0.2940	1105.81	1105.23	0.58	0.05%
6-Nov-19	0.2880	1089.80	1089.76	0.04	0.00%
6-Nov-19	0.2880	1089.80	1089.76	0.04	0.00%
1-Mar-19	0.2810	1091.39	1091.37	0.02	0.00%
3-Sep-19	0.2980	1091.49	1091.27	0.22	0.02%
3-Sep-19	0.2980	1091.49	1091.27	0.22	0.02%
7-Nov-19	0.2820	1094.53	1094.37	0.17	0.02%
7-Nov-19	0.2820	1094.53	1094.37	0.17	0.02%
19-Aug-19	0.2930	1097.53	1097.31	0.22	0.02%
19-Aug-19	0.2930	1097.53	1097.31	0.22	0.02%
1-May-19	0.3020	1111.34	1111.31	0.03	0.00%
1-May-19	0.2920	1111.65	1111.53	0.12	0.01%
9-Mar-20	0.2860	1082.24	1082.04	0.20	0.02%
16-Jun-20	0.2820	1091.98	1091.68	0.30	0.03%
21-Jan-20	0.3000	1084.10	1084.06	0.04	0.00%
13-May-20	0.2950	1092.58	1092.40	0.19	0.02%
13-May-20	0.2870	1086.62	1086.33	0.29	0.03%
12-Feb-19	0.3070	1108.10	1108.14	-0.04	0.00%
13-Feb-20	0.3200	1111.91	1111.95	-0.04	0.00%
28-Jan-20	0.2920	1088.73	1088.67	0.06	0.01%
13-May-20	0.3050	1122.14	1122.07	0.06	0.01%
12-Sep-19	0.3000	1090.20	1089.88	0.33	0.03%
12-Sep-19	0.3000	1090.20	1089.88	0.33	0.03%
15-Jan-19	0.3210	1106.92	1106.99	-0.07	-0.01%
7-Oct-19	0.3000	1100.83	1100.10	0.74	0.07%
7-Oct-19	0.3000	1100.83	1100.10	0.74	0.07%
27-May-20	0.3030	1094.70	1094.39	0.31	0.03%
21-Nov-19	0.2990	1098.28	1098.18	0.09	0.01%
20-Mar-19	0.3020	1101.31	1101.26	0.05	0.00%
16-Mar-20	0.2940	1093.30	1093.23	0.07	0.01%
30-Jan-19	0.2980	1188.38	1188.32	0.06	0.01%
6-Feb-19	0.2400	1079.17	1078.89	0.28	0.03%
8-Feb-20	0.3180	1082.73	1082.38	0.34	0.03%
25-Oct-19	0.2760	1077.06	1076.84	0.22	0.02%
25-Oct-19	0.2760	1077.06	1076.84	0.22	0.02%
2-Oct-19	0.3220	1121.51	1121.33	0.18	0.02%
2-Oct-19	0.3220	1121.51	1121.33	0.18	0.02%
26-Feb-20	0.3150	1102.60	1102.75	-0.15	-0.01%
2-Mar-20	0.3650	1100.98	1101.32	-0.34	-0.03%
17-Mar-20	0.2950	1080.39	1080.41	-0.03	0.00%
11-Mar-20	0.2630	1075.53	1075.03	0.50	0.05%
21-Jan-20	0.2680	1063.86	1063.42	0.45	0.04%
28-May-20	0.2860	1078.02	1077.79	0.23	0.02%
17-Apr-19	0.2680	1074.71	1074.36	0.35	0.03%
7-May-20	0.2850	1081.51	1081.38	0.13	0.01%
15-May-19	0.2290	1053.84	1053.12	0.72	0.07%
7-Aug-19	0.3100	1123.39	1123.25	0.14	0.01%
7-Aug-19	0.3100	1123.39	1123.25	0.14	0.01%
17-Aug-19	0.2780	1075.87	1075.75	0.12	0.01%
17-Aug-19	0.2780	1075.87	1075.75	0.12	0.01%
4-Feb-20	0.2950	1075.06	1074.51	0.55	0.05%
20-Feb-20	0.2840	1076.62	1076.20	0.42	0.04%
24-Apr-19	0.2550	1070.63	1070.03	0.59	0.06%
17-Dec-19	0.3050	1095.79	1096.03	-0.24	-0.02%
17-Dec-19	0.3190	1100.05	1100.38	-0.32	-0.03%
19-May-20	0.2920	1075.93	1075.28	0.65	0.06%

16-Apr-20	0.3210	1117.93	1118.05	-0.12	-0.01%
20-Sep-19	0.3020	1080.08	1079.87	0.21	0.02%
20-Sep-19	0.3020	1080.08	1079.87	0.21	0.02%
7-Mar-19	0.2510	1089.68	1089.22	0.47	0.04%
30-Jul-19	0.2900	1090.45	1090.40	0.05	0.00%
30-Jul-19	0.2900	1090.45	1090.40	0.05	0.00%
17-Jul-19	0.2580	1059.16	1058.29	0.87	0.08%
17-Jul-19	0.2580	1059.16	1058.29	0.87	0.08%
22-Apr-20	0.2830	1079.91	1079.30	0.61	0.06%
12-Feb-19	0.2740	1087.45	1087.12	0.33	0.03%
12-Feb-19	0.2740	1087.45	1087.12	0.33	0.03%
18-Dec-19	0.3020	1094.79	1094.97	-0.18	-0.02%
23-Aug-19	0.3020	1071.02	1070.39	0.62	0.06%
7-May-20	0.2800	1072.54	1071.79	0.75	0.07%
20-Nov-18	0.2520	1056.34	1055.31	1.03	0.10%
28-Aug-19	0.2890	1072.55	1071.84	0.72	0.07%
28-Aug-19	0.2890	1072.55	1071.84	0.72	0.07%
20-Jul-18	0.2490	1075.91	1075.74	0.17	0.02%
19-Jul-18	0.3340	1083.42	1082.44	0.98	0.09%
24-Mar-20	0.2710	1079.69	1079.41	0.28	0.03%
27-May-19	0.2990	1075.42	1074.89	0.53	0.05%
29-May-19	0.2800	1086.45	1086.00	0.45	0.04%
26-Jul-19	0.3080	1082.49	1081.81	0.67	0.06%
26-Jul-19	0.3080	1082.49	1081.81	0.67	0.06%
29-Aug-18	0.2570	1067.72	1067.19	0.53	0.05%
10-Mar-20	0.2850	1085.14	1084.95	0.19	0.02%
12-May-20	0.2790	1077.39	1076.94	0.44	0.04%
27-Feb-19	0.2910	1089.63	1089.50	0.13	0.01%
27-Feb-19	0.2910	1089.63	1089.50	0.13	0.01%
8-Aug-19	0.3050	1084.38	1083.71	0.66	0.06%
13-Jul-18	0.2750	1076.25	1075.62	0.62	0.06%
11-Nov-08	0.1790	1037.19	1036.98	0.22	0.02%
24-Jan-20	0.4230	1259.57	1260.29	-0.72	-0.06%
11-Apr-19	0.3320	1116.30	1116.45	-0.15	-0.01%
17-Jan-20	0.4570	1123.13	1123.93	-0.80	-0.07%
22-Nov-19	0.4090	1153.97	1154.76	-0.79	-0.07%
22-Nov-19	0.4090	1153.97	1154.76	-0.79	-0.07%
9-Aug-18	0.3020	1175.83	1175.52	0.30	0.03%
30-Oct-19	0.3570	1178.36	1179.08	-0.72	-0.06%
27-Sep-19	0.3560	1189.10	1189.63	-0.53	-0.04%
1-Oct-19	0.2680	1127.24	1126.75	0.49	0.04%
6-Mar-19	0.2560	1059.03	1058.68	0.36	0.03%
15-Mar-19	0.2600	1055.09	1054.74	0.36	0.03%
12-Feb-20	0.3750	1277.34	1277.85	-0.51	-0.04%
24-Sep-19	0.3750	1269.77	1270.22	-0.45	-0.04%
24-Sep-19	0.3740	1268.12	1268.57	-0.45	-0.04%
25-Mar-20	0.4030	1297.75	1298.30	-0.55	-0.04%
30-Mar-20	0.3730	1305.64	1306.15	-0.51	-0.04%
26-Sep-19	0.4000	1308.77	1309.48	-0.72	-0.05%
26-Sep-19	0.4000	1308.92	1309.64	-0.72	-0.05%
26-Sep-19	0.4000	1308.95	1309.67	-0.72	-0.05%
1-Dec-17	0.2170	1302.90	1302.89	0.01	0.00%
1-Dec-17	0.2170	1302.89	1302.88	0.01	0.00%
16-Jan-20	0.3970	1296.31	1296.94	-0.63	-0.05%
23-Aug-19	0.2080	1302.46	1302.17	0.29	0.02%
23-Aug-19	0.2080	1302.44	1302.15	0.29	0.02%
31-Oct-18	0.4120	1927.44	1928.44	-1.00	-0.05%

31-Oct-18	0.4120	1925.77	1926.77	-1.00	-0.05%
13-Nov-19	0.5890	1328.06	1329.05	-0.99	-0.07%
19-Nov-19	0.4230	1288.30	1289.13	-0.83	-0.06%
19-Nov-19	0.4230	1288.56	1289.39	-0.83	-0.06%
19-Nov-19	0.4230	1288.31	1289.14	-0.83	-0.06%
19-Nov-19	0.4230	1288.58	1289.41	-0.83	-0.06%
26-Sep-18	0.6020	1234.06	1235.61	-1.55	-0.13%
7-Mar-18	0.2300	1161.06	1161.11	-0.05	0.00%
18-Feb-20	0.5060	1267.57	1268.38	-0.82	-0.06%
1-Apr-20	0.2200	1298.34	1298.34	0.00	0.00%
1-Apr-20	0.2200	1298.34	1298.34	0.00	0.00%
16-Jun-20	0.2190	1261.86	1261.86	0.00	0.00%
20-Mar-19	0.5130	1346.19	1346.83	-0.64	-0.05%
20-Mar-19	0.5130	1344.48	1345.12	-0.64	-0.05%
15-Dec-19	0.7050	1331.96	1333.80	-1.84	-0.14%
13-Aug-18	0.3170	1112.07	1110.72	1.35	0.12%
13-Aug-18	0.3170	1112.07	1110.72	1.35	0.12%
31-Mar-20	0.2850	1088.40	1088.11	0.28	0.03%
25-Feb-20	0.3100	1084.84	1084.45	0.39	0.04%
3-Sep-19	0.3060	1083.16	1082.30	0.86	0.08%
3-Sep-19	0.3060	1083.16	1082.30	0.86	0.08%
19-Nov-19	0.2850	1085.56	1085.38	0.18	0.02%
8-Apr-19	0.2830	1087.79	1087.00	0.78	0.07%
9-Apr-19	0.2670	1075.66	1074.89	0.78	0.07%
5-Mar-19	0.2780	1078.14	1077.52	0.62	0.06%
2-Aug-19	0.3050	1072.99	1071.76	1.23	0.11%
2-Aug-19	0.3050	1072.99	1071.76	1.23	0.11%
20-Mar-19	0.2460	1073.13	1072.52	0.61	0.06%
9-Jul-19	0.3530	1110.73	1110.78	-0.04	0.00%
9-Jul-19	0.3530	1110.73	1110.78	-0.04	0.00%
12-Mar-19	0.2970	1097.28	1097.21	0.07	0.01%
15-Oct-19	0.3090	1094.64	1094.52	0.12	0.01%
15-Oct-19	0.3090	1094.64	1094.52	0.12	0.01%
15-Oct-19	0.3240	1099.47	1099.37	0.11	0.01%
15-Oct-19	0.3240	1099.47	1099.37	0.11	0.01%
24-Apr-19	0.3320	1093.42	1093.31	0.11	0.01%
7-May-20	0.2990	1094.49	1094.47	0.03	0.00%
26-Nov-19	0.3050	1086.68	1086.56	0.13	0.01%
26-Nov-19	0.3050	1087.10	1086.97	0.13	0.01%
26-Mar-19	0.2850	1090.09	1089.99	0.10	0.01%
21-Apr-20	0.3310	1124.26	1124.38	-0.12	-0.01%
21-Apr-20	0.3320	1116.41	1116.51	-0.10	-0.01%
12-Apr-19	0.3410	1113.70	1113.89	-0.19	-0.02%
1-Apr-20	0.3420	1122.40	1122.72	-0.32	-0.03%
1-Apr-20	0.3330	1122.74	1122.95	-0.22	-0.02%
21-Nov-19	0.3450	1113.71	1113.88	-0.17	-0.02%
21-Nov-19	0.3460	1117.08	1117.26	-0.17	-0.02%
14-Jan-20	0.3530	1115.11	1115.37	-0.26	-0.02%
8-May-19	0.3020	1115.07	1115.05	0.02	0.00%
1-Oct-19	0.3050	1106.34	1106.26	0.09	0.01%
1-Oct-19	0.3050	1106.34	1106.26	0.09	0.01%
8-Apr-20	0.3210	1105.49	1105.34	0.15	0.01%
3-Oct-19	0.3210	1108.84	1108.91	-0.06	-0.01%
28-Mar-19	0.3270	1104.54	1104.54	0.00	0.00%
3-Oct-19	0.3210	1108.84	1108.91	-0.06	-0.01%
22-Oct-19	0.3250	1118.17	1118.34	-0.18	-0.02%
22-Oct-19	0.3250	1118.17	1118.34	-0.18	-0.02%

15-Apr-20	0.2890	1095.17	1095.18	-0.01	0.00%
9-Apr-19	0.5240	1122.56	1123.26	-0.70	-0.06%
9-Apr-19	0.5240	1122.56	1123.26	-0.70	-0.06%
28-Mar-19	0.3310	1107.69	1107.49	0.20	0.02%
26-Mar-19	0.3270	1112.22	1112.30	-0.07	-0.01%
16-Jul-19	0.3220	1111.97	1112.08	-0.11	-0.01%
16-Jul-19	0.3220	1111.97	1112.08	-0.11	-0.01%
10-Oct-19	0.3210	1106.53	1106.51	0.03	0.00%
10-Oct-19	0.3210	1106.53	1106.51	0.03	0.00%
23-Apr-19	0.3350	1096.10	1095.83	0.27	0.02%
12-Apr-19	0.3200	1110.97	1110.75	0.22	0.02%
10-Apr-20	0.3010	1108.00	1107.85	0.15	0.01%
20-Mar-19	0.2850	1090.33	1090.18	0.15	0.01%
26-Mar-20	0.3130	1098.39	1098.29	0.10	0.01%
9-Apr-19	0.3980	1149.89	1150.23	-0.34	-0.03%
9-Apr-19	0.3980	1149.89	1150.23	-0.34	-0.03%
26-Jun-19	0.3240	1132.18	1132.42	-0.24	-0.02%
26-Sep-19	0.2850	1088.71	1088.50	0.22	0.02%
26-Sep-19	0.2850	1088.71	1088.50	0.22	0.02%
12-Jun-19	0.3060	1097.47	1097.11	0.36	0.03%
6-Feb-20	0.2770	1066.24	1065.83	0.41	0.04%
21-Aug-19	0.2810	1076.79	1076.48	0.31	0.03%
26-Sep-19	0.3110	1082.06	1081.58	0.48	0.04%
26-Sep-19	0.3110	1082.06	1081.58	0.48	0.04%
11-Sep-19	0.2940	1108.30	1108.09	0.20	0.02%
5-Dec-19	0.3240	1113.31	1113.46	-0.14	-0.01%
18-Apr-19	0.2790	1077.17	1076.80	0.37	0.03%
8-Apr-19	0.2930	1106.60	1106.46	0.14	0.01%
10-Sep-19	0.2880	1080.96	1080.70	0.26	0.02%
10-Sep-19	0.2880	1080.96	1080.70	0.26	0.02%
28-Apr-20	0.2840	1075.83	1075.47	0.36	0.03%
17-Oct-19	0.2770	1075.41	1074.99	0.42	0.04%
17-Oct-19	0.2770	1075.41	1074.99	0.42	0.04%
19-Feb-20	0.3200	1112.81	1112.72	0.09	0.01%
20-Apr-20	0.3430	1123.74	1123.82	-0.08	-0.01%
17-Oct-19	0.3070	1105.77	1105.57	0.20	0.02%
17-Oct-19	0.3070	1105.77	1105.57	0.20	0.02%
11-Mar-20	0.3010	1089.11	1088.89	0.22	0.02%
10-Mar-20	0.3130	1112.71	1112.89	-0.19	-0.02%
16-Apr-20	0.3330	1120.67	1120.75	-0.08	-0.01%
24-Apr-19	0.2820	1074.34	1073.91	0.42	0.04%
7-Mar-19	0.2790	1088.72	1088.66	0.06	0.01%
28-Apr-20	0.3340	1165.35	1165.71	-0.36	-0.03%
5-Mar-19	0.2970	1090.36	1090.34	0.02	0.00%
19-Feb-20	0.3260	1086.28	1086.10	0.17	0.02%
8-Feb-19	0.2950	1090.06	1090.02	0.04	0.00%
23-Jan-19	0.3250	1110.34	1110.31	0.03	0.00%
9-Mar-20	0.2910	1081.54	1081.40	0.14	0.01%
7-May-19	0.3330	1100.98	1100.84	0.13	0.01%
7-May-19	0.3330	1100.98	1100.84	0.13	0.01%
13-Nov-19	0.3050	1102.78	1102.82	-0.04	0.00%
13-Nov-19	0.3050	1102.78	1102.82	-0.04	0.00%
5-Mar-20	0.2810	1080.73	1080.54	0.19	0.02%
15-Jan-19	0.3230	1122.86	1122.79	0.07	0.01%
4-Dec-19	0.3180	1115.52	1115.71	-0.19	-0.02%
6-Jun-19	0.2930	1099.21	1099.13	0.09	0.01%
6-May-20	0.2930	1095.56	1095.20	0.35	0.03%

27-Feb-19	0.3000	1095.81	1095.74	0.07	0.01%
6-Mar-19	0.2980	1093.44	1093.43	0.01	0.00%
3-Sep-19	0.3120	1097.04	1096.68	0.36	0.03%
3-Sep-19	0.3120	1097.04	1096.68	0.36	0.03%
19-Nov-19	0.2890	1095.46	1095.15	0.31	0.03%
19-Nov-19	0.2890	1095.46	1095.15	0.31	0.03%
17-Jun-19	0.3260	1141.94	1142.10	-0.16	-0.01%
17-Jun-19	0.3260	1141.94	1142.10	-0.16	-0.01%
14-May-20	0.3060	1106.23	1105.90	0.33	0.03%
14-Apr-20	0.3100	1100.28	1100.09	0.19	0.02%
10-Apr-19	0.3690	1117.42	1117.69	-0.27	-0.02%
15-Apr-20	0.3060	1092.78	1092.49	0.30	0.03%
21-Nov-19	0.3100	1081.95	1081.62	0.33	0.03%
21-Nov-19	0.3100	1081.95	1081.62	0.33	0.03%
12-Sep-19	0.2830	1082.07	1081.74	0.33	0.03%
12-Sep-19	0.2830	1082.07	1081.74	0.33	0.03%
20-Jan-20	0.2870	1089.48	1089.36	0.12	0.01%
16-May-19	0.3310	1121.62	1121.17	0.46	0.04%
6-Aug-19	0.3750	1119.92	1120.28	-0.35	-0.03%
2-Mar-20	0.4260	1118.98	1119.76	-0.78	-0.07%
6-Aug-19	0.3750	1119.92	1120.28	-0.35	-0.03%
13-May-19	0.2600	1064.10	1063.81	0.30	0.03%
15-Jan-19	0.3220	1131.75	1131.82	-0.08	-0.01%
13-Mar-19	0.3160	1117.85	1118.02	-0.17	-0.02%
13-Mar-19	0.3100	1109.30	1109.29	0.02	0.00%
14-Mar-19	0.3030	1115.30	1115.23	0.07	0.01%
20-May-20	0.3340	1116.03	1115.83	0.20	0.02%
12-Jul-19	0.2830	1082.22	1081.84	0.38	0.03%
12-Jul-19	0.2830	1082.22	1081.84	0.38	0.03%
12-Nov-19	0.2960	1109.02	1108.93	0.09	0.01%
1-Mar-19	0.2920	1086.18	1086.15	0.03	0.00%
24-Jan-20	0.2930	1087.88	1087.81	0.06	0.01%
7-Aug-19	0.3300	1121.53	1121.51	0.02	0.00%
7-Aug-19	0.3300	1121.53	1121.51	0.02	0.00%
21-Jan-20	0.2920	1090.01	1089.63	0.38	0.03%
10-Jun-20	0.3040	1130.79	1130.56	0.24	0.02%
13-May-20	0.2950	1091.62	1091.52	0.10	0.01%
8-Apr-20	0.3020	1092.54	1092.17	0.36	0.03%
20-Feb-20	0.2940	1100.94	1100.86	0.08	0.01%
30-Jan-19	0.3210	1121.99	1121.87	0.12	0.01%
30-Jan-19	0.3210	1121.99	1121.87	0.12	0.01%
15-Jan-20	0.3170	1122.14	1122.15	-0.01	0.00%
13-Mar-19	0.2880	1088.02	1087.57	0.45	0.04%
12-Apr-19	0.3360	1088.83	1088.23	0.60	0.05%
12-Apr-19	0.3360	1088.83	1088.23	0.60	0.05%
5-Mar-20	0.3040	1112.70	1112.71	-0.01	0.00%
24-Mar-20	0.3110	1099.27	1099.41	-0.14	-0.01%
2-Jul-19	0.3220	1132.01	1131.92	0.08	0.01%
2-Jul-19	0.3220	1132.01	1131.92	0.08	0.01%
4-Feb-20	0.3760	1126.24	1126.72	-0.48	-0.04%
20-Jun-19	0.2930	1086.60	1086.40	0.21	0.02%
19-Jun-20	0.3030	1099.96	1099.80	0.16	0.01%
31-Aug-19	0.2980	1082.45	1081.95	0.50	0.05%
31-Aug-19	0.2980	1082.45	1081.95	0.50	0.05%
24-May-19	0.3130	1105.48	1105.77	-0.30	-0.03%
24-May-19	0.3130	1105.48	1105.77	-0.30	-0.03%
20-Aug-19	0.2840	1086.78	1086.50	0.27	0.03%

20-Aug-19	0.2840	1086.78	1086.50	0.27	0.03%
19-Sep-19	0.4400	1104.40	1104.78	-0.38	-0.03%
19-Mar-19	0.2320	1076.64	1076.29	0.35	0.03%
19-Sep-19	0.4400	1104.40	1104.78	-0.38	-0.03%
20-May-20	0.2820	1077.25	1076.96	0.30	0.03%
12-Mar-19	0.2540	1070.35	1070.15	0.20	0.02%
11-Mar-20	0.2800	1074.20	1073.87	0.33	0.03%
7-Aug-19	0.2960	1106.17	1105.80	0.37	0.03%
7-Aug-19	0.2960	1106.17	1105.80	0.37	0.03%
13-Jan-20	0.2840	1124.02	1123.91	0.11	0.01%
12-Dec-19	0.2940	1098.54	1098.53	0.01	0.00%
6-Feb-19	0.2920	1104.59	1104.60	-0.01	0.00%
26-May-20	0.3230	1122.86	1122.89	-0.03	0.00%
12-Mar-19	0.2370	1082.06	1081.67	0.39	0.04%
31-Mar-20	0.2970	1084.96	1084.85	0.12	0.01%
15-Apr-20	0.3090	1101.21	1101.16	0.05	0.00%
30-Jul-19	0.3090	1096.66	1096.66	0.00	0.00%
30-Jul-19	0.3090	1096.66	1096.66	0.00	0.00%
19-May-20	0.3570	1166.55	1166.70	-0.15	-0.01%
7-May-20	0.2730	1076.84	1076.45	0.39	0.04%
31-Mar-20	0.2970	1084.96	1084.85	0.12	0.01%
17-Jun-19	0.2960	1071.64	1071.28	0.36	0.03%
17-Jun-19	0.2960	1071.64	1071.28	0.36	0.03%
26-Jul-18	0.3020	1074.89	1073.68	1.20	0.11%
10-Sep-19	0.2750	1081.05	1080.72	0.32	0.03%
10-Sep-19	0.2750	1081.05	1080.72	0.32	0.03%
22-Aug-19	0.2910	1081.34	1080.81	0.53	0.05%
22-Aug-19	0.2910	1081.34	1080.81	0.53	0.05%
4-Jun-19	0.2920	1084.89	1084.30	0.59	0.05%
6-Jun-19	0.2960	1074.46	1073.72	0.74	0.07%
6-Jun-19	0.2960	1074.46	1073.72	0.74	0.07%
14-Sep-19	0.3060	1078.78	1078.36	0.42	0.04%
14-Sep-19	0.3060	1078.78	1078.36	0.42	0.04%
15-Mar-19	0.2830	1080.56	1080.24	0.32	0.03%
8-Apr-19	0.2590	1076.35	1075.78	0.56	0.05%
8-Apr-19	0.2590	1076.35	1075.78	0.56	0.05%
29-Aug-19	0.2870	1076.83	1076.42	0.41	0.04%
29-Aug-19	0.2870	1076.83	1076.42	0.41	0.04%
11-Jun-19	0.3060	1084.81	1084.50	0.30	0.03%
11-Jun-19	0.3060	1084.81	1084.50	0.30	0.03%
15-Apr-19	0.2730	1079.79	1079.42	0.38	0.03%
15-Apr-20	0.2740	1079.60	1079.31	0.30	0.03%
27-Jun-19	0.2800	1059.93	1059.38	0.55	0.05%
1-Jun-20	0.2920	1083.90	1083.41	0.49	0.05%
1-Jun-20	0.2910	1079.20	1078.71	0.50	0.05%
6-Nov-19	0.2990	1105.48	1105.49	-0.02	0.00%
13-Mar-19	0.2850	1088.61	1088.23	0.38	0.04%
13-Mar-19	0.2850	1088.61	1088.23	0.38	0.04%
14-Oct-19	0.2750	1080.77	1080.44	0.33	0.03%
14-Oct-19	0.2750	1080.77	1080.44	0.33	0.03%
24-Sep-19	0.2750	1073.37	1072.67	0.69	0.06%
7-Aug-18	0.2940	1076.50	1075.71	0.79	0.07%
24-Sep-19	0.2750	1073.37	1072.67	0.69	0.06%
10-Apr-19	0.2740	1089.08	1088.83	0.26	0.02%
16-Apr-20	0.2920	1090.40	1090.06	0.34	0.03%
10-Apr-19	0.2740	1089.08	1088.83	0.26	0.02%
28-Aug-18	0.2920	1084.75	1083.91	0.84	0.08%

20-May-19	0.2320	1054.63	1054.19	0.45	0.04%
31-Jul-19	0.5920	1268.17	1269.47	-1.30	-0.10%
31-Jul-19	0.5920	1268.17	1269.47	-1.30	-0.10%
30-Oct-18	0.4110	1189.98	1190.56	-0.58	-0.05%
19-Feb-20	0.4690	1164.08	1164.68	-0.60	-0.05%
21-Jun-19	0.3600	1148.69	1149.12	-0.43	-0.04%
27-Sep-19	0.3620	1208.84	1209.38	-0.54	-0.04%
21-Jun-19	0.3600	1151.27	1151.70	-0.43	-0.04%
27-Sep-19	0.3620	1207.60	1208.14	-0.54	-0.04%
1-Sep-19	0.1900	1071.68	1071.39	0.29	0.03%
28-Feb-19	0.2830	1154.51	1154.33	0.18	0.02%
28-Feb-19	0.2830	1154.77	1154.59	0.18	0.02%
30-Sep-19	0.2810	1102.93	1102.82	0.12	0.01%
30-Sep-19	0.2810	1102.82	1102.70	0.12	0.01%
19-Sep-19	0.3520	1289.11	1289.31	-0.21	-0.02%
22-Jan-20	0.4170	1286.94	1287.66	-0.72	-0.06%
22-Jan-20	0.4170	1286.91	1287.63	-0.72	-0.06%
23-Sep-19	0.3790	1279.80	1280.22	-0.42	-0.03%
23-Sep-19	0.3790	1279.80	1280.22	-0.42	-0.03%
25-Mar-20	0.4610	1327.06	1328.05	-0.99	-0.07%
25-Mar-20	0.4610	1327.06	1328.05	-0.99	-0.07%
18-Dec-19	0.5010	1316.12	1317.22	-1.09	-0.08%
18-Dec-19	0.5000	1313.98	1315.07	-1.09	-0.08%
20-Apr-20	0.4240	1306.97	1307.66	-0.69	-0.05%
20-Apr-20	0.4240	1306.97	1307.66	-0.69	-0.05%
20-Nov-19	0.5220	1351.56	1352.87	-1.31	-0.10%
20-Nov-19	0.5230	1352.24	1353.55	-1.31	-0.10%
20-Nov-19	0.5220	1351.73	1353.04	-1.31	-0.10%
20-Nov-19	0.5220	1351.47	1352.78	-1.31	-0.10%
9-Jan-20	0.3710	1336.81	1337.48	-0.67	-0.05%
19-Aug-19	0.4880	1312.76	1313.83	-1.07	-0.08%
19-Aug-19	0.4880	1312.76	1313.83	-1.07	-0.08%
31-Jan-20	0.4870	1306.26	1307.32	-1.06	-0.08%
25-Mar-20	0.3520	1292.24	1292.65	-0.41	-0.03%
25-Mar-20	0.3520	1291.33	1291.74	-0.41	-0.03%
11-Nov-19	0.5100	1260.80	1261.78	-0.98	-0.08%
11-Nov-19	0.5100	1259.89	1260.87	-0.98	-0.08%
20-Feb-20	0.4380	1314.47	1315.41	-0.94	-0.07%
1-Oct-19	0.2680	1297.97	1297.46	0.51	0.04%
26-Mar-19	0.3100	1703.44	1703.82	-0.38	-0.02%
25-Feb-20	0.5870	1267.74	1269.06	-1.32	-0.10%
13-Sep-18	0.3190	1281.90	1282.10	-0.20	-0.02%
4-Dec-19	0.7650	1256.36	1258.17	-1.81	-0.14%
8-Apr-19	0.2680	1233.52	1233.63	-0.11	-0.01%
12-Dec-19	0.3850	1212.67	1213.00	-0.33	-0.03%
18-Jan-18	0.2430	1189.79	1189.71	0.08	0.01%
13-Jan-20	0.4500	1370.74	1371.06	-0.33	-0.02%
11-Jul-19	0.3360	1113.36	1113.60	-0.24	-0.02%
14-May-19	0.2700	1088.43	1088.17	0.26	0.02%
14-May-19	0.2700	1088.43	1088.17	0.26	0.02%
14-May-19	0.2410	1078.05	1077.97	0.07	0.01%
20-Aug-19	0.2850	1068.83	1068.05	0.78	0.07%
20-Aug-19	0.2850	1068.83	1068.05	0.78	0.07%
11-Dec-18	0.2940	1078.68	1078.11	0.56	0.05%
15-Apr-19	0.3250	1082.63	1083.04	-0.41	-0.04%
15-Apr-19	0.3250	1082.63	1083.04	-0.41	-0.04%
23-May-19	0.2940	1079.59	1079.11	0.48	0.04%

23-May-19	0.2940	1079.59	1079.11	0.48	0.04%
14-Jan-20	0.3180	1110.48	1110.44	0.04	0.00%
12-Mar-19	0.2880	1089.62	1089.46	0.16	0.01%
18-Sep-19	0.2950	1093.12	1092.85	0.27	0.02%
18-Sep-19	0.2950	1093.12	1092.85	0.27	0.02%
15-Apr-20	0.3160	1098.13	1098.10	0.03	0.00%
19-Jun-19	0.3060	1098.96	1098.76	0.20	0.02%
26-Nov-19	0.3400	1103.66	1103.78	-0.11	-0.01%
26-Nov-19	0.3400	1103.82	1103.94	-0.11	-0.01%
28-Feb-19	0.2940	1091.40	1091.30	0.10	0.01%
14-Oct-19	0.3460	1116.26	1116.31	-0.05	0.00%
14-Oct-19	0.3460	1116.61	1116.66	-0.05	0.00%
15-Jan-19	0.3330	1103.35	1103.49	-0.14	-0.01%
12-Nov-19	0.3170	1113.24	1113.27	-0.03	0.00%
20-Sep-19	0.3000	1092.50	1092.31	0.19	0.02%
19-Mar-19	0.3000	1100.51	1100.39	0.11	0.01%
20-Sep-19	0.3000	1092.50	1092.31	0.19	0.02%
27-Mar-19	0.3340	1103.64	1103.58	0.06	0.01%
22-Oct-19	0.3410	1112.29	1112.17	0.13	0.01%
22-Oct-19	0.3410	1112.64	1112.52	0.13	0.01%
18-Apr-19	0.3520	1115.95	1116.14	-0.19	-0.02%
12-Jun-19	0.2780	1092.91	1092.60	0.31	0.03%
26-May-20	0.3110	1108.36	1108.26	0.10	0.01%
24-Apr-19	0.3010	1086.45	1086.31	0.14	0.01%
2-Apr-20	0.3370	1098.17	1098.31	-0.13	-0.01%
24-Oct-19	0.3290	1106.12	1106.04	0.07	0.01%
24-Oct-19	0.3290	1106.65	1106.58	0.07	0.01%
18-Jan-19	0.3380	1136.22	1136.39	-0.17	-0.01%
26-Jun-19	0.3370	1116.23	1116.24	-0.01	0.00%
26-Jun-19	0.3370	1116.23	1116.24	-0.01	0.00%
26-Jun-19	0.3370	1116.23	1116.24	-0.01	0.00%
16-Apr-19	0.3640	1127.05	1127.10	-0.05	0.00%
9-Jul-19	0.3320	1107.00	1107.16	-0.17	-0.02%
9-Jul-19	0.3320	1107.00	1107.16	-0.17	-0.02%
9-Jul-19	0.3450	1108.69	1108.70	-0.01	0.00%
9-Jul-19	0.3450	1108.69	1108.70	-0.01	0.00%
18-Oct-19	0.3200	1098.73	1098.24	0.49	0.04%
18-Oct-19	0.3200	1098.73	1098.24	0.49	0.04%
27-Mar-19	0.3370	1107.30	1107.40	-0.10	-0.01%
26-Jun-19	0.3430	1118.48	1118.73	-0.25	-0.02%
26-Jun-19	0.3430	1118.48	1118.73	-0.25	-0.02%
15-Oct-19	0.3130	1091.48	1091.18	0.30	0.03%
15-Oct-19	0.3130	1091.48	1091.18	0.30	0.03%
28-Feb-19	0.3040	1094.49	1094.08	0.41	0.04%
16-May-19	0.3330	1108.50	1108.31	0.19	0.02%
24-Apr-19	0.3090	1103.98	1103.81	0.18	0.02%
20-May-20	0.3030	1100.56	1100.58	-0.03	0.00%
8-May-19	0.3130	1088.95	1088.87	0.07	0.01%
13-Aug-19	0.3050	1077.99	1077.51	0.48	0.04%
22-Feb-19	0.2690	1072.34	1072.18	0.16	0.02%
14-May-19	0.3180	1084.18	1083.71	0.47	0.04%
26-Sep-19	0.3240	1091.91	1091.60	0.31	0.03%
26-Sep-19	0.3240	1091.91	1091.60	0.31	0.03%
4-Jun-19	0.3290	1085.66	1084.85	0.81	0.07%
4-Jun-19	0.3290	1085.66	1084.85	0.81	0.07%
13-Jun-19	0.3250	1090.29	1090.02	0.27	0.02%
13-Jun-19	0.3250	1090.29	1090.02	0.27	0.02%

12-Jun-19	0.2970	1084.60	1084.26	0.34	0.03%
12-Jun-19	0.2970	1084.60	1084.26	0.34	0.03%
10-Mar-20	0.3040	1090.76	1090.60	0.16	0.01%
11-Feb-20	0.3110	1080.86	1080.48	0.38	0.03%
25-Oct-19	0.2970	1083.16	1082.77	0.39	0.04%
25-Oct-19	0.2970	1083.16	1082.77	0.39	0.04%
10-Mar-20	0.2820	1081.25	1081.11	0.14	0.01%
28-Apr-20	0.2880	1072.44	1072.15	0.29	0.03%
28-May-20	0.3050	1093.08	1092.82	0.26	0.02%
1-Jun-20	0.2980	1090.52	1090.28	0.24	0.02%
23-Jan-20	0.3020	1091.21	1091.05	0.17	0.02%
23-Mar-20	0.3100	1098.97	1098.91	0.07	0.01%
22-Apr-20	0.2830	1069.80	1069.21	0.59	0.05%
22-Apr-20	0.2830	1069.80	1069.21	0.59	0.05%
17-Mar-20	0.2910	1079.13	1078.94	0.19	0.02%
14-Sep-19	0.3250	1092.12	1091.80	0.32	0.03%
14-Sep-19	0.3250	1092.12	1091.80	0.32	0.03%
19-Jun-20	0.2990	1086.93	1086.54	0.40	0.04%
12-Sep-19	0.2950	1088.85	1088.69	0.16	0.01%
12-Sep-19	0.2950	1088.85	1088.69	0.16	0.01%
12-Sep-19	0.2940	1093.20	1092.94	0.26	0.02%
12-Sep-19	0.2940	1093.20	1092.94	0.26	0.02%
28-Aug-19	0.2980	1081.62	1081.27	0.35	0.03%
28-Aug-19	0.2980	1081.62	1081.27	0.35	0.03%
5-Nov-19	0.3320	1081.21	1080.61	0.60	0.06%
5-Nov-19	0.3320	1081.21	1080.61	0.60	0.06%
19-Feb-20	0.3300	1086.75	1086.50	0.26	0.02%
19-Jun-20	0.3090	1098.17	1097.85	0.31	0.03%
9-Sep-19	0.2790	1077.28	1076.99	0.28	0.03%
9-Sep-19	0.2790	1077.28	1076.99	0.28	0.03%
10-Jun-19	0.3200	1126.50	1126.55	-0.05	0.00%
10-Jun-19	0.3200	1126.50	1126.55	-0.05	0.00%
6-Jun-19	0.2910	1089.68	1089.57	0.12	0.01%
5-Mar-19	0.2950	1087.27	1087.08	0.19	0.02%
3-Mar-20	0.3010	1083.14	1082.93	0.21	0.02%
22-Nov-19	0.2960	1094.32	1094.08	0.24	0.02%
22-Nov-19	0.2960	1094.32	1094.08	0.24	0.02%
3-Jun-20	0.3470	1147.49	1147.73	-0.23	-0.02%
4-Mar-20	0.2990	1085.83	1085.79	0.04	0.00%
27-Feb-19	0.3130	1101.86	1101.77	0.09	0.01%
18-Jun-20	0.3510	1156.77	1157.10	-0.32	-0.03%
4-Mar-20	0.3030	1092.08	1092.10	-0.03	0.00%
29-Jan-19	0.3150	1108.68	1108.41	0.27	0.02%
3-Apr-19	0.3430	1088.02	1087.95	0.07	0.01%
29-Apr-20	0.3280	1139.13	1139.10	0.03	0.00%
9-Apr-19	0.4070	1148.67	1149.00	-0.33	-0.03%
10-Apr-19	0.3090	1121.83	1121.81	0.02	0.00%
22-Jan-19	0.2990	1097.10	1096.97	0.13	0.01%
17-Apr-19	0.3480	1166.51	1166.83	-0.33	-0.03%
7-Nov-19	0.2850	1087.37	1087.33	0.04	0.00%
7-Nov-19	0.2850	1087.37	1087.33	0.04	0.00%
9-Jun-20	0.3210	1123.69	1123.91	-0.22	-0.02%
23-Sep-19	0.3030	1105.47	1105.48	-0.01	0.00%
23-Sep-19	0.3030	1105.47	1105.48	-0.01	0.00%
30-Mar-20	0.3450	1132.14	1132.22	-0.07	-0.01%
14-Jan-20	0.3780	1150.42	1150.71	-0.30	-0.03%
3-Dec-19	0.3070	1118.51	1118.58	-0.06	-0.01%

1-Apr-20	0.3260	1110.44	1110.54	-0.11	-0.01%
7-May-20	0.3170	1102.41	1102.37	0.05	0.00%
3-Sep-19	0.3010	1085.64	1085.37	0.27	0.02%
13-May-20	0.2980	1088.69	1088.47	0.22	0.02%
12-Nov-19	0.3000	1111.68	1111.59	0.08	0.01%
13-Mar-19	0.3030	1056.65	1056.44	0.21	0.02%
7-Nov-19	0.2930	1101.66	1101.46	0.20	0.02%
1-May-19	0.2840	1102.39	1102.17	0.22	0.02%
7-May-20	0.3290	1104.02	1103.98	0.04	0.00%
23-Jul-19	0.2850	1077.80	1077.28	0.52	0.05%
23-Jul-19	0.2850	1077.80	1077.28	0.52	0.05%
17-Sep-19	0.2890	1096.16	1096.06	0.10	0.01%
17-Sep-19	0.2890	1096.16	1096.06	0.10	0.01%
13-May-20	0.2750	1072.82	1072.58	0.24	0.02%
14-Aug-19	0.3290	1103.02	1102.91	0.11	0.01%
14-Apr-20	0.3320	1121.22	1121.37	-0.15	-0.01%
14-Aug-19	0.3290	1103.02	1102.91	0.11	0.01%
21-Jan-20	0.2940	1101.43	1101.43	0.00	0.00%
12-Apr-19	0.2990	1107.39	1107.11	0.28	0.03%
22-Apr-20	0.2890	1090.35	1089.73	0.63	0.06%
7-May-19	0.2930	1098.44	1098.37	0.07	0.01%
28-Jan-19	0.4830	1221.22	1221.97	-0.75	-0.06%
22-Jan-20	0.3550	1176.30	1176.43	-0.13	-0.01%
20-Jan-20	0.3170	1129.85	1129.81	0.04	0.00%
4-Sep-19	0.3110	1083.13	1082.77	0.35	0.03%
9-Dec-19	0.3370	1124.58	1124.52	0.06	0.01%
6-Aug-19	0.3220	1146.92	1147.01	-0.10	-0.01%
6-Aug-19	0.3220	1146.92	1147.01	-0.10	-0.01%
6-Jan-20	0.2870	1094.32	1094.24	0.08	0.01%
11-Jun-20	0.3060	1096.51	1096.23	0.27	0.02%
27-Feb-19	0.3750	1173.28	1173.74	-0.46	-0.04%
11-Jun-19	0.2970	1089.82	1089.48	0.34	0.03%
11-Jun-19	0.2970	1089.82	1089.48	0.34	0.03%
27-Feb-19	0.2980	1096.08	1095.77	0.31	0.03%
10-Jun-20	0.2990	1116.45	1116.32	0.13	0.01%
21-Aug-19	0.2720	1069.07	1068.64	0.43	0.04%
21-Aug-19	0.2720	1069.07	1068.64	0.43	0.04%
11-Jul-19	0.2840	1068.83	1068.01	0.82	0.08%
11-Jul-19	0.2840	1068.83	1068.01	0.82	0.08%
13-Mar-19	0.2370	1098.69	1098.45	0.25	0.02%
16-May-19	0.4050	1227.31	1227.72	-0.41	-0.03%
16-May-19	0.4050	1227.31	1227.72	-0.41	-0.03%
9-Jan-20	0.3180	1134.90	1134.85	0.05	0.00%
9-Jan-19	0.3880	1179.25	1179.98	-0.73	-0.06%
9-Jan-19	0.3880	1179.58	1180.31	-0.73	-0.06%
12-Feb-20	0.2920	1087.74	1087.53	0.20	0.02%
7-Mar-19	0.2470	1110.11	1110.10	0.02	0.00%
5-Mar-20	0.3080	1101.06	1101.06	0.00	0.00%
5-Mar-19	0.2790	1079.23	1079.11	0.12	0.01%
28-Apr-20	0.2920	1093.64	1093.56	0.08	0.01%
20-Jun-19	0.2950	1083.84	1083.29	0.56	0.05%
20-Jun-19	0.2950	1083.84	1083.29	0.56	0.05%
22-Apr-20	0.2830	1069.80	1069.21	0.59	0.05%
26-Feb-19	0.3000	1096.88	1096.82	0.05	0.00%
22-Apr-20	0.2720	1078.44	1077.88	0.56	0.05%
25-Oct-19	0.3030	1081.79	1081.53	0.27	0.02%
29-Apr-20	0.2860	1069.89	1069.23	0.67	0.06%

25-Oct-19	0.3030	1081.79	1081.53	0.27	0.02%
19-Jul-19	0.2910	1084.83	1084.71	0.12	0.01%
19-Jul-19	0.2910	1084.83	1084.71	0.12	0.01%
7-Aug-19	0.2990	1091.69	1091.22	0.47	0.04%
7-Aug-19	0.2990	1091.69	1091.22	0.47	0.04%
11-Sep-19	0.2960	1084.96	1084.79	0.17	0.02%
11-Sep-19	0.2960	1084.96	1084.79	0.17	0.02%
5-Feb-19	0.2840	1082.96	1082.33	0.63	0.06%
5-Feb-19	0.2840	1082.96	1082.33	0.63	0.06%
31-Jul-19	0.3060	1069.71	1068.74	0.97	0.09%
31-Jul-19	0.3060	1069.71	1068.74	0.97	0.09%
9-Apr-19	0.2820	1090.76	1090.46	0.30	0.03%
27-Feb-19	0.2700	1090.38	1090.29	0.10	0.01%
27-Feb-19	0.2700	1090.38	1090.29	0.10	0.01%
21-Apr-20	0.3110	1093.68	1093.47	0.21	0.02%
21-Apr-20	0.3110	1093.68	1093.47	0.21	0.02%
2-Jul-19	0.3010	1074.76	1073.93	0.83	0.08%
2-Jul-19	0.3010	1074.76	1073.93	0.83	0.08%
16-Oct-19	0.2990	1084.40	1084.10	0.30	0.03%
16-Oct-19	0.2990	1084.40	1084.10	0.30	0.03%
11-Mar-20	0.2880	1078.61	1078.37	0.23	0.02%
23-Aug-19	0.3450	1087.92	1087.37	0.55	0.05%
23-Aug-19	0.3450	1087.92	1087.37	0.55	0.05%
19-May-20	0.2830	1094.40	1093.54	0.86	0.08%
25-Sep-19	0.4350	1228.24	1228.54	-0.31	-0.03%
27-Aug-19	0.3750	1197.87	1198.38	-0.51	-0.04%
29-Jul-10	0.2280	1064.28	1064.28	0.00	0.00%
30-May-19	0.3250	1108.10	1107.93	0.16	0.01%
1-Oct-19	0.5200	1182.63	1183.67	-1.03	-0.09%
1-Oct-19	0.5200	1182.63	1183.67	-1.03	-0.09%
27-Sep-19	0.3650	1216.26	1216.81	-0.54	-0.04%
1-Jul-19	0.1920	1067.39	1067.10	0.29	0.03%
27-Aug-19	0.3030	1039.06	1039.13	-0.06	-0.01%
18-Feb-20	0.4310	1275.38	1276.20	-0.82	-0.06%
20-Jun-19	0.2320	1291.68	1291.52	0.16	0.01%
18-Apr-19	0.2390	1242.29	1242.35	-0.06	-0.01%
18-Apr-19	0.2390	1242.93	1243.00	-0.06	-0.01%
21-May-20	0.4370	1309.23	1310.03	-0.80	-0.06%
21-May-20	0.4370	1309.23	1310.03	-0.80	-0.06%
17-Dec-19	0.3940	1260.05	1260.67	-0.62	-0.05%
17-Dec-19	0.3940	1260.09	1260.70	-0.62	-0.05%
13-Dec-19	0.4160	1279.00	1279.45	-0.45	-0.04%
7-May-20	0.4510	1280.42	1281.16	-0.74	-0.06%
30-May-19	0.2320	1263.84	1263.77	0.06	0.00%
12-May-20	0.3970	1291.35	1291.92	-0.58	-0.04%
12-May-20	0.3970	1291.35	1291.92	-0.58	-0.04%
10-Jan-20	0.5640	1189.04	1190.48	-1.45	-0.12%
18-Dec-18	0.2720	1293.24	1293.31	-0.07	-0.01%
12-Feb-20	0.3550	1264.87	1265.13	-0.26	-0.02%
2-Jun-17	0.1370	1252.47	1252.21	0.26	0.02%
30-Mar-20	0.4900	1384.68	1385.59	-0.91	-0.07%
14-May-20	0.4240	1289.44	1290.01	-0.57	-0.04%
12-Jun-19	0.2400	1272.47	1272.33	0.14	0.01%
31-Mar-20	0.3660	1269.98	1270.46	-0.48	-0.04%
26-Apr-19	0.2450	1243.08	1242.90	0.18	0.01%
11-Jul-19	0.3050	1334.60	1334.77	-0.17	-0.01%
11-Jul-19	0.3050	1332.98	1333.16	-0.17	-0.01%

21-May-20	0.5060	1259.13	1260.40	-1.27	-0.10%
10-Jan-20	0.3950	1282.89	1283.43	-0.54	-0.04%
29-May-19	0.3770	1283.41	1283.98	-0.57	-0.04%
29-Mar-20	0.5300	1260.95	1261.81	-0.85	-0.07%
1-Nov-19	0.2520	1295.36	1295.18	0.18	0.01%
1-Oct-19	0.2520	1295.36	1295.18	0.18	0.01%
1-Sep-19	0.2520	1295.36	1295.18	0.18	0.01%
1-Aug-19	0.2520	1295.36	1295.18	0.18	0.01%
1-Jul-19	0.2520	1295.36	1295.18	0.18	0.01%
1-Feb-20	0.2520	1295.36	1295.18	0.18	0.01%
24-Mar-20	0.2860	1090.67	1090.30	0.36	0.03%
29-Oct-19	0.2460	1065.58	1065.14	0.44	0.04%
15-Jul-19	0.2620	1098.50	1097.96	0.53	0.05%
15-Jul-19	0.2620	1098.50	1097.96	0.53	0.05%
24-May-19	0.2930	1066.26	1065.21	1.06	0.10%
11-Jun-19	0.2780	1081.20	1080.83	0.37	0.03%
11-Jun-19	0.2780	1081.20	1080.83	0.37	0.03%
19-Mar-19	0.2860	1090.07	1089.98	0.09	0.01%
27-Mar-19	0.3570	1115.72	1115.78	-0.06	-0.01%
9-Aug-19	0.3100	1115.02	1115.00	0.02	0.00%
9-Aug-19	0.3100	1115.02	1115.00	0.02	0.00%
9-Aug-19	0.3100	1115.02	1115.00	0.02	0.00%
21-Aug-19	0.2890	1099.05	1098.80	0.25	0.02%
21-Aug-19	0.2890	1099.05	1098.80	0.25	0.02%
10-Mar-20	0.2910	1078.30	1077.73	0.57	0.05%
17-Jul-19	0.3070	1076.75	1075.87	0.88	0.08%
17-Jul-19	0.3070	1076.75	1075.87	0.88	0.08%
20-Nov-18	0.2840	1073.32	1072.49	0.83	0.08%
23-Aug-18	0.2900	1066.55	1065.50	1.05	0.10%
29-Jan-19	0.2650	1129.20	1129.05	0.15	0.01%
10-Jul-19	0.4160	1116.67	1117.01	-0.35	-0.03%
10-Jul-19	0.4160	1116.67	1117.01	-0.35	-0.03%
13-Mar-19	0.2810	1093.36	1093.71	-0.35	-0.03%
13-Mar-19	0.2810	1093.36	1093.71	-0.35	-0.03%
18-Jun-19	0.2940	1094.75	1094.59	0.15	0.01%
26-Sep-19	0.3020	1091.98	1091.79	0.20	0.02%
28-Jan-20	0.3430	1096.12	1096.17	-0.05	0.00%
26-Sep-19	0.3020	1092.60	1092.40	0.20	0.02%
26-Mar-19	0.3020	1092.67	1092.55	0.13	0.01%
1-Apr-20	0.3460	1125.20	1125.58	-0.38	-0.03%
14-Jan-20	0.3620	1116.14	1116.40	-0.27	-0.02%
15-Jan-19	0.3150	1106.35	1106.31	0.04	0.00%
15-Jan-19	0.3150	1106.35	1106.31	0.04	0.00%
12-Nov-19	0.3100	1121.23	1121.17	0.05	0.00%
19-May-20	0.3380	1131.15	1131.15	-0.01	0.00%
15-May-19	0.3630	1118.14	1117.99	0.15	0.01%
20-Sep-19	0.2990	1090.13	1089.84	0.29	0.03%
20-Sep-19	0.2990	1090.13	1089.84	0.29	0.03%
8-Apr-20	0.3220	1102.50	1102.51	-0.01	0.00%
8-Apr-20	0.3160	1104.69	1104.53	0.17	0.02%
10-Oct-19	0.3470	1108.84	1108.92	-0.08	-0.01%
10-Oct-19	0.3470	1108.84	1108.92	-0.08	-0.01%
10-Oct-19	0.3560	1113.62	1113.80	-0.18	-0.02%
10-Oct-19	0.3560	1113.62	1113.80	-0.18	-0.02%
24-Jun-20	0.3520	1136.43	1136.09	0.34	0.03%
26-Jun-19	0.3310	1141.84	1141.98	-0.14	-0.01%
26-Jun-19	0.3310	1141.84	1141.98	-0.14	-0.01%

26-Jun-19	0.3310	1141.84	1141.98	-0.14	-0.01%
10-Apr-20	0.3420	1114.85	1115.12	-0.27	-0.02%
21-Jan-20	0.3840	1115.78	1115.95	-0.17	-0.02%
16-Jul-19	0.3160	1106.69	1106.71	-0.02	0.00%
16-Jul-19	0.3160	1106.69	1106.71	-0.02	0.00%
21-May-20	0.3170	1103.16	1102.98	0.19	0.02%
26-Sep-19	0.3060	1088.81	1088.43	0.38	0.03%
26-Sep-19	0.3060	1088.81	1088.43	0.38	0.03%
16-May-19	0.3190	1083.88	1083.58	0.30	0.03%
15-Aug-19	0.3030	1078.02	1077.59	0.44	0.04%
15-Aug-19	0.3030	1078.02	1077.59	0.44	0.04%
26-Sep-19	0.3160	1090.62	1090.32	0.30	0.03%
20-Mar-19	0.3210	1110.12	1110.21	-0.09	-0.01%
16-Jun-20	0.3150	1095.23	1095.11	0.12	0.01%
16-Jun-20	0.3150	1095.59	1095.29	0.30	0.03%
16-Jun-20	0.3060	1090.59	1090.20	0.39	0.04%
23-Apr-19	0.2830	1078.72	1078.31	0.41	0.04%
23-Apr-19	0.2770	1076.13	1075.82	0.31	0.03%
31-Jul-19	0.2860	1069.69	1069.22	0.46	0.04%
31-Jul-19	0.2860	1069.69	1069.22	0.46	0.04%
16-Apr-20	0.3580	1152.16	1152.49	-0.33	-0.03%
5-Mar-20	0.3160	1091.92	1091.65	0.27	0.02%
1-Jun-20	0.3000	1095.81	1095.56	0.24	0.02%
2-Oct-19	0.3110	1090.50	1090.34	0.16	0.01%
2-Oct-19	0.3110	1090.50	1090.34	0.16	0.01%
11-Jun-19	0.2960	1094.82	1094.76	0.06	0.01%
11-Jun-19	0.2960	1094.82	1094.76	0.06	0.01%
16-Oct-19	0.3020	1097.38	1097.11	0.27	0.02%
16-Oct-19	0.3020	1097.38	1097.11	0.27	0.02%
18-Mar-20	0.3000	1095.47	1095.28	0.19	0.02%
7-Mar-19	0.2960	1089.54	1089.31	0.23	0.02%
17-Mar-20	0.3130	1088.78	1088.65	0.13	0.01%
24-Oct-19	0.3590	1136.54	1136.77	-0.22	-0.02%
24-Oct-19	0.3590	1136.54	1136.77	-0.22	-0.02%
12-Sep-19	0.2970	1090.26	1089.97	0.29	0.03%
12-Sep-19	0.2970	1090.26	1089.97	0.29	0.03%
7-Mar-19	0.2940	1091.14	1090.97	0.17	0.02%
5-Mar-19	0.2990	1096.53	1096.41	0.12	0.01%
27-Aug-19	0.3180	1086.39	1086.04	0.35	0.03%
27-Aug-19	0.3180	1086.39	1086.04	0.35	0.03%
13-Mar-19	0.2990	1086.14	1085.86	0.28	0.03%
7-Jan-20	0.3240	1134.70	1134.83	-0.13	-0.01%
3-Jun-19	0.2860	1066.69	1065.86	0.83	0.08%
19-Jul-19	0.3020	1084.02	1083.71	0.31	0.03%
19-Jul-19	0.3020	1084.02	1083.71	0.31	0.03%
4-Dec-19	0.3060	1109.86	1109.87	-0.01	0.00%
19-Nov-19	0.3080	1090.57	1090.37	0.20	0.02%
6-Jun-19	0.3140	1098.82	1098.62	0.20	0.02%
5-Mar-19	0.2930	1089.80	1089.54	0.26	0.02%
3-Mar-20	0.3000	1082.59	1082.33	0.26	0.02%
14-Nov-19	0.3050	1070.74	1070.07	0.67	0.06%
14-Nov-19	0.3050	1070.74	1070.07	0.67	0.06%
6-Jun-19	0.3170	1128.88	1128.87	0.00	0.00%
6-Jun-19	0.3170	1128.88	1128.87	0.00	0.00%
6-Mar-19	0.3110	1099.15	1099.20	-0.05	0.00%
12-Mar-19	0.3010	1091.76	1091.42	0.34	0.03%
29-Aug-19	0.3050	1090.68	1090.31	0.37	0.03%

29-Aug-19	0.3050	1090.68	1090.31	0.37	0.03%
22-Nov-19	0.3120	1101.45	1101.43	0.02	0.00%
22-Nov-19	0.3120	1101.45	1101.43	0.02	0.00%
16-Apr-19	0.2870	1076.23	1075.72	0.51	0.05%
14-Apr-20	0.3430	1161.16	1161.36	-0.20	-0.02%
14-Apr-20	0.3430	1161.16	1161.36	-0.20	-0.02%
15-Apr-20	0.3540	1135.49	1135.79	-0.30	-0.03%
9-Jan-19	0.3350	1126.00	1126.14	-0.13	-0.01%
23-Mar-20	0.3030	1108.23	1108.25	-0.02	0.00%
25-Mar-19	0.3140	1103.94	1103.87	0.07	0.01%
15-Jan-20	0.3340	1124.76	1124.58	0.17	0.02%
5-Dec-19	0.3340	1104.91	1104.55	0.36	0.03%
14-Oct-19	0.2950	1118.28	1118.19	0.09	0.01%
14-Oct-19	0.2950	1118.28	1118.19	0.09	0.01%
11-May-20	0.3020	1089.32	1089.18	0.14	0.01%
5-Dec-19	0.2950	1092.86	1092.82	0.04	0.00%
13-May-20	0.2920	1079.76	1079.59	0.17	0.02%
11-May-20	0.3230	1108.01	1107.95	0.06	0.01%
19-Aug-19	0.3020	1102.53	1102.33	0.20	0.02%
19-Aug-19	0.3020	1102.53	1102.33	0.20	0.02%
12-Feb-20	0.3010	1098.64	1098.49	0.14	0.01%
7-Nov-19	0.3070	1101.18	1100.93	0.25	0.02%
28-Jan-19	0.2810	1105.35	1105.28	0.06	0.01%
23-Jul-19	0.3030	1094.51	1094.06	0.45	0.04%
23-Jul-19	0.3030	1094.51	1094.06	0.45	0.04%
21-Jun-19	0.3010	1089.77	1089.82	-0.06	-0.01%
2-Mar-20	0.3010	1099.24	1099.27	-0.03	0.00%
6-Aug-19	0.3030	1088.97	1088.84	0.13	0.01%
6-Aug-19	0.3030	1088.97	1088.84	0.13	0.01%
27-Aug-19	0.3080	1097.25	1097.03	0.21	0.02%
27-Aug-19	0.3080	1097.25	1097.03	0.21	0.02%
2-Jan-20	0.2920	1095.03	1095.05	-0.02	0.00%
9-Dec-19	0.2840	1109.51	1109.37	0.14	0.01%
25-Apr-19	0.3370	1132.72	1132.91	-0.19	-0.02%
12-Sep-19	0.3160	1088.55	1088.14	0.41	0.04%
12-Sep-19	0.3160	1088.55	1088.14	0.41	0.04%
13-Mar-19	0.3110	1082.95	1082.81	0.13	0.01%
24-Mar-20	0.3160	1095.49	1095.42	0.07	0.01%
19-Nov-19	0.2990	1092.47	1092.23	0.25	0.02%
19-Nov-19	0.3050	1098.35	1098.16	0.19	0.02%
19-Nov-19	0.3050	1098.35	1098.16	0.19	0.02%
19-Mar-19	0.3030	1084.70	1084.46	0.24	0.02%
10-Mar-20	0.3050	1078.68	1078.40	0.28	0.03%
26-Mar-19	0.3090	1103.95	1103.77	0.18	0.02%
26-Mar-19	0.3090	1103.95	1103.77	0.18	0.02%
27-May-20	0.3110	1096.17	1095.83	0.34	0.03%
21-Nov-19	0.2840	1112.52	1112.35	0.17	0.01%
21-Nov-19	0.2840	1112.52	1112.35	0.17	0.01%
31-Jul-19	0.2830	1089.48	1088.98	0.50	0.05%
31-Jul-19	0.2830	1089.48	1088.98	0.50	0.05%
11-Sep-19	0.3080	1086.18	1085.92	0.26	0.02%
11-Sep-19	0.3080	1086.18	1085.92	0.26	0.02%
22-Jan-19	0.3200	1123.17	1122.94	0.23	0.02%
2-Oct-19	0.3080	1100.89	1100.69	0.20	0.02%
2-Oct-19	0.3080	1100.89	1100.69	0.20	0.02%
10-Dec-19	0.3180	1112.15	1112.04	0.11	0.01%
24-Mar-20	0.2980	1090.86	1090.63	0.23	0.02%

23-Jul-19	0.3010	1088.11	1087.71	0.40	0.04%
23-Jul-19	0.3010	1088.11	1087.71	0.40	0.04%
12-May-20	0.2930	1084.58	1084.27	0.31	0.03%
15-Apr-20	0.3090	1114.10	1114.06	0.04	0.00%
23-Jan-20	0.3800	1171.70	1171.99	-0.28	-0.02%
4-Dec-19	0.2850	1110.04	1110.18	-0.14	-0.01%
31-Oct-19	0.3170	1101.50	1101.44	0.06	0.01%
31-Oct-19	0.3170	1101.50	1101.44	0.06	0.01%
20-Mar-19	0.2510	1076.99	1076.37	0.63	0.06%
20-Feb-19	0.2670	1081.43	1081.38	0.05	0.00%
11-Feb-20	0.2710	1080.64	1080.59	0.05	0.00%
20-Feb-19	0.3330	1113.29	1113.34	-0.06	-0.01%
13-Aug-19	0.2770	1072.49	1071.96	0.53	0.05%
13-Aug-19	0.2770	1072.49	1071.96	0.53	0.05%
24-Apr-19	0.2830	1080.52	1079.94	0.58	0.05%
21-Jan-20	0.3150	1085.89	1085.46	0.44	0.04%
11-Sep-19	0.3000	1095.30	1094.90	0.40	0.04%
11-Sep-19	0.3000	1095.30	1094.90	0.40	0.04%
20-Aug-19	0.3110	1094.78	1094.67	0.12	0.01%
20-Aug-19	0.3110	1094.78	1094.67	0.12	0.01%
30-Aug-19	0.3300	1109.18	1109.03	0.14	0.01%
30-Aug-19	0.3300	1109.18	1109.03	0.14	0.01%
18-May-20	0.2810	1066.22	1065.64	0.58	0.05%
27-Sep-18	0.3030	1084.66	1084.45	0.20	0.02%
12-Mar-19	0.2940	1094.36	1094.16	0.20	0.02%
20-May-19	0.3030	1110.48	1110.21	0.27	0.02%
20-Feb-19	0.3090	1109.49	1109.59	-0.10	-0.01%
17-Jun-19	0.3380	1126.01	1126.07	-0.05	0.00%
17-Jun-19	0.3380	1126.01	1126.07	-0.05	0.00%
8-Apr-20	0.2960	1082.66	1082.40	0.26	0.02%
9-Oct-19	0.3060	1072.74	1071.90	0.84	0.08%
9-Oct-19	0.3060	1072.74	1071.90	0.84	0.08%
8-Apr-20	0.2920	1085.68	1085.28	0.39	0.04%
28-May-20	0.3060	1084.40	1083.80	0.60	0.06%
17-Mar-20	0.2970	1086.83	1086.31	0.52	0.05%
24-Sep-19	0.3260	1078.90	1078.10	0.80	0.07%
24-Sep-19	0.3260	1078.90	1078.10	0.80	0.07%
13-May-20	0.2570	1091.83	1091.39	0.44	0.04%
19-Jun-20	0.2780	1076.59	1076.09	0.51	0.05%
15-Mar-19	0.3190	1082.64	1082.26	0.38	0.04%
15-Mar-19	0.3190	1082.64	1082.26	0.38	0.04%
17-Jun-19	0.2750	1071.55	1071.00	0.55	0.05%
17-Jun-19	0.2750	1071.55	1071.00	0.55	0.05%
16-Dec-19	0.3250	1081.83	1081.29	0.54	0.05%
15-Oct-19	0.2780	1080.54	1080.13	0.41	0.04%
15-Oct-19	0.2780	1080.54	1080.13	0.41	0.04%
27-Aug-19	0.3150	1084.02	1083.59	0.44	0.04%
27-Aug-19	0.3150	1084.02	1083.59	0.44	0.04%
25-Apr-19	0.2750	1074.68	1074.25	0.43	0.04%
25-Sep-19	0.4370	1231.75	1232.06	-0.31	-0.03%
25-Mar-20	0.5030	1294.25	1295.36	-1.11	-0.09%
8-May-19	0.3150	1136.38	1136.82	-0.44	-0.04%
17-Apr-20	0.4250	1127.01	1127.47	-0.46	-0.04%
9-May-19	0.4540	1162.13	1162.72	-0.59	-0.05%
27-May-20	0.4360	1158.50	1159.14	-0.65	-0.06%
17-Apr-19	0.3550	1181.96	1182.48	-0.52	-0.04%
21-Jun-19	0.3780	1210.47	1210.94	-0.46	-0.04%

8-Jan-20	0.3900	1274.46	1275.02	-0.56	-0.04%
9-Apr-19	0.2670	1198.84	1199.11	-0.26	-0.02%
7-Apr-20	0.4680	1299.96	1300.85	-0.88	-0.07%
23-Jan-20	0.4380	1310.04	1310.86	-0.82	-0.06%
23-Jan-20	0.4380	1310.04	1310.86	-0.82	-0.06%
13-Feb-20	0.4380	1323.89	1324.66	-0.76	-0.06%
27-Nov-19	0.4390	1296.62	1297.31	-0.69	-0.05%
27-Nov-19	0.4400	1297.43	1298.12	-0.69	-0.05%
27-Nov-19	0.4400	1297.30	1297.99	-0.69	-0.05%
27-Nov-19	0.4400	1297.28	1297.97	-0.69	-0.05%
27-Nov-18	0.2230	1315.61	1315.39	0.23	0.02%
10-Jan-20	0.4980	1200.47	1201.41	-0.94	-0.08%
14-Aug-19	0.4170	1297.56	1298.08	-0.51	-0.04%
14-Aug-19	0.4170	1297.65	1298.16	-0.51	-0.04%
17-Mar-20	0.5980	1145.69	1147.14	-1.45	-0.13%
16-Jun-20	0.3770	1292.09	1292.48	-0.39	-0.03%
27-Sep-19	0.5130	1364.17	1365.24	-1.07	-0.08%
21-Feb-19	0.2800	1250.03	1250.10	-0.08	-0.01%
22-Apr-20	0.4950	1324.14	1324.69	-0.55	-0.04%
7-Apr-20	0.5860	1294.80	1296.15	-1.34	-0.10%
8-Mar-18	0.2410	1208.43	1208.49	-0.06	-0.01%
26-Jun-19	0.2380	1314.45	1314.37	0.08	0.01%
26-Jun-19	0.2380	1312.80	1312.73	0.08	0.01%
9-Jan-19	0.2570	1243.02	1243.32	-0.30	-0.02%
24-Jun-19	0.3290	1239.13	1239.26	-0.13	-0.01%
14-Aug-18	0.2730	1272.51	1272.72	-0.22	-0.02%
14-Aug-18	0.2730	1272.51	1272.72	-0.22	-0.02%
11-Dec-18	0.2040	1239.97	1239.96	0.01	0.00%
20-Sep-19	0.5890	1340.38	1341.56	-1.17	-0.09%
20-Sep-19	0.5890	1340.37	1341.55	-1.17	-0.09%
5-Apr-19	0.3000	1308.75	1308.85	-0.10	-0.01%
1-Apr-20	0.2300	1297.68	1297.68	0.00	0.00%
4-Feb-20	0.4450	1279.14	1279.84	-0.70	-0.06%
1-Apr-20	0.4500	1355.32	1356.10	-0.78	-0.06%
1-Nov-19	0.1980	1258.68	1258.38	0.30	0.02%
1-Oct-19	0.1980	1258.68	1258.38	0.30	0.02%
1-Feb-20	0.1980	1258.68	1258.38	0.30	0.02%
14-Aug-18	0.2860	1097.05	1095.94	1.12	0.10%
14-May-20	0.2330	1102.20	1101.92	0.28	0.03%
1-Jun-20	0.2560	1086.88	1086.66	0.22	0.02%
1-Jun-20	0.2550	1084.18	1083.95	0.22	0.02%
11-Jan-19	0.3940	1177.91	1178.47	-0.56	-0.05%
9-Apr-20	0.4620	1230.14	1231.03	-0.89	-0.07%
9-Apr-19	0.2760	1070.49	1069.66	0.83	0.08%
9-Apr-19	0.2760	1070.49	1069.66	0.83	0.08%
28-Aug-19	0.2990	1072.61	1071.98	0.63	0.06%
28-Aug-19	0.2990	1072.61	1071.98	0.63	0.06%
8-Jun-20	0.3410	1134.75	1134.90	-0.16	-0.01%
29-Jan-19	0.2910	1101.37	1101.35	0.02	0.00%
8-Jun-20	0.3410	1134.75	1134.90	-0.16	-0.01%
28-May-19	0.6810	1296.78	1298.75	-1.96	-0.15%
8-Jun-20	0.3410	1134.75	1134.90	-0.16	-0.01%
8-Jun-20	0.3410	1134.75	1134.90	-0.16	-0.01%
8-Jun-20	0.3410	1134.75	1134.90	-0.16	-0.01%
8-Jun-20	0.3410	1134.75	1134.90	-0.16	-0.01%
8-Jun-20	0.3410	1134.75	1134.90	-0.16	-0.01%
4-Mar-20	0.3020	1092.33	1091.96	0.37	0.03%

8-Jun-20	0.3410	1134.75	1134.90	-0.16	-0.01%
7-May-20	0.3060	1090.17	1090.11	0.06	0.01%
4-Sep-19	0.3190	1100.08	1099.76	0.32	0.03%
4-Sep-19	0.3190	1099.49	1099.17	0.32	0.03%
24-Oct-19	0.3550	1115.75	1115.95	-0.20	-0.02%
24-Oct-19	0.3550	1116.29	1116.49	-0.20	-0.02%
12-Nov-19	0.3310	1115.78	1115.72	0.06	0.01%
12-Nov-19	0.3310	1115.78	1115.72	0.06	0.01%
15-Mar-19	0.3080	1092.18	1092.02	0.16	0.01%
4-Dec-19	0.3230	1096.85	1096.78	0.07	0.01%
1-Oct-19	0.3270	1106.24	1106.10	0.13	0.01%
1-Oct-19	0.3270	1106.24	1106.10	0.13	0.01%
1-Oct-19	0.3310	1098.79	1098.69	0.10	0.01%
1-Oct-19	0.3310	1098.79	1098.69	0.10	0.01%
14-Apr-20	0.3380	1102.03	1102.23	-0.20	-0.02%
8-May-20	0.3010	1094.72	1094.60	0.13	0.01%
16-Nov-19	0.3660	1111.30	1111.18	0.12	0.01%
16-Nov-19	0.3660	1111.30	1111.18	0.12	0.01%
22-Apr-20	0.3300	1110.00	1110.04	-0.05	0.00%
9-Apr-20	0.3380	1114.09	1114.15	-0.06	-0.01%
7-Apr-20	0.3700	1116.64	1117.02	-0.38	-0.03%
24-Jan-19	0.3650	1120.28	1120.56	-0.28	-0.02%
24-Jan-19	0.3650	1120.28	1120.56	-0.28	-0.02%
27-Mar-19	0.3380	1103.63	1103.58	0.05	0.00%
16-May-19	0.3040	1110.30	1110.17	0.14	0.01%
17-Mar-20	0.3050	1096.75	1096.67	0.07	0.01%
18-Sep-19	0.3050	1088.57	1088.16	0.41	0.04%
18-Sep-19	0.3050	1088.57	1088.16	0.41	0.04%
24-Jan-19	0.3170	1124.29	1124.15	0.14	0.01%
4-Jan-19	0.3220	1103.73	1103.80	-0.07	-0.01%
25-Jun-19	0.3360	1108.63	1108.78	-0.15	-0.01%
2-Jan-20	0.3370	1109.27	1109.56	-0.28	-0.03%
25-Jun-19	0.3360	1108.63	1108.78	-0.15	-0.01%
7-Apr-20	0.3210	1123.00	1123.05	-0.05	0.00%
21-Feb-19	0.2660	1074.43	1074.28	0.15	0.01%
20-Aug-19	0.3010	1078.85	1078.48	0.38	0.03%
11-Jun-20	0.3080	1098.29	1097.92	0.37	0.03%
20-Mar-19	0.3010	1090.76	1090.61	0.16	0.01%
20-Mar-19	0.2870	1087.34	1087.19	0.16	0.01%
11-Jun-20	0.3050	1095.49	1095.16	0.32	0.03%
26-Sep-19	0.2970	1075.62	1075.17	0.45	0.04%
26-Sep-19	0.2970	1075.62	1075.17	0.45	0.04%
25-Mar-20	0.3130	1093.48	1093.29	0.19	0.02%
11-Sep-19	0.3250	1092.30	1092.01	0.29	0.03%
3-Dec-19	0.3200	1088.71	1088.47	0.23	0.02%
5-Dec-19	0.3070	1089.33	1089.18	0.15	0.01%
17-Mar-20	0.3410	1108.19	1108.40	-0.21	-0.02%
31-Jul-19	0.2860	1064.91	1064.39	0.52	0.05%
16-Apr-20	0.3750	1164.38	1164.83	-0.45	-0.04%
4-Sep-19	0.3150	1091.26	1090.78	0.48	0.04%
4-Sep-19	0.3150	1091.26	1090.78	0.48	0.04%
12-Mar-19	0.3070	1095.32	1095.18	0.14	0.01%
18-Mar-20	0.3460	1110.07	1110.21	-0.14	-0.01%
22-Jan-20	0.3530	1121.62	1121.81	-0.19	-0.02%
9-Mar-20	0.3160	1086.25	1086.04	0.20	0.02%
11-Jun-19	0.2950	1088.00	1087.67	0.33	0.03%
11-Jun-19	0.2950	1088.00	1087.67	0.33	0.03%

11-Sep-19	0.3140	1109.02	1109.01	0.02	0.00%
11-Sep-19	0.3140	1109.02	1109.01	0.02	0.00%
3-Mar-20	0.2930	1080.07	1080.12	-0.05	0.00%
5-Nov-19	0.3380	1091.16	1090.92	0.24	0.02%
5-Nov-19	0.3380	1091.16	1090.92	0.24	0.02%
7-Mar-19	0.2980	1095.66	1095.53	0.13	0.01%
5-Mar-19	0.2970	1085.26	1085.10	0.16	0.01%
13-May-20	0.3140	1103.18	1102.92	0.26	0.02%
5-Mar-20	0.2920	1079.15	1078.79	0.36	0.03%
23-Jul-19	0.3210	1100.75	1100.56	0.19	0.02%
23-Jan-20	0.3270	1102.91	1102.88	0.03	0.00%
23-Jul-19	0.3210	1100.75	1100.56	0.19	0.02%
7-Mar-19	0.3960	1086.18	1085.21	0.98	0.09%
3-Mar-20	0.2990	1077.00	1076.71	0.28	0.03%
6-Jun-19	0.3210	1135.05	1135.05	0.00	0.00%
6-Jun-19	0.3210	1135.05	1135.05	0.00	0.00%
17-Aug-19	0.2930	1079.10	1078.86	0.25	0.02%
17-Aug-19	0.2930	1079.10	1078.86	0.25	0.02%
15-Apr-20	0.3230	1106.56	1106.62	-0.06	-0.01%
21-Aug-19	0.3030	1065.36	1064.58	0.78	0.07%
10-Apr-19	0.3900	1149.80	1150.30	-0.50	-0.04%
10-Sep-18	0.2780	1063.80	1063.26	0.54	0.05%
2-Mar-20	0.2860	1078.31	1078.33	-0.02	0.00%
27-Apr-20	0.3930	1155.29	1155.55	-0.27	-0.02%
9-Jun-20	0.3310	1126.55	1126.81	-0.26	-0.02%
9-Jun-20	0.3530	1145.61	1145.93	-0.32	-0.03%
9-Jan-19	0.2910	1102.89	1102.83	0.06	0.01%
12-May-20	0.2860	1081.44	1081.15	0.29	0.03%
15-Oct-19	0.3110	1096.00	1095.57	0.43	0.04%
15-Oct-19	0.3110	1096.00	1095.57	0.43	0.04%
17-Apr-19	0.3250	1112.61	1112.61	0.00	0.00%
15-Apr-20	0.3190	1106.09	1106.05	0.04	0.00%
14-Jan-20	0.3950	1143.45	1143.84	-0.40	-0.03%
7-Mar-19	0.3040	1086.86	1086.58	0.28	0.03%
7-Mar-19	0.3040	1086.86	1086.58	0.28	0.03%
12-Nov-19	0.3100	1111.47	1111.27	0.20	0.02%
11-May-20	0.3180	1095.09	1094.96	0.13	0.01%
4-Mar-20	0.2920	1089.44	1089.32	0.11	0.01%
4-Mar-20	0.3140	1094.73	1094.64	0.09	0.01%
20-Apr-20	0.3040	1092.29	1092.11	0.18	0.02%
7-Nov-19	0.3200	1099.99	1099.79	0.20	0.02%
12-Jul-19	0.3090	1091.52	1091.24	0.28	0.03%
12-Jul-19	0.3090	1091.52	1091.24	0.28	0.03%
24-Jan-19	0.3220	1109.70	1109.59	0.11	0.01%
8-Oct-19	0.3020	1101.28	1100.87	0.41	0.04%
11-Jul-19	0.3210	1120.25	1120.08	0.16	0.01%
8-Oct-19	0.3020	1101.28	1100.87	0.41	0.04%
6-Aug-19	0.3070	1096.15	1096.16	-0.01	0.00%
6-Aug-19	0.3070	1096.15	1096.16	-0.01	0.00%
20-Feb-20	0.2840	1079.16	1078.86	0.30	0.03%
3-Sep-19	0.3320	1091.40	1091.05	0.36	0.03%
3-Sep-19	0.3320	1091.40	1091.05	0.36	0.03%
22-Jan-20	0.3280	1126.70	1126.49	0.20	0.02%
23-Jan-19	0.3070	1145.14	1145.05	0.09	0.01%
8-May-20	0.3230	1105.21	1105.16	0.04	0.00%
19-Feb-19	0.3200	1102.08	1102.09	-0.01	0.00%
30-Jan-19	0.3380	1148.52	1148.57	-0.05	0.00%

1-Apr-20	0.3140	1092.51	1092.13	0.39	0.04%
17-Jan-19	0.3340	1114.41	1114.46	-0.05	0.00%
27-Feb-19	0.3180	1110.93	1110.99	-0.05	0.00%
20-Jun-19	0.2810	1080.04	1079.40	0.64	0.06%
18-Sep-19	0.3110	1087.00	1086.58	0.42	0.04%
18-Sep-19	0.3110	1087.00	1086.58	0.42	0.04%
19-Mar-19	0.2530	1076.26	1075.64	0.62	0.06%
19-Mar-19	0.3140	1093.78	1093.83	-0.05	0.00%
12-Feb-19	0.3110	1099.44	1099.40	0.03	0.00%
4-Feb-20	0.3270	1117.37	1117.39	-0.02	0.00%
19-May-20	0.4390	1179.16	1179.77	-0.60	-0.05%
4-Feb-20	0.3560	1141.47	1141.69	-0.23	-0.02%
13-Jan-20	0.3030	1104.18	1103.83	0.35	0.03%
13-Jan-20	0.3320	1115.19	1115.03	0.16	0.01%
27-Feb-19	0.3350	1135.82	1135.89	-0.06	-0.01%
17-Sep-19	0.3320	1093.85	1093.63	0.22	0.02%
17-Sep-19	0.3320	1093.85	1093.63	0.22	0.02%
17-Mar-20	0.3230	1107.19	1107.15	0.04	0.00%
21-May-19	0.2930	1088.37	1088.04	0.33	0.03%
1-May-19	0.2870	1084.30	1084.04	0.25	0.02%
13-May-20	0.3100	1099.76	1099.57	0.20	0.02%
20-Feb-19	0.3150	1099.83	1099.83	0.00	0.00%
15-Apr-19	0.3080	1098.65	1098.39	0.27	0.02%
20-Feb-20	0.3040	1088.70	1088.30	0.40	0.04%
3-Jan-19	0.3720	1098.78	1098.58	0.20	0.02%
3-Mar-20	0.3280	1114.25	1114.25	0.00	0.00%
19-May-20	0.2940	1072.62	1071.97	0.64	0.06%
10-Jun-20	0.2930	1094.63	1094.22	0.41	0.04%
28-Jan-20	0.3050	1083.33	1083.16	0.17	0.02%
8-Oct-19	0.2910	1079.40	1078.89	0.51	0.05%
8-Oct-19	0.2910	1079.40	1078.89	0.51	0.05%
8-Jun-20	0.3410	1134.75	1134.90	-0.16	-0.01%
12-Jun-19	0.2780	1080.38	1079.81	0.57	0.05%
12-Jun-19	0.2780	1080.38	1079.81	0.57	0.05%
10-Apr-19	0.3310	1083.78	1083.93	-0.15	-0.01%
10-Apr-19	0.3310	1083.78	1083.93	-0.15	-0.01%
17-Mar-20	0.3020	1081.42	1081.18	0.24	0.02%
2-Jul-19	0.2960	1078.79	1078.25	0.54	0.05%
2-Jul-19	0.2960	1078.79	1078.25	0.54	0.05%
11-Sep-19	0.2950	1075.72	1075.12	0.60	0.06%
11-Sep-19	0.2950	1075.72	1075.12	0.60	0.06%
17-Jul-19	0.3040	1078.65	1077.94	0.71	0.07%
17-Jul-19	0.3040	1078.65	1077.94	0.71	0.07%
4-Apr-19	0.3090	1085.79	1085.51	0.28	0.03%
15-Oct-19	0.2900	1078.23	1077.72	0.52	0.05%
15-Oct-19	0.2900	1078.23	1077.72	0.52	0.05%
19-Nov-19	0.4630	1236.45	1237.46	-1.01	-0.08%
22-Apr-20	0.4340	1227.88	1228.54	-0.66	-0.05%
24-Apr-20	0.4030	1137.13	1137.64	-0.50	-0.04%
18-Jun-19	0.4880	1171.24	1172.01	-0.77	-0.07%
21-Jun-19	0.3800	1216.91	1217.38	-0.46	-0.04%
22-Aug-19	0.2830	1065.90	1065.76	0.13	0.01%
22-Aug-19	0.2830	1065.90	1065.76	0.13	0.01%
20-Mar-20	0.4040	1200.51	1201.04	-0.53	-0.04%
8-Jun-20	0.5190	1303.14	1304.12	-0.98	-0.08%
20-Dec-18	0.2560	1297.44	1297.62	-0.18	-0.01%
24-Mar-20	0.4540	1308.20	1309.04	-0.85	-0.06%

12-Jun-20	0.4160	1312.68	1313.36	-0.68	-0.05%
25-Sep-19	0.3890	1261.32	1261.90	-0.58	-0.05%
25-Mar-20	0.4960	1293.61	1294.55	-0.95	-0.07%
25-Mar-20	0.4960	1293.76	1294.71	-0.95	-0.07%
27-Jan-20	0.4740	1324.75	1325.53	-0.79	-0.06%
27-Jan-20	0.4740	1324.70	1325.48	-0.79	-0.06%
13-Jun-19	0.2590	1313.10	1313.18	-0.08	-0.01%
9-Sep-19	0.4360	1308.72	1309.26	-0.54	-0.04%
21-Jan-20	0.3940	1334.82	1335.45	-0.63	-0.05%
7-May-19	0.2940	1330.04	1330.29	-0.25	-0.02%
5-Jul-19	0.2550	1311.25	1311.39	-0.14	-0.01%
21-May-19	0.2710	1272.87	1273.02	-0.15	-0.01%
29-Dec-19	0.5530	1263.82	1264.82	-1.00	-0.08%
27-Mar-19	0.3030	1253.07	1253.44	-0.36	-0.03%
15-Jul-19	0.2510	1303.07	1303.19	-0.12	-0.01%
15-Jul-19	0.2510	1301.48	1301.60	-0.12	-0.01%
30-Dec-19	0.4370	1249.12	1249.73	-0.61	-0.05%
28-May-20	0.3070	1029.83	1028.47	1.36	0.13%
12-Jun-19	0.2300	1279.02	1278.51	0.50	0.04%
12-Jun-19	0.2300	1279.18	1278.68	0.50	0.04%
25-Mar-20	0.4140	1299.51	1300.19	-0.68	-0.05%
30-May-19	0.2970	1194.03	1193.87	0.16	0.01%
22-Aug-18	0.3040	1197.98	1198.25	-0.27	-0.02%
17-Sep-19	0.5160	1357.18	1358.29	-1.12	-0.08%
17-Sep-19	0.5160	1357.66	1358.77	-1.12	-0.08%
26-Mar-19	0.5800	1370.60	1371.20	-0.60	-0.04%
4-Apr-19	0.3130	1110.30	1110.28	0.03	0.00%
27-Feb-20	0.3220	1110.74	1110.73	0.01	0.00%
16-Apr-20	0.4530	1223.01	1223.76	-0.76	-0.06%
5-Jun-18	0.2090	1087.13	1086.37	0.75	0.07%
19-Sep-19	0.2950	1088.35	1087.96	0.39	0.04%
19-Sep-19	0.2950	1088.35	1087.96	0.39	0.04%
17-Jul-18	0.3260	1118.23	1117.84	0.39	0.03%
12-Feb-19	0.3120	1082.21	1081.83	0.38	0.04%
4-Mar-20	0.2920	1074.74	1074.39	0.34	0.03%
7-May-20	0.3530	1109.68	1109.43	0.25	0.02%
7-Feb-19	0.3000	1085.87	1085.55	0.33	0.03%
7-Feb-19	0.3000	1085.87	1085.55	0.33	0.03%
2-Jun-20	0.3290	1089.69	1088.80	0.89	0.08%
13-Mar-19	0.3470	1111.85	1112.11	-0.26	-0.02%
13-Mar-19	0.3460	1110.29	1110.55	-0.26	-0.02%
15-Apr-20	0.3340	1103.35	1103.36	-0.01	0.00%
4-Sep-19	0.3170	1096.87	1096.44	0.43	0.04%
4-Sep-19	0.3180	1099.65	1099.23	0.42	0.04%
18-Jun-19	0.3230	1097.22	1097.08	0.14	0.01%
21-Apr-20	0.3630	1124.61	1124.77	-0.16	-0.01%
21-Nov-19	0.3380	1108.69	1108.81	-0.12	-0.01%
21-Nov-19	0.3380	1108.69	1108.81	-0.12	-0.01%
15-Jan-19	0.3440	1113.84	1113.89	-0.05	0.00%
19-Mar-19	0.3190	1097.58	1097.52	0.06	0.01%
25-Jan-20	0.3790	1099.57	1099.73	-0.16	-0.01%
13-Jun-19	0.3140	1092.19	1092.01	0.18	0.02%
8-Apr-20	0.3350	1100.54	1100.46	0.08	0.01%
3-Oct-19	0.3210	1104.91	1104.71	0.20	0.02%
3-Oct-19	0.3210	1104.91	1104.71	0.20	0.02%
26-Mar-19	0.3410	1110.65	1110.79	-0.13	-0.01%
12-Jun-19	0.3190	1098.75	1098.56	0.19	0.02%

18-Oct-19	0.3800	1126.34	1126.83	-0.49	-0.04%
18-Oct-19	0.3800	1126.52	1127.01	-0.49	-0.04%
28-Mar-19	0.3440	1099.93	1099.86	0.07	0.01%
24-Jun-20	0.3930	1148.62	1148.61	0.01	0.00%
1-Oct-19	0.3300	1106.03	1106.16	-0.13	-0.01%
1-Oct-19	0.3300	1106.03	1106.16	-0.13	-0.01%
5-Mar-19	0.3080	1095.78	1095.60	0.18	0.02%
10-Apr-20	0.3220	1102.05	1101.95	0.11	0.01%
26-Jun-19	0.3590	1144.05	1144.25	-0.20	-0.02%
26-Jun-19	0.3590	1144.05	1144.25	-0.20	-0.02%
26-Jun-19	0.3590	1144.05	1144.25	-0.20	-0.02%
7-Nov-19	0.3420	1118.50	1118.61	-0.11	-0.01%
7-Nov-19	0.3420	1118.50	1118.61	-0.11	-0.01%
2-Jan-20	0.3990	1141.07	1141.50	-0.43	-0.04%
12-Sep-19	0.3000	1083.72	1083.40	0.32	0.03%
12-Sep-19	0.3000	1083.72	1083.40	0.32	0.03%
19-Apr-19	0.3490	1128.54	1128.47	0.06	0.01%
21-Aug-19	0.3230	1102.61	1102.75	-0.15	-0.01%
3-May-19	0.3480	1112.38	1112.59	-0.21	-0.02%
16-May-19	0.2970	1068.24	1067.52	0.72	0.07%
1-Nov-19	0.3130	1072.48	1071.86	0.62	0.06%
1-Nov-19	0.3130	1072.48	1071.86	0.62	0.06%
18-Mar-20	0.2990	1074.01	1073.72	0.29	0.03%
28-May-20	0.3140	1088.28	1087.97	0.31	0.03%
17-Sep-19	0.3370	1105.52	1105.53	-0.01	0.00%
13-Jun-19	0.3240	1088.09	1087.68	0.41	0.04%
13-Jun-19	0.3240	1088.09	1087.68	0.41	0.04%
21-Mar-19	0.3190	1116.09	1116.11	-0.02	0.00%
21-Mar-19	0.3190	1116.09	1116.11	-0.02	0.00%
8-Apr-19	0.3200	1128.61	1128.66	-0.05	0.00%
31-Jul-19	0.2910	1068.64	1068.18	0.47	0.04%
31-Jul-19	0.2910	1068.64	1068.18	0.47	0.04%
30-Jul-19	0.3210	1091.79	1091.59	0.20	0.02%
30-Jul-19	0.3210	1091.79	1091.59	0.20	0.02%
10-Mar-20	0.3080	1084.06	1083.70	0.36	0.03%
30-Dec-19	0.3380	1118.25	1118.46	-0.21	-0.02%
18-Feb-20	0.3340	1090.35	1090.35	-0.01	0.00%
10-Mar-20	0.3290	1114.96	1115.24	-0.28	-0.03%
28-Feb-19	0.3070	1089.77	1089.53	0.24	0.02%
23-Aug-19	0.3240	1089.52	1089.17	0.36	0.03%
23-Aug-19	0.3240	1089.52	1089.17	0.36	0.03%
15-Feb-19	0.3150	1092.55	1092.40	0.15	0.01%
5-Mar-19	0.3070	1092.61	1092.49	0.13	0.01%
20-Feb-19	0.2980	1085.29	1085.17	0.13	0.01%
12-Nov-19	0.3130	1094.24	1093.93	0.31	0.03%
12-Nov-19	0.3130	1094.24	1093.93	0.31	0.03%
13-Mar-19	0.3150	1085.15	1084.77	0.38	0.04%
9-Jan-20	0.3680	1156.62	1157.07	-0.45	-0.04%
4-Dec-19	0.3190	1111.30	1111.33	-0.03	0.00%
3-Jun-20	0.3520	1137.92	1138.15	-0.23	-0.02%
4-Dec-19	0.3210	1120.44	1120.61	-0.17	-0.02%
6-May-20	0.3220	1098.91	1098.76	0.14	0.01%
6-May-20	0.3150	1098.32	1098.12	0.20	0.02%
12-Nov-19	0.3150	1115.58	1115.47	0.11	0.01%
12-Nov-19	0.3150	1115.58	1115.47	0.11	0.01%
15-Apr-20	0.3900	1150.38	1150.81	-0.43	-0.04%
4-Mar-20	0.3140	1097.12	1096.97	0.15	0.01%

29-Aug-19	0.3200	1097.87	1097.47	0.40	0.04%
29-Aug-19	0.3200	1097.87	1097.47	0.40	0.04%
29-Aug-19	0.3040	1086.12	1085.71	0.41	0.04%
29-Aug-19	0.3040	1086.12	1085.71	0.41	0.04%
4-Mar-20	0.3330	1100.92	1100.96	-0.05	0.00%
27-Feb-19	0.3390	1102.89	1102.80	0.09	0.01%
17-Sep-19	0.2920	1084.25	1084.09	0.16	0.01%
17-Sep-19	0.2920	1084.25	1084.09	0.16	0.01%
5-Mar-19	0.3090	1095.93	1095.70	0.23	0.02%
4-Mar-20	0.3180	1087.33	1087.19	0.14	0.01%
10-May-19	0.3290	1103.42	1103.25	0.17	0.02%
14-Apr-20	0.3050	1090.26	1090.04	0.22	0.02%
15-Oct-19	0.3530	1161.87	1162.09	-0.22	-0.02%
10-Apr-19	0.3790	1128.48	1128.82	-0.34	-0.03%
3-Sep-19	0.2630	1059.42	1058.97	0.45	0.04%
3-Sep-19	0.2630	1059.42	1058.97	0.45	0.04%
6-Aug-19	0.2770	1093.05	1092.82	0.23	0.02%
6-Aug-19	0.2770	1093.05	1092.82	0.23	0.02%
17-Apr-19	0.3340	1161.20	1161.41	-0.20	-0.02%
9-Jun-20	0.3310	1127.72	1127.91	-0.19	-0.02%
17-Apr-19	0.3170	1114.69	1114.51	0.18	0.02%
23-Mar-20	0.3170	1106.46	1106.56	-0.09	-0.01%
15-Jan-19	0.3420	1132.74	1132.82	-0.08	-0.01%
9-Apr-19	0.3050	1107.82	1107.53	0.29	0.03%
9-Jan-20	0.3910	1162.55	1162.94	-0.39	-0.03%
28-May-19	0.3210	1104.97	1104.78	0.19	0.02%
7-May-19	0.3160	1112.47	1112.21	0.26	0.02%
16-Oct-18	0.3180	1092.53	1092.02	0.51	0.05%
12-Feb-20	0.3330	1121.41	1121.56	-0.16	-0.01%
7-May-20	0.3330	1110.11	1110.11	0.00	0.00%
1-May-19	0.3050	1097.99	1097.71	0.28	0.03%
9-Aug-19	0.3240	1104.43	1104.56	-0.14	-0.01%
9-Aug-19	0.3240	1104.43	1104.56	-0.14	-0.01%
27-May-20	0.3300	1112.17	1111.96	0.21	0.02%
14-Aug-19	0.3170	1094.02	1093.65	0.38	0.03%
14-Aug-19	0.3170	1094.02	1093.65	0.38	0.03%
31-Jan-19	0.3420	1129.98	1130.30	-0.33	-0.03%
24-Jan-19	0.3830	1119.22	1119.02	0.20	0.02%
7-Nov-19	0.3370	1128.65	1128.73	-0.08	-0.01%
7-Nov-19	0.3370	1128.65	1128.73	-0.08	-0.01%
24-Mar-20	0.3150	1084.44	1084.23	0.22	0.02%
28-Aug-18	0.3220	1093.28	1092.64	0.64	0.06%
9-Jan-20	0.3480	1113.75	1114.05	-0.30	-0.03%
1-Nov-19	0.3050	1074.96	1074.45	0.52	0.05%
1-Nov-19	0.3050	1074.96	1074.45	0.52	0.05%
24-Jul-19	0.3190	1120.33	1120.23	0.09	0.01%
24-Jul-19	0.3190	1120.33	1120.23	0.09	0.01%
16-Mar-20	0.3050	1089.40	1089.27	0.13	0.01%
6-Nov-19	0.2940	1083.17	1082.77	0.40	0.04%
6-Nov-19	0.2940	1083.17	1082.77	0.40	0.04%
15-Apr-20	0.3260	1128.44	1128.26	0.17	0.02%
26-Mar-20	0.3540	1124.68	1124.66	0.02	0.00%
31-Aug-19	0.4190	1163.06	1163.61	-0.55	-0.05%
31-Aug-19	0.4190	1163.06	1163.61	-0.55	-0.05%
16-Apr-19	0.3420	1116.90	1117.25	-0.35	-0.03%
26-Feb-19	0.3220	1089.33	1089.20	0.14	0.01%
19-Sep-19	0.3170	1086.15	1085.70	0.44	0.04%

19-Sep-19	0.3170	1086.15	1085.70	0.44	0.04%
3-Sep-19	0.3810	1121.59	1121.82	-0.23	-0.02%
3-Sep-19	0.3810	1121.59	1121.82	-0.23	-0.02%
2-Apr-20	0.2730	1069.10	1068.71	0.39	0.04%
10-Sep-19	0.3040	1080.39	1079.94	0.45	0.04%
10-Sep-19	0.3040	1080.39	1079.94	0.45	0.04%
25-Mar-20	0.3190	1085.74	1085.80	-0.06	-0.01%
28-Apr-20	0.3560	1117.31	1116.73	0.58	0.05%
29-Aug-19	0.3060	1134.16	1133.82	0.34	0.03%
29-Aug-19	0.3060	1134.16	1133.82	0.34	0.03%
11-Sep-19	0.3130	1094.92	1095.03	-0.11	-0.01%
16-Jun-20	0.2970	1078.01	1077.27	0.73	0.07%
24-Jan-19	0.3220	1117.74	1117.65	0.09	0.01%
1-Aug-19	0.3210	1115.97	1116.05	-0.09	-0.01%
1-Aug-19	0.3210	1115.97	1116.05	-0.09	-0.01%
7-Mar-19	0.2570	1098.38	1097.87	0.51	0.05%
5-Feb-19	0.3090	1088.52	1088.32	0.20	0.02%
7-Mar-19	0.2780	1072.97	1072.69	0.27	0.03%
8-Jan-19	0.3570	1141.23	1141.38	-0.15	-0.01%
29-Aug-19	0.2940	1085.24	1084.82	0.42	0.04%
29-Aug-19	0.2940	1085.24	1084.82	0.42	0.04%
10-Jun-20	0.3070	1096.57	1096.17	0.40	0.04%
28-Aug-19	0.3020	1085.76	1085.31	0.45	0.04%
28-Aug-19	0.3020	1085.76	1085.31	0.45	0.04%
28-Aug-19	0.3000	1084.66	1084.22	0.44	0.04%
28-Aug-19	0.3000	1084.66	1084.22	0.44	0.04%
24-Apr-19	0.2840	1069.69	1069.19	0.50	0.05%
27-Mar-20	0.3010	1082.19	1081.72	0.47	0.04%
4-Sep-19	0.3250	1084.38	1083.77	0.61	0.06%
4-Sep-19	0.3250	1084.38	1083.77	0.61	0.06%
29-Jan-20	0.2840	1088.35	1088.15	0.20	0.02%
20-Mar-19	0.2550	1080.65	1080.31	0.34	0.03%
6-Aug-19	0.2960	1068.12	1067.59	0.53	0.05%
6-Aug-19	0.2960	1068.12	1067.59	0.53	0.05%
27-May-20	0.3540	1127.20	1127.19	0.02	0.00%
20-Sep-19	0.3030	1077.78	1077.27	0.50	0.05%
20-Sep-19	0.3030	1077.78	1077.27	0.50	0.05%
17-Jun-20	0.3240	1103.33	1103.49	-0.17	-0.02%
17-Jun-20	0.3240	1103.33	1103.49	-0.17	-0.02%
11-Nov-19	0.2970	1091.44	1090.71	0.73	0.07%
11-Nov-19	0.2970	1091.44	1090.71	0.73	0.07%
17-Oct-19	0.2820	1119.55	1119.53	0.02	0.00%
17-Oct-19	0.2820	1119.55	1119.53	0.02	0.00%
14-Mar-19	0.3130	1078.53	1077.80	0.72	0.07%
24-Aug-18	0.3070	1075.69	1074.93	0.76	0.07%
21-Apr-20	0.2900	1077.09	1076.55	0.55	0.05%
16-Oct-18	0.2960	1085.16	1084.75	0.42	0.04%
17-Mar-20	0.2970	1080.79	1080.63	0.16	0.01%
15-Mar-19	0.2920	1078.87	1078.30	0.57	0.05%
10-Mar-20	0.3000	1077.18	1076.81	0.37	0.03%
23-Aug-19	0.3190	1079.85	1079.17	0.69	0.06%
23-Aug-19	0.3190	1079.85	1079.17	0.69	0.06%
9-Jun-20	0.3220	1098.69	1098.56	0.14	0.01%
5-Dec-19	0.2870	1091.50	1091.23	0.27	0.02%
16-Aug-19	0.3120	1073.75	1073.14	0.61	0.06%
16-Aug-19	0.3120	1073.75	1073.14	0.61	0.06%
28-May-19	0.3100	1086.53	1086.21	0.32	0.03%

20-Aug-19	0.3040	1083.70	1083.37	0.33	0.03%
17-Oct-19	0.3260	1124.57	1124.50	0.06	0.01%
17-Oct-19	0.3260	1124.57	1124.50	0.06	0.01%
8-Oct-19	0.4810	1189.00	1189.55	-0.56	-0.05%
8-Oct-19	0.4810	1189.00	1189.55	-0.56	-0.05%
10-Sep-19	0.4150	1171.20	1171.58	-0.38	-0.03%
10-Sep-19	0.4150	1171.20	1171.58	-0.38	-0.03%
11-Apr-19	0.5260	1192.22	1193.37	-1.16	-0.10%
14-Jan-20	0.6090	1193.40	1194.96	-1.56	-0.13%
1-Jan-20	0.2840	1220.95	1220.41	0.54	0.04%
9-Apr-19	0.2720	1219.01	1219.28	-0.27	-0.02%
9-Apr-19	0.2730	1227.90	1228.17	-0.27	-0.02%
9-Apr-19	0.2720	1222.58	1222.84	-0.27	-0.02%
9-Apr-19	0.2730	1223.31	1223.58	-0.27	-0.02%
4-Dec-18	0.2280	1246.50	1246.29	0.21	0.02%
4-Dec-18	0.2280	1246.64	1246.43	0.21	0.02%
8-Jan-20	0.4140	1283.26	1283.83	-0.56	-0.04%
23-Jan-20	0.3680	1246.73	1247.02	-0.29	-0.02%
23-Jan-20	0.3680	1246.79	1247.08	-0.29	-0.02%
25-Nov-19	0.4400	1265.03	1265.74	-0.71	-0.06%
24-Jan-20	0.4400	1291.08	1291.67	-0.59	-0.05%
16-Aug-19	0.4940	1313.90	1314.87	-0.97	-0.07%
23-Oct-19	0.4260	1286.94	1287.64	-0.70	-0.05%
23-Oct-19	0.4260	1286.94	1287.64	-0.70	-0.05%
22-Jan-20	0.4680	1314.43	1315.44	-1.01	-0.08%
30-Jan-20	0.4210	1331.32	1331.88	-0.56	-0.04%
28-May-20	0.4230	1310.75	1311.24	-0.49	-0.04%
8-Jan-20	0.5950	1182.40	1183.89	-1.49	-0.13%
22-Apr-20	0.4100	1302.80	1303.27	-0.47	-0.04%
24-May-18	0.2280	1181.27	1181.07	0.20	0.02%
12-Jun-19	0.2510	1272.87	1272.77	0.10	0.01%
15-Feb-19	0.2110	1279.48	1279.35	0.13	0.01%
27-Mar-19	0.2900	1253.18	1253.48	-0.30	-0.02%
19-Sep-19	0.4110	1186.84	1187.11	-0.27	-0.02%
17-Jul-19	0.3490	1300.91	1301.30	-0.39	-0.03%
6-Apr-20	0.4900	1302.69	1303.39	-0.69	-0.05%
15-Nov-19	0.4440	1323.82	1324.61	-0.79	-0.06%
1-May-20	0.2380	1302.25	1302.25	0.00	0.00%
1-May-20	0.2380	1302.25	1302.25	0.00	0.00%
10-Sep-19	0.4360	1288.45	1288.92	-0.47	-0.04%
10-Sep-19	0.4360	1288.45	1288.92	-0.47	-0.04%
29-Apr-19	0.2850	1077.77	1077.04	0.73	0.07%
28-Jan-19	0.2610	1081.70	1081.49	0.21	0.02%
29-Jan-20	0.3580	1117.81	1117.82	-0.01	0.00%
28-Apr-20	0.3180	1067.36	1066.46	0.90	0.08%
12-Jun-19	0.2980	1076.50	1075.98	0.52	0.05%
12-Jun-19	0.2980	1076.50	1075.98	0.52	0.05%
13-Mar-19	0.3420	1107.52	1107.72	-0.20	-0.02%
13-Mar-19	0.3420	1107.52	1107.72	-0.20	-0.02%
24-Mar-20	0.3070	1095.76	1095.61	0.15	0.01%
7-May-20	0.3320	1098.67	1098.55	0.12	0.01%
18-Jun-19	0.3160	1092.94	1092.68	0.26	0.02%
7-May-20	0.3140	1091.17	1091.11	0.05	0.00%
18-Jun-19	0.3190	1099.67	1099.29	0.38	0.03%
18-Jun-19	0.3190	1099.20	1098.83	0.38	0.03%
17-Apr-19	0.3630	1125.99	1125.82	0.17	0.02%
13-Nov-19	0.3610	1123.34	1123.48	-0.13	-0.01%

14-Oct-19	0.3600	1122.70	1123.00	-0.30	-0.03%
14-Oct-19	0.3630	1131.33	1131.63	-0.30	-0.03%
17-Jan-19	0.3410	1113.94	1114.07	-0.13	-0.01%
17-Jan-19	0.3180	1106.79	1106.70	0.08	0.01%
13-Nov-19	0.3540	1111.00	1111.10	-0.11	-0.01%
13-Nov-19	0.3540	1111.00	1111.10	-0.11	-0.01%
25-Jan-20	0.3340	1091.15	1091.00	0.14	0.01%
29-Mar-19	0.3250	1098.17	1098.09	0.08	0.01%
22-Apr-20	0.3020	1098.84	1098.53	0.31	0.03%
7-May-20	0.3230	1093.44	1093.30	0.14	0.01%
29-Mar-19	0.3180	1103.90	1103.84	0.07	0.01%
26-May-20	0.3140	1106.11	1105.76	0.35	0.03%
25-Jan-19	0.3530	1128.93	1128.98	-0.06	-0.01%
8-May-20	0.3240	1103.23	1103.26	-0.03	0.00%
9-Jul-19	0.3280	1092.41	1092.31	0.10	0.01%
9-Jul-19	0.3280	1092.41	1092.31	0.10	0.01%
16-Apr-19	0.4010	1130.31	1130.54	-0.23	-0.02%
7-Nov-19	0.3380	1113.07	1113.09	-0.02	0.00%
7-Nov-19	0.3380	1113.07	1113.09	-0.02	0.00%
16-Apr-19	0.3770	1119.40	1119.53	-0.13	-0.01%
29-Nov-19	0.3610	1108.06	1108.20	-0.14	-0.01%
29-Nov-19	0.3610	1108.06	1108.20	-0.14	-0.01%
9-Aug-19	0.2990	1068.16	1067.52	0.64	0.06%
1-Nov-19	0.3240	1087.94	1087.77	0.17	0.02%
1-Nov-19	0.3240	1087.94	1087.77	0.17	0.02%
3-Dec-19	0.3080	1085.48	1085.11	0.37	0.03%
11-Sep-19	0.3220	1091.43	1091.14	0.30	0.03%
11-Sep-19	0.3220	1091.43	1091.14	0.30	0.03%
10-Dec-19	0.3130	1089.38	1089.20	0.19	0.02%
4-Sep-19	0.3220	1087.25	1086.94	0.32	0.03%
4-Sep-19	0.3220	1087.25	1086.94	0.32	0.03%
6-Apr-20	0.3220	1106.06	1106.08	-0.02	0.00%
26-Jul-19	0.3020	1078.14	1077.68	0.46	0.04%
4-Sep-19	0.3100	1084.03	1083.51	0.52	0.05%
4-Sep-19	0.3100	1084.03	1083.51	0.52	0.05%
10-Mar-20	0.3220	1090.15	1089.99	0.16	0.01%
2-Dec-19	0.3230	1087.69	1087.36	0.33	0.03%
8-Jun-20	0.3210	1107.87	1108.19	-0.32	-0.03%
11-Jun-19	0.3200	1098.36	1098.00	0.36	0.03%
11-Jun-19	0.3200	1098.36	1098.00	0.36	0.03%
10-Mar-20	0.3200	1105.38	1105.49	-0.11	-0.01%
10-Mar-20	0.3240	1110.55	1110.63	-0.08	-0.01%
16-Apr-20	0.3450	1114.17	1114.32	-0.16	-0.01%
19-Feb-19	0.3330	1102.07	1102.21	-0.14	-0.01%
18-Mar-20	0.3070	1094.15	1094.06	0.09	0.01%
19-Feb-20	0.3280	1095.77	1095.59	0.18	0.02%
11-Sep-19	0.3040	1081.49	1081.22	0.27	0.02%
11-Sep-19	0.3040	1081.49	1081.22	0.27	0.02%
28-Aug-19	0.3180	1093.84	1093.58	0.26	0.02%
28-Aug-19	0.3180	1093.84	1093.58	0.26	0.02%
13-Mar-19	0.3120	1094.59	1094.33	0.26	0.02%
13-Mar-19	0.3130	1082.55	1082.04	0.51	0.05%
15-Jan-19	0.4040	1148.41	1148.46	-0.05	0.00%
4-Jun-20	0.3400	1116.58	1116.68	-0.10	-0.01%
7-Nov-19	0.2620	1065.58	1065.05	0.53	0.05%
9-Jun-20	0.3180	1104.63	1104.45	0.17	0.02%
29-Aug-19	0.3210	1089.61	1089.24	0.38	0.03%

29-Aug-19	0.3210	1089.61	1089.24	0.38	0.03%
5-Mar-19	0.3190	1099.02	1098.80	0.22	0.02%
5-Mar-19	0.3040	1087.36	1087.14	0.22	0.02%
14-Sep-18	0.2930	1081.47	1081.12	0.34	0.03%
22-Nov-19	0.3030	1097.33	1097.32	0.00	0.00%
14-May-20	0.3170	1091.46	1091.21	0.25	0.02%
22-Nov-19	0.3030	1097.33	1097.32	0.00	0.00%
25-Feb-20	0.3470	1106.59	1105.84	0.75	0.07%
28-May-20	0.3210	1100.63	1100.56	0.07	0.01%
6-Apr-20	0.3210	1120.51	1120.38	0.13	0.01%
28-May-19	0.2800	1085.92	1085.85	0.07	0.01%
12-Dec-19	0.3390	1123.02	1123.21	-0.19	-0.02%
25-Jul-19	0.2840	1061.29	1060.79	0.50	0.05%
25-Jul-19	0.2840	1061.29	1060.79	0.50	0.05%
31-Jul-19	0.2760	1072.89	1072.34	0.55	0.05%
31-Jul-19	0.2760	1072.89	1072.34	0.55	0.05%
21-Oct-19	0.3480	1145.40	1145.83	-0.43	-0.04%
21-Oct-19	0.3480	1145.40	1145.83	-0.43	-0.04%
15-Apr-20	0.3220	1107.37	1107.33	0.04	0.00%
17-Sep-19	0.3070	1089.53	1089.27	0.26	0.02%
17-Sep-19	0.3070	1089.53	1089.27	0.26	0.02%
25-Mar-19	0.3150	1101.04	1101.08	-0.03	0.00%
25-Mar-19	0.3330	1120.22	1120.35	-0.13	-0.01%
15-Jan-20	0.3900	1156.69	1157.05	-0.36	-0.03%
20-May-20	0.3230	1096.74	1096.58	0.16	0.01%
10-Jun-20	0.2920	1095.39	1094.84	0.55	0.05%
10-Dec-19	0.3500	1116.48	1116.43	0.05	0.00%
30-Jul-19	0.3170	1091.67	1091.27	0.41	0.04%
30-Jul-19	0.3170	1091.67	1091.27	0.41	0.04%
30-Jul-19	0.3200	1097.77	1097.65	0.12	0.01%
30-Jul-19	0.3200	1097.77	1097.65	0.12	0.01%
26-Aug-19	0.3160	1097.49	1097.24	0.25	0.02%
26-Aug-19	0.3160	1097.49	1097.24	0.25	0.02%
18-Jul-19	0.3420	1087.52	1087.27	0.25	0.02%
18-Jul-19	0.3420	1087.52	1087.27	0.25	0.02%
18-Jul-19	0.3300	1081.61	1081.44	0.17	0.02%
18-Jul-19	0.3300	1081.61	1081.44	0.17	0.02%
22-Aug-19	0.3160	1075.94	1075.45	0.48	0.05%
22-Aug-19	0.3160	1075.94	1075.45	0.48	0.05%
14-May-19	0.3080	1095.46	1095.25	0.20	0.02%
29-May-19	0.3140	1091.72	1091.17	0.55	0.05%
12-Feb-19	0.3240	1108.36	1108.13	0.23	0.02%
24-Jul-19	0.3380	1117.00	1117.07	-0.07	-0.01%
24-Jul-19	0.3380	1117.00	1117.07	-0.07	-0.01%
6-Aug-19	0.3170	1095.56	1095.47	0.09	0.01%
6-Aug-19	0.3170	1095.56	1095.47	0.09	0.01%
13-May-20	0.3270	1124.99	1124.88	0.11	0.01%
12-Sep-19	0.3230	1083.22	1082.70	0.51	0.05%
12-Sep-19	0.3230	1083.22	1082.70	0.51	0.05%
5-Feb-20	0.3310	1112.50	1112.67	-0.17	-0.02%
5-Feb-20	0.3440	1114.29	1114.54	-0.24	-0.02%
23-Jan-19	0.3300	1164.99	1165.02	-0.03	0.00%
22-Jan-20	0.3650	1165.53	1165.58	-0.05	0.00%
21-Nov-19	0.3210	1101.04	1100.89	0.15	0.01%
3-Oct-19	0.2840	1064.65	1064.01	0.64	0.06%
3-Oct-19	0.2840	1064.65	1064.01	0.64	0.06%
20-Mar-19	0.3100	1093.28	1093.09	0.18	0.02%

25-Jun-19	0.3190	1104.88	1104.53	0.35	0.03%
16-Jun-20	0.3030	1105.59	1105.18	0.41	0.04%
25-Jun-19	0.3190	1104.88	1104.53	0.35	0.03%
25-Oct-19	0.3010	1080.68	1080.41	0.27	0.02%
25-Oct-19	0.3010	1080.68	1080.41	0.27	0.02%
14-Feb-19	0.3750	1146.70	1146.90	-0.20	-0.02%
31-Aug-19	0.3760	1129.69	1129.84	-0.15	-0.01%
31-Aug-19	0.3760	1129.69	1129.84	-0.15	-0.01%
3-Jul-19	0.3540	1114.86	1114.91	-0.05	0.00%
3-Jul-19	0.3540	1114.86	1114.91	-0.05	0.00%
29-Jan-19	0.3010	1102.36	1102.05	0.31	0.03%
27-Feb-20	0.2940	1091.87	1092.11	-0.24	-0.02%
6-Aug-19	0.3060	1083.05	1082.68	0.38	0.03%
6-Aug-19	0.3060	1083.05	1082.68	0.38	0.03%
5-Mar-20	0.3060	1076.81	1076.47	0.34	0.03%
5-Sep-19	0.3550	1142.87	1142.97	-0.09	-0.01%
5-Sep-19	0.3550	1142.87	1142.97	-0.09	-0.01%
27-Jun-19	0.3120	1099.43	1099.17	0.26	0.02%
27-Jun-19	0.3120	1099.43	1099.17	0.26	0.02%
14-Jan-20	0.3320	1137.72	1137.79	-0.08	-0.01%
10-Feb-20	0.3700	1121.05	1121.25	-0.20	-0.02%
5-Nov-19	0.2930	1100.98	1100.25	0.73	0.07%
29-Apr-20	0.3070	1094.12	1093.62	0.50	0.05%
26-Jun-19	0.3180	1091.48	1091.12	0.36	0.03%
26-Jun-19	0.3180	1091.48	1091.12	0.36	0.03%
20-Jul-18	0.2900	1060.18	1059.26	0.92	0.09%
5-Mar-20	0.3140	1099.99	1100.00	-0.02	0.00%
17-Jun-20	0.3180	1101.41	1101.53	-0.11	-0.01%
17-Jun-20	0.3180	1101.41	1101.53	-0.11	-0.01%
20-May-19	0.2690	1062.31	1061.71	0.60	0.06%
3-Sep-19	0.3220	1093.06	1093.06	0.01	0.00%
3-Sep-19	0.3220	1093.06	1093.06	0.01	0.00%
21-Oct-19	0.2940	1081.52	1080.92	0.60	0.06%
21-Oct-19	0.2940	1081.52	1080.92	0.60	0.06%
10-Apr-19	0.2720	1081.53	1081.20	0.33	0.03%
22-Jun-20	0.3070	1085.81	1085.30	0.51	0.05%
22-Jun-20	0.3070	1085.81	1085.30	0.51	0.05%
3-Mar-20	0.2990	1083.19	1083.15	0.04	0.00%
23-Aug-19	0.3110	1079.22	1078.52	0.69	0.06%
23-Aug-19	0.3110	1079.22	1078.52	0.69	0.06%
20-Nov-19	0.2920	1104.84	1104.95	-0.11	-0.01%
20-Nov-19	0.2920	1104.84	1104.95	-0.11	-0.01%
23-Aug-19	0.3170	1078.68	1077.81	0.87	0.08%
4-May-20	0.3170	1086.83	1086.59	0.23	0.02%
10-Feb-20	0.2820	1077.90	1077.38	0.52	0.05%
24-Mar-20	0.2950	1078.08	1077.85	0.23	0.02%
24-Aug-18	0.3170	1089.23	1088.35	0.88	0.08%
18-Feb-20	0.2900	1087.00	1086.68	0.32	0.03%
6-Nov-19	0.3190	1106.24	1106.29	-0.05	0.00%
21-Oct-19	0.2940	1081.52	1080.92	0.60	0.06%
21-Oct-19	0.2940	1081.52	1080.92	0.60	0.06%
21-Feb-20	0.4650	1261.54	1262.29	-0.74	-0.06%
23-Jan-20	0.4510	1227.06	1227.77	-0.70	-0.06%
11-Dec-19	0.3770	1201.71	1202.38	-0.67	-0.06%
17-Apr-20	0.5830	1198.81	1199.97	-1.16	-0.10%
2-Oct-19	0.3650	1282.01	1282.28	-0.27	-0.02%
2-Oct-19	0.3650	1283.54	1283.81	-0.27	-0.02%

2-Oct-19	0.3650	1282.01	1282.28	-0.27	-0.02%
2-Oct-19	0.3650	1283.54	1283.81	-0.27	-0.02%
22-Nov-19	0.3910	1289.41	1289.94	-0.53	-0.04%
22-Nov-19	0.3910	1289.43	1289.96	-0.53	-0.04%
27-Jun-19	0.2420	1273.11	1273.00	0.11	0.01%
9-Apr-19	0.2760	1235.55	1235.83	-0.28	-0.02%
9-Mar-20	0.4620	1293.28	1294.09	-0.82	-0.06%
9-Mar-20	0.4620	1293.23	1294.05	-0.82	-0.06%
23-Apr-20	0.4140	1265.70	1266.27	-0.56	-0.04%
23-Apr-20	0.4140	1265.75	1266.31	-0.56	-0.04%
14-Jan-20	0.7240	1317.80	1319.43	-1.63	-0.12%
27-Aug-19	0.4150	1307.06	1307.52	-0.46	-0.04%
27-Aug-19	0.4140	1305.22	1305.68	-0.46	-0.04%
25-Nov-19	0.5080	1319.28	1320.21	-0.93	-0.07%
25-Nov-19	0.5080	1319.28	1320.21	-0.93	-0.07%
22-Feb-19	0.3250	1234.05	1233.73	0.32	0.03%
22-Apr-20	0.5040	1284.69	1285.65	-0.95	-0.07%
17-Mar-20	0.5350	1281.56	1282.38	-0.82	-0.06%
19-Nov-19	0.5080	1257.11	1257.74	-0.63	-0.05%
19-Nov-19	0.5080	1257.11	1257.74	-0.63	-0.05%
21-Sep-18	0.2790	1273.77	1274.00	-0.23	-0.02%
26-Jun-19	0.3210	1190.11	1190.47	-0.36	-0.03%
11-Dec-19	0.4880	1324.84	1325.74	-0.90	-0.07%
8-Feb-19	0.2950	1125.13	1125.46	-0.34	-0.03%
29-May-19	0.2600	1206.76	1206.76	0.00	0.00%
19-Dec-18	1.0400	1333.81	1336.99	-3.18	-0.24%
25-Nov-19	0.4040	1352.00	1352.48	-0.48	-0.04%
25-Nov-19	0.4040	1352.00	1352.48	-0.48	-0.04%
18-Feb-19	0.4190	1352.84	1353.34	-0.50	-0.04%
18-Feb-19	0.4190	1352.84	1353.34	-0.50	-0.04%
18-Feb-19	0.4190	1352.84	1353.34	-0.50	-0.04%
18-Feb-19	0.4190	1352.84	1353.34	-0.50	-0.04%
13-Nov-19	0.3040	1083.82	1083.51	0.31	0.03%
13-Nov-19	0.3040	1083.82	1083.51	0.31	0.03%
28-Aug-18	0.3100	1076.86	1076.11	0.74	0.07%
14-May-20	0.2920	1079.79	1079.43	0.36	0.03%
4-Jun-20	0.3350	1113.59	1113.61	-0.03	0.00%
9-Jul-19	0.3620	1111.43	1111.46	-0.03	0.00%
9-Jul-19	0.3620	1111.43	1111.46	-0.03	0.00%
4-Mar-20	0.3240	1090.90	1090.69	0.20	0.02%
4-Mar-20	0.3240	1090.90	1090.69	0.20	0.02%
4-Mar-20	0.3240	1090.90	1090.69	0.20	0.02%
4-Mar-20	0.3240	1090.90	1090.69	0.20	0.02%
4-Mar-20	0.3240	1090.90	1090.69	0.20	0.02%
4-Jun-20	0.3350	1113.59	1113.61	-0.03	0.00%
4-Mar-20	0.3240	1090.90	1090.69	0.20	0.02%
4-Mar-20	0.3240	1090.90	1090.69	0.20	0.02%
4-Mar-20	0.3240	1090.90	1090.69	0.20	0.02%
20-Jun-19	0.3270	1101.65	1101.39	0.26	0.02%
20-Jun-19	0.3270	1101.37	1101.10	0.26	0.02%
18-Jun-19	0.3090	1087.89	1087.79	0.10	0.01%
27-Sep-19	0.3520	1106.36	1106.45	-0.09	-0.01%
17-Apr-19	0.3700	1125.08	1125.86	-0.78	-0.07%
17-Apr-19	0.3730	1131.08	1131.38	-0.30	-0.03%
21-Nov-19	0.3650	1118.46	1118.66	-0.19	-0.02%
21-Nov-19	0.3650	1118.46	1118.66	-0.19	-0.02%
4-Dec-19	0.3210	1095.38	1095.24	0.13	0.01%

13-Jun-19	0.3110	1088.98	1088.51	0.47	0.04%
8-Apr-20	0.3410	1110.56	1110.54	0.02	0.00%
8-Apr-20	0.3490	1102.10	1102.08	0.03	0.00%
29-Mar-19	0.3410	1106.00	1106.00	0.00	0.00%
18-Apr-19	0.3730	1136.76	1136.91	-0.15	-0.01%
23-Apr-20	0.3250	1103.23	1103.25	-0.01	0.00%
29-Jun-20	0.3490	1127.23	1127.21	0.02	0.00%
24-Jan-20	0.3730	1102.89	1102.65	0.23	0.02%
28-Mar-19	0.3510	1105.78	1105.57	0.21	0.02%
9-Jul-19	0.3380	1103.25	1103.22	0.03	0.00%
9-Jul-19	0.3380	1103.25	1103.22	0.03	0.00%
21-Nov-19	0.3610	1116.60	1116.77	-0.17	-0.02%
21-Nov-19	0.3610	1116.60	1116.77	-0.17	-0.02%
12-Apr-19	0.4230	1120.12	1119.82	0.29	0.03%
20-Mar-19	0.3100	1096.35	1096.16	0.19	0.02%
29-Nov-19	0.3560	1102.66	1102.63	0.02	0.00%
29-Nov-19	0.3560	1102.66	1102.63	0.02	0.00%
17-Mar-20	0.3900	1163.38	1163.64	-0.27	-0.02%
5-Nov-19	0.3300	1078.83	1078.39	0.44	0.04%
5-Nov-19	0.3300	1078.83	1078.39	0.44	0.04%
26-Sep-19	0.3260	1090.41	1090.17	0.24	0.02%
13-Jun-19	0.3140	1080.27	1079.79	0.48	0.04%
13-Jun-19	0.3140	1080.27	1079.79	0.48	0.04%
12-Jun-20	0.3240	1093.67	1093.35	0.32	0.03%
17-Aug-19	0.3210	1083.66	1083.35	0.31	0.03%
30-Sep-19	0.3190	1113.53	1113.37	0.16	0.01%
30-Sep-19	0.3190	1113.53	1113.37	0.16	0.01%
8-Apr-19	0.3230	1115.09	1115.11	-0.02	0.00%
11-Sep-19	0.3340	1102.93	1102.68	0.25	0.02%
19-Mar-19	0.3240	1104.71	1104.46	0.26	0.02%
19-Mar-19	0.3240	1104.71	1104.46	0.26	0.02%
11-Sep-19	0.3340	1102.93	1102.68	0.25	0.02%
26-Jul-19	0.2950	1077.37	1076.91	0.47	0.04%
28-May-20	0.3160	1086.05	1085.73	0.33	0.03%
23-Mar-20	0.3310	1101.87	1101.68	0.19	0.02%
2-Dec-19	0.3200	1095.82	1095.48	0.33	0.03%
2-Dec-19	0.3380	1099.74	1099.57	0.17	0.02%
8-Feb-19	0.3100	1088.35	1088.35	0.00	0.00%
14-Sep-19	0.3260	1089.64	1089.30	0.34	0.03%
14-Sep-19	0.3260	1089.64	1089.30	0.34	0.03%
9-Sep-19	0.2920	1076.19	1075.83	0.36	0.03%
9-Sep-19	0.2920	1076.19	1075.83	0.36	0.03%
5-Sep-19	0.2750	1084.40	1084.14	0.26	0.02%
5-Sep-19	0.2750	1084.40	1084.14	0.26	0.02%
14-Jan-20	0.3710	1140.44	1140.81	-0.38	-0.03%
5-Feb-19	0.3160	1089.96	1089.73	0.23	0.02%
6-Jun-19	0.3220	1099.64	1099.51	0.13	0.01%
28-Feb-19	0.3060	1080.78	1080.42	0.36	0.03%
17-Sep-19	0.3090	1092.02	1091.82	0.19	0.02%
17-Sep-19	0.3090	1092.02	1091.82	0.19	0.02%
16-Jul-19	0.3300	1079.67	1079.43	0.24	0.02%
16-Jul-19	0.3300	1079.67	1079.43	0.24	0.02%
29-Jan-19	0.3070	1099.64	1099.48	0.16	0.01%
3-Feb-20	0.3130	1096.61	1096.64	-0.03	0.00%
19-Nov-19	0.3360	1099.32	1099.18	0.14	0.01%
3-Jan-19	0.3170	1096.74	1096.60	0.14	0.01%
9-Apr-20	0.3540	1148.38	1148.38	0.00	0.00%

11-Oct-19	0.3100	1093.76	1093.27	0.49	0.05%
11-Oct-19	0.3100	1093.76	1093.27	0.49	0.05%
19-May-20	0.3040	1065.59	1064.80	0.79	0.07%
15-Jun-20	0.3860	1180.04	1180.44	-0.39	-0.03%
14-Apr-20	0.3830	1158.21	1158.70	-0.49	-0.04%
6-Aug-19	0.2850	1080.15	1079.95	0.19	0.02%
6-Aug-19	0.2850	1080.15	1079.95	0.19	0.02%
29-Apr-20	0.3000	1066.50	1066.16	0.34	0.03%
7-Jan-20	0.3200	1100.49	1100.18	0.31	0.03%
10-Jun-20	0.3690	1156.83	1157.14	-0.31	-0.03%
17-Jun-19	0.3500	1131.00	1131.21	-0.21	-0.02%
17-Jun-19	0.3500	1131.00	1131.21	-0.21	-0.02%
12-Apr-19	0.3100	1077.86	1077.33	0.53	0.05%
25-Feb-20	0.3390	1099.65	1099.48	0.17	0.02%
14-Jan-20	0.3880	1148.71	1149.06	-0.35	-0.03%
15-Jan-19	0.3300	1110.35	1110.16	0.19	0.02%
13-May-20	0.3070	1089.75	1089.58	0.17	0.02%
13-Apr-20	0.3510	1126.69	1126.76	-0.06	-0.01%
20-Jun-19	0.3340	1102.09	1101.56	0.53	0.05%
20-Jun-19	0.3340	1102.09	1101.56	0.53	0.05%
20-Jun-19	0.3340	1096.78	1096.22	0.55	0.05%
20-Jun-19	0.3340	1096.78	1096.22	0.55	0.05%
18-Jul-19	0.3170	1078.38	1078.12	0.26	0.02%
18-Jul-19	0.3170	1078.38	1078.12	0.26	0.02%
7-Feb-19	0.2940	1081.71	1081.59	0.11	0.01%
24-Jan-19	0.3210	1101.85	1101.57	0.28	0.03%
26-Nov-19	0.2970	1079.96	1079.66	0.30	0.03%
26-Nov-19	0.2970	1079.96	1079.66	0.30	0.03%
13-Feb-19	0.3210	1088.68	1088.84	-0.16	-0.01%
13-Mar-19	0.3140	1092.14	1091.87	0.27	0.02%
12-May-20	0.3300	1109.78	1109.55	0.23	0.02%
31-Mar-20	0.3360	1120.26	1120.21	0.05	0.00%
20-May-20	0.3250	1098.99	1098.91	0.08	0.01%
5-Feb-19	0.2950	1084.99	1084.79	0.21	0.02%
26-Sep-19	0.3220	1094.41	1094.19	0.22	0.02%
16-Jun-20	0.3300	1134.65	1134.51	0.14	0.01%
13-Feb-19	0.3800	1133.42	1133.84	-0.42	-0.04%
13-Feb-19	0.3800	1132.64	1133.06	-0.42	-0.04%
13-Feb-19	0.3800	1133.67	1134.09	-0.42	-0.04%
13-Feb-19	0.3800	1132.95	1133.37	-0.42	-0.04%
7-Nov-19	0.3260	1121.60	1121.44	0.16	0.01%
7-Nov-19	0.3260	1121.60	1121.44	0.16	0.01%
25-Feb-20	0.4040	1176.88	1177.29	-0.42	-0.04%
2-Oct-19	0.3600	1140.91	1140.95	-0.04	0.00%
2-Oct-19	0.3600	1140.91	1140.95	-0.04	0.00%
12-Feb-19	0.3290	1120.46	1120.33	0.13	0.01%
14-Mar-19	0.3210	1106.58	1106.50	0.08	0.01%
20-May-19	0.3570	1135.64	1135.50	0.14	0.01%
3-Mar-20	0.3130	1083.81	1083.35	0.47	0.04%
7-Aug-19	0.3690	1133.93	1134.37	-0.44	-0.04%
7-Aug-19	0.3690	1133.70	1134.15	-0.44	-0.04%
7-Jan-20	0.3200	1100.49	1100.18	0.31	0.03%
1-Aug-19	0.3200	1095.96	1095.84	0.12	0.01%
1-Aug-19	0.3200	1095.96	1095.84	0.12	0.01%
22-Apr-19	0.3580	1134.51	1134.56	-0.05	0.00%
13-Aug-19	0.3250	1089.29	1088.81	0.48	0.04%
13-Aug-19	0.3250	1089.29	1088.81	0.48	0.04%

18-Feb-20	0.3090	1082.48	1082.06	0.41	0.04%
1-Nov-19	0.3290	1097.58	1097.54	0.05	0.00%
1-Nov-19	0.3290	1097.58	1097.54	0.05	0.00%
6-Nov-19	0.3350	1106.54	1106.15	0.38	0.03%
6-Nov-19	0.3350	1106.54	1106.15	0.38	0.03%
11-Oct-19	0.3080	1085.54	1085.32	0.22	0.02%
11-Oct-19	0.3080	1085.54	1085.32	0.22	0.02%
31-Mar-20	0.3040	1097.48	1096.84	0.64	0.06%
9-Jan-19	0.3760	1162.71	1163.03	-0.32	-0.03%
19-Feb-20	0.3290	1102.51	1102.36	0.15	0.01%
26-Mar-19	0.3020	1076.10	1075.38	0.71	0.07%
26-Mar-19	0.3020	1076.10	1075.38	0.71	0.07%
19-Feb-20	0.3290	1102.51	1102.36	0.15	0.01%
3-Jun-20	0.2670	1087.30	1086.40	0.90	0.08%
19-Feb-19	0.2870	1082.96	1082.66	0.30	0.03%
19-Feb-19	0.2870	1082.96	1082.66	0.30	0.03%
11-Feb-20	0.3330	1083.87	1083.52	0.35	0.03%
8-Apr-19	0.3250	1089.60	1089.15	0.44	0.04%
8-Apr-19	0.3250	1089.60	1089.15	0.44	0.04%
18-Nov-19	0.2940	1084.76	1084.21	0.55	0.05%
18-Nov-19	0.2940	1084.76	1084.21	0.55	0.05%
27-Aug-19	0.2940	1085.49	1084.71	0.78	0.07%
27-Aug-19	0.2940	1085.49	1084.71	0.78	0.07%
4-Feb-19	0.2780	1082.14	1082.09	0.05	0.00%
24-Sep-19	0.4430	1254.15	1254.86	-0.71	-0.06%
17-Sep-19	0.5550	1176.90	1177.96	-1.07	-0.09%
8-Oct-19	0.4240	1157.59	1158.04	-0.45	-0.04%
8-Oct-19	0.4240	1157.59	1158.04	-0.45	-0.04%
1-Jan-20	0.2950	1145.90	1145.36	0.54	0.05%
18-Mar-19	0.3650	1085.85	1085.07	0.78	0.07%
27-Aug-19	0.3010	1093.53	1093.12	0.41	0.04%
27-Aug-19	0.3010	1093.53	1093.12	0.41	0.04%
27-Aug-19	0.2910	1127.72	1127.30	0.43	0.04%
27-Aug-19	0.2910	1127.72	1127.30	0.43	0.04%
5-Sep-19	0.3880	1293.09	1293.44	-0.34	-0.03%
14-Nov-19	0.3940	1301.81	1302.27	-0.46	-0.04%
14-Nov-19	0.3940	1301.64	1302.10	-0.46	-0.04%
9-Apr-19	0.2790	1253.59	1253.87	-0.28	-0.02%
30-Mar-20	0.4040	1283.44	1283.98	-0.53	-0.04%
30-Mar-20	0.4040	1283.44	1283.98	-0.53	-0.04%
5-Sep-19	0.4140	1276.08	1276.50	-0.42	-0.03%
5-Sep-19	0.4140	1276.05	1276.47	-0.42	-0.03%
24-Sep-19	0.4340	1285.22	1285.88	-0.66	-0.05%
7-Apr-20	0.4480	1305.34	1305.92	-0.59	-0.04%
4-Apr-19	0.2920	1296.26	1296.48	-0.22	-0.02%
4-Apr-19	0.2920	1295.82	1296.04	-0.22	-0.02%
20-May-20	0.4960	1317.41	1318.38	-0.97	-0.07%
22-Jan-20	0.5440	1313.36	1314.62	-1.27	-0.10%
22-Jan-20	0.5440	1313.38	1314.64	-1.27	-0.10%
2-Nov-18	0.2400	1265.77	1265.51	0.27	0.02%
2-Nov-18	0.2400	1265.36	1265.09	0.27	0.02%
26-May-20	0.3780	1296.47	1296.84	-0.37	-0.03%
26-Mar-20	0.6120	1405.36	1406.79	-1.44	-0.10%
23-Apr-20	0.6890	1806.59	1808.45	-1.86	-0.10%
23-Apr-20	0.6910	1812.63	1814.50	-1.86	-0.10%
30-May-18	0.3630	1307.93	1308.09	-0.16	-0.01%
13-Sep-19	0.4890	1310.35	1311.35	-1.00	-0.08%

13-Sep-19	0.4890	1310.35	1311.35	-1.00	-0.08%
31-Aug-18	0.2360	1246.31	1245.93	0.37	0.03%
15-Nov-18	0.2570	1153.31	1153.30	0.01	0.00%
21-Mar-19	0.3050	1789.49	1789.92	-0.42	-0.02%
9-Oct-19	0.5250	1329.86	1330.84	-0.98	-0.07%
9-Oct-19	0.5250	1329.89	1330.87	-0.98	-0.07%
5-Mar-20	0.4330	1269.80	1270.35	-0.55	-0.04%
26-Nov-19	0.5900	1311.60	1312.97	-1.37	-0.10%
26-Nov-19	0.5900	1311.60	1312.97	-1.37	-0.10%
25-Jun-19	0.2960	1094.73	1094.70	0.03	0.00%
22-Jul-19	0.3170	1114.73	1114.66	0.06	0.01%
22-Jul-19	0.3170	1114.73	1114.66	0.06	0.01%
22-Jul-19	0.2090	1087.98	1087.57	0.41	0.04%
22-Jul-19	0.2090	1087.98	1087.57	0.41	0.04%
27-Sep-19	0.3540	1110.19	1110.28	-0.09	-0.01%
7-Feb-19	0.2880	1090.94	1090.82	0.12	0.01%
17-Jun-19	0.2950	1084.30	1083.73	0.57	0.05%
17-Jun-19	0.2950	1084.30	1083.73	0.57	0.05%
2-Dec-19	0.3980	1116.06	1116.01	0.05	0.00%
9-Jan-20	0.3290	1107.55	1107.41	0.15	0.01%
9-Jan-20	0.3190	1099.31	1099.26	0.06	0.01%
2-Dec-19	0.3980	1116.06	1116.01	0.05	0.00%
2-Dec-19	0.3980	1116.06	1116.01	0.05	0.00%
2-Dec-19	0.3980	1116.06	1116.01	0.05	0.00%
7-May-20	0.3430	1100.24	1100.31	-0.06	-0.01%
19-Jun-19	0.3330	1111.22	1111.05	0.17	0.02%
28-Feb-19	0.3240	1098.48	1098.36	0.12	0.01%
26-Nov-19	0.3410	1103.94	1103.93	0.00	0.00%
26-Nov-19	0.3410	1103.90	1103.89	0.00	0.00%
16-Jan-20	0.3620	1103.18	1103.18	0.00	0.00%
20-May-20	0.3420	1123.11	1123.22	-0.11	-0.01%
7-May-19	0.3570	1117.38	1117.44	-0.06	-0.01%
26-May-20	0.3380	1119.13	1119.07	0.06	0.01%
7-May-20	0.3320	1097.77	1097.67	0.10	0.01%
26-Mar-19	0.3610	1113.19	1113.31	-0.12	-0.01%
12-Jun-19	0.3230	1093.22	1093.13	0.09	0.01%
8-May-20	0.3240	1094.09	1094.01	0.08	0.01%
16-Jul-19	0.2970	1112.21	1111.94	0.27	0.02%
16-Jul-19	0.2970	1112.21	1111.94	0.27	0.02%
15-Nov-18	0.3010	1099.68	1099.81	-0.13	-0.01%
24-Jan-20	0.3870	1117.19	1117.15	0.03	0.00%
11-Jun-20	0.3340	1104.15	1104.03	0.11	0.01%
2-Oct-19	0.3390	1100.74	1100.54	0.20	0.02%
2-Oct-19	0.3390	1100.74	1100.54	0.20	0.02%
10-Jul-19	0.3570	1114.03	1113.96	0.07	0.01%
10-Jul-19	0.3570	1114.03	1113.96	0.07	0.01%
10-Apr-20	0.3630	1099.54	1099.50	0.04	0.00%
24-Oct-18	0.3560	1109.05	1108.99	0.06	0.01%
2-Jan-19	0.3650	1149.90	1150.19	-0.28	-0.02%
2-Jan-19	0.3650	1149.90	1150.19	-0.28	-0.02%
24-Apr-19	0.3330	1092.27	1091.99	0.28	0.03%
16-Jan-20	0.3690	1117.85	1117.86	-0.01	0.00%
15-Aug-19	0.3190	1077.65	1077.17	0.48	0.04%
16-Mar-20	0.3130	1088.12	1087.92	0.20	0.02%
16-Mar-20	0.3350	1107.72	1107.62	0.10	0.01%
11-Jun-20	0.3130	1088.74	1088.20	0.53	0.05%
13-Jun-19	0.3380	1091.60	1091.09	0.51	0.05%

13-Jun-19	0.3380	1091.60	1091.09	0.51	0.05%
13-Jun-19	0.3290	1083.02	1082.58	0.44	0.04%
13-Jun-19	0.3290	1083.02	1082.58	0.44	0.04%
14-Sep-19	0.3310	1093.59	1093.39	0.21	0.02%
10-Mar-20	0.3240	1091.29	1091.13	0.16	0.01%
16-May-19	0.3180	1081.68	1081.28	0.40	0.04%
16-May-19	0.3210	1083.10	1082.73	0.37	0.03%
26-Jul-19	0.3100	1079.76	1079.20	0.56	0.05%
18-Apr-19	0.3410	1104.41	1104.10	0.31	0.03%
20-Apr-20	0.3960	1154.75	1155.11	-0.36	-0.03%
6-Jan-20	0.3140	1099.41	1099.41	0.00	0.00%
14-Sep-18	0.3440	1091.70	1091.24	0.46	0.04%
25-Mar-20	0.3100	1083.92	1083.48	0.45	0.04%
12-Mar-19	0.3320	1103.94	1103.82	0.12	0.01%
28-Aug-19	0.3190	1079.48	1079.00	0.48	0.04%
28-Aug-19	0.3190	1079.48	1079.00	0.48	0.04%
23-Aug-19	0.3280	1088.95	1088.48	0.47	0.04%
23-Aug-19	0.3280	1088.95	1088.48	0.47	0.04%
27-Aug-19	0.3190	1083.66	1083.11	0.55	0.05%
27-Aug-19	0.3190	1083.66	1083.11	0.55	0.05%
4-Dec-19	0.3370	1093.69	1093.46	0.23	0.02%
5-Nov-19	0.3380	1116.10	1116.07	0.04	0.00%
5-Nov-19	0.3380	1116.10	1116.07	0.04	0.00%
19-Jun-20	0.3350	1098.99	1098.80	0.19	0.02%
12-Nov-19	0.3280	1097.92	1097.70	0.22	0.02%
12-Nov-19	0.3280	1097.92	1097.70	0.22	0.02%
22-Jul-19	0.3360	1129.33	1129.19	0.14	0.01%
22-Jul-19	0.3360	1129.33	1129.19	0.14	0.01%
7-Jan-19	0.3540	1140.35	1140.72	-0.36	-0.03%
10-Jun-19	0.3150	1104.83	1104.66	0.16	0.01%
10-Jun-19	0.3150	1104.83	1104.66	0.16	0.01%
21-Aug-19	0.3310	1077.75	1077.29	0.46	0.04%
3-Mar-20	0.3410	1091.57	1091.45	0.12	0.01%
6-May-20	0.3200	1091.93	1091.67	0.27	0.02%
3-Sep-19	0.3310	1098.70	1098.33	0.38	0.03%
27-Feb-19	0.3260	1102.15	1101.91	0.24	0.02%
3-Sep-19	0.3310	1098.70	1098.33	0.38	0.03%
4-Mar-20	0.3300	1103.33	1103.26	0.08	0.01%
5-Mar-19	0.3250	1102.06	1101.87	0.19	0.02%
4-Mar-20	0.3280	1093.07	1092.95	0.11	0.01%
3-Jun-20	0.3520	1147.09	1147.06	0.03	0.00%
28-May-20	0.3280	1100.90	1100.52	0.38	0.03%
15-Apr-20	0.3600	1138.28	1138.49	-0.20	-0.02%
24-Oct-19	0.3960	1125.57	1126.00	-0.42	-0.04%
24-Oct-19	0.3960	1125.57	1126.00	-0.42	-0.04%
16-Oct-19	0.3510	1142.93	1142.89	0.04	0.00%
16-Oct-19	0.3510	1142.93	1142.89	0.04	0.00%
24-Feb-20	0.3300	1100.67	1100.47	0.20	0.02%
20-Jul-18	0.2980	1066.14	1065.35	0.78	0.07%
18-Jun-19	0.3780	1158.94	1159.37	-0.43	-0.04%
18-Jun-19	0.3780	1158.94	1159.37	-0.43	-0.04%
27-Aug-19	0.3140	1086.50	1086.25	0.25	0.02%
27-Aug-19	0.3140	1086.50	1086.25	0.25	0.02%
14-Mar-19	0.3220	1089.16	1088.35	0.82	0.08%
30-Mar-20	0.3750	1132.03	1132.26	-0.23	-0.02%
20-May-20	0.3150	1088.98	1088.69	0.28	0.03%
23-Mar-20	0.3210	1135.00	1135.08	-0.08	-0.01%

11-Apr-19	0.3330	1112.49	1112.45	0.03	0.00%
4-Mar-20	0.3280	1091.58	1091.54	0.04	0.00%
11-Feb-20	0.2980	1088.41	1088.24	0.17	0.02%
12-Nov-19	0.3230	1112.04	1112.00	0.03	0.00%
7-May-20	0.3360	1101.96	1101.81	0.15	0.01%
16-Jun-20	0.3060	1108.99	1108.39	0.60	0.05%
6-Aug-19	0.3060	1090.22	1090.04	0.18	0.02%
6-Aug-19	0.3060	1090.22	1090.04	0.18	0.02%
29-Jan-19	0.3550	1147.87	1147.73	0.14	0.01%
29-Jan-19	0.3420	1130.31	1130.23	0.08	0.01%
3-Jul-19	0.3190	1107.51	1107.25	0.26	0.02%
3-Jul-19	0.3190	1107.51	1107.25	0.26	0.02%
8-Jan-20	0.3450	1101.84	1101.76	0.08	0.01%
20-May-20	0.3190	1094.87	1094.73	0.14	0.01%
4-Mar-20	0.3260	1091.45	1091.13	0.33	0.03%
11-Mar-20	0.3290	1090.69	1090.50	0.19	0.02%
13-May-20	0.3290	1115.98	1115.81	0.17	0.02%
7-Aug-19	0.3150	1079.63	1079.10	0.53	0.05%
7-Aug-19	0.3150	1079.63	1079.10	0.53	0.05%
27-Feb-19	0.3360	1105.49	1105.49	-0.01	0.00%
27-May-20	0.3380	1103.60	1103.39	0.21	0.02%
8-May-19	0.3290	1102.02	1101.87	0.16	0.01%
24-Jul-19	0.3200	1107.94	1107.76	0.18	0.02%
24-Jul-19	0.3200	1107.94	1107.76	0.18	0.02%
1-Feb-19	0.3040	1087.61	1087.43	0.17	0.02%
5-Mar-19	0.3100	1089.18	1089.01	0.17	0.02%
2-Jul-19	0.3140	1098.98	1098.70	0.28	0.03%
2-Jul-19	0.3140	1098.98	1098.70	0.28	0.03%
3-Jul-19	0.3250	1111.94	1111.79	0.16	0.01%
3-Jul-19	0.3250	1111.94	1111.79	0.16	0.01%
28-Feb-19	0.3090	1073.90	1073.87	0.03	0.00%
11-Apr-19	0.3220	1118.65	1118.68	-0.03	0.00%
2-Jul-19	0.3270	1102.74	1102.44	0.30	0.03%
2-Jul-19	0.3270	1102.74	1102.44	0.30	0.03%
7-Aug-19	0.3720	1144.06	1144.31	-0.26	-0.02%
7-Aug-19	0.3720	1144.06	1144.31	-0.26	-0.02%
30-Aug-19	0.3110	1075.68	1075.22	0.46	0.04%
30-Aug-19	0.3110	1075.68	1075.22	0.46	0.04%
13-Feb-20	0.3030	1086.55	1085.74	0.81	0.07%
20-Aug-19	0.3030	1076.38	1076.13	0.25	0.02%
19-Feb-19	0.3150	1096.06	1095.89	0.17	0.02%
20-Aug-19	0.3030	1076.38	1076.13	0.25	0.02%
23-Jul-19	0.3110	1082.38	1081.85	0.53	0.05%
23-Jul-19	0.3110	1082.38	1081.85	0.53	0.05%
7-Aug-19	0.3540	1128.66	1128.73	-0.07	-0.01%
7-Aug-19	0.3540	1128.66	1128.73	-0.07	-0.01%
12-Feb-20	0.3040	1082.02	1081.66	0.36	0.03%
11-Sep-19	0.3370	1106.44	1106.49	-0.05	0.00%
27-Jun-19	0.3060	1082.07	1081.77	0.30	0.03%
27-Jun-19	0.3060	1082.07	1081.77	0.30	0.03%
5-Sep-19	0.3130	1084.00	1083.59	0.41	0.04%
5-Sep-19	0.3130	1084.00	1083.59	0.41	0.04%
22-Jan-19	0.4980	1132.13	1131.34	0.79	0.07%
29-Jan-20	0.3110	1165.92	1165.60	0.32	0.03%
26-Jun-19	0.3080	1072.91	1072.45	0.46	0.04%
26-Jun-19	0.3080	1072.91	1072.45	0.46	0.04%
29-Jul-19	0.3040	1084.45	1083.96	0.49	0.05%

29-Jul-19	0.3040	1084.45	1083.96	0.49	0.05%
26-Jun-19	0.3450	1107.92	1107.81	0.11	0.01%
26-Jun-19	0.3450	1107.92	1107.81	0.11	0.01%
23-Aug-19	0.3210	1107.50	1107.35	0.16	0.01%
23-Aug-19	0.3210	1107.50	1107.35	0.16	0.01%
26-Jul-18	0.3240	1078.03	1076.71	1.32	0.12%
30-Sep-19	0.3090	1104.48	1104.58	-0.09	-0.01%
30-Sep-19	0.3090	1104.48	1104.58	-0.09	-0.01%
28-Oct-19	0.3160	1107.27	1107.31	-0.05	0.00%
28-Oct-19	0.3160	1107.27	1107.31	-0.05	0.00%
9-Aug-19	0.3080	1074.99	1074.46	0.53	0.05%
9-Aug-19	0.3080	1074.99	1074.46	0.53	0.05%
22-Apr-20	0.3690	1113.26	1113.37	-0.11	-0.01%
23-Apr-20	0.3310	1113.85	1113.86	0.00	0.00%
8-May-20	0.3130	1095.08	1094.97	0.10	0.01%
28-Feb-19	0.3100	1089.60	1089.46	0.14	0.01%
6-Aug-18	0.3080	1073.62	1073.10	0.52	0.05%
18-Apr-19	0.3020	1082.51	1082.03	0.48	0.04%
27-Feb-19	0.3770	1136.70	1136.90	-0.20	-0.02%
4-Feb-20	0.2830	1078.79	1078.42	0.37	0.03%
5-Feb-20	0.3060	1084.81	1084.38	0.42	0.04%
27-Aug-18	0.3160	1079.08	1078.17	0.91	0.08%
27-Mar-19	0.3330	1080.56	1080.02	0.54	0.05%
19-Mar-19	0.2920	1076.08	1075.74	0.33	0.03%
19-Mar-19	0.2920	1076.08	1075.74	0.33	0.03%
20-Apr-20	0.3200	1092.37	1091.96	0.42	0.04%
7-Nov-19	0.3010	1079.91	1079.29	0.62	0.06%
7-Nov-19	0.3010	1079.91	1079.29	0.62	0.06%
1-Apr-20	0.3080	1080.84	1080.25	0.58	0.05%
13-May-20	0.3250	1086.73	1086.18	0.55	0.05%
12-Nov-19	0.2610	1132.38	1132.30	0.09	0.01%
12-Nov-19	0.2610	1132.38	1132.30	0.09	0.01%
21-Aug-18	0.3000	1104.16	1103.80	0.36	0.03%
3-Apr-20	0.4610	1171.60	1172.29	-0.69	-0.06%
1-Dec-19	0.2960	1223.46	1222.89	0.56	0.05%
1-Sep-19	0.3430	1194.87	1194.48	0.38	0.03%
27-Jun-19	0.2880	1099.09	1098.80	0.29	0.03%
25-Mar-20	0.4320	1297.49	1298.06	-0.57	-0.04%
25-Mar-20	0.4320	1297.59	1298.17	-0.57	-0.04%
29-Aug-19	0.3900	1305.74	1306.12	-0.38	-0.03%
27-Sep-19	0.3800	1264.80	1265.07	-0.27	-0.02%
27-Sep-19	0.3800	1266.90	1267.18	-0.27	-0.02%
27-Sep-19	0.3790	1263.47	1263.74	-0.27	-0.02%
24-Sep-19	0.4090	1275.38	1275.89	-0.51	-0.04%
24-Sep-19	0.4080	1274.52	1275.02	-0.50	-0.04%
9-Apr-19	0.2850	1278.73	1279.00	-0.28	-0.02%
27-Apr-20	0.4210	1292.86	1293.45	-0.59	-0.05%
30-Oct-19	0.4810	1296.87	1297.30	-0.42	-0.03%
20-Nov-19	0.4830	1306.57	1307.48	-0.90	-0.07%
20-Nov-19	0.4840	1306.28	1307.19	-0.91	-0.07%
8-Oct-19	0.4710	1329.76	1330.60	-0.84	-0.06%
8-Oct-19	0.4710	1329.94	1330.79	-0.84	-0.06%
10-Dec-19	0.6080	1235.87	1237.17	-1.29	-0.10%
18-Jan-19	0.2550	1191.85	1191.37	0.48	0.04%
15-Aug-18	0.2790	1337.89	1337.62	0.26	0.02%
11-Jun-20	0.4470	1316.02	1316.76	-0.74	-0.06%
28-Dec-18	0.2650	1303.64	1303.55	0.10	0.01%

28-Dec-18	0.2640	1302.10	1302.00	0.10	0.01%
16-Oct-19	0.3940	1296.12	1296.68	-0.56	-0.04%
16-Oct-19	0.3940	1295.81	1296.37	-0.56	-0.04%
25-Mar-19	0.2650	1266.67	1266.32	0.35	0.03%
30-Jun-19	0.4110	1283.38	1283.85	-0.47	-0.04%
13-Jun-19	0.2470	1287.80	1287.62	0.18	0.01%
30-Oct-18	0.2970	1224.86	1225.04	-0.18	-0.01%
5-Aug-19	0.3450	1225.09	1225.25	-0.16	-0.01%
19-Aug-19	0.3510	1197.63	1197.83	-0.20	-0.02%
15-Apr-19	0.2740	1094.10	1093.68	0.42	0.04%
15-Apr-19	0.2740	1094.10	1093.68	0.42	0.04%
15-Aug-19	0.3220	1100.26	1100.27	-0.01	0.00%
15-Aug-19	0.3220	1100.26	1100.27	-0.01	0.00%
30-Apr-20	0.3100	1078.50	1077.93	0.57	0.05%
10-Dec-19	0.3000	1099.96	1100.08	-0.12	-0.01%
15-Jul-19	0.3240	1099.26	1098.33	0.92	0.08%
15-Jul-19	0.3240	1099.26	1098.33	0.92	0.08%
17-Jul-19	0.3170	1072.53	1071.86	0.67	0.06%
17-Jul-19	0.3170	1072.53	1071.86	0.67	0.06%
11-Mar-20	0.3800	1120.71	1120.89	-0.18	-0.02%
11-Mar-20	0.3800	1120.71	1120.89	-0.18	-0.02%
11-Mar-20	0.3800	1120.71	1120.89	-0.18	-0.02%
11-Mar-20	0.3800	1120.71	1120.89	-0.18	-0.02%
12-Mar-19	0.3580	1115.39	1115.96	-0.57	-0.05%
11-Mar-20	0.3800	1120.71	1120.89	-0.18	-0.02%
11-Mar-20	0.3800	1120.71	1120.89	-0.18	-0.02%
11-Mar-20	0.3800	1120.71	1120.89	-0.18	-0.02%
12-Mar-19	0.3580	1115.39	1115.96	-0.57	-0.05%
11-Mar-20	0.3800	1120.71	1120.89	-0.18	-0.02%
7-May-20	0.3450	1097.58	1097.49	0.09	0.01%
7-May-20	0.3420	1100.38	1100.34	0.05	0.00%
1-Apr-20	0.3800	1120.95	1121.37	-0.42	-0.04%
26-Apr-19	0.3470	1106.55	1106.34	0.21	0.02%
17-Jan-19	0.3360	1105.47	1105.48	-0.02	0.00%
17-Jan-19	0.3560	1109.75	1109.91	-0.15	-0.01%
7-May-19	0.3410	1123.09	1123.08	0.01	0.00%
26-May-20	0.3700	1130.11	1130.17	-0.06	-0.01%
27-May-20	0.3550	1119.87	1119.91	-0.04	0.00%
13-Jun-19	0.3150	1097.32	1097.02	0.30	0.03%
7-May-20	0.3200	1089.31	1089.12	0.20	0.02%
29-Mar-19	0.3590	1108.11	1108.07	0.03	0.00%
16-Nov-19	0.3630	1111.80	1111.76	0.03	0.00%
16-Nov-19	0.3630	1111.80	1111.76	0.03	0.00%
23-Apr-20	0.3360	1102.05	1102.01	0.04	0.00%
22-Oct-19	0.3840	1126.75	1126.88	-0.14	-0.01%
22-Oct-19	0.3840	1126.75	1126.88	-0.14	-0.01%
13-Nov-19	0.3750	1123.58	1123.81	-0.23	-0.02%
13-Nov-19	0.3750	1122.42	1122.65	-0.23	-0.02%
11-Jun-20	0.3250	1102.31	1102.48	-0.16	-0.01%
1-Apr-20	0.3630	1117.98	1118.23	-0.25	-0.02%
19-Apr-19	0.3610	1127.23	1127.25	-0.02	0.00%
3-Apr-20	0.3890	1133.98	1134.15	-0.17	-0.02%
15-May-20	0.3600	1115.10	1115.27	-0.17	-0.02%
26-Feb-20	0.4090	1131.73	1131.96	-0.22	-0.02%
21-May-20	0.3290	1095.64	1095.48	0.16	0.01%
16-May-19	0.3180	1077.34	1076.99	0.36	0.03%
16-Mar-20	0.3200	1089.55	1089.13	0.42	0.04%

16-Mar-20	0.3230	1088.82	1088.62	0.20	0.02%
26-Sep-19	0.3370	1092.20	1091.93	0.28	0.03%
26-Sep-19	0.3370	1092.20	1091.93	0.28	0.03%
11-Jun-20	0.3210	1094.70	1094.35	0.34	0.03%
17-Sep-19	0.3570	1108.95	1108.70	0.25	0.02%
17-Sep-19	0.3570	1108.95	1108.70	0.25	0.02%
16-Mar-20	0.3160	1101.33	1101.10	0.24	0.02%
19-Mar-19	0.3160	1092.16	1092.07	0.09	0.01%
12-Jun-20	0.3160	1090.88	1090.58	0.30	0.03%
16-May-19	0.3260	1086.29	1085.97	0.33	0.03%
15-Apr-20	0.3770	1158.18	1158.41	-0.22	-0.02%
16-Apr-20	0.4100	1169.48	1169.97	-0.49	-0.04%
1-Jun-20	0.3290	1102.98	1102.91	0.07	0.01%
1-Jun-20	0.3280	1096.47	1096.40	0.08	0.01%
3-Dec-19	0.3140	1088.71	1088.24	0.47	0.04%
3-Dec-19	0.3310	1099.87	1099.55	0.32	0.03%
23-Mar-20	0.3260	1106.67	1106.50	0.17	0.02%
30-Jul-19	0.3340	1095.98	1095.72	0.27	0.02%
30-Jul-19	0.3340	1095.98	1095.72	0.27	0.02%
2-Dec-19	0.3150	1099.78	1099.48	0.29	0.03%
10-Mar-20	0.3350	1095.73	1095.59	0.14	0.01%
7-Sep-19	0.3390	1090.35	1090.06	0.29	0.03%
7-Sep-19	0.3390	1090.35	1090.06	0.29	0.03%
20-Aug-19	0.3360	1104.59	1104.61	-0.02	0.00%
20-Aug-19	0.3360	1104.59	1104.61	-0.02	0.00%
12-Mar-19	0.3280	1106.87	1106.84	0.03	0.00%
17-Oct-19	0.3290	1089.65	1089.35	0.30	0.03%
22-Apr-20	0.3270	1092.85	1092.70	0.15	0.01%
17-Oct-19	0.3290	1089.65	1089.35	0.30	0.03%
15-Mar-19	0.3010	1081.56	1081.39	0.18	0.02%
24-Oct-19	0.3440	1115.66	1115.73	-0.07	-0.01%
24-Oct-19	0.3440	1115.66	1115.73	-0.07	-0.01%
25-Mar-20	0.3350	1090.59	1090.45	0.14	0.01%
19-Feb-20	0.3550	1096.05	1095.67	0.38	0.03%
19-Jun-20	0.3380	1104.66	1104.38	0.29	0.03%
7-Feb-20	0.3260	1098.09	1097.92	0.17	0.02%
9-Jan-19	0.3730	1166.54	1166.83	-0.28	-0.02%
13-Nov-19	0.3380	1107.17	1107.17	0.00	0.00%
13-Nov-19	0.3380	1107.17	1107.17	0.00	0.00%
13-Nov-19	0.3270	1110.98	1111.06	-0.08	-0.01%
13-Nov-19	0.3270	1110.98	1111.06	-0.08	-0.01%
22-Jan-20	0.3140	1093.00	1092.86	0.14	0.01%
4-Jun-20	0.3460	1117.89	1117.90	-0.02	0.00%
19-Nov-19	0.3310	1095.76	1095.49	0.28	0.03%
4-Dec-19	0.3250	1099.96	1099.86	0.09	0.01%
15-Apr-20	0.3410	1126.55	1126.55	0.00	0.00%
11-Jun-20	0.2960	1131.36	1131.26	0.10	0.01%
26-May-20	0.3510	1098.91	1098.55	0.36	0.03%
17-Jun-19	0.3340	1121.22	1121.30	-0.08	-0.01%
17-Jun-19	0.3340	1121.22	1121.30	-0.08	-0.01%
1-Aug-19	0.3180	1095.03	1094.86	0.17	0.02%
1-Aug-19	0.3180	1095.03	1094.86	0.17	0.02%
16-Jul-19	0.3740	1092.68	1092.61	0.08	0.01%
16-Jul-19	0.3740	1092.68	1092.61	0.08	0.01%
19-Nov-19	0.3210	1094.17	1093.99	0.18	0.02%
19-Nov-19	0.3210	1094.17	1093.99	0.18	0.02%
17-Apr-19	0.4040	1142.92	1143.55	-0.63	-0.06%

15-Apr-20	0.3340	1116.90	1117.09	-0.19	-0.02%
17-Apr-19	0.3370	1145.39	1145.46	-0.06	-0.01%
22-Apr-20	0.3980	1152.74	1153.31	-0.58	-0.05%
23-Mar-20	0.3120	1092.29	1092.15	0.14	0.01%
27-Mar-19	0.3280	1122.65	1122.49	0.16	0.01%
21-Jan-20	0.2940	1082.66	1082.42	0.24	0.02%
7-May-20	0.3420	1112.13	1112.11	0.02	0.00%
11-Feb-20	0.2690	1058.55	1057.75	0.81	0.08%
12-Nov-19	0.3340	1104.33	1104.35	-0.02	0.00%
12-Nov-19	0.3340	1104.33	1104.35	-0.02	0.00%
7-Nov-19	0.3300	1098.80	1098.48	0.32	0.03%
20-Jan-20	0.2960	1090.99	1090.72	0.27	0.03%
18-Jul-19	0.3440	1077.83	1077.55	0.28	0.03%
18-Jul-19	0.3440	1077.83	1077.55	0.28	0.03%
31-Jan-19	0.4370	1130.70	1131.21	-0.50	-0.04%
4-Oct-19	0.3240	1095.37	1095.12	0.25	0.02%
4-Oct-19	0.3240	1095.37	1095.12	0.25	0.02%
3-Jul-19	0.3190	1081.02	1080.28	0.73	0.07%
18-Jun-19	0.3360	1112.78	1112.60	0.18	0.02%
18-Jun-19	0.3360	1112.78	1112.60	0.18	0.02%
21-Nov-19	0.3380	1102.38	1102.16	0.23	0.02%
8-May-19	0.3260	1101.08	1100.95	0.13	0.01%
11-Mar-20	0.3280	1093.67	1093.47	0.20	0.02%
26-Sep-19	0.3550	1097.44	1097.12	0.31	0.03%
4-Mar-20	0.3210	1086.86	1086.80	0.06	0.01%
29-Apr-20	0.3120	1073.78	1073.30	0.48	0.04%
27-Jan-20	0.3310	1103.12	1102.82	0.29	0.03%
10-Apr-19	0.3900	1121.46	1121.65	-0.20	-0.02%
23-Apr-20	0.3470	1130.02	1130.01	0.00	0.00%
29-Apr-20	0.4090	1173.11	1173.15	-0.04	0.00%
29-Jan-19	0.3480	1128.10	1127.96	0.14	0.01%
16-May-19	0.3400	1116.94	1116.88	0.06	0.01%
16-May-19	0.3400	1116.94	1116.88	0.06	0.01%
25-Apr-19	0.2880	1076.63	1076.09	0.54	0.05%
20-May-20	0.2920	1072.69	1072.41	0.28	0.03%
22-Oct-19	0.3140	1079.30	1078.42	0.87	0.08%
22-Oct-19	0.3140	1079.30	1078.42	0.87	0.08%
20-Feb-19	0.2810	1077.68	1077.45	0.23	0.02%
9-Jan-19	0.3320	1097.06	1096.68	0.39	0.04%
9-Jan-20	0.3260	1110.41	1110.29	0.12	0.01%
27-Feb-19	0.3800	1148.41	1148.53	-0.12	-0.01%
9-Aug-19	0.3070	1087.04	1086.85	0.19	0.02%
9-Aug-19	0.3070	1087.04	1086.85	0.19	0.02%
20-Aug-19	0.3240	1104.53	1104.30	0.23	0.02%
20-Aug-19	0.3240	1104.53	1104.30	0.23	0.02%
8-Apr-19	0.3040	1099.54	1099.32	0.22	0.02%
19-Feb-19	0.3430	1082.12	1081.99	0.13	0.01%
20-Mar-19	0.2530	1084.43	1083.96	0.47	0.04%
11-Mar-20	0.3800	1120.71	1120.89	-0.18	-0.02%
20-Aug-19	0.3130	1081.31	1080.67	0.64	0.06%
20-Aug-19	0.3130	1081.31	1080.67	0.64	0.06%
6-May-19	0.3140	1078.67	1078.05	0.61	0.06%
6-May-19	0.3140	1078.67	1078.05	0.61	0.06%
24-Mar-20	0.3710	1093.60	1093.71	-0.11	-0.01%
20-May-19	0.3240	1083.30	1082.69	0.61	0.06%
19-May-20	0.3240	1080.51	1079.68	0.83	0.08%
20-May-19	0.3240	1083.30	1082.69	0.61	0.06%

1-May-19	0.3150	1088.32	1088.18	0.14	0.01%
1-May-19	0.3150	1088.32	1088.18	0.14	0.01%
2-Oct-19	0.3100	1085.52	1085.14	0.38	0.03%
2-Oct-19	0.3100	1085.52	1085.14	0.38	0.03%
20-May-19	0.3010	1072.42	1071.51	0.91	0.09%
20-May-19	0.3010	1072.42	1071.51	0.91	0.09%
20-Feb-19	0.3220	1086.41	1085.60	0.81	0.07%
20-Feb-19	0.3060	1091.06	1090.93	0.13	0.01%
26-Aug-19	0.3020	1091.41	1090.69	0.72	0.07%
26-Aug-19	0.3020	1091.41	1090.69	0.72	0.07%
10-Sep-19	0.3150	1076.76	1076.09	0.67	0.06%
10-Sep-19	0.3150	1076.76	1076.09	0.67	0.06%
10-Dec-19	0.3380	1082.21	1081.74	0.47	0.04%
30-Jul-18	0.3100	1078.75	1077.74	1.01	0.09%
18-Jun-19	0.2910	1079.80	1079.22	0.58	0.05%
18-Jun-19	0.2910	1079.80	1079.22	0.58	0.05%
3-Jun-20	0.3080	1089.09	1088.35	0.74	0.07%
7-Feb-19	0.3040	1089.02	1088.66	0.36	0.03%
9-Jul-19	0.3000	1081.23	1080.70	0.53	0.05%
9-Jul-19	0.3000	1081.23	1080.70	0.53	0.05%
19-Jun-19	0.3510	1083.56	1082.44	1.12	0.10%
28-Feb-19	0.3010	1089.15	1089.16	0.00	0.00%
28-Feb-19	0.3010	1089.15	1089.16	0.00	0.00%
18-Apr-19	0.3960	1189.17	1189.75	-0.58	-0.05%
3-Dec-19	0.6290	1191.67	1193.07	-1.40	-0.12%
7-May-19	0.3060	1122.68	1122.62	0.06	0.01%
9-Mar-20	0.4360	1128.61	1128.40	0.21	0.02%
29-Oct-19	0.3220	1097.10	1097.25	-0.15	-0.01%
13-Dec-19	0.3520	1202.92	1203.33	-0.42	-0.03%
25-Mar-19	0.2970	1092.49	1092.18	0.31	0.03%
19-Nov-19	0.3980	1284.21	1284.20	0.01	0.00%
19-Nov-19	0.3980	1284.20	1284.19	0.01	0.00%
20-Aug-19	0.2490	1228.87	1228.75	0.13	0.01%
9-Apr-19	0.2880	1289.07	1289.35	-0.28	-0.02%
9-Apr-19	0.2880	1286.75	1287.03	-0.28	-0.02%
22-Nov-19	0.3800	1268.37	1268.69	-0.31	-0.02%
22-Nov-19	0.3800	1268.49	1268.81	-0.31	-0.02%
23-Oct-19	0.4280	1284.37	1285.03	-0.66	-0.05%
21-May-20	0.4690	1295.48	1296.29	-0.81	-0.06%
13-Feb-20	0.4440	1291.55	1292.28	-0.73	-0.06%
21-May-20	0.4690	1295.40	1296.22	-0.81	-0.06%
13-Feb-20	0.4440	1291.49	1292.22	-0.73	-0.06%
23-Sep-19	0.4220	1284.12	1284.66	-0.55	-0.04%
21-May-20	0.4720	1305.30	1306.19	-0.88	-0.07%
23-Sep-19	0.4220	1284.12	1284.66	-0.55	-0.04%
21-May-20	0.4720	1305.30	1306.19	-0.88	-0.07%
14-Apr-20	0.4820	1310.21	1310.99	-0.79	-0.06%
14-Apr-20	0.4820	1309.89	1310.68	-0.79	-0.06%
6-Nov-19	0.4880	1296.61	1297.66	-1.04	-0.08%
6-Nov-19	0.4880	1296.61	1297.66	-1.04	-0.08%
6-Nov-19	0.4880	1296.61	1297.66	-1.04	-0.08%
22-Nov-19	0.4770	1332.11	1332.93	-0.82	-0.06%
29-May-19	0.2720	1291.34	1291.54	-0.20	-0.02%
7-Oct-19	0.4440	1333.98	1334.70	-0.72	-0.05%
7-Oct-19	0.4440	1333.77	1334.49	-0.72	-0.05%
12-Dec-19	0.5220	1299.32	1300.30	-0.98	-0.08%
12-Dec-19	0.5220	1299.32	1300.30	-0.98	-0.08%

9-Sep-19	0.5280	1311.52	1312.07	-0.55	-0.04%
9-Sep-19	0.5280	1311.52	1312.07	-0.55	-0.04%
23-Sep-19	0.5650	1294.75	1295.32	-0.57	-0.04%
23-Sep-19	0.5350	1258.19	1258.62	-0.43	-0.03%
15-Nov-19	0.4180	1246.18	1246.73	-0.56	-0.04%
15-Nov-19	0.4180	1246.18	1246.73	-0.56	-0.04%
8-Oct-18	0.2760	1176.91	1177.01	-0.10	-0.01%
6-Feb-18	0.2610	1138.61	1138.63	-0.02	0.00%
21-May-18	0.3260	1340.44	1340.30	0.14	0.01%
3-Dec-18	0.2900	1195.72	1195.83	-0.11	-0.01%
11-Jul-19	0.2360	1233.98	1233.66	0.32	0.03%
11-Jul-19	0.2360	1231.98	1231.66	0.32	0.03%
8-Jan-20	0.3970	1338.79	1339.37	-0.58	-0.04%
12-Feb-20	0.4170	1320.18	1320.80	-0.61	-0.05%
1-Feb-19	0.3850	1238.81	1239.10	-0.29	-0.02%
4-Mar-19	0.2620	1081.71	1081.38	0.33	0.03%
26-Nov-19	0.3410	1098.50	1098.93	-0.44	-0.04%
19-Nov-19	0.3080	1086.04	1085.80	0.24	0.02%
16-Dec-19	0.3770	1104.22	1103.80	0.42	0.04%
3-Jul-19	0.3440	1112.58	1112.30	0.28	0.03%
3-Jul-19	0.3440	1112.58	1112.30	0.28	0.03%
26-Mar-20	0.3410	1084.16	1083.48	0.68	0.06%
21-May-19	0.3370	1090.58	1089.94	0.64	0.06%
20-Aug-19	0.3520	1081.21	1080.76	0.45	0.04%
20-Aug-19	0.3520	1081.21	1080.76	0.45	0.04%
7-Mar-19	0.3670	1144.90	1144.78	0.13	0.01%
15-Jan-20	0.3210	1116.41	1116.38	0.03	0.00%
7-Mar-19	0.3690	1149.98	1149.84	0.13	0.01%
12-Mar-19	0.3380	1096.70	1096.36	0.34	0.03%
12-Mar-19	0.3240	1090.02	1089.37	0.64	0.06%
15-Oct-19	0.3390	1092.68	1092.56	0.13	0.01%
15-Oct-19	0.3390	1092.68	1092.56	0.13	0.01%
26-Nov-19	0.3810	1103.06	1103.24	-0.18	-0.02%
26-Nov-19	0.3810	1102.61	1102.79	-0.18	-0.02%
4-Sep-19	0.3260	1088.28	1087.93	0.35	0.03%
4-Sep-19	0.3260	1088.45	1088.10	0.35	0.03%
28-Feb-19	0.3390	1096.31	1096.09	0.22	0.02%
18-Jun-19	0.3260	1091.29	1090.93	0.36	0.03%
26-Nov-19	0.3410	1095.45	1095.89	-0.44	-0.04%
26-Nov-19	0.3410	1095.01	1095.45	-0.44	-0.04%
3-May-19	0.3690	1118.08	1118.23	-0.15	-0.01%
26-Apr-19	0.3530	1112.92	1112.94	-0.02	0.00%
21-Nov-19	0.3710	1110.51	1110.63	-0.13	-0.01%
21-Nov-19	0.3710	1110.51	1110.63	-0.13	-0.01%
20-May-20	0.3460	1111.44	1111.47	-0.03	0.00%
2-Oct-19	0.3230	1101.47	1101.23	0.24	0.02%
2-Oct-19	0.3230	1101.47	1101.23	0.24	0.02%
1-Oct-19	0.3490	1110.45	1110.37	0.08	0.01%
1-Oct-19	0.3490	1110.45	1110.37	0.08	0.01%
8-Apr-20	0.3260	1109.47	1109.25	0.21	0.02%
3-Oct-19	0.3580	1109.03	1108.99	0.05	0.00%
3-Oct-19	0.3580	1109.03	1108.99	0.05	0.00%
17-Mar-20	0.3260	1087.36	1087.27	0.09	0.01%
26-May-20	0.3420	1109.61	1109.41	0.20	0.02%
15-Oct-19	0.3480	1101.28	1100.91	0.36	0.03%
15-Oct-19	0.3480	1101.28	1100.91	0.36	0.03%
9-Apr-20	0.3580	1110.08	1110.07	0.01	0.00%

16-Jul-19	0.3610	1114.48	1114.56	-0.07	-0.01%
16-Jul-19	0.3610	1114.48	1114.56	-0.07	-0.01%
29-Nov-19	0.3580	1098.08	1097.95	0.13	0.01%
29-Nov-19	0.3580	1098.08	1097.95	0.13	0.01%
19-Apr-19	0.3780	1129.75	1129.80	-0.05	0.00%
27-Feb-20	0.3920	1155.28	1155.36	-0.08	-0.01%
26-Mar-19	0.3550	1105.44	1105.44	0.00	0.00%
17-Jan-20	0.3960	1110.37	1110.11	0.26	0.02%
25-Jun-19	0.3910	1152.36	1152.62	-0.25	-0.02%
25-Jun-19	0.3910	1152.36	1152.62	-0.25	-0.02%
25-Jun-19	0.3910	1152.36	1152.62	-0.25	-0.02%
4-Sep-19	0.3350	1098.93	1098.51	0.41	0.04%
4-Sep-19	0.3350	1098.93	1098.51	0.41	0.04%
14-Oct-19	0.3710	1116.85	1116.77	0.08	0.01%
17-Apr-19	0.3570	1114.78	1114.72	0.06	0.01%
14-Oct-19	0.3710	1116.85	1116.77	0.08	0.01%
17-Jan-19	0.3420	1112.60	1112.62	-0.02	0.00%
23-Jul-19	0.3560	1121.92	1121.90	0.02	0.00%
23-Jul-19	0.3560	1121.92	1121.90	0.02	0.00%
6-Feb-20	0.3190	1082.63	1082.52	0.11	0.01%
16-Mar-20	0.3150	1080.66	1080.32	0.34	0.03%
3-Dec-19	0.3400	1095.14	1094.91	0.23	0.02%
8-Apr-19	0.3620	1147.86	1147.96	-0.11	-0.01%
12-Jun-19	0.3320	1083.67	1083.21	0.46	0.04%
12-Jun-19	0.3320	1083.67	1083.21	0.46	0.04%
17-Mar-20	0.3590	1111.54	1111.65	-0.10	-0.01%
9-Apr-19	0.3710	1161.78	1162.01	-0.23	-0.02%
28-Apr-20	0.3160	1074.47	1074.17	0.30	0.03%
9-Mar-20	0.3430	1094.44	1094.35	0.09	0.01%
27-Jan-20	0.3460	1106.17	1105.99	0.17	0.02%
23-Sep-19	0.2960	1073.73	1073.08	0.65	0.06%
11-Jun-19	0.3300	1101.37	1101.11	0.26	0.02%
11-Jun-19	0.3300	1101.37	1101.11	0.26	0.02%
17-Jul-19	0.3200	1081.75	1081.32	0.42	0.04%
5-Sep-19	0.3350	1100.56	1100.18	0.38	0.03%
5-Sep-19	0.3340	1100.10	1099.72	0.38	0.03%
20-Feb-19	0.3150	1097.15	1097.06	0.09	0.01%
27-Aug-19	0.3420	1086.59	1086.28	0.32	0.03%
27-Aug-19	0.3420	1086.59	1086.28	0.32	0.03%
9-Jan-20	0.3620	1151.42	1151.66	-0.24	-0.02%
15-Jul-19	0.4210	1147.23	1147.08	0.16	0.01%
15-Jul-19	0.4210	1147.23	1147.08	0.16	0.01%
14-Aug-19	0.3910	1090.98	1091.25	-0.28	-0.03%
14-Aug-19	0.3910	1090.84	1091.12	-0.28	-0.03%
17-Jan-19	0.3320	1098.82	1098.80	0.02	0.00%
19-Nov-19	0.3380	1094.33	1094.04	0.29	0.03%
19-Nov-19	0.3380	1094.33	1094.04	0.29	0.03%
16-May-19	0.3550	1089.61	1089.29	0.31	0.03%
3-Mar-20	0.3350	1087.64	1087.53	0.11	0.01%
12-Nov-19	0.3420	1119.52	1119.54	-0.02	0.00%
12-Nov-19	0.3420	1119.52	1119.54	-0.02	0.00%
26-Nov-19	0.3650	1145.69	1145.78	-0.09	-0.01%
26-Nov-19	0.3650	1145.69	1145.78	-0.09	-0.01%
16-Jan-20	0.3430	1106.71	1106.68	0.03	0.00%
16-Jan-20	0.3240	1103.25	1103.11	0.14	0.01%
20-Jan-20	0.3400	1104.45	1104.33	0.11	0.01%
28-May-20	0.3420	1097.45	1096.93	0.52	0.05%

19-Nov-19	0.3290	1101.19	1101.16	0.03	0.00%
19-Nov-19	0.3290	1101.19	1101.16	0.03	0.00%
16-Apr-19	0.3700	1137.39	1137.63	-0.24	-0.02%
3-Jul-19	0.3380	1118.53	1118.23	0.30	0.03%
3-Jul-19	0.3380	1118.53	1118.23	0.30	0.03%
24-Oct-19	0.3640	1136.72	1136.84	-0.11	-0.01%
24-Oct-19	0.3640	1136.72	1136.84	-0.11	-0.01%
10-Apr-19	0.3310	1118.85	1119.07	-0.22	-0.02%
11-Nov-19	0.3190	1085.22	1084.72	0.50	0.05%
11-Nov-19	0.3190	1085.22	1084.72	0.50	0.05%
24-Feb-20	0.3260	1091.63	1091.31	0.32	0.03%
17-Oct-19	0.3660	1151.82	1152.20	-0.38	-0.03%
17-Oct-19	0.3660	1151.82	1152.20	-0.38	-0.03%
23-Apr-19	0.4240	1187.03	1187.58	-0.55	-0.05%
23-Apr-19	0.3450	1127.12	1127.24	-0.12	-0.01%
17-Jun-19	0.3910	1141.55	1141.83	-0.28	-0.02%
17-Jun-19	0.3910	1141.55	1141.83	-0.28	-0.02%
18-Jun-19	0.3740	1110.11	1109.14	0.97	0.09%
18-Jun-19	0.3740	1110.11	1109.14	0.97	0.09%
7-Nov-19	0.3370	1099.79	1099.52	0.27	0.02%
7-Nov-19	0.3370	1099.79	1099.52	0.27	0.02%
16-Dec-19	0.3290	1087.05	1086.97	0.09	0.01%
8-Aug-18	0.3480	1108.87	1108.33	0.54	0.05%
5-Feb-20	0.3880	1134.61	1135.18	-0.57	-0.05%
24-Jul-19	0.3310	1089.68	1089.19	0.48	0.04%
24-Jul-19	0.3310	1089.68	1089.19	0.48	0.04%
6-Aug-19	0.3130	1093.68	1093.61	0.06	0.01%
6-Aug-19	0.3130	1093.68	1093.61	0.06	0.01%
19-Mar-19	0.3350	1084.88	1084.44	0.44	0.04%
24-Apr-19	0.3180	1095.43	1095.04	0.39	0.04%
19-Nov-19	0.3270	1092.82	1092.54	0.28	0.03%
10-Sep-19	0.3310	1081.18	1080.68	0.50	0.05%
10-Sep-19	0.3310	1081.18	1080.68	0.50	0.05%
17-Jul-18	0.3850	1173.02	1172.94	0.08	0.01%
12-Apr-19	0.3230	1106.22	1106.06	0.16	0.01%
10-Oct-19	0.3270	1117.73	1117.46	0.27	0.02%
10-Oct-19	0.3270	1117.73	1117.46	0.27	0.02%
26-Jun-19	0.3590	1113.36	1113.14	0.22	0.02%
26-Jun-19	0.3590	1113.36	1113.14	0.22	0.02%
23-Mar-20	0.3620	1114.73	1114.70	0.03	0.00%
15-May-19	0.2920	1116.43	1115.96	0.47	0.04%
30-Jan-19	0.2740	1139.60	1139.24	0.36	0.03%
11-Apr-19	0.3170	1093.83	1093.34	0.49	0.04%
1-Aug-19	0.3110	1099.43	1099.24	0.19	0.02%
1-Aug-19	0.3110	1099.43	1099.24	0.19	0.02%
31-Mar-20	0.3040	1084.93	1084.58	0.35	0.03%
12-Sep-19	0.3450	1121.00	1120.82	0.18	0.02%
12-Sep-19	0.3450	1121.00	1120.82	0.18	0.02%
31-Aug-19	0.4150	1157.22	1157.52	-0.30	-0.03%
31-Aug-19	0.4150	1157.22	1157.52	-0.30	-0.03%
25-Feb-20	0.3200	1075.86	1075.14	0.72	0.07%
26-Feb-19	0.3490	1115.60	1115.33	0.28	0.02%
20-Feb-19	0.2920	1083.09	1082.84	0.25	0.02%
23-Apr-19	0.3070	1109.23	1109.04	0.19	0.02%
11-Feb-20	0.3360	1105.84	1105.71	0.14	0.01%
19-Sep-19	0.3700	1087.92	1087.40	0.52	0.05%
19-Sep-19	0.3700	1087.92	1087.40	0.52	0.05%

12-Feb-20	0.3070	1078.73	1078.25	0.48	0.04%
30-Apr-20	0.3300	1104.62	1103.86	0.76	0.07%
27-May-20	0.3310	1073.49	1072.73	0.76	0.07%
20-Mar-19	0.2600	1080.18	1079.64	0.54	0.05%
17-Jul-19	0.3290	1077.73	1076.84	0.89	0.08%
17-Jul-19	0.3290	1077.73	1076.84	0.89	0.08%
4-Jun-20	0.3030	1085.73	1085.00	0.73	0.07%
13-Aug-19	0.3890	1109.02	1109.11	-0.09	-0.01%
13-Aug-19	0.3890	1109.02	1109.11	-0.09	-0.01%
16-Aug-19	0.3490	1077.72	1076.86	0.86	0.08%
16-Aug-19	0.3490	1077.72	1076.86	0.86	0.08%
31-Mar-20	0.3090	1091.34	1090.97	0.37	0.03%
6-Jun-19	0.3240	1088.42	1088.10	0.32	0.03%
6-Jun-19	0.3240	1088.42	1088.10	0.32	0.03%
13-Mar-19	0.3350	1085.63	1085.33	0.30	0.03%
31-Jan-19	0.2610	1073.97	1073.68	0.29	0.03%
31-Jan-19	0.2610	1073.97	1073.68	0.29	0.03%
16-Jan-20	0.3090	1090.79	1090.51	0.28	0.03%
26-Sep-19	0.3170	1076.33	1075.59	0.74	0.07%
26-Sep-19	0.3170	1076.33	1075.59	0.74	0.07%
27-May-19	0.3440	1092.63	1092.32	0.31	0.03%
1-Nov-18	0.3290	1088.10	1086.96	1.15	0.11%
1-Nov-18	0.3290	1088.10	1086.96	1.15	0.11%
8-Jan-20	0.3320	1089.62	1089.51	0.11	0.01%
20-May-19	0.3160	1082.37	1082.10	0.27	0.03%
19-Feb-20	0.6050	1197.51	1198.74	-1.23	-0.10%
5-Sep-19	0.4960	1201.66	1201.86	-0.21	-0.02%
9-Mar-20	0.4420	1137.24	1137.52	-0.28	-0.02%
9-Dec-19	0.5210	1181.76	1182.73	-0.97	-0.08%
3-Apr-20	0.3880	1129.53	1129.95	-0.43	-0.04%
22-Aug-19	0.2970	1058.31	1057.81	0.50	0.05%
22-Aug-19	0.2970	1058.31	1057.81	0.50	0.05%
20-Jun-19	0.3930	1212.31	1212.96	-0.65	-0.05%
20-Jun-19	0.3930	1212.31	1212.96	-0.65	-0.05%
13-Feb-20	0.4370	1313.80	1314.47	-0.68	-0.05%
24-Jul-19	0.2600	1265.64	1265.37	0.27	0.02%
30-Sep-19	0.3940	1265.43	1265.93	-0.50	-0.04%
28-Aug-19	0.4470	1306.91	1307.48	-0.57	-0.04%
28-Aug-19	0.4490	1309.60	1310.16	-0.55	-0.04%
28-Aug-19	0.4480	1308.21	1308.78	-0.57	-0.04%
28-Aug-19	0.4480	1308.26	1308.83	-0.57	-0.04%
26-Mar-20	0.4900	1295.91	1296.77	-0.86	-0.07%
26-Mar-20	0.4900	1295.90	1296.76	-0.86	-0.07%
16-Jan-19	0.3720	1268.74	1269.20	-0.46	-0.04%
27-May-20	0.4340	1266.97	1267.45	-0.48	-0.04%
27-May-20	0.4340	1266.97	1267.45	-0.48	-0.04%
23-Apr-19	0.2600	1267.17	1267.11	0.06	0.00%
17-Dec-19	0.4760	1291.90	1292.62	-0.72	-0.06%
26-Jul-19	0.2680	1283.75	1283.62	0.14	0.01%
26-Jul-19	0.2680	1283.75	1283.62	0.14	0.01%
8-Apr-20	0.5220	1300.84	1301.84	-1.01	-0.08%
8-Apr-20	0.5220	1300.83	1301.83	-1.01	-0.08%
6-Apr-20	0.7150	1368.19	1369.89	-1.70	-0.12%
7-Feb-20	0.4930	1308.09	1308.85	-0.76	-0.06%
28-Feb-19	0.2380	1348.90	1348.56	0.34	0.03%
28-Nov-18	0.2800	1313.81	1313.71	0.10	0.01%
18-Jun-20	0.8200	1296.85	1298.88	-2.02	-0.16%

19-Sep-17	0.3860	1225.13	1225.45	-0.32	-0.03%
6-Jun-19	0.5010	1250.11	1250.41	-0.30	-0.02%
15-Nov-19	0.5550	1247.62	1248.76	-1.15	-0.09%
15-Nov-19	0.5550	1247.62	1248.76	-1.15	-0.09%
23-May-18	0.2610	1228.49	1228.22	0.28	0.02%
18-Mar-20	0.4670	1300.86	1301.49	-0.62	-0.05%
22-Aug-18	0.2540	1262.14	1261.57	0.57	0.05%
20-Feb-18	0.2730	1178.77	1178.46	0.32	0.03%
2-Aug-19	0.2650	1279.71	1279.53	0.18	0.01%
2-Aug-19	0.2650	1279.71	1279.53	0.18	0.01%
12-May-20	0.6370	1278.33	1279.53	-1.19	-0.09%
17-Apr-18	0.2920	1245.19	1245.19	0.01	0.00%
2-Apr-19	0.3920	1207.21	1207.81	-0.60	-0.05%
21-Aug-18	0.2900	1176.29	1176.39	-0.11	-0.01%
24-May-18	0.2580	1278.98	1278.36	0.62	0.05%
29-Apr-20	0.3220	1178.15	1178.03	0.12	0.01%
15-Jul-19	0.3000	1086.75	1086.10	0.66	0.06%
15-Jul-19	0.3000	1086.75	1086.10	0.66	0.06%
1-Feb-19	0.4530	1227.49	1228.29	-0.80	-0.07%
1-Feb-19	0.4530	1227.49	1228.29	-0.80	-0.07%
5-Mar-20	0.3090	1084.44	1084.07	0.37	0.03%
18-Mar-20	0.3860	1102.86	1102.48	0.38	0.03%
23-May-18	0.3540	1085.53	1084.77	0.76	0.07%
17-Jul-18	0.2840	1094.77	1094.51	0.26	0.02%
21-Apr-20	0.3300	1086.61	1086.08	0.53	0.05%
26-Mar-19	0.2990	1087.82	1087.12	0.69	0.06%
12-Feb-19	0.3350	1086.78	1086.21	0.56	0.05%
12-Feb-19	0.3350	1086.78	1086.21	0.56	0.05%
14-Jan-20	0.3960	1129.66	1130.02	-0.36	-0.03%
26-Nov-19	0.3420	1097.40	1097.46	-0.07	-0.01%
26-Nov-19	0.3430	1099.03	1099.10	-0.07	-0.01%
19-Jun-19	0.3370	1096.55	1096.06	0.48	0.04%
18-Jun-19	0.3350	1097.79	1097.47	0.32	0.03%
12-Mar-20	0.3380	1099.20	1099.01	0.18	0.02%
13-Nov-19	0.3450	1117.57	1117.72	-0.16	-0.01%
13-Nov-19	0.3450	1117.28	1117.44	-0.16	-0.01%
15-May-20	0.3560	1112.54	1112.51	0.03	0.00%
15-Jan-19	0.3540	1109.14	1109.19	-0.05	0.00%
12-Nov-19	0.3560	1116.33	1116.34	-0.01	0.00%
19-May-20	0.3540	1114.24	1114.22	0.02	0.00%
13-Nov-19	0.3790	1125.28	1125.51	-0.24	-0.02%
13-Nov-19	0.3790	1125.28	1125.51	-0.24	-0.02%
12-Nov-19	0.4000	1132.27	1132.52	-0.26	-0.02%
12-Nov-19	0.4000	1132.27	1132.52	-0.26	-0.02%
12-Nov-19	0.3850	1133.40	1133.58	-0.18	-0.02%
13-Jun-19	0.3350	1094.54	1094.19	0.34	0.03%
2-Oct-19	0.3420	1102.07	1101.98	0.10	0.01%
2-Oct-19	0.3420	1102.07	1101.98	0.10	0.01%
16-Jul-19	0.3500	1110.10	1110.21	-0.11	-0.01%
16-Jul-19	0.3500	1110.10	1110.21	-0.11	-0.01%
15-May-19	0.3480	1113.04	1112.92	0.11	0.01%
26-Mar-19	0.3600	1112.22	1112.30	-0.08	-0.01%
22-Oct-19	0.3500	1117.12	1116.75	0.36	0.03%
22-Oct-19	0.3500	1117.12	1116.75	0.36	0.03%
26-Jun-19	0.3520	1122.94	1122.81	0.14	0.01%
26-Jun-19	0.3520	1122.94	1122.81	0.14	0.01%
26-Jun-19	0.3520	1122.94	1122.81	0.14	0.01%

13-Jun-19	0.3310	1095.15	1094.61	0.54	0.05%
22-Jan-20	0.4140	1149.39	1149.70	-0.31	-0.03%
25-Jun-20	0.3820	1147.61	1147.73	-0.11	-0.01%
28-Feb-19	0.3500	1097.98	1097.64	0.34	0.03%
3-Jul-19	0.3540	1095.01	1094.75	0.27	0.02%
3-Jul-19	0.3540	1095.01	1094.75	0.27	0.02%
26-Jul-18	0.3250	1075.04	1074.58	0.46	0.04%
17-Mar-20	0.4120	1166.62	1167.08	-0.46	-0.04%
4-Jun-19	0.3510	1091.65	1091.22	0.43	0.04%
2-Jul-19	0.3440	1113.83	1113.67	0.16	0.01%
30-Sep-19	0.3460	1129.79	1129.82	-0.03	0.00%
30-Sep-19	0.3460	1129.79	1129.82	-0.03	0.00%
28-May-20	0.3360	1094.51	1094.12	0.39	0.04%
10-Dec-19	0.3470	1109.60	1109.31	0.29	0.03%
23-Mar-20	0.3490	1101.85	1101.79	0.06	0.01%
7-Jan-20	0.3180	1088.80	1088.69	0.11	0.01%
21-Apr-20	0.3580	1117.90	1117.82	0.08	0.01%
21-Aug-19	0.3230	1080.08	1079.66	0.42	0.04%
21-Aug-19	0.3230	1080.08	1079.66	0.42	0.04%
25-Feb-20	0.3290	1090.06	1089.96	0.09	0.01%
16-Apr-20	0.3290	1102.77	1102.90	-0.13	-0.01%
28-Apr-20	0.3600	1157.57	1157.72	-0.15	-0.01%
28-Apr-20	0.4160	1164.26	1164.73	-0.46	-0.04%
27-Aug-19	0.3400	1090.73	1090.34	0.39	0.04%
27-Aug-19	0.3400	1090.73	1090.34	0.39	0.04%
8-May-20	0.3360	1107.59	1107.41	0.18	0.02%
19-Feb-20	0.3620	1090.03	1089.66	0.37	0.03%
13-May-20	0.3480	1100.78	1100.52	0.26	0.02%
4-Sep-19	0.3430	1085.59	1085.29	0.30	0.03%
4-Sep-19	0.3430	1085.59	1085.29	0.30	0.03%
19-Jun-20	0.3630	1104.53	1104.28	0.25	0.02%
27-Nov-19	0.3290	1076.11	1075.61	0.50	0.05%
27-Nov-19	0.3290	1076.11	1075.61	0.50	0.05%
9-Jan-19	0.3880	1137.12	1137.37	-0.24	-0.02%
1-Nov-19	0.3740	1124.13	1124.17	-0.04	0.00%
1-Nov-19	0.3740	1124.13	1124.17	-0.04	0.00%
2-Dec-19	0.3090	1077.14	1076.59	0.56	0.05%
13-Nov-19	0.3550	1117.80	1117.90	-0.10	-0.01%
13-Nov-19	0.3550	1117.80	1117.90	-0.10	-0.01%
8-Jan-19	0.3810	1156.41	1156.38	0.03	0.00%
9-Sep-19	0.3120	1079.10	1078.66	0.44	0.04%
9-Sep-19	0.3120	1079.10	1078.66	0.44	0.04%
14-Jan-20	0.3560	1111.69	1111.85	-0.17	-0.02%
19-Jul-19	0.3410	1098.50	1098.38	0.13	0.01%
19-Jul-19	0.3410	1098.50	1098.38	0.13	0.01%
3-Sep-19	0.3250	1086.27	1085.62	0.65	0.06%
3-Sep-19	0.3250	1086.27	1085.62	0.65	0.06%
5-Mar-19	0.3180	1086.09	1085.75	0.35	0.03%
12-Nov-19	0.3520	1113.98	1114.00	-0.02	0.00%
12-Nov-19	0.3520	1113.98	1114.00	-0.02	0.00%
4-Jun-19	0.3870	1150.76	1151.12	-0.37	-0.03%
4-Jun-19	0.3870	1150.76	1151.12	-0.37	-0.03%
15-Apr-20	0.3390	1112.51	1112.65	-0.15	-0.01%
15-Apr-20	0.3580	1133.01	1132.94	0.06	0.01%
7-Jan-20	0.3510	1132.80	1132.75	0.05	0.00%
3-Sep-19	0.3260	1088.90	1088.46	0.44	0.04%
3-Sep-19	0.3260	1088.90	1088.46	0.44	0.04%

4-Mar-20	0.3400	1098.30	1098.25	0.05	0.00%
3-Sep-19	0.3460	1094.50	1094.13	0.38	0.03%
3-Sep-19	0.3460	1094.50	1094.13	0.38	0.03%
11-Jun-20	0.3860	1143.67	1143.97	-0.30	-0.03%
26-Nov-19	0.3710	1133.94	1134.15	-0.20	-0.02%
26-Nov-19	0.3710	1133.94	1134.15	-0.20	-0.02%
21-Nov-19	0.3420	1107.92	1107.74	0.18	0.02%
21-Nov-19	0.3420	1107.92	1107.74	0.18	0.02%
27-May-20	0.3390	1105.59	1105.27	0.31	0.03%
17-Jun-19	0.3590	1129.98	1130.23	-0.25	-0.02%
17-Jun-19	0.3590	1129.98	1130.23	-0.25	-0.02%
17-Jun-19	0.3620	1153.45	1153.65	-0.20	-0.02%
17-Jun-19	0.3620	1153.45	1153.65	-0.20	-0.02%
16-Apr-19	0.3150	1080.04	1079.72	0.32	0.03%
19-Nov-19	0.3450	1099.26	1098.99	0.27	0.02%
15-Jan-20	0.3430	1116.89	1116.78	0.11	0.01%
15-Apr-20	0.3690	1131.98	1132.19	-0.21	-0.02%
9-Apr-20	0.3820	1138.75	1138.87	-0.11	-0.01%
9-Apr-19	0.4110	1147.96	1148.33	-0.38	-0.03%
17-Jul-18	0.3770	1059.00	1056.71	2.29	0.22%
21-Apr-20	0.3500	1119.57	1119.55	0.02	0.00%
16-Oct-19	0.3490	1119.74	1119.65	0.09	0.01%
16-Oct-19	0.3490	1119.74	1119.65	0.09	0.01%
15-Jun-20	0.4010	1156.10	1156.55	-0.45	-0.04%
14-Apr-20	0.3640	1124.20	1124.35	-0.15	-0.01%
16-Apr-19	0.3170	1098.38	1098.52	-0.13	-0.01%
31-Jul-19	0.3050	1080.30	1079.78	0.53	0.05%
31-Jul-19	0.3050	1080.30	1079.78	0.53	0.05%
20-Aug-18	0.2940	1046.48	1045.23	1.25	0.12%
17-Jun-19	0.3490	1145.50	1145.62	-0.12	-0.01%
17-Jun-19	0.3490	1145.50	1145.62	-0.12	-0.01%
9-Jun-20	0.3370	1124.81	1124.84	-0.03	0.00%
15-Apr-20	0.3420	1116.36	1116.30	0.06	0.01%
30-Mar-20	0.3680	1147.02	1147.16	-0.14	-0.01%
15-Jan-19	0.3750	1159.78	1160.07	-0.29	-0.03%
9-Jan-19	0.4210	1152.11	1152.47	-0.36	-0.03%
13-May-20	0.3330	1102.43	1102.32	0.11	0.01%
4-Mar-20	0.3280	1089.97	1089.77	0.20	0.02%
28-Aug-19	0.3760	1078.41	1077.33	1.08	0.10%
7-May-20	0.3460	1101.76	1101.60	0.15	0.01%
7-May-20	0.3350	1101.27	1100.91	0.36	0.03%
4-Feb-20	0.3570	1114.97	1115.52	-0.55	-0.05%
4-Oct-19	0.3410	1095.42	1095.04	0.38	0.03%
4-Oct-19	0.3410	1095.42	1095.04	0.38	0.03%
28-Jan-20	0.3240	1094.86	1094.73	0.13	0.01%
13-May-20	0.3370	1091.61	1091.27	0.34	0.03%
14-Aug-19	0.3460	1114.44	1114.42	0.02	0.00%
14-Aug-19	0.3460	1114.44	1114.42	0.02	0.00%
24-Jul-19	0.3480	1158.56	1158.31	0.26	0.02%
24-Jul-19	0.3480	1158.56	1158.31	0.26	0.02%
23-Aug-19	0.3580	1099.34	1098.93	0.41	0.04%
23-Aug-19	0.3580	1099.34	1098.93	0.41	0.04%
17-Dec-19	0.4140	1156.33	1156.93	-0.60	-0.05%
17-Dec-19	0.4140	1156.43	1157.03	-0.60	-0.05%
15-Mar-19	0.4540	1096.92	1097.66	-0.73	-0.07%
26-Feb-19	0.4180	1163.19	1163.33	-0.14	-0.01%
21-Jan-20	0.3260	1074.62	1074.03	0.60	0.06%

11-Mar-20	0.2950	1099.42	1099.34	0.09	0.01%
25-Oct-19	0.3060	1074.70	1074.32	0.38	0.04%
25-Oct-19	0.3060	1074.70	1074.32	0.38	0.04%
17-May-19	0.3150	1121.68	1121.40	0.28	0.02%
17-May-19	0.3150	1121.68	1121.40	0.28	0.02%
20-Apr-20	0.3100	1077.31	1076.09	1.23	0.11%
13-Aug-19	0.3330	1094.37	1094.24	0.13	0.01%
13-Aug-19	0.3330	1094.37	1094.24	0.13	0.01%
25-Feb-20	0.3230	1122.58	1122.55	0.03	0.00%
16-Mar-20	0.3340	1092.91	1092.71	0.20	0.02%
19-May-20	0.3260	1075.06	1074.29	0.77	0.07%
15-May-19	0.3990	1181.93	1182.15	-0.22	-0.02%
25-Oct-19	0.3500	1111.85	1111.72	0.13	0.01%
25-Oct-19	0.3500	1111.85	1111.72	0.13	0.01%
23-Apr-20	0.3540	1142.33	1142.23	0.11	0.01%
2-Aug-18	0.3150	1091.59	1090.92	0.68	0.06%
2-Aug-18	0.3150	1091.59	1090.92	0.68	0.06%
20-Apr-20	0.3150	1094.82	1094.56	0.25	0.02%
7-Aug-19	0.3200	1079.50	1078.86	0.64	0.06%
7-Aug-19	0.3200	1079.50	1078.86	0.64	0.06%
27-May-20	0.3490	1108.28	1108.16	0.12	0.01%
20-Sep-19	0.3380	1097.36	1097.14	0.22	0.02%
20-Sep-19	0.3380	1097.36	1097.14	0.22	0.02%
15-Sep-18	0.3090	1082.38	1081.92	0.47	0.04%
17-Jun-19	0.3580	1099.82	1099.46	0.36	0.03%
17-Jun-19	0.3580	1099.82	1099.46	0.36	0.03%
22-Apr-20	0.3360	1112.28	1112.18	0.11	0.01%
13-Jul-18	0.3890	1105.23	1105.33	-0.09	-0.01%
26-Feb-19	0.3410	1103.44	1103.19	0.25	0.02%
27-Mar-19	0.3290	1085.76	1084.81	0.95	0.09%
27-Mar-19	0.3290	1085.76	1084.81	0.95	0.09%
26-Feb-19	0.3410	1103.44	1103.19	0.25	0.02%
10-Mar-20	0.3530	1139.54	1139.33	0.21	0.02%
29-Apr-20	0.3210	1084.51	1084.16	0.35	0.03%
25-Nov-19	0.3290	1088.80	1088.48	0.31	0.03%
25-Nov-19	0.3290	1088.80	1088.48	0.31	0.03%
15-Mar-19	0.3200	1094.19	1093.90	0.30	0.03%
3-Feb-20	0.3180	1081.17	1081.06	0.11	0.01%
24-Apr-19	0.3070	1081.66	1081.16	0.50	0.05%
24-Apr-19	0.3070	1081.66	1081.16	0.50	0.05%
1-May-19	0.3230	1082.79	1082.12	0.66	0.06%
28-Apr-20	0.3650	1081.57	1080.24	1.34	0.12%
13-Nov-19	0.3030	1081.37	1080.77	0.59	0.05%
8-May-19	0.3040	1081.42	1080.80	0.61	0.06%
21-Oct-19	0.3270	1086.44	1085.92	0.52	0.05%
21-Oct-19	0.3270	1086.44	1085.92	0.52	0.05%
26-Aug-19	0.3250	1082.23	1081.85	0.38	0.04%
26-Aug-19	0.3250	1082.23	1081.85	0.38	0.04%
10-Jun-20	0.3530	1098.64	1098.31	0.34	0.03%
24-Jan-20	0.7360	1243.40	1245.19	-1.80	-0.14%
19-Nov-19	0.5010	1281.03	1282.07	-1.05	-0.08%
27-Aug-19	0.4470	1227.87	1228.63	-0.76	-0.06%
6-Mar-20	0.5590	1174.74	1175.66	-0.92	-0.08%
5-Mar-20	0.3540	1111.49	1111.60	-0.11	-0.01%
10-Sep-19	0.4010	1168.72	1168.99	-0.27	-0.02%
10-Sep-19	0.4010	1168.72	1168.99	-0.27	-0.02%
17-Oct-19	0.4180	1291.46	1291.98	-0.52	-0.04%

17-Oct-19	0.4180	1291.49	1292.01	-0.52	-0.04%
26-May-20	0.4590	1303.33	1304.03	-0.70	-0.05%
30-Sep-19	0.3950	1266.51	1267.01	-0.50	-0.04%
24-Sep-19	0.4510	1289.48	1290.15	-0.67	-0.05%
16-Oct-19	0.4140	1296.89	1297.34	-0.45	-0.03%
16-Oct-19	0.4140	1296.51	1296.96	-0.45	-0.03%
22-Jan-20	0.5020	1297.46	1298.42	-0.96	-0.07%
6-Nov-19	0.4760	1302.56	1303.41	-0.85	-0.06%
6-Nov-19	0.4760	1302.86	1303.71	-0.85	-0.06%
6-Nov-19	0.4750	1302.11	1302.96	-0.84	-0.06%
6-Nov-19	0.4760	1302.48	1303.32	-0.85	-0.06%
27-Feb-19	0.3220	1302.10	1302.48	-0.38	-0.03%
11-Jun-19	0.2650	1278.44	1278.14	0.30	0.02%
26-Mar-19	0.3030	1298.01	1297.79	0.22	0.02%
26-Mar-19	0.3030	1297.67	1297.45	0.22	0.02%
10-Jan-19	0.2870	1254.74	1254.67	0.06	0.01%
15-Jul-19	0.3000	1258.68	1258.45	0.24	0.02%
15-Jul-19	0.2990	1254.56	1254.32	0.24	0.02%
2-Mar-20	0.4840	1368.92	1369.81	-0.89	-0.06%
9-Sep-19	0.5460	1277.19	1278.17	-0.98	-0.08%
12-Feb-20	0.5060	1312.56	1313.51	-0.95	-0.07%
12-Feb-20	0.5060	1312.57	1313.52	-0.95	-0.07%
13-Dec-19	0.4540	1321.36	1322.10	-0.74	-0.06%
22-Apr-20	0.4390	1264.26	1264.77	-0.51	-0.04%
25-Mar-19	0.3340	1577.29	1577.64	-0.35	-0.02%
1-May-20	0.2560	1302.01	1302.00	0.01	0.00%
7-Oct-19	0.6210	1359.43	1360.57	-1.13	-0.08%
7-Oct-19	0.6200	1357.10	1358.24	-1.13	-0.08%
8-Jan-20	0.7860	1483.69	1485.63	-1.94	-0.13%
26-Nov-19	0.4160	1263.31	1263.64	-0.33	-0.03%
26-May-19	0.4170	1263.33	1263.67	-0.33	-0.03%
26-Nov-19	0.4160	1263.31	1263.64	-0.33	-0.03%
26-May-19	0.4170	1263.33	1263.67	-0.33	-0.03%
29-May-19	0.4250	1369.60	1370.11	-0.51	-0.04%
29-Oct-19	0.3790	1111.33	1111.24	0.09	0.01%
29-Oct-19	0.3790	1111.33	1111.24	0.09	0.01%
26-Jun-19	0.4000	1143.02	1143.27	-0.24	-0.02%
26-Jun-19	0.4000	1143.02	1143.27	-0.24	-0.02%
8-May-20	0.3170	1111.12	1110.99	0.13	0.01%
11-Jun-20	0.3590	1114.13	1113.96	0.18	0.02%
5-Dec-19	0.3180	1091.62	1091.51	0.11	0.01%
2-Aug-19	0.3430	1078.28	1077.28	1.00	0.09%
2-Aug-19	0.3430	1078.28	1077.28	1.00	0.09%
29-Jan-19	0.3230	1128.88	1129.07	-0.19	-0.02%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
2-Dec-19	0.3540	1101.37	1100.93	0.44	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
10-Mar-20	0.3530	1099.16	1098.87	0.28	0.03%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
2-Dec-19	0.3540	1101.37	1100.93	0.44	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
2-Dec-19	0.3540	1101.37	1100.93	0.44	0.04%
2-Dec-19	0.3540	1101.37	1100.93	0.44	0.04%

2-Dec-19	0.3540	1101.37	1100.93	0.44	0.04%
2-Dec-19	0.3540	1101.37	1100.93	0.44	0.04%
10-Mar-20	0.3530	1099.16	1098.87	0.28	0.03%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
2-Dec-19	0.3540	1101.37	1100.93	0.44	0.04%
10-Mar-20	0.3530	1099.16	1098.87	0.28	0.03%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
18-Jun-19	0.3320	1092.62	1092.43	0.19	0.02%
7-May-20	0.3580	1101.62	1101.55	0.07	0.01%
4-Sep-19	0.3440	1096.66	1096.22	0.44	0.04%
4-Sep-19	0.3430	1092.51	1092.06	0.44	0.04%
12-Apr-19	0.3990	1120.16	1120.17	-0.01	0.00%
17-Apr-19	0.3270	1127.81	1127.71	0.09	0.01%
13-Nov-19	0.3750	1114.99	1115.19	-0.20	-0.02%
13-Nov-19	0.3740	1113.87	1114.07	-0.20	-0.02%
14-Oct-19	0.3940	1127.00	1127.37	-0.36	-0.03%
14-Oct-19	0.3940	1127.13	1127.49	-0.36	-0.03%
1-Apr-20	0.3660	1115.71	1115.82	-0.11	-0.01%
26-Apr-19	0.3580	1108.30	1108.22	0.08	0.01%
11-Apr-19	0.3920	1117.50	1117.70	-0.20	-0.02%
16-Jan-20	0.3830	1117.13	1117.19	-0.06	-0.01%
14-Jan-20	0.3450	1101.66	1101.55	0.10	0.01%
20-May-20	0.3560	1119.88	1119.90	-0.02	0.00%
20-May-20	0.3610	1122.20	1122.31	-0.10	-0.01%
26-May-20	0.3430	1130.97	1130.86	0.11	0.01%
22-Apr-20	0.3440	1097.05	1096.86	0.19	0.02%
7-May-20	0.3030	1094.12	1093.78	0.34	0.03%
14-Apr-20	0.3590	1107.68	1107.69	0.00	0.00%
3-Oct-19	0.3420	1106.00	1105.74	0.27	0.02%
3-Oct-19	0.3420	1106.00	1105.74	0.27	0.02%
16-Nov-19	0.3550	1110.50	1110.35	0.15	0.01%
26-May-20	0.3400	1098.57	1098.45	0.11	0.01%
3-Jul-19	0.3510	1104.69	1104.57	0.12	0.01%
3-Jul-19	0.3510	1104.69	1104.57	0.12	0.01%
5-Sep-19	0.3410	1094.22	1093.79	0.43	0.04%
5-Sep-19	0.3410	1094.22	1093.79	0.43	0.04%
11-Jun-19	0.3170	1095.14	1094.58	0.56	0.05%
25-Jan-19	0.3550	1124.58	1124.56	0.02	0.00%
7-Nov-19	0.3460	1114.37	1114.26	0.11	0.01%
7-Nov-19	0.3460	1114.37	1114.26	0.11	0.01%
10-Oct-19	0.3560	1105.16	1105.04	0.12	0.01%
10-Oct-19	0.3560	1105.16	1105.04	0.12	0.01%
24-Jun-20	0.4120	1165.62	1165.91	-0.29	-0.02%
12-Apr-19	0.3950	1127.87	1127.88	-0.01	0.00%
26-May-20	0.3290	1082.83	1082.15	0.69	0.06%
7-Jan-20	0.4270	1167.16	1167.65	-0.48	-0.04%
21-Aug-19	0.3370	1088.96	1088.62	0.34	0.03%
21-Aug-19	0.3370	1088.96	1088.62	0.34	0.03%
22-Feb-19	0.3970	1163.69	1163.92	-0.23	-0.02%
16-Apr-20	0.4160	1165.93	1166.49	-0.56	-0.05%
3-Dec-19	0.3520	1099.76	1099.57	0.20	0.02%

2-Jul-19	0.3240	1085.02	1084.88	0.14	0.01%
10-Sep-19	0.3380	1086.06	1085.57	0.49	0.04%
10-Sep-19	0.3380	1086.06	1085.57	0.49	0.04%
10-Mar-20	0.3430	1097.55	1097.29	0.26	0.02%
16-Oct-19	0.3540	1103.11	1102.78	0.33	0.03%
16-Oct-19	0.3540	1103.11	1102.78	0.33	0.03%
14-Sep-19	0.3190	1081.24	1080.86	0.38	0.04%
14-Sep-19	0.3190	1081.24	1080.86	0.38	0.04%
15-Mar-19	0.3320	1089.41	1089.16	0.26	0.02%
16-Apr-20	0.3410	1126.36	1126.32	0.04	0.00%
8-May-20	0.3600	1105.16	1104.91	0.25	0.02%
5-Nov-19	0.3550	1112.97	1112.89	0.08	0.01%
5-Nov-19	0.3550	1112.97	1112.89	0.08	0.01%
17-Mar-20	0.3130	1084.01	1083.85	0.16	0.01%
5-Sep-19	0.3410	1095.23	1095.03	0.19	0.02%
5-Sep-19	0.3410	1095.23	1095.03	0.19	0.02%
25-Oct-19	0.3460	1110.46	1110.51	-0.05	0.00%
25-Oct-19	0.3460	1110.46	1110.51	-0.05	0.00%
8-Feb-19	0.3060	1082.55	1082.39	0.16	0.01%
5-Jun-19	0.3300	1076.94	1076.51	0.43	0.04%
5-Sep-19	0.3360	1075.96	1075.36	0.60	0.06%
18-Jun-20	0.3560	1106.25	1106.02	0.24	0.02%
15-Jan-19	0.3270	1092.88	1092.84	0.04	0.00%
5-Feb-19	0.3440	1095.67	1095.43	0.24	0.02%
9-May-19	0.3410	1097.96	1097.66	0.31	0.03%
9-May-19	0.3410	1097.96	1097.66	0.31	0.03%
6-Jun-19	0.3350	1094.27	1094.08	0.19	0.02%
13-Nov-19	0.3380	1077.92	1077.47	0.45	0.04%
29-Aug-19	0.3300	1084.00	1083.53	0.48	0.04%
29-Aug-19	0.3300	1084.00	1083.53	0.48	0.04%
27-Feb-19	0.3260	1088.62	1088.37	0.25	0.02%
4-Mar-20	0.3510	1104.95	1104.81	0.14	0.01%
3-Sep-19	0.3460	1100.39	1100.20	0.19	0.02%
3-Sep-19	0.3460	1100.39	1100.20	0.19	0.02%
25-Apr-19	0.3700	1125.11	1125.21	-0.10	-0.01%
25-Apr-19	0.3700	1125.11	1125.21	-0.10	-0.01%
9-Jun-20	0.3810	1129.15	1129.51	-0.36	-0.03%
12-Jun-20	0.3130	1089.40	1088.97	0.44	0.04%
28-May-20	0.3540	1104.98	1104.63	0.35	0.03%
16-Jul-19	0.3340	1093.35	1093.16	0.19	0.02%
16-Jul-19	0.3340	1093.35	1093.16	0.19	0.02%
15-Oct-19	0.3850	1156.04	1156.15	-0.11	-0.01%
15-Oct-19	0.3850	1156.04	1156.15	-0.11	-0.01%
9-Apr-19	0.3030	1101.08	1100.72	0.37	0.03%
12-Dec-19	0.3430	1123.74	1123.78	-0.03	0.00%
2-Oct-19	0.3490	1112.41	1111.89	0.52	0.05%
2-Oct-19	0.3490	1112.41	1111.89	0.52	0.05%
27-Mar-19	0.3340	1112.14	1111.98	0.16	0.01%
7-May-20	0.3350	1092.75	1092.54	0.21	0.02%
17-Jun-20	0.3440	1106.18	1105.85	0.33	0.03%
19-Aug-19	0.3480	1098.67	1098.07	0.60	0.05%
19-Aug-19	0.3480	1098.67	1098.07	0.60	0.05%
1-May-19	0.3390	1097.75	1097.41	0.34	0.03%
29-Jul-19	0.3550	1117.63	1117.57	0.06	0.01%
29-Jul-19	0.3550	1117.63	1117.57	0.06	0.01%
26-Aug-19	0.3330	1092.59	1092.28	0.31	0.03%
26-Aug-19	0.3330	1092.59	1092.28	0.31	0.03%

11-Nov-19	0.3110	1099.31	1098.86	0.44	0.04%
11-Nov-19	0.3110	1099.31	1098.86	0.44	0.04%
5-Feb-19	0.3370	1102.97	1103.19	-0.22	-0.02%
13-Feb-20	0.3380	1103.14	1102.90	0.24	0.02%
14-Apr-20	0.3490	1114.43	1114.29	0.14	0.01%
6-Feb-19	0.3130	1079.92	1079.55	0.38	0.03%
19-Jul-18	0.3130	1092.12	1091.18	0.94	0.09%
30-Jul-19	0.4390	1169.37	1169.07	0.29	0.03%
30-Jul-19	0.4390	1169.37	1169.07	0.29	0.03%
5-Feb-20	0.3810	1163.18	1163.10	0.09	0.01%
19-Mar-19	0.3250	1100.80	1100.66	0.14	0.01%
7-Mar-19	0.3390	1090.93	1090.54	0.39	0.04%
23-Apr-19	0.3160	1079.94	1079.54	0.39	0.04%
11-Mar-20	0.3300	1111.65	1111.27	0.39	0.03%
14-Aug-19	0.2830	1111.30	1110.85	0.45	0.04%
14-Aug-19	0.2830	1111.30	1110.85	0.45	0.04%
12-Apr-19	0.3300	1093.88	1093.40	0.48	0.04%
13-Feb-20	0.3240	1088.71	1088.36	0.35	0.03%
11-Apr-19	0.3750	1125.94	1126.20	-0.26	-0.02%
20-Sep-19	0.3300	1082.53	1082.03	0.50	0.05%
20-Sep-19	0.3300	1082.53	1082.03	0.50	0.05%
12-Sep-19	0.3360	1106.32	1106.03	0.29	0.03%
12-Sep-19	0.3360	1106.32	1106.03	0.29	0.03%
28-Apr-20	0.3270	1073.39	1072.57	0.82	0.08%
27-Jun-19	0.3460	1127.89	1127.67	0.22	0.02%
27-Jun-19	0.3460	1127.89	1127.67	0.22	0.02%
19-Mar-19	0.3060	1076.77	1076.39	0.37	0.03%
12-Feb-20	0.3320	1093.33	1093.08	0.25	0.02%
20-Aug-19	0.3560	1114.22	1114.25	-0.03	0.00%
20-Aug-19	0.3560	1114.22	1114.25	-0.03	0.00%
19-Feb-20	0.3120	1081.10	1080.76	0.33	0.03%
18-Nov-19	0.3180	1083.06	1082.50	0.55	0.05%
18-Nov-19	0.3180	1083.06	1082.50	0.55	0.05%
27-Jun-19	0.3470	1122.31	1122.11	0.20	0.02%
27-Jun-19	0.3470	1122.31	1122.11	0.20	0.02%
28-May-20	0.3280	1094.27	1093.77	0.49	0.05%
12-Mar-19	0.2770	1091.57	1091.25	0.31	0.03%
15-Apr-19	0.3210	1097.17	1097.02	0.15	0.01%
13-Feb-20	0.3280	1077.78	1077.01	0.77	0.07%
25-Jul-19	0.2950	1088.56	1088.29	0.27	0.02%
25-Jul-19	0.2950	1088.56	1088.29	0.27	0.02%
28-Apr-20	0.3230	1109.55	1109.57	-0.03	0.00%
30-Jan-19	0.3750	1110.67	1110.34	0.34	0.03%
26-Feb-19	0.3340	1098.82	1098.57	0.25	0.02%
3-Sep-19	0.3670	1084.71	1084.32	0.38	0.04%
3-Sep-19	0.3670	1084.71	1084.32	0.38	0.04%
22-Oct-19	0.3160	1106.09	1105.81	0.28	0.03%
22-Oct-19	0.3160	1106.09	1105.81	0.28	0.03%
22-May-19	0.3040	1078.43	1077.95	0.48	0.04%
11-Oct-19	0.3540	1112.55	1112.83	-0.28	-0.03%
11-Oct-19	0.3540	1111.15	1111.43	-0.28	-0.03%
11-Oct-19	0.3540	1112.82	1113.10	-0.28	-0.03%
11-Oct-19	0.3540	1111.58	1111.86	-0.28	-0.03%
17-Jun-20	0.3210	1085.87	1085.67	0.20	0.02%
31-Aug-19	0.3990	1129.94	1129.92	0.02	0.00%
31-Aug-19	0.3990	1129.94	1129.92	0.02	0.00%
17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%

17-Jun-19	0.3580	1101.05	1100.64	0.41	0.04%
20-Sep-19	0.3500	1095.16	1094.58	0.58	0.05%
20-Sep-19	0.3500	1095.16	1094.58	0.58	0.05%
18-Apr-19	0.3000	1081.44	1081.18	0.26	0.02%
13-May-20	0.3290	1087.41	1086.29	1.13	0.10%
18-Feb-20	0.3470	1090.28	1089.79	0.49	0.04%
1-May-19	0.3150	1083.79	1083.03	0.76	0.07%
26-Sep-19	0.3200	1077.23	1076.48	0.74	0.07%
26-Sep-19	0.3200	1077.23	1076.48	0.74	0.07%
18-Feb-20	0.3460	1094.78	1094.27	0.52	0.05%
12-May-20	0.3450	1088.62	1087.83	0.78	0.07%
19-Aug-19	0.3200	1076.88	1076.13	0.75	0.07%
19-Aug-19	0.3200	1076.88	1076.13	0.75	0.07%
19-Sep-19	0.3010	1081.11	1080.64	0.47	0.04%
19-Sep-19	0.3010	1081.11	1080.64	0.47	0.04%
10-Apr-19	0.2930	1086.90	1086.72	0.19	0.02%
19-Feb-20	0.5990	1303.70	1304.94	-1.24	-0.10%
28-Aug-19	0.3900	1116.03	1115.78	0.25	0.02%
28-Aug-19	0.3900	1116.03	1115.78	0.25	0.02%
1-Oct-19	0.3170	1217.05	1216.48	0.57	0.05%
1-Dec-19	0.3130	1147.59	1147.00	0.59	0.05%
6-Mar-19	0.3230	1119.94	1119.58	0.36	0.03%
24-Jan-20	0.4210	1285.66	1286.12	-0.45	-0.04%
16-Dec-19	0.4570	1291.03	1291.75	-0.72	-0.06%
16-Dec-19	0.4570	1291.00	1291.72	-0.72	-0.06%
9-Sep-19	0.4380	1280.92	1281.35	-0.43	-0.03%
13-Feb-20	0.4880	1302.09	1302.98	-0.89	-0.07%
13-Feb-20	0.4880	1302.09	1302.98	-0.89	-0.07%
19-Sep-19	0.4500	1290.42	1291.14	-0.72	-0.06%
19-Sep-19	0.4500	1290.42	1291.14	-0.72	-0.06%
12-Feb-20	0.4780	1290.79	1291.43	-0.64	-0.05%
23-Sep-19	0.4600	1297.38	1298.16	-0.78	-0.06%
23-Sep-19	0.4600	1297.39	1298.17	-0.78	-0.06%
22-Jan-20	0.5060	1307.95	1308.92	-0.97	-0.07%
20-Nov-19	0.5490	1344.69	1345.98	-1.29	-0.10%
20-Nov-19	0.5500	1345.22	1346.52	-1.30	-0.10%
20-Nov-19	0.5490	1344.85	1346.14	-1.29	-0.10%
20-Nov-19	0.5490	1343.90	1345.20	-1.29	-0.10%
25-Sep-19	0.5310	1318.93	1319.93	-1.00	-0.08%
25-Sep-19	0.5310	1318.93	1319.93	-1.00	-0.08%
28-May-19	0.3920	1876.19	1876.76	-0.56	-0.03%
25-Sep-19	0.5290	1299.76	1300.65	-0.89	-0.07%
12-Nov-19	0.4950	1280.71	1281.44	-0.73	-0.06%
12-Nov-19	0.4950	1280.83	1281.56	-0.73	-0.06%
13-Nov-19	0.8130	1267.75	1269.91	-2.16	-0.17%
31-Mar-20	0.5150	1324.60	1325.73	-1.13	-0.09%
31-Mar-20	0.5150	1324.60	1325.73	-1.13	-0.09%
15-Jul-19	0.2690	1299.33	1299.36	-0.03	0.00%
15-Jul-19	0.2690	1299.33	1299.36	-0.03	0.00%
21-Nov-17	0.3660	1197.03	1197.24	-0.21	-0.02%
21-Sep-18	0.3390	1222.78	1222.96	-0.18	-0.01%
24-Sep-18	0.2420	1150.18	1150.07	0.11	0.01%
18-Jan-20	0.5450	1448.63	1449.91	-1.28	-0.09%
12-Mar-20	0.5710	1357.97	1358.93	-0.97	-0.07%
29-Apr-20	0.3130	1081.25	1080.63	0.63	0.06%
4-Jun-20	0.3340	1089.31	1088.52	0.80	0.07%
2-Aug-19	0.3600	1085.86	1084.88	0.99	0.09%

2-Aug-19	0.3600	1085.86	1084.88	0.99	0.09%
17-Jul-18	0.2690	1094.02	1093.47	0.56	0.05%
19-Mar-19	0.3530	1115.00	1114.73	0.27	0.02%
19-Mar-19	0.3530	1115.00	1114.73	0.27	0.02%
8-May-20	0.3750	1100.04	1099.96	0.09	0.01%
19-May-20	0.3660	1118.73	1118.81	-0.08	-0.01%
13-Nov-19	0.3900	1128.93	1129.03	-0.10	-0.01%
13-Nov-19	0.3900	1128.19	1128.29	-0.10	-0.01%
10-Apr-20	0.3910	1140.71	1140.99	-0.28	-0.02%
16-Jan-20	0.3850	1113.42	1113.57	-0.15	-0.01%
8-May-19	0.3530	1107.32	1107.25	0.06	0.01%
20-Sep-19	0.3490	1094.19	1093.86	0.33	0.03%
19-Mar-19	0.3430	1096.06	1095.98	0.08	0.01%
20-Sep-19	0.3490	1094.19	1093.86	0.33	0.03%
14-Apr-20	0.3520	1107.26	1107.19	0.07	0.01%
9-Apr-20	0.3760	1110.49	1110.57	-0.08	-0.01%
16-Nov-19	0.3720	1103.59	1103.39	0.20	0.02%
19-May-20	0.3670	1117.96	1118.01	-0.04	0.00%
13-Nov-19	0.3790	1119.45	1119.62	-0.16	-0.01%
13-Nov-19	0.3790	1119.45	1119.62	-0.16	-0.01%
12-Mar-19	0.3340	1092.37	1092.06	0.32	0.03%
18-Apr-19	0.3910	1134.11	1134.05	0.06	0.01%
18-Apr-19	0.3910	1134.11	1134.05	0.06	0.01%
9-Jul-19	0.3720	1098.32	1098.24	0.08	0.01%
9-Jul-19	0.3720	1098.32	1098.24	0.08	0.01%
12-Mar-19	0.3290	1093.99	1093.69	0.30	0.03%
23-Apr-19	0.3790	1101.04	1100.74	0.30	0.03%
22-Oct-19	0.3650	1114.41	1114.37	0.03	0.00%
16-Apr-19	0.3900	1113.36	1113.40	-0.03	0.00%
22-Oct-19	0.3650	1114.41	1114.37	0.03	0.00%
5-Apr-19	0.3970	1132.02	1132.12	-0.10	-0.01%
5-Mar-20	0.3290	1079.04	1078.32	0.72	0.07%
15-Aug-19	0.3370	1074.77	1073.95	0.81	0.08%
20-Aug-19	0.3120	1074.03	1073.56	0.47	0.04%
20-Aug-19	0.3120	1074.03	1073.56	0.47	0.04%
21-Aug-19	0.3260	1081.24	1080.69	0.55	0.05%
4-Jun-19	0.3610	1095.70	1095.25	0.46	0.04%
4-Jun-19	0.3610	1095.70	1095.25	0.46	0.04%
26-Sep-19	0.3360	1086.19	1085.79	0.40	0.04%
26-Sep-19	0.3360	1086.19	1085.79	0.40	0.04%
5-Dec-19	0.3720	1114.19	1114.07	0.12	0.01%
2-Jun-20	0.3680	1121.68	1121.70	-0.02	0.00%
28-Apr-20	0.3200	1076.06	1075.70	0.36	0.03%
5-Mar-20	0.3470	1094.45	1094.04	0.41	0.04%
23-Mar-20	0.3410	1092.20	1091.90	0.30	0.03%
22-Apr-19	0.3340	1095.25	1095.03	0.22	0.02%
3-Dec-19	0.3340	1088.26	1087.97	0.29	0.03%
29-Apr-20	0.3490	1111.97	1111.90	0.07	0.01%
5-Mar-20	0.3370	1079.16	1078.85	0.31	0.03%
4-Sep-19	0.3470	1084.55	1084.34	0.21	0.02%
4-Sep-19	0.3470	1084.55	1084.34	0.21	0.02%
9-Mar-20	0.3310	1078.28	1077.93	0.34	0.03%
7-Jan-19	0.3450	1134.56	1134.56	0.00	0.00%
1-Nov-19	0.3790	1126.48	1126.57	-0.09	-0.01%
1-Nov-19	0.3790	1126.48	1126.57	-0.09	-0.01%
6-Jun-19	0.3450	1096.42	1096.16	0.26	0.02%
28-May-20	0.3550	1109.16	1108.92	0.25	0.02%

4-Mar-20	0.3380	1096.64	1096.52	0.11	0.01%
4-Mar-20	0.3460	1098.50	1098.16	0.34	0.03%
29-Aug-19	0.3470	1087.72	1087.33	0.40	0.04%
29-Aug-19	0.3470	1087.72	1087.33	0.40	0.04%
27-Aug-19	0.4040	1105.52	1104.82	0.70	0.06%
5-Dec-19	0.3710	1136.20	1136.48	-0.28	-0.03%
26-Nov-19	0.4080	1156.63	1157.09	-0.46	-0.04%
26-Nov-19	0.4080	1156.63	1157.09	-0.46	-0.04%
16-Jan-20	0.3600	1102.25	1102.17	0.08	0.01%
9-May-19	0.3490	1099.23	1098.91	0.32	0.03%
19-Mar-19	0.3530	1115.00	1114.73	0.27	0.02%
22-Apr-20	0.4060	1159.45	1159.93	-0.48	-0.04%
22-Apr-19	0.4180	1166.53	1167.01	-0.49	-0.04%
23-Apr-20	0.4110	1159.63	1160.03	-0.40	-0.03%
21-Oct-19	0.3680	1157.00	1157.21	-0.21	-0.02%
21-Oct-19	0.3680	1157.00	1157.21	-0.21	-0.02%
15-Apr-20	0.3670	1134.45	1134.58	-0.13	-0.01%
19-Sep-19	0.3540	1121.68	1121.39	0.30	0.03%
19-Sep-19	0.3540	1121.68	1121.39	0.30	0.03%
11-Mar-20	0.3360	1084.37	1083.94	0.43	0.04%
9-Jan-20	0.4200	1160.27	1160.65	-0.39	-0.03%
15-Jan-19	0.3570	1150.37	1150.41	-0.04	0.00%
8-Oct-19	0.3960	1119.82	1119.44	0.38	0.03%
8-Oct-19	0.3960	1119.82	1119.44	0.38	0.03%
5-Dec-19	0.3730	1134.07	1134.10	-0.03	0.00%
1-Mar-19	0.3330	1092.62	1092.47	0.14	0.01%
21-Jan-20	0.3210	1086.02	1085.54	0.48	0.04%
13-May-20	0.3630	1121.53	1121.39	0.14	0.01%
12-Feb-19	0.3570	1085.39	1085.31	0.08	0.01%
24-Jul-19	0.3310	1096.31	1095.91	0.41	0.04%
24-Jul-19	0.3310	1096.31	1095.91	0.41	0.04%
10-Jul-19	0.3570	1095.38	1094.97	0.41	0.04%
8-Jan-19	0.3230	1104.15	1104.01	0.14	0.01%
12-May-20	0.3410	1096.04	1095.56	0.48	0.04%
19-Nov-19	0.3280	1087.68	1087.25	0.43	0.04%
19-Nov-19	0.3280	1087.68	1087.25	0.43	0.04%
3-Jul-19	0.3570	1113.70	1113.42	0.28	0.03%
3-Jul-19	0.3570	1113.70	1113.42	0.28	0.03%
17-Sep-19	0.3560	1101.15	1100.89	0.26	0.02%
17-Sep-19	0.3560	1101.15	1100.89	0.26	0.02%
30-Jul-19	0.3890	1178.32	1178.23	0.09	0.01%
30-Jul-19	0.3890	1178.32	1178.23	0.09	0.01%
5-Mar-20	0.3420	1086.27	1085.95	0.32	0.03%
18-Apr-19	0.3480	1090.71	1089.90	0.80	0.07%
21-Apr-20	0.3410	1110.39	1110.48	-0.09	-0.01%
9-Aug-19	0.3980	1145.11	1145.45	-0.33	-0.03%
9-Aug-19	0.3980	1145.11	1145.45	-0.33	-0.03%
6-Aug-19	0.3640	1140.77	1140.81	-0.05	0.00%
6-Aug-19	0.3640	1140.77	1140.81	-0.05	0.00%
11-Jun-19	0.3510	1099.37	1098.91	0.46	0.04%
14-Jan-20	0.3380	1119.31	1119.31	0.00	0.00%
5-Mar-20	0.3380	1078.88	1078.43	0.45	0.04%
19-Feb-20	0.3680	1116.63	1116.62	0.01	0.00%
20-Sep-19	0.3450	1089.58	1089.43	0.15	0.01%
20-Sep-19	0.3450	1089.58	1089.43	0.15	0.01%
11-Feb-20	0.3650	1094.29	1094.02	0.28	0.03%
16-Apr-20	0.3670	1131.42	1131.43	-0.01	0.00%

26-Jul-19	0.3120	1088.51	1088.03	0.48	0.04%
26-Jul-19	0.3120	1088.51	1088.03	0.48	0.04%
13-Aug-19	0.3260	1082.54	1081.90	0.64	0.06%
13-Aug-19	0.3260	1082.54	1081.90	0.64	0.06%
29-Jan-19	0.3250	1097.73	1097.28	0.45	0.04%
1-May-19	0.3380	1087.20	1086.95	0.25	0.02%
19-Mar-19	0.3530	1115.00	1114.73	0.27	0.02%
11-May-20	0.3180	1104.31	1103.94	0.37	0.03%
5-Mar-20	0.3380	1078.88	1078.43	0.45	0.04%
14-May-19	0.3200	1080.00	1079.25	0.75	0.07%
14-May-19	0.3200	1080.00	1079.25	0.75	0.07%
23-Mar-20	0.3260	1078.59	1077.95	0.64	0.06%
21-Oct-19	0.3110	1077.54	1077.22	0.33	0.03%
21-Oct-19	0.3110	1077.54	1077.22	0.33	0.03%
21-Oct-19	0.3060	1085.36	1085.09	0.27	0.03%
21-Oct-19	0.3060	1085.36	1085.09	0.27	0.03%
17-Apr-19	0.3320	1082.88	1082.70	0.18	0.02%
22-Apr-20	0.3300	1085.56	1084.90	0.65	0.06%
18-Mar-20	0.3790	1092.10	1091.37	0.73	0.07%
6-Jun-19	0.3350	1099.85	1099.32	0.53	0.05%
6-Jun-19	0.3350	1099.85	1099.32	0.53	0.05%
3-Dec-19	0.3250	1099.14	1098.93	0.21	0.02%
18-Apr-19	0.3120	1085.34	1084.98	0.36	0.03%
19-Nov-19	0.4470	1224.96	1225.84	-0.88	-0.07%
16-Apr-19	0.4700	1174.56	1174.85	-0.30	-0.03%
24-Jul-19	0.4020	1184.94	1185.41	-0.46	-0.04%
14-Apr-20	0.3570	1129.61	1129.89	-0.28	-0.02%
19-Aug-19	0.2920	1073.09	1072.51	0.58	0.05%
19-Aug-19	0.2930	1073.88	1073.31	0.57	0.05%
20-Apr-20	0.4450	1265.08	1265.64	-0.56	-0.04%
19-Sep-19	0.4150	1300.34	1300.61	-0.27	-0.02%
25-Nov-19	0.5300	1290.36	1291.01	-0.65	-0.05%
8-Apr-19	0.3390	1306.37	1306.79	-0.42	-0.03%
8-Apr-19	0.3390	1306.14	1306.55	-0.42	-0.03%
18-Nov-19	0.5230	1283.92	1284.96	-1.04	-0.08%
10-Jun-20	0.5400	1345.70	1346.67	-0.97	-0.07%
29-Aug-19	0.5180	1309.23	1309.93	-0.69	-0.05%
29-Aug-19	0.5170	1306.74	1307.43	-0.69	-0.05%
14-Jun-19	0.2990	1318.41	1318.50	-0.09	-0.01%
14-Jun-19	0.2990	1318.31	1318.40	-0.09	-0.01%
14-Jun-19	0.2990	1318.38	1318.46	-0.09	-0.01%
27-Sep-19	0.5620	1361.29	1362.59	-1.31	-0.10%
27-Sep-19	0.5620	1360.23	1361.54	-1.31	-0.10%
21-Apr-20	0.5110	1328.37	1329.31	-0.94	-0.07%
31-Oct-19	0.7150	1271.30	1272.75	-1.46	-0.11%
31-Oct-19	0.7130	1267.65	1269.10	-1.45	-0.11%
25-Sep-19	0.5310	1302.02	1302.91	-0.89	-0.07%
8-Jun-20	0.4810	1293.65	1294.28	-0.64	-0.05%
21-May-19	0.3750	1633.30	1633.94	-0.64	-0.04%
21-May-19	0.3750	1631.93	1632.56	-0.64	-0.04%
21-May-19	0.3750	1632.54	1633.18	-0.64	-0.04%
18-Sep-18	0.2730	1267.65	1267.54	0.11	0.01%
13-Nov-19	0.8120	1270.16	1272.31	-2.15	-0.17%
18-Oct-18	0.3380	1218.63	1218.87	-0.24	-0.02%
18-Jan-18	0.2620	1289.46	1288.84	0.63	0.05%
30-Sep-19	0.4330	1290.64	1291.17	-0.53	-0.04%
30-Sep-19	0.4330	1290.64	1291.17	-0.53	-0.04%

25-May-17	0.2900	1496.32	1496.65	-0.33	-0.02%
30-Jan-20	0.6200	1322.94	1324.14	-1.21	-0.09%
16-Mar-20	0.4970	1282.35	1283.08	-0.73	-0.06%
16-Mar-20	0.4970	1282.42	1283.15	-0.73	-0.06%
26-Sep-19	0.6130	1351.28	1352.50	-1.23	-0.09%
17-Jun-19	0.4410	1249.85	1250.52	-0.67	-0.05%
11-Jun-19	0.3240	1311.64	1310.77	0.87	0.07%
26-May-20	0.8680	1290.00	1292.34	-2.34	-0.18%
22-Jan-20	0.6020	1210.04	1211.25	-1.21	-0.10%
29-Oct-19	0.3310	1078.90	1078.62	0.28	0.03%
29-Oct-19	0.3310	1078.90	1078.62	0.28	0.03%
18-Jun-18	0.3170	1125.62	1124.77	0.85	0.08%
23-Oct-19	0.2910	1087.19	1086.23	0.97	0.09%
23-Oct-19	0.2910	1087.19	1086.23	0.97	0.09%
19-Sep-19	0.3360	1105.49	1105.19	0.30	0.03%
19-Sep-19	0.3360	1105.49	1105.19	0.30	0.03%
9-May-19	0.3170	1086.23	1085.96	0.26	0.02%
9-May-19	0.3170	1086.23	1085.96	0.26	0.02%
13-Aug-19	0.3580	1114.01	1113.96	0.05	0.00%
16-Apr-19	0.3360	1088.38	1087.90	0.48	0.04%
6-Dec-18	0.3480	1092.81	1092.16	0.64	0.06%
8-Aug-19	0.3440	1080.27	1079.48	0.80	0.07%
8-Aug-19	0.3440	1080.27	1079.48	0.80	0.07%
14-Jan-20	0.3560	1113.31	1113.32	-0.01	0.00%
11-Sep-19	0.3730	1088.55	1087.97	0.58	0.05%
11-Sep-19	0.3730	1088.55	1087.97	0.58	0.05%
11-Sep-19	0.3730	1088.55	1087.97	0.58	0.05%
11-Sep-19	0.3730	1088.55	1087.97	0.58	0.05%
5-Sep-19	0.3760	1097.63	1096.77	0.86	0.08%
5-Sep-19	0.3760	1097.63	1096.77	0.86	0.08%
11-Sep-19	0.3730	1088.55	1087.97	0.58	0.05%
11-Sep-19	0.3730	1088.55	1087.97	0.58	0.05%
7-May-20	0.3820	1093.28	1093.05	0.24	0.02%
18-Jun-19	0.3570	1102.69	1102.54	0.15	0.01%
14-Oct-19	0.3560	1125.71	1125.62	0.09	0.01%
14-Oct-19	0.3560	1124.82	1124.73	0.09	0.01%
24-Oct-19	0.3880	1126.57	1126.61	-0.04	0.00%
24-Oct-19	0.3880	1126.57	1126.61	-0.04	0.00%
16-Jan-20	0.3920	1117.27	1117.31	-0.05	0.00%
17-Jan-19	0.3690	1117.67	1117.79	-0.12	-0.01%
12-Nov-19	0.3980	1130.62	1130.86	-0.24	-0.02%
12-Nov-19	0.3980	1130.62	1130.86	-0.24	-0.02%
12-Nov-19	0.3970	1135.72	1135.78	-0.06	-0.01%
12-Nov-19	0.3970	1135.72	1135.78	-0.06	-0.01%
15-May-19	0.3810	1118.72	1118.69	0.03	0.00%
15-May-19	0.3810	1118.72	1118.69	0.03	0.00%
20-Sep-19	0.3540	1098.38	1098.16	0.23	0.02%
20-Sep-19	0.3540	1098.38	1098.16	0.23	0.02%
25-Jun-19	0.3980	1144.37	1144.53	-0.16	-0.01%
25-Jun-19	0.3980	1144.37	1144.53	-0.16	-0.01%
25-Jun-19	0.3980	1144.37	1144.53	-0.16	-0.01%
27-Feb-20	0.4150	1125.14	1125.19	-0.05	0.00%
16-Apr-19	0.3910	1121.05	1121.28	-0.23	-0.02%
3-Mar-20	0.3670	1100.23	1100.11	0.13	0.01%
18-Oct-19	0.3670	1127.67	1127.47	0.20	0.02%
18-Oct-19	0.3670	1127.67	1127.47	0.20	0.02%
13-Jun-19	0.3420	1099.49	1099.07	0.42	0.04%

2-Jul-19	0.3990	1115.26	1115.54	-0.28	-0.02%
2-Jul-19	0.3990	1115.26	1115.54	-0.28	-0.02%
25-Jun-20	0.3470	1104.30	1104.29	0.01	0.00%
31-Jul-19	0.3340	1072.91	1072.64	0.27	0.02%
31-Jul-19	0.3340	1072.91	1072.64	0.27	0.02%
4-Jun-20	0.4010	1129.85	1129.79	0.06	0.01%
18-Mar-20	0.3740	1123.76	1123.77	-0.01	0.00%
16-Oct-19	0.3750	1119.41	1118.94	0.47	0.04%
16-Oct-19	0.3750	1119.41	1118.94	0.47	0.04%
3-Dec-19	0.3570	1101.87	1101.74	0.13	0.01%
9-Mar-20	0.3380	1085.29	1084.98	0.30	0.03%
21-Apr-20	0.3820	1128.66	1128.72	-0.06	-0.01%
27-Jan-20	0.3370	1089.79	1089.54	0.25	0.02%
15-Mar-19	0.3490	1090.53	1090.29	0.23	0.02%
27-Aug-19	0.3520	1095.30	1094.97	0.33	0.03%
7-May-19	0.3560	1097.23	1096.87	0.36	0.03%
27-Aug-19	0.3520	1095.30	1094.97	0.33	0.03%
5-Sep-19	0.3480	1095.30	1094.88	0.42	0.04%
27-Aug-19	0.3500	1087.39	1086.95	0.43	0.04%
27-Aug-19	0.3500	1087.39	1086.95	0.43	0.04%
27-Aug-19	0.3530	1089.23	1088.75	0.48	0.04%
27-Aug-19	0.3530	1089.23	1088.75	0.48	0.04%
8-Jan-20	0.3740	1108.87	1108.98	-0.11	-0.01%
2-May-19	0.3660	1105.87	1105.82	0.05	0.00%
2-May-19	0.3660	1105.87	1105.82	0.05	0.00%
9-Jan-20	0.3900	1158.17	1158.53	-0.36	-0.03%
7-Jan-19	0.3900	1151.33	1151.61	-0.28	-0.02%
8-May-20	0.3650	1121.83	1121.97	-0.14	-0.01%
8-May-20	0.3680	1124.30	1124.14	0.16	0.01%
24-Oct-19	0.3680	1128.80	1128.86	-0.06	-0.01%
24-Oct-19	0.3680	1128.80	1128.86	-0.06	-0.01%
2-Dec-19	0.3070	1079.34	1079.00	0.34	0.03%
14-Jan-20	0.3200	1115.47	1115.31	0.16	0.01%
14-Jan-20	0.3900	1130.85	1131.07	-0.22	-0.02%
7-Mar-19	0.3380	1100.26	1099.96	0.30	0.03%
10-Jun-19	0.3450	1111.43	1111.39	0.03	0.00%
10-Jun-19	0.3450	1111.43	1111.39	0.03	0.00%
11-Jun-19	0.3470	1110.68	1110.60	0.08	0.01%
11-Jun-19	0.3470	1110.68	1110.60	0.08	0.01%
24-Sep-19	0.3260	1097.33	1096.99	0.34	0.03%
4-Mar-20	0.3350	1089.32	1089.07	0.25	0.02%
7-Nov-19	0.3620	1115.90	1115.90	0.00	0.00%
13-May-20	0.3470	1111.85	1111.86	-0.02	0.00%
7-Nov-19	0.3620	1115.90	1115.90	0.00	0.00%
4-Mar-20	0.3530	1098.26	1098.21	0.06	0.01%
28-May-19	0.3590	1097.17	1096.71	0.46	0.04%
16-Jan-20	0.3500	1101.59	1101.50	0.09	0.01%
11-Jul-19	0.3400	1082.84	1082.37	0.46	0.04%
16-Oct-19	0.3830	1122.63	1122.76	-0.13	-0.01%
16-Oct-19	0.3830	1122.63	1122.76	-0.13	-0.01%
22-Jan-19	0.3640	1128.48	1128.39	0.09	0.01%
21-Nov-19	0.4170	1146.05	1146.07	-0.01	0.00%
21-Nov-19	0.4170	1146.05	1146.07	-0.01	0.00%
25-Jun-19	0.3630	1143.99	1144.13	-0.14	-0.01%
25-Jun-19	0.3630	1143.99	1144.13	-0.14	-0.01%
22-Apr-19	0.3780	1144.52	1144.63	-0.11	-0.01%
18-Apr-19	0.3820	1138.45	1138.57	-0.12	-0.01%

19-Jul-18	0.3190	1075.44	1074.84	0.59	0.06%
21-Oct-19	0.4530	1184.45	1185.09	-0.64	-0.05%
21-Oct-19	0.4530	1184.45	1185.09	-0.64	-0.05%
10-Jan-19	0.4850	1148.74	1149.02	-0.28	-0.02%
16-Jun-20	0.3430	1111.30	1111.17	0.13	0.01%
9-Apr-19	0.3700	1135.30	1135.34	-0.04	0.00%
25-Mar-20	0.3900	1122.93	1122.65	0.28	0.02%
4-Jun-19	0.3850	1141.88	1142.15	-0.27	-0.02%
4-Jun-19	0.3850	1141.88	1142.15	-0.27	-0.02%
23-Mar-20	0.3300	1120.26	1120.03	0.23	0.02%
6-Nov-19	0.3550	1107.99	1108.05	-0.06	-0.01%
6-Nov-19	0.3550	1107.99	1108.05	-0.06	-0.01%
13-May-20	0.3420	1085.97	1085.65	0.32	0.03%
11-Feb-20	0.3390	1096.79	1096.54	0.25	0.02%
10-Jun-20	0.3540	1113.50	1113.37	0.13	0.01%
10-Jun-20	0.3330	1093.55	1093.31	0.24	0.02%
5-Sep-19	0.3470	1085.77	1085.32	0.45	0.04%
5-Sep-19	0.3470	1085.77	1085.32	0.45	0.04%
16-Jun-20	0.3390	1097.32	1096.60	0.72	0.07%
19-Feb-19	0.3450	1080.44	1079.52	0.93	0.09%
13-Feb-20	0.3810	1117.06	1117.03	0.03	0.00%
14-Apr-20	0.3490	1071.83	1071.81	0.01	0.00%
24-Jul-19	0.3570	1109.49	1109.16	0.32	0.03%
24-Jul-19	0.3570	1109.49	1109.16	0.32	0.03%
10-Sep-19	0.3110	1084.80	1084.65	0.15	0.01%
10-Sep-19	0.3110	1084.80	1084.65	0.15	0.01%
7-Mar-19	0.3000	1117.07	1116.91	0.16	0.01%
11-Apr-19	0.3180	1106.61	1106.15	0.46	0.04%
1-Nov-19	0.3720	1109.16	1109.00	0.17	0.02%
1-Nov-19	0.3720	1109.16	1109.00	0.17	0.02%
8-May-19	0.3560	1103.66	1103.35	0.31	0.03%
29-Aug-19	0.3350	1089.27	1088.85	0.42	0.04%
29-Aug-19	0.3350	1089.27	1088.85	0.42	0.04%
26-Sep-19	0.3550	1108.74	1108.28	0.46	0.04%
26-Feb-20	0.3530	1125.61	1125.79	-0.19	-0.02%
2-Jul-19	0.3450	1117.45	1117.50	-0.05	0.00%
19-Feb-20	0.4310	1151.74	1152.10	-0.35	-0.03%
20-Feb-20	0.3570	1104.60	1104.06	0.54	0.05%
30-Aug-19	0.3710	1121.26	1121.23	0.03	0.00%
30-Aug-19	0.3710	1121.26	1121.23	0.03	0.00%
19-May-20	0.3370	1144.59	1144.06	0.54	0.05%
6-Aug-19	0.3430	1131.25	1131.02	0.23	0.02%
6-Aug-19	0.3430	1131.25	1131.02	0.23	0.02%
26-Feb-20	0.4200	1174.00	1174.28	-0.28	-0.02%
28-Feb-19	0.3440	1095.55	1095.28	0.27	0.02%
15-May-19	0.3490	1146.69	1146.64	0.05	0.00%
9-Jan-20	0.3600	1121.03	1120.92	0.11	0.01%
2-May-19	0.3400	1078.55	1078.00	0.55	0.05%
2-May-19	0.3400	1078.55	1078.00	0.55	0.05%
9-Apr-19	0.3520	1094.23	1094.12	0.11	0.01%
27-Feb-19	0.3130	1084.32	1084.00	0.31	0.03%
11-Oct-19	0.3350	1100.04	1100.09	-0.05	0.00%
11-Oct-19	0.3350	1100.04	1100.09	-0.05	0.00%
7-Aug-19	0.3290	1084.83	1084.23	0.60	0.05%
7-Aug-19	0.3290	1084.83	1084.23	0.60	0.05%
17-Jul-19	0.3380	1077.60	1076.51	1.09	0.10%
17-Jul-19	0.3380	1077.60	1076.51	1.09	0.10%

17-Jul-19	0.3320	1078.73	1078.17	0.55	0.05%
17-Jul-19	0.3320	1078.73	1078.17	0.55	0.05%
20-Sep-19	0.3280	1087.14	1086.84	0.30	0.03%
22-Aug-19	0.3290	1071.83	1071.34	0.49	0.05%
22-Aug-19	0.3290	1071.83	1071.34	0.49	0.05%
20-Aug-19	0.3250	1081.91	1081.38	0.53	0.05%
20-Aug-19	0.3250	1081.91	1081.38	0.53	0.05%
7-Mar-19	0.3240	1079.05	1078.53	0.52	0.05%
7-Mar-19	0.3240	1079.05	1078.53	0.52	0.05%
11-Nov-19	0.3530	1096.86	1096.34	0.51	0.05%
7-May-19	0.3270	1080.72	1080.06	0.66	0.06%
14-May-19	0.3600	1085.36	1085.02	0.34	0.03%
14-May-19	0.3600	1085.36	1085.02	0.34	0.03%
6-Jun-19	0.3510	1089.42	1088.87	0.55	0.05%
26-Mar-19	0.3400	1086.34	1086.04	0.30	0.03%
26-Mar-19	0.3400	1086.34	1086.04	0.30	0.03%
19-Feb-20	0.3210	1085.65	1085.23	0.43	0.04%
8-Jan-19	0.3150	1083.16	1082.96	0.20	0.02%
8-Jan-19	0.3150	1083.16	1082.96	0.20	0.02%
24-Jul-19	0.3320	1085.36	1084.82	0.54	0.05%
24-Jul-19	0.3320	1085.36	1084.82	0.54	0.05%
28-May-18	0.3530	1086.70	1085.79	0.91	0.08%
20-Mar-19	0.3180	1082.17	1081.62	0.55	0.05%
20-Mar-19	0.3180	1082.17	1081.62	0.55	0.05%
24-Sep-19	0.3120	1086.19	1085.77	0.42	0.04%
24-Sep-19	0.3120	1086.19	1085.77	0.42	0.04%
16-Jul-19	0.3130	1075.85	1075.24	0.61	0.06%
16-Jul-19	0.3130	1075.85	1075.24	0.61	0.06%
23-Jan-20	0.5380	1291.08	1292.23	-1.15	-0.09%
27-Sep-19	0.3260	1081.62	1081.19	0.43	0.04%
27-Sep-19	0.3260	1081.62	1081.19	0.43	0.04%
29-Apr-19	0.5280	1208.05	1209.05	-1.00	-0.08%
29-Apr-19	0.5280	1208.05	1209.05	-1.00	-0.08%
14-Apr-20	0.3580	1132.51	1132.78	-0.27	-0.02%
14-Apr-20	0.3580	1132.51	1132.78	-0.27	-0.02%
27-Jun-19	0.4010	1181.49	1182.05	-0.56	-0.05%
18-Feb-20	0.5000	1295.70	1296.44	-0.75	-0.06%
9-Apr-20	0.4210	1292.61	1293.09	-0.48	-0.04%
18-Dec-19	0.4820	1292.13	1292.94	-0.81	-0.06%
18-May-20	0.4490	1282.53	1283.09	-0.56	-0.04%
19-Dec-19	0.4550	1308.60	1308.87	-0.27	-0.02%
19-Dec-19	0.4550	1308.60	1308.87	-0.27	-0.02%
12-Mar-20	0.4430	1311.67	1312.26	-0.59	-0.05%
12-Mar-20	0.4430	1311.46	1312.05	-0.59	-0.05%
26-Feb-20	0.3680	1326.26	1326.48	-0.22	-0.02%
23-Apr-19	0.3260	1302.09	1301.96	0.13	0.01%
2-Aug-19	0.3500	1329.94	1330.17	-0.22	-0.02%
14-May-19	0.4180	1706.46	1707.29	-0.83	-0.05%
14-May-19	0.4170	1701.36	1702.18	-0.83	-0.05%
20-May-20	0.4570	1289.84	1290.36	-0.52	-0.04%
1-Jul-19	0.3200	1299.74	1299.13	0.61	0.05%
21-May-19	0.2660	1249.20	1249.31	-0.11	-0.01%
30-Jan-20	0.5120	1291.38	1291.97	-0.59	-0.05%
15-Jul-19	0.2730	1258.93	1258.78	0.15	0.01%
22-Aug-18	0.4610	1192.69	1193.24	-0.55	-0.05%
26-Sep-19	0.6150	1354.00	1355.23	-1.23	-0.09%
18-Mar-19	0.3020	1308.34	1308.27	0.07	0.01%

21-May-18	0.3100	1248.63	1248.67	-0.04	0.00%
10-Jul-19	0.3330	1211.99	1212.20	-0.21	-0.02%
10-Jul-19	0.3320	1209.35	1209.55	-0.21	-0.02%
16-Mar-20	0.4700	1402.82	1403.41	-0.59	-0.04%
29-Oct-19	0.3180	1196.87	1196.26	0.62	0.05%
29-Oct-19	0.3180	1196.87	1196.26	0.62	0.05%
19-Sep-19	0.4350	1206.00	1206.49	-0.50	-0.04%
19-Sep-19	0.4350	1206.00	1206.49	-0.50	-0.04%
8-Oct-19	0.2770	1112.02	1111.85	0.16	0.01%
8-Oct-19	0.2770	1112.02	1111.85	0.16	0.01%
26-Feb-20	0.3590	1084.17	1083.51	0.66	0.06%
19-Sep-19	0.3830	1110.15	1109.63	0.53	0.05%
19-Sep-19	0.3830	1110.15	1109.63	0.53	0.05%
19-May-20	0.3590	1080.16	1078.92	1.24	0.11%
9-Jun-20	0.3530	1101.96	1101.54	0.42	0.04%
9-Jun-20	0.3530	1101.96	1101.54	0.42	0.04%
11-Jun-19	0.4010	1097.10	1096.31	0.79	0.07%
11-Jun-19	0.4010	1097.10	1096.31	0.79	0.07%
3-Mar-20	0.3450	1104.16	1103.92	0.25	0.02%
9-Jun-20	0.3530	1101.96	1101.54	0.42	0.04%
19-Jun-19	0.3640	1102.28	1101.97	0.30	0.03%
19-Jun-19	0.3650	1103.06	1102.76	0.30	0.03%
7-May-20	0.3740	1102.40	1102.25	0.16	0.01%
1-Apr-20	0.3840	1122.30	1122.53	-0.23	-0.02%
21-Nov-19	0.4150	1118.72	1118.89	-0.17	-0.02%
21-Nov-19	0.4150	1118.72	1118.89	-0.17	-0.02%
3-Jul-19	0.3920	1105.54	1105.50	0.04	0.00%
3-Jul-19	0.3920	1105.54	1105.50	0.04	0.00%
7-May-19	0.3580	1107.68	1107.33	0.35	0.03%
12-Nov-19	0.3900	1114.90	1115.08	-0.18	-0.02%
26-May-20	0.3570	1125.42	1125.10	0.32	0.03%
12-Nov-19	0.3900	1114.90	1115.08	-0.18	-0.02%
1-Oct-19	0.3430	1102.72	1102.39	0.34	0.03%
1-Oct-19	0.3430	1102.72	1102.39	0.34	0.03%
25-Jun-20	0.3940	1148.32	1148.35	-0.02	0.00%
23-Jan-19	0.3940	1117.74	1117.77	-0.02	0.00%
16-May-19	0.3660	1116.48	1116.39	0.09	0.01%
21-May-20	0.4030	1157.90	1158.18	-0.28	-0.02%
16-May-19	0.3600	1112.47	1112.73	-0.27	-0.02%
16-May-19	0.3600	1110.93	1111.20	-0.27	-0.02%
17-Jan-20	0.4230	1107.94	1108.03	-0.09	-0.01%
9-Jan-20	0.3660	1127.86	1127.90	-0.04	0.00%
23-Jul-19	0.3760	1114.14	1113.74	0.39	0.04%
23-Jul-19	0.3760	1114.14	1113.74	0.39	0.04%
8-May-19	0.3340	1120.27	1120.05	0.23	0.02%
9-Aug-19	0.3310	1073.74	1073.10	0.65	0.06%
20-Aug-19	0.3270	1083.13	1082.89	0.24	0.02%
14-May-19	0.3450	1089.21	1088.75	0.46	0.04%
21-Aug-19	0.3420	1089.26	1088.78	0.48	0.04%
4-Jun-19	0.3580	1095.37	1095.02	0.35	0.03%
9-Dec-19	0.3760	1128.84	1128.76	0.08	0.01%
4-Jun-20	0.3640	1121.62	1121.21	0.41	0.04%
1-Jun-20	0.3480	1098.42	1098.31	0.11	0.01%
3-Jul-19	0.3280	1082.83	1082.22	0.61	0.06%
10-Sep-19	0.3600	1096.80	1096.43	0.37	0.03%
14-Mar-19	0.3510	1101.33	1101.06	0.27	0.02%
20-Aug-19	0.3470	1090.68	1090.58	0.10	0.01%

20-Aug-19	0.3470	1090.68	1090.58	0.10	0.01%
4-Dec-19	0.3510	1098.12	1097.79	0.33	0.03%
11-Sep-19	0.3470	1113.78	1113.73	0.05	0.00%
11-Sep-19	0.3470	1113.78	1113.73	0.05	0.00%
22-Apr-19	0.3420	1097.35	1097.11	0.24	0.02%
23-Aug-19	0.3680	1098.58	1098.35	0.24	0.02%
23-Aug-19	0.3680	1098.58	1098.35	0.24	0.02%
27-Apr-20	0.3760	1131.61	1131.71	-0.10	-0.01%
24-Apr-19	0.3910	1151.73	1152.07	-0.35	-0.03%
8-May-20	0.3730	1122.63	1122.79	-0.16	-0.01%
5-Sep-19	0.3470	1094.55	1094.21	0.34	0.03%
5-Sep-19	0.3470	1094.93	1094.59	0.34	0.03%
5-Sep-19	0.3500	1098.01	1097.59	0.42	0.04%
22-Jan-20	0.3520	1130.62	1130.68	-0.07	-0.01%
18-Jun-20	0.3760	1110.66	1110.31	0.36	0.03%
14-Aug-19	0.3480	1097.97	1097.74	0.24	0.02%
14-Aug-19	0.3480	1097.97	1097.74	0.24	0.02%
14-Aug-19	0.3560	1097.21	1096.83	0.38	0.03%
14-Aug-19	0.3560	1097.21	1096.83	0.38	0.03%
18-Apr-19	0.3740	1129.06	1129.21	-0.15	-0.01%
13-Nov-19	0.3500	1106.68	1106.56	0.12	0.01%
13-Nov-19	0.3500	1106.68	1106.56	0.12	0.01%
6-Feb-20	0.3610	1103.40	1103.37	0.03	0.00%
17-Jan-19	0.3420	1095.12	1094.96	0.16	0.01%
15-Jan-19	0.3610	1113.95	1113.48	0.47	0.04%
3-Mar-20	0.3440	1083.78	1083.54	0.24	0.02%
3-Jun-20	0.4040	1154.95	1155.22	-0.27	-0.02%
3-Sep-19	0.3550	1093.71	1093.25	0.46	0.04%
3-Sep-19	0.3550	1093.71	1093.25	0.46	0.04%
3-Sep-19	0.3500	1090.41	1089.99	0.42	0.04%
3-Sep-19	0.3500	1090.41	1089.99	0.42	0.04%
5-Mar-19	0.3440	1104.90	1104.70	0.20	0.02%
29-Aug-19	0.3560	1095.87	1095.38	0.49	0.04%
29-Aug-19	0.3560	1095.87	1095.38	0.49	0.04%
4-Mar-20	0.3510	1105.94	1105.87	0.07	0.01%
18-Jun-20	0.3790	1128.79	1128.83	-0.03	0.00%
9-Jun-20	0.3650	1137.24	1137.29	-0.04	0.00%
14-May-20	0.3290	1094.82	1094.03	0.79	0.07%
16-Jul-19	0.3540	1096.16	1095.84	0.32	0.03%
16-Jul-19	0.3540	1096.16	1095.84	0.32	0.03%
1-Aug-19	0.3330	1096.44	1096.21	0.22	0.02%
1-Aug-19	0.3330	1096.44	1096.21	0.22	0.02%
16-Apr-19	0.4040	1165.35	1165.73	-0.39	-0.03%
16-Apr-19	0.4040	1165.35	1165.73	-0.39	-0.03%
16-Jan-20	0.3470	1089.16	1089.21	-0.04	0.00%
15-Apr-20	0.4050	1143.39	1143.76	-0.37	-0.03%
16-Oct-19	0.3800	1127.55	1127.46	0.09	0.01%
16-Oct-19	0.3800	1127.55	1127.46	0.09	0.01%
16-Oct-19	0.3660	1120.21	1120.23	-0.02	0.00%
16-Oct-19	0.3660	1120.21	1120.23	-0.02	0.00%
27-May-19	0.3600	1083.54	1082.76	0.78	0.07%
3-Jul-19	0.3930	1102.81	1102.78	0.03	0.00%
29-Jan-20	0.3010	1082.13	1082.10	0.03	0.00%
21-Oct-19	0.3580	1123.14	1123.02	0.12	0.01%
21-Oct-19	0.3580	1123.14	1123.02	0.12	0.01%
16-Jun-20	0.3830	1132.80	1133.03	-0.22	-0.02%
10-Apr-19	0.3360	1119.33	1118.68	0.65	0.06%

10-Apr-19	0.3740	1141.22	1141.10	0.12	0.01%
23-Sep-19	0.3520	1111.07	1111.05	0.02	0.00%
23-Sep-19	0.3520	1111.07	1111.05	0.02	0.00%
9-Dec-19	0.3260	1097.12	1096.59	0.53	0.05%
12-Jul-19	0.3150	1089.48	1089.25	0.22	0.02%
12-Jul-19	0.3150	1089.48	1089.25	0.22	0.02%
3-Sep-19	0.3460	1086.59	1086.21	0.39	0.04%
3-Sep-19	0.3460	1086.59	1086.21	0.39	0.04%
20-Apr-20	0.3720	1090.68	1090.35	0.33	0.03%
10-Dec-19	0.4050	1112.32	1112.49	-0.17	-0.02%
3-Jul-19	0.3670	1121.86	1121.70	0.16	0.01%
3-Jul-19	0.3670	1121.86	1121.70	0.16	0.01%
16-Mar-20	0.3490	1083.83	1083.58	0.25	0.02%
22-Jan-19	0.3710	1094.88	1093.81	1.07	0.10%
6-Apr-20	0.3640	1102.41	1102.31	0.11	0.01%
29-Jan-19	0.3980	1151.52	1151.75	-0.24	-0.02%
7-Nov-19	0.3820	1095.26	1095.19	0.07	0.01%
7-Nov-19	0.3820	1095.26	1095.19	0.07	0.01%
12-Sep-19	0.3680	1090.87	1090.38	0.49	0.04%
12-Sep-19	0.3680	1090.87	1090.38	0.49	0.04%
7-Oct-19	0.3510	1103.57	1102.61	0.96	0.09%
7-Oct-19	0.3510	1103.57	1102.61	0.96	0.09%
17-Mar-20	0.3270	1087.20	1086.89	0.31	0.03%
29-Jan-19	0.4010	1163.92	1164.22	-0.30	-0.03%
15-Apr-19	0.3750	1143.22	1143.39	-0.16	-0.01%
31-Aug-19	0.4140	1182.56	1182.85	-0.29	-0.02%
31-Aug-19	0.4140	1182.56	1182.85	-0.29	-0.02%
15-Oct-19	0.3390	1113.05	1113.07	-0.01	0.00%
15-Oct-19	0.3390	1113.05	1113.07	-0.01	0.00%
11-Sep-19	0.3640	1094.33	1094.04	0.30	0.03%
11-Sep-19	0.3640	1094.33	1094.04	0.30	0.03%
28-Aug-19	0.3640	1082.84	1081.88	0.95	0.09%
28-Aug-19	0.3640	1082.84	1081.88	0.95	0.09%
27-Jun-19	0.3570	1111.36	1111.00	0.36	0.03%
27-Jun-19	0.3570	1111.36	1111.00	0.36	0.03%
11-Mar-20	0.3190	1087.06	1086.83	0.22	0.02%
31-Mar-20	0.3310	1086.78	1086.76	0.02	0.00%
3-Jul-19	0.3930	1102.81	1102.78	0.03	0.00%
19-Feb-19	0.3420	1089.59	1089.51	0.08	0.01%
10-Apr-20	0.3710	1146.34	1146.28	0.06	0.00%
19-Apr-19	0.4470	1118.29	1119.03	-0.74	-0.07%
17-Jan-19	0.5730	1199.67	1200.92	-1.25	-0.10%
21-Aug-19	0.3050	1062.96	1062.17	0.79	0.07%
21-Apr-20	0.3600	1115.92	1115.74	0.17	0.02%
20-Sep-19	0.3400	1083.93	1083.37	0.55	0.05%
20-Sep-19	0.3400	1083.93	1083.37	0.55	0.05%
3-Mar-20	0.3450	1104.16	1103.92	0.25	0.02%
9-Jun-20	0.3530	1101.96	1101.54	0.42	0.04%
9-Jun-20	0.3530	1101.96	1101.54	0.42	0.04%
9-Jun-20	0.3530	1101.96	1101.54	0.42	0.04%
9-Jun-20	0.3530	1101.96	1101.54	0.42	0.04%
31-Jan-19	0.4030	1102.07	1102.67	-0.60	-0.05%
31-Jan-19	0.4030	1101.70	1102.31	-0.60	-0.05%
31-Jan-19	0.4030	1102.15	1102.76	-0.60	-0.05%
31-Jan-19	0.4030	1101.84	1102.45	-0.60	-0.05%
25-Apr-19	0.3630	1115.38	1115.59	-0.21	-0.02%
25-Apr-19	0.3620	1114.61	1114.82	-0.20	-0.02%

27-Aug-19	0.3660	1106.73	1106.48	0.25	0.02%
27-Aug-19	0.3660	1106.73	1106.48	0.25	0.02%
6-Jun-19	0.3770	1076.54	1075.47	1.07	0.10%
12-Nov-19	0.3280	1086.10	1085.66	0.44	0.04%
23-Sep-19	0.3140	1077.28	1076.48	0.80	0.07%
23-Sep-19	0.3140	1077.28	1076.48	0.80	0.07%
27-Aug-19	0.3660	1106.73	1106.48	0.25	0.02%
27-Aug-19	0.3660	1106.73	1106.48	0.25	0.02%
23-Aug-19	0.3420	1089.97	1089.48	0.49	0.04%
23-Aug-19	0.3420	1089.97	1089.48	0.49	0.04%
20-Jun-19	0.3500	1097.81	1096.89	0.92	0.08%
20-Jun-19	0.3500	1097.81	1096.89	0.92	0.08%
13-Nov-19	0.3260	1079.84	1079.32	0.52	0.05%
3-Mar-20	0.3170	1088.37	1088.24	0.13	0.01%
27-Aug-18	0.3500	1088.79	1088.10	0.69	0.06%
24-Jul-19	0.3990	1234.38	1234.68	-0.30	-0.02%
5-Mar-20	0.5640	1146.25	1146.65	-0.40	-0.04%
16-Jan-19	0.4890	1220.78	1221.70	-0.92	-0.08%
19-Jul-18	0.3200	1084.87	1084.70	0.17	0.02%
19-Jul-18	0.3200	1084.87	1084.70	0.17	0.02%
27-May-20	0.3270	1046.73	1047.03	-0.30	-0.03%
31-Mar-20	0.5170	1212.51	1213.40	-0.89	-0.07%
24-Jan-20	0.4760	1300.28	1300.96	-0.67	-0.05%
24-Jan-20	0.4760	1300.23	1300.90	-0.67	-0.05%
30-Oct-19	0.4480	1267.95	1268.27	-0.33	-0.03%
30-Oct-19	0.4480	1268.03	1268.36	-0.33	-0.03%
18-Jun-19	0.2890	1317.61	1317.78	-0.16	-0.01%
11-Jun-19	0.2800	1295.02	1294.86	0.16	0.01%
11-Jun-19	0.2800	1294.73	1294.57	0.16	0.01%
27-Jan-20	0.5250	1319.73	1320.73	-1.00	-0.08%
27-Jan-20	0.5250	1319.68	1320.69	-1.00	-0.08%
9-Jan-20	0.4600	1333.23	1333.77	-0.53	-0.04%
9-Jan-20	0.4600	1333.32	1333.86	-0.53	-0.04%
18-Nov-19	0.5330	1306.79	1307.85	-1.06	-0.08%
18-Nov-19	0.5360	1316.60	1317.66	-1.07	-0.08%
18-Nov-19	0.5360	1314.18	1315.25	-1.07	-0.08%
13-Mar-20	0.5910	1282.60	1283.74	-1.14	-0.09%
13-Mar-20	0.5910	1282.58	1283.72	-1.14	-0.09%
29-Jul-19	0.3110	1300.76	1300.81	-0.06	0.00%
20-May-20	0.5930	1350.07	1350.50	-0.43	-0.03%
31-Mar-20	0.4520	1333.29	1333.25	0.04	0.00%
30-Apr-19	0.2780	1252.34	1252.14	0.20	0.02%
19-May-20	0.6030	1297.57	1298.63	-1.06	-0.08%
26-Mar-19	0.3840	1270.29	1270.91	-0.62	-0.05%
18-Feb-20	0.4490	1265.52	1266.11	-0.59	-0.05%
18-Oct-19	0.4380	1338.24	1338.97	-0.73	-0.05%
18-Oct-19	0.4380	1338.47	1339.20	-0.73	-0.05%
18-Oct-19	0.4380	1338.25	1338.98	-0.73	-0.05%
18-Oct-19	0.4380	1338.47	1339.20	-0.73	-0.05%
8-Jan-19	0.2780	1241.72	1241.78	-0.05	0.00%
21-Aug-19	0.5630	1248.38	1249.00	-0.62	-0.05%
21-Aug-19	0.5620	1244.27	1244.89	-0.62	-0.05%
28-Oct-19	0.5410	1310.98	1312.08	-1.10	-0.08%
28-Oct-19	0.5400	1309.62	1310.72	-1.10	-0.08%
31-Oct-19	0.5200	1237.56	1238.46	-0.90	-0.07%
11-Jun-18	0.2530	1317.38	1317.14	0.24	0.02%
23-Jul-19	0.5440	1310.41	1311.57	-1.16	-0.09%

23-Jul-19	0.5440	1311.34	1312.49	-1.16	-0.09%
23-Jul-19	0.5440	1311.34	1312.49	-1.16	-0.09%
26-Jun-19	0.4130	1156.88	1157.27	-0.39	-0.03%
26-Jun-19	0.4130	1156.88	1157.27	-0.39	-0.03%
1-Apr-20	0.3360	1083.06	1083.36	-0.30	-0.03%
29-Aug-19	0.3390	1072.25	1071.42	0.83	0.08%
29-Aug-19	0.3390	1072.25	1071.42	0.83	0.08%
14-Jan-20	0.4040	1148.83	1149.12	-0.29	-0.03%
9-Jul-19	0.3690	1095.76	1095.85	-0.09	-0.01%
9-Jul-19	0.3690	1095.76	1095.85	-0.09	-0.01%
4-Mar-20	0.3480	1090.15	1089.97	0.18	0.02%
4-Mar-20	0.3480	1090.15	1089.97	0.18	0.02%
5-Mar-20	0.4150	1117.67	1117.85	-0.18	-0.02%
4-Mar-20	0.3480	1090.15	1089.97	0.18	0.02%
4-Mar-20	0.3480	1090.15	1089.97	0.18	0.02%
19-Jun-19	0.3490	1097.93	1097.70	0.24	0.02%
18-Jun-19	0.3570	1099.90	1099.84	0.06	0.01%
28-Feb-19	0.3540	1095.11	1094.81	0.30	0.03%
21-Apr-20	0.3690	1112.65	1112.48	0.17	0.02%
17-Jan-19	0.3700	1113.52	1113.60	-0.08	-0.01%
16-Jan-20	0.3740	1100.08	1099.96	0.12	0.01%
1-Oct-19	0.3600	1099.31	1099.22	0.08	0.01%
1-Oct-19	0.3600	1099.31	1099.22	0.08	0.01%
14-Apr-20	0.3720	1109.77	1109.86	-0.09	-0.01%
16-Apr-20	0.4190	1123.73	1124.05	-0.32	-0.03%
9-Oct-19	0.3870	1107.66	1107.60	0.06	0.01%
9-Oct-19	0.3870	1107.66	1107.60	0.06	0.01%
31-Mar-20	0.4130	1114.06	1114.32	-0.26	-0.02%
21-Jan-20	0.4470	1121.29	1121.17	0.13	0.01%
9-Jul-19	0.3540	1089.41	1089.15	0.27	0.02%
9-Jul-19	0.3540	1089.41	1089.15	0.27	0.02%
26-Mar-19	0.3660	1094.76	1094.55	0.20	0.02%
7-Apr-20	0.3090	1093.99	1093.99	0.00	0.00%
9-Aug-19	0.3400	1077.99	1077.34	0.65	0.06%
21-Aug-19	0.3390	1086.85	1086.42	0.42	0.04%
26-Sep-19	0.3590	1092.42	1091.98	0.44	0.04%
26-Sep-19	0.3590	1092.42	1091.98	0.44	0.04%
12-Jun-19	0.3630	1094.04	1093.58	0.46	0.04%
12-Jun-19	0.3630	1094.04	1093.58	0.46	0.04%
19-Mar-19	0.3550	1108.47	1108.15	0.31	0.03%
19-Mar-19	0.3550	1108.47	1108.15	0.31	0.03%
9-Apr-19	0.4000	1171.50	1171.78	-0.28	-0.02%
9-Apr-19	0.4000	1171.50	1171.78	-0.28	-0.02%
18-Apr-19	0.4310	1154.50	1154.50	0.00	0.00%
18-Mar-20	0.3810	1120.89	1120.95	-0.06	-0.01%
1-Jun-20	0.3500	1104.64	1104.52	0.11	0.01%
9-Jul-19	0.3430	1097.20	1096.86	0.34	0.03%
9-Jul-19	0.3430	1097.20	1096.86	0.34	0.03%
3-Dec-19	0.3500	1095.32	1094.90	0.42	0.04%
10-Mar-20	0.3650	1100.87	1100.76	0.11	0.01%
2-Dec-19	0.3630	1097.81	1097.52	0.28	0.03%
21-Apr-20	0.3830	1121.25	1121.24	0.01	0.00%
11-Jun-19	0.3730	1110.37	1110.15	0.22	0.02%
11-Jun-19	0.3730	1110.37	1110.15	0.22	0.02%
16-Apr-20	0.3880	1136.55	1136.78	-0.24	-0.02%
7-May-19	0.3310	1076.74	1076.28	0.46	0.04%
6-Jun-19	0.3520	1090.85	1090.42	0.43	0.04%

5-Nov-19	0.3770	1124.03	1124.19	-0.16	-0.01%
5-Nov-19	0.3770	1124.03	1124.19	-0.16	-0.01%
27-Aug-19	0.3570	1088.93	1088.42	0.50	0.05%
27-Aug-19	0.3570	1088.93	1088.42	0.50	0.05%
22-Jan-20	0.4160	1157.67	1158.02	-0.35	-0.03%
19-Jun-20	0.3660	1110.90	1110.59	0.31	0.03%
27-Nov-19	0.3450	1080.20	1079.75	0.44	0.04%
9-Mar-20	0.3420	1080.07	1079.68	0.39	0.04%
27-Nov-19	0.3450	1080.20	1079.75	0.44	0.04%
18-Jun-20	0.3830	1111.10	1110.99	0.11	0.01%
6-Feb-20	0.3460	1093.37	1093.27	0.10	0.01%
5-Feb-19	0.3510	1103.96	1103.88	0.09	0.01%
7-Mar-19	0.3580	1103.57	1103.29	0.28	0.03%
4-Dec-19	0.3860	1133.05	1133.38	-0.33	-0.03%
10-Jun-19	0.3650	1122.11	1122.15	-0.04	0.00%
10-Jun-19	0.3650	1122.11	1122.15	-0.04	0.00%
3-Jun-20	0.3600	1110.22	1109.99	0.23	0.02%
18-Jun-20	0.3390	1097.56	1097.29	0.28	0.03%
14-May-19	0.3470	1093.96	1093.73	0.22	0.02%
28-May-20	0.3690	1111.05	1110.75	0.29	0.03%
3-Dec-19	0.3680	1118.00	1118.02	-0.02	0.00%
27-Feb-19	0.3430	1092.27	1092.06	0.22	0.02%
21-Nov-19	0.3530	1107.16	1106.98	0.18	0.02%
21-Nov-19	0.3530	1107.16	1106.98	0.18	0.02%
10-May-19	0.3700	1105.89	1105.70	0.18	0.02%
20-Feb-20	0.3280	1070.65	1070.03	0.62	0.06%
18-Feb-20	0.3590	1112.39	1111.96	0.43	0.04%
10-Apr-20	0.3950	1154.57	1154.78	-0.21	-0.02%
28-May-19	0.3760	1101.86	1101.30	0.56	0.05%
17-Oct-19	0.4180	1166.01	1166.45	-0.45	-0.04%
17-Oct-19	0.4180	1166.01	1166.45	-0.45	-0.04%
24-Oct-19	0.3670	1129.55	1129.32	0.22	0.02%
24-Oct-19	0.3670	1129.55	1129.32	0.22	0.02%
27-Apr-20	0.4040	1145.08	1145.51	-0.43	-0.04%
17-Jun-19	0.3720	1127.39	1127.48	-0.09	-0.01%
17-Jun-19	0.3720	1127.39	1127.48	-0.09	-0.01%
19-Nov-19	0.3590	1105.59	1105.02	0.57	0.05%
19-Nov-19	0.3590	1105.59	1105.02	0.57	0.05%
17-Sep-19	0.3690	1093.24	1092.66	0.59	0.05%
11-Mar-20	0.3630	1087.50	1086.88	0.62	0.06%
16-Apr-19	0.3590	1122.49	1122.29	0.20	0.02%
15-Apr-20	0.3840	1136.36	1136.53	-0.17	-0.02%
15-Apr-20	0.3880	1135.71	1135.95	-0.24	-0.02%
14-Oct-19	0.3860	1135.05	1135.25	-0.20	-0.02%
2-Jun-20	0.3380	1129.65	1129.82	-0.17	-0.01%
28-May-19	0.3380	1090.76	1090.45	0.31	0.03%
25-Feb-20	0.3600	1085.90	1085.24	0.67	0.06%
19-Aug-19	0.3350	1087.03	1086.60	0.44	0.04%
19-Aug-19	0.3350	1087.03	1086.60	0.44	0.04%
25-Jun-19	0.3260	1096.29	1095.53	0.76	0.07%
25-Jun-19	0.3260	1096.29	1095.53	0.76	0.07%
13-Feb-20	0.3640	1090.09	1090.01	0.08	0.01%
22-Jan-20	0.3690	1136.81	1137.20	-0.39	-0.03%
5-Jun-19	0.3560	1084.55	1083.80	0.75	0.07%
21-Nov-19	0.3580	1111.34	1111.23	0.11	0.01%
21-Nov-19	0.3580	1111.34	1111.23	0.11	0.01%
16-Mar-20	0.3590	1092.44	1092.03	0.41	0.04%

13-Mar-19	0.3380	1088.32	1087.87	0.45	0.04%
21-Aug-19	0.3440	1086.29	1085.85	0.44	0.04%
21-Aug-19	0.3440	1086.29	1085.85	0.44	0.04%
12-Feb-20	0.3960	1121.50	1121.61	-0.11	-0.01%
17-Oct-19	0.3650	1107.94	1107.51	0.43	0.04%
17-Oct-19	0.3650	1107.94	1107.51	0.43	0.04%
15-Jan-19	0.3880	1143.18	1143.15	0.03	0.00%
6-Aug-19	0.4400	1162.36	1162.79	-0.43	-0.04%
6-Aug-19	0.4400	1162.36	1162.79	-0.43	-0.04%
14-Oct-19	0.3530	1117.58	1117.62	-0.04	0.00%
14-Oct-19	0.3530	1117.58	1117.62	-0.04	0.00%
18-Feb-20	0.3260	1106.36	1106.02	0.34	0.03%
28-Feb-19	0.3070	1099.02	1098.36	0.66	0.06%
13-Feb-19	0.3340	1088.50	1088.22	0.29	0.03%
13-Feb-19	0.3340	1088.50	1088.22	0.29	0.03%
12-Mar-19	0.2880	1106.16	1105.79	0.36	0.03%
20-Aug-19	0.3410	1089.68	1089.37	0.31	0.03%
20-Aug-19	0.3410	1089.68	1089.37	0.31	0.03%
18-Mar-20	0.3430	1084.30	1083.75	0.56	0.05%
11-Feb-20	0.3610	1124.41	1124.57	-0.16	-0.01%
18-Nov-19	0.3310	1081.61	1081.04	0.57	0.05%
18-Nov-19	0.3310	1081.61	1081.04	0.57	0.05%
5-Dec-19	0.3350	1089.58	1089.47	0.11	0.01%
27-Sep-19	0.3370	1081.77	1081.18	0.59	0.05%
27-Sep-19	0.3370	1081.77	1081.18	0.59	0.05%
26-Mar-19	0.3500	1051.42	1051.29	0.13	0.01%
20-Aug-19	0.3570	1082.37	1080.94	1.42	0.13%
23-Jul-19	0.3240	1079.78	1079.21	0.58	0.05%
23-Jul-19	0.3240	1079.78	1079.21	0.58	0.05%
18-Feb-20	0.3640	1086.46	1086.00	0.46	0.04%
8-Jan-19	0.3620	1085.95	1084.81	1.14	0.10%
8-Jan-19	0.3620	1085.95	1084.81	1.14	0.10%
8-Oct-19	0.3260	1082.52	1082.11	0.42	0.04%
8-Oct-19	0.3270	1086.48	1086.06	0.43	0.04%
21-May-19	0.3490	1082.86	1081.89	0.97	0.09%
2-Jun-20	0.3420	1085.80	1084.90	0.90	0.08%
3-Jun-20	0.3750	1109.03	1108.13	0.90	0.08%
25-Jul-19	0.3320	1087.99	1087.53	0.46	0.04%
25-Jul-19	0.3320	1087.99	1087.53	0.46	0.04%
12-Sep-19	0.5340	1287.38	1288.30	-0.91	-0.07%
24-Sep-19	0.4850	1266.49	1267.23	-0.74	-0.06%
24-Sep-19	0.5160	1275.12	1276.08	-0.96	-0.08%
19-Nov-19	0.4290	1203.62	1204.38	-0.76	-0.06%
19-May-20	0.4600	1282.55	1283.18	-0.63	-0.05%
29-Oct-19	0.4460	1311.51	1311.93	-0.42	-0.03%
19-Dec-19	0.4770	1289.70	1290.54	-0.84	-0.06%
22-Nov-19	0.4010	1276.71	1276.96	-0.26	-0.02%
22-Nov-19	0.4000	1273.43	1273.68	-0.25	-0.02%
22-Nov-19	0.4000	1273.48	1273.73	-0.25	-0.02%
27-Nov-19	0.4090	1283.65	1284.02	-0.37	-0.03%
27-Nov-19	0.4090	1283.56	1283.93	-0.37	-0.03%
27-Nov-19	0.4090	1283.89	1284.26	-0.37	-0.03%
27-Nov-19	0.4090	1283.80	1284.17	-0.37	-0.03%
19-May-20	0.4560	1283.14	1283.72	-0.59	-0.05%
1-Oct-19	0.4750	1289.42	1290.12	-0.70	-0.05%
24-Feb-20	0.4740	1290.27	1290.99	-0.72	-0.06%
23-Oct-19	0.5470	1309.86	1310.85	-1.00	-0.08%

23-Oct-19	0.5470	1309.86	1310.85	-1.00	-0.08%
26-Sep-19	0.5910	1336.95	1338.04	-1.10	-0.08%
11-Nov-19	0.5380	1257.46	1258.48	-1.02	-0.08%
11-Nov-19	0.5380	1257.34	1258.37	-1.02	-0.08%
10-Sep-19	0.4680	1305.63	1306.24	-0.61	-0.05%
21-Apr-20	0.7650	1813.99	1816.08	-2.09	-0.12%
12-Jun-20	0.5220	1276.33	1277.08	-0.75	-0.06%
7-Feb-20	0.5850	1286.67	1287.83	-1.16	-0.09%
17-Dec-18	0.3060	1262.61	1262.33	0.28	0.02%
26-Jun-19	0.4800	1274.21	1275.03	-0.82	-0.06%
26-Jun-19	0.4790	1274.11	1274.93	-0.82	-0.06%
23-Oct-18	0.2680	1120.95	1120.39	0.56	0.05%
15-Apr-19	0.3640	1302.93	1302.69	0.24	0.02%
17-Jul-19	0.4800	1263.41	1263.54	-0.12	-0.01%
17-Mar-20	0.5110	1408.00	1408.99	-0.99	-0.07%
14-Sep-19	0.5270	1301.68	1302.52	-0.84	-0.06%
14-Sep-19	0.5260	1301.12	1301.96	-0.83	-0.06%
30-Jan-20	0.3630	1115.34	1115.11	0.23	0.02%
11-Nov-19	0.3490	1077.40	1076.38	1.02	0.09%
11-Nov-19	0.3490	1077.40	1076.38	1.02	0.09%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
11-Mar-20	0.3950	1087.30	1087.24	0.06	0.01%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
11-Mar-20	0.3680	1093.77	1093.54	0.23	0.02%
5-Dec-19	0.3350	1098.60	1098.24	0.36	0.03%
11-Mar-20	0.3680	1093.77	1093.54	0.23	0.02%
5-Dec-19	0.3350	1098.60	1098.24	0.36	0.03%
10-Jun-19	0.3680	1095.65	1095.02	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
11-Jun-19	0.3930	1104.52	1104.22	0.30	0.03%
11-Jun-19	0.3930	1104.52	1104.22	0.30	0.03%
3-Sep-19	0.3450	1066.71	1065.48	1.23	0.12%
3-Sep-19	0.3450	1066.71	1065.48	1.23	0.12%
11-Mar-20	0.3950	1087.30	1087.24	0.06	0.01%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
10-Jun-19	0.3680	1095.59	1094.96	0.63	0.06%
11-Mar-20	0.3680	1093.77	1093.54	0.23	0.02%
5-Dec-19	0.3350	1098.60	1098.24	0.36	0.03%
14-May-20	0.3580	1097.85	1097.69	0.16	0.01%
18-Jun-19	0.3540	1099.93	1099.76	0.17	0.02%
1-Apr-20	0.3850	1118.43	1118.63	-0.20	-0.02%
21-Nov-19	0.3830	1114.23	1114.23	0.00	0.00%
21-Nov-19	0.3830	1114.23	1114.23	0.00	0.00%
3-May-19	0.3770	1108.58	1108.61	-0.03	0.00%
16-Jan-20	0.3910	1106.66	1106.61	0.06	0.01%
16-Jan-20	0.3950	1118.18	1118.31	-0.13	-0.01%
26-May-20	0.3860	1129.00	1128.84	0.16	0.01%
26-Mar-19	0.3720	1106.92	1106.98	-0.06	-0.01%
22-Oct-19	0.4010	1140.69	1140.81	-0.12	-0.01%

22-Oct-19	0.4010	1140.69	1140.81	-0.12	-0.01%
23-Apr-20	0.3740	1109.47	1109.30	0.17	0.02%
7-Apr-20	0.4120	1143.71	1143.79	-0.08	-0.01%
20-May-20	0.3690	1110.22	1110.11	0.11	0.01%
24-Jan-19	0.3650	1110.00	1109.73	0.28	0.02%
14-May-19	0.3690	1077.92	1076.87	1.04	0.10%
31-Jul-19	0.3460	1080.61	1080.06	0.55	0.05%
4-Dec-19	0.3770	1109.79	1109.68	0.11	0.01%
12-Jul-19	0.4120	1143.66	1143.70	-0.04	0.00%
21-Jan-20	0.4140	1153.53	1153.84	-0.31	-0.03%
14-Mar-19	0.3510	1090.37	1090.11	0.26	0.02%
17-Oct-19	0.3740	1113.55	1113.33	0.23	0.02%
17-Oct-19	0.3740	1113.55	1113.33	0.23	0.02%
21-Apr-20	0.3800	1103.84	1103.70	0.14	0.01%
11-Mar-20	0.3520	1091.63	1091.41	0.21	0.02%
14-Aug-19	0.3930	1129.48	1129.37	0.11	0.01%
14-Aug-19	0.3930	1129.33	1129.22	0.11	0.01%
14-Aug-19	0.3920	1126.46	1126.35	0.11	0.01%
14-Aug-19	0.3920	1126.46	1126.35	0.11	0.01%
24-Apr-19	0.3530	1089.94	1089.46	0.48	0.04%
28-Oct-19	0.3910	1140.89	1141.10	-0.21	-0.02%
28-Oct-19	0.3910	1140.89	1141.10	-0.21	-0.02%
28-Oct-19	0.3920	1167.29	1167.71	-0.42	-0.04%
28-Oct-19	0.3920	1167.05	1167.47	-0.42	-0.04%
5-Nov-19	0.3990	1118.25	1118.33	-0.08	-0.01%
5-Nov-19	0.3990	1118.25	1118.33	-0.08	-0.01%
13-May-20	0.3640	1111.44	1111.32	0.12	0.01%
5-Mar-20	0.3670	1089.37	1089.10	0.27	0.02%
2-May-19	0.3490	1089.60	1089.47	0.13	0.01%
2-May-19	0.3490	1089.60	1089.47	0.13	0.01%
13-Jan-20	0.4000	1130.18	1130.24	-0.06	-0.01%
9-Mar-20	0.3540	1086.91	1086.58	0.33	0.03%
7-Feb-20	0.4060	1105.25	1104.79	0.46	0.04%
8-May-20	0.3760	1124.27	1124.37	-0.11	-0.01%
23-Jul-19	0.3490	1094.00	1093.77	0.23	0.02%
23-Jul-19	0.3490	1094.00	1093.77	0.23	0.02%
23-Jul-19	0.3450	1091.92	1091.66	0.25	0.02%
23-Jul-19	0.3450	1091.92	1091.66	0.25	0.02%
22-Jul-19	0.3840	1124.41	1124.40	0.01	0.00%
22-Jul-19	0.3840	1124.41	1124.40	0.01	0.00%
8-Jan-19	0.3990	1135.97	1136.07	-0.10	-0.01%
9-May-19	0.3550	1103.17	1102.96	0.21	0.02%
9-May-19	0.3550	1103.17	1102.96	0.21	0.02%
11-Jun-19	0.3610	1116.87	1116.83	0.03	0.00%
11-Jun-19	0.3610	1116.87	1116.83	0.03	0.00%
28-Feb-19	0.3680	1100.67	1100.45	0.22	0.02%
27-May-20	0.3600	1107.06	1106.77	0.30	0.03%
8-May-19	0.3530	1104.73	1104.62	0.12	0.01%
16-Jan-20	0.3670	1099.60	1099.63	-0.03	0.00%
16-Apr-19	0.4090	1134.60	1134.91	-0.31	-0.03%
16-Apr-19	0.4090	1134.60	1134.91	-0.31	-0.03%
16-Apr-19	0.3970	1127.95	1128.27	-0.31	-0.03%
9-Apr-19	0.3650	1110.91	1110.84	0.06	0.01%
9-Apr-19	0.4230	1134.47	1134.73	-0.27	-0.02%
20-Aug-19	0.3880	1112.91	1112.57	0.35	0.03%
20-Aug-19	0.3880	1112.91	1112.57	0.35	0.03%
10-Apr-20	0.3880	1142.66	1142.62	0.04	0.00%

8-Apr-19	0.3400	1108.70	1108.51	0.20	0.02%
25-Oct-19	0.3190	1091.25	1091.15	0.09	0.01%
25-Oct-19	0.3190	1091.25	1091.15	0.09	0.01%
10-Dec-19	0.3930	1151.17	1151.48	-0.31	-0.03%
17-Jun-19	0.3670	1124.83	1124.92	-0.09	-0.01%
17-Jun-19	0.3670	1124.83	1124.92	-0.09	-0.01%
17-Jun-19	0.3840	1139.65	1139.86	-0.21	-0.02%
17-Jun-19	0.3840	1139.65	1139.86	-0.21	-0.02%
23-Sep-19	0.3670	1122.80	1122.83	-0.03	0.00%
23-Sep-19	0.3670	1122.80	1122.83	-0.03	0.00%
4-Dec-19	0.3560	1102.92	1102.55	0.37	0.03%
10-Apr-19	0.3670	1144.54	1144.49	0.05	0.00%
23-Sep-19	0.3480	1108.70	1108.53	0.17	0.02%
23-Sep-19	0.3480	1108.70	1108.53	0.17	0.02%
9-Jun-20	0.3750	1110.36	1110.32	0.04	0.00%
23-Apr-19	0.3190	1096.97	1096.38	0.59	0.05%
19-Aug-19	0.3420	1097.03	1096.93	0.11	0.01%
19-Aug-19	0.3420	1097.03	1096.93	0.11	0.01%
12-Jul-19	0.3480	1098.33	1098.04	0.29	0.03%
12-Jul-19	0.3480	1098.33	1098.04	0.29	0.03%
30-Jul-19	0.3450	1088.03	1087.83	0.20	0.02%
30-Jul-19	0.3450	1088.03	1087.83	0.20	0.02%
13-Apr-20	0.3860	1117.47	1117.62	-0.15	-0.01%
14-Apr-20	0.3480	1106.84	1106.67	0.17	0.02%
17-Jan-19	0.3370	1092.02	1091.56	0.46	0.04%
28-May-20	0.3450	1080.57	1079.79	0.78	0.07%
24-Sep-19	0.4020	1109.29	1108.85	0.44	0.04%
24-Sep-19	0.4020	1109.29	1108.85	0.44	0.04%
6-Aug-19	0.3410	1075.48	1074.71	0.77	0.07%
2-Jun-20	0.3560	1084.05	1083.13	0.92	0.09%
14-Aug-19	0.3640	1109.71	1109.55	0.16	0.01%
14-Aug-19	0.3640	1109.71	1109.55	0.16	0.01%
30-Jul-19	0.4070	1160.97	1160.69	0.28	0.02%
30-Jul-19	0.4070	1160.97	1160.69	0.28	0.02%
5-Aug-19	0.3720	1115.19	1115.22	-0.03	0.00%
5-Aug-19	0.3720	1115.19	1115.22	-0.03	0.00%
9-Aug-19	0.3960	1114.21	1114.14	0.08	0.01%
9-Aug-19	0.3960	1114.21	1114.14	0.08	0.01%
20-Aug-19	0.3390	1080.02	1079.47	0.55	0.05%
19-Feb-19	0.4460	1101.61	1102.06	-0.45	-0.04%
20-Aug-19	0.3390	1080.02	1079.47	0.55	0.05%
12-Feb-20	0.3360	1077.81	1077.34	0.46	0.04%
15-Jun-20	0.3760	1116.84	1117.02	-0.18	-0.02%
5-Sep-19	0.3570	1088.38	1088.10	0.28	0.03%
5-Sep-19	0.3570	1088.38	1088.10	0.28	0.03%
17-Oct-19	0.4370	1153.20	1153.53	-0.32	-0.03%
17-Oct-19	0.4370	1153.20	1153.53	-0.32	-0.03%
3-Dec-19	0.4310	1141.16	1141.26	-0.09	-0.01%
9-Jan-19	0.3330	1127.96	1127.57	0.39	0.03%
20-Mar-19	0.2810	1091.56	1091.10	0.47	0.04%
24-Jul-18	0.3840	1079.11	1077.36	1.75	0.16%
20-Jun-19	0.3610	1082.88	1081.91	0.97	0.09%
20-Jun-19	0.3610	1082.88	1081.91	0.97	0.09%
11-Mar-20	0.3680	1093.77	1093.54	0.23	0.02%
5-Dec-19	0.3350	1098.60	1098.24	0.36	0.03%
11-Mar-20	0.3680	1093.77	1093.54	0.23	0.02%
5-Dec-19	0.3350	1098.60	1098.24	0.36	0.03%

11-Mar-20	0.3680	1093.77	1093.54	0.23	0.02%
5-Dec-19	0.3350	1098.60	1098.24	0.36	0.03%
11-Mar-20	0.3680	1093.77	1093.54	0.23	0.02%
5-Dec-19	0.3350	1098.60	1098.24	0.36	0.03%
28-Aug-19	0.3520	1099.54	1099.40	0.14	0.01%
11-Oct-19	0.3280	1089.08	1088.87	0.20	0.02%
11-Oct-19	0.3280	1089.08	1088.87	0.20	0.02%
13-May-20	0.3190	1089.18	1089.06	0.12	0.01%
22-Oct-19	0.3360	1081.83	1081.12	0.71	0.07%
22-Oct-19	0.3360	1081.83	1081.12	0.71	0.07%
15-Oct-19	0.3550	1087.27	1086.80	0.47	0.04%
15-Oct-19	0.3550	1087.27	1086.80	0.47	0.04%
13-May-20	0.3550	1085.96	1084.97	0.99	0.09%
13-May-19	0.3460	1089.14	1088.48	0.66	0.06%
13-May-19	0.3460	1089.14	1088.48	0.66	0.06%
10-Jun-19	0.3380	1081.38	1080.58	0.80	0.07%
10-Jun-19	0.3380	1081.38	1080.58	0.80	0.07%
17-Mar-20	0.3460	1082.39	1082.07	0.32	0.03%
18-Jun-19	0.3470	1105.91	1105.33	0.57	0.05%
18-Jun-19	0.3470	1105.91	1105.33	0.57	0.05%
15-May-19	0.3540	1081.52	1081.07	0.45	0.04%
21-Feb-20	0.4620	1209.65	1210.09	-0.44	-0.04%
16-Apr-19	0.5880	1205.50	1206.12	-0.62	-0.05%
27-May-20	0.4820	1117.55	1117.50	0.05	0.00%
18-Feb-20	0.3840	1063.37	1063.36	0.02	0.00%
27-Mar-19	0.3120	1097.32	1096.78	0.54	0.05%
27-Jul-18	0.3000	1123.28	1122.52	0.76	0.07%
20-Jan-20	0.5000	1291.92	1292.88	-0.96	-0.07%
20-Jan-20	0.5000	1291.92	1292.88	-0.96	-0.07%
11-Jul-19	0.2730	1269.19	1268.95	0.24	0.02%
11-Jul-19	0.2730	1269.19	1268.95	0.24	0.02%
20-Apr-20	0.5100	1304.34	1305.06	-0.72	-0.05%
20-Apr-20	0.5100	1304.30	1305.01	-0.72	-0.05%
26-Jun-19	0.3270	1265.37	1265.16	0.21	0.02%
12-Feb-20	0.5350	1297.34	1297.97	-0.64	-0.05%
23-Apr-20	0.5160	1306.30	1307.19	-0.88	-0.07%
18-May-20	0.4580	1282.49	1283.08	-0.59	-0.05%
1-Jun-17	0.2980	1303.35	1303.48	-0.13	-0.01%
26-Sep-19	0.5920	1337.21	1338.31	-1.09	-0.08%
21-Apr-20	0.5900	1349.04	1350.30	-1.25	-0.09%
29-Apr-20	0.6900	1341.38	1342.68	-1.30	-0.10%
13-Nov-19	0.5190	1319.49	1320.11	-0.61	-0.05%
13-Nov-19	0.5200	1320.08	1320.70	-0.62	-0.05%
12-Feb-20	0.6020	1299.84	1301.05	-1.21	-0.09%
16-Jun-20	0.6810	1285.20	1286.07	-0.87	-0.07%
17-May-19	0.2760	1332.86	1332.84	0.02	0.00%
8-Jan-20	0.4020	1279.82	1280.10	-0.28	-0.02%
20-Nov-18	0.2780	1143.68	1143.74	-0.06	-0.01%
29-May-19	0.3570	1295.13	1295.41	-0.28	-0.02%
7-Apr-20	0.4970	1326.00	1326.51	-0.52	-0.04%
7-Apr-20	0.4970	1326.00	1326.51	-0.52	-0.04%
21-Mar-19	0.3590	1237.44	1237.77	-0.33	-0.03%
31-Oct-18	0.3380	1836.91	1837.34	-0.44	-0.02%
31-Oct-18	0.3370	1835.95	1836.38	-0.43	-0.02%
29-Mar-18	0.3030	1177.51	1177.56	-0.05	0.00%
19-Dec-17	0.3680	1193.92	1193.92	0.00	0.00%
7-Apr-20	0.5450	1322.05	1323.25	-1.19	-0.09%

7-Apr-20	0.5450	1322.10	1323.29	-1.19	-0.09%
12-Nov-19	0.4780	1335.31	1336.04	-0.73	-0.05%
7-Apr-20	0.4040	1306.17	1306.43	-0.26	-0.02%
12-Nov-19	0.4780	1335.16	1335.90	-0.73	-0.05%
19-Jun-19	0.4400	1205.89	1206.27	-0.37	-0.03%
14-Jan-20	0.3820	1088.71	1088.73	-0.02	0.00%
19-Sep-19	0.3440	1086.92	1085.79	1.13	0.10%
19-Sep-19	0.3440	1086.92	1085.79	1.13	0.10%
11-Mar-19	0.4930	1174.49	1174.42	0.07	0.01%
11-Mar-19	0.4930	1174.49	1174.42	0.07	0.01%
13-Nov-19	0.3970	1122.65	1122.73	-0.08	-0.01%
15-May-20	0.3810	1121.96	1121.98	-0.02	0.00%
12-Nov-19	0.3830	1114.92	1114.90	0.02	0.00%
12-Nov-19	0.3830	1114.92	1114.90	0.02	0.00%
20-May-20	0.3590	1111.05	1111.08	-0.03	0.00%
19-May-20	0.3550	1125.07	1124.93	0.14	0.01%
12-Nov-19	0.4010	1131.21	1131.25	-0.04	0.00%
15-May-19	0.4080	1125.96	1126.03	-0.08	-0.01%
1-Oct-19	0.3030	1112.95	1112.57	0.38	0.03%
1-Oct-19	0.3030	1112.95	1112.57	0.38	0.03%
3-Oct-19	0.3880	1104.81	1104.80	0.01	0.00%
3-Oct-19	0.3880	1104.81	1104.80	0.01	0.00%
17-Mar-20	0.3560	1089.63	1089.45	0.19	0.02%
2-Oct-19	0.3880	1102.11	1101.85	0.27	0.02%
2-Oct-19	0.3880	1102.11	1101.85	0.27	0.02%
28-Mar-19	0.3760	1109.85	1109.66	0.19	0.02%
23-Apr-19	0.3930	1099.87	1099.61	0.26	0.02%
23-Jan-19	0.3980	1121.01	1121.08	-0.08	-0.01%
21-Jan-20	0.4170	1114.31	1114.18	0.13	0.01%
27-Feb-20	0.4480	1134.76	1135.11	-0.34	-0.03%
26-Feb-20	0.4570	1141.94	1142.05	-0.11	-0.01%
18-Oct-19	1.0170	1280.69	1283.68	-2.99	-0.23%
18-Oct-19	1.0170	1280.69	1283.68	-2.99	-0.23%
21-Jan-20	0.4170	1114.31	1114.18	0.13	0.01%
27-May-20	0.3430	1073.41	1072.71	0.70	0.07%
14-May-19	0.3590	1089.24	1088.81	0.43	0.04%
17-Mar-20	0.3660	1111.75	1111.46	0.30	0.03%
17-Mar-20	0.3840	1123.18	1123.12	0.05	0.00%
25-Oct-19	0.3430	1081.80	1081.12	0.68	0.06%
25-Oct-19	0.3430	1081.80	1081.12	0.68	0.06%
14-Jun-19	0.3910	1126.69	1126.36	0.33	0.03%
14-Jun-19	0.3910	1126.69	1126.36	0.33	0.03%
23-Mar-20	0.3660	1099.03	1098.81	0.21	0.02%
5-Jun-19	0.3820	1101.03	1100.56	0.47	0.04%
11-Sep-19	0.3550	1105.13	1105.06	0.07	0.01%
11-Sep-19	0.3550	1105.13	1105.06	0.07	0.01%
27-Jan-20	0.4180	1158.15	1158.54	-0.39	-0.03%
19-Feb-19	0.3550	1088.43	1088.31	0.12	0.01%
20-Feb-19	0.3380	1089.21	1088.96	0.24	0.02%
1-May-19	0.3130	1105.76	1105.38	0.38	0.03%
22-Jan-20	0.4080	1154.43	1154.76	-0.33	-0.03%
24-Jul-19	0.3800	1129.84	1129.81	0.03	0.00%
24-Jul-19	0.3800	1129.84	1129.81	0.03	0.00%
5-Mar-20	0.3520	1082.74	1082.40	0.35	0.03%
15-Jan-19	0.3630	1129.27	1129.26	0.01	0.00%
13-Jan-20	0.4320	1156.16	1156.71	-0.55	-0.05%
18-Jun-20	0.3810	1107.38	1107.05	0.33	0.03%

18-Apr-19	0.3900	1116.59	1116.73	-0.14	-0.01%
15-Jan-19	0.3870	1120.33	1120.34	-0.01	0.00%
15-Jan-19	0.3870	1120.33	1120.34	-0.01	0.00%
4-Mar-20	0.3740	1109.44	1109.28	0.16	0.01%
5-Mar-20	0.3860	1107.56	1107.72	-0.17	-0.02%
4-Dec-19	0.3920	1135.06	1135.24	-0.18	-0.02%
10-Jun-19	0.3750	1123.51	1123.60	-0.09	-0.01%
10-Jun-19	0.3750	1123.51	1123.60	-0.09	-0.01%
9-May-19	0.3390	1092.82	1092.63	0.19	0.02%
9-May-19	0.3390	1092.82	1092.63	0.19	0.02%
19-Nov-19	0.3600	1102.78	1102.56	0.22	0.02%
18-Apr-19	0.3530	1100.27	1099.84	0.43	0.04%
16-Apr-20	0.3800	1120.41	1120.45	-0.05	0.00%
18-Apr-19	0.3530	1100.27	1099.84	0.43	0.04%
28-May-20	0.3680	1118.34	1118.20	0.14	0.01%
29-Aug-19	0.3680	1093.21	1092.92	0.30	0.03%
29-Aug-19	0.3680	1093.21	1092.92	0.30	0.03%
9-Oct-19	0.3620	1093.85	1093.38	0.48	0.04%
9-Oct-19	0.3620	1093.85	1093.38	0.48	0.04%
21-Apr-20	0.3610	1102.72	1102.33	0.40	0.04%
30-Mar-20	0.3880	1145.13	1145.15	-0.02	0.00%
10-Jul-19	0.4510	1179.91	1180.23	-0.32	-0.03%
10-Jul-19	0.4510	1179.91	1180.23	-0.32	-0.03%
3-Dec-19	0.4230	1145.62	1146.10	-0.47	-0.04%
23-Jul-19	0.3250	1093.92	1093.25	0.67	0.06%
23-Jul-19	0.3250	1093.92	1093.25	0.67	0.06%
21-Jan-20	0.3340	1081.92	1081.42	0.50	0.05%
4-Mar-20	0.3550	1102.20	1102.05	0.15	0.01%
22-Oct-19	0.3970	1103.07	1102.33	0.74	0.07%
22-Oct-19	0.3970	1103.07	1102.33	0.74	0.07%
7-Nov-19	0.3690	1112.90	1112.80	0.09	0.01%
7-Nov-19	0.3690	1112.90	1112.80	0.09	0.01%
16-Jun-20	0.3630	1129.92	1129.69	0.22	0.02%
6-Feb-19	0.3210	1079.94	1079.70	0.24	0.02%
14-Aug-19	0.3760	1110.42	1110.24	0.18	0.02%
14-Aug-19	0.3760	1110.42	1110.24	0.18	0.02%
12-Feb-19	0.3690	1108.76	1108.23	0.53	0.05%
19-Mar-19	0.2860	1099.71	1099.68	0.03	0.00%
4-Feb-20	0.3710	1107.14	1106.82	0.32	0.03%
24-Mar-20	0.3670	1096.66	1096.28	0.38	0.03%
30-Jul-19	0.3990	1168.03	1167.83	0.20	0.02%
30-Jul-19	0.3990	1168.03	1167.83	0.20	0.02%
29-Jan-20	0.3930	1179.88	1180.09	-0.21	-0.02%
13-Mar-19	0.3460	1094.06	1093.86	0.20	0.02%
17-Dec-19	0.4140	1112.16	1111.99	0.17	0.02%
4-Jun-20	0.3690	1116.06	1115.63	0.43	0.04%
18-Sep-19	0.3820	1113.09	1112.97	0.11	0.01%
18-Sep-19	0.3820	1113.09	1112.97	0.11	0.01%
12-Sep-19	0.3630	1114.88	1114.94	-0.06	-0.01%
23-Jul-18	0.3270	1124.79	1124.07	0.72	0.06%
8-Oct-19	0.3570	1092.50	1092.04	0.47	0.04%
8-Oct-19	0.3570	1092.50	1092.04	0.47	0.04%
7-Mar-19	0.3470	1173.70	1173.76	-0.06	0.00%
13-Jan-20	0.3690	1116.69	1116.49	0.20	0.02%
2-Jul-19	0.3950	1142.74	1142.84	-0.09	-0.01%
2-Jul-19	0.3950	1142.74	1142.84	-0.09	-0.01%
19-Feb-19	0.3390	1091.36	1091.25	0.10	0.01%

2-Jul-19	0.3860	1126.03	1125.99	0.05	0.00%
2-Jul-19	0.3860	1126.03	1125.99	0.05	0.00%
5-Nov-19	0.3440	1100.42	1099.91	0.52	0.05%
27-Mar-19	0.3920	1099.26	1099.20	0.06	0.01%
14-Apr-20	0.3750	1113.33	1113.55	-0.22	-0.02%
21-Jan-20	0.3490	1083.78	1083.27	0.51	0.05%
30-Jul-19	0.3640	1093.45	1093.07	0.38	0.03%
30-Jul-19	0.3650	1094.01	1093.63	0.38	0.03%
28-May-20	0.3590	1090.30	1089.88	0.42	0.04%
20-Sep-19	0.3420	1086.89	1086.58	0.31	0.03%
28-Aug-19	0.3530	1100.34	1100.20	0.14	0.01%
16-Apr-19	0.3460	1111.51	1111.30	0.21	0.02%
6-Jun-19	0.3670	1088.56	1087.70	0.86	0.08%
12-Nov-19	0.3350	1086.89	1086.53	0.36	0.03%
8-Oct-19	0.3800	1095.27	1094.79	0.48	0.04%
8-Oct-19	0.3800	1095.27	1094.79	0.48	0.04%
3-Dec-19	0.4670	1136.30	1136.96	-0.66	-0.06%
27-May-20	0.3800	1063.50	1063.53	-0.03	0.00%
29-Jan-19	0.4280	1203.71	1204.41	-0.71	-0.06%
22-Feb-19	0.3010	1108.72	1108.64	0.08	0.01%
22-Feb-19	0.3010	1108.72	1108.64	0.08	0.01%
6-May-19	0.3450	1077.43	1077.52	-0.09	-0.01%
6-May-19	0.3450	1078.11	1078.21	-0.09	-0.01%
20-Apr-20	0.5210	1303.48	1304.40	-0.93	-0.07%
10-Dec-19	0.5140	1301.33	1302.13	-0.80	-0.06%
23-Jul-19	0.2890	1264.41	1264.30	0.11	0.01%
23-Jul-19	0.2890	1264.41	1264.30	0.11	0.01%
17-May-19	0.3060	1338.61	1338.77	-0.16	-0.01%
9-Apr-20	0.5290	1294.96	1295.57	-0.61	-0.05%
15-Jun-20	0.4800	1296.55	1297.18	-0.63	-0.05%
18-Jun-19	0.3020	1297.83	1297.92	-0.09	-0.01%
18-Jun-19	0.3020	1297.83	1297.92	-0.09	-0.01%
21-May-20	0.5970	1320.30	1321.52	-1.23	-0.09%
21-May-20	0.5970	1320.30	1321.52	-1.23	-0.09%
26-Aug-19	0.4510	1309.19	1309.77	-0.58	-0.04%
22-May-20	0.4840	1326.99	1327.70	-0.71	-0.05%
19-Sep-19	0.4940	1308.37	1309.09	-0.72	-0.06%
13-Apr-20	0.6660	1277.99	1279.53	-1.54	-0.12%
16-Jan-20	0.6490	1312.74	1314.05	-1.32	-0.10%
16-Jan-20	0.6490	1312.74	1314.05	-1.32	-0.10%
21-Jan-19	0.2790	1286.88	1286.92	-0.04	0.00%
14-May-20	0.6640	1208.99	1210.40	-1.41	-0.12%
19-Nov-19	0.5770	1384.31	1385.56	-1.25	-0.09%
19-Nov-19	0.5770	1384.31	1385.56	-1.25	-0.09%
22-Aug-19	0.2810	1295.88	1295.42	0.46	0.04%
14-Feb-19	0.2960	1246.44	1246.25	0.19	0.02%
20-Apr-20	0.4650	1262.08	1262.57	-0.49	-0.04%
25-Mar-20	0.4690	1302.56	1303.16	-0.60	-0.05%
25-Mar-20	0.4700	1306.34	1306.94	-0.60	-0.05%
17-Oct-19	0.5320	1322.53	1323.57	-1.04	-0.08%
17-Oct-19	0.5320	1322.65	1323.69	-1.04	-0.08%
17-Oct-19	0.5320	1322.52	1323.56	-1.04	-0.08%
17-Oct-19	0.5320	1322.65	1323.69	-1.04	-0.08%
13-Feb-20	0.4390	1145.40	1145.96	-0.56	-0.05%
23-Apr-20	0.5500	1244.17	1244.89	-0.72	-0.06%
29-Apr-20	0.3640	1088.16	1087.17	0.99	0.09%
23-Aug-18	0.3460	1085.20	1084.15	1.05	0.10%

3-Jul-19	0.3410	1095.79	1095.25	0.54	0.05%
3-Jul-19	0.3410	1095.79	1095.25	0.54	0.05%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
12-Mar-19	0.3380	1088.26	1087.88	0.38	0.03%
12-Mar-19	0.3380	1088.26	1087.88	0.38	0.03%
12-Mar-19	0.3380	1088.26	1087.88	0.38	0.03%
12-Mar-19	0.3380	1088.26	1087.88	0.38	0.03%
12-Mar-19	0.3380	1088.26	1087.88	0.38	0.03%
2-Jun-20	0.3570	1101.30	1100.54	0.76	0.07%
12-Mar-19	0.3380	1088.26	1087.88	0.38	0.03%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
4-Sep-19	0.3710	1094.97	1094.50	0.47	0.04%
4-Sep-19	0.3720	1097.86	1097.39	0.46	0.04%
8-May-20	0.3340	1105.32	1105.11	0.20	0.02%
19-May-20	0.3860	1116.77	1116.62	0.15	0.01%
26-Mar-19	0.3820	1106.68	1106.64	0.04	0.00%
9-Apr-20	0.3360	1108.57	1108.40	0.17	0.02%
31-Mar-20	0.4280	1125.46	1125.77	-0.32	-0.03%
2-Apr-20	0.3610	1111.01	1110.68	0.33	0.03%
4-Apr-19	0.4510	1115.78	1115.83	-0.05	0.00%
4-Apr-19	0.4510	1115.78	1115.83	-0.05	0.00%
23-Jul-19	0.4150	1113.13	1113.02	0.11	0.01%
23-Jul-19	0.4150	1113.13	1113.02	0.11	0.01%
8-May-20	0.3760	1102.48	1102.29	0.19	0.02%
18-Oct-19	0.4180	1127.83	1127.66	0.17	0.01%
18-Oct-19	0.4180	1127.83	1127.66	0.17	0.01%
10-Sep-19	0.3390	1077.15	1076.28	0.88	0.08%
14-May-19	0.3480	1079.62	1079.13	0.49	0.05%
11-Jun-20	0.3760	1086.99	1085.90	1.09	0.10%
15-Apr-20	0.4170	1166.31	1166.58	-0.27	-0.02%
19-Feb-20	0.4240	1155.57	1155.77	-0.20	-0.02%
22-Feb-19	0.4060	1155.75	1155.80	-0.05	0.00%
22-Jan-20	0.4210	1147.25	1147.35	-0.09	-0.01%
2-Oct-19	0.3410	1092.26	1092.00	0.25	0.02%
2-Oct-19	0.3410	1092.26	1092.00	0.25	0.02%
21-Apr-20	0.3990	1121.42	1121.43	0.00	0.00%
8-Feb-19	0.3240	1089.88	1089.57	0.30	0.03%
8-Feb-19	0.3440	1095.62	1095.45	0.17	0.02%
23-Aug-19	0.3820	1104.84	1104.52	0.32	0.03%
23-Aug-19	0.3820	1104.84	1104.52	0.32	0.03%
5-Sep-19	0.3610	1097.75	1097.43	0.32	0.03%
5-Sep-19	0.3620	1099.96	1099.65	0.32	0.03%
28-Aug-19	0.3720	1086.14	1085.49	0.65	0.06%
28-Aug-19	0.3720	1086.14	1085.49	0.65	0.06%
27-Aug-19	0.3670	1084.52	1084.05	0.47	0.04%
27-Aug-19	0.3670	1084.52	1084.05	0.47	0.04%
4-Sep-19	0.3160	1058.53	1058.12	0.40	0.04%
13-Mar-19	0.3610	1089.87	1089.41	0.46	0.04%
5-Mar-20	0.3630	1088.04	1087.81	0.23	0.02%
4-Sep-19	0.3160	1058.53	1058.12	0.40	0.04%
12-Nov-19	0.3810	1113.32	1113.23	0.09	0.01%
12-Nov-19	0.3810	1113.32	1113.23	0.09	0.01%
9-Jan-20	0.4410	1174.21	1174.72	-0.51	-0.04%

9-Mar-20	0.3640	1091.78	1091.55	0.23	0.02%
1-Nov-19	0.3910	1122.39	1122.51	-0.12	-0.01%
1-Nov-19	0.3910	1122.39	1122.51	-0.12	-0.01%
19-Nov-19	0.3590	1094.70	1094.39	0.31	0.03%
19-Nov-19	0.3590	1094.70	1094.39	0.31	0.03%
14-May-19	0.3650	1098.86	1098.54	0.31	0.03%
12-Nov-19	0.3670	1113.58	1113.64	-0.06	-0.01%
12-Nov-19	0.3670	1113.58	1113.64	-0.06	-0.01%
1-May-19	0.3750	1114.13	1114.26	-0.13	-0.01%
7-Oct-19	0.3860	1123.21	1123.36	-0.14	-0.01%
7-Oct-19	0.3860	1123.21	1123.36	-0.14	-0.01%
3-Sep-19	0.3680	1100.89	1100.46	0.43	0.04%
3-Sep-19	0.3680	1100.89	1100.46	0.43	0.04%
25-Apr-19	0.3910	1141.80	1141.85	-0.05	0.00%
25-Apr-19	0.3910	1141.80	1141.85	-0.05	0.00%
27-May-20	0.3670	1106.05	1105.86	0.19	0.02%
26-Nov-19	0.4120	1156.34	1156.54	-0.20	-0.02%
26-Nov-19	0.4120	1156.34	1156.54	-0.20	-0.02%
5-Mar-19	0.3360	1085.99	1085.69	0.30	0.03%
29-Aug-19	0.3610	1087.80	1087.32	0.48	0.04%
29-Aug-19	0.3610	1087.80	1087.32	0.48	0.04%
18-Jan-19	0.3740	1101.46	1101.13	0.33	0.03%
17-Oct-19	0.4370	1148.28	1148.46	-0.18	-0.02%
17-Oct-19	0.4370	1148.28	1148.46	-0.18	-0.02%
23-Apr-20	0.4190	1150.35	1150.67	-0.32	-0.03%
22-Apr-20	0.4230	1150.40	1150.81	-0.41	-0.04%
18-Jun-19	0.3640	1144.93	1145.27	-0.34	-0.03%
18-Jun-19	0.3640	1144.93	1145.27	-0.34	-0.03%
9-Jul-19	0.3370	1100.79	1100.38	0.41	0.04%
9-Jul-19	0.3370	1100.79	1100.38	0.41	0.04%
19-May-20	0.3480	1099.29	1098.75	0.54	0.05%
6-Jun-19	0.3580	1105.23	1104.79	0.45	0.04%
6-Jun-19	0.3580	1105.23	1104.79	0.45	0.04%
11-Apr-19	0.3550	1114.72	1114.46	0.26	0.02%
25-Jul-19	0.3550	1098.08	1097.78	0.30	0.03%
25-Jul-19	0.3550	1098.08	1097.78	0.30	0.03%
3-Sep-19	0.3630	1096.44	1096.15	0.29	0.03%
3-Sep-19	0.3630	1096.44	1096.15	0.29	0.03%
3-Sep-19	0.3650	1092.51	1092.18	0.34	0.03%
3-Sep-19	0.3650	1092.51	1092.18	0.34	0.03%
14-May-19	0.3460	1088.08	1087.47	0.61	0.06%
14-Aug-19	0.3720	1108.78	1108.53	0.25	0.02%
14-Aug-19	0.3720	1108.78	1108.53	0.25	0.02%
11-Apr-19	0.3610	1099.25	1098.74	0.51	0.05%
28-Oct-19	0.3310	1134.05	1133.69	0.36	0.03%
28-Oct-19	0.3310	1134.05	1133.69	0.36	0.03%
15-Aug-19	0.3520	1088.09	1087.53	0.56	0.05%
15-Aug-19	0.3520	1088.09	1087.53	0.56	0.05%
24-Jul-19	0.3320	1062.98	1062.59	0.39	0.04%
24-Jul-19	0.3320	1062.98	1062.59	0.39	0.04%
28-Aug-19	0.3540	1080.73	1080.20	0.54	0.05%
28-Aug-19	0.3540	1080.73	1080.20	0.54	0.05%
9-May-19	0.3750	1098.51	1098.80	-0.29	-0.03%
9-May-19	0.3750	1098.23	1098.52	-0.29	-0.03%
19-Mar-19	0.2990	1087.82	1087.46	0.36	0.03%
13-Aug-19	0.3560	1086.38	1085.83	0.55	0.05%
13-Aug-19	0.3560	1086.38	1085.83	0.55	0.05%

19-Feb-20	0.3370	1074.60	1074.34	0.26	0.02%
19-Mar-19	0.3540	1107.02	1106.71	0.31	0.03%
19-Mar-19	0.3540	1107.02	1106.71	0.31	0.03%
13-Mar-19	0.3110	1110.47	1110.19	0.28	0.03%
15-Apr-20	0.3580	1108.11	1108.04	0.07	0.01%
27-Sep-19	0.3670	1087.87	1087.19	0.68	0.06%
23-Apr-20	0.4160	1148.88	1149.01	-0.13	-0.01%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
17-Jun-19	0.3770	1093.08	1092.41	0.67	0.06%
5-Feb-19	0.3410	1082.98	1081.73	1.25	0.12%
5-Feb-19	0.3410	1082.98	1081.73	1.25	0.12%
7-May-19	0.3410	1080.55	1079.90	0.65	0.06%
7-May-19	0.3410	1080.55	1079.90	0.65	0.06%
11-Jun-19	0.3080	1100.05	1099.57	0.48	0.04%
20-Mar-19	0.3150	1097.28	1096.52	0.76	0.07%
1-May-19	0.3380	1087.29	1086.96	0.33	0.03%
28-Jan-20	0.3480	1084.34	1084.10	0.23	0.02%
24-Jul-19	0.3490	1092.69	1092.20	0.49	0.04%
24-Jul-19	0.3490	1092.69	1092.20	0.49	0.04%
4-Jun-19	0.3670	1107.90	1107.45	0.45	0.04%
4-Jun-19	0.3670	1107.90	1107.45	0.45	0.04%
24-Mar-20	0.3770	1089.11	1088.60	0.51	0.05%
9-Jan-20	0.3130	1083.93	1083.62	0.31	0.03%
17-Jun-19	0.3480	1097.66	1097.26	0.39	0.04%
17-Jun-19	0.3480	1097.66	1097.26	0.39	0.04%
10-Jun-20	0.3330	1083.72	1082.94	0.78	0.07%
8-Jul-19	0.3670	1084.01	1083.04	0.97	0.09%
8-Jul-19	0.3670	1084.01	1083.04	0.97	0.09%
9-Sep-19	0.4940	1196.54	1197.27	-0.73	-0.06%
17-Sep-19	0.4760	1128.52	1128.65	-0.13	-0.01%
3-Dec-19	0.4520	1125.91	1126.41	-0.50	-0.04%
7-Aug-18	0.3910	1151.27	1151.37	-0.10	-0.01%
27-May-20	0.6100	1372.99	1374.52	-1.53	-0.11%
8-Oct-19	0.3840	1213.29	1213.23	0.06	0.01%
8-Oct-19	0.3840	1213.29	1213.23	0.06	0.01%
14-Apr-20	0.3730	1133.40	1133.65	-0.25	-0.02%
27-May-20	0.4760	1308.32	1309.02	-0.69	-0.05%
23-Sep-19	0.4650	1284.43	1284.94	-0.51	-0.04%
25-Sep-19	0.4810	1291.48	1292.12	-0.64	-0.05%
25-Sep-19	0.4810	1291.26	1291.90	-0.64	-0.05%
16-Jun-20	0.6830	1322.25	1323.77	-1.52	-0.12%
26-Mar-20	0.4790	1309.38	1309.96	-0.58	-0.04%
10-Jun-20	0.5300	1332.11	1332.72	-0.61	-0.05%
10-Jun-20	0.5300	1332.11	1332.72	-0.61	-0.05%
26-Aug-19	0.4570	1322.30	1322.88	-0.58	-0.04%
13-Feb-19	0.3610	1297.85	1298.29	-0.44	-0.03%
28-Oct-19	0.6000	1337.22	1338.66	-1.44	-0.11%
28-Oct-19	0.6000	1337.05	1338.48	-1.44	-0.11%
8-Jan-19	0.2950	1215.07	1214.69	0.38	0.03%
12-Dec-19	0.5500	1362.24	1362.91	-0.66	-0.05%
6-Feb-20	0.4910	1293.33	1294.06	-0.74	-0.06%

26-Feb-19	0.3240	1297.34	1297.42	-0.08	-0.01%
20-Mar-19	0.5520	1201.01	1202.00	-0.98	-0.08%
20-Mar-19	0.5520	1200.18	1201.16	-0.98	-0.08%
30-Jan-20	0.4930	1351.00	1351.84	-0.84	-0.06%
29-Nov-18	0.4360	1197.06	1197.43	-0.37	-0.03%
29-Nov-18	0.4360	1197.06	1197.43	-0.37	-0.03%
24-Sep-19	0.5600	1270.49	1271.24	-0.75	-0.06%
24-Sep-19	0.5600	1270.49	1271.24	-0.75	-0.06%
11-Oct-18	0.4620	1232.30	1233.14	-0.84	-0.07%
24-Jun-19	0.3550	1230.06	1229.94	0.11	0.01%
10-Apr-20	0.5980	1277.14	1278.54	-1.40	-0.11%
16-May-19	0.4000	1362.43	1362.69	-0.26	-0.02%
8-Jan-20	0.4240	1294.43	1295.07	-0.63	-0.05%
11-Jun-19	0.3990	1248.56	1248.94	-0.38	-0.03%
26-Feb-20	0.3930	1095.76	1095.32	0.44	0.04%
19-Sep-19	0.3870	1086.14	1085.45	0.69	0.06%
19-Sep-19	0.3870	1086.14	1085.45	0.69	0.06%
1-Aug-19	0.3560	1088.28	1087.49	0.79	0.07%
1-Aug-19	0.3560	1088.28	1087.49	0.79	0.07%
12-May-20	0.3860	1087.23	1086.39	0.83	0.08%
11-Jul-19	0.3580	1081.77	1080.86	0.92	0.08%
11-Jul-19	0.3580	1081.77	1080.86	0.92	0.08%
31-Jul-18	0.4010	1104.97	1103.73	1.23	0.11%
13-Jul-18	0.3870	1086.96	1085.90	1.06	0.10%
15-Jan-20	0.3560	1134.65	1134.59	0.06	0.01%
4-Jul-19	0.3650	1102.52	1102.44	0.08	0.01%
4-Jul-19	0.3650	1102.52	1102.44	0.08	0.01%
26-Nov-19	0.4310	1126.13	1126.36	-0.23	-0.02%
7-May-20	0.4160	1121.14	1121.26	-0.12	-0.01%
26-Nov-19	0.4310	1125.87	1126.10	-0.23	-0.02%
7-May-20	0.3590	1096.31	1096.10	0.22	0.02%
15-May-19	0.4090	1130.38	1130.35	0.03	0.00%
12-Nov-19	0.4130	1128.88	1129.06	-0.19	-0.02%
12-Nov-19	0.4130	1128.88	1129.06	-0.19	-0.02%
15-May-19	0.4080	1124.35	1124.54	-0.19	-0.02%
22-Apr-20	0.3610	1095.99	1095.74	0.25	0.02%
3-May-19	0.3780	1109.98	1109.83	0.14	0.01%
7-Nov-19	0.3960	1113.32	1113.41	-0.08	-0.01%
20-May-20	0.3880	1113.12	1113.10	0.02	0.00%
7-Nov-19	0.3960	1113.32	1113.41	-0.08	-0.01%
21-May-20	0.3840	1123.26	1123.19	0.08	0.01%
18-Apr-19	0.4030	1114.58	1114.48	0.10	0.01%
2-Apr-20	0.4050	1107.47	1107.41	0.06	0.01%
4-Apr-19	0.4730	1119.65	1120.35	-0.69	-0.06%
15-May-19	0.3170	1080.91	1080.77	0.14	0.01%
15-May-19	0.3170	1080.91	1080.77	0.14	0.01%
10-Dec-19	0.3560	1084.10	1083.39	0.71	0.07%
13-Aug-19	0.3520	1089.62	1089.29	0.33	0.03%
28-May-20	0.3680	1081.36	1080.46	0.91	0.08%
14-May-19	0.3740	1091.66	1090.98	0.68	0.06%
16-Mar-20	0.3630	1092.36	1092.02	0.34	0.03%
13-Jun-19	0.3820	1107.12	1106.84	0.28	0.03%
13-Jun-19	0.3820	1107.12	1106.84	0.28	0.03%
3-Jun-20	0.3970	1119.56	1119.15	0.41	0.04%
11-Sep-19	0.3810	1113.16	1112.88	0.28	0.02%
11-Sep-19	0.3810	1113.16	1112.88	0.28	0.02%
19-Mar-19	0.3640	1101.14	1100.79	0.36	0.03%

10-Sep-19	0.3760	1097.36	1097.04	0.32	0.03%
10-Sep-19	0.3760	1097.36	1097.04	0.32	0.03%
5-Nov-19	0.3970	1120.61	1120.47	0.14	0.01%
5-Nov-19	0.3970	1120.61	1120.47	0.14	0.01%
5-Sep-19	0.3740	1091.38	1090.92	0.46	0.04%
13-Mar-19	0.3650	1094.53	1094.15	0.38	0.03%
5-Sep-19	0.3740	1091.38	1090.92	0.46	0.04%
2-May-19	0.3740	1105.63	1105.53	0.11	0.01%
2-May-19	0.3740	1105.63	1105.53	0.11	0.01%
2-May-19	0.3790	1095.36	1095.48	-0.13	-0.01%
2-May-19	0.3790	1095.36	1095.48	-0.13	-0.01%
12-Jun-20	0.3670	1116.06	1115.90	0.16	0.01%
17-Jan-19	0.3340	1085.96	1085.77	0.19	0.02%
23-Jul-19	0.3590	1100.76	1100.58	0.19	0.02%
23-Jul-19	0.3590	1100.76	1100.58	0.19	0.02%
23-Jan-20	0.3290	1079.90	1079.70	0.20	0.02%
22-Jan-20	0.3390	1086.32	1086.26	0.06	0.01%
22-Jan-20	0.3370	1082.70	1082.52	0.18	0.02%
4-Mar-20	0.3920	1107.82	1107.73	0.09	0.01%
3-Jun-20	0.3840	1127.60	1127.67	-0.08	-0.01%
6-May-20	0.3490	1102.01	1101.88	0.13	0.01%
29-Aug-19	0.3900	1099.75	1099.40	0.35	0.03%
29-Aug-19	0.3900	1099.75	1099.40	0.35	0.03%
19-Apr-19	0.4280	1159.88	1160.44	-0.55	-0.05%
19-Apr-19	0.4280	1159.88	1160.44	-0.55	-0.05%
8-Oct-19	0.3660	1165.82	1165.74	0.08	0.01%
8-Oct-19	0.3660	1165.82	1165.74	0.08	0.01%
2-Oct-19	0.4000	1097.66	1097.31	0.35	0.03%
2-Oct-19	0.4000	1097.66	1097.31	0.35	0.03%
13-Nov-19	0.3600	1074.15	1073.15	1.00	0.09%
13-Nov-19	0.3600	1074.15	1073.15	1.00	0.09%
10-Apr-20	0.4120	1146.42	1146.59	-0.17	-0.02%
21-Jan-20	0.4340	1133.64	1133.73	-0.09	-0.01%
18-Feb-20	0.4310	1153.61	1154.03	-0.41	-0.04%
9-May-19	0.3770	1100.35	1100.64	-0.29	-0.03%
9-May-19	0.3770	1100.35	1100.64	-0.29	-0.03%
15-Apr-20	0.4070	1142.95	1143.18	-0.23	-0.02%
14-Oct-19	0.3770	1130.09	1129.88	0.22	0.02%
21-Oct-19	0.3900	1103.44	1102.92	0.52	0.05%
21-Oct-19	0.3900	1103.44	1102.92	0.52	0.05%
21-Jan-20	0.3550	1080.76	1080.23	0.53	0.05%
6-Aug-19	0.3690	1094.56	1093.88	0.68	0.06%
6-Aug-19	0.3690	1094.56	1093.88	0.68	0.06%
14-Jan-20	0.3850	1126.68	1126.66	0.01	0.00%
24-Apr-19	0.3660	1098.11	1097.45	0.66	0.06%
4-Dec-19	0.3520	1100.43	1100.21	0.22	0.02%
2-Jul-19	0.3510	1091.23	1090.84	0.40	0.04%
2-Jul-19	0.3510	1091.23	1090.84	0.40	0.04%
27-Aug-19	0.3790	1111.06	1110.79	0.27	0.02%
27-Aug-19	0.3790	1111.06	1110.79	0.27	0.02%
28-Feb-19	0.3490	1093.02	1092.80	0.22	0.02%
27-Nov-18	0.3280	1076.60	1076.32	0.28	0.03%
5-Sep-19	0.3770	1121.66	1121.64	0.03	0.00%
5-Sep-19	0.3770	1121.66	1121.64	0.03	0.00%
29-Jul-19	0.3690	1128.20	1128.11	0.09	0.01%
29-Jul-19	0.3690	1128.20	1128.11	0.09	0.01%
20-Mar-19	0.2870	1099.52	1099.00	0.51	0.05%

31-Mar-20	0.3570	1101.94	1101.78	0.16	0.01%
25-Jun-19	0.3520	1115.81	1115.68	0.14	0.01%
28-May-20	0.3780	1122.27	1121.65	0.62	0.06%
19-Feb-20	0.3730	1097.36	1097.04	0.32	0.03%
18-Feb-20	0.3480	1112.17	1111.98	0.19	0.02%
12-Mar-19	0.3390	1155.34	1155.61	-0.27	-0.02%
4-Feb-20	0.3360	1085.83	1085.35	0.48	0.04%
1-May-19	0.3840	1076.55	1076.04	0.51	0.05%
1-May-19	0.3840	1076.55	1076.04	0.51	0.05%
30-Jul-19	0.3650	1074.63	1073.71	0.92	0.09%
30-Jul-19	0.3650	1074.63	1073.71	0.92	0.09%
26-Mar-19	0.3680	1105.15	1105.03	0.12	0.01%
13-Nov-19	0.3780	1102.26	1102.39	-0.13	-0.01%
13-Nov-19	0.3780	1102.37	1102.50	-0.13	-0.01%
16-Oct-18	0.3660	1085.01	1084.39	0.62	0.06%
9-Jan-20	0.4290	1167.66	1167.96	-0.29	-0.03%
5-Sep-19	0.3730	1076.64	1076.08	0.56	0.05%
5-Sep-19	0.3730	1076.64	1076.08	0.56	0.05%
12-Sep-19	0.3820	1095.14	1094.62	0.52	0.05%
12-Sep-19	0.3820	1095.14	1094.62	0.52	0.05%
20-Feb-19	0.3490	1085.11	1084.70	0.41	0.04%
2-Mar-20	0.4370	1088.20	1087.00	1.20	0.11%
15-May-19	0.3490	1089.26	1088.16	1.10	0.10%
15-May-19	0.3490	1089.26	1088.16	1.10	0.10%
28-May-19	0.3220	1093.93	1093.08	0.84	0.08%
23-Apr-19	0.3470	1083.09	1082.35	0.74	0.07%
11-May-20	0.3550	1095.35	1094.47	0.88	0.08%
15-Oct-18	0.3680	1087.93	1086.92	1.01	0.09%
20-Nov-19	0.3570	1093.25	1092.97	0.28	0.03%
20-Nov-19	0.3570	1093.25	1092.97	0.28	0.03%
17-Oct-19	0.3380	1082.51	1081.82	0.69	0.06%
17-Oct-19	0.3380	1082.51	1081.82	0.69	0.06%
11-Dec-18	0.3350	1083.14	1082.93	0.21	0.02%
18-Sep-19	0.4830	1270.67	1271.13	-0.46	-0.04%
22-Apr-20	0.5180	1264.98	1265.77	-0.78	-0.06%
24-Sep-19	0.4830	1233.83	1234.66	-0.83	-0.07%
17-Apr-19	0.5150	1179.51	1180.14	-0.63	-0.05%
17-Apr-19	0.5150	1179.51	1180.14	-0.63	-0.05%
17-Oct-19	0.4880	1127.58	1127.67	-0.09	-0.01%
17-Oct-19	0.4880	1127.58	1127.67	-0.09	-0.01%
18-Mar-20	0.5550	1197.27	1198.45	-1.18	-0.10%
27-Jun-19	0.2890	1295.03	1294.74	0.29	0.02%
27-Jun-19	0.2890	1294.65	1294.36	0.29	0.02%
10-Jun-20	0.5050	1304.60	1305.46	-0.86	-0.07%
15-Jun-20	0.4720	1298.67	1299.32	-0.65	-0.05%
15-Jun-20	0.4720	1298.67	1299.32	-0.65	-0.05%
27-Mar-20	0.4830	1300.03	1300.54	-0.51	-0.04%
27-Mar-20	0.4830	1300.18	1300.69	-0.51	-0.04%
27-Jun-19	0.3440	1323.33	1323.73	-0.40	-0.03%
27-Jun-19	0.3440	1323.41	1323.81	-0.40	-0.03%
30-Apr-19	0.3000	1268.71	1268.46	0.24	0.02%
19-Aug-19	0.2960	1272.57	1272.36	0.21	0.02%
22-Jan-20	0.5040	1292.01	1292.58	-0.56	-0.04%
19-Aug-19	0.2960	1272.57	1272.36	0.21	0.02%
22-Jan-20	0.5040	1292.01	1292.58	-0.56	-0.04%
19-Sep-19	0.4880	1298.29	1298.87	-0.59	-0.05%
19-Sep-19	0.4870	1297.30	1297.88	-0.58	-0.04%

24-Jun-19	0.3060	1296.36	1296.48	-0.12	-0.01%
15-Jun-20	0.5430	1323.06	1324.08	-1.02	-0.08%
24-Jun-19	0.3060	1296.11	1296.24	-0.12	-0.01%
24-Jun-19	0.3060	1296.37	1296.49	-0.12	-0.01%
15-Jun-20	0.5430	1323.06	1324.08	-1.02	-0.08%
24-Jun-19	0.3060	1296.12	1296.25	-0.12	-0.01%
24-Apr-19	0.2950	1254.43	1254.18	0.26	0.02%
24-Apr-19	0.2950	1254.38	1254.12	0.26	0.02%
9-Mar-20	0.5700	1312.22	1313.34	-1.12	-0.09%
9-Mar-20	0.5700	1312.19	1313.31	-1.12	-0.09%
18-Oct-19	0.5780	1298.79	1299.63	-0.84	-0.06%
18-Oct-19	0.5780	1298.73	1299.57	-0.84	-0.06%
18-Oct-19	0.5780	1298.77	1299.61	-0.84	-0.06%
18-Oct-19	0.5780	1298.72	1299.56	-0.84	-0.06%
8-Jan-19	0.2960	1215.86	1215.47	0.39	0.03%
21-Aug-19	0.6350	1323.96	1325.38	-1.42	-0.11%
21-Aug-19	0.6350	1323.03	1324.44	-1.42	-0.11%
12-Nov-19	0.5570	1309.18	1310.11	-0.93	-0.07%
12-Nov-19	0.5570	1309.18	1310.11	-0.93	-0.07%
9-Aug-19	0.4210	1283.89	1284.62	-0.73	-0.06%
9-Aug-19	0.4210	1283.85	1284.57	-0.73	-0.06%
22-Apr-20	0.5320	1303.03	1303.57	-0.53	-0.04%
24-Apr-19	0.3660	1787.59	1788.03	-0.44	-0.02%
27-Mar-19	0.3770	1239.60	1239.86	-0.26	-0.02%
26-Mar-18	0.2660	1264.39	1264.19	0.21	0.02%
26-Aug-19	0.2390	1257.55	1257.28	0.26	0.02%
26-Aug-19	0.2390	1257.55	1257.28	0.26	0.02%
30-Jul-19	0.3550	1265.67	1265.94	-0.28	-0.02%
25-Feb-19	0.2860	1249.90	1249.88	0.02	0.00%
24-Jan-20	0.5350	1335.65	1336.51	-0.86	-0.06%
24-Jan-20	0.5350	1335.66	1336.52	-0.86	-0.06%
23-Oct-18	0.4120	1223.37	1223.87	-0.49	-0.04%
13-Nov-19	0.4800	1264.41	1264.69	-0.28	-0.02%
13-Nov-19	0.4800	1264.13	1264.41	-0.28	-0.02%
25-Apr-19	0.3290	1231.13	1231.20	-0.07	-0.01%
24-Mar-20	0.4680	1296.29	1296.78	-0.49	-0.04%
17-Oct-19	0.4030	1159.57	1159.63	-0.06	0.00%
17-Oct-19	0.4030	1157.32	1157.38	-0.06	0.00%
1-Apr-19	0.9100	1404.99	1407.47	-2.48	-0.18%
9-Apr-20	0.4880	1177.09	1177.59	-0.50	-0.04%
9-Aug-18	0.3260	1095.64	1094.77	0.87	0.08%
13-May-19	0.3940	1084.15	1082.79	1.36	0.13%
13-May-19	0.3940	1084.18	1082.83	1.36	0.13%
9-Mar-20	0.3230	1101.57	1101.26	0.31	0.03%
3-Mar-20	0.3760	1104.94	1104.89	0.05	0.00%
10-Jul-19	0.4230	1145.93	1146.27	-0.34	-0.03%
10-Jul-19	0.4230	1145.93	1146.27	-0.34	-0.03%
3-Mar-20	0.3760	1104.94	1104.89	0.05	0.00%
11-Mar-20	0.3960	1116.81	1116.54	0.27	0.02%
3-Mar-20	0.3760	1104.94	1104.89	0.05	0.00%
2-Mar-20	0.3580	1098.43	1098.08	0.36	0.03%
3-Mar-20	0.3760	1104.94	1104.89	0.05	0.00%
3-Mar-20	0.3760	1104.94	1104.89	0.05	0.00%
3-Mar-20	0.3760	1104.94	1104.89	0.05	0.00%
11-Mar-20	0.3960	1116.81	1116.54	0.27	0.02%
3-Mar-20	0.3760	1104.94	1104.89	0.05	0.00%
2-Mar-20	0.3580	1098.43	1098.08	0.36	0.03%

7-May-20	0.3650	1090.55	1090.46	0.09	0.01%
1-Apr-20	0.3900	1115.50	1115.76	-0.26	-0.02%
10-Apr-20	0.3960	1122.50	1122.67	-0.17	-0.01%
27-May-20	0.4090	1128.64	1128.71	-0.07	-0.01%
2-Oct-19	0.3650	1099.21	1098.88	0.33	0.03%
2-Oct-19	0.3650	1099.21	1098.88	0.33	0.03%
22-Apr-20	0.3670	1098.85	1098.59	0.26	0.02%
2-Oct-19	0.3780	1102.20	1101.96	0.24	0.02%
2-Oct-19	0.3780	1102.20	1101.96	0.24	0.02%
14-Apr-20	0.4160	1116.76	1117.06	-0.30	-0.03%
16-Nov-19	0.3720	1106.70	1106.33	0.37	0.03%
16-Nov-19	0.3720	1106.70	1106.33	0.37	0.03%
7-May-19	0.4010	1122.26	1122.28	-0.02	0.00%
16-Apr-19	0.4180	1124.07	1124.13	-0.05	0.00%
22-Oct-19	0.3820	1125.15	1124.97	0.18	0.02%
22-Oct-19	0.3820	1125.15	1124.97	0.18	0.02%
31-Mar-20	0.4440	1138.91	1139.20	-0.28	-0.02%
13-Jun-19	0.3750	1080.79	1079.57	1.22	0.11%
28-May-20	0.3810	1078.37	1077.28	1.10	0.10%
20-Aug-19	0.3480	1078.08	1077.36	0.72	0.07%
20-Aug-19	0.3480	1078.08	1077.36	0.72	0.07%
11-Sep-19	0.3690	1110.57	1110.08	0.49	0.04%
5-Dec-19	0.4020	1116.49	1116.32	0.17	0.01%
6-Apr-20	0.4390	1157.44	1157.92	-0.48	-0.04%
6-Apr-20	0.4100	1149.71	1149.88	-0.17	-0.02%
25-Sep-19	0.3730	1118.20	1117.97	0.23	0.02%
9-Dec-19	0.3950	1128.56	1128.43	0.13	0.01%
16-Apr-20	0.4540	1172.15	1172.64	-0.49	-0.04%
4-Jun-20	0.3960	1126.61	1126.68	-0.07	-0.01%
20-Apr-20	0.4220	1147.60	1147.81	-0.21	-0.02%
2-Jul-19	0.3730	1104.12	1103.75	0.38	0.03%
2-Jul-19	0.3730	1104.12	1103.75	0.38	0.03%
10-Sep-19	0.3820	1096.54	1095.98	0.56	0.05%
23-Mar-20	0.3810	1103.36	1103.11	0.25	0.02%
14-Mar-19	0.3600	1100.17	1099.81	0.36	0.03%
5-Jun-19	0.3870	1099.48	1099.17	0.31	0.03%
22-Jan-20	0.3790	1114.88	1114.72	0.16	0.01%
23-Aug-19	0.3800	1099.50	1099.19	0.30	0.03%
23-Aug-19	0.3800	1099.50	1099.19	0.30	0.03%
6-Jun-19	0.3740	1082.07	1081.17	0.89	0.08%
6-Jun-19	0.3740	1082.07	1081.17	0.89	0.08%
24-Oct-19	0.3750	1099.68	1100.04	-0.36	-0.03%
24-Oct-19	0.3750	1099.68	1100.04	-0.36	-0.03%
28-Apr-20	0.4500	1181.35	1181.83	-0.48	-0.04%
19-Feb-20	0.3790	1095.29	1095.03	0.26	0.02%
7-May-19	0.4110	1101.46	1100.49	0.97	0.09%
22-Jan-20	0.3960	1131.72	1131.88	-0.16	-0.01%
5-Mar-20	0.3730	1092.85	1092.59	0.25	0.02%
22-Jul-19	0.3990	1134.08	1134.01	0.06	0.01%
22-Jul-19	0.3990	1134.08	1134.01	0.06	0.01%
15-Jul-19	0.3520	1132.22	1132.15	0.08	0.01%
15-Jul-19	0.3520	1132.22	1132.15	0.08	0.01%
7-May-19	0.3800	1103.69	1103.44	0.25	0.02%
13-Jan-20	0.4560	1175.31	1175.70	-0.39	-0.03%
2-May-19	0.3880	1113.57	1113.76	-0.19	-0.02%
2-May-19	0.3880	1113.57	1113.76	-0.19	-0.02%
15-Jan-19	0.4380	1147.81	1148.14	-0.33	-0.03%

3-Sep-19	0.3850	1106.78	1106.29	0.49	0.04%
3-Sep-19	0.3850	1106.78	1106.29	0.49	0.04%
8-Jan-19	0.3900	1131.51	1131.43	0.08	0.01%
4-Dec-19	0.4120	1122.63	1122.47	0.16	0.01%
19-Nov-19	0.3700	1101.57	1101.37	0.20	0.02%
3-Jun-20	0.4170	1149.22	1149.35	-0.13	-0.01%
14-May-20	0.3790	1100.68	1100.61	0.07	0.01%
2-Jul-19	0.4270	1170.04	1170.44	-0.40	-0.03%
8-Oct-19	0.4140	1169.34	1169.64	-0.30	-0.03%
8-Oct-19	0.4140	1169.34	1169.64	-0.30	-0.03%
19-Nov-19	0.3490	1090.33	1089.72	0.61	0.06%
19-Nov-19	0.3490	1090.33	1089.72	0.61	0.06%
11-Mar-20	0.3960	1116.81	1116.54	0.27	0.02%
22-Apr-20	0.4110	1155.77	1156.06	-0.29	-0.03%
23-Apr-19	0.3950	1132.34	1132.44	-0.10	-0.01%
9-Jan-20	0.4030	1131.30	1131.58	-0.28	-0.03%
21-Jan-20	0.3410	1076.30	1075.63	0.68	0.06%
7-May-19	0.3790	1114.23	1113.98	0.25	0.02%
20-Jun-19	0.3960	1118.37	1117.87	0.50	0.04%
20-Jun-19	0.3960	1118.37	1117.87	0.50	0.04%
24-Jul-19	0.3840	1116.65	1116.52	0.13	0.01%
24-Jul-19	0.3840	1116.65	1116.52	0.13	0.01%
8-Jan-19	0.3720	1126.19	1126.01	0.18	0.02%
15-Oct-19	0.4000	1145.82	1145.86	-0.05	0.00%
15-Oct-19	0.4000	1145.82	1145.86	-0.05	0.00%
7-Mar-19	0.2870	1120.15	1119.73	0.41	0.04%
15-Aug-19	0.3640	1088.61	1088.00	0.61	0.06%
15-Aug-19	0.3640	1088.61	1088.00	0.61	0.06%
10-Sep-19	0.3900	1110.40	1110.27	0.12	0.01%
10-Sep-19	0.3900	1110.40	1110.27	0.12	0.01%
5-Feb-20	0.4300	1165.12	1165.38	-0.26	-0.02%
16-Jul-19	0.3460	1086.72	1086.26	0.46	0.04%
12-Nov-19	0.3490	1110.41	1109.81	0.60	0.05%
12-Nov-19	0.3490	1110.41	1109.81	0.60	0.05%
24-Apr-19	0.4000	1139.84	1139.76	0.08	0.01%
24-Jan-19	0.6170	1159.22	1159.82	-0.60	-0.05%
2-Aug-18	0.3510	1099.26	1098.94	0.32	0.03%
24-Sep-19	0.3740	1071.99	1071.30	0.69	0.06%
24-Sep-19	0.3740	1071.99	1071.30	0.69	0.06%
4-Feb-20	0.3830	1114.85	1114.95	-0.10	-0.01%
26-Mar-19	0.3900	1121.84	1121.73	0.11	0.01%
26-Mar-19	0.3900	1121.84	1121.73	0.11	0.01%
10-Mar-20	0.3810	1093.61	1093.40	0.21	0.02%
2-Jun-20	0.3770	1114.06	1113.54	0.52	0.05%
27-Aug-19	0.3720	1100.08	1099.60	0.48	0.04%
27-Aug-19	0.3720	1100.08	1099.60	0.48	0.04%
17-Sep-19	0.4310	1116.87	1117.23	-0.36	-0.03%
17-Sep-19	0.4310	1116.87	1117.23	-0.36	-0.03%
12-Jun-19	0.4190	1165.47	1165.07	0.40	0.03%
12-Jun-19	0.4190	1165.47	1165.07	0.40	0.03%
4-Jun-20	0.3760	1095.09	1094.66	0.43	0.04%
2-Mar-20	0.3580	1098.43	1098.08	0.36	0.03%
11-Mar-20	0.3960	1116.81	1116.54	0.27	0.02%
11-Feb-20	0.3090	1090.35	1090.01	0.34	0.03%
9-Jun-20	0.3310	1086.10	1085.51	0.59	0.05%
11-Nov-19	0.3450	1105.01	1104.71	0.31	0.03%
19-Nov-18	0.3450	1105.01	1104.71	0.31	0.03%

9-Jan-20	0.3270	1085.37	1085.06	0.31	0.03%
18-Sep-19	0.4840	1273.34	1273.80	-0.46	-0.04%
28-Feb-20	0.5950	1294.66	1295.92	-1.26	-0.10%
22-Aug-19	0.3890	1185.80	1185.77	0.03	0.00%
6-Dec-19	0.5000	1153.19	1154.01	-0.81	-0.07%
17-Apr-19	0.4230	1159.27	1159.73	-0.45	-0.04%
17-Apr-19	0.4230	1159.27	1159.73	-0.45	-0.04%
20-Nov-19	0.4530	1313.30	1313.64	-0.34	-0.03%
20-Nov-19	0.4530	1312.85	1313.19	-0.34	-0.03%
20-Nov-19	0.4530	1313.10	1313.44	-0.34	-0.03%
20-Nov-19	0.4520	1312.67	1313.01	-0.34	-0.03%
12-Mar-20	0.5290	1299.68	1300.63	-0.95	-0.07%
2-Oct-19	0.5850	1318.54	1319.56	-1.02	-0.08%
21-Aug-19	0.5150	1297.76	1298.59	-0.84	-0.06%
23-Jul-19	0.2940	1279.20	1279.07	0.13	0.01%
23-Jul-19	0.2940	1279.16	1279.03	0.13	0.01%
20-Sep-19	0.4660	1307.44	1307.59	-0.15	-0.01%
20-Sep-19	0.4660	1307.24	1307.40	-0.15	-0.01%
20-Feb-20	0.5070	1306.58	1307.19	-0.61	-0.05%
20-Feb-20	0.5070	1306.58	1307.19	-0.61	-0.05%
20-May-20	0.5970	1316.29	1317.48	-1.19	-0.09%
20-May-20	0.5970	1316.38	1317.58	-1.19	-0.09%
11-Oct-19	0.5520	1336.70	1337.63	-0.93	-0.07%
11-Oct-19	0.5520	1336.11	1337.04	-0.93	-0.07%
11-Oct-19	0.5520	1336.48	1337.41	-0.93	-0.07%
11-Oct-19	0.5520	1335.84	1336.77	-0.93	-0.07%
29-Aug-19	0.4650	1347.05	1347.52	-0.47	-0.03%
29-Aug-19	0.4640	1346.77	1347.24	-0.47	-0.03%
18-Jun-19	0.3140	1366.93	1366.89	0.05	0.00%
18-Jun-19	0.3140	1366.64	1366.59	0.05	0.00%
25-Mar-19	0.3000	1175.11	1174.93	0.17	0.01%
3-Oct-19	0.8600	1363.96	1366.27	-2.31	-0.17%
3-Oct-19	0.8600	1363.96	1366.27	-2.31	-0.17%
10-May-19	0.2620	1240.43	1240.02	0.42	0.03%
6-Mar-20	0.5400	1310.03	1311.11	-1.08	-0.08%
6-Mar-20	0.5400	1309.82	1310.89	-1.08	-0.08%
14-Jun-19	0.2820	1258.92	1258.39	0.53	0.04%
13-Jan-20	0.4760	1337.40	1337.97	-0.57	-0.04%
22-Jun-18	0.3270	1129.67	1129.50	0.17	0.02%
18-May-18	0.2690	1754.70	1754.55	0.15	0.01%
29-Apr-19	0.3840	1109.38	1109.04	0.33	0.03%
5-Sep-19	0.3770	1123.64	1124.36	-0.72	-0.06%
26-Feb-20	0.3610	1107.89	1107.93	-0.03	0.00%
26-Feb-20	0.4000	1118.39	1118.68	-0.29	-0.03%
3-Sep-19	0.3610	1083.35	1082.69	0.66	0.06%
3-Sep-19	0.3610	1083.35	1082.69	0.66	0.06%
15-Jan-19	0.3510	1087.76	1087.64	0.13	0.01%
30-Mar-20	0.3710	1080.57	1079.70	0.87	0.08%
3-Jul-19	0.3740	1093.32	1092.95	0.37	0.03%
3-Jul-19	0.3740	1093.32	1092.95	0.37	0.03%
10-Jul-19	0.4100	1099.45	1099.15	0.30	0.03%
10-Jul-19	0.4100	1099.45	1099.15	0.30	0.03%
17-Sep-19	0.3590	1080.51	1079.71	0.80	0.07%
17-Sep-19	0.3590	1080.51	1079.71	0.80	0.07%
8-Oct-19	0.4870	1144.70	1144.17	0.53	0.05%
8-Oct-19	0.4870	1144.70	1144.17	0.53	0.05%
17-Sep-19	0.3590	1080.51	1079.71	0.80	0.07%

7-May-20	0.3830	1102.64	1102.70	-0.06	-0.01%
24-Oct-19	0.3860	1120.80	1121.12	-0.33	-0.03%
24-Oct-19	0.3860	1120.87	1121.19	-0.33	-0.03%
3-May-19	0.4090	1123.27	1123.33	-0.06	-0.01%
26-Apr-19	0.4320	1115.55	1115.56	-0.01	0.00%
11-Apr-19	0.4310	1126.61	1126.69	-0.07	-0.01%
20-Jul-19	0.3940	1114.63	1114.42	0.20	0.02%
20-Jul-19	0.3940	1114.63	1114.42	0.20	0.02%
29-Mar-19	0.3910	1108.23	1108.24	-0.01	0.00%
20-Jul-19	0.4030	1119.16	1119.04	0.12	0.01%
12-Jun-19	0.3580	1099.16	1098.85	0.30	0.03%
26-Jun-19	0.4180	1133.56	1133.58	-0.02	0.00%
26-Jun-19	0.4180	1133.56	1133.58	-0.02	0.00%
3-Apr-20	0.4640	1152.65	1153.32	-0.68	-0.06%
16-Jul-19	0.4240	1109.26	1108.70	0.56	0.05%
16-Jul-19	0.4240	1109.26	1108.70	0.56	0.05%
23-Jul-19	0.3960	1116.17	1115.89	0.28	0.03%
23-Jul-19	0.3960	1116.17	1115.89	0.28	0.03%
22-Oct-19	0.3930	1126.19	1126.07	0.12	0.01%
22-Oct-19	0.3930	1126.19	1126.07	0.12	0.01%
29-Mar-19	0.3770	1104.31	1104.22	0.09	0.01%
14-Apr-20	0.3870	1109.92	1110.02	-0.09	-0.01%
7-Nov-19	0.4510	1153.16	1153.61	-0.44	-0.04%
7-Nov-19	0.4510	1153.16	1153.61	-0.44	-0.04%
29-Nov-19	0.3920	1102.75	1102.61	0.14	0.01%
29-Nov-19	0.3920	1102.75	1102.61	0.14	0.01%
16-Jul-19	0.4240	1109.26	1108.70	0.56	0.05%
16-Jul-19	0.4240	1109.26	1108.70	0.56	0.05%
8-May-19	0.3670	1078.46	1077.74	0.72	0.07%
6-Apr-20	0.4380	1161.92	1162.37	-0.46	-0.04%
2-Jun-20	0.3950	1122.75	1122.61	0.15	0.01%
9-Dec-19	0.3840	1116.95	1116.52	0.42	0.04%
4-Jun-20	0.4150	1127.27	1127.08	0.19	0.02%
12-Nov-19	0.4280	1161.78	1161.89	-0.11	-0.01%
12-Nov-19	0.4280	1161.78	1161.89	-0.11	-0.01%
16-Apr-20	0.4580	1160.98	1161.56	-0.58	-0.05%
20-Jun-19	0.3890	1105.83	1105.22	0.60	0.05%
20-Jun-19	0.3890	1105.83	1105.22	0.60	0.05%
20-Apr-20	0.4430	1148.07	1148.44	-0.37	-0.03%
10-Sep-19	0.3620	1083.88	1083.50	0.39	0.04%
10-Sep-19	0.3620	1083.88	1083.50	0.39	0.04%
16-Oct-19	0.4070	1118.95	1118.75	0.19	0.02%
16-Oct-19	0.4070	1118.95	1118.75	0.19	0.02%
22-Apr-20	0.4290	1143.89	1144.25	-0.35	-0.03%
24-Apr-19	0.3870	1112.13	1112.08	0.06	0.01%
25-Oct-19	0.3780	1115.84	1115.74	0.10	0.01%
25-Oct-19	0.3780	1115.84	1115.74	0.10	0.01%
19-Feb-20	0.3930	1102.88	1102.56	0.32	0.03%
23-Jan-19	0.4000	1132.51	1132.36	0.14	0.01%
13-Mar-19	0.3590	1086.09	1085.56	0.53	0.05%
8-Jan-19	0.4040	1130.94	1130.91	0.02	0.00%
14-Aug-19	0.3770	1100.77	1100.44	0.33	0.03%
14-Aug-19	0.3770	1100.77	1100.44	0.33	0.03%
14-Aug-19	0.3700	1098.45	1098.28	0.17	0.02%
14-Aug-19	0.3700	1098.42	1098.25	0.17	0.02%
1-Nov-19	0.4110	1108.96	1108.97	-0.02	0.00%
1-Nov-19	0.4110	1108.96	1108.97	-0.02	0.00%

8-May-20	0.4100	1116.58	1116.62	-0.05	0.00%
7-Mar-19	0.3930	1108.98	1108.74	0.25	0.02%
10-Jun-19	0.3700	1111.85	1111.72	0.14	0.01%
10-Jun-19	0.3700	1111.85	1111.72	0.14	0.01%
7-Jan-20	0.3600	1097.83	1097.51	0.32	0.03%
4-Dec-19	0.3730	1107.69	1107.42	0.26	0.02%
3-Jun-20	0.4190	1140.41	1140.45	-0.05	0.00%
29-Aug-19	0.3800	1095.27	1094.81	0.46	0.04%
29-Aug-19	0.3800	1095.27	1094.81	0.46	0.04%
16-Jul-19	0.3640	1086.32	1085.99	0.33	0.03%
16-Jul-19	0.3640	1086.32	1085.99	0.33	0.03%
16-Jul-19	0.3510	1088.29	1087.99	0.30	0.03%
16-Jul-19	0.3510	1088.29	1087.99	0.30	0.03%
16-Oct-19	0.3940	1133.24	1132.98	0.25	0.02%
16-Oct-19	0.3940	1133.24	1132.98	0.25	0.02%
18-Feb-20	0.3700	1095.65	1094.92	0.73	0.07%
19-Feb-19	0.3470	1101.80	1101.67	0.13	0.01%
16-Jul-19	0.3470	1087.75	1087.06	0.69	0.06%
15-Jan-20	0.4000	1106.80	1106.30	0.50	0.05%
17-Jun-20	0.3720	1105.04	1104.90	0.14	0.01%
3-Dec-19	0.4070	1134.81	1135.12	-0.31	-0.03%
18-Jun-19	0.3700	1103.72	1103.18	0.54	0.05%
18-Jun-19	0.3700	1103.72	1103.18	0.54	0.05%
10-Jun-20	0.3870	1117.09	1116.66	0.43	0.04%
4-Feb-20	0.3380	1102.29	1102.39	-0.10	-0.01%
29-May-19	0.3980	1134.40	1134.12	0.28	0.02%
6-Aug-19	0.3930	1117.95	1117.84	0.11	0.01%
6-Aug-19	0.3930	1117.95	1117.84	0.11	0.01%
4-Sep-19	0.4180	1117.79	1117.81	-0.02	0.00%
4-Sep-19	0.4180	1117.79	1117.81	-0.02	0.00%
19-Feb-20	0.4350	1164.89	1165.15	-0.26	-0.02%
17-Jun-20	0.3720	1105.04	1104.90	0.14	0.01%
17-Jun-20	0.3720	1105.04	1104.90	0.14	0.01%
18-Jun-20	0.3740	1099.04	1098.51	0.53	0.05%
26-May-20	0.3970	1122.48	1122.12	0.35	0.03%
21-Apr-20	0.3730	1097.55	1097.14	0.41	0.04%
17-Sep-19	0.3510	1089.08	1088.72	0.36	0.03%
17-Sep-19	0.3510	1089.08	1088.72	0.36	0.03%
19-Feb-19	0.3470	1101.80	1101.67	0.13	0.01%
19-Feb-20	0.3570	1124.60	1124.50	0.09	0.01%
27-Jun-19	0.3730	1114.62	1114.44	0.18	0.02%
27-Jun-19	0.3730	1114.62	1114.44	0.18	0.02%
11-Mar-20	0.3530	1079.85	1079.45	0.40	0.04%
18-Apr-19	0.3920	1109.29	1109.29	0.01	0.00%
24-Jan-19	0.3700	1119.75	1119.59	0.16	0.01%
12-Mar-19	0.2960	1088.66	1088.07	0.59	0.05%
8-Oct-19	0.3970	1108.14	1107.85	0.29	0.03%
8-Oct-19	0.3970	1108.14	1107.85	0.29	0.03%
20-May-20	0.3980	1116.64	1116.45	0.19	0.02%
5-Mar-19	0.3150	1097.27	1096.93	0.34	0.03%
5-Mar-19	0.3730	1105.63	1105.57	0.06	0.01%
26-Jul-19	0.3630	1126.76	1126.79	-0.03	0.00%
26-Jul-19	0.3630	1126.76	1126.79	-0.03	0.00%
31-Jan-19	0.3070	1064.30	1063.84	0.47	0.04%
17-Sep-19	0.3590	1080.51	1079.71	0.80	0.07%
17-Sep-19	0.3590	1080.51	1079.71	0.80	0.07%
17-Sep-19	0.3590	1080.51	1079.71	0.80	0.07%

17-Sep-19	0.3590	1080.51	1079.71	0.80	0.07%
25-Jun-20	0.3590	1102.33	1101.71	0.63	0.06%
19-May-20	0.3350	1081.06	1080.32	0.75	0.07%
14-Nov-19	0.3740	1102.79	1102.36	0.43	0.04%
14-Nov-19	0.3740	1102.79	1102.36	0.43	0.04%
8-Jan-20	0.3560	1100.31	1099.93	0.38	0.03%
9-Dec-19	0.3230	1102.04	1101.37	0.66	0.06%
14-Apr-20	0.4450	1161.99	1162.54	-0.55	-0.05%
21-Mar-19	0.3440	1374.41	1374.39	0.02	0.00%
30-Apr-20	0.4150	1102.04	1101.13	0.91	0.08%
25-Jun-19	0.5210	1261.64	1262.29	-0.64	-0.05%
22-Apr-20	0.4720	1197.45	1197.97	-0.52	-0.04%
8-Oct-19	0.6200	1211.82	1212.74	-0.93	-0.08%
8-Oct-19	0.6200	1211.82	1212.74	-0.93	-0.08%
25-Jul-19	0.4760	1186.03	1186.47	-0.44	-0.04%
23-Apr-20	0.3830	1164.94	1165.03	-0.09	-0.01%
24-Apr-20	0.5120	1166.09	1166.14	-0.05	0.00%
9-Apr-19	0.4730	1154.46	1154.73	-0.27	-0.02%
1-Aug-19	0.2500	1073.99	1073.62	0.37	0.03%
1-Sep-19	0.4900	1153.24	1153.10	0.14	0.01%
28-Feb-19	0.3490	1140.12	1140.21	-0.09	-0.01%
22-Nov-19	0.4490	1314.64	1314.97	-0.33	-0.03%
22-Nov-19	0.4480	1311.95	1312.28	-0.33	-0.03%
20-Feb-20	0.5770	1322.30	1323.49	-1.19	-0.09%
19-Jun-19	0.2980	1251.78	1251.51	0.27	0.02%
25-Nov-19	0.5140	1292.85	1293.59	-0.75	-0.06%
6-Nov-19	0.5050	1317.05	1317.84	-0.79	-0.06%
6-Nov-19	0.5050	1317.27	1318.06	-0.79	-0.06%
20-May-20	0.5370	1317.82	1318.80	-0.99	-0.07%
20-May-20	0.5370	1317.06	1318.05	-0.99	-0.08%
18-Jan-19	0.3210	1297.43	1297.73	-0.29	-0.02%
18-Jan-19	0.3210	1297.39	1297.69	-0.29	-0.02%
8-Jan-20	0.5990	1331.62	1332.85	-1.23	-0.09%
22-Nov-19	0.5840	1326.86	1328.13	-1.28	-0.10%
22-Nov-19	0.5840	1327.48	1328.75	-1.28	-0.10%
22-Nov-19	0.5840	1326.65	1327.92	-1.28	-0.10%
22-Nov-19	0.5840	1327.38	1328.65	-1.28	-0.10%
19-Aug-19	0.6280	1219.21	1220.39	-1.18	-0.10%
19-Aug-19	0.6270	1216.28	1217.46	-1.18	-0.10%
10-Feb-20	0.6090	1309.34	1310.65	-1.32	-0.10%
30-Jan-19	0.2650	1270.52	1270.25	0.27	0.02%
30-Jan-19	0.2650	1270.53	1270.26	0.27	0.02%
3-Apr-19	0.4020	1255.63	1255.73	-0.10	-0.01%
13-Nov-19	0.4690	1287.01	1287.57	-0.56	-0.04%
13-Nov-19	0.4690	1287.06	1287.62	-0.56	-0.04%
20-Nov-19	0.4590	1319.90	1320.32	-0.42	-0.03%
20-Nov-19	0.4590	1318.36	1318.78	-0.42	-0.03%
20-Sep-18	0.3310	1228.23	1227.97	0.26	0.02%
23-Apr-19	0.3090	1312.29	1312.42	-0.13	-0.01%
13-Aug-18	0.3190	1277.66	1277.68	-0.02	0.00%
13-Feb-20	0.6730	1246.67	1248.22	-1.54	-0.12%
9-Aug-19	0.3530	1335.83	1336.18	-0.35	-0.03%
9-Aug-19	0.3530	1335.87	1336.22	-0.35	-0.03%
30-Jan-19	0.3220	1236.28	1236.08	0.20	0.02%
31-Jan-19	0.3960	1206.62	1206.49	0.13	0.01%
24-Sep-19	0.8980	1210.09	1211.90	-1.81	-0.15%
24-Sep-19	0.8980	1210.01	1211.82	-1.81	-0.15%

18-Jul-18	0.3370	1197.83	1197.53	0.30	0.03%
28-May-19	0.3220	1339.26	1338.94	0.31	0.02%
28-Jan-19	0.2910	1137.58	1137.32	0.26	0.02%
7-Oct-19	0.4240	1231.43	1230.98	0.45	0.04%
7-Oct-19	0.4230	1230.85	1230.40	0.45	0.04%
11-Oct-19	0.7030	1397.05	1398.68	-1.63	-0.12%
11-Oct-19	0.7030	1397.05	1398.68	-1.63	-0.12%
21-Jan-20	0.5170	1220.57	1221.42	-0.85	-0.07%
10-Jun-19	0.4280	1123.09	1122.74	0.34	0.03%
10-Jun-19	0.4280	1123.09	1122.74	0.34	0.03%
14-Jan-20	0.3790	1106.41	1106.44	-0.03	0.00%
10-Jun-19	0.4280	1123.09	1122.74	0.34	0.03%
10-Jun-19	0.4280	1123.09	1122.74	0.34	0.03%
10-Jun-19	0.4280	1123.09	1122.74	0.34	0.03%
10-Jun-19	0.4280	1123.09	1122.74	0.34	0.03%
4-Sep-19	0.4210	1092.11	1091.17	0.94	0.09%
4-Sep-19	0.4210	1092.11	1091.17	0.94	0.09%
4-Sep-19	0.4210	1092.11	1091.17	0.94	0.09%
4-Sep-19	0.4210	1092.11	1091.17	0.94	0.09%
10-Jun-19	0.4280	1123.09	1122.74	0.34	0.03%
10-Jun-19	0.4280	1123.09	1122.74	0.34	0.03%
3-May-19	0.4010	1126.47	1126.42	0.06	0.01%
15-May-20	0.3920	1114.77	1114.72	0.05	0.00%
26-Apr-19	0.4040	1118.95	1118.75	0.20	0.02%
20-Jul-19	0.3940	1106.06	1105.75	0.30	0.03%
20-Jul-19	0.3940	1106.06	1105.75	0.30	0.03%
3-Jul-19	0.3890	1106.81	1106.61	0.20	0.02%
3-Jul-19	0.3890	1106.81	1106.61	0.20	0.02%
15-May-19	0.4210	1126.27	1126.23	0.03	0.00%
9-Apr-20	0.3970	1099.40	1099.42	-0.01	0.00%
26-Jun-19	0.4680	1140.67	1140.49	0.17	0.02%
26-Jun-19	0.4680	1140.67	1140.49	0.17	0.02%
26-Jun-19	0.4680	1140.67	1140.49	0.17	0.02%
8-May-20	0.3880	1097.89	1097.59	0.30	0.03%
3-Oct-18	0.4090	1136.09	1136.78	-0.69	-0.06%
3-Oct-18	0.4090	1136.09	1136.78	-0.69	-0.06%
25-Jun-20	0.4330	1137.95	1137.77	0.18	0.02%
9-Jul-19	0.4620	1143.92	1144.12	-0.20	-0.02%
9-Jul-19	0.4620	1143.92	1144.12	-0.20	-0.02%
16-Jul-19	0.3570	1083.66	1083.14	0.53	0.05%
16-Jul-19	0.3570	1083.66	1083.14	0.53	0.05%
10-Apr-20	0.3570	1110.35	1109.84	0.51	0.05%
3-Dec-19	0.3650	1083.75	1082.92	0.83	0.08%
17-Mar-20	0.3990	1119.61	1119.50	0.10	0.01%
11-Sep-19	0.4200	1124.96	1124.90	0.06	0.01%
11-Sep-19	0.4200	1124.96	1124.90	0.06	0.01%
18-Mar-20	0.4040	1119.73	1119.57	0.17	0.01%
1-Jun-20	0.3870	1107.44	1107.24	0.20	0.02%
23-Jan-20	0.3880	1096.32	1096.30	0.02	0.00%
10-Mar-20	0.3930	1102.19	1101.97	0.22	0.02%
10-Mar-20	0.4010	1112.74	1112.70	0.04	0.00%
10-Mar-20	0.3940	1109.92	1109.80	0.12	0.01%
23-Apr-19	0.4080	1134.54	1134.44	0.09	0.01%
21-Apr-20	0.4160	1136.95	1137.10	-0.15	-0.01%
21-Aug-19	0.3730	1095.01	1094.67	0.34	0.03%
21-Aug-19	0.3730	1095.01	1094.67	0.34	0.03%
27-Aug-19	0.3760	1096.00	1095.62	0.37	0.03%

27-Aug-19	0.3760	1096.00	1095.62	0.37	0.03%
24-Apr-19	0.3820	1112.50	1112.51	-0.02	0.00%
8-May-20	0.3920	1117.15	1117.02	0.13	0.01%
29-Apr-20	0.3810	1114.13	1113.90	0.22	0.02%
15-Feb-19	0.3580	1090.65	1090.35	0.30	0.03%
4-Apr-19	0.4300	1108.50	1107.97	0.52	0.05%
13-Nov-19	0.3570	1078.35	1077.92	0.43	0.04%
7-Nov-19	0.3820	1108.68	1108.36	0.32	0.03%
4-Mar-20	0.3700	1094.95	1094.51	0.43	0.04%
9-Apr-19	0.4620	1136.34	1136.57	-0.24	-0.02%
17-Oct-19	0.4200	1139.91	1139.89	0.02	0.00%
17-Oct-19	0.4200	1139.91	1139.89	0.02	0.00%
21-Nov-19	0.3950	1129.56	1129.42	0.14	0.01%
21-Nov-19	0.3950	1129.56	1129.42	0.14	0.01%
15-Jun-20	0.4140	1132.73	1132.74	-0.01	0.00%
23-Apr-20	0.4080	1122.90	1122.84	0.06	0.01%
16-Apr-20	0.4340	1145.20	1145.58	-0.38	-0.03%
5-Dec-19	0.3780	1094.39	1093.78	0.61	0.06%
10-Apr-19	0.3720	1126.70	1126.39	0.31	0.03%
2-Oct-19	0.4160	1137.09	1136.87	0.21	0.02%
2-Oct-19	0.4160	1137.09	1136.87	0.21	0.02%
26-Mar-20	0.3780	1134.17	1134.08	0.10	0.01%
23-Apr-19	0.3680	1098.94	1098.23	0.71	0.06%
29-May-19	0.3830	1089.75	1088.98	0.77	0.07%
17-Dec-19	0.4030	1101.41	1101.25	0.16	0.01%
24-Sep-19	0.3950	1094.39	1093.60	0.80	0.07%
21-Jan-20	0.3970	1114.52	1114.53	-0.01	0.00%
27-Sep-19	0.3720	1090.46	1089.92	0.55	0.05%
27-Sep-19	0.3720	1090.46	1089.92	0.55	0.05%
21-Apr-20	0.3970	1114.68	1114.34	0.35	0.03%
30-Sep-19	0.3650	1107.43	1107.14	0.29	0.03%
30-Sep-19	0.3650	1107.43	1107.14	0.29	0.03%
20-Apr-20	0.4050	1143.98	1143.94	0.03	0.00%
21-Apr-20	0.3990	1125.97	1125.76	0.20	0.02%
4-Oct-19	0.3810	1096.71	1096.07	0.64	0.06%
4-Oct-19	0.3810	1096.71	1096.07	0.64	0.06%
12-Sep-19	0.3800	1087.50	1086.59	0.90	0.08%
12-Sep-19	0.3800	1087.50	1086.59	0.90	0.08%
26-Feb-19	0.3950	1106.39	1106.14	0.25	0.02%
17-Sep-19	0.4090	1113.04	1112.88	0.16	0.01%
17-Sep-19	0.4090	1113.04	1112.88	0.16	0.01%
12-Sep-19	0.4060	1112.94	1112.39	0.55	0.05%
12-Sep-19	0.4060	1112.94	1112.39	0.55	0.05%
27-Jun-19	0.3530	1095.32	1094.81	0.52	0.05%
27-Jun-19	0.3530	1095.32	1094.81	0.52	0.05%
20-Jun-19	0.2920	1090.58	1090.09	0.49	0.05%
23-Jan-20	0.5250	1146.69	1147.36	-0.67	-0.06%
25-Jun-19	0.3730	1099.94	1099.65	0.29	0.03%
25-Jun-19	0.3730	1099.94	1099.65	0.29	0.03%
19-Feb-19	0.3940	1146.82	1146.68	0.14	0.01%
11-Jun-19	0.3950	1110.93	1110.84	0.09	0.01%
4-Mar-20	0.3610	1113.74	1113.70	0.04	0.00%
27-Aug-19	0.3730	1099.64	1099.14	0.50	0.05%
27-Aug-19	0.3730	1099.64	1099.14	0.50	0.05%
23-Aug-19	0.4270	1138.48	1138.52	-0.04	0.00%
23-Aug-19	0.4270	1138.48	1138.52	-0.04	0.00%
23-Jan-19	0.3690	1118.13	1117.86	0.27	0.02%

20-Aug-19	0.3490	1089.46	1088.89	0.57	0.05%
7-Feb-19	0.3150	1081.55	1081.46	0.09	0.01%
20-Aug-19	0.3490	1089.46	1088.89	0.57	0.05%
7-Feb-19	0.3540	1086.32	1085.50	0.82	0.08%
7-Feb-19	0.3540	1086.32	1085.50	0.82	0.08%
1-Apr-20	0.3680	1076.54	1075.63	0.91	0.08%
24-Apr-19	0.3680	1096.13	1095.80	0.33	0.03%
24-Apr-19	0.3680	1096.13	1095.80	0.33	0.03%
16-Apr-20	0.2950	1082.94	1082.63	0.31	0.03%
12-May-20	0.4130	1091.60	1090.10	1.50	0.14%
17-Jun-20	0.3760	1092.98	1092.08	0.90	0.08%
16-Jan-20	0.3820	1093.42	1093.37	0.05	0.00%
12-Nov-18	0.3160	1225.69	1225.78	-0.10	-0.01%
28-Feb-20	0.6030	1282.12	1283.33	-1.22	-0.09%
23-Apr-20	0.5220	1186.81	1187.58	-0.77	-0.06%
9-Jul-18	0.3680	1123.81	1123.46	0.36	0.03%
28-Aug-19	0.4790	1194.65	1195.37	-0.72	-0.06%
3-Sep-19	0.7030	1209.44	1210.43	-0.99	-0.08%
3-Sep-19	0.7030	1209.44	1210.43	-0.99	-0.08%
25-Mar-20	0.4710	1280.84	1281.27	-0.43	-0.03%
15-Apr-20	0.5520	1298.55	1299.46	-0.91	-0.07%
19-Nov-19	0.4850	1296.18	1296.75	-0.58	-0.04%
19-Nov-19	0.4850	1296.23	1296.81	-0.58	-0.04%
19-Nov-19	0.4850	1296.19	1296.76	-0.58	-0.04%
19-Nov-19	0.4850	1296.24	1296.82	-0.58	-0.04%
19-Dec-19	0.4220	1264.74	1264.69	0.05	0.00%
19-Dec-19	0.4220	1264.74	1264.69	0.05	0.00%
29-Aug-18	0.3010	1253.97	1253.58	0.38	0.03%
29-Aug-18	0.3010	1253.81	1253.42	0.38	0.03%
29-Aug-18	0.3010	1254.02	1253.64	0.38	0.03%
29-Aug-18	0.3010	1253.87	1253.48	0.38	0.03%
30-Oct-19	0.4910	1253.16	1253.88	-0.72	-0.06%
26-Jun-19	0.3350	1288.82	1288.74	0.09	0.01%
12-Dec-19	0.6220	1287.46	1288.63	-1.17	-0.09%
25-Jun-19	0.3140	1277.43	1277.24	0.20	0.02%
19-Dec-19	0.5560	1299.42	1300.44	-1.02	-0.08%
10-Dec-19	0.6270	1230.83	1232.11	-1.28	-0.10%
24-Jul-19	0.3110	1222.57	1222.29	0.29	0.02%
26-Aug-19	0.4770	1301.11	1301.75	-0.64	-0.05%
26-Aug-19	0.4770	1301.11	1301.75	-0.64	-0.05%
15-Apr-19	0.3300	1278.07	1277.81	0.27	0.02%
25-Sep-18	0.5170	1179.82	1180.47	-0.65	-0.06%
25-Feb-20	0.5980	1267.49	1268.74	-1.24	-0.10%
30-Sep-19	0.5810	1344.77	1345.71	-0.94	-0.07%
30-Sep-19	0.5800	1342.89	1343.83	-0.94	-0.07%
12-Mar-18	0.2810	1179.18	1179.18	0.00	0.00%
25-Jun-19	0.3050	1260.35	1259.90	0.45	0.04%
26-May-20	0.4670	1318.52	1318.66	-0.14	-0.01%
29-Apr-20	0.4740	1180.27	1180.72	-0.45	-0.04%
18-Jun-18	0.3970	1239.83	1240.15	-0.32	-0.03%
11-Mar-19	0.4320	1177.92	1177.80	0.12	0.01%
11-Mar-19	0.4320	1177.92	1177.80	0.12	0.01%
5-Mar-19	0.3810	1110.94	1110.78	0.16	0.01%
5-Mar-19	0.3810	1110.94	1110.78	0.16	0.01%
4-Sep-19	0.3820	1092.05	1091.42	0.63	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%

4-Sep-19	0.3820	1092.05	1091.42	0.63	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
3-Dec-19	0.3750	1094.18	1093.74	0.44	0.04%
5-Mar-19	0.3810	1110.94	1110.78	0.16	0.01%
5-Mar-19	0.3810	1110.94	1110.78	0.16	0.01%
4-Sep-19	0.3820	1092.05	1091.42	0.63	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
3-Dec-19	0.3750	1094.18	1093.74	0.44	0.04%
4-Sep-19	0.3820	1092.05	1091.42	0.63	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
5-Mar-19	0.3810	1110.94	1110.78	0.16	0.01%
5-Mar-19	0.3810	1110.94	1110.78	0.16	0.01%
11-Mar-19	0.4320	1177.92	1177.80	0.12	0.01%
4-Sep-19	0.3820	1092.05	1091.42	0.63	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
4-Sep-19	0.3820	1092.05	1091.42	0.63	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
4-Sep-19	0.3820	1092.05	1091.42	0.63	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
3-Dec-19	0.3750	1094.18	1093.74	0.44	0.04%
3-Dec-19	0.3750	1094.18	1093.74	0.44	0.04%
4-Sep-19	0.3820	1092.05	1091.42	0.63	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
10-Jun-19	0.3810	1089.78	1089.12	0.66	0.06%
11-Mar-19	0.4320	1177.92	1177.80	0.12	0.01%
5-Mar-19	0.3810	1110.94	1110.78	0.16	0.01%
5-Mar-19	0.3810	1110.94	1110.78	0.16	0.01%
19-May-20	0.4160	1119.82	1119.89	-0.07	-0.01%
19-May-20	0.3920	1122.60	1122.60	0.00	0.00%
15-May-20	0.3960	1113.41	1113.39	0.02	0.00%
27-May-20	0.4100	1127.38	1127.51	-0.13	-0.01%
24-Jun-20	0.4510	1137.13	1137.30	-0.17	-0.02%
7-Nov-19	0.4100	1111.28	1111.09	0.19	0.02%
7-Nov-19	0.4100	1111.28	1111.09	0.19	0.02%
22-Oct-19	0.4160	1130.65	1130.51	0.14	0.01%
22-Oct-19	0.4160	1130.65	1130.51	0.14	0.01%
22-Apr-20	0.4150	1106.94	1107.04	-0.09	-0.01%
1-Oct-19	0.3970	1113.36	1113.37	-0.01	0.00%
1-Oct-19	0.3970	1113.36	1113.37	-0.01	0.00%
18-Oct-19	0.4430	1128.74	1128.57	0.17	0.02%
18-Oct-19	0.4430	1128.74	1128.57	0.17	0.02%
16-May-19	0.3870	1103.90	1103.56	0.35	0.03%
10-Sep-19	0.3770	1085.64	1084.83	0.81	0.07%
10-Jun-20	0.4480	1178.66	1177.25	1.41	0.12%
11-Sep-19	0.3970	1113.87	1113.49	0.38	0.03%
30-Sep-19	0.4330	1158.77	1159.15	-0.38	-0.03%
30-Sep-19	0.4330	1158.77	1159.15	-0.38	-0.03%
4-Jun-20	0.4120	1130.42	1130.23	0.20	0.02%
18-Feb-20	0.4320	1150.59	1150.87	-0.28	-0.02%
18-Feb-20	0.4580	1163.19	1163.74	-0.55	-0.05%
10-Dec-19	0.4220	1119.09	1118.86	0.23	0.02%

26-Sep-19	0.4110	1111.61	1111.06	0.56	0.05%
1-Jun-20	0.3890	1114.18	1113.98	0.20	0.02%
5-Jun-19	0.3900	1089.61	1088.94	0.67	0.06%
22-Jan-20	0.4010	1123.85	1123.84	0.02	0.00%
7-Sep-19	0.3520	1082.84	1082.40	0.44	0.04%
7-Sep-19	0.3520	1082.84	1082.40	0.44	0.04%
20-Aug-19	0.3800	1092.68	1092.26	0.42	0.04%
20-Aug-19	0.3800	1092.68	1092.26	0.42	0.04%
17-Jul-19	0.3840	1092.30	1091.79	0.51	0.05%
28-Oct-19	0.4660	1174.24	1174.72	-0.48	-0.04%
28-Oct-19	0.4660	1174.24	1174.72	-0.48	-0.04%
13-Nov-19	0.3940	1103.63	1103.22	0.42	0.04%
13-Nov-19	0.3940	1103.63	1103.22	0.42	0.04%
7-Feb-20	0.3860	1089.61	1089.37	0.24	0.02%
9-Jan-20	0.4200	1155.17	1155.49	-0.33	-0.03%
1-May-19	0.3830	1108.25	1108.31	-0.06	-0.01%
8-Apr-19	0.4020	1128.82	1128.75	0.07	0.01%
3-Dec-19	0.4270	1146.24	1146.55	-0.31	-0.03%
25-Apr-19	0.3750	1104.73	1104.45	0.28	0.03%
29-Aug-19	0.3980	1104.53	1104.25	0.28	0.03%
29-Aug-19	0.3980	1104.53	1104.25	0.28	0.03%
8-May-19	0.3830	1112.54	1112.38	0.16	0.01%
19-Apr-19	0.4410	1157.42	1157.49	-0.07	-0.01%
17-Jun-19	0.4020	1133.46	1133.66	-0.20	-0.02%
17-Jun-19	0.4020	1133.46	1133.66	-0.20	-0.02%
8-Oct-19	0.5020	1192.72	1193.42	-0.70	-0.06%
8-Oct-19	0.5020	1192.72	1193.42	-0.70	-0.06%
16-Jul-19	0.3720	1087.54	1087.22	0.32	0.03%
16-Jul-19	0.3720	1087.54	1087.22	0.32	0.03%
15-Oct-19	0.4480	1168.04	1168.51	-0.47	-0.04%
15-Oct-19	0.4480	1168.04	1168.51	-0.47	-0.04%
15-Oct-19	0.4480	1168.04	1168.51	-0.47	-0.04%
15-Apr-20	0.4110	1143.52	1143.69	-0.17	-0.01%
9-Apr-20	0.4100	1147.21	1147.16	0.05	0.00%
12-May-20	0.4260	1098.78	1097.63	1.15	0.10%
27-Aug-19	0.4030	1081.74	1080.43	1.31	0.12%
27-Aug-19	0.4000	1074.10	1072.80	1.30	0.12%
10-Apr-19	0.4050	1145.10	1145.42	-0.32	-0.03%
22-Apr-20	0.4090	1131.86	1132.03	-0.17	-0.02%
20-Aug-18	0.3270	1053.79	1052.56	1.23	0.12%
18-Jun-19	0.3810	1092.28	1091.67	0.61	0.06%
9-Apr-19	0.4130	1137.06	1137.24	-0.18	-0.02%
15-Jan-19	0.4150	1128.14	1128.14	0.00	0.00%
15-Jan-19	0.3990	1142.52	1142.29	0.24	0.02%
15-Jan-19	0.4290	1158.43	1158.52	-0.09	-0.01%
2-Jun-20	0.3960	1124.64	1124.50	0.14	0.01%
3-Sep-19	0.3500	1086.92	1086.70	0.22	0.02%
3-Sep-19	0.3500	1086.92	1086.70	0.22	0.02%
26-Jun-19	0.3850	1091.77	1091.08	0.69	0.06%
26-Jun-19	0.3850	1091.77	1091.08	0.69	0.06%
27-Feb-19	0.3390	1090.94	1090.53	0.41	0.04%
11-Jan-19	0.3840	1117.54	1117.52	0.02	0.00%
14-Aug-19	0.3940	1111.08	1110.89	0.20	0.02%
14-Aug-19	0.3940	1111.08	1110.89	0.20	0.02%
19-Aug-19	0.4000	1113.71	1113.52	0.20	0.02%
18-Feb-19	0.4120	1130.21	1129.85	0.36	0.03%
19-Aug-19	0.4000	1113.71	1113.52	0.20	0.02%

29-Aug-19	0.3750	1086.83	1086.34	0.50	0.05%
29-Aug-19	0.3750	1086.83	1086.34	0.50	0.05%
28-Mar-19	0.3570	1107.70	1107.42	0.28	0.02%
26-Feb-19	0.3620	1098.00	1097.87	0.12	0.01%
24-Jul-19	0.6120	1172.35	1172.34	0.01	0.00%
22-Aug-18	0.4390	1140.17	1140.15	0.02	0.00%
7-Mar-19	0.3710	1077.81	1077.00	0.81	0.07%
12-Feb-19	0.3660	1102.81	1102.71	0.09	0.01%
20-Sep-19	0.3960	1113.60	1113.52	0.08	0.01%
20-Sep-19	0.3960	1113.60	1113.52	0.08	0.01%
13-Aug-19	0.3800	1106.54	1106.23	0.31	0.03%
13-Aug-19	0.3800	1106.54	1106.23	0.31	0.03%
10-Jul-19	0.3880	1102.82	1102.15	0.68	0.06%
10-Jul-19	0.3880	1102.82	1102.15	0.68	0.06%
7-May-19	0.3680	1102.69	1102.26	0.43	0.04%
16-Apr-19	0.3980	1112.11	1112.16	-0.05	0.00%
14-Oct-19	0.3510	1085.89	1085.43	0.46	0.04%
14-Oct-19	0.3510	1085.89	1085.43	0.46	0.04%
17-Apr-19	0.3640	1109.58	1109.30	0.27	0.02%
15-May-19	0.3650	1091.06	1090.58	0.48	0.04%
16-Apr-20	0.3150	1087.39	1086.99	0.40	0.04%
5-Apr-19	0.5100	1136.51	1136.03	0.49	0.04%
30-Sep-19	0.5160	1153.75	1154.41	-0.66	-0.06%
22-Apr-20	0.5580	1266.92	1267.76	-0.84	-0.07%
28-Feb-20	0.5120	1227.93	1228.68	-0.75	-0.06%
5-Feb-19	0.5010	1189.22	1190.05	-0.82	-0.07%
11-Apr-19	0.4370	1126.08	1126.20	-0.12	-0.01%
18-Jun-19	0.5680	1193.49	1194.49	-1.00	-0.08%
1-Oct-19	0.3710	1149.56	1148.92	0.64	0.06%
10-Mar-20	0.4970	1281.28	1281.88	-0.60	-0.05%
2-Jan-19	0.3030	1232.11	1232.12	-0.01	0.00%
2-Jan-19	0.3020	1227.03	1227.04	-0.01	0.00%
2-Jan-19	0.3020	1225.80	1225.81	-0.01	0.00%
9-Jul-19	0.2810	1257.65	1257.50	0.16	0.01%
9-Jul-19	0.2810	1257.30	1257.14	0.16	0.01%
2-Apr-19	0.3230	1416.06	1416.32	-0.26	-0.02%
2-Apr-19	0.3230	1415.98	1416.23	-0.26	-0.02%
19-Jun-19	0.3140	1254.10	1253.86	0.24	0.02%
18-Jun-19	0.2870	1286.64	1286.48	0.16	0.01%
18-Jun-19	0.2860	1286.10	1285.94	0.17	0.01%
13-Feb-20	0.5180	1332.34	1332.92	-0.58	-0.04%
13-Feb-20	0.5180	1331.18	1331.76	-0.58	-0.04%
19-Dec-19	0.5590	1302.61	1303.63	-1.03	-0.08%
20-Nov-19	0.5630	1328.58	1329.30	-0.71	-0.05%
20-Nov-19	0.5630	1328.79	1329.51	-0.71	-0.05%
20-Nov-19	0.5630	1328.50	1329.21	-0.71	-0.05%
20-Nov-19	0.5630	1328.78	1329.49	-0.71	-0.05%
1-May-19	0.3460	1200.30	1200.26	0.04	0.00%
1-May-19	0.3450	1199.83	1199.79	0.04	0.00%
24-Jan-20	0.4350	1304.42	1304.86	-0.45	-0.03%
5-Jun-20	0.5330	1333.50	1334.24	-0.74	-0.06%
30-Sep-19	0.6340	1327.04	1327.92	-0.88	-0.07%
30-Sep-19	0.6340	1327.16	1328.04	-0.88	-0.07%
10-Jun-20	0.5110	1347.53	1348.27	-0.74	-0.05%
13-May-19	0.3000	1262.51	1262.31	0.21	0.02%
14-Apr-20	0.6100	1353.18	1354.13	-0.95	-0.07%
11-Apr-19	0.3150	1159.04	1159.04	0.00	0.00%

7-Mar-19	0.3200	1257.75	1257.52	0.23	0.02%
7-Mar-19	0.3190	1257.13	1256.90	0.23	0.02%
7-Mar-19	0.3190	1257.54	1257.30	0.23	0.02%
26-Sep-18	0.2980	1164.04	1164.03	0.02	0.00%
26-Sep-18	0.2980	1163.13	1163.12	0.02	0.00%
26-Apr-19	0.3170	1257.10	1256.84	0.26	0.02%
13-Dec-18	0.4120	1109.18	1109.22	-0.04	0.00%
28-Mar-19	0.3070	1261.72	1261.45	0.27	0.02%
28-Mar-19	0.3070	1261.15	1260.88	0.27	0.02%
23-Jul-18	0.3210	1220.42	1220.53	-0.10	-0.01%
11-Apr-19	0.3510	1089.49	1089.02	0.47	0.04%
14-Aug-19	0.3920	1103.83	1103.10	0.74	0.07%
14-Aug-19	0.3920	1103.83	1103.10	0.74	0.07%
19-Sep-19	0.4030	1087.42	1086.16	1.25	0.12%
19-Sep-19	0.4030	1087.42	1086.16	1.25	0.12%
10-Jun-19	0.3810	1091.81	1091.02	0.79	0.07%
10-Jun-19	0.3810	1091.81	1091.02	0.79	0.07%
10-Jun-19	0.3810	1091.81	1091.02	0.79	0.07%
10-Jun-19	0.3810	1091.81	1091.02	0.79	0.07%
10-Jun-19	0.3810	1091.81	1091.02	0.79	0.07%
13-Mar-19	0.3990	1115.11	1114.87	0.24	0.02%
10-Jun-19	0.3810	1091.81	1091.02	0.79	0.07%
10-Jun-19	0.3810	1091.81	1091.02	0.79	0.07%
10-Jun-19	0.3810	1091.81	1091.02	0.79	0.07%
19-May-20	0.4080	1125.15	1125.21	-0.05	0.00%
20-Jul-19	0.3970	1104.77	1104.30	0.47	0.04%
20-Jul-19	0.3970	1104.77	1104.30	0.47	0.04%
4-Dec-19	0.3730	1092.65	1092.40	0.25	0.02%
3-May-19	0.4010	1107.64	1107.43	0.22	0.02%
26-Jun-19	0.4350	1129.23	1129.08	0.15	0.01%
26-Jun-19	0.4350	1129.23	1129.08	0.15	0.01%
26-Jun-19	0.4350	1129.23	1129.08	0.15	0.01%
16-May-19	0.3890	1109.06	1109.21	-0.15	-0.01%
18-Oct-19	0.4300	1142.87	1142.93	-0.06	-0.01%
18-Oct-19	0.4300	1142.87	1142.93	-0.06	-0.01%
25-Jun-19	0.4220	1124.40	1124.12	0.28	0.02%
25-Jun-19	0.4220	1124.40	1124.12	0.28	0.02%
4-Jan-19	0.4340	1127.18	1127.52	-0.34	-0.03%
4-Apr-19	0.4280	1123.80	1123.73	0.07	0.01%
21-May-20	0.4280	1136.65	1136.78	-0.12	-0.01%
18-Oct-19	0.3830	1120.07	1120.28	-0.21	-0.02%
18-Oct-19	0.3830	1120.07	1120.28	-0.21	-0.02%
20-Jul-19	0.4060	1115.16	1114.90	0.27	0.02%
20-Jul-19	0.4060	1115.16	1114.90	0.27	0.02%
5-Mar-20	0.3930	1092.72	1092.45	0.27	0.02%
17-Mar-20	0.3960	1110.58	1110.33	0.24	0.02%
2-Jun-20	0.3940	1113.65	1113.33	0.32	0.03%
9-Dec-19	0.4050	1124.60	1124.37	0.23	0.02%
9-Dec-19	0.4040	1130.55	1130.30	0.24	0.02%
3-Jul-19	0.3870	1109.75	1109.50	0.25	0.02%
3-Jul-19	0.3870	1109.75	1109.50	0.25	0.02%
21-Apr-20	0.4000	1111.94	1111.60	0.34	0.03%
5-Sep-19	0.3880	1099.05	1098.41	0.64	0.06%
16-Jun-20	0.4000	1110.29	1110.09	0.20	0.02%
2-Dec-19	0.3820	1099.04	1098.61	0.43	0.04%
22-Jan-20	0.4120	1122.66	1122.50	0.15	0.01%
16-Oct-19	0.3960	1120.60	1120.14	0.46	0.04%

16-Oct-19	0.3960	1120.60	1120.14	0.46	0.04%
5-Sep-19	0.3930	1092.37	1091.71	0.66	0.06%
5-Sep-19	0.3930	1092.37	1091.71	0.66	0.06%
5-Sep-19	0.3830	1082.84	1082.14	0.70	0.06%
5-Sep-19	0.3830	1082.84	1082.14	0.70	0.06%
7-Feb-20	0.3870	1104.03	1103.75	0.28	0.03%
13-Jan-20	0.3990	1132.34	1132.32	0.01	0.00%
1-Nov-19	0.4160	1130.72	1130.83	-0.11	-0.01%
2-May-19	0.4050	1119.17	1119.23	-0.06	-0.01%
17-Jan-19	0.3680	1099.51	1099.29	0.22	0.02%
14-Aug-19	0.3830	1093.58	1093.15	0.43	0.04%
14-Aug-19	0.3830	1093.58	1093.15	0.43	0.04%
3-Sep-19	0.4000	1103.99	1103.30	0.68	0.06%
3-Sep-19	0.4000	1103.99	1103.30	0.68	0.06%
4-Mar-20	0.4030	1100.21	1100.04	0.17	0.02%
25-Mar-20	0.3970	1113.54	1113.51	0.03	0.00%
29-Aug-19	0.3770	1079.94	1079.28	0.66	0.06%
29-Aug-19	0.3770	1079.94	1079.28	0.66	0.06%
14-May-19	0.3970	1104.23	1104.01	0.22	0.02%
22-Nov-19	0.3630	1103.35	1103.20	0.16	0.01%
22-Nov-19	0.3630	1103.35	1103.20	0.16	0.01%
28-May-20	0.4030	1116.03	1115.91	0.12	0.01%
6-Jun-19	0.4120	1128.29	1128.28	0.02	0.00%
6-Jun-19	0.4120	1128.29	1128.28	0.02	0.00%
14-Aug-19	0.3920	1107.15	1106.41	0.74	0.07%
14-Aug-19	0.3910	1102.31	1101.57	0.74	0.07%
7-Nov-19	0.3820	1105.14	1104.87	0.27	0.02%
29-Aug-19	0.3950	1101.17	1100.78	0.39	0.04%
29-Aug-19	0.3950	1101.17	1100.78	0.39	0.04%
9-Oct-19	0.3900	1099.29	1098.74	0.55	0.05%
9-Oct-19	0.3900	1099.29	1098.74	0.55	0.05%
19-Nov-19	0.3840	1111.48	1111.30	0.17	0.02%
19-Nov-19	0.3840	1111.48	1111.30	0.17	0.02%
16-Jan-20	0.3630	1090.14	1090.07	0.07	0.01%
17-Oct-19	0.4460	1150.05	1150.09	-0.04	0.00%
17-Oct-19	0.4450	1145.55	1145.59	-0.03	0.00%
17-Apr-19	0.4330	1131.21	1131.45	-0.24	-0.02%
21-Apr-20	0.3950	1128.97	1128.76	0.21	0.02%
26-May-20	0.3860	1091.96	1091.30	0.66	0.06%
17-Oct-19	0.4350	1152.08	1152.37	-0.29	-0.03%
17-Oct-19	0.4350	1152.08	1152.37	-0.29	-0.03%
25-Jun-19	0.4050	1126.11	1126.26	-0.15	-0.01%
25-Jun-19	0.4050	1126.11	1126.26	-0.15	-0.01%
7-Oct-19	0.4350	1119.97	1120.04	-0.07	-0.01%
7-Oct-19	0.4350	1119.97	1120.04	-0.07	-0.01%
25-Apr-19	0.3130	1081.15	1080.86	0.28	0.03%
13-May-19	0.3910	1122.96	1122.70	0.26	0.02%
9-Jun-20	0.3930	1108.30	1108.06	0.25	0.02%
2-Jun-20	0.4360	1138.50	1138.29	0.20	0.02%
8-Oct-19	0.4110	1116.29	1116.08	0.21	0.02%
8-Oct-19	0.4110	1116.29	1116.08	0.21	0.02%
24-Apr-19	0.3850	1103.65	1102.97	0.68	0.06%
17-Dec-19	0.4010	1102.69	1102.24	0.45	0.04%
8-Jan-20	0.4030	1107.42	1107.11	0.31	0.03%
10-Jul-19	0.4270	1140.51	1140.25	0.27	0.02%
10-Jul-19	0.4270	1140.51	1140.25	0.27	0.02%
8-Mar-19	0.3310	1088.68	1088.59	0.09	0.01%

30-Jul-19	0.4010	1154.88	1154.70	0.18	0.02%
30-Jul-19	0.4010	1154.88	1154.70	0.18	0.02%
29-Jan-19	0.4460	1175.67	1175.82	-0.14	-0.01%
29-Jan-20	0.4070	1164.52	1164.50	0.02	0.00%
10-Jun-20	0.3970	1115.90	1115.60	0.31	0.03%
11-Feb-20	0.4840	1117.57	1118.11	-0.55	-0.05%
18-Sep-19	0.4620	1171.01	1171.41	-0.40	-0.03%
18-Sep-19	0.4620	1171.01	1171.41	-0.40	-0.03%
21-Jan-20	0.3690	1064.31	1062.89	1.42	0.13%
11-Sep-19	0.3780	1103.04	1102.49	0.55	0.05%
11-Sep-19	0.3780	1103.04	1102.49	0.55	0.05%
7-Nov-18	0.3450	1093.09	1093.11	-0.02	0.00%
25-Jun-19	0.4140	1129.87	1129.91	-0.04	0.00%
25-Jun-19	0.4140	1129.87	1129.91	-0.04	0.00%
15-Oct-19	0.3520	1098.40	1098.10	0.30	0.03%
15-Oct-19	0.3520	1098.40	1098.10	0.30	0.03%
1-May-19	0.3810	1092.69	1092.26	0.43	0.04%
5-Sep-19	0.3950	1101.20	1100.68	0.53	0.05%
5-Sep-19	0.3950	1101.20	1100.68	0.53	0.05%
19-Mar-19	0.3160	1085.32	1084.46	0.86	0.08%
16-May-19	0.4500	1188.45	1188.54	-0.09	-0.01%
23-Jan-20	0.3700	1109.64	1109.50	0.14	0.01%
12-Nov-19	0.4000	1086.87	1086.64	0.23	0.02%
12-Nov-19	0.4000	1086.87	1086.64	0.23	0.02%
17-Jul-18	0.3640	1085.15	1084.33	0.83	0.08%
27-May-19	0.3710	1109.06	1109.45	-0.39	-0.04%
19-Jun-20	0.3710	1098.05	1097.62	0.43	0.04%
4-Feb-19	0.3840	1085.74	1085.07	0.67	0.06%
4-Feb-19	0.3840	1085.74	1085.07	0.67	0.06%
11-May-20	0.3380	1090.28	1089.54	0.74	0.07%
30-Sep-19	0.5190	1160.07	1160.73	-0.66	-0.06%
24-Feb-20	0.5330	1283.11	1284.00	-0.89	-0.07%
7-Dec-18	0.5040	1202.98	1203.98	-1.00	-0.08%
29-May-19	0.3200	1293.93	1293.93	0.00	0.00%
2-Jan-19	0.3060	1240.31	1240.32	-0.02	0.00%
2-Jan-19	0.3050	1239.35	1239.36	-0.01	0.00%
2-Jan-19	0.3050	1240.39	1240.40	-0.01	0.00%
7-Feb-20	0.5910	1393.36	1394.65	-1.29	-0.09%
26-Aug-19	0.7060	1283.98	1285.22	-1.24	-0.10%
16-Mar-20	0.5690	1297.31	1298.13	-0.82	-0.06%
15-Jan-19	0.3240	1243.79	1243.51	0.28	0.02%
10-Mar-20	0.5190	1360.01	1360.68	-0.68	-0.05%
17-Dec-19	0.4870	1324.07	1324.55	-0.48	-0.04%
9-Jan-20	0.5760	1321.10	1322.32	-1.22	-0.09%
9-Jan-20	0.5760	1321.10	1322.32	-1.22	-0.09%
26-Aug-19	0.6460	1336.15	1337.49	-1.34	-0.10%
26-Aug-19	0.6430	1332.02	1333.37	-1.35	-0.10%
30-Jan-20	0.6080	1327.95	1329.20	-1.25	-0.09%
25-Oct-19	0.4910	1330.75	1331.38	-0.64	-0.05%
8-Apr-20	0.6070	1329.91	1331.09	-1.19	-0.09%
27-Sep-19	0.4850	1317.61	1318.31	-0.70	-0.05%
27-Sep-19	0.4840	1315.95	1316.64	-0.69	-0.05%
14-Jun-19	0.2990	1318.28	1317.95	0.33	0.03%
8-Jan-19	0.4500	1240.01	1240.32	-0.31	-0.03%
22-Aug-18	0.4630	1269.33	1269.53	-0.19	-0.02%
26-Dec-18	0.4250	1219.12	1219.42	-0.30	-0.02%
18-Mar-20	0.5260	1228.95	1229.66	-0.71	-0.06%

27-Mar-19	0.3570	1241.34	1241.46	-0.12	-0.01%
11-Jun-19	0.3240	1269.43	1269.26	0.18	0.01%
11-Jun-19	0.3240	1269.43	1269.26	0.18	0.01%
8-Oct-19	0.5160	1253.55	1254.03	-0.48	-0.04%
8-Oct-19	0.5150	1251.95	1252.42	-0.48	-0.04%
14-Jun-17	0.3890	1240.63	1240.55	0.09	0.01%
23-Sep-19	0.4730	1286.51	1286.94	-0.43	-0.03%
23-Sep-19	0.4730	1286.51	1286.94	-0.43	-0.03%
21-May-19	0.3690	1102.63	1101.78	0.85	0.08%
6-May-20	0.3870	1104.34	1103.96	0.38	0.03%
2-Jul-19	0.3340	1113.90	1113.16	0.74	0.07%
20-Feb-20	0.3910	1095.35	1095.43	-0.08	-0.01%
8-Jun-20	0.4050	1109.54	1109.47	0.07	0.01%
20-May-20	0.3760	1086.65	1085.70	0.95	0.09%
29-Aug-19	0.4120	1101.43	1100.51	0.92	0.08%
29-Aug-19	0.4120	1101.43	1100.51	0.92	0.08%
29-Aug-19	0.4120	1101.43	1100.51	0.92	0.08%
29-Aug-19	0.4120	1101.43	1100.51	0.92	0.08%
29-Aug-19	0.4120	1101.43	1100.51	0.92	0.08%
29-Aug-19	0.4120	1101.43	1100.51	0.92	0.08%
4-Mar-20	0.3440	1095.57	1095.72	-0.14	-0.01%
29-Aug-19	0.4120	1101.43	1100.51	0.92	0.08%
29-Aug-19	0.4120	1101.43	1100.51	0.92	0.08%
11-Mar-19	0.3550	1094.29	1094.00	0.28	0.03%
11-Mar-19	0.3550	1094.29	1094.00	0.28	0.03%
29-Aug-19	0.4120	1101.43	1100.51	0.92	0.08%
3-Jul-19	0.4050	1108.35	1108.15	0.20	0.02%
15-May-19	0.4150	1126.99	1126.92	0.07	0.01%
16-Nov-19	0.3850	1110.43	1110.42	0.00	0.00%
16-Nov-19	0.3850	1110.43	1110.42	0.00	0.00%
2-Jul-19	0.4130	1112.98	1112.60	0.38	0.03%
16-May-19	0.3910	1114.06	1114.21	-0.15	-0.01%
15-Oct-19	0.3930	1103.42	1103.17	0.25	0.02%
15-Oct-19	0.3930	1103.57	1103.31	0.25	0.02%
11-Jun-20	0.3720	1104.71	1104.58	0.14	0.01%
26-Feb-20	0.4820	1140.47	1140.33	0.14	0.01%
7-Apr-20	0.3960	1119.73	1119.89	-0.16	-0.01%
16-Jun-20	0.4560	1159.68	1159.74	-0.06	-0.01%
13-Jun-19	0.3960	1082.89	1081.78	1.11	0.10%
20-Aug-19	0.3580	1079.04	1078.24	0.80	0.07%
20-Aug-19	0.3580	1079.04	1078.24	0.80	0.07%
3-Jun-20	0.4090	1124.78	1124.43	0.35	0.03%
3-Jun-20	0.4080	1123.33	1122.82	0.52	0.05%
4-Dec-19	0.3980	1106.76	1106.40	0.36	0.03%
7-Jun-19	0.4040	1115.50	1115.27	0.24	0.02%
7-Jun-19	0.4040	1115.50	1115.27	0.24	0.02%
9-Dec-19	0.4010	1108.20	1107.87	0.33	0.03%
18-Mar-20	0.4290	1125.70	1125.64	0.06	0.01%
10-Dec-19	0.4230	1129.51	1129.43	0.08	0.01%
18-Apr-19	0.4110	1106.89	1106.41	0.48	0.04%
20-Apr-20	0.4660	1153.85	1154.12	-0.27	-0.02%
23-Mar-20	0.4080	1113.74	1113.68	0.07	0.01%
6-Jun-19	0.3870	1091.13	1090.68	0.45	0.04%
17-Oct-19	0.4020	1119.09	1118.86	0.23	0.02%
17-Oct-19	0.4020	1119.09	1118.86	0.23	0.02%
21-Aug-19	0.3770	1093.51	1093.12	0.39	0.04%
21-Aug-19	0.3770	1093.51	1093.12	0.39	0.04%

24-Jul-19	0.3920	1117.20	1116.98	0.22	0.02%
24-Jul-19	0.3920	1116.80	1116.58	0.22	0.02%
24-Apr-19	0.3940	1113.06	1113.00	0.05	0.00%
20-Feb-20	0.3910	1095.35	1095.43	-0.08	-0.01%
5-Sep-19	0.3900	1086.23	1085.59	0.64	0.06%
5-Sep-19	0.3900	1086.23	1085.59	0.64	0.06%
13-Mar-19	0.3870	1102.55	1102.05	0.50	0.05%
3-Sep-19	0.4070	1097.85	1097.28	0.57	0.05%
3-Sep-19	0.4070	1097.85	1097.28	0.57	0.05%
19-Nov-19	0.3860	1099.44	1099.06	0.38	0.03%
6-Mar-19	0.3780	1102.47	1102.46	0.01	0.00%
29-Aug-19	0.3840	1097.01	1096.52	0.49	0.04%
29-Aug-19	0.3840	1097.01	1096.52	0.49	0.04%
27-May-20	0.3800	1107.03	1106.65	0.38	0.03%
16-Jul-19	0.3870	1093.26	1092.95	0.31	0.03%
16-Jul-19	0.3870	1093.26	1092.95	0.31	0.03%
19-Nov-19	0.3760	1085.84	1085.69	0.14	0.01%
19-Nov-19	0.3760	1085.84	1085.69	0.14	0.01%
12-Jul-19	0.4150	1139.04	1139.10	-0.06	0.00%
15-Apr-20	0.4120	1128.75	1129.01	-0.26	-0.02%
12-Jul-19	0.4150	1139.04	1139.10	-0.06	0.00%
27-Aug-19	0.4270	1107.72	1107.01	0.71	0.06%
16-Oct-19	0.4210	1145.69	1145.50	0.19	0.02%
16-Oct-19	0.4210	1145.69	1145.50	0.19	0.02%
22-Apr-20	0.3920	1126.44	1126.59	-0.15	-0.01%
24-Oct-19	0.4630	1140.93	1141.06	-0.13	-0.01%
24-Oct-19	0.4630	1140.93	1141.06	-0.13	-0.01%
19-Sep-19	0.3980	1125.50	1125.47	0.03	0.00%
19-Sep-19	0.3980	1125.50	1125.47	0.03	0.00%
4-Jun-19	0.3310	1123.28	1123.21	0.07	0.01%
4-Jun-19	0.3310	1123.28	1123.21	0.07	0.01%
6-Feb-20	0.4500	1150.08	1150.25	-0.17	-0.01%
13-Aug-19	0.4150	1123.55	1123.25	0.30	0.03%
13-Aug-19	0.4150	1123.55	1123.25	0.30	0.03%
4-Sep-19	0.4170	1115.55	1115.11	0.44	0.04%
4-Sep-19	0.4170	1115.55	1115.11	0.44	0.04%
21-Apr-20	0.3920	1108.92	1108.10	0.83	0.07%
16-Apr-19	0.3880	1125.48	1125.07	0.41	0.04%
28-Jan-20	0.5120	1200.21	1201.00	-0.78	-0.07%
6-Feb-20	0.4390	1153.18	1153.51	-0.33	-0.03%
5-Sep-19	0.3900	1116.99	1116.68	0.30	0.03%
5-Sep-19	0.3900	1116.99	1116.68	0.30	0.03%
24-Mar-20	0.4080	1119.24	1119.29	-0.05	0.00%
5-Mar-20	0.4640	1126.52	1126.60	-0.08	-0.01%
26-Jun-19	0.3950	1116.29	1116.02	0.27	0.02%
26-Jun-19	0.3950	1116.29	1116.02	0.27	0.02%
17-Jun-20	0.3600	1100.01	1099.94	0.07	0.01%
17-Jun-20	0.3600	1100.01	1099.94	0.07	0.01%
1-May-19	0.3380	1083.32	1082.85	0.46	0.04%
4-Sep-19	0.4020	1099.80	1099.60	0.20	0.02%
4-Sep-19	0.4020	1099.80	1099.60	0.20	0.02%
16-Apr-19	0.4120	1111.64	1111.72	-0.08	-0.01%
23-Aug-19	0.3870	1074.47	1073.48	1.00	0.09%
4-Sep-19	0.4240	1110.65	1110.23	0.42	0.04%
28-May-20	0.3860	1082.41	1081.50	0.91	0.08%
18-Jul-19	0.3810	1115.83	1115.41	0.42	0.04%
18-Jul-19	0.3810	1115.83	1115.41	0.42	0.04%

26-Jun-19	0.3970	1124.51	1124.23	0.28	0.03%
26-Jun-19	0.3970	1124.51	1124.23	0.28	0.03%
4-Dec-19	0.3520	1098.79	1098.89	-0.10	-0.01%
17-Jun-19	0.3960	1093.04	1092.32	0.71	0.07%
17-Jun-19	0.3960	1093.04	1092.32	0.71	0.07%
11-Mar-19	0.3550	1094.29	1094.00	0.28	0.03%
11-Mar-19	0.3550	1094.29	1094.00	0.28	0.03%
8-Aug-18	0.3680	1093.33	1092.97	0.36	0.03%
15-Oct-18	0.3960	1093.27	1092.39	0.88	0.08%
13-Aug-19	0.3790	1087.47	1086.45	1.02	0.09%
13-Aug-19	0.3790	1087.47	1086.45	1.02	0.09%
20-May-19	0.3610	1082.64	1082.27	0.38	0.03%
18-Apr-19	0.3990	1093.76	1092.99	0.77	0.07%
18-Apr-19	0.3990	1093.76	1092.99	0.77	0.07%
11-Jun-20	0.3800	1089.25	1088.42	0.83	0.08%
25-Sep-19	0.5320	1390.37	1390.71	-0.34	-0.02%
25-Sep-19	0.5310	1388.30	1388.64	-0.34	-0.02%
28-Feb-20	0.5920	1271.51	1272.54	-1.03	-0.08%
15-Jun-20	0.5230	1299.19	1300.08	-0.89	-0.07%
11-Feb-20	0.4900	1284.20	1284.77	-0.57	-0.04%
15-Jun-20	0.5230	1299.19	1300.08	-0.89	-0.07%
11-Feb-20	0.4900	1284.21	1284.78	-0.57	-0.04%
15-Jun-20	0.5380	1312.70	1313.56	-0.85	-0.07%
2-Jan-19	0.3080	1246.33	1246.33	0.00	0.00%
2-Jan-19	0.3080	1245.27	1245.27	0.00	0.00%
14-Nov-19	0.5880	1319.55	1320.55	-1.01	-0.08%
14-Nov-19	0.5870	1317.61	1318.61	-1.00	-0.08%
20-Apr-20	0.5450	1325.46	1326.21	-0.75	-0.06%
20-Apr-20	0.5450	1325.46	1326.21	-0.75	-0.06%
24-Mar-20	0.6550	1364.15	1365.49	-1.33	-0.10%
24-Mar-20	0.6550	1364.02	1365.35	-1.33	-0.10%
5-Jun-20	0.4790	1352.46	1352.48	-0.03	0.00%
5-Jun-20	0.4790	1352.46	1352.48	-0.03	0.00%
18-Dec-19	0.4980	1317.53	1317.87	-0.34	-0.03%
18-Dec-19	0.4980	1317.55	1317.89	-0.34	-0.03%
8-Apr-20	0.6210	1319.62	1320.66	-1.04	-0.08%
16-Aug-19	0.4460	1269.35	1269.59	-0.24	-0.02%
16-Aug-19	0.4450	1267.93	1268.17	-0.24	-0.02%
25-Sep-19	0.5910	1333.06	1333.95	-0.89	-0.07%
25-Sep-19	0.5900	1331.44	1332.32	-0.89	-0.07%
23-Dec-19	0.5900	1294.00	1295.00	-1.01	-0.08%
16-Jul-19	0.3170	1261.07	1260.73	0.34	0.03%
16-Jul-19	0.3180	1264.77	1264.44	0.34	0.03%
24-Oct-17	0.3690	1436.21	1436.22	-0.01	0.00%
30-Apr-19	0.3090	1208.24	1208.03	0.21	0.02%
18-Dec-19	0.5090	1317.87	1318.72	-0.85	-0.06%
18-Dec-19	0.5090	1317.87	1318.72	-0.85	-0.06%
14-Apr-20	0.9200	1214.37	1216.97	-2.60	-0.21%
27-Nov-18	0.3220	1169.55	1169.49	0.07	0.01%
15-Oct-18	0.4020	1270.45	1271.00	-0.56	-0.04%
19-May-20	0.7680	1365.65	1367.29	-1.64	-0.12%
21-Aug-19	0.3160	1263.84	1263.66	0.18	0.01%
30-Sep-19	0.5470	1345.45	1346.27	-0.82	-0.06%
30-Sep-19	0.5470	1345.31	1346.13	-0.82	-0.06%
9-Dec-19	0.6380	1327.69	1329.01	-1.32	-0.10%
12-Mar-19	0.6540	1459.36	1460.95	-1.59	-0.11%
12-Mar-19	0.6540	1459.35	1460.94	-1.59	-0.11%

5-Mar-20	0.5450	1356.25	1357.01	-0.76	-0.06%
13-Jan-20	0.7550	1382.81	1384.49	-1.68	-0.12%
19-Feb-20	0.5290	1285.06	1285.73	-0.67	-0.05%
23-Apr-19	0.4960	1179.98	1180.63	-0.65	-0.05%
23-Apr-19	0.4960	1179.98	1180.63	-0.65	-0.05%
16-Apr-20	0.9010	1298.00	1300.45	-2.45	-0.19%
7-Mar-19	0.3710	1089.04	1088.45	0.59	0.05%
1-Oct-19	0.4490	1132.49	1132.47	0.02	0.00%
1-Oct-19	0.4490	1132.49	1132.47	0.02	0.00%
15-Jan-19	0.2820	1094.04	1093.35	0.69	0.06%
9-Apr-19	0.3840	1085.48	1084.37	1.11	0.10%
9-Apr-19	0.3840	1085.48	1084.37	1.11	0.10%
1-Jun-20	0.4110	1109.15	1108.27	0.88	0.08%
29-Aug-19	0.3860	1085.34	1084.67	0.67	0.06%
2-Mar-20	0.4190	1113.45	1113.49	-0.05	0.00%
3-Mar-20	0.4050	1096.48	1096.48	0.00	0.00%
7-Mar-19	0.3910	1097.43	1096.96	0.47	0.04%
22-Jan-19	0.3930	1129.49	1129.46	0.03	0.00%
29-Aug-19	0.3860	1085.34	1084.67	0.67	0.06%
2-Mar-20	0.4190	1113.45	1113.49	-0.05	0.00%
1-Jun-20	0.4110	1109.15	1108.27	0.88	0.08%
3-Dec-19	0.3730	1087.53	1087.10	0.43	0.04%
3-Dec-19	0.3730	1087.53	1087.10	0.43	0.04%
1-Jun-20	0.4110	1109.15	1108.27	0.88	0.08%
3-Dec-19	0.3730	1087.53	1087.10	0.43	0.04%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
1-Jun-20	0.4110	1109.15	1108.27	0.88	0.08%
1-Jun-20	0.4110	1109.15	1108.27	0.88	0.08%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
1-Jun-20	0.4110	1109.15	1108.27	0.88	0.08%
3-Mar-20	0.4050	1096.48	1096.48	0.00	0.00%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
3-Mar-20	0.4050	1096.48	1096.48	0.00	0.00%
3-Dec-19	0.3730	1087.53	1087.10	0.43	0.04%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
3-Dec-19	0.3730	1087.53	1087.10	0.43	0.04%
7-Mar-19	0.3910	1097.43	1096.96	0.47	0.04%
7-Mar-19	0.3910	1097.43	1096.96	0.47	0.04%
3-Mar-20	0.4050	1096.48	1096.48	0.00	0.00%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
29-Aug-19	0.3860	1085.34	1084.67	0.67	0.06%
2-Mar-20	0.4190	1113.45	1113.49	-0.05	0.00%
5-Sep-19	0.4390	1090.09	1088.59	1.50	0.14%
5-Sep-19	0.4390	1090.09	1088.59	1.50	0.14%
7-Mar-19	0.3910	1097.43	1096.96	0.47	0.04%
3-Mar-20	0.4050	1096.48	1096.48	0.00	0.00%
3-Mar-20	0.4050	1096.48	1096.48	0.00	0.00%
3-Dec-19	0.3730	1087.53	1087.10	0.43	0.04%
3-Dec-19	0.3730	1087.53	1087.10	0.43	0.04%
11-Mar-20	0.3920	1093.77	1093.30	0.47	0.04%
3-Dec-19	0.3730	1087.53	1087.10	0.43	0.04%
1-Jun-20	0.4110	1109.15	1108.27	0.88	0.08%

3-Mar-20	0.4050	1096.48	1096.48	0.00	0.00%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
4-Sep-19	0.4240	1089.25	1088.31	0.94	0.09%
29-Aug-19	0.3860	1085.34	1084.67	0.67	0.06%
2-Mar-20	0.4190	1113.45	1113.49	-0.05	0.00%
7-Mar-19	0.3910	1097.43	1096.96	0.47	0.04%
19-Jun-19	0.3920	1102.86	1102.80	0.07	0.01%
10-Apr-20	0.3330	1120.82	1120.34	0.48	0.04%
11-Apr-19	0.4660	1133.98	1134.21	-0.24	-0.02%
14-Apr-20	0.4030	1113.06	1112.98	0.09	0.01%
24-Sep-19	0.4600	1170.90	1170.57	0.33	0.03%
30-Sep-19	0.4380	1157.29	1157.53	-0.24	-0.02%
30-Sep-19	0.4380	1157.29	1157.53	-0.24	-0.02%
2-Jun-20	0.4060	1117.63	1117.32	0.32	0.03%
18-Mar-20	0.4520	1141.15	1141.24	-0.09	-0.01%
18-Feb-20	0.4780	1164.85	1165.33	-0.48	-0.04%
10-Dec-19	0.4140	1126.57	1126.46	0.11	0.01%
20-Apr-20	0.4230	1121.18	1120.99	0.19	0.02%
6-Jun-19	0.4010	1080.44	1079.95	0.48	0.04%
27-Jan-20	0.4080	1117.16	1116.86	0.30	0.03%
2-Dec-19	0.3980	1104.17	1103.71	0.46	0.04%
11-Jun-19	0.3870	1113.44	1113.14	0.31	0.03%
11-Jun-19	0.3870	1113.44	1113.14	0.31	0.03%
18-Apr-19	0.4150	1131.80	1131.97	-0.17	-0.02%
24-Jul-19	0.4130	1133.81	1133.65	0.16	0.01%
24-Jul-19	0.4130	1133.81	1133.65	0.16	0.01%
8-Jan-20	0.4520	1135.24	1135.46	-0.23	-0.02%
13-Nov-19	0.3850	1105.26	1105.01	0.25	0.02%
13-Nov-19	0.3850	1105.26	1105.01	0.25	0.02%
10-Jun-19	0.3900	1113.52	1113.34	0.17	0.02%
10-Jun-19	0.3900	1113.52	1113.34	0.17	0.02%
4-Jun-20	0.4220	1121.05	1120.84	0.21	0.02%
29-Aug-19	0.4040	1097.17	1096.73	0.44	0.04%
29-Aug-19	0.4040	1097.17	1096.73	0.44	0.04%
22-Nov-19	0.3930	1085.31	1085.20	0.11	0.01%
22-Nov-19	0.3930	1085.31	1085.20	0.11	0.01%
8-Apr-19	0.3830	1119.79	1119.61	0.19	0.02%
13-May-20	0.3940	1108.14	1107.83	0.31	0.03%
26-Nov-19	0.4260	1147.20	1147.47	-0.27	-0.02%
26-Nov-19	0.4260	1147.20	1147.47	-0.27	-0.02%
10-May-19	0.3750	1092.83	1092.48	0.34	0.03%
7-Aug-19	0.4350	1142.36	1142.44	-0.08	-0.01%
7-Aug-19	0.4350	1142.36	1142.44	-0.08	-0.01%
16-Oct-19	0.4450	1133.11	1133.06	0.05	0.00%
16-Oct-19	0.4450	1133.11	1133.06	0.05	0.00%
24-Aug-18	0.3560	1068.21	1067.28	0.93	0.09%
19-May-20	0.4630	1157.31	1157.63	-0.32	-0.03%
12-May-20	0.3420	1057.83	1057.21	0.62	0.06%
15-Apr-20	0.3990	1115.62	1115.45	0.16	0.01%
29-May-19	0.4090	1109.05	1108.40	0.66	0.06%
21-Oct-19	0.4090	1097.78	1097.28	0.50	0.05%
21-Oct-19	0.4090	1097.78	1097.28	0.50	0.05%
1-Feb-19	0.3120	1086.14	1085.54	0.60	0.06%
18-Feb-19	0.3970	1099.67	1099.05	0.62	0.06%
31-Aug-19	0.3880	1082.66	1081.81	0.86	0.08%
31-Aug-19	0.3880	1082.66	1081.81	0.86	0.08%
6-Feb-20	0.4820	1160.78	1161.22	-0.44	-0.04%

16-Dec-19	0.4450	1153.52	1153.20	0.32	0.03%
27-Jun-19	0.4000	1109.85	1109.57	0.28	0.03%
7-Aug-19	0.4220	1126.61	1126.48	0.14	0.01%
7-Aug-19	0.4220	1126.61	1126.48	0.14	0.01%
23-Jun-20	0.3650	1092.53	1092.26	0.28	0.03%
23-Jun-20	0.3650	1092.53	1092.26	0.28	0.03%
3-Oct-19	0.3940	1095.10	1095.30	-0.20	-0.02%
3-Oct-19	0.3960	1096.39	1096.57	-0.18	-0.02%
18-Apr-19	0.4200	1148.27	1148.38	-0.11	-0.01%
28-Jan-20	0.3760	1090.76	1090.52	0.24	0.02%
20-Feb-19	0.4010	1125.09	1124.76	0.32	0.03%
12-Feb-19	0.4150	1116.70	1116.51	0.19	0.02%
30-Jul-19	0.3820	1090.28	1089.75	0.52	0.05%
30-Jul-19	0.3820	1090.28	1089.75	0.52	0.05%
11-Mar-20	0.3920	1093.77	1093.30	0.47	0.04%
11-Nov-19	0.3920	1140.82	1140.03	0.78	0.07%
11-Nov-19	0.3920	1140.82	1140.03	0.78	0.07%
11-Sep-19	0.3690	1080.55	1079.84	0.71	0.07%
11-Sep-19	0.3690	1080.55	1079.84	0.71	0.07%
8-Apr-20	0.3790	1084.41	1083.97	0.44	0.04%
13-May-20	0.3800	1087.87	1087.13	0.74	0.07%
18-Mar-20	0.5440	1139.31	1139.38	-0.08	-0.01%
6-Dec-19	0.4560	1122.95	1123.41	-0.46	-0.04%
20-Mar-20	0.5420	1213.04	1213.88	-0.84	-0.07%
17-Jun-20	0.5460	1301.72	1301.63	0.08	0.01%
20-Mar-19	0.3130	1268.97	1268.99	-0.01	0.00%
20-Mar-19	0.3120	1268.23	1268.24	-0.01	0.00%
20-Mar-19	0.3130	1270.74	1270.75	-0.01	0.00%
15-May-20	0.5170	1302.44	1302.83	-0.39	-0.03%
15-May-20	0.5180	1302.59	1302.99	-0.40	-0.03%
24-Jun-19	0.3160	1281.41	1281.25	0.16	0.01%
24-Jun-19	0.3160	1281.41	1281.25	0.16	0.01%
21-May-20	0.5270	1298.70	1299.51	-0.80	-0.06%
13-Apr-20	0.5470	1311.79	1312.47	-0.68	-0.05%
13-Apr-20	0.5470	1311.79	1312.47	-0.68	-0.05%
20-Apr-20	0.6510	1335.79	1336.95	-1.16	-0.09%
17-Mar-20	0.6610	1301.36	1302.73	-1.37	-0.11%
29-Jan-20	0.6390	1329.88	1331.20	-1.32	-0.10%
19-Sep-19	0.5570	1317.35	1318.22	-0.87	-0.07%
17-Jun-20	0.6380	1330.83	1332.13	-1.30	-0.10%
12-Mar-20	0.5610	1310.68	1311.32	-0.64	-0.05%
29-May-20	0.5380	1330.68	1331.60	-0.92	-0.07%
29-May-20	0.5380	1330.31	1331.24	-0.92	-0.07%
8-Apr-20	0.6210	1302.98	1303.81	-0.83	-0.06%
11-Aug-18	0.3410	1324.33	1324.19	0.14	0.01%
25-Mar-20	0.5520	1339.75	1339.86	-0.11	-0.01%
20-Feb-19	0.2830	1259.44	1258.74	0.70	0.06%
30-Oct-19	0.5630	1282.50	1283.40	-0.90	-0.07%
30-Oct-19	0.5630	1282.50	1283.40	-0.90	-0.07%
17-Dec-18	0.4100	1321.42	1321.26	0.15	0.01%
17-Dec-18	0.4100	1319.32	1319.16	0.15	0.01%
22-May-18	0.2940	1258.97	1258.47	0.50	0.04%
24-Apr-19	0.3330	1226.70	1226.12	0.58	0.05%
25-Apr-19	0.3240	1259.04	1258.75	0.29	0.02%
31-May-19	0.3280	1264.34	1264.09	0.24	0.02%
29-Nov-17	0.3020	1201.46	1200.89	0.57	0.05%
29-May-19	0.2930	1305.64	1305.19	0.45	0.03%

27-Aug-19	0.4640	1166.34	1166.74	-0.39	-0.03%
27-Aug-19	0.4640	1166.34	1166.74	-0.39	-0.03%
24-Apr-19	0.4250	1126.62	1126.38	0.25	0.02%
19-Mar-19	0.3890	1107.58	1107.17	0.41	0.04%
6-Jun-19	0.3950	1094.54	1094.01	0.53	0.05%
11-Sep-19	0.3940	1118.06	1118.07	-0.01	0.00%
11-Sep-19	0.3940	1118.06	1118.07	-0.01	0.00%
28-Oct-19	0.4580	1174.18	1174.60	-0.42	-0.04%
28-Oct-19	0.4580	1174.18	1174.60	-0.42	-0.04%
28-Apr-20	0.4380	1156.60	1156.79	-0.20	-0.02%
28-Apr-20	0.4380	1156.60	1156.79	-0.20	-0.02%
7-Jan-20	0.4100	1135.66	1135.76	-0.09	-0.01%
14-Aug-19	0.3690	1094.71	1094.50	0.22	0.02%
14-Aug-19	0.3690	1094.71	1094.50	0.22	0.02%
8-May-20	0.4200	1124.45	1124.53	-0.08	-0.01%
23-Apr-19	0.4050	1119.58	1119.62	-0.04	0.00%
8-Jan-19	0.4530	1163.18	1162.99	0.19	0.02%
6-Feb-20	0.3880	1093.67	1093.49	0.18	0.02%
7-Mar-19	0.4000	1108.32	1107.91	0.41	0.04%
5-Mar-20	0.4350	1118.09	1118.16	-0.07	-0.01%
3-Jun-20	0.4260	1134.27	1134.33	-0.05	0.00%
7-Oct-19	0.3920	1117.52	1117.68	-0.16	-0.01%
7-Oct-19	0.3920	1117.52	1117.68	-0.16	-0.01%
7-May-20	0.4040	1100.73	1099.91	0.82	0.07%
7-Nov-19	0.4040	1112.98	1112.79	0.19	0.02%
7-Nov-19	0.4040	1112.98	1112.79	0.19	0.02%
16-Jan-20	0.3720	1094.79	1094.47	0.32	0.03%
9-May-19	0.3750	1092.92	1092.83	0.09	0.01%
7-Oct-19	0.4300	1133.99	1134.32	-0.33	-0.03%
7-Oct-19	0.4300	1133.99	1134.32	-0.33	-0.03%
15-Oct-19	0.4100	1108.62	1107.96	0.67	0.06%
15-Oct-19	0.4100	1108.62	1107.96	0.67	0.06%
16-Jul-19	0.3740	1104.89	1104.32	0.58	0.05%
2-Oct-19	0.4200	1130.10	1129.69	0.41	0.04%
2-Oct-19	0.4200	1130.10	1129.69	0.41	0.04%
16-Jan-20	0.4080	1102.09	1101.59	0.49	0.04%
18-Jun-19	0.4380	1126.73	1126.75	-0.02	0.00%
18-Jun-19	0.4380	1126.73	1126.75	-0.02	0.00%
10-Jun-20	0.3520	1104.30	1103.99	0.31	0.03%
19-Feb-20	0.3880	1098.21	1097.60	0.61	0.06%
22-Jan-19	0.4130	1115.94	1115.57	0.38	0.03%
11-Jun-20	0.3790	1106.98	1106.75	0.22	0.02%
24-Jul-19	0.3800	1107.58	1106.81	0.77	0.07%
24-Jul-19	0.3800	1107.58	1106.81	0.77	0.07%
5-Mar-20	0.4150	1104.44	1104.05	0.39	0.04%
4-Sep-19	0.4020	1085.37	1084.38	0.99	0.09%
3-Sep-19	0.3950	1092.67	1092.09	0.59	0.05%
3-Sep-19	0.3950	1092.67	1092.09	0.59	0.05%
27-Feb-19	0.5190	1150.67	1151.33	-0.66	-0.06%
13-Mar-19	0.3290	1119.60	1119.53	0.07	0.01%
12-Feb-19	0.5630	1133.36	1133.89	-0.53	-0.05%
22-Jan-20	0.4330	1136.99	1136.95	0.04	0.00%
11-Jun-19	0.3720	1092.54	1091.93	0.61	0.06%
17-Oct-19	0.4190	1112.84	1112.58	0.26	0.02%
17-Oct-19	0.4190	1112.84	1112.58	0.26	0.02%
28-Feb-19	0.3280	1100.35	1099.33	1.02	0.09%
6-Feb-19	0.3720	1095.70	1095.45	0.25	0.02%

29-Aug-19	0.3840	1099.16	1098.36	0.80	0.07%
29-Aug-19	0.3840	1099.16	1098.36	0.80	0.07%
16-May-19	0.3910	1097.31	1096.79	0.52	0.05%
16-May-19	0.3910	1096.86	1096.34	0.52	0.05%
16-May-19	0.3910	1098.21	1097.69	0.52	0.05%
16-May-19	0.3910	1097.20	1096.68	0.52	0.05%
15-Apr-19	0.2960	1076.35	1076.30	0.05	0.00%
6-Nov-19	0.3640	1084.45	1083.55	0.89	0.08%
9-Jul-19	0.4330	1146.12	1145.64	0.48	0.04%
9-Jul-19	0.4330	1146.12	1145.64	0.48	0.04%
20-Feb-19	0.4170	1098.60	1098.23	0.38	0.03%
20-Feb-19	0.4170	1098.60	1098.23	0.38	0.03%
26-Mar-19	0.4220	1091.75	1091.17	0.58	0.05%
26-Mar-19	0.4220	1091.75	1091.17	0.58	0.05%
11-Feb-20	0.4000	1102.50	1101.99	0.51	0.05%
8-Jan-19	0.3990	1109.05	1108.69	0.36	0.03%
8-Oct-19	0.3320	1088.63	1087.94	0.68	0.06%
8-Oct-19	0.3320	1088.63	1087.94	0.68	0.06%
15-Apr-19	0.3950	1098.44	1097.85	0.60	0.05%
12-Nov-19	0.4000	1088.46	1087.60	0.86	0.08%
12-Nov-19	0.4000	1088.46	1087.60	0.86	0.08%
24-Jul-19	0.5210	1284.46	1285.32	-0.87	-0.07%
24-Jul-19	0.4380	1100.99	1100.87	0.12	0.01%
24-Jul-19	0.4380	1100.99	1100.87	0.12	0.01%
2-Aug-18	0.6670	1224.08	1225.53	-1.45	-0.12%
2-Aug-18	0.6670	1224.08	1225.53	-1.45	-0.12%
16-Apr-20	0.4980	1304.27	1304.81	-0.54	-0.04%
30-Sep-19	0.4670	1281.40	1281.91	-0.51	-0.04%
30-Sep-19	0.4670	1281.54	1282.05	-0.51	-0.04%
30-Sep-19	0.4670	1281.39	1281.90	-0.51	-0.04%
30-Sep-19	0.4670	1281.52	1282.02	-0.51	-0.04%
30-Sep-19	0.4670	1281.65	1282.15	-0.51	-0.04%
30-Sep-19	0.4670	1281.50	1282.00	-0.51	-0.04%
20-Mar-19	0.3130	1270.96	1270.96	0.00	0.00%
	0.3130	1270.75	1270.75	0.00	0.00%
20-Mar-19	0.3130	1270.82	1270.82	0.00	0.00%
	0.3130	1270.55	1270.55	0.00	0.00%
15-Aug-19	0.5570	1290.01	1290.89	-0.88	-0.07%
9-Apr-20	0.5350	1290.96	1291.53	-0.58	-0.04%
23-Sep-19	0.5230	1308.37	1309.11	-0.74	-0.06%
23-Dec-19	0.5640	1316.85	1317.78	-0.92	-0.07%
20-Aug-19	0.3280	1261.10	1261.02	0.08	0.01%
17-Jul-19	0.3390	1296.70	1296.68	0.03	0.00%
19-Jun-19	0.3260	1255.43	1255.15	0.27	0.02%
25-Sep-19	0.4910	1293.09	1293.44	-0.35	-0.03%
25-Sep-19	0.4910	1292.92	1293.27	-0.35	-0.03%
8-May-20	0.5420	1296.18	1296.81	-0.63	-0.05%
8-May-20	0.5420	1296.20	1296.83	-0.63	-0.05%
26-Aug-19	0.6160	1328.01	1329.13	-1.12	-0.08%
26-Aug-19	0.6160	1327.86	1328.99	-1.12	-0.08%
12-May-20	0.5990	1323.13	1323.62	-0.49	-0.04%
21-May-20	0.5790	1269.09	1269.70	-0.61	-0.05%
30-Jun-19	0.3600	1305.52	1305.53	-0.02	0.00%
30-Jun-19	0.3600	1306.11	1306.13	-0.02	0.00%
22-Nov-19	0.5660	1335.40	1336.46	-1.06	-0.08%
22-Nov-19	0.5660	1335.67	1336.73	-1.06	-0.08%
22-Nov-19	0.5660	1335.56	1336.62	-1.06	-0.08%

22-Nov-19	0.5660	1335.59	1336.65	-1.06	-0.08%
8-Aug-19	0.4500	1359.71	1360.08	-0.37	-0.03%
1-Dec-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Nov-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Oct-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Sep-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Aug-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Jul-19	0.3130	1326.58	1326.58	0.00	0.00%
1-May-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Apr-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Mar-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Feb-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Jan-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Dec-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Nov-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Oct-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Sep-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Aug-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Jul-19	0.3130	1326.58	1326.58	0.00	0.00%
1-May-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Apr-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Mar-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Feb-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Jan-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Dec-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Nov-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Oct-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Sep-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Aug-19	0.3130	1326.58	1326.58	0.00	0.00%
1-Jul-19	0.3130	1326.58	1326.58	0.00	0.00%
1-May-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Apr-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Mar-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Feb-20	0.3130	1326.58	1326.58	0.00	0.00%
1-Jan-20	0.3130	1326.58	1326.58	0.00	0.00%
10-May-19	0.3570	1288.85	1288.80	0.05	0.00%
19-Mar-18	0.3440	1297.28	1297.21	0.07	0.01%
24-Apr-18	0.3340	1249.83	1249.95	-0.13	-0.01%
16-May-19	0.2890	1285.72	1285.23	0.49	0.04%
28-Nov-18	0.3250	1198.85	1198.85	0.00	0.00%
27-Feb-18	0.3060	1226.98	1226.51	0.47	0.04%
26-Mar-20	0.5300	1328.83	1329.51	-0.68	-0.05%
6-Apr-20	0.4800	1310.95	1311.24	-0.29	-0.02%
1-Jul-19	0.4410	1250.53	1250.12	0.41	0.03%
7-Nov-18	0.5060	1324.62	1325.33	-0.70	-0.05%
16-Jul-19	0.4960	1238.45	1238.85	-0.40	-0.03%
16-Jul-19	0.4960	1238.45	1238.85	-0.40	-0.03%
28-Apr-20	0.4020	1087.62	1086.91	0.71	0.07%
23-May-19	0.3830	1101.36	1101.04	0.31	0.03%
23-May-19	0.3830	1101.36	1101.04	0.31	0.03%
1-Apr-20	0.3780	1077.06	1076.18	0.89	0.08%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
28-May-19	0.4740	1130.87	1130.85	0.02	0.00%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
4-Mar-20	0.3900	1098.01	1097.70	0.32	0.03%

12-Sep-18	0.4100	1093.72	1092.62	1.09	0.10%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
12-Sep-18	0.4100	1093.72	1092.62	1.09	0.10%
3-May-19	0.4390	1129.76	1129.93	-0.17	-0.02%
3-Jul-19	0.4170	1111.08	1110.95	0.13	0.01%
3-Jul-19	0.4170	1111.08	1110.95	0.13	0.01%
15-May-19	0.4100	1108.04	1107.71	0.33	0.03%
27-May-20	0.4290	1127.70	1127.62	0.08	0.01%
16-Jul-19	0.4130	1112.87	1112.48	0.39	0.04%
16-Jul-19	0.4130	1112.87	1112.48	0.39	0.04%
20-Jul-19	0.4160	1068.26	1068.28	-0.02	0.00%
26-Mar-19	0.4010	1110.35	1110.05	0.30	0.03%
25-Jun-20	0.4510	1129.02	1128.43	0.60	0.05%
7-Jan-20	0.5010	1158.45	1159.06	-0.62	-0.05%
7-Nov-19	0.4040	1098.63	1098.43	0.20	0.02%
7-Nov-19	0.4040	1098.63	1098.43	0.20	0.02%
12-Jun-19	0.4100	1102.20	1101.48	0.73	0.07%
5-Dec-19	0.4290	1123.54	1123.32	0.22	0.02%
8-Oct-19	0.4760	1169.34	1169.70	-0.36	-0.03%
8-Oct-19	0.4760	1169.34	1169.70	-0.36	-0.03%
4-Jun-20	0.4400	1138.98	1138.63	0.34	0.03%
18-Mar-20	0.4230	1129.60	1129.43	0.17	0.02%
22-Feb-19	0.4330	1152.84	1152.89	-0.04	0.00%
2-Jul-19	0.3940	1103.86	1103.52	0.33	0.03%
2-Jul-19	0.3940	1103.86	1103.52	0.33	0.03%
4-Jan-19	0.3670	1097.78	1097.61	0.17	0.02%
9-Mar-20	0.4070	1098.36	1098.11	0.25	0.02%
5-Jun-19	0.4050	1100.56	1100.13	0.43	0.04%
21-Apr-20	0.4240	1127.57	1127.72	-0.14	-0.01%
11-Jun-19	0.3950	1115.92	1115.38	0.54	0.05%
11-Jun-19	0.3950	1115.92	1115.38	0.54	0.05%
22-Apr-19	0.4100	1122.22	1121.85	0.36	0.03%
7-May-19	0.4050	1090.52	1089.64	0.88	0.08%
12-Nov-19	0.4080	1112.69	1112.43	0.26	0.02%
12-Nov-19	0.4080	1112.69	1112.43	0.26	0.02%
9-Jan-20	0.4530	1136.83	1137.27	-0.44	-0.04%
7-Jan-20	0.4740	1170.70	1171.10	-0.40	-0.03%
13-Nov-19	0.3970	1106.48	1106.15	0.33	0.03%
13-Nov-19	0.3970	1106.48	1106.15	0.33	0.03%
7-May-19	0.4170	1093.85	1093.70	0.16	0.01%
7-May-19	0.4170	1093.85	1093.70	0.16	0.01%
13-Jan-20	0.4050	1132.67	1132.63	0.03	0.00%
5-Feb-20	0.3830	1103.33	1103.29	0.04	0.00%
30-Dec-19	0.4430	1127.19	1127.56	-0.37	-0.03%
4-Jun-20	0.4360	1138.44	1138.65	-0.20	-0.02%
13-May-20	0.4030	1107.80	1107.50	0.30	0.03%
7-Nov-19	0.4000	1106.22	1105.98	0.24	0.02%
13-May-20	0.4010	1113.31	1113.11	0.20	0.02%
21-Nov-19	0.4110	1113.04	1112.88	0.16	0.01%
27-May-20	0.3990	1111.29	1110.91	0.38	0.03%
14-May-20	0.3920	1091.88	1091.06	0.82	0.07%
21-Apr-20	0.4330	1145.38	1145.34	0.03	0.00%
28-May-19	0.4110	1129.79	1129.06	0.73	0.06%
22-Apr-19	0.4120	1136.44	1136.35	0.09	0.01%
16-Apr-20	0.3500	1098.26	1098.04	0.22	0.02%
10-Jun-20	0.4370	1153.36	1153.53	-0.17	-0.01%

26-Mar-20	0.3920	1117.26	1116.71	0.55	0.05%
26-Mar-20	0.4290	1133.51	1133.23	0.28	0.02%
11-Apr-19	0.3580	1104.54	1104.30	0.24	0.02%
19-Nov-19	0.4010	1086.12	1085.17	0.95	0.09%
19-Nov-19	0.4010	1086.12	1085.17	0.95	0.09%
11-Feb-20	0.4040	1108.90	1108.90	0.01	0.00%
10-Dec-19	0.4000	1090.74	1089.97	0.77	0.07%
14-Jan-20	0.4440	1152.48	1152.77	-0.29	-0.03%
11-Feb-20	0.4450	1140.02	1140.10	-0.07	-0.01%
11-Feb-20	0.4320	1129.88	1129.77	0.11	0.01%
7-Sep-19	0.3990	1101.02	1100.67	0.35	0.03%
7-Sep-19	0.3990	1101.02	1100.67	0.35	0.03%
24-Jul-19	0.3890	1124.03	1123.69	0.34	0.03%
24-Jul-19	0.3890	1124.03	1123.69	0.34	0.03%
15-Jan-20	0.4350	1113.70	1113.44	0.26	0.02%
1-Jun-20	0.3980	1097.60	1097.12	0.48	0.04%
4-Feb-20	0.4300	1123.61	1123.89	-0.28	-0.02%
12-Mar-19	0.3190	1103.11	1102.67	0.44	0.04%
7-Mar-19	0.3360	1101.25	1100.72	0.52	0.05%
4-Dec-19	0.3810	1090.85	1090.32	0.53	0.05%
3-Dec-19	0.4030	1109.45	1109.53	-0.08	-0.01%
15-Oct-19	0.3860	1095.39	1095.41	-0.02	0.00%
15-Oct-19	0.3860	1095.39	1095.41	-0.02	0.00%
4-Sep-19	0.4090	1108.75	1108.47	0.28	0.03%
11-Jul-19	0.3400	1086.78	1086.77	0.02	0.00%
11-Jul-19	0.3400	1086.78	1086.77	0.02	0.00%
24-Mar-20	0.3990	1104.30	1104.45	-0.15	-0.01%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
11-Sep-19	0.4210	1104.90	1104.21	0.69	0.06%
4-Jun-19	0.3680	1077.55	1076.83	0.72	0.07%
4-Jun-19	0.3680	1077.55	1076.83	0.72	0.07%
4-Dec-19	0.3660	1101.03	1100.68	0.35	0.03%
27-Mar-19	0.3960	1086.86	1085.86	1.00	0.09%
27-Mar-19	0.3960	1086.86	1085.86	1.00	0.09%
16-Jun-20	0.3820	1094.72	1093.89	0.83	0.08%
28-Aug-19	0.3630	1077.61	1076.96	0.66	0.06%
28-Aug-19	0.3630	1077.61	1076.96	0.66	0.06%
8-Apr-19	0.3690	1080.58	1079.70	0.88	0.08%
8-Apr-19	0.3690	1080.58	1079.70	0.88	0.08%
9-Jul-19	0.4080	1099.49	1098.79	0.71	0.06%
9-Jul-19	0.4080	1099.49	1098.79	0.71	0.06%
9-May-19	0.3980	1087.67	1086.76	0.90	0.08%
7-May-20	0.4010	1089.53	1088.41	1.12	0.10%
9-May-19	0.3980	1087.67	1086.76	0.90	0.08%
25-Sep-19	0.5190	1286.19	1286.41	-0.22	-0.02%
17-Apr-19	0.4970	1174.69	1175.41	-0.72	-0.06%
16-Apr-19	0.4940	1135.13	1135.09	0.04	0.00%
29-Aug-18	0.5190	1215.57	1216.41	-0.84	-0.07%
9-Apr-19	0.4060	1120.17	1120.28	-0.11	-0.01%
9-Apr-19	0.4060	1120.10	1120.21	-0.11	-0.01%
12-Feb-19	0.5540	1322.32	1323.34	-1.02	-0.08%
26-Aug-19	0.3220	1278.35	1278.25	0.10	0.01%
11-Feb-20	0.5030	1280.83	1281.33	-0.50	-0.04%
20-Jan-20	0.5220	1288.53	1289.16	-0.63	-0.05%
7-May-20	0.6600	1307.67	1308.83	-1.16	-0.09%

21-Aug-19	0.3260	1263.54	1263.31	0.23	0.02%
21-Aug-19	0.3260	1263.76	1263.53	0.23	0.02%
21-Aug-19	0.3260	1263.55	1263.32	0.23	0.02%
21-Aug-19	0.3260	1263.77	1263.54	0.23	0.02%
11-Mar-20	0.6300	1327.28	1328.40	-1.11	-0.08%
18-Apr-19	0.3390	1295.61	1295.54	0.06	0.01%
21-Jan-20	0.6260	1313.83	1314.70	-0.88	-0.07%
22-Apr-20	0.6400	1317.64	1319.05	-1.41	-0.11%
10-Jun-20	0.5830	1331.11	1332.04	-0.93	-0.07%
10-Jun-20	0.5830	1331.11	1332.04	-0.93	-0.07%
18-Sep-19	0.6100	1331.30	1332.47	-1.17	-0.09%
18-Sep-19	0.6100	1331.29	1332.45	-1.17	-0.09%
30-Jan-20	0.6040	1332.34	1333.48	-1.14	-0.09%
21-May-20	0.6400	1352.63	1353.90	-1.27	-0.09%
8-Apr-20	0.4910	1311.07	1311.70	-0.63	-0.05%
21-Aug-19	0.3330	1263.22	1263.06	0.16	0.01%
21-Aug-19	0.3330	1263.22	1263.06	0.16	0.01%
18-Sep-17	0.2920	1222.85	1222.53	0.33	0.03%
9-Jul-19	0.3300	1294.05	1293.93	0.11	0.01%
21-Mar-19	0.3400	1129.54	1129.02	0.52	0.05%
25-Jan-18	0.3660	1318.22	1317.13	1.08	0.08%
17-Dec-18	0.3050	1152.08	1151.52	0.57	0.05%
10-Jun-19	0.3580	1280.13	1280.20	-0.08	-0.01%
18-May-20	0.5420	1286.25	1286.39	-0.14	-0.01%
5-Mar-19	0.7950	1333.47	1335.65	-2.18	-0.16%
2-Apr-19	0.7350	1360.64	1361.97	-1.33	-0.10%
13-Aug-19	0.3390	1103.71	1103.96	-0.25	-0.02%
15-Jul-19	0.4250	1086.27	1085.21	1.06	0.10%
15-Jul-19	0.4250	1086.27	1085.21	1.06	0.10%
16-Apr-19	0.2920	1079.15	1078.97	0.18	0.02%
19-May-20	0.4340	1096.40	1095.27	1.13	0.10%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
2-Jun-20	0.3740	1089.41	1088.75	0.66	0.06%
2-Jun-20	0.3740	1089.41	1088.75	0.66	0.06%
10-Jun-19	0.4110	1104.00	1103.65	0.35	0.03%
10-Jun-19	0.4110	1104.00	1103.65	0.35	0.03%
5-Mar-19	0.3760	1102.77	1102.36	0.42	0.04%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
2-Jun-20	0.3740	1089.41	1088.75	0.66	0.06%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
10-Jun-19	0.4110	1104.00	1103.65	0.35	0.03%
10-Jun-19	0.4110	1104.00	1103.65	0.35	0.03%
2-Jun-20	0.3740	1089.41	1088.75	0.66	0.06%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
2-Jun-20	0.3740	1089.41	1088.75	0.66	0.06%
2-Jun-20	0.3740	1089.41	1088.75	0.66	0.06%
2-Jun-20	0.3740	1089.41	1088.75	0.66	0.06%
10-Jun-19	0.4110	1104.00	1103.65	0.35	0.03%
10-Jun-19	0.4110	1104.00	1103.65	0.35	0.03%
10-Jun-19	0.4110	1104.00	1103.65	0.35	0.03%
10-Jun-19	0.4110	1104.00	1103.65	0.35	0.03%

10-Jun-19	0.4110	1104.00	1103.65	0.35	0.03%
2-Jun-20	0.3740	1089.41	1088.75	0.66	0.06%
5-Mar-19	0.3760	1102.77	1102.36	0.42	0.04%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
5-Mar-19	0.3950	1110.33	1110.09	0.24	0.02%
7-May-20	0.3910	1112.03	1111.79	0.24	0.02%
7-May-19	0.4300	1115.24	1115.14	0.10	0.01%
20-Jul-19	0.4140	1112.52	1112.40	0.11	0.01%
20-Jul-19	0.4140	1112.52	1112.40	0.11	0.01%
3-Jul-19	0.3930	1115.93	1115.79	0.14	0.01%
3-Jul-19	0.3930	1115.93	1115.79	0.14	0.01%
29-Mar-19	0.4060	1106.00	1105.72	0.28	0.03%
9-Apr-20	0.4190	1111.57	1111.45	0.12	0.01%
9-Apr-20	0.4460	1114.95	1115.02	-0.07	-0.01%
28-Aug-19	0.4240	1106.69	1106.34	0.35	0.03%
18-Jan-19	0.4360	1126.20	1126.19	0.02	0.00%
31-Mar-20	0.4420	1121.26	1121.23	0.03	0.00%
7-Apr-20	0.4820	1133.75	1133.73	0.02	0.00%
31-Mar-20	0.4570	1123.94	1124.02	-0.09	-0.01%
5-Apr-19	0.4730	1135.24	1135.20	0.04	0.00%
7-Nov-19	0.4420	1129.82	1130.10	-0.28	-0.02%
7-Nov-19	0.4420	1129.82	1130.10	-0.28	-0.02%
14-Apr-20	0.4340	1145.82	1146.06	-0.24	-0.02%
4-Jun-20	0.4470	1138.66	1138.46	0.20	0.02%
4-Jun-20	0.4430	1141.01	1140.94	0.07	0.01%
16-Jul-19	0.4160	1106.12	1105.60	0.52	0.05%
2-Dec-19	0.4230	1112.06	1111.81	0.25	0.02%
5-Sep-19	0.4170	1098.19	1097.50	0.69	0.06%
30-Dec-19	0.3920	1115.29	1115.34	-0.05	0.00%
16-Apr-20	0.4130	1113.27	1113.10	0.18	0.02%
28-Apr-20	0.4820	1176.41	1176.92	-0.52	-0.04%
8-Jan-19	0.4350	1147.32	1147.50	-0.19	-0.02%
14-Aug-19	0.3740	1081.56	1081.25	0.30	0.03%
14-Aug-19	0.3740	1081.56	1081.25	0.30	0.03%
10-Jun-19	0.4190	1128.92	1128.69	0.23	0.02%
10-Jun-19	0.4190	1128.92	1128.69	0.23	0.02%
11-Jun-19	0.4040	1113.67	1113.58	0.10	0.01%
11-Jun-19	0.4040	1113.67	1113.58	0.10	0.01%
4-Dec-19	0.3840	1110.33	1110.24	0.09	0.01%
23-May-19	0.4310	1139.50	1139.52	-0.01	0.00%
14-May-19	0.3890	1104.35	1104.07	0.28	0.03%
13-May-20	0.4040	1111.75	1111.56	0.19	0.02%
21-Nov-19	0.4020	1112.94	1112.81	0.14	0.01%
21-Nov-19	0.4020	1112.94	1112.81	0.14	0.01%
9-May-19	0.4100	1104.31	1104.02	0.29	0.03%
16-Apr-19	0.4200	1148.72	1148.92	-0.20	-0.02%
16-Apr-19	0.4370	1142.07	1142.23	-0.16	-0.01%
9-Apr-20	0.4300	1137.89	1137.86	0.02	0.00%
21-Feb-19	0.3750	1086.10	1085.18	0.92	0.08%
17-Oct-19	0.4180	1132.33	1132.55	-0.23	-0.02%
17-Oct-19	0.4180	1132.33	1132.55	-0.23	-0.02%
22-Apr-19	0.3930	1100.65	1100.48	0.17	0.02%
10-Jun-20	0.5340	1199.69	1200.20	-0.51	-0.04%
15-Apr-20	0.4270	1133.87	1134.01	-0.13	-0.01%
9-Apr-19	0.4260	1136.47	1136.63	-0.17	-0.01%
24-Jan-20	0.3950	1088.35	1088.12	0.22	0.02%
29-Jan-20	0.3630	1094.66	1094.36	0.31	0.03%

14-Jan-20	0.4020	1104.68	1104.29	0.39	0.04%
1-Jun-20	0.4020	1104.54	1104.05	0.49	0.04%
15-Oct-19	0.4320	1121.46	1121.25	0.21	0.02%
15-Oct-19	0.4320	1121.46	1121.25	0.21	0.02%
13-May-20	0.4360	1157.94	1157.83	0.11	0.01%
8-May-19	0.4210	1134.61	1134.53	0.09	0.01%
17-Oct-19	0.4200	1127.38	1127.24	0.14	0.01%
17-Oct-19	0.4200	1127.38	1127.24	0.14	0.01%
17-Sep-19	0.4620	1141.69	1142.10	-0.41	-0.04%
17-Sep-19	0.4620	1141.69	1142.10	-0.41	-0.04%
20-Aug-19	0.3810	1094.55	1094.30	0.25	0.02%
20-Aug-19	0.3810	1094.55	1094.30	0.25	0.02%
15-Mar-19	0.3870	1095.94	1095.61	0.33	0.03%
15-Mar-19	0.4060	1098.46	1097.79	0.67	0.06%
25-Jul-19	0.5040	1120.27	1119.86	0.42	0.04%
25-Jul-19	0.5040	1120.27	1119.86	0.42	0.04%
12-Sep-19	0.4020	1096.18	1095.77	0.41	0.04%
12-Sep-19	0.4020	1096.18	1095.77	0.41	0.04%
28-Aug-18	0.4250	1169.49	1169.56	-0.06	-0.01%
20-Aug-19	0.3890	1078.08	1077.04	1.04	0.10%
20-Aug-19	0.3890	1078.08	1077.04	1.04	0.10%
19-Sep-19	0.4680	1107.64	1107.70	-0.06	-0.01%
19-Sep-19	0.4680	1107.64	1107.70	-0.06	-0.01%
12-Nov-19	0.4550	1149.20	1149.03	0.17	0.01%
12-Nov-19	0.4550	1149.20	1149.03	0.17	0.01%
26-Feb-20	0.3900	1105.71	1105.63	0.08	0.01%
26-Jun-19	0.4250	1170.85	1170.86	-0.01	0.00%
26-Jun-19	0.4250	1170.85	1170.86	-0.01	0.00%
17-Jun-19	0.3880	1099.75	1099.43	0.33	0.03%
17-Jun-19	0.3880	1099.75	1099.43	0.33	0.03%
5-Mar-19	0.3760	1102.77	1102.36	0.42	0.04%
16-Aug-19	0.4530	1106.60	1106.16	0.44	0.04%
16-Aug-19	0.4530	1106.60	1106.16	0.44	0.04%
14-Oct-19	0.3680	1089.51	1088.73	0.77	0.07%
14-Oct-19	0.3680	1089.51	1088.73	0.77	0.07%
16-Jun-20	0.3960	1093.90	1093.34	0.55	0.05%
9-Apr-20	0.4350	1091.29	1090.18	1.11	0.10%
25-Sep-19	0.5220	1291.42	1291.65	-0.23	-0.02%
2-Aug-19	0.5360	1282.61	1283.48	-0.87	-0.07%
22-Apr-20	0.5910	1286.18	1287.13	-0.96	-0.07%
17-Sep-19	0.5260	1142.75	1142.93	-0.18	-0.02%
19-Sep-19	0.3540	1117.13	1116.35	0.78	0.07%
17-Mar-20	0.5270	1338.83	1339.37	-0.54	-0.04%
28-Oct-19	0.4970	1286.41	1286.72	-0.31	-0.02%
28-Oct-19	0.4970	1286.33	1286.64	-0.31	-0.02%
15-Jun-20	0.5250	1284.31	1284.93	-0.61	-0.05%
15-Jun-20	0.5250	1284.31	1284.93	-0.61	-0.05%
28-May-19	0.3290	1262.35	1262.02	0.33	0.03%
28-May-19	0.3290	1262.36	1262.03	0.33	0.03%
11-Feb-20	0.6340	1323.32	1324.46	-1.15	-0.09%
25-Jul-19	0.3330	1261.90	1261.60	0.30	0.02%
25-Sep-19	0.5900	1322.21	1323.21	-0.99	-0.08%
20-Jan-20	0.5750	1308.68	1309.58	-0.90	-0.07%
25-Sep-19	0.5900	1322.21	1323.21	-0.99	-0.08%
20-Jan-20	0.5750	1308.68	1309.58	-0.90	-0.07%
24-Mar-20	0.6250	1359.29	1360.52	-1.23	-0.09%
24-Mar-20	0.6250	1359.32	1360.56	-1.23	-0.09%

11-Nov-19	0.6690	1262.54	1263.90	-1.37	-0.11%
11-Nov-19	0.6700	1263.13	1264.51	-1.37	-0.11%
14-Aug-18	0.3380	1295.33	1295.37	-0.05	0.00%
1-Feb-20	0.3190	1299.80	1299.80	0.00	0.00%
24-Sep-19	0.5030	1275.19	1275.17	0.02	0.00%
7-Aug-19	0.3630	1312.86	1312.39	0.48	0.04%
3-May-19	0.3390	1242.86	1242.50	0.36	0.03%
27-Sep-19	0.5580	1184.43	1185.27	-0.84	-0.07%
27-Sep-19	0.5570	1182.96	1183.79	-0.83	-0.07%
9-May-19	0.3180	1260.07	1259.87	0.20	0.02%
3-Jun-19	0.5050	1352.68	1353.19	-0.51	-0.04%
25-Mar-19	0.6200	1405.75	1406.68	-0.93	-0.07%
25-Mar-19	0.6200	1405.02	1405.96	-0.93	-0.07%
21-Jan-19	0.6110	1355.72	1356.84	-1.13	-0.08%
21-Jan-19	0.6120	1357.34	1358.47	-1.13	-0.08%
11-Jun-19	0.3790	1104.91	1104.65	0.26	0.02%
11-Jun-19	0.3790	1104.91	1104.65	0.26	0.02%
17-May-19	0.4100	1113.89	1113.61	0.29	0.03%
17-May-19	0.4100	1113.89	1113.61	0.29	0.03%
23-May-19	0.4330	1144.10	1144.11	-0.01	0.00%
23-May-19	0.4330	1144.10	1144.11	-0.01	0.00%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
2-Jun-20	0.4220	1096.87	1095.90	0.98	0.09%
7-Mar-19	0.4040	1105.49	1105.15	0.33	0.03%
3-Mar-20	0.4030	1104.40	1103.92	0.48	0.04%
4-Sep-19	0.4140	1094.28	1093.65	0.64	0.06%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
4-Sep-19	0.4140	1094.28	1093.65	0.64	0.06%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
13-Mar-19	0.3850	1102.97	1102.67	0.30	0.03%
13-Mar-19	0.3850	1102.97	1102.67	0.30	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
13-Mar-19	0.3850	1102.97	1102.67	0.30	0.03%
13-Mar-19	0.3850	1102.97	1102.67	0.30	0.03%
13-Mar-19	0.3850	1102.97	1102.67	0.30	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
13-Mar-19	0.3850	1102.97	1102.67	0.30	0.03%
7-Mar-19	0.4040	1105.49	1105.15	0.33	0.03%
3-Mar-20	0.4030	1104.40	1103.92	0.48	0.04%
13-Mar-19	0.3850	1102.97	1102.67	0.30	0.03%
2-Jun-20	0.4420	1113.28	1112.75	0.53	0.05%
4-Sep-19	0.4140	1094.28	1093.65	0.64	0.06%
4-Sep-19	0.4140	1094.28	1093.65	0.64	0.06%
4-Sep-19	0.4160	1099.34	1098.70	0.64	0.06%
13-Mar-19	0.3850	1102.97	1102.67	0.30	0.03%
7-Mar-19	0.4040	1105.49	1105.15	0.33	0.03%

3-Mar-20	0.4030	1104.40	1103.92	0.48	0.04%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
10-Jun-19	0.4310	1110.03	1109.66	0.37	0.03%
19-May-20	0.4260	1120.78	1120.82	-0.05	0.00%
3-Oct-19	0.4230	1109.72	1109.35	0.38	0.03%
3-Oct-19	0.4230	1109.72	1109.35	0.38	0.03%
25-Jun-20	0.4260	1148.30	1148.24	0.06	0.01%
8-Apr-20	0.4230	1114.03	1114.05	-0.02	0.00%
2-Jul-19	0.4060	1105.87	1105.72	0.15	0.01%
8-Apr-19	0.4560	1160.21	1160.58	-0.37	-0.03%
8-Oct-19	0.4750	1168.55	1168.94	-0.39	-0.03%
8-Oct-19	0.4750	1168.55	1168.94	-0.39	-0.03%
8-Oct-19	0.4440	1143.38	1143.52	-0.14	-0.01%
8-Oct-19	0.4440	1143.38	1143.52	-0.14	-0.01%
25-Sep-19	0.4310	1115.11	1114.83	0.28	0.03%
25-Sep-19	0.4370	1123.65	1123.42	0.23	0.02%
5-Jun-19	0.4120	1101.28	1100.68	0.59	0.05%
13-Apr-20	0.4540	1132.10	1131.93	0.17	0.02%
13-Apr-20	0.4540	1132.28	1132.11	0.17	0.02%
28-Oct-19	0.4420	1158.12	1158.33	-0.21	-0.02%
28-Oct-19	0.4420	1158.12	1158.33	-0.21	-0.02%
28-Oct-19	0.4420	1158.12	1158.33	-0.21	-0.02%
28-Oct-19	0.4420	1158.12	1158.33	-0.21	-0.02%
16-Nov-18	0.4290	1119.84	1119.75	0.09	0.01%
5-Nov-19	0.4200	1115.43	1115.13	0.30	0.03%
5-Nov-19	0.4200	1115.43	1115.13	0.30	0.03%
12-Nov-19	0.4060	1108.34	1107.95	0.39	0.04%
12-Nov-19	0.4060	1108.34	1107.95	0.39	0.04%
13-Jan-20	0.4360	1146.08	1146.18	-0.11	-0.01%
13-Nov-19	0.3950	1106.37	1106.21	0.16	0.01%
13-Nov-19	0.3950	1106.37	1106.21	0.16	0.01%
13-Nov-19	0.3930	1099.94	1099.77	0.17	0.02%
13-Nov-19	0.3930	1099.94	1099.77	0.17	0.02%
4-Jun-20	0.4370	1133.27	1133.40	-0.13	-0.01%
23-May-19	0.4340	1145.67	1145.69	-0.02	0.00%
29-Aug-19	0.4070	1091.16	1090.57	0.59	0.05%
29-Aug-19	0.4070	1091.16	1090.57	0.59	0.05%
21-Nov-19	0.4110	1112.43	1112.23	0.21	0.02%
8-May-19	0.4110	1112.19	1111.98	0.22	0.02%
19-Apr-19	0.4520	1155.93	1156.28	-0.35	-0.03%
19-Apr-19	0.4520	1155.93	1156.28	-0.35	-0.03%
19-Apr-19	0.4530	1120.85	1121.15	-0.30	-0.03%
19-Apr-19	0.4530	1120.85	1121.15	-0.30	-0.03%
10-Apr-20	0.4240	1139.01	1139.01	0.00	0.00%
13-May-19	0.4210	1108.05	1107.20	0.85	0.08%
15-Jun-20	0.4280	1127.87	1127.86	0.01	0.00%
18-Apr-19	0.4350	1158.05	1158.08	-0.03	0.00%
23-Sep-19	0.3960	1106.28	1106.12	0.17	0.02%
23-Sep-19	0.3960	1106.28	1106.12	0.17	0.02%
8-Oct-19	0.3970	1100.36	1099.76	0.60	0.05%
8-Oct-19	0.3970	1100.36	1099.76	0.60	0.05%
19-May-20	0.4400	1177.69	1177.70	-0.01	0.00%
21-Nov-19	0.4250	1112.41	1112.16	0.25	0.02%
21-Nov-19	0.4250	1112.41	1112.16	0.25	0.02%
8-Jan-20	0.4500	1138.27	1138.33	-0.06	-0.01%
26-Mar-19	0.4190	1119.37	1118.83	0.54	0.05%
26-Mar-19	0.4190	1119.37	1118.83	0.54	0.05%

17-Apr-19	0.3840	1113.14	1112.53	0.61	0.05%
10-Jul-19	0.3170	1090.16	1089.27	0.89	0.08%
30-Jul-19	0.4340	1199.03	1199.01	0.02	0.00%
30-Jul-19	0.4340	1199.03	1199.01	0.02	0.00%
13-Aug-19	0.4340	1107.17	1106.66	0.51	0.05%
13-Aug-19	0.4340	1106.86	1106.36	0.51	0.05%
21-Apr-20	0.4200	1103.35	1102.94	0.41	0.04%
17-Jul-19	0.4100	1112.93	1112.42	0.51	0.05%
28-Jan-20	0.3590	1094.88	1094.55	0.33	0.03%
18-Jun-20	0.3970	1104.65	1104.36	0.29	0.03%
18-Jun-20	0.3970	1104.65	1104.36	0.29	0.03%
29-Aug-19	0.4060	1087.10	1086.41	0.69	0.06%
25-Jul-19	0.4070	1093.15	1092.20	0.95	0.09%
25-Jul-19	0.4070	1093.15	1092.20	0.95	0.09%
7-May-20	0.4190	1113.49	1112.60	0.90	0.08%
25-Sep-18	0.4170	1087.86	1086.88	0.98	0.09%
9-Jun-20	0.4380	1123.11	1123.05	0.05	0.00%
8-Apr-20	0.5980	1324.69	1325.31	-0.62	-0.05%
22-Apr-20	0.4760	1198.60	1198.99	-0.39	-0.03%
16-Jan-20	0.6130	1245.70	1245.64	0.06	0.00%
8-Mar-19	0.4090	1144.04	1144.36	-0.32	-0.03%
8-Mar-19	0.4090	1144.04	1144.36	-0.32	-0.03%
14-May-19	0.4520	1240.02	1240.59	-0.57	-0.05%
15-Jun-20	0.5120	1308.73	1309.34	-0.60	-0.05%
15-Jun-20	0.5120	1308.73	1309.34	-0.60	-0.05%
24-Jul-19	0.3420	1261.83	1261.64	0.19	0.02%
13-Nov-19	0.5230	1317.49	1318.19	-0.69	-0.05%
26-Sep-19	0.4660	1270.14	1270.31	-0.18	-0.01%
16-Apr-20	0.6630	1330.06	1331.39	-1.32	-0.10%
25-Jul-19	0.3360	1264.12	1263.81	0.31	0.02%
21-Aug-19	0.3310	1267.08	1266.82	0.26	0.02%
14-Nov-19	0.5610	1317.86	1318.70	-0.84	-0.06%
14-Nov-19	0.5610	1318.11	1318.95	-0.84	-0.06%
14-Nov-19	0.5610	1318.01	1318.84	-0.84	-0.06%
14-Nov-19	0.5610	1318.11	1318.95	-0.84	-0.06%
15-Dec-19	0.5840	1324.81	1325.73	-0.92	-0.07%
23-May-19	0.3740	1324.50	1324.89	-0.39	-0.03%
23-May-19	0.3740	1324.50	1324.89	-0.39	-0.03%
21-Jun-19	0.3520	1307.67	1307.67	0.00	0.00%
22-Nov-19	0.6310	1330.49	1331.69	-1.20	-0.09%
22-Nov-19	0.6310	1330.61	1331.82	-1.20	-0.09%
22-Nov-19	0.6310	1330.61	1331.82	-1.20	-0.09%
22-Nov-19	0.6310	1330.72	1331.92	-1.20	-0.09%
28-May-19	0.3250	1289.34	1289.56	-0.22	-0.02%
28-May-19	0.3250	1288.57	1288.79	-0.22	-0.02%
1-Jan-20	0.3230	1300.42	1300.43	0.00	0.00%
7-Nov-19	0.6470	1291.96	1293.37	-1.41	-0.11%
7-Nov-19	0.6450	1288.88	1290.28	-1.40	-0.11%
6-Nov-19	0.6890	1339.03	1340.53	-1.50	-0.11%
6-Nov-19	0.6880	1337.71	1339.21	-1.50	-0.11%
28-Aug-19	0.7690	1345.91	1347.73	-1.82	-0.14%
28-Aug-19	0.7680	1343.25	1345.07	-1.82	-0.14%
20-Aug-19	0.5350	1287.67	1288.36	-0.68	-0.05%
20-Aug-19	0.5350	1287.92	1288.60	-0.68	-0.05%
31-Oct-18	0.3670	1310.00	1310.32	-0.32	-0.02%
31-Oct-18	0.3670	1309.39	1309.71	-0.32	-0.02%
15-Aug-19	0.4460	1244.70	1244.75	-0.05	0.00%

18-Apr-19	0.4690	1192.38	1191.69	0.70	0.06%
25-Sep-17	0.4620	1204.11	1204.45	-0.33	-0.03%
28-May-19	0.3900	1328.60	1328.65	-0.05	0.00%
27-Mar-19	0.3300	1192.06	1191.82	0.24	0.02%
5-Apr-19	0.3510	1311.98	1311.93	0.06	0.00%
1-Jan-20	0.3230	1130.32	1130.32	0.00	0.00%
5-Mar-19	0.7830	1332.55	1334.67	-2.12	-0.16%
5-Mar-19	0.7830	1332.57	1334.69	-2.12	-0.16%
26-Jun-19	0.3720	1180.02	1179.71	0.30	0.03%
1-Apr-20	0.3470	1089.48	1088.62	0.85	0.08%
17-Sep-19	0.4250	1117.07	1116.35	0.72	0.06%
17-Sep-19	0.4250	1117.07	1116.35	0.72	0.06%
12-Mar-19	0.4090	1114.39	1114.33	0.06	0.01%
3-Mar-20	0.3780	1092.34	1091.79	0.55	0.05%
3-Mar-20	0.3780	1092.34	1091.79	0.55	0.05%
4-Apr-19	0.5760	1142.08	1141.96	0.12	0.01%
4-Apr-19	0.5760	1142.08	1141.96	0.12	0.01%
3-Mar-20	0.3780	1092.34	1091.79	0.55	0.05%
3-Mar-20	0.3780	1092.34	1091.79	0.55	0.05%
3-Mar-20	0.3780	1092.34	1091.79	0.55	0.05%
3-Mar-20	0.3780	1092.34	1091.79	0.55	0.05%
3-Mar-20	0.3780	1092.34	1091.79	0.55	0.05%
17-Sep-19	0.4250	1117.07	1116.35	0.72	0.06%
17-Sep-19	0.4250	1117.07	1116.35	0.72	0.06%
3-Mar-20	0.3780	1092.34	1091.79	0.55	0.05%
12-Mar-19	0.4090	1114.39	1114.33	0.06	0.01%
18-Jun-19	0.3610	1097.41	1097.14	0.27	0.02%
18-Jun-19	0.3610	1096.77	1096.50	0.27	0.02%
22-Apr-20	0.3750	1108.58	1108.23	0.34	0.03%
9-Oct-19	0.3790	1132.67	1132.70	-0.03	0.00%
9-Oct-19	0.3790	1132.67	1132.70	-0.03	0.00%
3-Jun-20	0.4300	1116.32	1115.95	0.37	0.03%
4-Jun-20	0.4320	1118.51	1118.26	0.24	0.02%
16-Oct-19	0.4480	1149.23	1149.01	0.22	0.02%
16-Oct-19	0.4480	1149.23	1149.01	0.22	0.02%
10-Sep-19	0.4230	1100.57	1099.99	0.58	0.05%
10-Sep-19	0.4230	1100.57	1099.99	0.58	0.05%
24-Oct-19	0.4450	1137.04	1137.13	-0.09	-0.01%
24-Oct-19	0.4450	1137.04	1137.13	-0.09	-0.01%
24-Apr-19	0.4080	1111.93	1111.74	0.19	0.02%
5-Nov-19	0.4160	1111.90	1111.55	0.35	0.03%
5-Nov-19	0.4160	1111.90	1111.55	0.35	0.03%
11-Sep-19	0.3220	1072.00	1071.30	0.70	0.07%
4-Mar-20	0.4360	1112.34	1112.28	0.06	0.01%
7-Nov-19	0.4180	1114.68	1114.49	0.19	0.02%
8-May-19	0.4050	1113.68	1113.46	0.22	0.02%
2-Jul-19	0.5210	1171.16	1171.84	-0.69	-0.06%
16-Jul-19	0.4160	1095.78	1095.33	0.45	0.04%
16-Jul-19	0.4160	1095.78	1095.33	0.45	0.04%
10-Feb-20	0.4590	1137.78	1138.10	-0.32	-0.03%
17-Oct-19	0.4550	1145.29	1145.43	-0.14	-0.01%
17-Oct-19	0.4550	1145.29	1145.43	-0.14	-0.01%
16-Oct-19	0.4250	1125.16	1125.36	-0.21	-0.02%
16-Oct-19	0.4250	1125.16	1125.36	-0.21	-0.02%
6-Aug-19	0.4280	1145.58	1145.23	0.36	0.03%
6-Aug-19	0.4280	1145.58	1145.23	0.36	0.03%
17-Sep-19	0.4250	1117.07	1116.35	0.72	0.06%

17-Sep-19	0.4250	1117.07	1116.35	0.72	0.06%
17-Apr-19	0.4290	1151.65	1151.83	-0.17	-0.01%
2-Mar-20	0.3980	1099.38	1099.25	0.13	0.01%
10-Jul-19	0.3990	1121.66	1121.47	0.19	0.02%
10-Jun-20	0.4420	1159.58	1159.65	-0.07	-0.01%
10-Jun-20	0.4500	1148.66	1148.92	-0.26	-0.02%
23-Sep-19	0.3980	1110.48	1110.34	0.14	0.01%
23-Sep-19	0.3980	1110.48	1110.34	0.14	0.01%
18-Jun-19	0.4180	1113.12	1112.71	0.41	0.04%
18-Jun-19	0.4180	1113.12	1112.71	0.41	0.04%
7-Nov-19	0.3810	1079.07	1077.72	1.35	0.12%
7-Nov-19	0.3810	1079.07	1077.72	1.35	0.12%
21-Jan-20	0.3680	1068.29	1067.24	1.05	0.10%
10-Feb-20	0.4090	1119.66	1119.56	0.10	0.01%
13-Aug-19	0.4090	1104.43	1104.00	0.43	0.04%
13-Aug-19	0.4090	1104.43	1104.00	0.43	0.04%
8-May-19	0.5200	1199.35	1199.77	-0.42	-0.03%
13-Feb-19	0.4370	1131.39	1131.12	0.27	0.02%
6-Jun-19	0.4780	1145.21	1144.62	0.58	0.05%
6-Jun-19	0.4780	1145.21	1144.62	0.58	0.05%
11-Jan-19	0.4020	1114.11	1113.76	0.36	0.03%
4-Feb-20	0.4440	1113.87	1114.01	-0.14	-0.01%
25-Apr-19	0.4010	1099.75	1099.49	0.25	0.02%
24-Apr-19	0.3820	1093.02	1092.26	0.75	0.07%
7-Aug-19	0.3920	1099.93	1099.07	0.86	0.08%
7-Aug-19	0.3920	1099.93	1099.07	0.86	0.08%
18-Jul-19	0.4110	1111.14	1110.76	0.38	0.03%
18-Jul-19	0.4110	1111.14	1110.76	0.38	0.03%
25-Jun-19	0.4240	1116.81	1116.02	0.79	0.07%
25-Jun-19	0.4240	1116.81	1116.02	0.79	0.07%
19-Feb-20	0.4110	1105.04	1104.70	0.34	0.03%
26-May-20	0.4340	1188.53	1188.56	-0.03	0.00%
17-Sep-19	0.4250	1117.07	1116.35	0.72	0.06%
17-Sep-19	0.4250	1117.07	1116.35	0.72	0.06%
6-Nov-19	0.3760	1088.48	1087.79	0.69	0.06%
17-Jun-19	0.4330	1091.30	1090.96	0.34	0.03%
17-Jun-19	0.4330	1091.30	1090.96	0.34	0.03%
4-Feb-19	0.3690	1084.26	1083.49	0.77	0.07%
14-May-19	0.3530	1094.22	1093.41	0.81	0.07%
14-May-19	0.3530	1094.22	1093.41	0.81	0.07%
13-Jun-19	0.5240	1196.09	1196.68	-0.59	-0.05%
22-Aug-19	0.5890	1193.13	1194.04	-0.91	-0.08%
22-Aug-19	0.5890	1193.13	1194.04	-0.91	-0.08%
	0.5230	1195.95	1196.56	-0.60	-0.05%
24-Jun-19	0.6280	1095.36	1096.34	-0.98	-0.09%
20-Apr-20	0.5400	1290.53	1291.14	-0.60	-0.05%
14-May-19	0.3170	1318.27	1317.96	0.31	0.02%
14-May-19	0.3170	1318.27	1317.96	0.31	0.02%
24-Sep-19	0.5760	1302.19	1302.92	-0.73	-0.06%
24-Sep-19	0.5740	1301.37	1302.11	-0.74	-0.06%
23-Jul-19	0.3280	1275.69	1275.46	0.24	0.02%
23-Jul-19	0.3280	1275.68	1275.45	0.24	0.02%
24-Mar-20	0.5470	1308.01	1308.64	-0.63	-0.05%
24-Mar-20	0.5470	1307.97	1308.60	-0.63	-0.05%
20-Feb-20	0.5110	1266.16	1266.91	-0.75	-0.06%
20-Feb-20	0.5110	1266.22	1266.97	-0.75	-0.06%
9-Jul-19	0.3680	1329.91	1329.96	-0.05	0.00%

23-Apr-20	0.6030	1326.56	1327.42	-0.86	-0.06%
23-Apr-20	0.6030	1326.56	1327.42	-0.86	-0.06%
14-Aug-19	0.3330	1292.06	1292.07	-0.01	0.00%
14-Aug-19	0.3330	1292.06	1292.07	-0.01	0.00%
14-Apr-20	0.5200	1321.18	1321.67	-0.49	-0.04%
14-Apr-20	0.5200	1321.32	1321.81	-0.49	-0.04%
26-Feb-20	0.4530	1316.63	1316.40	0.23	0.02%
21-Apr-20	0.6630	1379.30	1380.54	-1.24	-0.09%
14-Jun-19	0.3560	1353.97	1354.19	-0.23	-0.02%
12-Nov-19	0.5740	1264.72	1265.14	-0.43	-0.03%
12-Nov-19	0.5740	1263.90	1264.33	-0.43	-0.03%
26-Feb-20	0.5430	1242.27	1243.03	-0.77	-0.06%
31-Jan-19	0.3400	1274.08	1273.82	0.26	0.02%
28-Feb-18	0.3490	1165.05	1165.10	-0.05	0.00%
7-Dec-18	0.5020	1246.95	1247.67	-0.72	-0.06%
21-Mar-19	0.3850	1227.52	1227.70	-0.18	-0.01%
25-Mar-19	0.3580	1243.51	1243.62	-0.11	-0.01%
19-Jun-19	0.3920	1246.31	1246.38	-0.08	-0.01%
1-Dec-19	0.3270	1129.10	1129.09	0.00	0.00%
8-Jun-19	0.5320	1300.51	1300.87	-0.36	-0.03%
8-Jun-19	0.5330	1302.41	1302.77	-0.36	-0.03%
15-Oct-19	0.3670	1082.53	1081.70	0.83	0.08%
15-Oct-19	0.3670	1082.53	1081.70	0.83	0.08%
5-Dec-19	0.3630	1106.29	1105.98	0.31	0.03%
5-Dec-19	0.3630	1106.29	1105.98	0.31	0.03%
3-Mar-20	0.4090	1090.12	1089.80	0.32	0.03%
5-Dec-19	0.3630	1106.29	1105.98	0.31	0.03%
5-Dec-19	0.3630	1106.29	1105.98	0.31	0.03%
3-Dec-19	0.3960	1105.86	1105.37	0.49	0.04%
3-Dec-19	0.3960	1105.86	1105.37	0.49	0.04%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
4-Dec-19	0.4000	1100.96	1100.64	0.32	0.03%
3-Dec-19	0.3960	1105.86	1105.37	0.49	0.04%
3-Dec-19	0.3960	1105.86	1105.37	0.49	0.04%
3-Dec-19	0.3960	1105.86	1105.37	0.49	0.04%
3-Dec-19	0.3960	1105.86	1105.37	0.49	0.04%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
4-Dec-19	0.4000	1100.96	1100.64	0.32	0.03%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
4-Dec-19	0.4000	1100.96	1100.64	0.32	0.03%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
4-Dec-19	0.4000	1100.96	1100.64	0.32	0.03%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
4-Dec-19	0.4000	1100.96	1100.64	0.32	0.03%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
4-Dec-19	0.4000	1100.96	1100.64	0.32	0.03%
3-Dec-19	0.3960	1105.86	1105.37	0.49	0.04%
5-Dec-19	0.3630	1106.29	1105.98	0.31	0.03%

5-Dec-19	0.3630	1106.29	1105.98	0.31	0.03%
5-Dec-19	0.3630	1106.29	1105.98	0.31	0.03%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
4-Dec-19	0.4000	1100.96	1100.64	0.32	0.03%
3-Dec-19	0.3960	1105.86	1105.37	0.49	0.04%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
11-Jun-19	0.4380	1095.43	1094.83	0.60	0.05%
4-Dec-19	0.4000	1100.96	1100.64	0.32	0.03%
5-Dec-19	0.3630	1106.29	1105.98	0.31	0.03%
26-Mar-19	0.4220	1116.88	1116.68	0.20	0.02%
25-Jun-20	0.4510	1141.55	1141.21	0.34	0.03%
4-Jan-19	0.4260	1104.66	1104.52	0.14	0.01%
21-Jan-20	0.4830	1121.74	1121.57	0.16	0.01%
11-Jun-20	0.3930	1105.85	1105.62	0.23	0.02%
21-May-20	0.4300	1118.80	1118.46	0.34	0.03%
8-May-20	0.4180	1102.20	1101.95	0.25	0.02%
17-Mar-20	0.4640	1119.09	1119.07	0.02	0.00%
9-Dec-19	0.4360	1128.13	1127.82	0.31	0.03%
18-Mar-20	0.4430	1134.32	1134.29	0.03	0.00%
18-Mar-20	0.4420	1117.52	1117.36	0.16	0.01%
16-Oct-19	0.4300	1112.11	1111.62	0.49	0.04%
16-Oct-19	0.4300	1112.11	1111.62	0.49	0.04%
16-Oct-19	0.4310	1115.76	1115.33	0.43	0.04%
16-Oct-19	0.4310	1115.76	1115.33	0.43	0.04%
17-Jul-19	0.3360	1125.19	1124.37	0.82	0.07%
17-Jul-19	0.3360	1125.19	1124.37	0.82	0.07%
24-Apr-19	0.4280	1127.52	1127.65	-0.12	-0.01%
13-May-20	0.4140	1116.71	1116.46	0.26	0.02%
20-Jun-19	0.4040	1084.53	1083.90	0.63	0.06%
9-Jan-20	0.4630	1151.91	1152.13	-0.22	-0.02%
9-Jan-20	0.4730	1164.70	1165.02	-0.32	-0.03%
5-Feb-20	0.3910	1097.91	1097.58	0.33	0.03%
3-Sep-19	0.4270	1110.24	1109.53	0.72	0.06%
3-Sep-19	0.4270	1110.24	1109.53	0.72	0.06%
10-Jun-19	0.4030	1112.67	1112.41	0.25	0.02%
10-Jun-19	0.4030	1112.67	1112.41	0.25	0.02%
8-Apr-19	0.4410	1148.91	1148.72	0.19	0.02%
7-Nov-19	0.4050	1105.87	1105.47	0.41	0.04%
7-Nov-19	0.4220	1115.85	1115.57	0.29	0.03%
4-Mar-20	0.3910	1101.52	1101.22	0.30	0.03%
2-Jun-20	0.4740	1158.76	1159.19	-0.43	-0.04%
15-Apr-20	0.4620	1144.14	1144.51	-0.36	-0.03%
17-Apr-19	0.4230	1116.99	1116.66	0.34	0.03%
12-Jul-19	0.4190	1113.20	1112.79	0.41	0.04%
12-Jul-19	0.4190	1113.20	1112.79	0.41	0.04%
24-Apr-19	0.3440	1093.69	1093.57	0.11	0.01%
29-Apr-20	0.3600	1092.91	1092.89	0.02	0.00%
22-Feb-19	0.4490	1148.83	1149.20	-0.37	-0.03%
25-Feb-19	0.4200	1110.20	1109.32	0.88	0.08%
19-Sep-19	0.4130	1121.25	1121.24	0.01	0.00%
19-Sep-19	0.4130	1121.25	1121.24	0.01	0.00%
9-Jan-19	0.4640	1165.84	1165.94	-0.11	-0.01%
7-May-20	0.4310	1112.40	1112.11	0.28	0.03%
9-Oct-19	0.4200	1112.24	1111.63	0.61	0.05%
9-Oct-19	0.4200	1112.24	1111.63	0.61	0.05%
16-Apr-19	0.4060	1112.94	1112.31	0.63	0.06%

21-Oct-19	0.4260	1109.56	1109.07	0.49	0.04%
21-Oct-19	0.4260	1109.56	1109.07	0.49	0.04%
27-May-20	0.4240	1097.27	1096.21	1.06	0.10%
13-Mar-19	0.3890	1088.14	1087.30	0.84	0.08%
17-Jun-20	0.4240	1107.06	1106.53	0.53	0.05%
6-Nov-19	0.4570	1122.33	1122.45	-0.12	-0.01%
6-Nov-19	0.4570	1122.33	1122.45	-0.12	-0.01%
17-Jun-20	0.3910	1108.22	1108.11	0.11	0.01%
12-Jun-19	0.4430	1112.26	1111.81	0.45	0.04%
12-Jun-19	0.4430	1112.26	1111.81	0.45	0.04%
10-Jun-20	0.3910	1101.66	1101.31	0.35	0.03%
2-Jun-20	0.4180	1113.41	1113.09	0.32	0.03%
16-Apr-19	0.3800	1097.30	1097.20	0.11	0.01%
16-Apr-19	0.4100	1113.61	1113.55	0.07	0.01%
14-Nov-19	0.4030	1111.27	1110.70	0.56	0.05%
14-Nov-19	0.4030	1111.27	1110.70	0.56	0.05%
4-Dec-19	0.4150	1102.27	1101.92	0.35	0.03%
5-Dec-19	0.3630	1106.29	1105.98	0.31	0.03%
8-Jan-19	0.4000	1121.67	1121.85	-0.18	-0.02%
13-Aug-19	0.4020	1092.35	1091.72	0.63	0.06%
13-Aug-19	0.4020	1092.35	1091.72	0.63	0.06%
4-Feb-19	0.3710	1087.70	1086.93	0.77	0.07%
30-Jan-20	0.5230	1177.95	1178.16	-0.21	-0.02%
30-Jan-20	0.5250	1183.28	1183.50	-0.22	-0.02%
5-Sep-19	0.5710	1188.56	1188.70	-0.13	-0.01%
5-Sep-19	0.5710	1188.56	1188.70	-0.13	-0.01%
23-Aug-19	0.5150	1119.48	1119.40	0.08	0.01%
23-Sep-19	0.6920	1249.91	1251.14	-1.23	-0.10%
23-Sep-19	0.6920	1249.91	1251.14	-1.23	-0.10%
9-Apr-19	0.4200	1289.64	1289.99	-0.34	-0.03%
16-Aug-18	0.3330	1254.60	1254.23	0.38	0.03%
25-Nov-19	0.6060	1315.23	1315.96	-0.73	-0.06%
25-Nov-19	0.6060	1315.34	1316.07	-0.73	-0.06%
10-Sep-19	0.5800	1306.60	1307.42	-0.82	-0.06%
22-Apr-20	0.6340	1316.44	1317.59	-1.14	-0.09%
26-Feb-19	0.3200	1296.84	1296.35	0.49	0.04%
2-Aug-19	0.4360	1320.09	1320.17	-0.08	-0.01%
2-Aug-19	0.4360	1320.25	1320.33	-0.08	-0.01%
12-Feb-20	0.7750	1291.53	1293.09	-1.56	-0.12%
6-Feb-19	0.4950	1208.81	1209.10	-0.29	-0.02%
23-Apr-19	0.2940	1184.82	1184.41	0.41	0.03%
27-Mar-20	0.5420	1335.51	1336.23	-0.72	-0.05%
5-Jun-19	0.4130	1266.39	1266.41	-0.02	0.00%
12-Nov-19	0.6160	1262.36	1263.35	-1.00	-0.08%
12-Nov-19	0.6150	1260.59	1261.58	-0.99	-0.08%
14-Dec-17	0.3130	1199.27	1198.75	0.52	0.04%
25-Mar-19	0.3450	1234.33	1234.15	0.18	0.01%
11-Jun-19	0.3540	1245.96	1245.42	0.54	0.04%
17-Apr-19	0.2980	1158.33	1157.82	0.51	0.04%
9-Apr-20	0.7760	1305.61	1306.99	-1.37	-0.11%
17-Dec-18	0.3380	1205.71	1205.62	0.09	0.01%
1-Nov-19	0.3310	1134.24	1134.24	0.00	0.00%
25-Feb-19	0.6000	1192.89	1193.60	-0.72	-0.06%
10-Jan-19	0.9490	1419.12	1421.46	-2.34	-0.16%
26-May-20	0.5490	1337.92	1338.54	-0.62	-0.05%
30-Apr-20	0.3140	1068.65	1067.90	0.75	0.07%
7-Jan-20	0.4960	1145.48	1145.97	-0.49	-0.04%

20-Mar-19	0.3280	1089.16	1088.25	0.92	0.08%
12-Jun-19	0.3900	1091.77	1091.22	0.55	0.05%
12-Jun-19	0.3900	1091.77	1091.22	0.55	0.05%
26-Mar-20	0.3940	1082.72	1081.33	1.39	0.13%
13-May-19	0.4330	1087.34	1085.83	1.51	0.14%
10-Jun-19	0.5020	1147.25	1147.09	0.16	0.01%
1-Jun-20	0.4700	1115.92	1115.48	0.43	0.04%
3-Sep-19	0.4440	1085.07	1084.16	0.92	0.08%
10-Jun-19	0.5020	1147.25	1147.09	0.16	0.01%
11-Jun-19	0.4320	1094.45	1093.60	0.85	0.08%
11-Jun-19	0.4320	1094.45	1093.60	0.85	0.08%
19-Mar-19	0.4090	1102.95	1102.83	0.13	0.01%
1-Jun-20	0.4700	1115.92	1115.48	0.43	0.04%
10-Jun-19	0.5020	1147.25	1147.09	0.16	0.01%
11-Mar-19	0.3860	1085.24	1084.42	0.82	0.08%
3-Sep-19	0.4440	1085.07	1084.16	0.92	0.08%
3-Sep-19	0.4440	1085.07	1084.16	0.92	0.08%
19-Mar-19	0.4090	1102.95	1102.83	0.13	0.01%
3-Sep-19	0.4440	1085.07	1084.16	0.92	0.08%
10-Jun-19	0.5020	1147.25	1147.09	0.16	0.01%
13-Mar-19	0.4050	1098.09	1097.59	0.50	0.05%
5-Mar-20	0.4130	1097.60	1097.25	0.34	0.03%
5-Mar-20	0.4240	1106.07	1105.85	0.22	0.02%
5-Mar-20	0.4240	1106.07	1105.85	0.22	0.02%
5-Mar-20	0.4240	1106.07	1105.85	0.22	0.02%
1-Jun-20	0.4700	1115.92	1115.48	0.43	0.04%
13-Mar-19	0.4050	1098.09	1097.59	0.50	0.05%
5-Mar-20	0.4130	1097.60	1097.25	0.34	0.03%
5-Mar-20	0.4240	1106.07	1105.85	0.22	0.02%
3-Sep-19	0.4440	1085.07	1084.16	0.92	0.08%
3-Sep-19	0.4440	1085.07	1084.16	0.92	0.08%
10-Jun-19	0.5020	1147.25	1147.09	0.16	0.01%
13-Mar-19	0.4050	1098.09	1097.59	0.50	0.05%
5-Mar-20	0.4240	1106.07	1105.85	0.22	0.02%
10-Jun-19	0.5020	1147.25	1147.09	0.16	0.01%
5-Mar-20	0.4240	1106.07	1105.85	0.22	0.02%
19-Mar-19	0.4090	1102.95	1102.83	0.13	0.01%
3-Sep-19	0.4440	1085.07	1084.16	0.92	0.08%
10-Jun-19	0.5020	1147.25	1147.09	0.16	0.01%
1-Jun-20	0.4700	1115.92	1115.48	0.43	0.04%
13-Mar-19	0.4050	1098.09	1097.59	0.50	0.05%
5-Mar-20	0.4130	1097.60	1097.25	0.34	0.03%
5-Mar-20	0.4240	1106.07	1105.85	0.22	0.02%
10-Dec-19	0.4280	1099.91	1099.80	0.11	0.01%
3-Mar-20	0.5550	1213.48	1214.35	-0.88	-0.07%
3-Mar-20	0.5550	1213.83	1214.71	-0.88	-0.07%
15-Oct-19	0.4240	1100.43	1099.85	0.58	0.05%
15-Oct-19	0.4240	1100.43	1099.85	0.58	0.05%
19-May-20	0.4280	1122.76	1122.83	-0.07	-0.01%
10-Dec-19	0.4280	1100.43	1100.31	0.11	0.01%
18-Oct-19	0.4540	1130.05	1129.88	0.17	0.02%
18-Oct-19	0.4540	1130.05	1129.88	0.17	0.02%
24-Jan-19	0.4290	1130.15	1130.13	0.02	0.00%
28-May-20	0.4450	1085.91	1084.37	1.54	0.14%
30-Sep-19	0.4680	1162.88	1163.22	-0.34	-0.03%
30-Sep-19	0.4680	1162.88	1163.22	-0.34	-0.03%
9-Apr-19	0.4510	1168.35	1168.57	-0.22	-0.02%

18-Mar-20	0.4540	1132.50	1132.42	0.08	0.01%
18-Apr-19	0.4650	1149.26	1149.12	0.14	0.01%
18-Apr-19	0.4710	1145.43	1145.22	0.21	0.02%
7-Sep-19	0.4070	1093.07	1092.37	0.70	0.06%
7-Sep-19	0.4070	1093.07	1092.37	0.70	0.06%
20-Aug-19	0.3940	1098.03	1097.77	0.27	0.02%
20-Aug-19	0.3940	1098.03	1097.77	0.27	0.02%
29-Apr-20	0.4000	1103.21	1103.06	0.15	0.01%
23-Jan-19	0.4810	1162.20	1162.33	-0.13	-0.01%
13-Nov-19	0.4190	1108.53	1108.24	0.29	0.03%
13-Nov-19	0.4190	1108.53	1108.24	0.29	0.03%
7-Feb-20	0.4030	1093.73	1093.23	0.50	0.05%
18-Jul-19	0.4430	1136.50	1136.44	0.06	0.01%
18-Jul-19	0.4430	1136.50	1136.44	0.06	0.01%
23-Apr-19	0.4280	1120.00	1119.92	0.08	0.01%
14-Aug-19	0.4180	1105.40	1104.97	0.43	0.04%
14-Aug-19	0.4180	1105.40	1104.97	0.43	0.04%
23-Jul-19	0.4200	1103.78	1103.25	0.53	0.05%
23-Jul-19	0.4200	1103.78	1103.25	0.53	0.05%
5-Mar-20	0.4550	1121.72	1121.68	0.03	0.00%
10-Jun-19	0.4340	1118.94	1118.69	0.25	0.02%
10-Jun-19	0.4340	1118.94	1118.69	0.25	0.02%
9-May-19	0.3900	1096.04	1095.49	0.55	0.05%
9-May-19	0.3900	1096.04	1095.49	0.55	0.05%
2-Jul-19	0.4410	1131.50	1131.51	-0.01	0.00%
25-Apr-19	0.4260	1116.48	1116.13	0.35	0.03%
27-May-20	0.4130	1109.42	1109.07	0.35	0.03%
24-Oct-19	0.4600	1122.95	1123.25	-0.30	-0.03%
24-Oct-19	0.4600	1122.95	1123.25	-0.30	-0.03%
11-Feb-20	0.4810	1142.10	1141.85	0.25	0.02%
19-Aug-19	0.4290	1102.34	1101.42	0.92	0.08%
26-May-20	0.4120	1102.07	1101.49	0.58	0.05%
8-Apr-19	0.4570	1152.89	1153.22	-0.32	-0.03%
23-Apr-20	0.4750	1143.73	1144.00	-0.27	-0.02%
2-Oct-19	0.4010	1107.39	1106.70	0.69	0.06%
2-Oct-19	0.4010	1107.39	1106.70	0.69	0.06%
17-Apr-19	0.4400	1136.58	1136.42	0.17	0.01%
16-Apr-19	0.4340	1135.49	1135.27	0.21	0.02%
15-Jan-20	0.4200	1114.35	1113.98	0.37	0.03%
17-Dec-19	0.4750	1116.90	1116.71	0.19	0.02%
12-Feb-20	0.4280	1107.13	1107.10	0.03	0.00%
27-Jun-19	0.4430	1101.63	1101.34	0.29	0.03%
27-Sep-19	0.4350	1111.06	1110.59	0.47	0.04%
27-Sep-19	0.4350	1111.06	1110.59	0.47	0.04%
8-May-19	0.4150	1106.95	1106.71	0.25	0.02%
20-May-20	0.4410	1122.30	1122.03	0.28	0.02%
15-Mar-19	0.3580	1115.11	1114.83	0.28	0.03%
13-Aug-19	0.4590	1112.93	1113.01	-0.08	-0.01%
13-Aug-19	0.4590	1112.93	1113.01	-0.08	-0.01%
28-Aug-19	0.4090	1092.69	1092.24	0.45	0.04%
28-Aug-19	0.4090	1092.69	1092.24	0.45	0.04%
27-Jun-19	0.4140	1115.79	1115.15	0.65	0.06%
31-Aug-19	0.4430	1138.74	1138.67	0.07	0.01%
31-Aug-19	0.4430	1138.74	1138.67	0.07	0.01%
11-Mar-20	0.4240	1113.41	1113.04	0.37	0.03%
7-Jun-19	0.3970	1108.89	1108.12	0.77	0.07%
28-Feb-19	0.4160	1101.18	1100.58	0.60	0.05%

28-Feb-19	0.4160	1101.18	1100.58	0.60	0.05%
5-Mar-20	0.4240	1106.07	1105.85	0.22	0.02%
13-Aug-19	0.4210	1110.86	1110.58	0.28	0.03%
13-Aug-19	0.4210	1111.00	1110.72	0.28	0.03%
7-May-19	0.3810	1090.40	1089.80	0.59	0.05%
27-Sep-19	0.4010	1082.41	1081.38	1.03	0.09%
27-Sep-19	0.4010	1082.41	1081.38	1.03	0.09%
15-Oct-19	0.3690	1096.51	1096.00	0.51	0.05%
15-Oct-19	0.3690	1096.51	1096.00	0.51	0.05%
10-Mar-20	0.3810	1110.52	1110.41	0.10	0.01%
30-Dec-19	0.4750	1140.99	1141.02	-0.03	0.00%
11-Jun-19	0.5490	1137.10	1137.28	-0.18	-0.02%
27-Aug-19	0.3850	1117.78	1117.30	0.48	0.04%
27-Aug-19	0.3850	1117.78	1117.30	0.48	0.04%
25-Mar-19	0.3030	1315.35	1314.74	0.61	0.05%
10-Mar-20	0.5380	1286.14	1286.86	-0.72	-0.06%
10-Mar-20	0.5380	1286.14	1286.86	-0.72	-0.06%
29-Aug-19	0.5130	1302.97	1303.29	-0.32	-0.02%
29-Aug-19	0.5130	1302.75	1303.07	-0.32	-0.02%
29-Aug-19	0.5040	1306.93	1307.37	-0.44	-0.03%
26-Sep-19	0.5130	1274.39	1274.70	-0.31	-0.02%
15-Jan-20	0.6420	1289.29	1290.38	-1.09	-0.08%
22-Oct-19	0.6460	1304.77	1305.77	-1.00	-0.08%
22-Oct-19	0.6460	1304.74	1305.74	-1.00	-0.08%
20-Jun-19	0.3680	1317.56	1316.94	0.63	0.05%
20-Jun-19	0.3680	1316.65	1316.02	0.63	0.05%
1-Jan-20	0.3330	1300.93	1300.93	0.00	0.00%
1-Jan-20	0.3330	1300.94	1300.94	0.00	0.00%
25-Sep-19	0.6250	1309.00	1309.68	-0.68	-0.05%
25-Sep-19	0.6250	1308.05	1308.73	-0.68	-0.05%
3-Apr-19	0.3450	1297.81	1297.64	0.17	0.01%
13-Nov-19	0.6570	1261.35	1262.33	-0.98	-0.08%
13-Nov-19	0.6570	1261.32	1262.30	-0.98	-0.08%
25-Jan-19	0.3140	1211.44	1211.12	0.32	0.03%
7-Sep-17	0.5230	1299.25	1299.34	-0.10	-0.01%
18-Sep-17	0.3660	1287.82	1286.46	1.36	0.11%
18-Jan-19	0.3010	1268.75	1268.76	-0.01	0.00%
19-May-20	0.5500	1328.02	1328.66	-0.64	-0.05%
12-Dec-19	0.5920	1226.46	1227.44	-0.97	-0.08%
19-Dec-19	0.5970	1153.24	1154.40	-1.17	-0.10%
10-Jul-19	0.3520	1209.85	1209.79	0.06	0.01%
10-Jul-19	0.3520	1209.85	1209.79	0.06	0.01%
5-Jul-19	0.3810	1299.25	1299.23	0.03	0.00%
5-Jul-19	0.3810	1299.25	1299.23	0.03	0.00%
1-Feb-20	0.3330	1139.16	1139.17	0.00	0.00%
18-Jan-20	0.8350	1347.35	1349.49	-2.13	-0.16%
13-May-20	0.5470	1328.50	1328.93	-0.43	-0.03%
11-Oct-19	0.8200	1392.88	1394.96	-2.08	-0.15%
11-Oct-19	0.8200	1392.88	1394.96	-2.08	-0.15%
6-Jan-19	0.7590	1421.17	1422.61	-1.44	-0.10%
6-Jan-19	0.7590	1421.43	1422.87	-1.44	-0.10%
16-Jan-20	0.6470	1264.27	1265.23	-0.96	-0.08%
	0.6710	1356.37	1357.09	-0.71	-0.05%
20-Mar-19	0.4130	1089.04	1087.88	1.16	0.11%
3-Dec-19	0.4340	1093.68	1093.04	0.64	0.06%
3-Dec-19	0.4220	1104.06	1103.73	0.33	0.03%
19-Mar-19	0.4110	1102.17	1102.07	0.10	0.01%

4-Sep-19	0.4750	1096.55	1095.39	1.16	0.11%
4-Sep-19	0.4750	1096.55	1095.39	1.16	0.11%
3-Dec-19	0.4220	1104.06	1103.73	0.33	0.03%
3-Dec-19	0.4220	1104.06	1103.73	0.33	0.03%
19-Mar-19	0.4110	1102.17	1102.07	0.10	0.01%
8-Apr-20	0.4130	1108.94	1108.30	0.64	0.06%
3-Dec-19	0.4220	1104.06	1103.73	0.33	0.03%
10-Sep-19	0.4430	1089.61	1088.43	1.18	0.11%
10-Sep-19	0.4430	1089.61	1088.43	1.18	0.11%
10-Sep-19	0.4430	1089.61	1088.43	1.18	0.11%
10-Sep-19	0.4430	1089.61	1088.43	1.18	0.11%
3-Dec-19	0.4220	1104.06	1103.73	0.33	0.03%
3-Dec-19	0.4220	1104.06	1103.73	0.33	0.03%
10-Sep-19	0.4430	1089.61	1088.43	1.18	0.11%
3-Dec-19	0.4220	1104.06	1103.73	0.33	0.03%
19-Mar-19	0.4110	1102.17	1102.07	0.10	0.01%
4-Sep-19	0.4750	1096.55	1095.39	1.16	0.11%
10-Sep-19	0.4430	1089.61	1088.43	1.18	0.11%
10-Sep-19	0.4430	1089.61	1088.43	1.18	0.11%
20-Jul-19	0.4120	1099.47	1099.12	0.36	0.03%
20-Jul-19	0.4120	1099.47	1099.12	0.36	0.03%
10-Dec-19	0.4300	1106.89	1106.77	0.11	0.01%
10-Dec-19	0.4310	1108.66	1108.55	0.11	0.01%
26-Feb-20	0.5250	1132.08	1132.30	-0.22	-0.02%
20-Jul-19	0.4420	1129.87	1129.87	0.00	0.00%
18-Jan-19	0.4710	1129.18	1129.29	-0.11	-0.01%
9-Oct-19	0.4320	1132.18	1131.87	0.31	0.03%
9-Oct-19	0.4320	1132.18	1131.87	0.31	0.03%
3-Jun-20	0.4510	1120.71	1120.50	0.21	0.02%
7-Jun-19	0.4270	1110.40	1109.95	0.44	0.04%
7-Jun-19	0.4270	1110.40	1109.95	0.44	0.04%
12-Nov-19	0.4580	1152.53	1152.30	0.23	0.02%
12-Nov-19	0.4580	1152.53	1152.30	0.23	0.02%
4-Jun-20	0.4490	1131.06	1130.76	0.31	0.03%
3-Dec-19	0.4330	1113.81	1113.42	0.39	0.04%
27-Jan-20	0.4370	1121.69	1121.54	0.15	0.01%
30-Oct-18	0.3870	1114.63	1114.81	-0.18	-0.02%
12-Feb-19	0.4590	1134.14	1133.66	0.47	0.04%
12-Feb-19	0.4590	1131.88	1131.40	0.47	0.04%
24-Apr-19	0.5030	1179.75	1180.12	-0.37	-0.03%
1-May-19	0.4120	1109.03	1108.75	0.28	0.03%
5-Nov-19	0.4320	1111.43	1110.93	0.49	0.04%
5-Nov-19	0.4320	1111.43	1110.93	0.49	0.04%
3-Sep-19	0.4540	1112.46	1111.93	0.53	0.05%
3-Sep-19	0.4540	1112.46	1111.93	0.53	0.05%
3-Sep-19	0.4530	1116.17	1115.58	0.59	0.05%
3-Sep-19	0.4530	1116.17	1115.58	0.59	0.05%
8-Jul-19	0.4520	1127.81	1127.00	0.80	0.07%
9-Apr-19	0.4920	1147.91	1148.08	-0.17	-0.01%
7-Oct-19	0.4640	1148.43	1148.82	-0.39	-0.03%
7-Oct-19	0.4640	1148.43	1148.82	-0.39	-0.03%
9-Jan-20	0.4880	1164.99	1165.47	-0.48	-0.04%
15-Oct-19	0.4230	1116.48	1115.63	0.85	0.08%
15-Oct-19	0.4230	1116.48	1115.63	0.85	0.08%
17-Jun-19	0.3390	1138.67	1138.40	0.27	0.02%
17-Jun-19	0.3390	1138.67	1138.40	0.27	0.02%
2-Oct-19	0.4540	1135.58	1135.07	0.52	0.05%

2-Oct-19	0.4540	1135.58	1135.07	0.52	0.05%
25-Mar-20	0.4740	1125.25	1124.93	0.32	0.03%
2-Jun-20	0.4380	1127.57	1127.45	0.12	0.01%
2-Jun-20	0.4770	1152.06	1152.33	-0.27	-0.02%
21-Nov-19	0.4380	1108.50	1107.94	0.55	0.05%
21-Nov-19	0.4380	1108.50	1107.94	0.55	0.05%
7-Aug-19	0.4390	1141.60	1141.79	-0.19	-0.02%
7-Aug-19	0.4390	1141.60	1141.79	-0.19	-0.02%
3-Jul-19	0.4290	1104.33	1103.72	0.62	0.06%
3-Jul-19	0.4290	1104.33	1103.72	0.62	0.06%
23-Jan-19	0.4560	1154.14	1153.99	0.15	0.01%
25-Jun-19	0.4170	1143.55	1143.20	0.35	0.03%
25-Jun-19	0.4170	1143.55	1143.20	0.35	0.03%
11-Jul-19	0.4120	1088.30	1087.46	0.85	0.08%
29-Jul-19	0.4560	1117.43	1116.98	0.46	0.04%
29-Jul-19	0.4560	1117.43	1116.98	0.46	0.04%
5-Feb-20	0.3780	1107.10	1105.93	1.17	0.11%
27-Jun-19	0.4150	1116.16	1115.52	0.65	0.06%
15-Mar-19	0.3680	1125.02	1124.91	0.11	0.01%
26-Jun-19	0.4250	1120.77	1120.43	0.35	0.03%
26-Jun-19	0.4250	1120.77	1120.43	0.35	0.03%
1-May-19	0.4020	1104.73	1104.58	0.15	0.01%
24-Oct-19	0.4400	1136.01	1136.04	-0.03	0.00%
24-Oct-19	0.4400	1136.01	1136.04	-0.03	0.00%
25-Jun-19	0.4110	1094.16	1093.54	0.62	0.06%
25-Jun-19	0.4110	1094.16	1093.54	0.62	0.06%
19-Mar-19	0.4110	1102.17	1102.07	0.10	0.01%
19-Mar-19	0.4110	1102.17	1102.07	0.10	0.01%
11-Jun-20	0.4070	1101.01	1100.55	0.46	0.04%
30-Jul-19	0.4260	1127.51	1127.39	0.12	0.01%
30-Jul-19	0.4260	1127.51	1127.39	0.12	0.01%
24-Mar-20	0.4430	1100.97	1100.39	0.59	0.05%
16-Apr-19	0.4040	1087.36	1086.53	0.83	0.08%
16-Apr-19	0.4040	1087.36	1086.53	0.83	0.08%
13-Nov-19	0.3760	1102.36	1101.36	1.00	0.09%
13-Nov-19	0.3760	1102.36	1101.36	1.00	0.09%
21-May-20	0.6310	1297.05	1298.15	-1.10	-0.08%
22-Nov-19	0.3880	1129.07	1129.29	-0.22	-0.02%
22-Nov-19	0.3880	1129.07	1129.29	-0.22	-0.02%
9-Mar-20	0.5560	1141.67	1142.05	-0.38	-0.03%
15-Jan-19	0.4850	1192.01	1192.55	-0.54	-0.04%
1-Feb-20	0.2870	1075.43	1075.01	0.42	0.04%
5-Dec-19	0.3350	1060.91	1060.59	0.31	0.03%
19-May-20	0.5400	1288.39	1289.12	-0.72	-0.06%
9-Jan-20	0.6250	1318.85	1319.82	-0.97	-0.07%
24-Jul-19	0.3470	1271.41	1271.10	0.31	0.02%
9-Feb-19	0.3420	1317.23	1316.81	0.42	0.03%
18-Apr-19	0.3940	1314.25	1314.48	-0.24	-0.02%
29-Jul-19	0.3870	1322.71	1322.97	-0.26	-0.02%
27-Sep-19	0.6190	1326.01	1326.75	-0.74	-0.06%
10-Sep-18	0.3840	1182.26	1182.34	-0.08	-0.01%
12-Jun-19	0.3780	1355.29	1355.05	0.24	0.02%
27-Feb-18	0.3330	1250.98	1250.28	0.70	0.06%
16-Apr-19	0.3660	1246.22	1245.86	0.37	0.03%
18-May-20	0.8550	1349.67	1351.64	-1.97	-0.15%
23-Mar-20	0.5380	1292.13	1292.35	-0.22	-0.02%
6-Apr-20	0.5360	1332.68	1333.40	-0.72	-0.05%

14-Jan-19	0.5240	1407.93	1408.29	-0.36	-0.03%
20-Aug-19	0.4260	1114.99	1114.14	0.85	0.08%
20-Aug-19	0.4260	1114.99	1114.14	0.85	0.08%
11-Sep-19	0.3680	1091.38	1090.26	1.12	0.10%
11-Sep-19	0.3680	1091.38	1090.26	1.12	0.10%
3-Mar-20	0.4190	1109.38	1109.25	0.13	0.01%
13-Mar-19	0.5410	1146.75	1146.65	0.10	0.01%
13-Mar-19	0.5410	1146.75	1146.65	0.10	0.01%
3-Mar-20	0.4190	1109.38	1109.25	0.13	0.01%
3-Mar-20	0.4190	1109.38	1109.25	0.13	0.01%
3-Mar-20	0.4190	1109.38	1109.25	0.13	0.01%
3-Mar-20	0.4190	1109.38	1109.25	0.13	0.01%
4-Sep-19	0.4800	1107.60	1106.41	1.19	0.11%
13-Nov-19	0.4680	1127.26	1127.36	-0.10	-0.01%
13-Nov-19	0.4680	1127.70	1127.79	-0.10	-0.01%
15-May-20	0.4260	1121.58	1121.63	-0.05	0.00%
10-Apr-20	0.4810	1134.71	1134.81	-0.10	-0.01%
20-Jul-19	0.4280	1113.61	1113.36	0.25	0.02%
20-Jul-19	0.4280	1113.61	1113.36	0.25	0.02%
8-May-19	0.4330	1117.70	1117.54	0.16	0.01%
29-Jun-20	0.4250	1136.28	1136.34	-0.06	-0.01%
25-Jun-20	0.4520	1133.52	1133.32	0.20	0.02%
15-Oct-19	0.4390	1105.84	1105.16	0.69	0.06%
15-Oct-19	0.4390	1105.84	1105.16	0.69	0.06%
5-Dec-19	0.4510	1119.62	1119.29	0.33	0.03%
19-Feb-20	0.4260	1162.88	1162.54	0.33	0.03%
22-Feb-19	0.4700	1152.72	1153.27	-0.55	-0.05%
16-Oct-19	0.4800	1145.55	1145.42	0.12	0.01%
16-Oct-19	0.4800	1145.55	1145.42	0.12	0.01%
22-Jan-20	0.4500	1143.81	1143.74	0.07	0.01%
24-Apr-19	0.4520	1163.77	1163.94	-0.17	-0.01%
8-May-20	0.4250	1120.73	1120.49	0.23	0.02%
26-Jun-19	0.4300	1134.37	1134.02	0.35	0.03%
22-Jan-20	0.4280	1124.01	1123.83	0.18	0.02%
24-Jul-19	0.4580	1139.57	1139.48	0.08	0.01%
24-Jul-19	0.4580	1139.57	1139.48	0.08	0.01%
1-Nov-19	0.4460	1128.70	1128.77	-0.08	-0.01%
2-Jun-20	0.4000	1089.53	1088.39	1.14	0.11%
5-Mar-20	0.3700	1078.52	1077.77	0.76	0.07%
8-Jul-19	0.4530	1129.67	1128.86	0.81	0.07%
21-Nov-19	0.3800	1094.52	1094.24	0.27	0.02%
21-Nov-19	0.3800	1094.52	1094.24	0.27	0.02%
16-Oct-19	0.4740	1151.13	1151.36	-0.23	-0.02%
16-Oct-19	0.4740	1151.13	1151.36	-0.23	-0.02%
9-Apr-20	0.4260	1133.38	1133.04	0.35	0.03%
28-May-19	0.4650	1121.92	1121.62	0.30	0.03%
22-Apr-20	0.4520	1134.98	1135.40	-0.42	-0.04%
16-Oct-19	0.4550	1132.21	1131.99	0.22	0.02%
16-Oct-19	0.4550	1132.21	1131.99	0.22	0.02%
10-Jul-19	0.4520	1145.51	1145.32	0.19	0.02%
10-Jul-19	0.4520	1145.51	1145.32	0.19	0.02%
14-Oct-19	0.4420	1140.07	1139.88	0.20	0.02%
14-Oct-19	0.4420	1140.07	1139.88	0.20	0.02%
15-Jan-19	0.4500	1144.43	1144.17	0.26	0.02%
4-Jun-19	0.4430	1135.09	1135.16	-0.06	-0.01%
4-Jun-19	0.4430	1135.09	1135.16	-0.06	-0.01%
16-Apr-19	0.4380	1109.83	1108.83	1.00	0.09%
21-Nov-19	0.4620	1129.63	1129.37	0.26	0.02%

21-Nov-19	0.4620	1129.63	1129.37	0.26	0.02%
21-Jan-20	0.4290	1111.25	1110.47	0.78	0.07%
6-Aug-19	0.4640	1156.44	1156.52	-0.08	-0.01%
6-Aug-19	0.4640	1156.44	1156.52	-0.08	-0.01%
30-Jul-19	0.4380	1123.06	1122.58	0.48	0.04%
11-Mar-20	0.4220	1103.37	1102.97	0.39	0.04%
6-Feb-20	0.4950	1153.83	1154.27	-0.44	-0.04%
27-Sep-19	0.4490	1120.18	1119.80	0.38	0.03%
27-Sep-19	0.4490	1120.18	1119.80	0.38	0.03%
7-Feb-19	0.4100	1116.88	1116.86	0.02	0.00%
23-Jan-19	0.3730	1107.39	1107.06	0.34	0.03%
15-May-19	0.4070	1119.23	1118.90	0.32	0.03%
15-May-19	0.4070	1119.23	1118.90	0.32	0.03%
7-Aug-19	0.4450	1098.68	1097.68	1.00	0.09%
19-Feb-19	0.4090	1101.18	1100.58	0.60	0.05%
7-Aug-19	0.4450	1098.68	1097.68	1.00	0.09%
21-Apr-20	0.4070	1092.53	1092.05	0.48	0.04%
31-Jul-19	0.3600	1069.64	1068.99	0.65	0.06%
31-Jul-19	0.3600	1069.64	1068.99	0.65	0.06%
20-May-19	0.4590	1155.46	1155.31	0.16	0.01%
13-Aug-19	0.3940	1105.15	1104.71	0.44	0.04%
13-Aug-19	0.3940	1105.15	1104.71	0.44	0.04%
19-Aug-19	0.5540	1288.81	1289.62	-0.81	-0.06%
24-Jul-19	0.5400	1237.50	1238.38	-0.88	-0.07%
11-Jun-19	0.5300	1135.25	1135.15	0.09	0.01%
6-Jun-19	0.4690	1211.03	1211.32	-0.29	-0.02%
29-Aug-19	0.5540	1390.05	1390.68	-0.63	-0.05%
19-May-20	0.5570	1294.51	1295.29	-0.78	-0.06%
19-May-20	0.5570	1294.51	1295.29	-0.78	-0.06%
9-Apr-19	0.4210	1289.83	1290.14	-0.31	-0.02%
9-Apr-19	0.4210	1289.85	1290.16	-0.31	-0.02%
9-Apr-19	0.4210	1290.00	1290.31	-0.31	-0.02%
29-Jul-19	0.3380	1277.61	1277.38	0.24	0.02%
22-Jan-20	0.5340	1293.42	1294.05	-0.63	-0.05%
21-Jan-20	0.6170	1320.06	1321.19	-1.13	-0.09%
8-Jun-20	0.6300	1286.39	1287.33	-0.95	-0.07%
20-May-20	0.5640	1340.27	1341.09	-0.82	-0.06%
19-Mar-19	0.3750	1301.25	1301.50	-0.25	-0.02%
1-Feb-20	0.3400	1300.75	1300.75	0.00	0.00%
1-Feb-20	0.3400	1300.81	1300.81	0.00	0.00%
3-Oct-19	0.5830	1317.75	1318.37	-0.62	-0.05%
3-Oct-19	0.5820	1316.92	1317.54	-0.62	-0.05%
21-May-20	0.5980	1264.72	1265.51	-0.79	-0.06%
9-Apr-19	0.3720	1315.46	1314.65	0.81	0.06%
16-Dec-19	0.5860	1331.62	1332.46	-0.84	-0.06%
27-Sep-19	0.6210	1326.83	1327.57	-0.74	-0.06%
27-Nov-18	0.3450	1296.10	1295.94	0.16	0.01%
27-Nov-18	0.3450	1296.10	1295.94	0.16	0.01%
21-May-20	0.6570	1333.17	1334.36	-1.20	-0.09%
21-May-20	0.6570	1333.20	1334.39	-1.20	-0.09%
18-Oct-19	0.6860	1334.69	1336.14	-1.45	-0.11%
18-Oct-19	0.6860	1334.52	1335.97	-1.45	-0.11%
31-May-19	0.5010	1162.30	1162.79	-0.49	-0.04%
30-Jul-18	0.3490	1291.64	1291.71	-0.06	-0.01%
22-Jan-20	0.5790	1337.80	1338.65	-0.85	-0.06%
1-Sep-19	0.3410	1084.86	1084.86	0.00	0.00%
19-Mar-19	0.5830	1355.12	1355.75	-0.64	-0.05%

18-Dec-19	0.5250	1290.36	1290.74	-0.38	-0.03%
26-Feb-20	0.6050	1331.32	1332.31	-0.99	-0.07%
12-Nov-19	0.2590	1076.80	1076.53	0.27	0.02%
12-Nov-19	0.2590	1076.80	1076.53	0.27	0.02%
24-Oct-19	0.4060	1092.84	1091.97	0.87	0.08%
24-Oct-19	0.4060	1092.84	1091.97	0.87	0.08%
7-Jul-18	0.5240	1186.61	1187.06	-0.46	-0.04%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
19-Mar-19	0.4460	1117.99	1117.79	0.20	0.02%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
19-Mar-19	0.4460	1117.99	1117.79	0.20	0.02%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
10-Jun-19	0.4410	1110.66	1109.82	0.84	0.08%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
29-Aug-19	0.4580	1111.56	1110.72	0.84	0.08%
28-Jun-18	0.3900	1094.45	1093.73	0.71	0.07%
7-May-19	0.4430	1111.24	1110.98	0.25	0.02%
11-Sep-19	0.4390	1111.39	1110.94	0.45	0.04%
11-Sep-19	0.4390	1111.39	1110.94	0.45	0.04%
15-Apr-20	0.4790	1178.01	1178.19	-0.18	-0.02%
2-Jul-19	0.4420	1139.92	1140.05	-0.13	-0.01%
22-Feb-19	0.4860	1163.34	1163.59	-0.25	-0.02%
24-Apr-19	0.4480	1128.72	1128.45	0.27	0.02%
22-Jan-20	0.4750	1156.69	1156.98	-0.29	-0.03%
8-Jan-19	0.4720	1154.37	1153.84	0.52	0.05%
17-Jul-19	0.4860	1163.26	1163.53	-0.27	-0.02%
17-Jul-19	0.4860	1163.26	1163.53	-0.27	-0.02%
19-Nov-19	0.4070	1100.58	1100.07	0.51	0.05%
25-Apr-19	0.4330	1111.53	1111.22	0.31	0.03%
19-Apr-19	0.4660	1156.91	1157.07	-0.16	-0.01%
19-Apr-19	0.4660	1156.91	1157.07	-0.16	-0.01%
16-May-19	0.4380	1105.38	1104.71	0.67	0.06%
9-Jun-20	0.4200	1143.99	1144.22	-0.24	-0.02%
28-May-19	0.4520	1111.34	1110.71	0.64	0.06%
20-Aug-19	0.4030	1095.17	1094.73	0.44	0.04%
20-Aug-19	0.4030	1095.17	1094.73	0.44	0.04%
29-May-19	0.3260	1074.20	1073.47	0.73	0.07%
2-Oct-19	0.4400	1136.26	1135.81	0.45	0.04%
2-Oct-19	0.4400	1136.26	1135.81	0.45	0.04%

26-Mar-20	0.4470	1131.02	1130.79	0.23	0.02%
15-Jul-19	0.4610	1139.90	1139.60	0.30	0.03%
15-Jul-19	0.4610	1139.90	1139.60	0.30	0.03%
9-Jun-20	0.4720	1130.52	1130.05	0.47	0.04%
26-Jun-19	0.4510	1106.00	1105.02	0.97	0.09%
26-Jun-19	0.4510	1106.00	1105.02	0.97	0.09%
30-Jul-19	0.5060	1177.40	1177.51	-0.11	-0.01%
30-Jul-19	0.5060	1177.40	1177.51	-0.11	-0.01%
12-Sep-19	0.3790	1118.72	1118.68	0.04	0.00%
20-Apr-20	0.4310	1120.88	1120.68	0.20	0.02%
2-Jul-19	0.4390	1131.07	1130.94	0.13	0.01%
2-Jul-19	0.4390	1131.07	1130.94	0.13	0.01%
12-Feb-19	0.3830	1090.95	1090.58	0.37	0.03%
27-Jun-19	0.4410	1115.27	1114.77	0.50	0.05%
27-Jun-19	0.4410	1115.27	1114.77	0.50	0.05%
20-Aug-19	0.4030	1095.17	1094.73	0.44	0.04%
20-Aug-19	0.4030	1095.17	1094.73	0.44	0.04%
26-Jun-19	0.4450	1137.90	1137.69	0.21	0.02%
26-Jun-19	0.4450	1137.90	1137.69	0.21	0.02%
31-Aug-19	0.4270	1112.09	1111.71	0.38	0.03%
31-Aug-19	0.4270	1112.09	1111.71	0.38	0.03%
18-Feb-20	0.4280	1113.02	1112.70	0.31	0.03%
18-Apr-19	0.4210	1123.88	1123.77	0.12	0.01%
20-Jul-18	0.3850	1080.89	1080.03	0.85	0.08%
21-Feb-19	0.3820	1087.83	1087.48	0.36	0.03%
16-Jul-19	0.3650	1080.48	1080.02	0.47	0.04%
16-Jul-19	0.3650	1080.48	1080.02	0.47	0.04%
9-Apr-19	0.4980	1095.52	1094.14	1.38	0.13%
9-Apr-19	0.4980	1095.52	1094.14	1.38	0.13%
22-Apr-20	0.6700	1298.74	1299.97	-1.23	-0.09%
25-Jul-19	0.6090	1206.59	1207.00	-0.41	-0.03%
23-Aug-19	0.5950	1165.26	1165.65	-0.39	-0.03%
11-Jun-19	0.5490	1131.42	1131.47	-0.04	0.00%
17-Sep-19	0.5860	1149.92	1150.25	-0.33	-0.03%
31-May-19	0.4210	1177.74	1177.56	0.18	0.02%
31-May-19	0.4210	1177.74	1177.56	0.18	0.02%
1-Apr-20	0.5720	1367.03	1367.63	-0.60	-0.04%
7-Feb-20	0.5960	1336.64	1337.59	-0.95	-0.07%
14-Nov-19	0.5920	1354.89	1355.99	-1.10	-0.08%
14-Nov-19	0.5910	1354.75	1355.86	-1.11	-0.08%
9-Apr-19	0.4210	1289.73	1290.03	-0.30	-0.02%
30-Sep-19	0.5300	1296.49	1296.74	-0.24	-0.02%
30-Sep-19	0.5300	1296.81	1297.06	-0.24	-0.02%
30-Sep-19	0.5300	1296.42	1296.66	-0.24	-0.02%
30-Sep-19	0.5300	1296.78	1297.02	-0.24	-0.02%
16-Jan-19	0.4020	1270.37	1270.60	-0.23	-0.02%
21-May-20	0.6150	1305.43	1306.53	-1.09	-0.08%
14-Jan-20	0.4410	1265.56	1265.80	-0.24	-0.02%
6-Jan-20	0.7050	1265.09	1266.57	-1.47	-0.12%
29-Jul-19	0.3520	1287.40	1287.30	0.10	0.01%
28-Apr-20	0.6390	1329.24	1330.27	-1.03	-0.08%
23-Sep-19	0.6320	1314.41	1315.52	-1.11	-0.08%
23-Sep-19	0.6320	1314.26	1315.37	-1.11	-0.08%
29-May-19	0.3780	1318.67	1318.82	-0.14	-0.01%
19-Dec-19	0.5800	1309.32	1310.05	-0.72	-0.06%
19-Dec-19	0.5800	1309.32	1310.05	-0.72	-0.06%
31-Mar-20	0.5800	1327.21	1328.16	-0.95	-0.07%

31-Mar-20	0.5800	1327.45	1328.40	-0.95	-0.07%
7-May-19	0.3870	1340.39	1340.74	-0.35	-0.03%
7-May-19	0.3870	1340.52	1340.87	-0.35	-0.03%
7-May-19	0.3870	1340.11	1340.45	-0.35	-0.03%
7-May-19	0.3870	1340.16	1340.51	-0.35	-0.03%
31-Dec-19	0.7050	1295.08	1296.33	-1.25	-0.10%
31-Dec-19	0.7050	1295.28	1296.54	-1.25	-0.10%
27-Mar-19	0.4310	1327.28	1327.69	-0.41	-0.03%
6-Apr-20	0.5680	1318.75	1319.54	-0.79	-0.06%
18-May-20	0.6930	1258.62	1259.76	-1.14	-0.09%
21-Aug-18	0.3700	1346.57	1346.48	0.10	0.01%
17-Jun-19	0.4540	1281.62	1281.55	0.08	0.01%
27-Dec-18	0.3940	1337.35	1337.55	-0.20	-0.01%
16-Oct-19	0.7630	1283.62	1284.79	-1.17	-0.09%
16-Oct-19	0.7630	1283.48	1284.65	-1.17	-0.09%
18-Sep-18	0.3170	1247.95	1247.52	0.42	0.03%
18-Sep-18	0.3170	1247.95	1247.52	0.42	0.03%
29-Apr-19	0.3860	1222.09	1222.19	-0.09	-0.01%
30-May-19	0.4590	1227.85	1227.54	0.32	0.03%
30-Jul-19	0.4710	1188.52	1187.48	1.04	0.09%
26-Feb-20	0.4660	1095.26	1094.22	1.05	0.10%
2-Mar-20	0.3940	1104.95	1104.71	0.23	0.02%
11-Jun-19	0.4580	1091.78	1090.56	1.21	0.11%
11-Jun-19	0.4580	1091.78	1090.56	1.21	0.11%
2-Mar-20	0.3940	1104.95	1104.71	0.23	0.02%
8-May-20	0.4480	1099.93	1098.83	1.10	0.10%
20-Jul-19	0.4420	1112.00	1111.63	0.37	0.03%
20-Jul-19	0.4420	1112.00	1111.63	0.37	0.03%
3-Jul-19	0.4300	1108.94	1108.71	0.23	0.02%
3-Jul-19	0.4300	1108.94	1108.71	0.23	0.02%
12-Nov-19	0.4900	1136.36	1136.57	-0.21	-0.02%
12-Nov-19	0.4900	1136.36	1136.57	-0.21	-0.02%
15-Oct-19	0.4480	1100.87	1100.02	0.85	0.08%
15-Oct-19	0.4480	1100.87	1100.02	0.85	0.08%
16-May-19	0.4550	1109.50	1109.16	0.34	0.03%
23-Jan-19	0.4590	1114.89	1115.09	-0.20	-0.02%
3-Oct-19	0.4230	1107.78	1107.53	0.25	0.02%
3-Oct-19	0.4230	1107.78	1107.53	0.25	0.02%
13-Nov-19	0.4430	1112.42	1112.14	0.28	0.02%
24-Jan-20	0.5180	1135.84	1135.95	-0.11	-0.01%
23-Jan-19	0.4590	1114.89	1115.09	-0.20	-0.02%
28-May-20	0.4490	1092.99	1091.82	1.17	0.11%
13-Jun-19	0.4520	1119.33	1118.87	0.46	0.04%
13-Jun-19	0.4520	1119.33	1118.87	0.46	0.04%
3-Jun-20	0.4660	1129.50	1129.18	0.31	0.03%
18-Mar-20	0.4600	1115.94	1115.70	0.24	0.02%
18-Feb-20	0.5140	1160.73	1161.36	-0.63	-0.05%
10-Sep-19	0.4530	1110.97	1110.36	0.60	0.05%
10-Sep-19	0.4220	1094.40	1093.89	0.51	0.05%
10-Sep-19	0.4220	1094.40	1093.89	0.51	0.05%
5-Jun-19	0.4400	1099.88	1099.13	0.74	0.07%
28-Oct-19	0.4790	1177.64	1177.72	-0.08	-0.01%
28-Oct-19	0.4790	1177.64	1177.72	-0.08	-0.01%
28-Oct-19	0.4570	1164.05	1164.18	-0.13	-0.01%
28-Oct-19	0.4570	1164.05	1164.18	-0.13	-0.01%
24-Apr-19	0.3940	1083.13	1082.75	0.38	0.03%
2-May-19	0.4040	1087.80	1087.25	0.55	0.05%

2-May-19	0.4040	1087.80	1087.25	0.55	0.05%
23-Jan-20	0.3980	1098.62	1098.35	0.27	0.02%
22-Jul-19	0.4670	1138.47	1138.47	0.00	0.00%
22-Jul-19	0.4670	1138.47	1138.47	0.00	0.00%
22-Jul-19	0.4830	1148.75	1148.81	-0.06	0.00%
22-Jul-19	0.4830	1148.75	1148.81	-0.06	0.00%
23-Sep-19	0.4280	1119.07	1118.81	0.26	0.02%
1-Apr-20	0.4170	1096.36	1095.49	0.87	0.08%
11-Jun-19	0.4210	1104.78	1104.26	0.53	0.05%
11-Jun-19	0.4210	1104.78	1104.26	0.53	0.05%
25-Apr-19	0.4150	1104.72	1104.28	0.44	0.04%
19-Nov-19	0.4430	1109.80	1109.29	0.51	0.05%
19-Nov-19	0.4430	1109.80	1109.29	0.51	0.05%
21-Nov-19	0.4520	1133.96	1133.73	0.23	0.02%
21-Nov-19	0.4520	1133.96	1133.73	0.23	0.02%
27-Aug-19	0.4690	1151.10	1151.20	-0.10	-0.01%
27-Aug-19	0.4690	1151.10	1151.20	-0.10	-0.01%
23-Apr-19	0.4280	1131.30	1131.19	0.11	0.01%
9-Oct-19	0.4320	1110.20	1109.64	0.56	0.05%
9-Oct-19	0.4320	1110.20	1109.64	0.56	0.05%
14-Aug-19	0.4350	1106.68	1106.40	0.28	0.03%
14-Aug-19	0.4350	1106.68	1106.40	0.28	0.03%
22-Oct-19	0.4480	1098.09	1097.42	0.67	0.06%
22-Oct-19	0.4480	1098.09	1097.42	0.67	0.06%
11-May-20	0.4330	1103.90	1103.35	0.56	0.05%
25-Jun-19	0.3850	1070.79	1069.90	0.88	0.08%
25-Jun-19	0.3850	1070.79	1069.90	0.88	0.08%
20-Jun-19	0.4310	1108.42	1107.93	0.49	0.04%
20-Jun-19	0.4310	1108.42	1107.93	0.49	0.04%
24-Jul-19	0.4040	1096.60	1095.63	0.97	0.09%
24-Jul-19	0.4040	1096.60	1095.63	0.97	0.09%
11-Jun-20	0.4480	1125.20	1125.08	0.12	0.01%
29-Jan-20	0.4090	1124.93	1124.61	0.32	0.03%
29-Jan-20	0.4550	1162.30	1162.39	-0.09	-0.01%
29-Jan-20	0.4490	1154.94	1155.04	-0.09	-0.01%
30-Jul-19	0.4690	1182.88	1181.85	1.03	0.09%
30-Jul-19	0.4690	1182.88	1181.85	1.03	0.09%
13-Jun-18	0.4380	1086.24	1084.99	1.24	0.11%
27-Feb-19	0.4630	1134.23	1134.34	-0.11	-0.01%
27-Jan-20	0.3230	1097.96	1097.63	0.33	0.03%
28-Jan-20	0.5460	1197.87	1198.23	-0.36	-0.03%
11-Jun-19	0.4560	1112.90	1112.00	0.90	0.08%
7-Jun-19	0.4410	1158.72	1158.50	0.22	0.02%
28-Aug-19	0.4220	1086.57	1085.42	1.14	0.11%
28-Aug-19	0.4220	1086.57	1085.42	1.14	0.11%
9-Jan-20	0.4340	1124.41	1124.18	0.24	0.02%
27-Jun-19	0.4490	1123.11	1122.66	0.45	0.04%
27-Jun-19	0.4490	1123.11	1122.66	0.45	0.04%
29-Jul-19	0.4790	1106.16	1105.64	0.51	0.05%
29-Jul-19	0.4790	1106.16	1105.64	0.51	0.05%
28-Aug-19	0.4180	1089.92	1089.03	0.89	0.08%
28-Aug-19	0.4180	1089.92	1089.03	0.89	0.08%
21-Oct-19	0.4360	1124.98	1124.61	0.38	0.03%
21-Oct-19	0.4360	1124.98	1124.61	0.38	0.03%
4-Jun-20	0.4070	1102.56	1102.06	0.50	0.05%
11-Jun-20	0.4230	1103.92	1103.42	0.50	0.04%
9-May-19	0.3820	1126.64	1125.81	0.83	0.07%

13-Apr-20	0.4550	1114.24	1113.90	0.35	0.03%
14-Mar-19	0.3900	1112.08	1112.10	-0.02	0.00%
14-Mar-19	0.3900	1112.08	1112.10	-0.02	0.00%
13-Mar-19	0.4100	1088.45	1087.66	0.79	0.07%
26-Sep-19	0.8070	1209.57	1210.42	-0.85	-0.07%
2-Aug-19	0.5640	1262.03	1262.57	-0.53	-0.04%
20-Sep-19	0.5050	1145.27	1144.86	0.41	0.04%
20-Sep-19	0.5050	1145.27	1144.86	0.41	0.04%
20-Aug-19	0.5930	1312.62	1313.41	-0.80	-0.06%
25-Oct-19	0.5450	1289.70	1290.26	-0.56	-0.04%
6-May-19	0.3500	1311.87	1311.47	0.40	0.03%
25-Oct-19	0.5450	1289.69	1290.25	-0.56	-0.04%
9-Apr-19	0.4220	1289.76	1290.04	-0.28	-0.02%
17-Apr-20	0.5110	1280.71	1281.20	-0.48	-0.04%
13-Feb-20	0.5930	1309.48	1310.45	-0.97	-0.07%
24-Jul-19	0.3490	1278.53	1278.24	0.29	0.02%
24-Jul-19	0.3490	1278.53	1278.24	0.29	0.02%
13-Mar-20	0.7220	1282.06	1283.06	-1.00	-0.08%
13-Mar-20	0.7220	1281.90	1282.90	-1.00	-0.08%
24-Jun-19	0.3800	1308.27	1308.38	-0.11	-0.01%
24-Jun-19	0.3800	1308.27	1308.38	-0.11	-0.01%
23-Apr-20	0.6110	1330.42	1331.03	-0.61	-0.05%
16-Oct-19	0.7650	1285.47	1286.64	-1.17	-0.09%
24-Sep-19	1.0010	1298.43	1300.44	-2.01	-0.15%
24-Sep-19	1.0010	1298.43	1300.44	-2.01	-0.15%
30-Oct-18	0.3580	1333.77	1333.91	-0.15	-0.01%
24-Jul-18	0.3370	1163.29	1162.99	0.30	0.03%
27-Sep-18	0.3920	1341.25	1341.29	-0.04	0.00%
18-Feb-20	0.6590	1328.73	1329.89	-1.16	-0.09%
11-Apr-20	0.6460	1077.69	1078.58	-0.89	-0.08%
11-Oct-19	0.9540	1399.51	1402.13	-2.62	-0.19%
11-Oct-19	0.9540	1399.51	1402.13	-2.62	-0.19%
18-Jan-19	0.6160	1371.55	1372.61	-1.06	-0.08%
18-Jan-19	0.6160	1371.45	1372.51	-1.06	-0.08%
8-Jan-20	0.5140	1333.41	1333.88	-0.47	-0.03%
23-Jul-19	0.8040	1293.01	1294.82	-1.81	-0.14%
23-Jul-19	0.8040	1293.01	1294.82	-1.81	-0.14%
23-Apr-20	0.4430	1179.88	1179.96	-0.08	-0.01%
10-Sep-19	0.4590	1118.25	1117.94	0.31	0.03%
3-Sep-19	0.4860	1104.33	1103.62	0.71	0.06%
3-Sep-19	0.4860	1104.33	1103.62	0.71	0.06%
4-Sep-19	0.5860	1149.97	1149.32	0.65	0.06%
4-Sep-19	0.5860	1149.97	1149.32	0.65	0.06%
2-Mar-20	0.4220	1109.21	1108.72	0.49	0.04%
2-Mar-20	0.4220	1109.21	1108.72	0.49	0.04%
2-Mar-20	0.4220	1109.21	1108.72	0.49	0.04%
2-Mar-20	0.4220	1109.21	1108.72	0.49	0.04%
2-Mar-20	0.4220	1109.21	1108.72	0.49	0.04%
3-Sep-19	0.4860	1104.33	1103.62	0.71	0.06%
3-Sep-19	0.4860	1104.33	1103.62	0.71	0.06%
3-Sep-19	0.4860	1104.33	1103.62	0.71	0.06%
3-Sep-19	0.4860	1104.33	1103.62	0.71	0.06%
10-Sep-19	0.4570	1113.06	1112.76	0.30	0.03%
3-Sep-19	0.4860	1104.33	1103.62	0.71	0.06%
3-Sep-19	0.4860	1104.33	1103.62	0.71	0.06%
2-Mar-20	0.4220	1109.21	1108.72	0.49	0.04%
13-Nov-19	0.4450	1115.39	1115.06	0.33	0.03%

13-Jun-19	0.4600	1118.66	1118.18	0.48	0.04%
13-Jun-19	0.4600	1118.66	1118.18	0.48	0.04%
20-Mar-19	0.4540	1127.50	1127.32	0.18	0.02%
20-Mar-19	0.4540	1127.50	1127.32	0.18	0.02%
14-Jun-19	0.4520	1120.47	1119.92	0.55	0.05%
14-Jun-19	0.4520	1120.47	1119.92	0.55	0.05%
25-Sep-19	0.4580	1133.10	1132.82	0.28	0.02%
10-Dec-19	0.4710	1136.21	1136.00	0.20	0.02%
22-Mar-19	0.4590	1122.23	1121.68	0.54	0.05%
4-Jun-20	0.4740	1134.95	1134.81	0.14	0.01%
22-Mar-19	0.4590	1122.23	1121.68	0.54	0.05%
24-Apr-19	0.4470	1160.45	1160.46	-0.01	0.00%
24-Apr-19	0.4380	1112.07	1111.95	0.12	0.01%
23-Apr-19	0.4450	1128.54	1128.61	-0.07	-0.01%
2-May-19	0.4020	1095.50	1095.30	0.20	0.02%
2-May-19	0.4020	1095.50	1095.30	0.20	0.02%
7-Mar-19	0.4510	1115.70	1115.20	0.50	0.04%
1-May-19	0.4440	1119.67	1119.53	0.14	0.01%
4-Jun-19	0.4720	1151.77	1151.98	-0.20	-0.02%
26-May-20	0.4490	1103.97	1103.16	0.82	0.07%
25-Jun-19	0.4680	1152.22	1152.26	-0.04	0.00%
25-Jun-19	0.4680	1152.22	1152.26	-0.04	0.00%
14-Aug-19	0.3940	1096.26	1095.28	0.99	0.09%
14-Aug-19	0.3940	1096.26	1095.28	0.99	0.09%
19-May-20	0.5070	1139.57	1138.87	0.70	0.06%
18-Apr-19	0.4630	1140.24	1140.01	0.22	0.02%
24-Oct-19	0.4820	1149.92	1150.10	-0.18	-0.02%
24-Oct-19	0.4820	1149.92	1150.10	-0.18	-0.02%
12-May-20	0.3680	1086.67	1085.35	1.33	0.12%
15-Oct-19	0.4690	1134.61	1134.12	0.49	0.04%
15-Oct-19	0.4690	1134.61	1134.12	0.49	0.04%
14-Jan-20	0.5330	1172.67	1173.10	-0.43	-0.04%
8-Jul-19	0.4660	1123.20	1122.38	0.81	0.07%
8-Jul-19	0.4660	1123.20	1122.38	0.81	0.07%
10-Sep-19	0.4530	1097.63	1096.70	0.94	0.09%
10-Sep-19	0.4530	1097.63	1096.70	0.94	0.09%
22-Oct-19	0.4680	1112.92	1112.42	0.50	0.04%
22-Oct-19	0.4680	1112.92	1112.42	0.50	0.04%
21-Apr-20	0.4230	1107.56	1107.42	0.15	0.01%
30-Apr-20	0.4150	1142.38	1141.96	0.42	0.04%
25-Feb-20	0.4700	1162.99	1163.27	-0.28	-0.02%
28-Apr-20	0.4200	1089.10	1088.38	0.72	0.07%
23-Apr-19	0.4270	1107.87	1107.62	0.25	0.02%
4-Dec-19	0.4070	1094.62	1094.45	0.17	0.02%
10-Mar-20	0.4250	1093.71	1092.87	0.84	0.08%
11-Feb-20	0.4460	1101.83	1100.88	0.96	0.09%
1-May-19	0.4050	1086.84	1085.79	1.04	0.10%
1-May-19	0.4050	1086.84	1085.79	1.04	0.10%
15-Apr-19	0.4330	1106.27	1105.45	0.82	0.07%
13-May-19	0.4360	1094.53	1093.41	1.12	0.10%
24-Mar-20	0.4780	1094.57	1092.68	1.89	0.17%
26-Sep-19	0.8110	1213.04	1213.88	-0.84	-0.07%
19-Sep-19	0.6140	1186.56	1187.01	-0.44	-0.04%
5-Mar-19	0.4630	1204.18	1204.74	-0.56	-0.05%
8-Jan-20	0.5100	1323.48	1324.15	-0.66	-0.05%
24-Jun-19	0.3590	1281.51	1281.40	0.11	0.01%
24-Jun-19	0.3590	1281.51	1281.40	0.11	0.01%

11-Sep-19	0.6080	1295.74	1296.43	-0.69	-0.05%
8-Apr-20	0.6720	1286.39	1287.57	-1.18	-0.09%
11-Nov-19	0.6550	1276.48	1277.49	-1.01	-0.08%
11-Nov-19	0.6560	1276.97	1277.99	-1.01	-0.08%
11-Nov-19	0.6560	1276.73	1277.74	-1.01	-0.08%
11-Nov-19	0.6560	1277.19	1278.20	-1.01	-0.08%
29-Aug-19	0.7010	1339.18	1340.20	-1.02	-0.08%
29-Aug-19	0.7010	1339.24	1340.26	-1.02	-0.08%
1-Sep-19	0.3500	1394.51	1394.51	0.00	0.00%
18-Jun-20	0.6790	1331.59	1332.48	-0.90	-0.07%
14-Jan-20	0.6550	1324.29	1325.01	-0.72	-0.05%
30-Apr-19	0.4720	1304.60	1304.92	-0.33	-0.03%
15-Jul-19	0.5070	1317.44	1317.26	0.19	0.01%
15-Jul-19	0.5070	1317.42	1317.23	0.19	0.01%
10-Sep-19	0.9280	1302.50	1304.34	-1.84	-0.14%
10-Sep-19	0.9280	1302.50	1304.34	-1.84	-0.14%
28-Nov-18	0.4110	1256.16	1256.31	-0.16	-0.01%
13-Jun-19	0.3670	1272.36	1272.18	0.18	0.01%
28-May-19	0.4470	1335.68	1335.75	-0.06	0.00%
21-Aug-18	0.3520	1201.04	1201.17	-0.13	-0.01%
7-Mar-19	0.3260	1229.26	1229.13	0.13	0.01%
13-Nov-19	0.4370	1116.70	1115.72	0.98	0.09%
13-Nov-19	0.4370	1116.70	1115.72	0.98	0.09%
10-Jul-19	0.4370	1110.11	1109.40	0.71	0.06%
10-Jul-19	0.4370	1110.11	1109.40	0.71	0.06%
4-Mar-20	0.4320	1094.59	1094.07	0.52	0.05%
4-Mar-20	0.4320	1094.59	1094.07	0.52	0.05%
4-Mar-20	0.4320	1094.59	1094.07	0.52	0.05%
4-Mar-20	0.4320	1094.59	1094.07	0.52	0.05%
4-Mar-20	0.4320	1094.59	1094.07	0.52	0.05%
5-Mar-19	0.4500	1094.12	1093.43	0.70	0.06%
5-Mar-19	0.4500	1094.12	1093.43	0.70	0.06%
4-Mar-20	0.4320	1094.59	1094.07	0.52	0.05%
26-Apr-19	0.4650	1116.81	1116.61	0.19	0.02%
17-Jan-19	0.4320	1105.00	1104.45	0.55	0.05%
5-Apr-19	0.5330	1146.93	1147.30	-0.37	-0.03%
5-Apr-19	0.5330	1146.93	1147.30	-0.37	-0.03%
7-Nov-19	0.5020	1165.62	1165.86	-0.24	-0.02%
7-Nov-19	0.5020	1165.62	1165.86	-0.24	-0.02%
16-May-19	0.4310	1094.14	1093.57	0.57	0.05%
26-Jun-19	0.5890	1159.75	1159.67	0.08	0.01%
26-Jun-19	0.5890	1159.75	1159.67	0.08	0.01%
26-Jun-19	0.5890	1159.75	1159.67	0.08	0.01%
9-Oct-19	0.4660	1129.32	1129.08	0.24	0.02%
9-Oct-19	0.4660	1129.32	1129.08	0.24	0.02%
26-May-20	0.4440	1107.44	1107.85	-0.42	-0.04%
21-Jan-20	0.5090	1132.91	1133.28	-0.37	-0.03%
13-Jun-19	0.4510	1113.26	1112.59	0.67	0.06%
13-Jun-19	0.4510	1113.26	1112.59	0.67	0.06%
25-Feb-19	0.4640	1148.73	1148.20	0.52	0.05%
18-Feb-20	0.5220	1174.68	1175.16	-0.47	-0.04%
6-Jun-19	0.4390	1106.79	1106.21	0.58	0.05%
5-Jun-19	0.4430	1101.67	1100.97	0.70	0.06%
5-Jun-19	0.4430	1101.67	1100.97	0.70	0.06%
18-Apr-19	0.4330	1110.24	1110.15	0.09	0.01%
22-Jul-19	0.4870	1161.03	1161.32	-0.28	-0.02%
22-Jul-19	0.4870	1161.03	1161.32	-0.28	-0.02%

15-Jul-19	0.4600	1142.48	1142.53	-0.05	0.00%
15-Jul-19	0.4600	1142.48	1142.53	-0.05	0.00%
7-May-19	0.4140	1089.89	1089.61	0.29	0.03%
7-May-19	0.4140	1089.89	1089.61	0.29	0.03%
23-Apr-19	0.4580	1127.89	1127.94	-0.05	0.00%
3-Jul-19	0.4640	1113.94	1113.10	0.84	0.08%
8-May-19	0.4210	1114.05	1113.82	0.22	0.02%
2-Jun-20	0.4660	1157.10	1157.00	0.09	0.01%
26-Nov-19	0.4590	1126.18	1126.39	-0.20	-0.02%
26-Nov-19	0.4590	1126.18	1126.39	-0.20	-0.02%
16-Apr-19	0.4710	1145.90	1146.18	-0.28	-0.02%
19-Nov-19	0.4450	1108.75	1108.34	0.41	0.04%
19-Nov-19	0.4450	1108.75	1108.34	0.41	0.04%
22-Oct-19	0.4820	1147.26	1147.54	-0.27	-0.02%
22-Oct-19	0.4820	1147.26	1147.54	-0.27	-0.02%
27-May-20	0.4690	1123.45	1122.78	0.66	0.06%
20-Jun-19	0.4220	1110.08	1109.68	0.40	0.04%
20-Jun-19	0.4220	1110.08	1109.68	0.40	0.04%
16-Jul-19	0.4870	1134.35	1133.64	0.72	0.06%
2-Apr-20	0.4090	1113.13	1112.59	0.53	0.05%
20-Jun-19	0.4550	1106.15	1105.56	0.59	0.05%
20-Jun-19	0.4550	1106.15	1105.56	0.59	0.05%
22-Apr-20	0.4310	1105.49	1104.94	0.54	0.05%
22-Apr-20	0.4300	1100.49	1099.64	0.85	0.08%
30-Jan-19	0.4850	1147.55	1147.38	0.17	0.01%
6-Aug-19	0.5400	1188.56	1188.53	0.03	0.00%
6-Aug-19	0.5400	1188.56	1188.53	0.03	0.00%
29-Jul-19	0.4790	1171.91	1171.84	0.06	0.01%
29-Jul-19	0.4790	1171.91	1171.84	0.06	0.01%
16-Jun-20	0.4430	1124.57	1124.48	0.09	0.01%
15-Mar-19	0.4390	1117.15	1117.07	0.08	0.01%
16-Jun-20	0.4430	1124.57	1124.48	0.09	0.01%
31-Jul-19	0.4480	1103.99	1103.43	0.56	0.05%
31-Jul-19	0.4480	1103.99	1103.43	0.56	0.05%
1-Aug-18	0.4730	1110.49	1109.48	1.01	0.09%
1-Aug-18	0.4730	1110.49	1109.48	1.01	0.09%
21-May-19	0.4450	1114.82	1114.37	0.45	0.04%
22-Apr-19	0.4580	1121.60	1121.73	-0.13	-0.01%
16-Jun-20	0.4430	1124.57	1124.48	0.09	0.01%
5-Mar-19	0.4500	1094.12	1093.43	0.70	0.06%
5-Mar-19	0.4500	1094.12	1093.43	0.70	0.06%
16-Jun-20	0.4430	1124.57	1124.48	0.09	0.01%
4-May-20	0.4100	1093.10	1092.39	0.71	0.07%
5-Sep-19	0.6070	1180.73	1181.31	-0.58	-0.05%
5-Sep-19	0.6070	1180.73	1181.31	-0.58	-0.05%
19-Sep-19	0.4250	1151.15	1150.48	0.67	0.06%
8-Mar-19	0.4920	1204.80	1205.33	-0.53	-0.04%
7-Apr-20	0.5990	1253.51	1254.16	-0.64	-0.05%
31-May-19	0.3580	1318.01	1317.69	0.32	0.02%
8-May-19	0.3400	1300.89	1300.50	0.40	0.03%
8-Jan-20	0.5150	1337.82	1338.49	-0.68	-0.05%
24-Jun-19	0.3570	1284.45	1284.17	0.28	0.02%
24-Jun-19	0.3570	1284.41	1284.13	0.28	0.02%
8-Jan-20	0.5150	1335.68	1336.36	-0.68	-0.05%
19-Nov-19	0.6240	1317.70	1318.90	-1.21	-0.09%
7-Aug-19	0.3670	1302.64	1302.47	0.17	0.01%
4-Apr-19	0.3590	1326.56	1326.70	-0.14	-0.01%

17-Oct-19	0.5630	1282.10	1282.97	-0.87	-0.07%
17-Oct-19	0.5630	1281.13	1282.00	-0.87	-0.07%
17-Oct-19	0.5630	1282.66	1283.54	-0.87	-0.07%
17-Oct-19	0.5630	1281.21	1282.08	-0.87	-0.07%
16-Apr-19	0.3620	1295.80	1295.62	0.18	0.01%
16-Apr-19	0.3630	1296.32	1296.14	0.18	0.01%
20-Aug-19	0.3590	1256.97	1256.60	0.36	0.03%
16-Jun-20	0.7160	1337.36	1338.86	-1.50	-0.11%
16-Jun-20	0.7160	1337.36	1338.86	-1.50	-0.11%
30-Jan-20	0.6290	1338.97	1339.54	-0.57	-0.04%
15-Aug-19	0.5770	1269.45	1269.48	-0.03	0.00%
15-Aug-19	0.5770	1270.21	1270.24	-0.03	0.00%
9-Jul-19	0.4550	1324.42	1324.45	-0.03	0.00%
9-Jul-19	0.4550	1324.61	1324.65	-0.03	0.00%
27-Apr-18	0.3970	1757.82	1758.06	-0.24	-0.01%
27-Apr-18	0.3970	1756.76	1757.00	-0.24	-0.01%
31-May-19	0.3340	1233.22	1233.34	-0.11	-0.01%
27-Feb-18	0.4090	1289.51	1288.79	0.71	0.06%
14-May-20	0.5270	1302.17	1302.28	-0.12	-0.01%
25-Mar-19	0.3880	1280.68	1280.56	0.12	0.01%
10-Sep-19	0.5540	1358.33	1358.72	-0.39	-0.03%
25-Apr-19	0.5590	1302.49	1303.06	-0.57	-0.04%
25-Apr-19	0.5580	1301.31	1301.87	-0.56	-0.04%
28-May-19	0.4160	1213.59	1213.65	-0.05	0.00%
28-Feb-19	0.4270	1182.72	1183.07	-0.35	-0.03%
8-Apr-19	0.3790	1248.17	1248.25	-0.08	-0.01%
14-Aug-18	0.3520	1212.08	1211.65	0.43	0.04%
8-May-18	0.4250	1216.76	1217.20	-0.45	-0.04%
22-Mar-19	0.4120	1320.99	1321.45	-0.47	-0.04%
27-Sep-19	0.5890	1190.04	1190.90	-0.86	-0.07%
27-Sep-19	0.5880	1189.35	1190.21	-0.86	-0.07%
20-Feb-20	0.7870	1369.86	1371.60	-1.74	-0.13%
11-Jul-18	0.3480	1255.70	1255.38	0.32	0.03%
17-Mar-20	0.7840	1454.86	1456.76	-1.89	-0.13%
22-Jun-18	0.4120	1100.59	1099.20	1.38	0.13%
13-Feb-19	0.5660	1129.94	1130.70	-0.76	-0.07%
13-Feb-19	0.5660	1129.94	1130.70	-0.76	-0.07%
18-Jun-19	0.3900	1088.28	1086.91	1.37	0.13%
18-Jun-19	0.3900	1088.28	1086.91	1.37	0.13%
24-Sep-19	0.4990	1098.81	1098.38	0.43	0.04%
24-Sep-19	0.4990	1098.81	1098.38	0.43	0.04%
5-Sep-19	0.5020	1106.67	1105.86	0.81	0.07%
5-Sep-19	0.5020	1106.67	1105.86	0.81	0.07%
7-Apr-20	0.4770	1137.42	1137.56	-0.15	-0.01%
16-Oct-19	0.4570	1126.65	1126.18	0.47	0.04%
16-Jul-19	0.4920	1144.63	1144.27	0.36	0.03%
16-Oct-19	0.4570	1126.65	1126.18	0.47	0.04%
18-Apr-19	0.4610	1138.41	1138.49	-0.08	-0.01%
5-Nov-19	0.4670	1100.15	1100.09	0.06	0.01%
5-Nov-19	0.4670	1100.15	1100.09	0.06	0.01%
8-Jan-19	0.4890	1154.73	1155.11	-0.38	-0.03%
7-Jan-19	0.4890	1169.37	1169.62	-0.25	-0.02%
22-Nov-19	0.4210	1091.16	1090.93	0.22	0.02%
22-Nov-19	0.4210	1091.16	1090.93	0.22	0.02%
28-Aug-19	0.4960	1111.09	1110.41	0.68	0.06%
28-Aug-19	0.4960	1111.09	1110.41	0.68	0.06%
19-Sep-19	0.4450	1128.47	1128.22	0.25	0.02%

19-Sep-19	0.4450	1128.47	1128.22	0.25	0.02%
16-Jan-20	0.4720	1107.66	1106.85	0.81	0.07%
14-Nov-19	0.4470	1110.46	1109.86	0.60	0.05%
14-Nov-19	0.4470	1110.46	1109.86	0.60	0.05%
12-Feb-19	0.4360	1111.15	1110.77	0.39	0.03%
2-Aug-18	0.5270	1161.88	1161.54	0.34	0.03%
4-Feb-20	0.4580	1144.30	1144.71	-0.40	-0.04%
10-Sep-19	0.4480	1096.83	1096.11	0.72	0.07%
10-Sep-19	0.4480	1096.83	1096.11	0.72	0.07%
11-Jun-19	0.4300	1086.91	1086.30	0.61	0.06%
31-Aug-19	0.4820	1143.33	1143.19	0.14	0.01%
31-Aug-19	0.4820	1143.33	1143.19	0.14	0.01%
18-Feb-20	0.4540	1121.73	1121.28	0.45	0.04%
26-Feb-19	0.4380	1105.02	1104.36	0.65	0.06%
22-Apr-20	0.4860	1114.37	1114.43	-0.06	-0.01%
13-Mar-20	0.6310	1239.07	1240.29	-1.21	-0.10%
9-Dec-19	0.4490	1174.98	1175.34	-0.36	-0.03%
9-Aug-19	0.3910	1406.86	1407.12	-0.26	-0.02%
31-May-19	0.3590	1318.57	1318.25	0.32	0.02%
25-Jun-19	0.3660	1287.38	1287.17	0.21	0.02%
25-Jun-19	0.3660	1287.38	1287.17	0.21	0.02%
12-Dec-19	0.5890	1315.48	1315.61	-0.13	-0.01%
12-Dec-19	0.5890	1315.07	1315.20	-0.13	-0.01%
15-Jan-20	0.7230	1335.32	1336.65	-1.33	-0.10%
15-Jan-20	0.7230	1335.34	1336.67	-1.33	-0.10%
31-Jul-19	0.4180	1303.16	1303.02	0.15	0.01%
31-Jul-19	0.4180	1303.09	1302.94	0.15	0.01%
31-Jul-19	0.4180	1303.15	1303.00	0.15	0.01%
31-Jul-19	0.4180	1303.03	1302.89	0.15	0.01%
21-Mar-19	0.3730	1310.10	1310.30	-0.21	-0.02%
21-Mar-19	0.3730	1310.47	1310.68	-0.21	-0.02%
10-Sep-19	0.6840	1278.64	1279.79	-1.15	-0.09%
10-Sep-19	0.6840	1279.03	1280.18	-1.15	-0.09%
10-Sep-19	0.7470	1286.95	1287.90	-0.95	-0.07%
10-Sep-19	0.7470	1287.09	1288.03	-0.95	-0.07%
10-Sep-19	0.7470	1286.92	1287.87	-0.95	-0.07%
10-Sep-19	0.7470	1287.08	1288.03	-0.95	-0.07%
11-Feb-20	0.6710	1326.75	1328.00	-1.26	-0.09%
11-Feb-20	0.6710	1326.90	1328.16	-1.26	-0.09%
22-Aug-19	0.6770	1274.56	1275.42	-0.86	-0.07%
27-Aug-19	0.7670	1254.21	1255.69	-1.47	-0.12%
23-Jan-19	0.3880	1176.05	1175.38	0.67	0.06%
12-Jan-18	0.3970	1260.81	1260.82	-0.01	0.00%
9-Oct-19	0.8540	1297.19	1299.01	-1.82	-0.14%
9-Oct-19	0.8540	1297.34	1299.16	-1.82	-0.14%
6-Feb-18	0.4190	1284.71	1285.06	-0.35	-0.03%
18-Oct-17	0.3530	1315.45	1315.15	0.29	0.02%
27-Aug-19	0.5720	1301.82	1302.78	-0.95	-0.07%
27-Aug-19	0.5710	1298.42	1299.37	-0.95	-0.07%
13-May-20	0.7250	1334.99	1336.37	-1.38	-0.10%
1-Oct-19	0.3570	1143.15	1143.14	0.00	0.00%
1-Mar-20	0.3570	1149.12	1149.12	0.00	0.00%
21-Aug-19	0.5530	1254.03	1254.55	-0.52	-0.04%
2-Feb-20	0.6230	1303.51	1304.71	-1.20	-0.09%
8-Apr-20	0.5880	1209.01	1209.70	-0.68	-0.06%
27-Apr-20	0.4740	1093.58	1092.14	1.43	0.13%
26-Mar-19	0.4230	1092.26	1091.44	0.82	0.08%

26-Mar-19	0.4230	1092.26	1091.44	0.82	0.08%
3-Mar-20	0.4960	1158.55	1158.67	-0.11	-0.01%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4740	1110.29	1109.71	0.58	0.05%
4-Mar-20	0.4530	1101.88	1101.07	0.82	0.07%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4740	1110.29	1109.71	0.58	0.05%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4740	1110.29	1109.71	0.58	0.05%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4740	1110.29	1109.71	0.58	0.05%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
3-Mar-20	0.4970	1163.15	1163.27	-0.12	-0.01%
2-Jun-20	0.4740	1110.29	1109.71	0.58	0.05%
2-Jun-20	0.4740	1110.29	1109.71	0.58	0.05%
2-Jun-20	0.4740	1110.29	1109.71	0.58	0.05%
4-Mar-20	0.4530	1101.88	1101.07	0.82	0.07%
2-Jun-20	0.4640	1112.52	1112.10	0.42	0.04%
10-Jul-19	0.4700	1113.25	1112.66	0.59	0.05%
10-Jul-19	0.4700	1113.25	1112.66	0.59	0.05%
3-Jun-20	0.4850	1129.14	1128.86	0.28	0.03%
4-Dec-19	0.4760	1123.16	1122.89	0.27	0.02%
25-Sep-19	0.4850	1134.22	1133.90	0.32	0.03%
18-Feb-20	0.5230	1168.73	1169.12	-0.39	-0.03%
16-Oct-19	0.4870	1154.98	1154.97	0.01	0.00%
16-Oct-19	0.4870	1154.98	1154.97	0.01	0.00%
18-Apr-19	0.4640	1143.70	1143.35	0.36	0.03%
16-Jul-19	0.4540	1116.10	1115.58	0.52	0.05%
5-Sep-19	0.4720	1106.96	1106.37	0.60	0.05%
16-Oct-19	0.4630	1127.99	1127.94	0.05	0.00%
16-Oct-19	0.4630	1127.99	1127.94	0.05	0.00%
16-Oct-19	0.4860	1134.78	1134.97	-0.18	-0.02%
16-Oct-19	0.4860	1134.78	1134.97	-0.18	-0.02%
16-Jul-19	0.4870	1134.17	1134.16	0.01	0.00%
13-Jan-20	0.4770	1156.50	1156.68	-0.18	-0.02%
7-Mar-19	0.4560	1124.00	1123.68	0.32	0.03%
9-May-19	0.4170	1101.15	1100.56	0.59	0.05%
9-May-19	0.4170	1101.15	1100.56	0.59	0.05%
25-Apr-19	0.4990	1143.54	1143.21	0.33	0.03%
25-Apr-19	0.4990	1143.54	1143.21	0.33	0.03%
21-Nov-19	0.4250	1110.91	1110.55	0.35	0.03%
21-Nov-19	0.4250	1110.91	1110.55	0.35	0.03%
2-Jun-20	0.4760	1156.38	1156.47	-0.08	-0.01%
19-Apr-19	0.4490	1181.38	1181.77	-0.40	-0.03%
13-May-19	0.4290	1090.16	1089.49	0.66	0.06%
17-Oct-19	0.4680	1142.83	1143.00	-0.17	-0.01%
17-Oct-19	0.4680	1142.83	1143.00	-0.17	-0.01%
22-Oct-19	0.4650	1126.76	1126.70	0.06	0.01%
22-Oct-19	0.4650	1126.76	1126.70	0.06	0.01%
19-Jun-19	0.4450	1102.15	1101.71	0.44	0.04%
14-Oct-19	0.4680	1132.46	1132.17	0.30	0.03%
14-Oct-19	0.4680	1132.46	1132.17	0.30	0.03%
16-Oct-18	0.4540	1105.61	1104.58	1.03	0.09%
22-Jan-19	0.4820	1121.71	1120.54	1.16	0.10%

2-Aug-18	0.4170	1099.09	1098.72	0.38	0.03%
2-Aug-18	0.4170	1099.09	1098.72	0.38	0.03%
8-Jul-19	0.4550	1119.04	1118.73	0.31	0.03%
8-Jul-19	0.4550	1119.04	1118.73	0.31	0.03%
29-Jan-20	0.4400	1179.99	1180.08	-0.08	-0.01%
26-Aug-19	0.4610	1103.87	1102.92	0.96	0.09%
13-Jan-20	0.4650	1140.91	1140.79	0.12	0.01%
19-Jun-19	0.4450	1102.15	1101.71	0.44	0.04%
24-Jul-19	0.4450	1132.38	1132.23	0.16	0.01%
24-Jul-19	0.4450	1132.38	1132.23	0.16	0.01%
20-Feb-19	0.4180	1083.95	1083.68	0.27	0.02%
20-Apr-20	0.4600	1116.88	1116.52	0.36	0.03%
4-Dec-19	0.5380	1145.26	1145.71	-0.46	-0.04%
6-Mar-20	0.4140	1112.28	1111.59	0.69	0.06%
3-Mar-20	0.3900	1115.48	1115.44	0.04	0.00%
23-May-19	0.4490	1123.41	1123.28	0.13	0.01%
11-May-20	0.3190	1082.37	1081.44	0.93	0.09%
21-May-19	0.4560	1102.83	1101.97	0.86	0.08%
11-Jun-19	0.5680	1142.36	1142.53	-0.17	-0.01%
8-Oct-19	0.4860	1128.06	1128.02	0.05	0.00%
8-Oct-19	0.4860	1128.06	1128.02	0.05	0.00%
9-Dec-19	0.6300	1214.14	1215.39	-1.25	-0.10%
25-Oct-19	0.5400	1298.15	1298.60	-0.45	-0.03%
25-Oct-19	0.5400	1298.49	1298.94	-0.45	-0.03%
14-Aug-19	0.3510	1276.70	1276.53	0.17	0.01%
14-Aug-19	0.3510	1276.94	1276.77	0.17	0.01%
24-Jun-19	0.3640	1290.92	1290.60	0.32	0.02%
25-Mar-19	0.3630	1302.60	1302.43	0.18	0.01%
25-Mar-19	0.3630	1299.26	1299.08	0.18	0.01%
24-Jun-19	0.3710	1274.77	1274.66	0.11	0.01%
24-Jun-19	0.3710	1274.52	1274.41	0.11	0.01%
4-Apr-19	0.3800	1325.96	1326.15	-0.19	-0.01%
30-Apr-20	0.5130	1268.12	1268.40	-0.28	-0.02%
16-Jul-19	0.4310	1324.02	1323.64	0.39	0.03%
16-Jul-19	0.4310	1324.01	1323.63	0.39	0.03%
20-Mar-20	0.5780	1324.97	1325.75	-0.79	-0.06%
1-Dec-19	0.3600	1303.88	1303.88	0.00	0.00%
1-Dec-19	0.3600	1304.02	1304.02	0.00	0.00%
1-Dec-19	0.3600	1303.91	1303.91	0.00	0.00%
23-Aug-19	0.3440	1246.67	1245.90	0.78	0.06%
19-Nov-18	0.3740	1198.53	1198.55	-0.02	0.00%
23-Oct-18	0.3910	1171.02	1171.17	-0.15	-0.01%
27-Mar-20	0.5900	1227.36	1228.26	-0.91	-0.07%
24-May-19	0.3330	1119.18	1117.96	1.21	0.11%
30-Sep-19	0.5940	1190.27	1191.10	-0.82	-0.07%
30-Sep-19	0.5930	1188.41	1189.22	-0.82	-0.07%
17-Jun-19	0.4230	1179.54	1177.85	1.69	0.14%
15-Jan-20	0.8050	1282.92	1284.82	-1.90	-0.15%
28-Aug-18	0.3800	1236.99	1236.67	0.31	0.03%
21-Sep-18	0.6420	1274.27	1275.78	-1.52	-0.12%
10-Apr-19	0.3560	1315.12	1315.27	-0.14	-0.01%
22-Mar-20	0.6220	1338.56	1339.28	-0.72	-0.05%
6-Mar-19	0.6830	1421.16	1422.57	-1.40	-0.10%
7-Jan-20	0.9030	1368.02	1369.66	-1.64	-0.12%
7-Jan-20	0.9030	1368.02	1369.66	-1.64	-0.12%
1-Feb-19	0.6090	1415.10	1415.94	-0.84	-0.06%
25-Jun-18	0.4610	1226.03	1225.98	0.05	0.00%

24-Jun-19	0.4540	1101.49	1100.34	1.15	0.10%
24-Jun-19	0.4540	1101.49	1100.34	1.15	0.10%
10-Jun-19	0.4760	1111.50	1111.05	0.45	0.04%
10-Jul-19	0.3990	1104.65	1104.29	0.36	0.03%
10-Jul-19	0.3990	1104.65	1104.29	0.36	0.03%
10-Jun-19	0.4760	1111.50	1111.05	0.45	0.04%
10-Jun-19	0.4760	1111.50	1111.05	0.45	0.04%
3-Jun-20	0.4540	1102.63	1101.56	1.07	0.10%
3-Jun-20	0.4480	1102.16	1101.24	0.92	0.08%
19-Mar-19	0.4190	1085.22	1084.17	1.05	0.10%
19-Mar-19	0.4190	1085.22	1084.17	1.05	0.10%
10-Jun-19	0.4760	1111.50	1111.05	0.45	0.04%
16-Nov-19	0.4370	1104.96	1104.39	0.57	0.05%
16-Nov-19	0.4370	1104.96	1104.39	0.57	0.05%
9-Jan-19	0.5130	1164.97	1165.66	-0.69	-0.06%
9-Jan-19	0.5130	1164.97	1165.66	-0.69	-0.06%
14-Jun-19	0.4870	1115.97	1115.47	0.50	0.04%
14-Jun-19	0.4870	1115.97	1115.47	0.50	0.04%
4-Jun-20	0.4980	1145.17	1144.98	0.19	0.02%
23-Apr-19	0.4670	1120.44	1119.96	0.48	0.04%
16-Oct-19	0.4310	1113.99	1113.89	0.09	0.01%
16-Oct-19	0.4310	1113.99	1113.89	0.09	0.01%
24-Apr-19	0.4850	1167.30	1167.50	-0.20	-0.02%
15-Jul-19	0.4620	1138.85	1138.66	0.20	0.02%
15-Jul-19	0.4620	1138.85	1138.66	0.20	0.02%
7-May-19	0.4330	1092.36	1092.07	0.28	0.03%
7-May-19	0.4330	1092.36	1092.07	0.28	0.03%
9-Jan-19	0.5020	1166.07	1166.28	-0.21	-0.02%
3-Jun-20	0.4360	1113.87	1113.15	0.71	0.06%
3-Jun-20	0.4940	1153.70	1153.75	-0.05	0.00%
25-Apr-19	0.4980	1151.93	1152.27	-0.34	-0.03%
25-Apr-19	0.4980	1151.93	1152.27	-0.34	-0.03%
26-Nov-19	0.5490	1138.58	1139.00	-0.42	-0.04%
26-Nov-19	0.5490	1138.58	1139.00	-0.42	-0.04%
20-Aug-19	0.4360	1092.79	1091.47	1.32	0.12%
8-Jun-20	0.4890	1131.60	1131.57	0.03	0.00%
9-Oct-19	0.4380	1123.77	1123.01	0.76	0.07%
9-Oct-19	0.4380	1123.77	1123.01	0.76	0.07%
20-Mar-19	0.4220	1092.68	1092.24	0.44	0.04%
29-Apr-20	0.5330	1173.43	1173.41	0.02	0.00%
11-Apr-19	0.4580	1127.25	1127.14	0.11	0.01%
9-Jun-20	0.5030	1140.94	1140.86	0.09	0.01%
16-May-19	0.5500	1206.08	1206.30	-0.21	-0.02%
16-May-19	0.5500	1206.08	1206.30	-0.21	-0.02%
12-Mar-19	0.3770	1139.76	1139.61	0.15	0.01%
16-Jul-19	0.4570	1087.55	1086.35	1.20	0.11%
16-Jul-19	0.4570	1087.55	1086.35	1.20	0.11%
19-Mar-19	0.4190	1085.22	1084.17	1.05	0.10%
19-Mar-19	0.4190	1085.22	1084.17	1.05	0.10%
16-Jun-20	0.4540	1125.12	1124.89	0.23	0.02%
28-Jan-20	0.4280	1128.39	1128.39	0.00	0.00%
9-Jan-20	0.4110	1126.71	1126.85	-0.14	-0.01%
19-Feb-19	0.4040	1085.79	1085.05	0.74	0.07%
19-Feb-19	0.4040	1085.79	1085.05	0.74	0.07%
31-Mar-20	0.4390	1097.83	1097.11	0.72	0.07%
31-Dec-19	0.5080	1140.91	1140.78	0.13	0.01%
11-Jun-19	0.5920	1151.80	1152.12	-0.32	-0.03%

6-Dec-19	0.4830	1193.65	1194.19	-0.54	-0.05%
16-Apr-19	0.5250	1167.28	1167.74	-0.46	-0.04%
28-Feb-19	0.4430	1143.19	1143.49	-0.31	-0.03%
13-Apr-20	0.5520	1284.07	1284.61	-0.55	-0.04%
1-Apr-19	0.3540	1305.62	1305.28	0.34	0.03%
5-Mar-20	0.5330	1296.84	1296.88	-0.05	0.00%
23-Jul-19	0.3520	1267.48	1267.18	0.30	0.02%
18-Feb-20	0.5580	1296.78	1297.30	-0.52	-0.04%
18-Feb-20	0.5580	1296.84	1297.36	-0.52	-0.04%
10-Jun-20	0.6200	1361.34	1362.28	-0.94	-0.07%
10-Jun-20	0.6200	1361.34	1362.28	-0.94	-0.07%
23-Jul-19	0.3680	1286.62	1286.47	0.14	0.01%
27-May-20	0.6110	1311.07	1311.98	-0.91	-0.07%
14-May-19	0.3970	1310.83	1310.91	-0.08	-0.01%
7-Aug-19	0.3810	1308.73	1308.73	0.00	0.00%
7-Aug-19	0.3810	1307.79	1307.79	0.00	0.00%
19-Feb-20	0.6880	1309.19	1310.42	-1.23	-0.09%
19-Feb-20	0.6880	1309.23	1310.46	-1.23	-0.09%
29-Oct-18	0.3570	1335.52	1335.28	0.24	0.02%
29-Oct-18	0.3570	1334.70	1334.46	0.24	0.02%
15-Apr-20	0.6330	1323.61	1324.38	-0.77	-0.06%
12-May-20	0.7180	1337.89	1339.15	-1.26	-0.09%
12-May-20	0.7180	1337.76	1339.02	-1.26	-0.09%
31-Jul-19	0.4430	1309.85	1310.00	-0.15	-0.01%
6-Mar-19	0.4330	1241.66	1242.11	-0.45	-0.04%
12-May-20	0.7370	1338.37	1339.25	-0.87	-0.07%
23-Aug-19	0.3460	1250.03	1249.25	0.78	0.06%
11-Jun-20	0.8350	1277.57	1279.06	-1.49	-0.12%
15-Apr-20	0.6280	1256.59	1257.61	-1.02	-0.08%
3-Nov-17	0.3780	1279.65	1279.47	0.18	0.01%
25-Apr-19	0.3280	1137.69	1136.54	1.15	0.10%
19-May-20	0.7970	1270.53	1271.98	-1.45	-0.11%
23-Apr-19	0.3250	1170.56	1169.86	0.70	0.06%
1-Mar-19	0.3680	1244.40	1242.70	1.70	0.14%
13-Feb-19	0.3900	1198.45	1198.22	0.23	0.02%
23-Jul-18	0.3430	1282.28	1281.61	0.67	0.05%
17-Sep-19	0.4530	1089.45	1088.81	0.64	0.06%
17-Sep-19	0.4530	1089.45	1088.81	0.64	0.06%
29-Aug-19	0.4680	1102.64	1101.72	0.92	0.08%
29-Aug-19	0.4680	1102.64	1101.72	0.92	0.08%
5-Mar-19	0.4110	1106.77	1106.35	0.41	0.04%
5-Mar-19	0.4110	1106.77	1106.35	0.41	0.04%
13-Mar-19	0.5510	1118.63	1119.36	-0.73	-0.07%
29-Aug-19	0.4680	1102.64	1101.72	0.92	0.08%
29-Aug-19	0.4680	1102.64	1101.72	0.92	0.08%
17-Sep-19	0.4530	1089.45	1088.81	0.64	0.06%
17-Sep-19	0.4530	1089.45	1088.81	0.64	0.06%
3-Mar-20	0.3900	1108.12	1108.04	0.08	0.01%
5-Mar-19	0.4110	1106.77	1106.35	0.41	0.04%
5-Mar-19	0.4110	1106.77	1106.35	0.41	0.04%
29-Aug-19	0.4680	1102.64	1101.72	0.92	0.08%
29-Aug-19	0.4680	1102.64	1101.72	0.92	0.08%
8-May-19	0.4570	1109.70	1109.51	0.19	0.02%
17-Mar-20	0.5300	1170.15	1170.48	-0.33	-0.03%
7-Jun-19	0.4780	1124.06	1123.63	0.43	0.04%
4-Jun-20	0.5410	1150.77	1150.94	-0.18	-0.02%
26-Sep-19	0.4850	1128.28	1127.86	0.41	0.04%

16-Oct-19	0.4740	1147.16	1146.85	0.31	0.03%
16-Oct-19	0.4740	1147.16	1146.85	0.31	0.03%
21-Apr-20	0.4630	1122.67	1122.40	0.28	0.02%
16-Jul-19	0.4690	1115.05	1114.43	0.62	0.06%
18-Apr-19	0.4790	1138.39	1138.46	-0.07	-0.01%
1-May-19	0.3970	1094.45	1094.03	0.42	0.04%
5-Nov-19	0.4570	1119.05	1118.74	0.31	0.03%
5-Nov-19	0.4570	1119.05	1118.74	0.31	0.03%
2-May-19	0.4050	1084.72	1084.28	0.44	0.04%
2-May-19	0.4050	1084.72	1084.28	0.44	0.04%
14-Aug-19	0.4500	1104.34	1103.79	0.55	0.05%
14-Aug-19	0.4500	1104.34	1103.79	0.55	0.05%
14-Jan-20	0.4820	1144.96	1145.04	-0.08	-0.01%
26-Nov-19	0.4790	1142.91	1143.17	-0.25	-0.02%
26-Nov-19	0.4790	1142.91	1143.17	-0.25	-0.02%
17-Oct-19	0.4990	1142.75	1142.97	-0.22	-0.02%
17-Oct-19	0.4990	1142.75	1142.97	-0.22	-0.02%
25-Jun-19	0.5310	1201.28	1201.45	-0.17	-0.01%
25-Jun-19	0.5310	1201.28	1201.45	-0.17	-0.01%
11-Mar-20	0.4060	1087.66	1086.84	0.82	0.08%
22-Oct-19	0.5050	1160.85	1161.08	-0.23	-0.02%
22-Oct-19	0.5050	1160.85	1161.08	-0.23	-0.02%
16-Apr-20	0.5010	1137.20	1137.13	0.06	0.01%
22-Apr-20	0.5140	1184.95	1185.33	-0.37	-0.03%
25-Mar-20	0.4930	1125.45	1124.88	0.57	0.05%
24-Apr-19	0.4380	1100.04	1099.20	0.84	0.08%
14-May-19	0.4460	1113.85	1113.43	0.42	0.04%
4-Sep-19	0.4900	1120.71	1120.22	0.49	0.04%
4-Sep-19	0.4900	1120.71	1120.22	0.49	0.04%
7-Nov-19	0.5430	1200.36	1200.79	-0.43	-0.04%
7-Nov-19	0.5430	1200.36	1200.79	-0.43	-0.04%
7-May-19	0.4850	1114.07	1114.09	-0.03	0.00%
27-Jan-20	0.4680	1114.67	1114.25	0.42	0.04%
7-May-20	0.4770	1103.99	1103.05	0.94	0.08%
9-Dec-19	0.4420	1107.29	1107.14	0.15	0.01%
13-Feb-20	0.4210	1098.14	1097.43	0.70	0.06%
29-May-19	0.5110	1224.17	1224.46	-0.29	-0.02%
29-May-19	0.5110	1224.17	1224.46	-0.29	-0.02%
28-Oct-19	0.4810	1129.14	1128.86	0.28	0.02%
28-Oct-19	0.4810	1129.14	1128.86	0.28	0.02%
14-Nov-19	0.5030	1142.55	1142.48	0.07	0.01%
14-Nov-19	0.5030	1142.55	1142.48	0.07	0.01%
13-May-20	0.4540	1137.77	1137.49	0.27	0.02%
3-Mar-20	0.3900	1108.12	1108.04	0.08	0.01%
20-Feb-19	0.3790	1089.27	1088.98	0.29	0.03%
20-Feb-19	0.3790	1089.27	1088.98	0.29	0.03%
16-Apr-19	0.4220	1089.62	1088.74	0.88	0.08%
18-Mar-20	0.6270	1209.04	1209.69	-0.65	-0.05%
3-Dec-19	0.4320	1129.67	1129.91	-0.24	-0.02%
18-Mar-19	0.5090	1221.09	1221.50	-0.41	-0.03%
12-Jun-20	0.5860	1401.63	1402.35	-0.72	-0.05%
27-Jun-19	0.3590	1300.06	1299.74	0.32	0.02%
29-Aug-19	0.5670	1312.25	1312.87	-0.62	-0.05%
9-Apr-19	0.3840	1268.30	1268.43	-0.14	-0.01%
23-Jul-19	0.3690	1273.86	1273.64	0.22	0.02%
25-Jun-19	0.3620	1283.96	1283.68	0.27	0.02%
21-Jan-20	0.6600	1324.53	1325.53	-1.00	-0.08%

27-Jan-20	0.6920	1324.84	1325.87	-1.03	-0.08%
26-Mar-20	0.7540	1352.16	1353.55	-1.39	-0.10%
26-Mar-20	0.7540	1352.09	1353.48	-1.39	-0.10%
15-Dec-19	0.6270	1306.43	1307.34	-0.90	-0.07%
15-Dec-19	0.6270	1306.45	1307.36	-0.90	-0.07%
1-Mar-20	0.3680	1307.22	1307.22	0.00	0.00%
1-Jul-19	0.3670	1293.58	1293.58	0.00	0.00%
1-Mar-20	0.3680	1307.23	1307.23	0.00	0.00%
1-Jul-19	0.3670	1293.52	1293.51	0.00	0.00%
1-Mar-20	0.3680	1307.21	1307.21	0.00	0.00%
25-Feb-20	0.7600	1275.93	1277.36	-1.43	-0.11%
9-Jun-20	0.7550	1330.79	1332.25	-1.46	-0.11%
18-May-20	0.7200	1327.56	1328.49	-0.92	-0.07%
9-Jun-20	0.7550	1330.79	1332.25	-1.46	-0.11%
18-May-20	0.7200	1327.56	1328.49	-0.92	-0.07%
16-Jun-20	0.7320	1324.18	1325.51	-1.34	-0.10%
16-Jun-20	0.7320	1324.18	1325.51	-1.34	-0.10%
14-Nov-19	0.8260	1163.06	1164.82	-1.76	-0.15%
14-Nov-19	0.8260	1163.06	1164.82	-1.76	-0.15%
20-Sep-18	0.3640	1199.04	1198.57	0.47	0.04%
13-Jul-18	0.4920	1325.64	1325.98	-0.34	-0.03%
21-Sep-18	0.6450	1280.87	1282.42	-1.55	-0.12%
20-Dec-18	0.2850	1225.50	1225.21	0.29	0.02%
21-Aug-19	0.5720	1297.48	1298.03	-0.55	-0.04%
21-Aug-19	0.5710	1296.72	1297.27	-0.55	-0.04%
8-May-19	0.4900	1295.15	1295.49	-0.34	-0.03%
4-Mar-20	0.6440	1285.03	1285.71	-0.69	-0.05%
1-Apr-20	0.5030	1127.22	1127.47	-0.25	-0.02%
20-May-20	0.5040	1141.09	1140.67	0.42	0.04%
31-Mar-20	0.4680	1134.99	1134.74	0.24	0.02%
14-Apr-20	0.4470	1111.50	1111.21	0.29	0.03%
27-Feb-20	0.4620	1135.64	1135.81	-0.17	-0.01%
4-Jan-19	0.5520	1131.51	1131.88	-0.37	-0.03%
5-Apr-19	0.4470	1124.11	1124.26	-0.16	-0.01%
4-Jun-20	0.5040	1123.41	1123.23	0.18	0.02%
28-Sep-18	0.4750	1121.28	1121.49	-0.20	-0.02%
24-Oct-19	0.4780	1139.31	1139.36	-0.05	0.00%
24-Oct-19	0.4780	1139.31	1139.36	-0.05	0.00%
16-Jul-19	0.5040	1154.03	1154.26	-0.23	-0.02%
16-Jul-19	0.5040	1154.03	1154.26	-0.23	-0.02%
20-May-20	0.5040	1140.42	1140.01	0.42	0.04%
4-Jun-19	0.4810	1143.32	1143.32	0.00	0.00%
4-Jun-19	0.4810	1143.32	1143.32	0.00	0.00%
6-Jun-19	0.4800	1149.71	1149.65	0.06	0.01%
6-Jun-19	0.4800	1149.71	1149.65	0.06	0.01%
3-Jun-20	0.4930	1165.39	1165.69	-0.30	-0.03%
6-Aug-19	0.5330	1189.66	1189.87	-0.21	-0.02%
6-Aug-19	0.5330	1189.66	1189.87	-0.21	-0.02%
22-Feb-19	0.4540	1111.40	1110.69	0.71	0.06%
12-Dec-19	0.4420	1117.00	1116.80	0.20	0.02%
29-Aug-19	0.4340	1105.57	1105.14	0.43	0.04%
26-Mar-20	0.4980	1134.68	1134.30	0.38	0.03%
13-Mar-19	0.4590	1123.48	1123.19	0.28	0.03%
26-Mar-20	0.5390	1169.16	1169.43	-0.28	-0.02%
20-Jun-19	0.4680	1108.16	1107.37	0.79	0.07%
20-Jun-19	0.4680	1108.16	1107.37	0.79	0.07%
8-Jan-19	0.4500	1111.48	1110.99	0.49	0.04%

25-Apr-19	0.4970	1133.57	1133.49	0.08	0.01%
19-Feb-19	0.4610	1128.59	1128.29	0.30	0.03%
29-Jul-19	0.5080	1129.88	1129.29	0.58	0.05%
29-Jul-19	0.5080	1129.88	1129.29	0.58	0.05%
29-Aug-19	0.4340	1105.13	1104.69	0.43	0.04%
29-Aug-19	0.4340	1106.07	1105.64	0.43	0.04%
5-Mar-20	0.4450	1116.61	1116.14	0.47	0.04%
23-Apr-20	0.4540	1136.49	1136.44	0.05	0.00%
15-Oct-19	0.4250	1156.88	1156.73	0.15	0.01%
15-Oct-19	0.4250	1156.88	1156.73	0.15	0.01%
27-Aug-19	0.4600	1111.64	1111.14	0.51	0.05%
27-Aug-19	0.4600	1111.64	1111.14	0.51	0.05%
31-Jul-19	0.4420	1088.02	1086.97	1.05	0.10%
31-Jul-19	0.4420	1088.02	1086.97	1.05	0.10%
24-Jan-19	0.4350	1118.99	1118.79	0.20	0.02%
6-Nov-19	0.4300	1088.90	1087.95	0.95	0.09%
6-Nov-19	0.4300	1088.90	1087.95	0.95	0.09%
30-Apr-20	0.4580	1083.90	1082.09	1.81	0.17%
22-Apr-20	0.5830	1237.10	1237.74	-0.64	-0.05%
2-Aug-19	0.5180	1215.89	1216.16	-0.27	-0.02%
27-Mar-19	0.5750	1203.21	1203.63	-0.42	-0.04%
31-May-19	0.3770	1325.13	1324.76	0.37	0.03%
16-Jun-20	0.6740	1337.42	1338.59	-1.17	-0.09%
14-Nov-19	0.7930	1359.98	1361.83	-1.85	-0.14%
14-Nov-19	0.7930	1358.23	1360.09	-1.85	-0.14%
12-Nov-19	0.6330	1302.43	1303.26	-0.83	-0.06%
12-May-20	0.6080	1332.72	1333.65	-0.92	-0.07%
11-Dec-19	0.6110	1311.62	1311.97	-0.35	-0.03%
11-Dec-19	0.6110	1311.62	1311.97	-0.35	-0.03%
11-Mar-20	0.5600	1314.60	1314.96	-0.36	-0.03%
16-Jun-20	0.6490	1309.46	1310.45	-0.99	-0.08%
20-Feb-20	0.6430	1326.99	1328.11	-1.13	-0.09%
14-Nov-19	0.5960	1348.64	1349.56	-0.92	-0.07%
31-Mar-20	0.6910	1313.82	1314.72	-0.90	-0.07%
25-Sep-19	0.7320	1311.73	1313.14	-1.41	-0.11%
25-Sep-19	0.7310	1310.54	1311.94	-1.41	-0.11%
16-Jun-20	0.7540	1334.87	1336.04	-1.16	-0.09%
16-Jun-20	0.7540	1334.87	1336.04	-1.16	-0.09%
15-Jul-19	0.3870	1302.81	1302.38	0.44	0.03%
21-May-18	0.3610	1238.11	1237.46	0.64	0.05%
17-Jul-18	0.4230	1264.30	1264.05	0.25	0.02%
1-Aug-19	0.3700	1075.54	1075.54	0.00	0.00%
21-Aug-19	0.5740	1302.29	1302.84	-0.55	-0.04%
21-Aug-19	0.5740	1300.50	1301.05	-0.55	-0.04%
21-Aug-19	0.5740	1301.89	1302.44	-0.55	-0.04%
21-Aug-19	0.5740	1302.37	1302.92	-0.55	-0.04%
21-Aug-19	0.5730	1299.17	1299.72	-0.55	-0.04%
4-Sep-19	0.5390	1169.80	1169.12	0.68	0.06%
17-Sep-19	0.4570	1114.73	1114.21	0.52	0.05%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
5-Mar-19	0.4800	1111.59	1111.26	0.33	0.03%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
17-Sep-19	0.4570	1114.73	1114.21	0.52	0.05%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
5-Mar-19	0.4800	1111.59	1111.26	0.33	0.03%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
4-Sep-19	0.5390	1169.80	1169.12	0.68	0.06%

29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
5-Mar-19	0.4800	1111.59	1111.26	0.33	0.03%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
4-Sep-19	0.5390	1169.80	1169.12	0.68	0.06%
17-Sep-19	0.4570	1114.73	1114.21	0.52	0.05%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
5-Mar-19	0.4800	1111.59	1111.26	0.33	0.03%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
5-Mar-19	0.4800	1111.59	1111.26	0.33	0.03%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
5-Mar-19	0.4800	1111.59	1111.26	0.33	0.03%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
4-Sep-19	0.5390	1169.80	1169.12	0.68	0.06%
5-Mar-20	0.4550	1104.61	1104.22	0.39	0.04%
5-Mar-20	0.4550	1104.61	1104.22	0.39	0.04%
5-Mar-20	0.4550	1104.61	1104.22	0.39	0.04%
5-Mar-20	0.4550	1104.61	1104.22	0.39	0.04%
5-Mar-20	0.4550	1104.61	1104.22	0.39	0.04%
5-Mar-20	0.4550	1104.61	1104.22	0.39	0.04%
17-Sep-19	0.4570	1114.73	1114.21	0.52	0.05%
17-Sep-19	0.4570	1114.73	1114.21	0.52	0.05%
17-Sep-19	0.4570	1114.73	1114.21	0.52	0.05%
4-Sep-19	0.5390	1169.80	1169.12	0.68	0.06%
5-Mar-20	0.4550	1104.61	1104.22	0.39	0.04%
4-Sep-19	0.5390	1169.80	1169.12	0.68	0.06%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
5-Mar-19	0.4800	1111.59	1111.26	0.33	0.03%
29-Aug-19	0.4580	1102.32	1101.50	0.83	0.07%
4-Sep-19	0.5390	1169.80	1169.12	0.68	0.06%
5-Mar-20	0.4550	1104.61	1104.22	0.39	0.04%
17-Sep-19	0.4570	1114.73	1114.21	0.52	0.05%
5-Jul-18	0.5770	1231.59	1232.17	-0.58	-0.05%
18-Apr-19	0.5170	1148.46	1148.14	0.32	0.03%
25-Jun-19	0.5390	1170.73	1170.95	-0.22	-0.02%
24-Jun-20	0.5580	1176.34	1176.40	-0.06	-0.01%
25-Jun-19	0.5390	1170.73	1170.95	-0.22	-0.02%
25-Jun-19	0.5390	1170.73	1170.95	-0.22	-0.02%
11-Sep-19	0.4830	1115.73	1115.23	0.50	0.04%
6-Jun-19	0.4340	1100.07	1099.68	0.39	0.04%
3-Jun-20	0.5220	1168.86	1169.12	-0.27	-0.02%
27-Aug-19	0.5180	1113.69	1112.41	1.27	0.11%
5-Mar-19	0.4680	1111.90	1111.60	0.30	0.03%
5-Mar-19	0.4680	1110.28	1109.99	0.30	0.03%
1-Apr-20	0.4750	1109.93	1109.34	0.60	0.05%
9-Jan-19	0.5140	1166.21	1166.25	-0.05	0.00%
4-Jun-19	0.4590	1123.51	1123.29	0.22	0.02%
4-Jun-19	0.4590	1123.51	1123.29	0.22	0.02%
5-Feb-20	0.4470	1127.90	1127.56	0.35	0.03%
30-Jul-19	0.4750	1192.46	1192.19	0.27	0.02%
30-Jul-19	0.4750	1192.46	1192.19	0.27	0.02%
23-Jan-19	0.5030	1164.33	1164.36	-0.03	0.00%
29-Jan-20	0.5130	1131.37	1131.38	-0.02	0.00%
30-Aug-19	0.5460	1160.63	1160.45	0.18	0.02%
30-Aug-19	0.5460	1160.63	1160.45	0.18	0.02%
24-Jul-19	0.4690	1116.35	1115.19	1.16	0.10%

24-Jul-19	0.4690	1116.35	1115.19	1.16	0.10%
1-Apr-20	0.4750	1109.93	1109.34	0.60	0.05%
9-Aug-19	0.4470	1104.47	1103.89	0.58	0.05%
9-Aug-19	0.4470	1104.47	1103.89	0.58	0.05%
12-Mar-19	0.3930	1107.62	1107.17	0.46	0.04%
22-Jan-19	0.6370	1150.65	1150.02	0.63	0.05%
17-Mar-20	0.4320	1091.24	1090.51	0.74	0.07%
17-Sep-19	0.4570	1114.73	1114.21	0.52	0.05%
12-Feb-19	0.4290	1093.80	1092.76	1.04	0.10%
12-Feb-19	0.4290	1093.80	1092.76	1.04	0.10%
25-Jun-19	0.4690	1113.55	1112.98	0.57	0.05%
25-Jun-19	0.4690	1113.55	1112.98	0.57	0.05%
29-Apr-20	0.4720	1103.44	1102.59	0.85	0.08%
25-Feb-20	0.5720	1165.10	1165.93	-0.84	-0.07%
30-Oct-18	0.3930	1210.62	1210.80	-0.18	-0.01%
23-Jul-18	0.6930	1180.51	1181.83	-1.32	-0.11%
18-Jul-19	0.3750	1297.46	1297.12	0.34	0.03%
18-Jul-19	0.3750	1297.55	1297.21	0.34	0.03%
13-May-20	0.6130	1308.34	1308.90	-0.55	-0.04%
31-May-19	0.3780	1325.72	1325.35	0.37	0.03%
31-May-19	0.3780	1325.25	1324.88	0.37	0.03%
5-Mar-20	0.5830	1315.74	1316.28	-0.55	-0.04%
30-Jul-19	0.3940	1297.66	1297.45	0.21	0.02%
22-Apr-20	0.7440	1334.69	1336.18	-1.49	-0.11%
9-Jul-19	0.3610	1309.76	1309.53	0.23	0.02%
10-Dec-19	0.7600	1339.97	1341.54	-1.57	-0.12%
10-Dec-19	0.7600	1339.87	1341.45	-1.57	-0.12%
20-Aug-19	0.6820	1302.29	1303.56	-1.27	-0.10%
20-Aug-19	0.6820	1302.30	1303.57	-1.27	-0.10%
1-Nov-19	0.3730	1302.06	1302.06	0.00	0.00%
1-Nov-19	0.3730	1302.06	1302.06	0.00	0.00%
1-Nov-19	0.3730	1302.01	1302.02	0.00	0.00%
20-Aug-19	0.3960	1311.45	1311.31	0.14	0.01%
20-Aug-19	0.3950	1309.27	1309.13	0.14	0.01%
22-Feb-18	0.3410	1185.28	1184.92	0.36	0.03%
28-Oct-19	0.7430	1335.03	1336.31	-1.28	-0.10%
28-Oct-19	0.7420	1333.15	1334.42	-1.28	-0.10%
21-Aug-19	0.5780	1309.97	1310.53	-0.56	-0.04%
31-Mar-20	1.1720	1342.70	1345.53	-2.83	-0.21%
21-Aug-19	0.5780	1309.97	1310.53	-0.56	-0.04%
31-Mar-20	1.1760	1348.12	1350.96	-2.84	-0.21%
21-Aug-19	0.5780	1309.97	1310.53	-0.56	-0.04%
21-Aug-19	0.5780	1309.97	1310.53	-0.56	-0.04%
21-Aug-19	0.5780	1309.97	1310.53	-0.56	-0.04%
21-Aug-19	0.5780	1309.97	1310.53	-0.56	-0.04%
21-Aug-19	0.5780	1309.97	1310.53	-0.56	-0.04%
21-Aug-19	0.5780	1309.97	1310.53	-0.56	-0.04%
16-Feb-19	0.7860	1495.81	1497.86	-2.04	-0.14%
6-Dec-19	0.6800	1309.51	1310.36	-0.85	-0.07%
7-Jan-20	0.7770	1447.55	1448.60	-1.05	-0.07%
26-Feb-20	0.6550	1349.96	1351.12	-1.16	-0.09%
30-May-18	0.4480	1107.13	1104.46	2.66	0.24%
30-May-18	0.4480	1107.13	1104.46	2.66	0.24%
18-Apr-19	0.4440	1099.53	1098.80	0.73	0.07%
16-Jun-20	0.4400	1093.72	1093.10	0.62	0.06%
24-Jan-19	0.4460	1122.87	1122.61	0.26	0.02%
17-Sep-19	0.4600	1118.62	1118.09	0.53	0.05%

4-Jun-20	0.4700	1104.70	1103.85	0.86	0.08%
4-Jun-20	0.4700	1104.70	1103.85	0.86	0.08%
4-Jun-20	0.4700	1104.70	1103.85	0.86	0.08%
4-Jun-20	0.4700	1104.70	1103.85	0.86	0.08%
4-Jun-20	0.4700	1104.70	1103.85	0.86	0.08%
4-Jun-20	0.4700	1104.70	1103.85	0.86	0.08%
4-Jun-20	0.4700	1104.70	1103.85	0.86	0.08%
4-Jun-20	0.4700	1104.70	1103.85	0.86	0.08%
4-Jun-20	0.4700	1104.70	1103.85	0.86	0.08%
23-Jul-19	0.4970	1129.99	1129.57	0.41	0.04%
23-Jul-19	0.4970	1129.99	1129.57	0.41	0.04%
11-Jun-20	0.4630	1130.62	1130.66	-0.03	0.00%
26-Feb-20	0.5140	1131.86	1131.28	0.58	0.05%
1-Sep-19	0.3770	1119.81	1119.81	0.00	0.00%
25-Sep-19	0.4940	1142.60	1142.42	0.17	0.02%
6-Jun-19	0.4710	1113.11	1112.49	0.61	0.05%
5-Jun-19	0.4810	1111.16	1110.50	0.66	0.06%
24-Apr-19	0.5180	1181.87	1182.12	-0.25	-0.02%
24-Apr-19	0.4180	1105.01	1104.54	0.47	0.04%
9-Jan-20	0.4850	1137.90	1138.20	-0.29	-0.03%
8-May-19	0.4500	1116.83	1116.55	0.28	0.03%
1-Aug-19	0.4340	1105.09	1104.65	0.44	0.04%
17-Apr-19	0.5040	1126.06	1126.26	-0.20	-0.02%
17-Oct-19	0.5160	1165.33	1165.68	-0.36	-0.03%
17-Oct-19	0.5160	1165.33	1165.68	-0.36	-0.03%
9-Dec-19	0.5060	1154.34	1154.59	-0.25	-0.02%
20-Jun-19	0.4500	1113.71	1112.95	0.77	0.07%
20-Jun-19	0.4500	1113.71	1112.95	0.77	0.07%
26-Jun-19	0.4910	1108.74	1107.52	1.23	0.11%
26-Jun-19	0.4910	1108.74	1107.52	1.23	0.11%
23-Jun-20	0.5130	1164.06	1163.35	0.72	0.06%
7-Jan-20	0.4650	1122.92	1122.75	0.17	0.02%
29-Jul-19	0.5690	1178.54	1178.84	-0.30	-0.03%
29-Jul-19	0.5690	1178.54	1178.84	-0.30	-0.03%
12-Feb-19	0.6020	1152.74	1153.49	-0.74	-0.06%
15-Mar-19	0.3740	1130.26	1130.08	0.18	0.02%
25-Jul-19	0.4440	1106.71	1106.13	0.58	0.05%
8-May-19	0.5320	1184.06	1184.52	-0.46	-0.04%
1-Aug-18	0.4850	1174.70	1174.29	0.41	0.04%
6-Mar-20	0.4160	1087.77	1087.30	0.47	0.04%
16-Jun-20	0.4590	1116.75	1116.21	0.54	0.05%
18-Feb-20	0.7830	1256.62	1258.33	-1.71	-0.14%
26-Feb-19	0.3960	1247.27	1247.31	-0.04	0.00%
2-Aug-19	0.5450	1284.49	1284.88	-0.39	-0.03%
2-Jun-20	0.4190	1283.65	1283.81	-0.16	-0.01%
20-May-20	0.6430	1311.87	1312.69	-0.83	-0.06%
6-Aug-19	0.3740	1256.36	1256.10	0.27	0.02%
31-Jul-19	0.3550	1304.75	1304.45	0.30	0.02%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%

11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
11-Jun-20	0.6270	1320.88	1321.69	-0.81	-0.06%
20-Feb-20	0.6330	1311.10	1312.11	-1.01	-0.08%
6-Jun-19	0.4060	1300.00	1300.09	-0.09	-0.01%
24-Jun-19	0.3900	1287.71	1287.59	0.12	0.01%
23-Apr-19	0.3800	1306.03	1305.97	0.06	0.00%
23-Apr-19	0.3800	1305.95	1305.89	0.06	0.00%
20-Feb-20	0.6570	1353.32	1354.47	-1.15	-0.09%
1-Feb-20	0.3760	1362.04	1362.03	0.01	0.00%
7-Aug-19	0.4260	1293.33	1292.64	0.69	0.05%
25-Sep-18	0.5050	1253.09	1251.25	1.84	0.15%
15-May-19	0.4050	1255.00	1254.53	0.48	0.04%
28-Jan-19	0.4960	1240.13	1240.65	-0.52	-0.04%
9-Apr-19	0.3990	1300.58	1300.27	0.32	0.02%
9-Apr-19	0.3990	1301.05	1300.73	0.32	0.02%
26-Mar-19	0.8170	1405.08	1406.20	-1.12	-0.08%
26-Mar-19	0.8170	1404.93	1406.05	-1.12	-0.08%
13-Jan-20	0.7500	1361.53	1363.02	-1.49	-0.11%
30-Apr-20	0.4480	1088.11	1086.29	1.82	0.17%
19-Sep-19	0.3540	1089.44	1088.11	1.33	0.12%
19-Sep-19	0.3540	1089.44	1088.11	1.33	0.12%
10-Mar-20	0.4210	1100.89	1100.53	0.36	0.03%
10-Mar-20	0.4210	1100.89	1100.53	0.36	0.03%
10-Mar-20	0.4210	1100.89	1100.53	0.36	0.03%
28-Jan-20	0.4860	1133.09	1133.43	-0.34	-0.03%
5-Jul-18	0.5940	1200.50	1201.08	-0.59	-0.05%
15-Oct-19	0.5560	1162.75	1162.85	-0.09	-0.01%
15-Oct-19	0.5560	1162.75	1162.85	-0.09	-0.01%
26-Sep-19	0.5020	1140.35	1140.00	0.34	0.03%
28-Oct-19	0.5360	1178.99	1179.40	-0.41	-0.03%
24-Apr-19	0.5230	1176.58	1176.87	-0.29	-0.02%
28-Oct-19	0.5360	1178.99	1179.40	-0.41	-0.03%
28-May-19	0.5120	1124.74	1124.15	0.58	0.05%
29-Apr-20	0.4500	1115.45	1115.26	0.19	0.02%
13-Jan-20	0.4820	1134.80	1134.76	0.04	0.00%
8-Jan-19	0.4980	1139.62	1139.59	0.02	0.00%
9-Apr-19	0.4530	1124.90	1124.71	0.19	0.02%
13-May-19	0.4700	1115.90	1115.31	0.58	0.05%
12-May-20	0.4610	1111.09	1110.66	0.44	0.04%
26-Sep-19	0.4610	1106.51	1105.74	0.77	0.07%
26-Sep-19	0.4610	1106.51	1105.74	0.77	0.07%
9-Dec-19	0.5000	1141.55	1141.46	0.08	0.01%
9-Oct-19	0.4710	1103.49	1102.70	0.78	0.07%
9-Oct-19	0.4710	1103.49	1102.70	0.78	0.07%
24-Jul-19	0.4830	1120.24	1119.57	0.67	0.06%
24-Jul-19	0.4830	1120.24	1119.57	0.67	0.06%
8-Jul-19	0.4870	1102.75	1101.57	1.18	0.11%
8-Jul-19	0.4870	1102.75	1101.57	1.18	0.11%
6-Feb-20	0.4770	1118.58	1118.55	0.03	0.00%
14-May-19	0.5010	1161.44	1161.50	-0.06	0.00%
12-May-20	0.5840	1144.52	1144.24	0.28	0.02%
21-Mar-19	0.3590	1101.81	1101.12	0.69	0.06%
25-Jul-19	0.4450	1108.28	1107.70	0.58	0.05%
11-Feb-20	0.4340	1105.89	1105.51	0.38	0.03%

28-Aug-19	0.5490	1188.38	1188.49	-0.11	-0.01%
28-Aug-19	0.5490	1188.38	1188.49	-0.11	-0.01%
8-May-19	0.4730	1097.67	1096.43	1.24	0.11%
10-Mar-20	0.4210	1100.89	1100.53	0.36	0.03%
10-Mar-20	0.4210	1100.89	1100.53	0.36	0.03%
25-Jun-19	0.4700	1093.11	1091.51	1.61	0.15%
25-Jun-19	0.4700	1093.11	1091.51	1.61	0.15%
23-Apr-19	0.4140	1092.12	1090.98	1.14	0.10%
22-Aug-19	0.5680	1170.53	1171.05	-0.52	-0.04%
22-Aug-19	0.5680	1170.53	1171.05	-0.52	-0.04%
12-Feb-19	0.5180	1216.50	1217.15	-0.65	-0.05%
30-May-19	0.5020	1234.90	1234.87	0.03	0.00%
31-Jul-19	0.3570	1308.67	1308.37	0.30	0.02%
31-Jul-19	0.3570	1308.67	1308.37	0.30	0.02%
12-Nov-19	0.6090	1302.19	1303.00	-0.80	-0.06%
12-Nov-19	0.6090	1302.18	1302.98	-0.80	-0.06%
30-Jul-19	0.4300	1294.97	1294.89	0.08	0.01%
30-Jul-19	0.4300	1291.92	1291.84	0.08	0.01%
30-Jul-19	0.4310	1295.07	1295.00	0.07	0.01%
30-Jul-19	0.4300	1291.83	1291.75	0.08	0.01%
23-May-19	0.4170	1318.88	1318.98	-0.10	-0.01%
23-May-19	0.4170	1318.99	1319.09	-0.10	-0.01%
1-May-20	0.3790	1367.95	1367.95	0.00	0.00%
1-Jul-19	0.3800	1294.25	1294.25	0.00	0.00%
13-Nov-19	0.5720	1301.00	1301.56	-0.56	-0.04%
13-Nov-19	0.5720	1301.12	1301.67	-0.56	-0.04%
16-Apr-19	0.5050	1305.22	1305.07	0.15	0.01%
9-Apr-20	0.6290	1317.64	1318.48	-0.84	-0.06%
19-Mar-18	0.3730	1296.18	1295.10	1.08	0.08%
29-Apr-20	0.7160	1330.67	1331.80	-1.13	-0.08%
19-May-20	0.7810	1286.72	1287.61	-0.88	-0.07%
20-May-20	0.7230	1330.14	1331.23	-1.10	-0.08%
20-May-20	0.7230	1330.13	1331.22	-1.10	-0.08%
1-Jul-19	0.3800	1093.23	1093.23	0.00	0.00%
14-May-19	0.4660	1106.32	1105.84	0.48	0.04%
14-May-19	0.4660	1106.32	1105.84	0.48	0.04%
20-Mar-19	0.4100	1094.96	1094.59	0.37	0.03%
20-Mar-19	0.4100	1094.96	1094.59	0.37	0.03%
11-Jun-19	0.5190	1107.17	1105.98	1.19	0.11%
11-Jun-19	0.5190	1107.17	1105.98	1.19	0.11%
11-Jun-19	0.5190	1107.17	1105.98	1.19	0.11%
11-Jun-19	0.5190	1107.17	1105.98	1.19	0.11%
11-Jun-19	0.5190	1107.17	1105.98	1.19	0.11%
11-Jun-19	0.5190	1107.17	1105.98	1.19	0.11%
11-Jun-19	0.5190	1107.17	1105.98	1.19	0.11%
11-Jun-19	0.5190	1107.17	1105.98	1.19	0.11%
2-Oct-19	0.4750	1112.41	1111.84	0.57	0.05%
2-Oct-19	0.4750	1112.41	1111.84	0.57	0.05%
4-Jan-19	0.5210	1157.06	1157.16	-0.10	-0.01%
12-Dec-19	0.5880	1168.44	1168.36	0.08	0.01%
13-Jun-19	0.4920	1119.98	1119.70	0.28	0.03%
13-Jun-19	0.4920	1119.98	1119.70	0.28	0.03%
19-Feb-20	0.5630	1174.43	1174.69	-0.25	-0.02%
18-Apr-19	0.4450	1114.46	1114.42	0.05	0.00%
28-May-19	0.5160	1132.00	1131.40	0.60	0.05%
2-May-19	0.4600	1101.98	1101.34	0.64	0.06%
2-May-19	0.4600	1101.98	1101.34	0.64	0.06%

16-Jul-19	0.5180	1153.62	1153.83	-0.21	-0.02%
16-Jul-19	0.5180	1153.62	1153.83	-0.21	-0.02%
7-May-19	0.4380	1096.28	1095.79	0.49	0.04%
7-May-19	0.4380	1096.28	1095.79	0.49	0.04%
8-Jan-19	0.4970	1162.18	1162.30	-0.12	-0.01%
17-Oct-19	0.5100	1151.12	1151.29	-0.17	-0.02%
17-Oct-19	0.5100	1151.12	1151.29	-0.17	-0.02%
27-Aug-19	0.5260	1140.65	1140.18	0.47	0.04%
22-Oct-19	0.5120	1145.76	1145.89	-0.14	-0.01%
22-Oct-19	0.5120	1145.76	1145.89	-0.14	-0.01%
24-Jan-19	0.5800	1181.92	1182.68	-0.75	-0.06%
27-Mar-19	0.4390	1101.24	1100.30	0.94	0.09%
24-Jul-19	0.4840	1156.66	1155.42	1.24	0.11%
24-Jul-19	0.4840	1156.66	1155.42	1.24	0.11%
6-Aug-19	0.5020	1148.05	1148.02	0.03	0.00%
6-Aug-19	0.5020	1148.09	1148.06	0.03	0.00%
20-Jun-19	0.4840	1116.88	1116.26	0.61	0.06%
20-Jun-19	0.4840	1116.88	1116.26	0.61	0.06%
21-May-20	0.5040	1227.73	1227.91	-0.18	-0.01%
11-Sep-19	0.4560	1111.46	1110.70	0.77	0.07%
11-Sep-19	0.4560	1111.46	1110.70	0.77	0.07%
22-Feb-19	0.4720	1111.92	1111.11	0.82	0.07%
18-Jun-20	0.4580	1100.57	1099.69	0.88	0.08%
6-Mar-20	0.5170	1162.09	1162.00	0.09	0.01%
11-Jun-19	0.5190	1107.17	1105.98	1.19	0.11%
4-Jun-20	0.4470	1100.06	1098.99	1.07	0.10%
21-Feb-19	0.3730	1139.32	1139.04	0.28	0.02%
21-Feb-19	0.3730	1138.22	1137.94	0.28	0.02%
13-Mar-20	0.6090	1214.61	1215.79	-1.18	-0.10%
27-May-20	0.4580	1155.32	1154.89	0.43	0.04%
17-Apr-20	0.6080	1308.61	1309.36	-0.75	-0.06%
20-May-20	0.6950	1312.51	1313.63	-1.13	-0.09%
16-Jul-19	0.3680	1303.66	1303.26	0.40	0.03%
16-Jul-19	0.3680	1303.71	1303.32	0.40	0.03%
25-Sep-19	0.6360	1287.15	1287.91	-0.76	-0.06%
29-Aug-19	0.7000	1320.11	1321.20	-1.09	-0.08%
29-Aug-19	0.6990	1318.75	1319.84	-1.09	-0.08%
28-Jun-19	0.4080	1289.57	1289.35	0.21	0.02%
28-Jan-20	0.6240	1299.54	1300.40	-0.85	-0.07%
31-Jul-19	0.7050	1337.17	1338.23	-1.06	-0.08%
31-Jul-19	0.7050	1337.08	1338.14	-1.06	-0.08%
15-Apr-20	0.7720	1330.74	1331.53	-0.79	-0.06%
15-Apr-20	0.7720	1330.67	1331.46	-0.79	-0.06%
15-Oct-19	0.7460	1336.06	1337.40	-1.34	-0.10%
15-Oct-19	0.7450	1335.86	1337.20	-1.33	-0.10%
15-Oct-19	0.7460	1335.98	1337.31	-1.34	-0.10%
31-Jan-20	0.7070	1290.50	1291.78	-1.28	-0.10%
31-Jan-20	0.7070	1290.40	1291.67	-1.28	-0.10%
13-Nov-19	0.6810	1293.91	1294.84	-0.93	-0.07%
13-Nov-19	0.6810	1293.82	1294.75	-0.93	-0.07%
1-Dec-19	0.3830	1354.56	1354.56	0.00	0.00%
1-Oct-19	0.3820	1383.48	1383.48	0.00	0.00%
11-Aug-17	0.4010	1317.00	1315.93	1.07	0.08%
1-Apr-20	0.3830	1306.06	1306.07	0.00	0.00%
1-Apr-20	0.3830	1306.06	1306.07	0.00	0.00%
1-Apr-20	0.3830	1306.06	1306.07	0.00	0.00%
23-Oct-19	0.7010	1293.17	1294.35	-1.18	-0.09%

29-Apr-20	0.6580	1317.65	1318.73	-1.08	-0.08%
15-May-20	0.5700	1268.54	1268.97	-0.43	-0.03%
26-Mar-18	0.4150	1263.34	1263.15	0.19	0.01%
26-Mar-18	0.4150	1263.73	1263.54	0.19	0.01%
24-Apr-18	0.3410	1241.37	1240.81	0.57	0.05%
7-Aug-19	0.4030	1268.03	1267.38	0.65	0.05%
7-Aug-19	0.4020	1263.97	1263.31	0.66	0.05%
23-Jul-19	0.3920	1326.56	1325.83	0.73	0.06%
23-Jul-19	0.3920	1326.57	1325.84	0.73	0.06%
25-Feb-20	0.7780	1265.07	1266.48	-1.41	-0.11%
21-Jun-17	0.3690	1316.46	1315.70	0.76	0.06%
12-May-20	0.7240	1338.08	1339.00	-0.92	-0.07%
23-Jul-19	0.4250	1320.21	1320.01	0.20	0.02%
23-Jan-20	0.6040	1352.79	1353.70	-0.90	-0.07%
12-Mar-19	0.6780	1319.77	1320.75	-0.98	-0.07%
8-Jan-20	0.8580	1351.71	1353.75	-2.04	-0.15%
18-Jan-19	1.0750	1440.29	1443.25	-2.96	-0.21%
18-Jan-19	1.0750	1440.22	1443.18	-2.96	-0.21%
15-Dec-19	1.0710	1587.31	1590.28	-2.96	-0.19%
11-May-20	0.5930	1299.40	1299.75	-0.35	-0.03%
4-Sep-19	0.5170	1108.12	1107.35	0.77	0.07%
4-Sep-19	0.5170	1108.12	1107.35	0.77	0.07%
11-Jun-19	0.4830	1099.76	1098.86	0.91	0.08%
11-Jun-19	0.4830	1099.76	1098.86	0.91	0.08%
4-Sep-19	0.5170	1108.12	1107.35	0.77	0.07%
4-Sep-19	0.5170	1108.12	1107.35	0.77	0.07%
9-Jul-19	0.5400	1107.12	1107.44	-0.33	-0.03%
9-Jul-19	0.5400	1107.12	1107.44	-0.33	-0.03%
4-Jan-19	0.4330	1101.02	1100.67	0.35	0.03%
10-Oct-19	0.5960	1122.64	1123.17	-0.52	-0.05%
10-Oct-19	0.5960	1122.64	1123.17	-0.52	-0.05%
22-Oct-19	0.5440	1141.59	1141.21	0.38	0.03%
22-Oct-19	0.5440	1141.59	1141.21	0.38	0.03%
14-Jun-19	0.5070	1135.07	1134.48	0.59	0.05%
14-Jun-19	0.5070	1135.07	1134.48	0.59	0.05%
18-Apr-19	0.5080	1156.29	1156.14	0.15	0.01%
23-Apr-19	0.4920	1122.10	1121.48	0.62	0.06%
27-Apr-20	0.5540	1176.90	1177.11	-0.21	-0.02%
25-Oct-19	0.4680	1119.22	1118.88	0.34	0.03%
1-May-19	0.4320	1105.95	1105.47	0.48	0.04%
25-Oct-19	0.4680	1119.22	1118.88	0.34	0.03%
17-Jul-19	0.5000	1160.66	1160.71	-0.05	0.00%
17-Jul-19	0.5000	1160.66	1160.71	-0.05	0.00%
14-May-19	0.4320	1097.08	1096.36	0.72	0.07%
29-Apr-20	0.5390	1145.69	1144.93	0.76	0.07%
12-Jul-19	0.4900	1123.53	1123.00	0.53	0.05%
12-Jul-19	0.4900	1123.53	1123.00	0.53	0.05%
6-Aug-19	0.5230	1130.09	1129.57	0.52	0.05%
6-Aug-19	0.5230	1130.09	1129.57	0.52	0.05%
12-Jul-19	0.4980	1133.50	1133.13	0.37	0.03%
24-Jan-19	0.5990	1202.02	1202.88	-0.86	-0.07%
18-Jun-19	0.5030	1119.00	1118.27	0.73	0.07%
18-Jun-19	0.5030	1119.00	1118.27	0.73	0.07%
26-Sep-19	0.4660	1115.00	1114.41	0.59	0.05%
26-Sep-19	0.4660	1115.00	1114.41	0.59	0.05%
9-Oct-19	0.5060	1120.59	1119.88	0.71	0.06%
9-Oct-19	0.5060	1120.59	1119.88	0.71	0.06%

26-Mar-20	0.4560	1094.16	1093.37	0.80	0.07%
9-Aug-19	0.4870	1120.54	1119.75	0.79	0.07%
9-Aug-19	0.4870	1120.48	1119.68	0.79	0.07%
27-May-20	0.4000	1104.95	1105.04	-0.09	-0.01%
22-Oct-19	0.4660	1136.35	1136.16	0.19	0.02%
22-Oct-19	0.4660	1136.35	1136.16	0.19	0.02%
31-Jul-19	0.5320	1125.58	1124.89	0.69	0.06%
31-Jul-19	0.5320	1125.58	1124.89	0.69	0.06%
17-Jun-20	0.4920	1096.59	1095.53	1.06	0.10%
9-Apr-19	0.4480	1098.67	1097.78	0.89	0.08%
18-Jun-19	0.5320	1152.00	1152.13	-0.13	-0.01%
5-Dec-19	0.6710	1235.83	1237.15	-1.32	-0.11%
17-Apr-20	0.6110	1314.04	1314.79	-0.75	-0.06%
14-Nov-19	0.5940	1312.70	1313.06	-0.36	-0.03%
14-Nov-19	0.5950	1312.61	1312.96	-0.35	-0.03%
25-Feb-20	0.7160	1354.59	1356.12	-1.53	-0.11%
29-Jan-19	0.5140	1290.09	1290.54	-0.46	-0.04%
26-Mar-20	0.6700	1306.49	1307.28	-0.79	-0.06%
6-Nov-19	0.6770	1345.62	1346.68	-1.07	-0.08%
6-Nov-19	0.6780	1345.78	1346.85	-1.07	-0.08%
6-Nov-19	0.6770	1344.66	1345.72	-1.07	-0.08%
6-Nov-19	0.6770	1344.73	1345.79	-1.07	-0.08%
30-Sep-19	0.6850	1311.00	1311.86	-0.87	-0.07%
30-Sep-19	0.6840	1309.03	1309.89	-0.86	-0.07%
30-Sep-19	0.6850	1311.01	1311.87	-0.87	-0.07%
30-Sep-19	0.6840	1309.09	1309.95	-0.86	-0.07%
21-Mar-19	0.4080	1330.58	1330.67	-0.09	-0.01%
21-Mar-19	0.4080	1330.70	1330.79	-0.09	-0.01%
18-Apr-19	0.4340	1301.78	1301.71	0.07	0.01%
18-Apr-19	0.4340	1301.59	1301.52	0.07	0.01%
15-Oct-19	0.7470	1336.26	1337.59	-1.33	-0.10%
8-Jun-20	0.6400	1341.37	1341.85	-0.47	-0.04%
8-Jun-20	0.6400	1341.37	1341.85	-0.47	-0.04%
22-Nov-19	0.7080	1385.62	1386.83	-1.22	-0.09%
27-May-20	0.6780	1334.64	1335.80	-1.16	-0.09%
27-May-20	0.6780	1334.64	1335.80	-1.16	-0.09%
21-May-20	0.7130	1260.13	1261.13	-1.00	-0.08%
29-Jan-20	0.6460	1347.25	1348.06	-0.81	-0.06%
29-Jan-20	0.6460	1347.20	1348.01	-0.81	-0.06%
30-Jan-20	0.6960	1322.81	1323.91	-1.10	-0.08%
14-Aug-19	0.5720	1323.07	1323.86	-0.79	-0.06%
14-Aug-19	0.5720	1322.76	1323.55	-0.79	-0.06%
23-Apr-19	0.4770	1314.77	1314.93	-0.16	-0.01%
23-Apr-19	0.4760	1313.53	1313.71	-0.18	-0.01%
31-Oct-18	0.4070	1315.99	1316.25	-0.26	-0.02%
25-Feb-19	0.3870	1275.27	1275.10	0.17	0.01%
19-Sep-18	0.6180	1200.45	1200.24	0.21	0.02%
17-Oct-19	0.8180	1363.38	1364.79	-1.41	-0.10%
17-Oct-19	0.8180	1363.38	1364.79	-1.41	-0.10%
31-Aug-18	0.4560	1328.81	1329.08	-0.27	-0.02%
31-Aug-18	0.4560	1328.81	1329.08	-0.27	-0.02%
21-Aug-19	0.6950	1324.12	1325.24	-1.12	-0.08%
21-Aug-19	0.6940	1323.80	1324.92	-1.11	-0.08%
30-Nov-17	0.4660	1304.46	1303.49	0.98	0.07%
17-Apr-18	0.4200	1170.70	1170.89	-0.19	-0.02%
14-Jun-17	0.3210	1104.36	1103.49	0.87	0.08%
1-Apr-20	0.3880	1160.89	1160.89	0.00	0.00%

21-Jan-19	0.7440	1400.33	1401.44	-1.11	-0.08%
21-Jan-19	0.7440	1400.19	1401.30	-1.11	-0.08%
10-Feb-20	0.7900	1420.70	1422.64	-1.95	-0.14%
23-Jul-19	0.5820	1184.54	1185.06	-0.53	-0.04%
23-Jul-19	0.5820	1184.54	1185.06	-0.53	-0.04%
25-Apr-19	0.4700	1102.11	1101.04	1.07	0.10%
4-Dec-19	0.4060	1092.68	1092.26	0.42	0.04%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
12-Mar-19	0.4810	1119.03	1118.63	0.40	0.04%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
10-Sep-19	0.5040	1098.00	1096.88	1.11	0.10%
23-Apr-20	0.4850	1114.52	1114.16	0.35	0.03%
18-Apr-19	0.5280	1133.78	1133.27	0.51	0.04%
20-Jun-19	0.4950	1125.85	1125.38	0.47	0.04%
20-Jun-19	0.4950	1125.85	1125.38	0.47	0.04%
5-Jun-19	0.4930	1112.67	1111.97	0.69	0.06%
24-Jul-19	0.5170	1125.64	1125.59	0.06	0.01%
20-May-19	0.4020	1059.35	1058.21	1.14	0.11%
12-Nov-19	0.4690	1113.17	1112.71	0.46	0.04%
12-Nov-19	0.4690	1113.17	1112.71	0.46	0.04%
8-Jan-19	0.4750	1136.60	1136.58	0.02	0.00%
9-Jan-19	0.4960	1137.77	1137.64	0.13	0.01%
3-Oct-19	0.4720	1095.23	1094.47	0.76	0.07%
3-Oct-19	0.4720	1095.60	1094.84	0.76	0.07%
21-Feb-19	0.4980	1106.31	1105.03	1.28	0.12%
9-Dec-19	0.4840	1140.75	1140.72	0.03	0.00%
26-Jun-19	0.4860	1110.74	1109.95	0.80	0.07%
26-Jun-19	0.4860	1110.74	1109.95	0.80	0.07%
16-Jun-20	0.4160	1120.19	1119.86	0.33	0.03%
12-Dec-19	0.5310	1127.85	1127.29	0.57	0.05%
31-Aug-19	0.5480	1138.42	1138.00	0.43	0.04%
31-Aug-19	0.5480	1138.42	1138.00	0.43	0.04%
29-Jan-19	0.5600	1181.83	1182.22	-0.40	-0.03%
25-Jun-20	0.5230	1161.45	1161.43	0.02	0.00%
20-May-19	0.4010	1056.31	1055.17	1.14	0.11%
24-Jul-19	0.5180	1127.47	1127.42	0.05	0.00%
24-Jul-19	0.5180	1127.47	1127.42	0.05	0.00%
4-Sep-18	0.4270	1099.11	1099.38	-0.27	-0.02%
19-Dec-19	0.5820	1304.04	1304.53	-0.49	-0.04%
19-Dec-19	0.5820	1304.04	1304.53	-0.49	-0.04%
21-Jan-20	0.6600	1302.35	1303.11	-0.76	-0.06%
27-Jun-19	0.3940	1344.79	1344.88	-0.09	-0.01%
26-Apr-19	0.4060	1282.53	1282.32	0.21	0.02%
20-Feb-20	0.6530	1328.36	1329.40	-1.04	-0.08%

20-Feb-20	0.6530	1328.08	1329.12	-1.04	-0.08%
5-Sep-18	0.3910	1301.70	1301.31	0.39	0.03%
10-Apr-19	0.4300	1342.40	1342.67	-0.27	-0.02%
19-May-20	0.6920	1337.05	1338.08	-1.02	-0.08%
19-May-20	0.6910	1336.59	1337.61	-1.02	-0.08%
15-Oct-19	0.6810	1320.04	1320.90	-0.87	-0.07%
15-Oct-19	0.6810	1319.84	1320.70	-0.87	-0.07%
15-Oct-19	0.6810	1320.05	1320.91	-0.87	-0.07%
15-Oct-19	0.6810	1319.87	1320.74	-0.87	-0.07%
28-May-20	0.6620	1307.63	1308.45	-0.82	-0.06%
16-Dec-19	0.6100	1319.61	1320.29	-0.68	-0.05%
16-Dec-19	0.6100	1318.67	1319.35	-0.68	-0.05%
22-Aug-19	0.7600	1269.78	1270.83	-1.04	-0.08%
30-Jun-19	0.4460	1319.28	1319.37	-0.09	-0.01%
30-Jun-19	0.4460	1319.32	1319.41	-0.09	-0.01%
15-Jul-19	0.4390	1312.49	1312.12	0.38	0.03%
15-Jul-19	0.4390	1310.92	1310.55	0.38	0.03%
1-Nov-19	0.3890	1375.15	1375.14	0.00	0.00%
28-May-20	0.5850	1308.63	1308.75	-0.12	-0.01%
31-Oct-18	0.4080	1316.92	1317.18	-0.26	-0.02%
15-Jan-19	0.4970	1301.61	1301.64	-0.03	0.00%
8-Mar-18	0.3580	1327.17	1327.09	0.08	0.01%
25-May-18	0.3270	1290.45	1289.17	1.28	0.10%
19-Feb-20	0.6690	1300.91	1302.17	-1.25	-0.10%
13-Sep-19	1.1510	1220.59	1223.63	-3.03	-0.25%
13-Sep-19	1.1480	1217.00	1220.02	-3.02	-0.25%
31-Mar-20	0.6830	1463.62	1464.79	-1.17	-0.08%
1-Feb-20	0.6040	1270.58	1271.31	-0.72	-0.06%
4-Feb-20	0.6680	1303.88	1304.71	-0.83	-0.06%
26-Sep-19	0.5860	1263.47	1264.14	-0.67	-0.05%
26-Sep-19	0.5860	1263.47	1264.14	-0.67	-0.05%
20-Mar-19	0.4640	1094.08	1092.73	1.36	0.12%
21-Feb-19	0.4990	1109.34	1108.06	1.29	0.12%
12-Jul-19	0.5100	1115.48	1115.59	-0.11	-0.01%
12-Jul-19	0.5100	1115.48	1115.59	-0.11	-0.01%
15-May-20	0.4740	1116.24	1116.41	-0.17	-0.02%
8-May-20	0.4750	1109.23	1108.68	0.55	0.05%
1-Jul-19	0.3950	1120.02	1120.01	0.00	0.00%
1-Jul-19	0.3950	1120.02	1120.01	0.00	0.00%
1-Jul-19	0.3950	1120.02	1120.01	0.00	0.00%
14-May-20	0.5210	1132.75	1132.17	0.59	0.05%
24-Jul-19	0.5200	1132.95	1132.90	0.05	0.00%
27-Apr-20	0.5540	1179.12	1179.47	-0.36	-0.03%
7-Jan-19	0.5180	1161.90	1161.98	-0.08	-0.01%
12-Jul-19	0.5100	1115.48	1115.59	-0.11	-0.01%
12-Jul-19	0.5100	1115.48	1115.59	-0.11	-0.01%
16-Jul-19	0.5200	1160.30	1160.36	-0.05	0.00%
16-Jul-19	0.5200	1160.30	1160.36	-0.05	0.00%
7-Mar-19	0.4950	1125.30	1124.88	0.42	0.04%
24-Feb-20	0.4760	1116.34	1115.67	0.67	0.06%
26-Jun-19	0.5040	1110.51	1109.71	0.80	0.07%
26-Jun-19	0.5040	1110.51	1109.71	0.80	0.07%
6-Aug-19	0.5230	1155.77	1155.67	0.10	0.01%
6-Aug-19	0.5230	1155.77	1155.67	0.10	0.01%
25-Apr-19	0.4780	1099.37	1099.07	0.30	0.03%
9-Oct-19	0.4780	1103.57	1102.67	0.90	0.08%
9-Oct-19	0.4780	1103.57	1102.67	0.90	0.08%

19-Mar-19	0.3920	1121.87	1121.75	0.11	0.01%
27-Jan-20	0.4850	1132.15	1132.12	0.03	0.00%
7-Mar-19	0.4250	1147.79	1147.61	0.18	0.02%
6-May-19	0.4100	1078.83	1077.95	0.89	0.08%
6-May-19	0.4100	1078.83	1077.95	0.89	0.08%
26-Mar-19	0.4790	1045.15	1044.69	0.47	0.04%
20-May-20	0.4250	1105.84	1105.05	0.79	0.07%
8-Oct-19	0.6970	1190.79	1191.16	-0.38	-0.03%
8-Oct-19	0.6970	1190.79	1191.16	-0.38	-0.03%
3-Dec-19	0.5190	1148.64	1149.28	-0.63	-0.06%
27-Sep-19	0.5610	1197.56	1197.95	-0.39	-0.03%
27-Sep-19	0.5610	1197.56	1197.95	-0.39	-0.03%
8-Jan-20	0.5820	1253.47	1254.77	-1.30	-0.10%
19-May-20	0.6730	1261.50	1262.21	-0.70	-0.06%
2-Jun-20	0.4230	1283.63	1283.75	-0.12	-0.01%
2-Jun-20	0.4230	1283.55	1283.67	-0.12	-0.01%
28-Apr-20	0.5880	1297.88	1298.34	-0.46	-0.04%
6-May-19	0.3800	1322.27	1321.87	0.40	0.03%
6-May-19	0.3800	1322.28	1321.88	0.40	0.03%
19-Dec-19	0.6240	1306.95	1307.74	-0.79	-0.06%
22-May-20	0.6420	1337.03	1337.93	-0.91	-0.07%
23-Jan-20	0.6300	1315.07	1315.44	-0.37	-0.03%
23-Jan-20	0.6300	1315.07	1315.44	-0.37	-0.03%
25-Jun-19	0.3900	1289.20	1289.10	0.11	0.01%
25-Jun-19	0.3900	1289.07	1288.96	0.11	0.01%
25-Jun-19	0.3900	1289.20	1289.10	0.11	0.01%
25-Jun-19	0.3900	1288.97	1288.87	0.11	0.01%
21-Apr-20	0.7800	1340.10	1341.65	-1.54	-0.12%
21-Apr-20	0.7800	1340.10	1341.65	-1.54	-0.12%
29-May-19	0.4280	1309.94	1309.95	-0.02	0.00%
29-May-19	0.4280	1308.88	1308.90	-0.02	0.00%
29-May-19	0.4280	1310.10	1310.11	-0.02	0.00%
29-May-19	0.4280	1309.03	1309.05	-0.02	0.00%
10-Jun-20	0.6240	1325.61	1326.25	-0.63	-0.05%
10-Jun-20	0.6240	1325.61	1326.25	-0.63	-0.05%
30-Jan-19	0.4220	1305.96	1306.14	-0.18	-0.01%
30-Jan-19	0.4220	1306.12	1306.31	-0.18	-0.01%
18-Dec-18	0.3700	1384.84	1384.74	0.10	0.01%
27-Jan-20	0.7680	1359.17	1360.66	-1.48	-0.11%
27-Jan-20	0.7680	1359.18	1360.66	-1.48	-0.11%
16-Dec-19	0.6530	1342.44	1343.36	-0.93	-0.07%
23-Dec-19	0.6430	1233.42	1234.31	-0.89	-0.07%
18-Jun-19	0.4360	1320.11	1319.87	0.24	0.02%
18-Feb-20	0.6930	1292.60	1293.83	-1.22	-0.09%
2-Apr-18	0.4070	1254.76	1253.95	0.82	0.07%
19-May-20	0.8470	1255.79	1257.20	-1.41	-0.11%
27-May-20	0.6670	1228.31	1229.51	-1.20	-0.10%
23-Apr-18	0.3830	1121.50	1120.98	0.52	0.05%
19-May-20	0.7150	1280.65	1281.82	-1.16	-0.09%
9-Apr-19	0.3960	1111.86	1111.89	-0.03	0.00%
11-Jul-19	0.6160	1248.24	1247.95	0.29	0.02%
11-Jul-19	0.6150	1244.42	1244.12	0.29	0.02%
21-Apr-20	0.6710	1366.35	1367.31	-0.96	-0.07%
8-Jan-20	0.7820	1358.08	1359.51	-1.42	-0.10%
21-Feb-20	0.5320	1182.04	1182.68	-0.64	-0.05%
27-Feb-20	0.5770	1092.60	1093.05	-0.46	-0.04%
1-Oct-19	0.4630	1082.44	1080.58	1.86	0.17%

1-Oct-19	0.4630	1082.44	1080.58	1.86	0.17%
4-Feb-20	0.4470	1093.84	1093.47	0.37	0.03%
3-Dec-19	0.5290	1122.72	1122.57	0.15	0.01%
3-Jul-19	0.4590	1107.35	1107.16	0.19	0.02%
3-Jul-19	0.4590	1107.35	1107.16	0.19	0.02%
3-Dec-19	0.5290	1122.72	1122.57	0.15	0.01%
4-Mar-20	0.5980	1157.00	1156.79	0.21	0.02%
3-Dec-19	0.5290	1122.72	1122.57	0.15	0.01%
3-Dec-19	0.5290	1122.72	1122.57	0.15	0.01%
3-Dec-19	0.5290	1122.72	1122.57	0.15	0.01%
3-Dec-19	0.5290	1122.72	1122.57	0.15	0.01%
11-Jun-20	0.4830	1120.53	1120.11	0.41	0.04%
11-Jun-20	0.4830	1120.53	1120.11	0.41	0.04%
11-Jun-20	0.4830	1120.53	1120.11	0.41	0.04%
4-Apr-19	0.4900	1119.47	1119.61	-0.14	-0.01%
1-Aug-19	0.3970	1119.28	1119.27	0.00	0.00%
1-Aug-19	0.3970	1119.28	1119.27	0.00	0.00%
1-Aug-19	0.3970	1119.28	1119.27	0.00	0.00%
12-Dec-19	0.5140	1155.95	1155.50	0.44	0.04%
14-Jun-19	0.5180	1141.98	1141.62	0.36	0.03%
14-Jun-19	0.5180	1141.98	1141.62	0.36	0.03%
12-Jul-19	0.5310	1149.11	1148.73	0.38	0.03%
24-Jul-19	0.5260	1154.28	1154.01	0.27	0.02%
24-Jul-19	0.5260	1154.28	1154.01	0.27	0.02%
18-Jul-19	0.5020	1133.86	1133.64	0.22	0.02%
18-Jul-19	0.5020	1133.86	1133.64	0.22	0.02%
24-Feb-20	0.4900	1133.57	1133.52	0.05	0.00%
12-Nov-19	0.4480	1114.80	1114.56	0.24	0.02%
12-Nov-19	0.4480	1114.80	1114.56	0.24	0.02%
4-May-20	0.5910	1200.68	1200.99	-0.31	-0.03%
13-Aug-19	0.4880	1110.98	1110.48	0.50	0.05%
13-Aug-19	0.4880	1110.98	1110.48	0.50	0.05%
22-Aug-18	0.5400	1130.61	1129.76	0.85	0.08%
18-Nov-19	0.4820	1122.25	1121.72	0.53	0.05%
18-Nov-19	0.4820	1122.25	1121.72	0.53	0.05%
13-Nov-19	0.5270	1125.22	1124.35	0.88	0.08%
13-Nov-19	0.5270	1125.22	1124.35	0.88	0.08%
15-May-19	0.5050	1128.46	1128.09	0.38	0.03%
30-Apr-20	0.4780	1090.32	1088.55	1.77	0.16%
1-Oct-19	0.4810	1101.85	1100.96	0.90	0.08%
1-Oct-19	0.4810	1101.85	1100.96	0.90	0.08%
26-Jun-19	0.4400	1096.96	1095.96	1.00	0.09%
26-Jun-19	0.4400	1096.96	1095.96	1.00	0.09%
9-May-19	0.5210	1121.35	1121.25	0.10	0.01%
28-Jun-19	0.4520	1289.80	1289.80	-0.01	0.00%
7-Apr-20	0.6770	1302.18	1302.96	-0.77	-0.06%
30-May-19	0.4060	1295.83	1295.71	0.12	0.01%
20-Aug-19	0.6860	1320.87	1321.89	-1.02	-0.08%
20-Aug-19	0.6860	1320.60	1321.62	-1.02	-0.08%
20-Aug-19	0.6860	1320.94	1321.96	-1.02	-0.08%
20-Aug-19	0.6860	1320.62	1321.64	-1.02	-0.08%
25-Feb-20	0.7830	1268.00	1269.42	-1.41	-0.11%
15-Jun-20	0.6760	1342.30	1343.04	-0.74	-0.06%
15-Jun-20	0.6760	1342.30	1343.04	-0.74	-0.06%
8-Apr-20	0.7080	1328.41	1329.66	-1.25	-0.09%
18-Jul-19	0.4330	1325.86	1325.26	0.61	0.05%
18-Jul-19	0.4320	1322.93	1322.32	0.61	0.05%

1-Oct-19	0.3980	1304.20	1304.20	0.00	0.00%
1-Oct-19	0.3980	1304.21	1304.21	0.00	0.00%
1-Oct-19	0.3980	1304.23	1304.23	0.00	0.00%
30-Jan-19	0.4270	1169.52	1170.02	-0.51	-0.04%
12-Jul-18	0.5300	1196.63	1196.69	-0.06	-0.01%
12-Mar-19	0.6920	1377.53	1378.06	-0.54	-0.04%
1-Aug-19	0.6660	1285.60	1286.22	-0.63	-0.05%
7-Dec-19	0.6940	1301.36	1301.69	-0.34	-0.03%
9-Mar-20	0.3770	1096.54	1095.34	1.20	0.11%
9-Mar-20	0.4810	1090.39	1088.74	1.64	0.15%
16-Oct-19	0.4590	1095.65	1095.07	0.59	0.05%
16-Oct-19	0.4590	1095.65	1095.07	0.59	0.05%
12-Mar-20	0.5010	1094.70	1093.36	1.35	0.12%
16-May-19	0.4700	1099.65	1099.07	0.58	0.05%
29-Mar-19	0.4850	1110.70	1110.04	0.66	0.06%
18-Oct-19	0.5330	1126.18	1125.96	0.22	0.02%
18-Oct-19	0.5330	1126.18	1125.96	0.22	0.02%
14-Jun-19	0.5220	1134.41	1134.03	0.38	0.03%
14-Jun-19	0.5220	1134.41	1134.03	0.38	0.03%
20-Jun-19	0.5180	1129.80	1129.36	0.44	0.04%
20-Jun-19	0.5180	1129.80	1129.36	0.44	0.04%
27-Apr-20	0.5850	1182.47	1182.43	0.04	0.00%
27-Apr-20	0.5610	1176.03	1176.24	-0.21	-0.02%
16-Jul-19	0.5270	1138.07	1138.32	-0.25	-0.02%
16-Jul-19	0.5270	1138.07	1138.32	-0.25	-0.02%
17-Jul-19	0.5540	1157.27	1157.78	-0.51	-0.04%
17-Jul-19	0.5540	1157.27	1157.78	-0.51	-0.04%
7-May-19	0.4870	1148.70	1148.46	0.25	0.02%
2-Aug-18	0.5000	1138.05	1138.42	-0.36	-0.03%
9-May-19	0.4490	1091.11	1090.29	0.81	0.07%
9-May-19	0.4490	1091.11	1090.29	0.81	0.07%
18-Jun-19	0.5100	1151.38	1151.48	-0.10	-0.01%
18-Jun-19	0.5100	1151.38	1151.48	-0.10	-0.01%
16-Apr-20	0.4530	1103.88	1103.48	0.40	0.04%
12-Nov-19	0.5220	1157.63	1157.53	0.10	0.01%
12-Nov-19	0.5220	1157.63	1157.53	0.10	0.01%
27-Nov-18	0.4010	1058.26	1057.77	0.49	0.05%
28-Apr-20	0.4710	1100.22	1099.30	0.91	0.08%
31-Jul-19	0.5560	1150.08	1149.42	0.67	0.06%
31-Jul-19	0.5560	1150.08	1149.42	0.67	0.06%
8-Aug-18	0.5610	1157.14	1156.03	1.11	0.10%
27-May-20	0.4990	1097.72	1096.64	1.08	0.10%
24-Jul-19	0.5300	1210.40	1210.74	-0.34	-0.03%
9-Mar-20	0.4240	1082.76	1082.54	0.23	0.02%
9-Mar-20	0.4240	1083.16	1082.93	0.23	0.02%
28-Apr-20	0.6080	1300.02	1300.58	-0.56	-0.04%
20-Apr-20	0.6440	1310.57	1311.27	-0.70	-0.05%
19-Nov-19	0.6750	1318.94	1319.99	-1.05	-0.08%
30-Oct-19	0.8730	1336.86	1338.63	-1.77	-0.13%
23-Jul-19	0.4390	1297.08	1297.19	-0.12	-0.01%
8-May-20	0.6460	1333.08	1333.44	-0.36	-0.03%
19-May-20	0.6860	1332.30	1333.10	-0.80	-0.06%
19-May-20	0.6860	1332.49	1333.29	-0.80	-0.06%
25-Feb-20	0.7140	1255.76	1256.91	-1.16	-0.09%
9-Jul-19	0.4000	1293.36	1292.73	0.63	0.05%
6-Dec-19	0.6500	1357.90	1358.94	-1.04	-0.08%
6-Dec-19	0.6500	1357.17	1358.21	-1.04	-0.08%

6-Dec-19	0.6500	1357.19	1358.22	-1.04	-0.08%
23-Jan-20	0.7210	1266.19	1267.00	-0.81	-0.06%
23-Apr-20	0.8050	1346.98	1348.31	-1.33	-0.10%
8-Jun-20	0.7980	1316.31	1317.52	-1.21	-0.09%
29-Aug-19	0.9540	1354.13	1356.06	-1.93	-0.14%
29-Aug-19	0.9540	1354.17	1356.10	-1.93	-0.14%
14-Nov-17	0.3810	1244.69	1244.50	0.19	0.01%
21-Aug-19	0.5550	1252.87	1253.13	-0.26	-0.02%
21-Aug-19	0.5550	1252.87	1253.13	-0.26	-0.02%
31-Mar-20	0.7320	1248.84	1250.17	-1.33	-0.11%
14-Feb-19	0.4990	1218.84	1218.97	-0.13	-0.01%
16-May-19	0.4450	1338.55	1338.38	0.17	0.01%
26-Dec-19	0.6060	1384.75	1385.26	-0.51	-0.04%
26-Dec-19	0.6060	1387.17	1387.68	-0.51	-0.04%
15-Sep-19	1.1000	1375.79	1377.63	-1.84	-0.13%
15-Sep-19	1.1000	1375.79	1377.63	-1.84	-0.13%
26-Sep-19	0.5220	1129.80	1129.39	0.41	0.04%
8-Apr-19	0.4770	1109.50	1109.17	0.33	0.03%
5-Mar-19	0.4710	1089.26	1088.16	1.10	0.10%
5-Mar-19	0.4710	1089.26	1088.16	1.10	0.10%
16-May-19	0.4740	1106.59	1105.97	0.61	0.06%
16-May-19	0.4730	1103.50	1102.90	0.60	0.05%
16-May-19	0.4740	1106.50	1105.88	0.61	0.06%
16-May-19	0.4720	1100.22	1099.62	0.61	0.06%
20-Jun-19	0.5070	1128.94	1128.43	0.50	0.04%
20-Jun-19	0.5070	1128.94	1128.43	0.50	0.04%
24-Apr-19	0.5410	1173.37	1173.43	-0.06	-0.01%
24-Apr-19	0.4890	1105.37	1104.94	0.43	0.04%
8-Jan-19	0.5260	1154.94	1154.68	0.26	0.02%
18-Jul-19	0.5100	1136.78	1136.74	0.04	0.00%
18-Jul-19	0.5100	1136.78	1136.74	0.04	0.00%
7-May-20	0.3110	1064.07	1063.39	0.68	0.06%
9-May-19	0.4540	1092.88	1092.36	0.52	0.05%
7-May-19	0.5250	1144.99	1144.54	0.45	0.04%
13-Jan-20	0.4320	1108.13	1107.37	0.76	0.07%
20-Aug-19	0.5070	1110.49	1109.70	0.79	0.07%
16-Jun-20	0.4820	1123.03	1122.61	0.42	0.04%
9-Apr-19	0.4940	1132.45	1132.04	0.42	0.04%
23-Apr-19	0.4900	1119.60	1119.38	0.23	0.02%
19-Feb-19	0.5710	1189.99	1190.24	-0.25	-0.02%
10-Feb-20	0.5450	1160.95	1161.05	-0.09	-0.01%
26-Feb-19	0.4490	1092.19	1091.44	0.75	0.07%
13-Aug-19	0.5050	1126.67	1126.28	0.39	0.03%
13-Aug-19	0.5050	1126.67	1126.28	0.39	0.03%
15-Oct-19	0.4780	1108.86	1108.42	0.44	0.04%
15-Oct-19	0.4780	1108.86	1108.42	0.44	0.04%
24-Apr-19	0.5670	1148.05	1148.04	0.01	0.00%
13-Nov-19	0.5350	1159.48	1159.20	0.28	0.02%
13-Nov-19	0.5350	1159.48	1159.20	0.28	0.02%
30-Jul-19	0.4960	1080.09	1077.62	2.48	0.23%
27-Aug-19	0.9020	1303.04	1304.41	-1.37	-0.11%
27-Aug-19	0.9000	1299.40	1300.76	-1.37	-0.11%
21-Jan-20	0.6850	1380.89	1382.16	-1.27	-0.09%
14-Aug-19	0.3810	1285.12	1284.70	0.42	0.03%
14-Aug-19	0.3810	1287.96	1287.54	0.42	0.03%
14-Aug-19	0.3810	1285.10	1284.69	0.42	0.03%
29-Apr-20	0.5750	1308.97	1309.05	-0.08	-0.01%

29-Apr-20	0.5750	1308.98	1309.06	-0.08	-0.01%
30-Jul-19	0.4800	1261.35	1261.54	-0.18	-0.01%
17-Dec-19	0.7250	1395.77	1397.18	-1.40	-0.10%
17-Dec-19	0.7240	1393.96	1395.36	-1.40	-0.10%
26-Jul-19	0.4390	1304.42	1304.31	0.11	0.01%
26-Jul-19	0.4390	1304.42	1304.31	0.11	0.01%
19-Sep-19	0.6540	1337.91	1339.01	-1.10	-0.08%
19-Sep-19	0.6540	1337.61	1338.71	-1.10	-0.08%
8-May-20	0.6470	1333.22	1333.57	-0.36	-0.03%
28-May-20	0.6860	1352.01	1352.85	-0.84	-0.06%
17-Dec-19	0.7350	1350.28	1351.38	-1.10	-0.08%
17-Dec-19	0.7350	1350.28	1351.38	-1.10	-0.08%
25-Feb-20	0.7380	1275.84	1277.06	-1.21	-0.10%
25-Feb-20	0.7160	1257.96	1259.12	-1.16	-0.09%
25-Feb-20	0.7190	1261.84	1262.98	-1.15	-0.09%
9-Jul-19	0.4020	1296.64	1296.01	0.63	0.05%
1-May-20	0.4020	1305.43	1305.43	0.00	0.00%
1-May-20	0.4020	1305.40	1305.40	0.00	0.00%
1-May-20	0.4020	1305.42	1305.42	0.00	0.00%
27-Feb-19	0.4290	1211.07	1210.67	0.40	0.03%
25-Mar-19	0.4450	1240.37	1240.02	0.35	0.03%
16-Jul-19	0.5330	1233.99	1234.04	-0.04	0.00%
20-Feb-20	0.6270	1326.22	1326.70	-0.48	-0.04%
21-Oct-18	0.4060	1182.01	1181.84	0.17	0.01%
2-Jan-19	0.3850	1174.21	1173.84	0.38	0.03%
21-May-18	0.3460	1173.83	1173.04	0.78	0.07%
20-Sep-18	0.4130	1209.33	1209.18	0.15	0.01%
29-Aug-18	0.3980	1261.03	1260.28	0.75	0.06%
11-Apr-20	0.5650	1428.56	1428.58	-0.03	0.00%
15-Oct-19	0.7180	1305.79	1306.47	-0.69	-0.05%
8-May-19	0.5990	1333.07	1333.58	-0.52	-0.04%
26-Jun-19	0.6910	1278.81	1279.99	-1.18	-0.09%
15-Jan-20	0.5640	1182.29	1182.70	-0.40	-0.03%
13-Dec-18	0.4680	1101.99	1102.43	-0.45	-0.04%
4-Jan-19	0.4440	1104.79	1104.59	0.20	0.02%
16-May-19	0.5120	1128.51	1128.38	0.12	0.01%
13-Jun-19	0.5140	1118.56	1117.96	0.60	0.05%
13-Jun-19	0.5140	1118.56	1117.96	0.60	0.05%
14-Jun-19	0.5200	1124.99	1124.34	0.65	0.06%
14-Jun-19	0.5200	1124.99	1124.34	0.65	0.06%
12-Jul-19	0.5480	1123.61	1122.35	1.25	0.11%
24-Jul-19	0.5390	1157.50	1157.49	0.00	0.00%
24-Jul-19	0.5390	1157.50	1157.49	0.00	0.00%
3-Jun-20	0.5100	1152.81	1152.58	0.24	0.02%
13-May-19	0.5050	1114.66	1113.86	0.79	0.07%
16-Apr-19	0.4960	1118.97	1118.34	0.63	0.06%
16-Apr-19	0.4940	1107.83	1107.02	0.81	0.07%
24-Apr-19	0.4700	1103.99	1103.24	0.75	0.07%
15-Mar-19	0.4060	1152.28	1152.54	-0.27	-0.02%
21-Nov-19	0.4940	1122.65	1122.17	0.49	0.04%
21-Nov-19	0.4940	1122.65	1122.17	0.49	0.04%
26-Aug-19	0.5430	1134.47	1133.98	0.49	0.04%
26-Aug-19	0.5430	1134.47	1133.98	0.49	0.04%
21-Jul-17	0.5130	1189.48	1185.56	3.92	0.33%
13-Apr-20	0.6320	1295.20	1296.08	-0.88	-0.07%
13-Apr-20	0.6320	1295.19	1296.07	-0.88	-0.07%
25-Jul-19	0.4290	1287.86	1287.85	0.02	0.00%

10-Feb-20	0.7300	1366.92	1368.29	-1.37	-0.10%
25-Feb-19	0.4050	1317.93	1318.31	-0.39	-0.03%
28-May-19	0.4300	1286.31	1286.34	-0.03	0.00%
28-May-19	0.4300	1285.58	1285.61	-0.03	0.00%
31-Dec-19	0.6740	1139.61	1140.98	-1.37	-0.12%
17-Jul-19	0.4230	1364.33	1364.17	0.16	0.01%
16-Jan-20	0.4950	1195.53	1195.51	0.02	0.00%
19-Sep-19	0.5780	1211.81	1212.27	-0.46	-0.04%
19-Sep-19	0.5780	1210.76	1211.23	-0.46	-0.04%
2-Jun-20	0.5990	1296.93	1297.41	-0.48	-0.04%
2-Jun-20	0.5990	1295.63	1296.10	-0.48	-0.04%
3-Jan-20	0.8240	1378.89	1380.69	-1.80	-0.13%
14-Jan-19	0.7130	1348.58	1349.61	-1.03	-0.08%
14-Jan-19	0.7130	1348.61	1349.63	-1.03	-0.08%
16-Jul-19	0.6370	1228.66	1229.29	-0.63	-0.05%
20-Mar-19	0.3820	1088.37	1087.20	1.17	0.11%
24-Jan-19	0.4890	1124.10	1123.94	0.16	0.01%
13-Dec-18	0.4710	1105.82	1106.27	-0.45	-0.04%
12-Nov-19	0.5120	1128.70	1128.66	0.04	0.00%
12-Nov-19	0.5120	1128.70	1128.66	0.04	0.00%
13-Jun-19	0.5140	1124.44	1123.97	0.47	0.04%
13-Jun-19	0.5140	1124.44	1123.97	0.47	0.04%
9-Dec-19	0.5210	1125.43	1124.88	0.54	0.05%
26-Sep-19	0.5280	1127.89	1127.35	0.54	0.05%
26-Sep-19	0.5280	1127.89	1127.35	0.54	0.05%
22-Jul-19	0.5310	1157.74	1158.07	-0.34	-0.03%
22-Jul-19	0.5310	1157.74	1158.07	-0.34	-0.03%
15-Jul-19	0.5540	1168.45	1168.58	-0.14	-0.01%
15-Jul-19	0.5540	1168.45	1168.58	-0.14	-0.01%
25-Jun-19	0.5000	1125.14	1124.79	0.34	0.03%
25-Jun-19	0.5000	1125.14	1124.79	0.34	0.03%
16-Apr-19	0.5110	1135.67	1135.33	0.34	0.03%
19-Feb-19	0.4820	1112.22	1111.93	0.29	0.03%
24-Jul-19	0.4920	1152.88	1152.45	0.43	0.04%
24-Jul-19	0.4920	1152.88	1152.45	0.43	0.04%
18-Apr-19	0.4950	1113.39	1113.34	0.06	0.01%
27-Mar-19	0.4920	1094.49	1092.84	1.64	0.15%
27-Mar-19	0.4920	1094.49	1092.84	1.64	0.15%
24-May-18	0.6270	1114.80	1112.13	2.67	0.24%
27-Mar-19	0.6000	1212.01	1212.27	-0.27	-0.02%
1-May-19	0.3960	1293.68	1293.34	0.34	0.03%
1-May-19	0.3970	1295.79	1295.44	0.35	0.03%
1-May-19	0.3970	1295.81	1295.46	0.35	0.03%
1-May-19	0.3970	1295.66	1295.30	0.35	0.03%
9-Jul-19	0.4020	1299.22	1299.21	0.02	0.00%
9-Jul-19	0.4020	1298.64	1298.62	0.02	0.00%
9-Jul-19	0.4030	1305.96	1305.95	0.01	0.00%
9-Jul-19	0.4030	1305.69	1305.68	0.01	0.00%
31-Mar-20	0.6760	1322.53	1323.30	-0.77	-0.06%
10-Sep-19	0.6230	1344.56	1345.11	-0.55	-0.04%
17-Jun-19	0.4310	1277.32	1276.92	0.39	0.03%
21-Apr-20	0.6910	1332.07	1332.87	-0.80	-0.06%
21-Apr-20	0.6910	1332.34	1333.14	-0.80	-0.06%
7-Aug-19	0.4340	1299.25	1299.29	-0.04	0.00%
5-Sep-19	0.7290	1353.61	1354.76	-1.15	-0.08%
5-Sep-19	0.7290	1353.51	1354.66	-1.15	-0.08%
8-Apr-19	0.4580	1321.10	1321.28	-0.18	-0.01%

8-Apr-19	0.4580	1321.05	1321.23	-0.18	-0.01%
1-Sep-19	0.4110	1299.70	1299.70	0.00	0.00%
1-Sep-19	0.4110	1299.79	1299.79	0.00	0.00%
1-Sep-19	0.4100	1299.37	1299.37	0.00	0.00%
10-Jan-20	0.6370	1305.73	1306.57	-0.84	-0.06%
23-Apr-20	0.9680	1856.21	1858.51	-2.30	-0.12%
24-Apr-19	0.4270	1318.35	1318.16	0.19	0.01%
24-Apr-19	0.4260	1316.79	1316.60	0.19	0.01%
11-Sep-19	0.8140	1223.54	1224.42	-0.88	-0.07%
11-Sep-19	0.8130	1223.18	1224.05	-0.87	-0.07%
9-Aug-19	0.4980	1292.08	1292.04	0.05	0.00%
30-Aug-19	0.6780	1206.60	1207.25	-0.65	-0.05%
30-Aug-19	0.6780	1206.19	1206.84	-0.65	-0.05%
15-Aug-19	0.5470	1257.83	1257.40	0.44	0.03%
15-Aug-19	0.5470	1257.83	1257.40	0.44	0.03%
26-Sep-17	0.4230	1331.07	1330.72	0.35	0.03%
23-Jul-18	0.3680	1160.88	1160.57	0.30	0.03%
6-Mar-19	0.4740	1196.76	1196.37	0.39	0.03%
14-Sep-18	0.4700	1248.57	1248.39	0.18	0.01%
22-Apr-19	0.5440	1263.00	1263.44	-0.45	-0.04%
19-Jul-19	0.4230	1311.90	1311.75	0.16	0.01%
26-Apr-19	0.4970	1217.69	1216.91	0.77	0.06%
23-Aug-19	0.5190	1243.66	1243.75	-0.09	-0.01%
23-Aug-19	0.5190	1243.63	1243.72	-0.09	-0.01%
12-Dec-19	0.7260	1341.04	1342.18	-1.15	-0.09%
2-Jun-20	0.6020	1300.41	1300.89	-0.48	-0.04%
23-Nov-19	0.7200	1307.72	1308.49	-0.77	-0.06%
4-Jan-20	0.6640	1307.01	1307.58	-0.56	-0.04%
23-Nov-19	0.7200	1307.72	1308.49	-0.77	-0.06%
21-Mar-20	0.6570	1296.38	1297.23	-0.85	-0.07%
15-Dec-19	0.6790	1360.58	1361.68	-1.10	-0.08%
10-Feb-20	0.7290	1284.10	1285.54	-1.44	-0.11%
18-Nov-19	0.4880	1095.09	1094.52	0.57	0.05%
18-Nov-19	0.4880	1095.09	1094.52	0.57	0.05%
12-Mar-19	0.4980	1163.79	1163.98	-0.19	-0.02%
2-Mar-20	0.4670	1122.83	1122.48	0.35	0.03%
2-Mar-20	0.4670	1122.83	1122.48	0.35	0.03%
2-Mar-20	0.4670	1122.83	1122.48	0.35	0.03%
2-Mar-20	0.4670	1122.83	1122.48	0.35	0.03%
26-Sep-19	0.5290	1120.88	1120.16	0.72	0.06%
20-Jun-19	0.5210	1119.73	1119.04	0.69	0.06%
20-Jun-19	0.5210	1119.73	1119.04	0.69	0.06%
12-Jul-19	0.5300	1106.32	1105.01	1.31	0.12%
22-Jul-19	0.5340	1149.71	1149.81	-0.10	-0.01%
22-Jul-19	0.5340	1149.71	1149.81	-0.10	-0.01%
22-Jul-19	0.5280	1144.80	1144.62	0.18	0.02%
22-Jul-19	0.5280	1144.80	1144.62	0.18	0.02%
15-Oct-19	0.5190	1160.89	1161.17	-0.28	-0.02%
15-Oct-19	0.5190	1160.89	1161.17	-0.28	-0.02%
18-Feb-20	0.4160	1088.97	1087.82	1.15	0.11%
27-Feb-19	0.4790	1110.29	1109.35	0.94	0.09%
26-Sep-19	0.5160	1132.95	1132.52	0.43	0.04%
26-Sep-19	0.5160	1132.95	1132.52	0.43	0.04%
2-Mar-20	0.4890	1140.22	1140.03	0.19	0.02%
28-Jan-20	0.4670	1099.62	1098.68	0.94	0.09%
22-Apr-20	0.5000	1099.52	1098.73	0.79	0.07%
22-Jan-19	0.5060	1125.70	1125.30	0.39	0.04%

11-Feb-20	0.5900	1134.47	1134.79	-0.32	-0.03%
24-May-19	0.5010	1115.51	1115.25	0.26	0.02%
29-May-19	0.5850	1165.01	1164.69	0.32	0.03%
29-May-19	0.5850	1165.01	1164.69	0.32	0.03%
5-Mar-19	0.4370	1119.00	1118.38	0.63	0.06%
30-Aug-19	0.4730	1070.34	1069.28	1.06	0.10%
30-Aug-19	0.4730	1070.34	1069.28	1.06	0.10%
26-Mar-19	0.5050	1101.92	1101.44	0.48	0.04%
30-Apr-20	0.5380	1096.91	1095.08	1.83	0.17%
20-Aug-19	0.5520	1249.43	1250.00	-0.56	-0.05%
20-Aug-19	0.5520	1249.22	1249.79	-0.56	-0.05%
11-Jun-19	0.5050	1117.75	1117.63	0.12	0.01%
11-Mar-20	0.6730	1262.96	1263.31	-0.35	-0.03%
2-Jun-20	0.4150	1110.45	1110.47	-0.01	0.00%
30-Apr-20	0.4310	1290.61	1290.69	-0.07	-0.01%
9-Jul-19	0.4050	1307.41	1307.40	0.01	0.00%
9-Jul-19	0.4050	1307.57	1307.56	0.01	0.00%
13-Aug-19	0.4120	1295.87	1295.63	0.24	0.02%
13-Aug-19	0.4120	1295.93	1295.69	0.24	0.02%
30-Sep-19	0.7050	1307.70	1308.76	-1.06	-0.08%
6-Jun-19	0.4160	1294.96	1294.30	0.66	0.05%
1-Mar-20	0.4120	1369.50	1369.50	0.00	0.00%
9-Oct-19	0.8070	1313.72	1314.29	-0.57	-0.04%
23-Apr-20	0.7130	1339.37	1340.39	-1.02	-0.08%
25-Mar-19	0.4570	1276.48	1276.14	0.34	0.03%
12-Jun-19	0.4640	1292.95	1292.65	0.31	0.02%
7-Apr-20	0.4580	1259.89	1259.91	-0.02	0.00%
22-Mar-19	0.5860	1241.74	1242.28	-0.55	-0.04%
22-Apr-20	0.7290	1358.31	1359.38	-1.07	-0.08%
22-Apr-20	0.7290	1358.24	1359.30	-1.07	-0.08%
15-Apr-19	0.3920	1312.69	1312.33	0.37	0.03%
24-Sep-18	0.4470	1288.78	1288.61	0.17	0.01%
10-Apr-19	0.4380	1339.60	1339.57	0.02	0.00%
30-Jul-19	0.6860	1300.81	1300.96	-0.14	-0.01%
6-Apr-20	0.7270	1352.66	1353.35	-0.69	-0.05%
11-Jun-19	0.5800	1122.45	1122.10	0.36	0.03%
11-Jun-19	0.5800	1122.45	1122.10	0.36	0.03%
8-May-20	0.5070	1099.83	1099.21	0.63	0.06%
27-Feb-20	0.5860	1138.15	1137.80	0.36	0.03%
11-Sep-19	0.4640	1163.02	1162.88	0.14	0.01%
11-Sep-19	0.4640	1163.02	1162.88	0.14	0.01%
2-Mar-20	0.5640	1141.62	1140.77	0.85	0.07%
2-Mar-20	0.5630	1137.31	1136.45	0.85	0.08%
28-Oct-19	0.5810	1189.23	1189.51	-0.28	-0.02%
28-Oct-19	0.5810	1189.23	1189.51	-0.28	-0.02%
4-Jun-19	0.5800	1175.03	1175.20	-0.17	-0.01%
4-Jun-19	0.5800	1175.03	1175.20	-0.17	-0.01%
10-Jul-19	0.5420	1156.86	1156.72	0.14	0.01%
10-Jul-19	0.5420	1156.86	1156.72	0.14	0.01%
10-Dec-19	0.5190	1118.06	1117.19	0.87	0.08%
30-Jul-19	0.5170	1135.98	1135.43	0.55	0.05%
30-Jul-19	0.5170	1135.98	1135.43	0.55	0.05%
22-Apr-19	0.5380	1144.30	1144.08	0.22	0.02%
17-Sep-19	0.5690	1140.10	1139.79	0.31	0.03%
17-Sep-19	0.5690	1140.10	1139.79	0.31	0.03%
20-Nov-18	0.5300	1149.54	1149.24	0.30	0.03%
27-May-20	0.5580	1124.72	1124.14	0.58	0.05%

26-Aug-19	0.8920	1314.31	1315.52	-1.21	-0.09%
26-Aug-19	0.8920	1314.77	1315.99	-1.21	-0.09%
19-Aug-19	0.7050	1219.39	1220.30	-0.91	-0.07%
3-Jun-19	0.5460	1209.86	1210.29	-0.43	-0.04%
27-Jun-19	0.4240	1303.52	1303.46	0.06	0.00%
23-Jul-19	0.4400	1295.20	1295.00	0.20	0.02%
11-Feb-20	0.7570	1321.88	1322.80	-0.92	-0.07%
14-May-20	0.8010	1320.76	1322.17	-1.41	-0.11%
9-Aug-19	0.3930	1325.19	1324.93	0.26	0.02%
9-Aug-19	0.3930	1325.19	1324.93	0.26	0.02%
30-Jul-19	0.4150	1305.65	1305.32	0.33	0.03%
30-Jul-19	0.4150	1305.67	1305.34	0.33	0.03%
14-Nov-19	0.7090	1329.94	1330.86	-0.92	-0.07%
14-Nov-19	0.7080	1329.30	1330.22	-0.92	-0.07%
24-Feb-20	0.7820	1296.18	1297.37	-1.20	-0.09%
24-Feb-20	0.7820	1296.38	1297.58	-1.20	-0.09%
1-Jan-20	0.4170	1365.29	1365.29	0.00	0.00%
15-May-19	0.5110	1326.25	1326.46	-0.21	-0.02%
15-May-19	0.5110	1325.43	1325.64	-0.21	-0.02%
14-Jul-17	0.4040	1226.83	1226.35	0.48	0.04%
23-Oct-18	0.4160	1180.18	1180.02	0.16	0.01%
31-Jan-18	0.4180	1299.17	1299.40	-0.23	-0.02%
27-Aug-19	0.7040	1211.20	1211.88	-0.68	-0.06%
27-Aug-19	0.7030	1209.76	1210.44	-0.68	-0.06%
9-Aug-19	0.3900	1320.69	1320.26	0.43	0.03%
31-Oct-17	0.4180	1173.06	1173.11	-0.05	0.00%
27-Mar-19	0.3780	1206.58	1205.89	0.69	0.06%
8-Sep-18	0.7600	1340.85	1341.57	-0.72	-0.05%
18-Dec-19	0.7800	1360.22	1361.43	-1.22	-0.09%
6-Apr-20	0.7310	1361.20	1361.90	-0.70	-0.05%
1-Apr-19	0.9870	1409.73	1412.19	-2.45	-0.17%
19-Feb-20	0.6800	1363.06	1363.70	-0.64	-0.05%
12-May-20	0.6470	1097.65	1093.17	4.48	0.41%
4-Apr-19	0.6920	1160.61	1160.37	0.24	0.02%
2-Oct-19	0.5090	1115.28	1114.71	0.57	0.05%
2-Oct-19	0.5090	1115.28	1114.71	0.57	0.05%
14-Jun-19	0.5290	1120.49	1119.96	0.53	0.05%
14-Jun-19	0.5290	1120.49	1119.96	0.53	0.05%
23-Apr-19	0.5180	1140.45	1140.37	0.08	0.01%
22-Jan-19	0.4940	1128.49	1127.69	0.80	0.07%
24-Jul-19	0.5810	1150.74	1149.36	1.38	0.12%
24-Jul-19	0.5810	1150.74	1149.36	1.38	0.12%
26-Jul-18	0.5410	1153.00	1152.18	0.82	0.07%
11-Mar-20	0.4700	1105.87	1105.01	0.86	0.08%
21-May-19	0.5180	1114.70	1113.94	0.77	0.07%
19-Jun-20	0.5230	1108.24	1107.27	0.97	0.09%
19-Mar-19	0.5010	1103.95	1103.17	0.79	0.07%
19-Mar-19	0.5010	1103.95	1103.17	0.79	0.07%
13-Mar-19	0.4310	1127.47	1127.07	0.40	0.04%
24-Jan-19	0.5100	1129.77	1129.44	0.33	0.03%
1-Aug-19	0.5430	1127.35	1126.98	0.37	0.03%
1-Aug-19	0.5430	1127.35	1126.98	0.37	0.03%
24-Mar-20	0.5310	1094.92	1092.90	2.02	0.18%
5-Jun-17	0.4430	1266.16	1265.95	0.21	0.02%
28-Jan-20	0.8930	1177.98	1179.27	-1.29	-0.11%
25-Oct-18	0.5210	1194.24	1193.82	0.42	0.04%
23-Jan-20	0.6550	1362.35	1363.16	-0.81	-0.06%

7-Mar-19	0.4000	1317.15	1316.74	0.41	0.03%
16-Jan-19	0.4290	1271.40	1271.43	-0.03	0.00%
7-May-19	0.4590	1323.93	1324.26	-0.32	-0.02%
31-Jul-19	0.4530	1308.74	1308.78	-0.04	0.00%
12-May-20	0.7240	1341.45	1342.38	-0.93	-0.07%
12-May-20	0.7240	1341.45	1342.38	-0.93	-0.07%
18-Jul-19	0.4870	1319.12	1319.12	0.00	0.00%
18-Jul-19	0.4870	1319.25	1319.25	0.00	0.00%
18-Jul-19	0.4870	1319.11	1319.11	0.00	0.00%
18-Jul-19	0.4870	1319.24	1319.24	0.00	0.00%
17-Jul-19	0.4640	1327.95	1327.93	0.02	0.00%
14-Nov-19	0.7120	1335.23	1336.16	-0.92	-0.07%
14-Nov-19	0.7120	1335.30	1336.22	-0.92	-0.07%
15-Jan-20	0.7410	1317.34	1318.08	-0.74	-0.06%
15-Jan-20	0.7410	1317.38	1318.11	-0.74	-0.06%
30-Jan-20	0.7170	1269.71	1270.77	-1.06	-0.08%
22-Nov-19	0.8000	1367.54	1369.06	-1.52	-0.11%
30-Jul-19	0.4630	1249.06	1249.23	-0.17	-0.01%
26-Jun-19	0.4000	1306.39	1306.30	0.09	0.01%
26-Jun-19	0.4000	1305.17	1305.08	0.09	0.01%
21-May-20	0.8880	1262.17	1263.83	-1.66	-0.13%
3-Jul-18	0.4070	1232.75	1232.27	0.48	0.04%
22-Aug-19	0.6330	1191.78	1192.45	-0.67	-0.06%
30-Jul-19	0.5300	1278.14	1278.51	-0.37	-0.03%
14-Dec-18	0.4850	1304.25	1304.40	-0.15	-0.01%
14-Aug-19	0.4590	1300.48	1300.69	-0.21	-0.02%
14-Aug-19	0.4590	1300.48	1300.69	-0.21	-0.02%
1-May-20	0.4200	1174.29	1174.29	0.00	0.00%
12-Jul-19	0.6540	1375.07	1375.59	-0.52	-0.04%
18-May-18	0.4210	1113.22	1110.59	2.63	0.24%
18-May-18	0.4210	1113.22	1110.59	2.63	0.24%
5-May-20	0.5100	1114.38	1113.96	0.42	0.04%
5-Sep-19	0.5780	1139.78	1139.23	0.55	0.05%
3-Jun-20	0.5680	1153.56	1153.07	0.49	0.04%
5-Sep-19	0.5780	1139.78	1139.23	0.55	0.05%
3-Jun-20	0.5130	1101.34	1100.50	0.84	0.08%
24-Apr-19	0.5160	1116.76	1115.78	0.98	0.09%
24-Apr-19	0.5160	1116.76	1115.78	0.98	0.09%
25-Sep-19	0.5360	1131.34	1130.76	0.58	0.05%
27-Aug-19	0.5820	1171.20	1171.43	-0.23	-0.02%
27-Aug-19	0.5820	1171.20	1171.43	-0.23	-0.02%
9-Apr-19	0.5070	1115.28	1114.23	1.06	0.09%
2-Jul-19	0.5420	1135.31	1134.99	0.31	0.03%
2-Jul-19	0.5420	1135.31	1134.99	0.31	0.03%
7-Jan-20	0.5380	1147.35	1147.35	0.00	0.00%
21-Aug-19	0.5610	1137.33	1136.53	0.80	0.07%
21-Aug-19	0.5610	1137.33	1136.53	0.80	0.07%
1-Oct-19	0.5070	1131.72	1131.08	0.63	0.06%
1-Oct-19	0.5070	1131.72	1131.08	0.63	0.06%
13-Nov-18	0.5010	1198.43	1198.49	-0.06	0.00%
29-May-19	0.4140	1153.90	1153.26	0.64	0.06%
7-May-19	0.4840	1097.48	1096.10	1.38	0.13%
7-May-19	0.4830	1093.45	1092.07	1.38	0.13%
27-Jan-20	0.8930	1177.23	1178.57	-1.34	-0.11%
2-Aug-18	0.4950	1173.70	1173.48	0.22	0.02%
2-Aug-18	0.4950	1173.70	1173.48	0.22	0.02%
27-Sep-19	0.5720	1224.75	1225.27	-0.52	-0.04%

27-Sep-19	0.5720	1224.75	1225.27	-0.52	-0.04%
10-Dec-19	0.6490	1292.01	1292.72	-0.71	-0.05%
9-Apr-19	0.4320	1307.30	1307.34	-0.04	0.00%
11-Mar-20	0.7610	1350.57	1351.88	-1.31	-0.10%
18-Jul-19	0.4590	1334.35	1334.46	-0.10	-0.01%
18-Jul-19	0.4590	1334.35	1334.46	-0.10	-0.01%
15-Apr-20	0.6840	1315.54	1316.40	-0.85	-0.06%
15-Apr-20	0.6840	1315.54	1316.40	-0.85	-0.06%
14-May-20	0.7420	1327.22	1328.24	-1.02	-0.08%
6-Nov-19	0.7810	1357.80	1358.92	-1.12	-0.08%
6-Nov-19	0.7810	1357.79	1358.91	-1.12	-0.08%
9-Mar-20	0.8070	1288.58	1290.20	-1.62	-0.13%
22-Nov-19	0.7660	1343.90	1345.21	-1.31	-0.10%
22-Nov-19	0.7660	1344.26	1345.57	-1.31	-0.10%
22-Nov-19	0.8010	1368.40	1369.91	-1.52	-0.11%
1-Aug-19	0.4240	1301.11	1301.12	-0.01	0.00%
1-Aug-19	0.4240	1301.05	1301.06	-0.01	0.00%
1-Aug-19	0.4220	1300.91	1300.91	0.00	0.00%
28-Jun-19	0.5050	1267.76	1267.57	0.19	0.01%
20-Mar-19	0.5150	1312.67	1312.68	-0.01	0.00%
29-Jun-17	0.4290	1329.37	1329.48	-0.10	-0.01%
20-Dec-17	0.3950	1260.61	1260.04	0.57	0.05%
20-Mar-18	0.6020	1311.39	1312.51	-1.11	-0.08%
23-Oct-18	0.5630	1995.86	1996.82	-0.96	-0.05%
16-May-19	0.4920	1240.06	1239.94	0.11	0.01%
22-Aug-19	0.6350	1194.48	1195.14	-0.67	-0.06%
7-Nov-19	0.7480	1325.39	1326.77	-1.38	-0.10%
17-Mar-20	0.7920	1340.31	1341.78	-1.47	-0.11%
7-Apr-20	0.7050	1312.52	1312.74	-0.22	-0.02%
1-Aug-19	0.6320	1375.02	1375.63	-0.61	-0.04%
25-Mar-20	0.6690	1313.11	1313.71	-0.61	-0.05%
13-Nov-19	0.7420	1127.91	1128.47	-0.56	-0.05%
13-Nov-19	0.7420	1127.91	1128.47	-0.56	-0.05%
7-Apr-20	0.5660	1144.27	1144.30	-0.02	0.00%
27-Aug-19	0.5690	1169.82	1169.86	-0.04	0.00%
27-Aug-19	0.5690	1169.82	1169.86	-0.04	0.00%
27-Aug-19	0.5730	1165.77	1165.87	-0.09	-0.01%
27-Aug-19	0.5730	1165.77	1165.87	-0.09	-0.01%
16-Oct-19	0.5400	1156.11	1155.81	0.30	0.03%
16-Oct-19	0.5400	1156.11	1155.81	0.30	0.03%
23-Apr-19	0.5610	1148.62	1148.42	0.21	0.02%
12-Nov-19	0.4250	1090.91	1090.22	0.69	0.06%
12-Nov-19	0.4250	1090.91	1090.22	0.69	0.06%
9-Jul-19	0.5900	1167.18	1167.12	0.07	0.01%
9-Jul-19	0.5900	1167.18	1167.12	0.07	0.01%
27-May-20	0.5200	1111.92	1111.22	0.70	0.06%
2-Oct-19	0.5790	1163.94	1163.80	0.14	0.01%
2-Oct-19	0.5790	1163.94	1163.80	0.14	0.01%
10-Jul-19	0.5410	1141.58	1141.03	0.55	0.05%
10-Jul-19	0.5410	1141.58	1141.03	0.55	0.05%
9-Jun-20	0.5630	1148.39	1148.38	0.01	0.00%
15-May-19	0.5430	1136.64	1136.41	0.22	0.02%
27-May-20	0.5490	1115.69	1114.60	1.10	0.10%
4-Jun-20	0.5480	1145.43	1145.06	0.36	0.03%
25-Jan-19	0.5690	1196.71	1195.72	0.99	0.08%
8-May-19	0.4310	1270.95	1270.96	-0.01	0.00%
16-Aug-19	0.4300	1266.71	1266.72	-0.01	0.00%

8-May-19	0.4310	1271.86	1271.87	-0.01	0.00%
15-Apr-20	0.7590	1315.78	1317.05	-1.28	-0.10%
28-Jan-20	0.6580	1321.53	1322.29	-0.76	-0.06%
28-Jan-20	0.6580	1321.65	1322.41	-0.76	-0.06%
18-Dec-19	0.6610	1337.74	1338.49	-0.75	-0.06%
10-Feb-20	0.7400	1358.93	1360.08	-1.15	-0.08%
15-Jul-19	0.4250	1322.05	1321.94	0.10	0.01%
6-Aug-19	0.5110	1334.12	1334.13	0.00	0.00%
22-Apr-20	0.8760	1324.94	1326.79	-1.85	-0.14%
29-Jul-19	0.4300	1295.68	1295.40	0.28	0.02%
30-Aug-19	0.7070	1208.47	1209.01	-0.54	-0.04%
30-Aug-19	0.7060	1206.11	1206.64	-0.53	-0.04%
7-Mar-19	0.3960	1187.52	1187.10	0.42	0.04%
13-Dec-19	0.5440	1201.93	1202.20	-0.27	-0.02%
18-Sep-18	0.5150	1480.02	1480.62	-0.60	-0.04%
15-May-19	0.4950	1239.96	1239.86	0.10	0.01%
7-Apr-20	0.7590	1334.59	1335.96	-1.37	-0.10%
4-Jun-19	0.8270	1436.06	1437.40	-1.34	-0.09%
19-Dec-18	0.8560	1271.29	1272.81	-1.52	-0.12%
21-Feb-20	0.6000	1206.20	1206.98	-0.78	-0.06%
19-Aug-19	0.5540	1092.16	1089.65	2.51	0.23%
19-Aug-19	0.5540	1092.16	1089.65	2.51	0.23%
4-Mar-20	0.5320	1114.00	1113.63	0.37	0.03%
8-Apr-20	0.5450	1117.97	1117.71	0.25	0.02%
4-Apr-19	0.6100	1174.36	1174.33	0.02	0.00%
7-Jan-19	0.5280	1135.59	1135.28	0.31	0.03%
13-Nov-19	0.5500	1144.62	1144.25	0.37	0.03%
13-Nov-19	0.5500	1144.62	1144.25	0.37	0.03%
16-Jul-19	0.5090	1125.91	1125.58	0.33	0.03%
7-Nov-19	0.5340	1112.37	1111.41	0.96	0.09%
7-Nov-19	0.5340	1112.37	1111.41	0.96	0.09%
24-Jul-19	0.4770	1116.05	1115.24	0.81	0.07%
24-Jul-19	0.4770	1116.05	1115.24	0.81	0.07%
22-Oct-19	0.5280	1135.16	1134.96	0.20	0.02%
22-Oct-19	0.5280	1135.16	1134.96	0.20	0.02%
15-Apr-19	0.5070	1112.28	1111.63	0.65	0.06%
11-Oct-19	0.4810	1142.76	1142.27	0.48	0.04%
11-Oct-19	0.4810	1142.76	1142.27	0.48	0.04%
5-Feb-19	0.5420	1128.74	1128.39	0.35	0.03%
18-May-19	0.4190	1238.72	1238.33	0.38	0.03%
24-Oct-18	0.4230	1163.19	1163.05	0.14	0.01%
17-Apr-20	0.6680	1311.10	1311.96	-0.86	-0.07%
31-Mar-20	0.4330	1290.60	1290.62	-0.01	0.00%
31-Mar-20	0.4330	1290.60	1290.62	-0.01	0.00%
2-Dec-19	0.4330	1290.37	1290.38	-0.01	0.00%
8-May-19	0.4330	1291.04	1291.05	-0.01	0.00%
29-Feb-20	0.4330	1290.58	1290.59	-0.01	0.00%
8-May-19	0.4330	1291.13	1291.14	-0.01	0.00%
31-Mar-20	0.4330	1290.71	1290.72	-0.01	0.00%
29-Feb-20	0.4330	1290.75	1290.76	-0.01	0.00%
2-Dec-19	0.4330	1290.38	1290.39	-0.01	0.00%
8-May-19	0.4330	1289.25	1289.26	-0.01	0.00%
31-Mar-20	0.4330	1290.60	1290.62	-0.01	0.00%
29-Feb-20	0.4330	1290.61	1290.63	-0.01	0.00%
8-May-19	0.4330	1291.14	1291.15	-0.01	0.00%
31-Mar-20	0.4330	1290.76	1290.77	-0.01	0.00%
29-Feb-20	0.4330	1290.76	1290.77	-0.01	0.00%

8-May-19	0.4330	1291.27	1291.28	-0.01	0.00%
31-Mar-20	0.4330	1290.91	1290.92	-0.01	0.00%
8-May-19	0.4310	1268.11	1268.12	0.00	0.00%
31-Mar-20	0.4320	1271.81	1271.82	-0.01	0.00%
16-Aug-19	0.4320	1271.65	1271.65	-0.01	0.00%
8-May-19	0.4320	1271.75	1271.76	-0.01	0.00%
31-Mar-20	0.4320	1271.68	1271.68	-0.01	0.00%
29-Feb-20	0.4320	1271.67	1271.67	-0.01	0.00%
31-Mar-20	0.4320	1271.75	1271.76	-0.01	0.00%
29-Feb-20	0.4320	1271.75	1271.76	-0.01	0.00%
2-Dec-19	0.4320	1271.53	1271.54	-0.01	0.00%
8-May-19	0.4320	1271.92	1271.92	-0.01	0.00%
31-Mar-20	0.4320	1271.95	1271.95	-0.01	0.00%
2-Dec-19	0.4320	1271.87	1271.88	-0.01	0.00%
16-Aug-19	0.4320	1271.66	1271.66	-0.01	0.00%
31-Mar-20	0.4320	1271.82	1271.83	-0.01	0.00%
29-Feb-20	0.4320	1271.75	1271.76	-0.01	0.00%
16-Aug-19	0.4320	1271.83	1271.84	-0.01	0.00%
31-Mar-20	0.4320	1271.97	1271.98	-0.01	0.00%
29-Feb-20	0.4320	1271.95	1271.95	-0.01	0.00%
19-Jun-19	0.4390	1294.62	1294.32	0.30	0.02%
23-Dec-19	0.8000	1336.64	1338.01	-1.37	-0.10%
19-Aug-19	0.4560	1291.54	1291.55	-0.01	0.00%
12-Jun-19	0.4360	1296.56	1296.15	0.40	0.03%
12-Jun-19	0.4360	1296.35	1295.95	0.40	0.03%
16-Dec-19	0.7190	1341.80	1342.65	-0.85	-0.06%
16-Dec-19	0.7190	1341.59	1342.44	-0.85	-0.06%
17-Jun-19	0.4610	1311.39	1311.32	0.06	0.00%
17-Jun-19	0.4610	1309.58	1309.51	0.06	0.00%
17-Jun-19	0.4610	1311.46	1311.40	0.06	0.00%
17-Jun-19	0.4610	1309.57	1309.50	0.06	0.00%
16-Apr-19	0.5250	1342.89	1342.77	0.13	0.01%
4-Jun-20	0.7290	1253.80	1254.48	-0.69	-0.05%
28-Jun-19	0.4200	1344.44	1343.61	0.83	0.06%
28-Jun-19	0.4200	1344.00	1343.17	0.83	0.06%
28-Jun-19	0.4200	1345.44	1344.60	0.83	0.06%
28-Jun-19	0.4200	1340.54	1339.71	0.83	0.06%
28-May-19	0.4870	1310.86	1310.32	0.54	0.04%
26-Feb-19	0.4250	1183.82	1183.74	0.08	0.01%
21-Oct-18	0.4370	1189.46	1189.18	0.28	0.02%
19-May-20	0.9480	1204.94	1206.65	-1.71	-0.14%
28-Nov-18	0.5650	1251.41	1252.15	-0.73	-0.06%
11-Jul-19	0.4180	1329.59	1329.04	0.55	0.04%
12-May-20	0.7680	1355.64	1357.25	-1.61	-0.12%
30-May-19	0.4390	1295.38	1295.18	0.20	0.02%
30-May-19	0.4390	1295.36	1295.16	0.20	0.02%
10-Nov-17	0.6080	1309.00	1309.75	-0.75	-0.06%
20-Oct-17	0.7460	1463.94	1464.49	-0.54	-0.04%
21-Aug-19	0.4500	1309.89	1309.87	0.02	0.00%
18-Jun-19	0.6130	1298.36	1298.53	-0.18	-0.01%
30-Aug-19	0.7160	1209.49	1210.16	-0.68	-0.06%
30-Aug-19	0.7130	1206.11	1206.79	-0.68	-0.06%
31-May-19	0.4700	1250.89	1250.19	0.71	0.06%
10-Nov-19	0.8770	1418.06	1419.86	-1.80	-0.13%
10-Nov-19	0.8760	1416.62	1418.42	-1.80	-0.13%
11-Mar-19	0.7150	1319.88	1320.20	-0.32	-0.02%
2-Jul-19	0.8060	1429.84	1431.12	-1.27	-0.09%

16-Jan-20	1.1110	1325.88	1327.58	-1.70	-0.13%
26-May-20	0.6960	1359.82	1360.50	-0.68	-0.05%
24-Mar-20	0.6610	1305.97	1306.41	-0.44	-0.03%
8-Apr-19	0.5160	1125.34	1124.68	0.66	0.06%
12-Mar-20	0.4730	1092.67	1091.57	1.10	0.10%
18-Oct-19	0.4450	1131.15	1130.64	0.50	0.04%
18-Oct-19	0.4450	1131.15	1130.64	0.50	0.04%
12-Dec-19	0.6320	1185.58	1185.82	-0.24	-0.02%
15-May-19	0.5240	1152.82	1152.21	0.61	0.05%
12-Nov-19	0.5740	1156.20	1156.04	0.16	0.01%
12-Nov-19	0.5740	1156.20	1156.04	0.16	0.01%
15-May-19	0.6290	1172.41	1172.50	-0.09	-0.01%
27-Aug-19	0.5830	1173.89	1173.97	-0.08	-0.01%
27-Aug-19	0.5830	1173.89	1173.97	-0.08	-0.01%
23-Jan-19	0.4760	1143.72	1143.11	0.61	0.05%
25-Jun-19	0.4730	1100.47	1099.68	0.78	0.07%
25-Jun-19	0.4730	1100.47	1099.68	0.78	0.07%
20-Jun-19	0.5270	1123.10	1122.53	0.57	0.05%
14-Oct-19	0.5470	1139.09	1138.67	0.41	0.04%
14-Oct-19	0.5470	1139.09	1138.67	0.41	0.04%
18-Jun-20	0.5700	1148.72	1148.47	0.25	0.02%
7-May-19	0.5210	1134.26	1134.17	0.09	0.01%
22-Jan-20	0.6150	1316.39	1317.39	-1.00	-0.08%
23-Sep-19	0.8530	1182.50	1184.16	-1.67	-0.14%
23-Sep-19	0.8530	1182.50	1184.16	-1.67	-0.14%
9-Apr-19	0.4410	1276.34	1276.41	-0.06	-0.01%
9-Apr-19	0.4410	1274.05	1274.11	-0.06	-0.01%
9-Apr-19	0.4400	1274.60	1274.66	-0.06	0.00%
2-Dec-19	0.4340	1290.45	1290.45	-0.01	0.00%
31-May-20	0.4340	1290.89	1290.90	-0.01	0.00%
30-Apr-20	0.4330	1290.77	1290.77	0.00	0.00%
2-Dec-19	0.4330	1290.38	1290.38	0.00	0.00%
16-Aug-19	0.4330	1290.38	1290.38	0.00	0.00%
9-Apr-19	0.4330	1305.63	1305.63	0.00	0.00%
31-May-20	0.4330	1290.84	1290.85	0.00	0.00%
30-Apr-20	0.4330	1290.72	1290.73	0.00	0.00%
29-Feb-20	0.4340	1290.66	1290.67	-0.01	0.00%
31-May-20	0.4340	1290.89	1290.90	-0.01	0.00%
2-Dec-19	0.4340	1290.56	1290.56	-0.01	0.00%
31-May-20	0.4340	1291.03	1291.03	-0.01	0.00%
30-Apr-20	0.4330	1290.87	1290.87	0.00	0.00%
31-May-20	0.4340	1290.88	1290.89	-0.01	0.00%
30-Apr-20	0.4330	1290.77	1290.77	0.00	0.00%
2-Dec-19	0.4340	1290.56	1290.56	-0.01	0.00%
31-May-20	0.4340	1291.05	1291.06	-0.01	0.00%
30-Apr-20	0.4330	1290.87	1290.87	0.00	0.00%
31-May-20	0.4340	1291.16	1291.17	-0.01	0.00%
30-Apr-20	0.4330	1291.03	1291.04	0.00	0.00%
29-Feb-20	0.4340	1290.96	1290.97	-0.01	0.00%
2-Dec-19	0.4330	1271.52	1271.53	0.00	0.00%
16-Aug-19	0.4330	1271.53	1271.54	0.00	0.00%
31-May-20	0.4330	1271.90	1271.90	0.00	0.00%
30-Apr-20	0.4330	1271.89	1271.89	0.00	0.00%
2-Dec-19	0.4330	1271.72	1271.72	0.00	0.00%
31-May-20	0.4330	1271.80	1271.81	0.00	0.00%
30-Apr-20	0.4330	1271.80	1271.81	0.00	0.00%
2-Dec-19	0.4330	1271.71	1271.72	0.00	0.00%

16-Aug-19	0.4330	1271.79	1271.80	0.00	0.00%
8-May-19	0.4330	1269.96	1269.97	0.00	0.00%
31-May-20	0.4330	1271.83	1271.84	0.00	0.00%
30-Apr-20	0.4330	1271.82	1271.83	0.00	0.00%
16-Aug-19	0.4330	1271.59	1271.59	0.00	0.00%
31-May-20	0.4330	1272.04	1272.04	0.00	0.00%
30-Apr-20	0.4330	1272.04	1272.04	0.00	0.00%
29-Feb-20	0.4330	1271.90	1271.90	0.00	0.00%
31-May-20	0.4330	1271.93	1271.93	0.00	0.00%
30-Apr-20	0.4330	1271.91	1271.91	0.00	0.00%
2-Dec-19	0.4330	1271.94	1271.94	0.00	0.00%
31-May-20	0.4330	1272.06	1272.06	0.00	0.00%
30-Apr-20	0.4330	1272.06	1272.06	0.00	0.00%
2-Dec-19	0.4330	1271.94	1271.94	0.00	0.00%
6-Jun-19	0.4740	1299.62	1299.78	-0.17	-0.01%
3-Oct-19	0.7420	1335.12	1336.31	-1.20	-0.09%
3-Oct-19	0.7420	1335.38	1336.58	-1.20	-0.09%
3-Oct-19	0.7420	1335.13	1336.33	-1.20	-0.09%
3-Oct-19	0.7420	1335.39	1336.59	-1.20	-0.09%
21-Apr-20	0.7030	1332.80	1333.63	-0.84	-0.06%
30-Jan-20	0.8720	1295.99	1297.26	-1.27	-0.10%
29-May-19	0.5000	1286.03	1286.04	-0.01	0.00%
21-May-19	0.5320	1325.67	1324.88	0.79	0.06%
21-May-19	0.5320	1324.98	1324.20	0.79	0.06%
8-Aug-19	0.5900	1300.93	1301.28	-0.35	-0.03%
18-Apr-19	0.4190	1205.45	1204.14	1.30	0.11%
11-Jul-19	0.4200	1332.76	1332.21	0.55	0.04%
18-Oct-17	0.4170	1216.12	1215.98	0.14	0.01%
27-Nov-18	0.4360	1127.79	1127.37	0.42	0.04%
22-Apr-19	0.4560	1284.81	1284.54	0.27	0.02%
20-Apr-20	0.8230	1316.82	1318.32	-1.50	-0.11%
16-Apr-19	0.4760	1204.73	1204.77	-0.04	0.00%
30-Jul-19	0.3840	1130.19	1129.10	1.09	0.10%
30-Jul-19	0.3840	1128.83	1127.74	1.09	0.10%
26-Mar-19	0.4100	1297.22	1296.67	0.55	0.04%
25-Jun-19	0.4450	1319.90	1319.49	0.41	0.03%
31-May-19	0.3340	1236.01	1234.95	1.06	0.09%
4-Feb-20	0.6670	1407.01	1407.54	-0.53	-0.04%
23-Mar-20	0.8140	1386.24	1387.31	-1.06	-0.08%
2-Jul-19	0.8100	1436.76	1438.04	-1.28	-0.09%
9-Jun-20	1.1320	1375.14	1377.60	-2.45	-0.18%
21-Feb-19	0.4790	1091.34	1090.73	0.60	0.06%
21-Feb-19	0.4790	1091.34	1090.73	0.60	0.06%
31-Mar-20	0.5080	1135.11	1134.87	0.24	0.02%
27-May-20	0.5690	1129.41	1128.29	1.12	0.10%
27-Aug-19	0.5460	1129.02	1127.97	1.05	0.09%
27-Aug-19	0.5530	1153.13	1153.07	0.06	0.00%
27-Aug-19	0.5530	1153.13	1153.07	0.06	0.00%
15-Jul-19	0.5730	1150.62	1150.40	0.22	0.02%
15-Jul-19	0.5730	1150.62	1150.40	0.22	0.02%
23-Mar-20	0.5080	1135.08	1134.77	0.31	0.03%
25-Jun-19	0.4830	1103.02	1102.21	0.81	0.07%
25-Jun-19	0.4830	1103.02	1102.21	0.81	0.07%
15-May-19	0.5690	1160.10	1159.91	0.19	0.02%
15-May-19	0.5690	1160.10	1159.91	0.19	0.02%
15-Apr-19	0.5520	1109.32	1107.64	1.68	0.15%
14-May-19	0.5140	1131.29	1131.02	0.27	0.02%

28-Feb-19	0.4570	1093.79	1093.30	0.49	0.04%
6-Jun-19	0.5700	1146.38	1145.80	0.58	0.05%
6-Jun-19	0.5700	1146.38	1145.80	0.58	0.05%
23-Apr-19	0.5060	1110.46	1110.03	0.42	0.04%
6-Feb-20	0.5140	1124.74	1124.54	0.20	0.02%
13-Aug-19	0.6680	1119.94	1119.49	0.45	0.04%
13-Aug-19	0.6680	1119.94	1119.49	0.45	0.04%
1-Apr-20	0.5210	1093.12	1091.47	1.65	0.15%
2-Aug-19	0.5100	1120.29	1120.03	0.27	0.02%
9-Dec-19	0.5880	1214.18	1214.97	-0.78	-0.06%
13-Dec-19	0.6390	1262.08	1263.14	-1.06	-0.08%
14-Aug-19	0.4670	1305.31	1305.36	-0.05	0.00%
25-Jun-19	0.4720	1297.55	1297.46	0.08	0.01%
25-Jun-19	0.4720	1297.70	1297.62	0.08	0.01%
29-Oct-18	0.4360	1354.30	1353.74	0.56	0.04%
29-Oct-18	0.4360	1354.24	1353.68	0.56	0.04%
29-Oct-18	0.5130	1366.09	1366.13	-0.03	0.00%
20-Aug-19	0.8230	1368.03	1369.64	-1.61	-0.12%
23-May-19	0.5580	1321.65	1321.96	-0.31	-0.02%
17-Jul-18	0.6500	1257.62	1258.72	-1.10	-0.09%
20-Oct-17	0.4680	1254.86	1254.79	0.07	0.01%
18-Jan-18	0.3910	1212.60	1211.97	0.63	0.05%
25-Jun-18	0.4770	1260.59	1259.61	0.98	0.08%
30-Aug-19	0.7300	1209.13	1209.62	-0.49	-0.04%
30-Aug-19	0.7280	1206.21	1206.69	-0.48	-0.04%
23-Aug-19	0.6510	1192.79	1193.33	-0.54	-0.05%
28-Jun-19	0.5200	1356.93	1357.07	-0.14	-0.01%
28-Jun-19	0.5200	1356.86	1357.00	-0.14	-0.01%
8-Oct-19	0.5820	1326.83	1327.40	-0.57	-0.04%
8-Oct-19	0.5820	1326.98	1327.55	-0.57	-0.04%
2-Mar-20	0.7490	1334.54	1335.55	-1.00	-0.08%
26-Mar-19	1.6090	1543.82	1548.03	-4.21	-0.27%
11-Apr-19	0.9040	1368.14	1370.11	-1.97	-0.14%
14-Jan-19	0.7850	1357.66	1358.72	-1.06	-0.08%
14-Jan-19	0.7850	1357.67	1358.73	-1.06	-0.08%
30-Apr-20	0.5680	1095.58	1093.68	1.90	0.17%
12-Apr-19	0.6140	1151.18	1151.11	0.07	0.01%
27-Feb-20	0.5640	1134.56	1134.18	0.38	0.03%
27-May-20	0.5720	1133.36	1132.23	1.13	0.10%
7-Jan-19	0.5880	1197.85	1198.64	-0.80	-0.07%
8-Apr-19	0.5500	1144.62	1144.50	0.12	0.01%
10-Jul-19	0.5640	1144.68	1144.09	0.59	0.05%
10-Jul-19	0.5640	1144.68	1144.09	0.59	0.05%
15-Jul-19	0.6100	1169.27	1168.98	0.30	0.03%
15-Jul-19	0.6100	1169.27	1168.98	0.30	0.03%
31-Jan-19	0.5710	1151.82	1151.30	0.52	0.05%
20-Jan-20	0.5200	1137.20	1137.16	0.04	0.00%
18-Jun-19	0.5780	1139.44	1138.83	0.61	0.05%
18-Jun-19	0.5780	1139.44	1138.83	0.61	0.05%
27-May-20	0.6150	1121.50	1121.22	0.28	0.02%
13-Jan-20	0.5180	1125.26	1125.10	0.16	0.01%
19-Nov-19	0.5260	1129.43	1128.97	0.46	0.04%
19-Nov-19	0.5260	1129.43	1128.97	0.46	0.04%
19-Jun-19	0.5550	1108.35	1107.08	1.26	0.11%
19-Jun-19	0.5550	1108.35	1107.08	1.26	0.11%
24-Jul-19	0.4300	1298.08	1297.56	0.51	0.04%
12-Jun-20	0.7400	1322.81	1323.48	-0.67	-0.05%

25-Jun-19	0.4730	1299.17	1299.08	0.09	0.01%
25-Jun-19	0.4730	1299.48	1299.39	0.09	0.01%
10-Oct-18	0.4500	1327.92	1328.13	-0.21	-0.02%
10-Oct-18	0.4500	1327.56	1327.77	-0.21	-0.02%
10-Feb-20	0.7940	1362.18	1363.61	-1.44	-0.11%
10-Feb-20	0.7940	1362.11	1363.55	-1.44	-0.11%
24-Jul-19	0.4660	1335.96	1335.87	0.09	0.01%
27-Mar-19	0.5680	1323.91	1324.10	-0.19	-0.01%
26-Sep-18	0.5580	1317.92	1318.18	-0.26	-0.02%
30-Aug-19	0.7310	1212.31	1212.68	-0.37	-0.03%
30-Aug-19	0.7310	1212.37	1212.74	-0.37	-0.03%
14-May-18	0.4890	1275.10	1275.42	-0.32	-0.03%
28-Aug-18	0.5120	1273.77	1273.40	0.37	0.03%
28-Aug-18	0.5120	1273.79	1273.42	0.37	0.03%
26-Jun-19	0.3840	1166.06	1165.52	0.54	0.05%
26-Jun-19	0.3840	1166.23	1165.69	0.54	0.05%
19-Oct-18	0.4400	1183.10	1182.82	0.28	0.02%
23-Aug-19	0.6530	1195.51	1196.06	-0.54	-0.05%
19-Sep-19	0.7180	1194.13	1195.11	-0.97	-0.08%
19-Sep-19	0.7170	1191.48	1192.45	-0.97	-0.08%
31-Dec-18	0.4040	1171.10	1170.57	0.53	0.05%
6-Mar-18	0.5460	1244.47	1245.32	-0.85	-0.07%
14-Jan-20	0.8380	1301.27	1302.43	-1.16	-0.09%
19-Nov-19	0.6460	1203.88	1204.63	-0.75	-0.06%
19-Nov-19	0.6450	1200.84	1201.59	-0.75	-0.06%
20-Sep-18	0.4340	1300.84	1300.09	0.75	0.06%
5-Mar-19	1.0860	1397.75	1400.73	-2.98	-0.21%
5-Mar-19	1.0860	1397.03	1400.02	-2.98	-0.21%
23-Mar-20	0.7350	1379.90	1380.97	-1.07	-0.08%
9-Dec-19	0.9160	1314.44	1316.23	-1.79	-0.14%
28-Mar-20	0.7900	1337.42	1339.00	-1.57	-0.12%
4-Mar-20	0.5370	1112.81	1112.29	0.52	0.05%
4-Mar-20	0.5370	1112.81	1112.29	0.52	0.05%
9-Jul-19	0.6580	1219.47	1219.67	-0.20	-0.02%
9-Jul-19	0.6580	1219.47	1219.67	-0.20	-0.02%
16-May-19	0.5030	1125.34	1125.14	0.21	0.02%
16-May-19	0.5020	1122.35	1122.14	0.21	0.02%
24-Jun-19	0.6450	1180.58	1179.78	0.79	0.07%
24-Jun-19	0.6450	1180.58	1179.78	0.79	0.07%
2-Jul-19	0.5600	1128.51	1127.86	0.65	0.06%
2-Jul-19	0.5600	1128.51	1127.86	0.65	0.06%
19-Apr-19	0.5730	1155.76	1156.05	-0.29	-0.03%
19-Apr-19	0.5730	1155.76	1156.05	-0.29	-0.03%
26-Mar-20	0.4780	1111.01	1110.16	0.85	0.08%
25-Feb-20	0.4840	1111.55	1110.75	0.80	0.07%
2-Oct-19	0.5610	1136.64	1135.82	0.82	0.07%
2-Oct-19	0.5610	1136.64	1135.82	0.82	0.07%
10-Jul-19	0.5860	1167.82	1167.91	-0.08	-0.01%
10-Jul-19	0.5860	1167.82	1167.91	-0.08	-0.01%
30-Jan-19	0.5920	1151.46	1151.53	-0.08	-0.01%
13-Feb-19	0.5900	1147.31	1147.32	-0.01	0.00%
12-Mar-19	0.4410	1122.90	1122.33	0.57	0.05%
18-Jun-20	0.5510	1118.38	1117.47	0.91	0.08%
23-Apr-19	0.5380	1121.48	1121.04	0.44	0.04%
19-Jul-18	0.4580	1073.64	1072.53	1.11	0.10%
30-May-19	0.5650	1100.92	1099.33	1.59	0.14%
28-May-19	0.4630	1186.52	1186.12	0.40	0.03%

14-Feb-18	0.4310	1268.54	1267.81	0.74	0.06%
21-Apr-20	0.9460	1181.79	1183.96	-2.17	-0.18%
27-Dec-19	0.6320	1311.76	1312.31	-0.55	-0.04%
30-May-19	0.4370	1326.01	1325.27	0.74	0.06%
6-Jun-19	0.4910	1286.60	1286.47	0.13	0.01%
15-Jul-19	0.4520	1271.05	1270.65	0.40	0.03%
15-Jul-19	0.4520	1270.99	1270.58	0.40	0.03%
26-May-20	0.8330	1351.48	1352.87	-1.39	-0.10%
6-Nov-19	0.6970	1335.56	1336.52	-0.96	-0.07%
6-Nov-19	0.6970	1333.98	1334.93	-0.96	-0.07%
7-Aug-19	0.4290	1337.01	1336.84	0.17	0.01%
	0.4420	1182.91	1182.91	0.00	0.00%
1-Jul-19	0.4420	1182.91	1182.91	0.00	0.00%
10-Feb-20	0.8130	1361.33	1362.84	-1.51	-0.11%
10-Feb-20	0.8130	1361.14	1362.65	-1.51	-0.11%
27-Mar-19	0.5690	1324.18	1324.37	-0.19	-0.01%
12-Dec-19	0.5960	1340.84	1341.05	-0.21	-0.02%
31-May-19	0.4650	1330.63	1330.01	0.62	0.05%
29-Nov-18	0.4920	1374.17	1374.52	-0.35	-0.03%
24-Jan-20	0.6850	1352.52	1353.19	-0.67	-0.05%
22-Jul-19	0.4410	1312.02	1312.09	-0.06	0.00%
22-Jul-19	0.4410	1312.01	1312.08	-0.06	0.00%
23-May-19	0.4470	1307.89	1307.95	-0.06	0.00%
5-Nov-19	0.4780	1123.25	1123.66	-0.41	-0.04%
9-Jul-19	0.6620	1226.74	1226.95	-0.21	-0.02%
7-Jan-19	0.5530	1187.47	1187.42	0.05	0.00%
16-Jun-20	0.5550	1126.53	1125.66	0.88	0.08%
11-Jun-19	0.5930	1129.72	1128.96	0.75	0.07%
11-Jun-19	0.5930	1129.72	1128.96	0.75	0.07%
18-Oct-19	0.5810	1143.46	1143.50	-0.04	0.00%
18-Oct-19	0.5810	1143.46	1143.50	-0.04	0.00%
5-Nov-19	0.4760	1118.43	1118.84	-0.42	-0.04%
5-Nov-19	0.4760	1118.43	1118.84	-0.42	-0.04%
25-Jan-19	0.5740	1168.11	1168.35	-0.24	-0.02%
19-Nov-19	0.5760	1126.74	1125.70	1.04	0.09%
19-Nov-19	0.5760	1126.74	1125.70	1.04	0.09%
11-Apr-19	0.5650	1127.14	1127.16	-0.03	0.00%
22-Jul-19	0.5790	1153.96	1153.96	0.00	0.00%
22-Jul-19	0.5790	1153.96	1153.96	0.00	0.00%
16-Oct-19	0.4820	1140.28	1140.03	0.26	0.02%
16-Oct-19	0.4820	1140.28	1140.03	0.26	0.02%
30-Mar-20	0.5370	1133.15	1132.60	0.55	0.05%
7-Oct-19	0.5520	1127.87	1127.25	0.61	0.05%
7-Oct-19	0.5520	1127.87	1127.25	0.61	0.05%
19-Feb-20	0.6160	1136.97	1137.32	-0.36	-0.03%
7-Aug-19	0.5490	1135.20	1134.80	0.40	0.04%
7-Aug-19	0.5490	1135.20	1134.80	0.40	0.04%
11-Apr-19	0.5650	1125.54	1125.56	-0.03	0.00%
11-Apr-19	0.5650	1125.54	1125.56	-0.03	0.00%
5-Mar-19	0.4820	1103.50	1102.94	0.56	0.05%
24-Jan-20	0.9210	1175.64	1176.96	-1.32	-0.11%
1-Jun-17	0.4970	1836.97	1837.42	-0.44	-0.02%
21-May-20	0.6320	1176.93	1177.73	-0.80	-0.07%
2-Dec-19	0.5880	1210.48	1211.16	-0.68	-0.06%
27-Dec-19	0.6340	1314.09	1314.64	-0.55	-0.04%
23-Jan-20	0.6830	1351.76	1352.28	-0.52	-0.04%
25-Mar-20	0.7550	1321.29	1322.24	-0.95	-0.07%

25-Mar-20	0.7550	1321.13	1322.08	-0.95	-0.07%
20-Apr-20	0.7090	1308.27	1308.63	-0.36	-0.03%
14-Aug-19	0.4530	1278.54	1278.35	0.19	0.01%
24-Feb-20	0.9000	1353.70	1355.52	-1.82	-0.13%
24-Feb-20	0.9000	1353.70	1355.52	-1.82	-0.13%
11-Jul-19	0.4980	1343.52	1343.59	-0.07	-0.01%
12-Feb-20	0.6130	1319.85	1319.52	0.32	0.02%
6-Mar-19	0.4130	1217.43	1216.45	0.99	0.08%
11-Sep-19	0.8400	1262.30	1262.23	0.08	0.01%
11-Mar-20	1.0140	1194.69	1196.87	-2.18	-0.18%
23-Apr-19	0.5610	1295.76	1295.53	0.23	0.02%
23-Apr-19	0.5610	1295.13	1294.90	0.23	0.02%
19-May-20	0.7180	1244.88	1245.59	-0.72	-0.06%
20-Mar-19	0.4620	1321.66	1321.53	0.13	0.01%
20-Mar-19	0.4620	1321.66	1321.53	0.13	0.01%
20-Mar-19	0.4620	1321.66	1321.53	0.13	0.01%
20-Mar-19	0.4620	1321.66	1321.53	0.13	0.01%
18-Apr-19	0.4290	1223.28	1222.58	0.70	0.06%
13-Dec-18	0.5900	1295.44	1296.04	-0.60	-0.05%
4-Mar-20	0.7390	1305.04	1305.75	-0.71	-0.05%
23-Mar-20	0.7930	1395.09	1396.24	-1.14	-0.08%
16-Mar-20	0.7070	1359.53	1360.51	-0.98	-0.07%
20-Apr-19	1.1070	1281.57	1284.15	-2.58	-0.20%
12-Dec-19	0.6930	1179.25	1178.79	0.46	0.04%
12-Jul-19	0.5960	1157.40	1156.97	0.43	0.04%
23-Apr-19	0.5570	1134.94	1134.24	0.70	0.06%
19-Nov-19	0.5800	1137.58	1136.55	1.03	0.09%
19-Nov-19	0.5780	1131.87	1130.83	1.04	0.09%
9-Jan-19	0.6940	1141.46	1142.20	-0.74	-0.06%
15-Jan-20	0.5390	1173.80	1173.83	-0.03	0.00%
20-Jun-19	0.5490	1130.76	1130.23	0.54	0.05%
20-Jun-19	0.5490	1130.76	1130.23	0.54	0.05%
6-Jun-19	0.5570	1126.70	1125.66	1.04	0.09%
6-Jun-19	0.5570	1126.70	1125.66	1.04	0.09%
13-Nov-19	0.5130	1099.62	1099.70	-0.08	-0.01%
13-Nov-19	0.5130	1099.62	1099.70	-0.08	-0.01%
18-Jun-20	0.5940	1128.51	1128.31	0.20	0.02%
19-Feb-19	0.5640	1134.58	1134.33	0.24	0.02%
28-Jan-20	0.9210	1177.68	1178.82	-1.14	-0.10%
28-May-19	0.4670	1188.61	1188.19	0.42	0.04%
24-Jan-20	0.9180	1176.84	1178.04	-1.20	-0.10%
24-Jan-20	0.6730	1353.48	1354.10	-0.62	-0.05%
24-Jan-20	0.6730	1353.49	1354.11	-0.62	-0.05%
12-Mar-20	0.7460	1310.11	1311.05	-0.93	-0.07%
20-May-20	0.8160	1328.91	1330.27	-1.36	-0.10%
20-May-20	0.8160	1328.90	1330.26	-1.36	-0.10%
	0.4510	1206.80	1206.81	0.00	0.00%
1-Aug-19	0.4510	1206.80	1206.81	0.00	0.00%
24-Jul-19	0.4850	1328.03	1328.27	-0.24	-0.02%
16-Jul-19	0.4950	1263.02	1262.58	0.45	0.04%
21-Sep-18	0.4710	1322.54	1322.18	0.36	0.03%
21-Sep-18	0.4710	1321.01	1320.65	0.36	0.03%
21-Sep-18	0.4710	1322.28	1321.92	0.36	0.03%
21-Sep-18	0.4710	1322.56	1322.20	0.36	0.03%
21-Sep-18	0.4710	1321.09	1320.73	0.36	0.03%
21-Sep-18	0.4710	1322.29	1321.93	0.36	0.03%
11-Sep-19	0.8440	1267.84	1267.76	0.08	0.01%

4-Jun-19	0.4750	1299.95	1299.21	0.74	0.06%
22-Jun-18	0.5420	1219.48	1219.43	0.05	0.00%
26-Jun-19	0.5990	1255.24	1255.25	-0.01	0.00%
26-Mar-18	0.5020	1616.53	1616.43	0.10	0.01%
14-Nov-18	0.6840	1239.91	1240.17	-0.26	-0.02%
14-Nov-18	0.6840	1239.91	1240.17	-0.26	-0.02%
24-May-19	0.4130	1166.07	1165.36	0.71	0.06%
18-Jul-18	0.5640	1198.43	1198.36	0.08	0.01%
10-Mar-20	0.7580	1272.77	1273.62	-0.85	-0.07%
13-May-19	0.4370	1192.48	1191.99	0.49	0.04%
15-Sep-19	1.3020	1535.52	1538.58	-3.05	-0.20%
15-Sep-19	1.3020	1535.52	1538.58	-3.05	-0.20%
11-Apr-19	0.5930	1131.42	1131.37	0.04	0.00%
11-Apr-19	0.5930	1131.42	1131.37	0.04	0.00%
6-Nov-19	0.4350	1097.64	1097.13	0.52	0.05%
6-Nov-19	0.4350	1097.64	1097.13	0.52	0.05%
17-Oct-19	0.5800	1149.93	1149.89	0.04	0.00%
17-Oct-19	0.5800	1149.93	1149.89	0.04	0.00%
19-Sep-19	0.5310	1122.31	1121.82	0.50	0.04%
19-Sep-19	0.5310	1122.31	1121.82	0.50	0.04%
10-Jun-20	0.4980	1132.82	1132.06	0.76	0.07%
22-Jan-19	0.5660	1138.49	1137.94	0.55	0.05%
11-Jun-19	0.5640	1141.18	1140.56	0.61	0.05%
6-Jun-19	0.6580	1119.26	1119.13	0.13	0.01%
29-Jan-20	0.5380	1140.77	1140.50	0.27	0.02%
20-Jul-18	0.5100	1098.29	1097.49	0.80	0.07%
22-Jul-19	0.5670	1130.93	1130.37	0.56	0.05%
22-Jul-19	0.5670	1130.93	1130.37	0.56	0.05%
30-May-19	0.5530	1099.37	1098.31	1.06	0.10%
26-Mar-19	0.5450	1102.49	1100.74	1.75	0.16%
26-Mar-19	0.5450	1102.49	1100.74	1.75	0.16%
17-Sep-19	0.5900	1130.54	1130.47	0.08	0.01%
1-Aug-19	0.8790	1187.69	1189.71	-2.01	-0.17%
1-Aug-19	0.8790	1187.69	1189.71	-2.01	-0.17%
9-Dec-19	0.7340	1363.35	1364.33	-0.98	-0.07%
26-Mar-19	0.4340	1293.76	1293.35	0.40	0.03%
19-Mar-20	0.6740	1340.54	1341.44	-0.90	-0.07%
19-Mar-20	0.6740	1341.08	1341.98	-0.90	-0.07%
19-Mar-20	0.6740	1341.16	1342.06	-0.90	-0.07%
12-Jun-20	0.8300	1292.75	1293.23	-0.48	-0.04%
10-Oct-17	0.4570	1251.16	1249.46	1.70	0.14%
22-Mar-19	0.5420	1208.41	1208.35	0.06	0.01%
24-Sep-18	0.3880	1208.70	1208.05	0.65	0.05%
22-Aug-19	0.5630	1256.57	1256.79	-0.22	-0.02%
22-Aug-19	0.5630	1256.74	1256.97	-0.22	-0.02%
30-Apr-19	0.4780	1211.34	1211.34	-0.01	0.00%
25-Mar-19	0.5440	1261.20	1259.93	1.27	0.10%
23-Jul-19	0.4480	1318.66	1318.45	0.21	0.02%
21-Aug-19	0.5990	1326.41	1327.05	-0.64	-0.05%
31-Mar-20	1.3960	1357.47	1361.14	-3.67	-0.27%
9-May-19	0.6940	1336.19	1337.06	-0.86	-0.06%
6-Apr-20	0.7950	1363.07	1364.20	-1.14	-0.08%
16-May-19	0.6020	1160.22	1160.14	0.08	0.01%
18-Apr-19	0.5440	1135.66	1135.35	0.31	0.03%
18-Apr-19	0.5440	1135.66	1135.35	0.31	0.03%
24-Apr-19	0.5970	1179.11	1179.38	-0.27	-0.02%
16-Jul-19	0.5490	1137.62	1137.48	0.14	0.01%

16-Jul-19	0.5490	1137.62	1137.48	0.14	0.01%
8-Jul-19	0.6020	1140.22	1139.39	0.83	0.07%
8-Jul-19	0.6020	1140.22	1139.39	0.83	0.07%
17-Jun-19	0.5430	1135.96	1135.97	-0.02	0.00%
17-Jun-19	0.5430	1135.96	1135.97	-0.02	0.00%
9-May-19	0.5360	1115.44	1114.34	1.10	0.10%
6-Mar-20	0.5770	1125.74	1125.12	0.62	0.05%
3-Sep-19	0.6080	1135.54	1134.60	0.93	0.08%
3-Sep-19	0.6080	1135.54	1134.60	0.93	0.08%
24-Jul-19	0.5670	1123.48	1122.55	0.93	0.08%
24-Jul-19	0.5670	1123.48	1122.55	0.93	0.08%
25-Jun-19	0.6070	1128.04	1127.58	0.46	0.04%
25-Jun-19	0.6070	1128.04	1127.58	0.46	0.04%
18-Mar-20	0.7790	1222.05	1223.36	-1.31	-0.11%
21-Mar-19	0.9080	1223.74	1225.31	-1.57	-0.13%
27-Sep-19	0.6970	1220.24	1221.16	-0.92	-0.08%
27-Sep-19	0.6970	1220.24	1221.16	-0.92	-0.08%
17-Apr-19	0.5500	1312.09	1312.70	-0.61	-0.05%
19-Dec-19	0.6860	1359.77	1360.40	-0.63	-0.05%
19-Dec-19	0.6870	1360.72	1361.36	-0.64	-0.05%
9-Dec-19	0.7370	1367.21	1368.19	-0.98	-0.07%
19-Dec-19	0.6860	1358.17	1358.80	-0.63	-0.05%
11-Sep-19	0.6980	1352.77	1353.39	-0.62	-0.05%
11-Sep-19	0.6980	1352.81	1353.43	-0.62	-0.05%
25-Feb-20	0.6800	1349.01	1349.87	-0.86	-0.06%
5-Apr-19	0.4450	1313.19	1312.86	0.33	0.03%
16-Jul-19	0.5060	1308.05	1308.34	-0.29	-0.02%
30-Sep-19	0.7880	1323.57	1324.63	-1.05	-0.08%
30-Sep-19	0.7880	1323.92	1324.98	-1.05	-0.08%
	0.4580	1225.89	1225.89	0.00	0.00%
21-Jan-20	0.6310	1322.68	1322.75	-0.06	0.00%
21-Jan-20	0.6310	1322.68	1322.75	-0.06	0.00%
18-Sep-19	0.7940	1247.96	1249.11	-1.15	-0.09%
5-Jan-20	0.8860	1257.28	1258.89	-1.61	-0.13%
17-Apr-19	0.5010	1343.14	1343.32	-0.19	-0.01%
17-Apr-19	0.4920	1337.84	1337.93	-0.09	-0.01%
20-Aug-19	0.4780	1375.86	1376.03	-0.17	-0.01%
13-Dec-19	0.8720	1352.90	1354.34	-1.44	-0.11%
13-Dec-19	0.8720	1352.82	1354.27	-1.44	-0.11%
15-Aug-19	0.5300	1276.25	1276.02	0.24	0.02%
15-Aug-19	0.5300	1277.42	1277.19	0.24	0.02%
21-Aug-19	0.6040	1335.38	1336.01	-0.63	-0.05%
11-Apr-19	0.7120	1230.14	1230.76	-0.62	-0.05%
11-Apr-19	0.7110	1228.18	1228.79	-0.61	-0.05%
8-Jan-20	0.7430	1350.91	1351.90	-0.99	-0.07%
28-Mar-19	0.6870	1167.06	1166.14	0.92	0.08%
7-Apr-20	0.6080	1150.97	1150.89	0.08	0.01%
24-Sep-19	0.6450	1172.27	1172.10	0.17	0.01%
12-Mar-20	0.6570	1189.35	1188.32	1.02	0.09%
16-Jul-19	0.5720	1129.86	1129.41	0.45	0.04%
16-Jul-19	0.5720	1129.86	1129.41	0.45	0.04%
7-Jan-19	0.5550	1130.94	1130.42	0.52	0.05%
16-Jan-20	0.5610	1135.43	1135.27	0.16	0.01%
16-Jan-20	0.5620	1137.38	1137.23	0.15	0.01%
16-Apr-19	0.6580	1149.46	1149.50	-0.04	0.00%
16-Apr-19	0.5560	1146.42	1145.88	0.55	0.05%
26-Sep-19	0.5600	1142.78	1142.48	0.30	0.03%

26-Sep-19	0.5600	1142.78	1142.48	0.30	0.03%
7-Aug-19	0.5460	1124.99	1124.41	0.58	0.05%
7-Aug-19	0.5460	1124.99	1124.41	0.58	0.05%
30-Jul-19	0.6760	1261.58	1261.44	0.14	0.01%
30-Jul-19	0.6760	1261.58	1261.44	0.14	0.01%
25-Jun-19	0.6320	1179.52	1179.38	0.14	0.01%
25-Jun-19	0.6320	1179.52	1179.38	0.14	0.01%
25-Jun-19	0.6320	1179.52	1179.38	0.14	0.01%
7-Mar-19	0.4700	1134.97	1134.65	0.32	0.03%
15-Mar-19	0.5060	1158.52	1158.55	-0.03	0.00%
19-May-20	0.5710	1135.10	1134.58	0.52	0.05%
13-Jan-20	0.5460	1124.74	1124.41	0.33	0.03%
20-Aug-19	0.5070	1229.02	1228.95	0.07	0.01%
28-Oct-19	1.1030	1406.23	1408.95	-2.72	-0.19%
28-Oct-19	1.1010	1402.70	1405.41	-2.71	-0.19%
2-Aug-19	0.6290	1235.41	1235.90	-0.49	-0.04%
7-May-20	0.7270	1331.00	1331.79	-0.78	-0.06%
27-Jun-19	0.4330	1297.67	1297.26	0.42	0.03%
27-Jun-19	0.4330	1297.80	1297.38	0.42	0.03%
3-Apr-20	0.6120	1311.84	1312.28	-0.44	-0.03%
11-Jul-19	0.4860	1261.97	1261.89	0.08	0.01%
12-Jun-19	0.4720	1298.32	1297.98	0.34	0.03%
30-Sep-19	0.7900	1325.83	1326.89	-1.05	-0.08%
30-Sep-19	0.7900	1325.74	1326.79	-1.05	-0.08%
1-Sep-19	0.4590	1225.95	1225.95	0.00	0.00%
	0.4610	1234.73	1234.74	0.00	0.00%
20-Aug-19	0.4800	1379.50	1379.66	-0.17	-0.01%
14-Jan-20	0.8780	1324.34	1325.69	-1.34	-0.10%
11-Apr-19	0.5580	1260.95	1261.33	-0.38	-0.03%
29-Oct-18	0.3810	1201.50	1200.67	0.83	0.07%
27-Aug-19	0.6230	1170.62	1170.93	-0.31	-0.03%
13-Sep-19	0.9910	1237.72	1239.13	-1.41	-0.11%
13-Sep-19	0.9900	1235.11	1236.52	-1.41	-0.11%
17-Jul-19	0.7990	1355.29	1355.78	-0.49	-0.04%
8-Nov-19	0.7250	1371.05	1371.53	-0.48	-0.03%
2-Jul-19	0.8060	1335.79	1337.08	-1.29	-0.10%
16-May-19	0.6190	1172.61	1172.69	-0.08	-0.01%
17-Mar-20	0.6820	1177.47	1177.92	-0.46	-0.04%
9-Apr-19	0.5760	1149.42	1149.50	-0.08	-0.01%
3-Mar-20	0.6020	1173.55	1174.15	-0.59	-0.05%
23-May-19	0.5680	1152.33	1152.21	0.13	0.01%
28-Oct-19	0.5750	1139.91	1139.33	0.58	0.05%
28-Oct-19	0.5750	1139.91	1139.33	0.58	0.05%
2-Jun-20	0.7680	1225.88	1226.45	-0.58	-0.05%
2-Jun-20	0.7660	1220.64	1221.21	-0.57	-0.05%
9-Oct-19	1.0320	1230.47	1231.22	-0.75	-0.06%
22-Mar-18	0.4200	1393.84	1392.92	0.93	0.07%
24-Apr-19	0.6770	1147.66	1146.98	0.68	0.06%
24-Apr-19	0.6770	1147.76	1147.08	0.68	0.06%
27-Mar-19	0.6350	1221.90	1221.79	0.11	0.01%
19-May-20	0.7520	1318.00	1318.89	-0.89	-0.07%
19-May-20	0.7520	1317.85	1318.74	-0.89	-0.07%
31-Jan-19	0.4520	1302.72	1301.86	0.85	0.07%
31-Jan-19	0.4520	1302.74	1301.88	0.85	0.07%
1-Apr-20	0.4620	1234.79	1234.79	0.00	0.00%
	0.4640	1241.77	1241.77	-0.01	0.00%
1-Mar-20	0.4640	1241.77	1241.77	-0.01	0.00%

8-Apr-20	0.9870	1267.92	1270.08	-2.16	-0.17%
14-Jan-20	0.8150	1337.75	1339.18	-1.43	-0.11%
23-Apr-19	0.4540	1284.98	1284.31	0.67	0.05%
23-Apr-19	0.4540	1284.11	1283.43	0.67	0.05%
27-Aug-19	0.6250	1173.44	1173.74	-0.31	-0.03%
31-May-19	0.5420	1207.53	1207.21	0.32	0.03%
24-May-18	0.3990	1154.93	1153.10	1.83	0.16%
23-Jul-18	0.5520	1255.14	1255.11	0.02	0.00%
14-Feb-19	0.4790	1278.36	1278.62	-0.26	-0.02%
14-Feb-19	0.4790	1278.36	1278.62	-0.26	-0.02%
10-Feb-20	0.7280	1408.05	1408.79	-0.74	-0.05%
9-Dec-19	0.7320	1348.87	1349.58	-0.71	-0.05%
9-Jul-19	0.7740	1417.58	1418.63	-1.05	-0.07%
9-Jul-19	0.7740	1417.51	1418.56	-1.05	-0.07%
2-Jul-19	0.8110	1343.51	1344.81	-1.30	-0.10%
24-Sep-19	0.6820	1177.92	1177.39	0.53	0.05%
15-May-19	0.5610	1128.92	1128.12	0.80	0.07%
15-Jun-20	0.7980	1190.53	1191.19	-0.65	-0.05%
12-Feb-20	0.5170	1106.94	1106.11	0.83	0.07%
12-Feb-20	0.5170	1106.94	1106.11	0.83	0.07%
8-Oct-19	0.5830	1123.00	1122.10	0.90	0.08%
8-Oct-19	0.5830	1123.00	1122.10	0.90	0.08%
7-Apr-20	0.7660	1335.80	1336.66	-0.86	-0.06%
18-Feb-20	0.7370	1332.10	1333.17	-1.07	-0.08%
17-Jun-20	0.7960	1321.01	1322.11	-1.10	-0.08%
11-Feb-20	0.7380	1302.15	1302.88	-0.72	-0.06%
	0.4670	1250.07	1250.06	0.00	0.00%
1-Dec-19	0.4680	1250.15	1250.15	0.00	0.00%
	0.4680	1250.69	1250.69	0.00	0.00%
1-Nov-19	0.4680	1250.69	1250.69	0.00	0.00%
	0.4670	1247.29	1247.29	0.00	0.00%
1-Oct-19	0.4670	1247.29	1247.29	0.00	0.00%
	0.4670	1249.16	1249.16	0.00	0.00%
1-Feb-20	0.4670	1249.16	1249.16	0.00	0.00%
	0.4670	1248.20	1248.20	0.00	0.00%
1-Jan-20	0.4670	1248.18	1248.18	0.00	0.00%
18-Sep-18	0.5100	1312.37	1312.04	0.33	0.03%
18-Sep-18	0.5100	1312.40	1312.07	0.33	0.03%
1-Apr-20	0.4670	1371.13	1371.13	0.00	0.00%
30-Nov-17	0.4370	1282.83	1282.57	0.26	0.02%
2-Aug-19	0.4070	1291.32	1291.05	0.27	0.02%
2-Aug-19	0.4070	1289.48	1289.21	0.27	0.02%
20-Aug-18	0.6540	1281.59	1282.14	-0.55	-0.04%
21-May-19	0.5050	1307.45	1307.48	-0.03	0.00%
21-May-19	0.5050	1307.44	1307.47	-0.03	0.00%
14-Jun-18	0.5070	1165.14	1164.72	0.41	0.04%
12-Mar-20	0.8360	1355.97	1357.06	-1.09	-0.08%
2-Apr-19	0.9050	1573.42	1575.34	-1.91	-0.12%
18-Apr-20	0.7830	1439.06	1440.24	-1.18	-0.08%
2-Apr-19	0.9050	1573.42	1575.34	-1.91	-0.12%
22-Oct-19	0.3770	1323.89	1323.13	0.77	0.06%
26-Jun-19	0.6350	1175.62	1175.58	0.03	0.00%
22-Jan-20	0.7280	1188.98	1189.46	-0.47	-0.04%
10-Jul-19	0.6180	1146.73	1146.69	0.04	0.00%
10-Jul-19	0.6180	1146.73	1146.69	0.04	0.00%
15-Apr-20	0.5860	1172.56	1172.41	0.15	0.01%
15-Apr-20	0.5860	1170.89	1170.74	0.15	0.01%

10-Jul-19	0.5860	1143.19	1142.48	0.71	0.06%
10-Jul-19	0.5860	1143.19	1142.48	0.71	0.06%
11-Jun-20	0.5730	1133.52	1132.91	0.61	0.05%
30-Jul-19	0.7220	1282.17	1282.31	-0.14	-0.01%
30-Jul-19	0.7220	1282.17	1282.31	-0.14	-0.01%
10-Feb-20	0.6420	1175.41	1175.79	-0.38	-0.03%
28-Jan-20	0.5780	1146.37	1146.19	0.17	0.02%
2-Jun-20	0.6570	1168.53	1168.47	0.06	0.01%
2-Jun-20	0.6550	1164.04	1163.98	0.06	0.00%
5-Mar-19	0.5010	1124.00	1123.68	0.31	0.03%
19-Feb-19	0.5230	1096.04	1095.92	0.13	0.01%
19-Feb-19	0.5230	1096.04	1095.92	0.13	0.01%
9-Oct-19	1.0460	1247.63	1248.39	-0.76	-0.06%
2-Aug-19	0.7950	1285.96	1287.44	-1.48	-0.12%
2-Aug-19	0.7950	1285.96	1287.44	-1.48	-0.12%
4-Jun-19	0.7590	1239.93	1241.21	-1.28	-0.10%
12-Sep-19	0.6950	1353.29	1353.83	-0.54	-0.04%
12-Sep-19	0.6950	1353.56	1354.10	-0.54	-0.04%
3-Apr-20	0.6230	1337.00	1337.46	-0.46	-0.03%
3-Apr-20	0.6230	1335.16	1335.63	-0.46	-0.03%
12-Nov-19	0.8180	1327.95	1329.29	-1.34	-0.10%
12-Nov-19	0.8180	1327.57	1328.92	-1.34	-0.10%
30-Jul-19	0.4660	1289.47	1288.98	0.49	0.04%
1-May-20	0.4700	1256.88	1256.88	0.00	0.00%
8-Jun-20	0.7700	1354.24	1354.34	-0.11	-0.01%
8-Jun-20	0.7700	1354.24	1354.34	-0.11	-0.01%
24-Mar-20	0.6680	1331.18	1331.22	-0.05	0.00%
24-Mar-20	0.6680	1331.16	1331.20	-0.05	0.00%
6-Mar-19	0.4350	1352.72	1352.25	0.47	0.03%
10-Jan-19	0.6460	1201.71	1201.92	-0.21	-0.02%
25-Jul-19	0.4900	1210.62	1209.92	0.70	0.06%
25-Jul-19	0.4900	1210.64	1209.94	0.70	0.06%
21-Aug-19	0.7520	1294.39	1295.23	-0.84	-0.06%
21-Aug-19	0.7520	1294.39	1295.23	-0.84	-0.06%
19-Sep-19	0.7700	1341.07	1342.29	-1.22	-0.09%
21-May-19	0.5060	1308.93	1308.95	-0.02	0.00%
21-May-19	0.5060	1308.89	1308.92	-0.02	0.00%
22-Apr-20	0.9340	1347.67	1349.31	-1.64	-0.12%
8-Jan-19	0.6120	1295.82	1296.19	-0.37	-0.03%
31-Aug-18	0.4970	1324.06	1323.79	0.28	0.02%
6-Feb-20	0.9790	1610.62	1612.94	-2.32	-0.14%
22-Mar-20	0.8290	1373.62	1375.10	-1.49	-0.11%
16-Oct-19	0.6280	1286.64	1286.64	0.00	0.00%
20-Apr-19	0.7340	1243.94	1245.17	-1.23	-0.10%
4-Apr-19	0.6570	1246.06	1246.30	-0.23	-0.02%
20-Feb-19	0.4930	1099.00	1098.42	0.59	0.05%
3-Mar-20	0.5820	1106.89	1105.40	1.49	0.13%
3-Mar-20	0.5820	1106.89	1105.40	1.49	0.13%
3-Mar-20	0.5820	1106.89	1105.40	1.49	0.13%
3-Mar-20	0.5820	1106.89	1105.40	1.49	0.13%
3-Mar-20	0.5820	1106.89	1105.40	1.49	0.13%
21-Aug-19	0.5650	1142.95	1142.14	0.81	0.07%
21-Aug-19	0.5650	1142.95	1142.14	0.81	0.07%
19-Feb-20	0.5480	1117.53	1116.74	0.79	0.07%
24-Jan-19	0.7020	1122.80	1122.70	0.10	0.01%
7-Aug-18	0.7410	1169.17	1170.76	-1.59	-0.14%
26-Mar-19	0.4760	1297.84	1297.01	0.82	0.06%

23-Jul-19	0.4900	1297.56	1297.67	-0.11	-0.01%
23-Jul-19	0.4900	1297.90	1298.02	-0.11	-0.01%
19-Dec-18	0.5110	1302.98	1302.59	0.39	0.03%
3-Apr-19	0.4710	1221.76	1221.37	0.39	0.03%
14-Apr-20	0.9320	1327.88	1329.13	-1.25	-0.09%
15-Jul-19	0.4960	1243.90	1243.84	0.06	0.00%
15-Jul-19	0.4960	1243.90	1243.84	0.06	0.00%
11-Dec-19	0.9980	1343.20	1345.52	-2.32	-0.17%
11-Dec-19	0.9980	1343.19	1345.51	-2.32	-0.17%
17-May-19	0.5110	1325.44	1325.19	0.25	0.02%
15-May-20	0.8510	1366.00	1367.28	-1.29	-0.09%
14-Feb-19	0.5560	1263.71	1263.85	-0.14	-0.01%
2-Apr-19	0.8870	1393.62	1394.90	-1.27	-0.09%
4-Jan-19	0.8030	1261.77	1262.39	-0.62	-0.05%
4-Jan-19	0.8030	1261.76	1262.38	-0.62	-0.05%
27-Apr-20	0.6550	1138.97	1138.84	0.13	0.01%
18-Jun-19	0.5580	1095.75	1095.01	0.74	0.07%
18-Jun-19	0.5580	1095.75	1095.01	0.74	0.07%
12-Nov-19	0.5020	1113.07	1112.57	0.51	0.05%
12-Nov-19	0.5020	1113.07	1112.57	0.51	0.05%
27-Mar-20	1.0550	1661.93	1664.26	-2.32	-0.14%
12-Nov-19	0.6170	1144.26	1143.52	0.74	0.06%
12-Nov-19	0.6170	1144.26	1143.52	0.74	0.06%
12-Nov-19	0.6410	1172.86	1172.81	0.06	0.00%
12-Nov-19	0.6410	1172.86	1172.81	0.06	0.00%
26-May-20	0.5680	1124.45	1123.54	0.91	0.08%
2-Oct-19	0.6150	1157.57	1157.24	0.32	0.03%
2-Oct-19	0.6150	1157.57	1157.24	0.32	0.03%
14-Oct-19	0.5860	1146.20	1145.81	0.39	0.03%
14-Oct-19	0.5860	1146.20	1145.81	0.39	0.03%
24-Jul-19	0.5570	1141.28	1139.95	1.33	0.12%
24-Jul-19	0.5570	1141.28	1139.95	1.33	0.12%
27-Feb-19	0.6140	1143.55	1143.64	-0.09	-0.01%
16-Oct-19	0.5630	1125.20	1124.53	0.66	0.06%
16-Oct-19	0.5630	1125.20	1124.53	0.66	0.06%
2-Oct-17	0.4840	1132.08	1131.41	0.67	0.06%
2-Aug-18	0.5430	1177.85	1177.68	0.18	0.02%
2-Aug-18	0.5430	1177.85	1177.68	0.18	0.02%
3-Jun-19	0.4770	1151.44	1151.37	0.07	0.01%
3-Jun-19	0.4770	1151.44	1151.37	0.07	0.01%
31-May-20	0.4780	1266.05	1266.05	0.00	0.00%
31-May-20	0.4770	1263.72	1263.72	0.00	0.00%
31-May-20	0.4780	1266.11	1266.11	0.00	0.00%
4-Apr-19	0.4270	1274.19	1273.56	0.63	0.05%
26-May-20	0.8360	1344.76	1346.20	-1.44	-0.11%
10-Mar-20	0.7960	1341.41	1342.52	-1.12	-0.08%
10-Mar-20	0.7960	1341.30	1342.41	-1.12	-0.08%
26-May-20	0.8060	1337.49	1338.40	-0.92	-0.07%
26-May-20	0.8060	1337.36	1338.27	-0.92	-0.07%
8-Apr-19	0.5340	1366.70	1366.91	-0.21	-0.02%
14-May-19	0.5560	1311.27	1310.62	0.65	0.05%
15-Oct-19	0.8050	1241.81	1242.56	-0.75	-0.06%
15-Oct-19	0.8030	1239.16	1239.90	-0.74	-0.06%
18-Sep-19	0.7660	1203.10	1203.70	-0.60	-0.05%
13-Nov-19	0.8310	1336.46	1337.81	-1.35	-0.10%
13-Nov-19	0.8310	1335.43	1336.78	-1.35	-0.10%
10-Dec-18	0.7700	1395.95	1396.65	-0.70	-0.05%

25-Mar-19	0.8560	1388.05	1389.36	-1.32	-0.09%
3-Jan-20	0.8100	1301.81	1303.03	-1.22	-0.09%
1-Apr-19	0.6810	1346.16	1347.09	-0.94	-0.07%
27-Apr-20	0.5850	1149.29	1149.23	0.06	0.00%
14-Oct-19	0.5550	1113.28	1112.88	0.40	0.04%
14-Oct-19	0.5550	1113.28	1112.88	0.40	0.04%
5-Aug-19	0.6320	1151.88	1151.39	0.49	0.04%
22-Oct-19	0.6020	1148.39	1148.02	0.37	0.03%
28-Feb-19	0.5150	1168.34	1168.26	0.08	0.01%
19-Jun-19	0.6240	1198.78	1199.06	-0.27	-0.02%
19-Jun-19	0.6240	1198.78	1199.06	-0.27	-0.02%
21-Sep-18	0.4780	1211.18	1210.26	0.92	0.08%
22-Aug-19	0.7000	1198.37	1198.56	-0.19	-0.02%
22-Aug-19	0.6990	1194.70	1194.89	-0.19	-0.02%
23-Aug-19	0.7040	1198.80	1198.92	-0.13	-0.01%
27-Mar-19	0.5180	1288.10	1288.20	-0.10	-0.01%
27-Sep-19	0.7840	1221.06	1222.32	-1.26	-0.10%
27-Sep-19	0.7840	1221.06	1222.32	-1.26	-0.10%
9-Sep-19	0.6210	1212.21	1212.48	-0.28	-0.02%
9-Sep-19	0.6210	1212.21	1212.48	-0.28	-0.02%
10-Jun-19	0.5510	1181.00	1180.99	0.00	0.00%
6-Jan-20	0.9400	1468.17	1470.29	-2.12	-0.14%
31-May-19	0.4640	1338.32	1337.90	0.41	0.03%
2-Dec-19	0.4810	1273.95	1273.95	0.00	0.00%
16-Aug-19	0.4790	1269.65	1269.65	0.00	0.00%
30-Apr-20	0.4810	1274.27	1274.27	0.00	0.00%
16-Aug-19	0.4810	1275.43	1275.43	0.00	0.00%
8-May-19	0.4800	1271.89	1271.89	0.00	0.00%
30-Apr-20	0.4800	1272.24	1272.24	0.00	0.00%
31-Mar-20	0.4810	1276.31	1276.32	0.00	0.00%
16-Aug-19	0.4810	1274.61	1274.61	0.00	0.00%
30-Apr-20	0.4810	1274.20	1274.20	0.00	0.00%
31-Mar-20	0.4810	1277.58	1277.58	0.00	0.00%
17-May-19	0.4830	1293.31	1292.99	0.32	0.02%
14-Aug-19	0.4540	1284.22	1283.95	0.27	0.02%
22-Apr-20	0.9470	1286.76	1287.82	-1.06	-0.08%
25-Mar-20	0.7410	1318.62	1319.51	-0.89	-0.07%
13-Dec-17	0.5470	1330.26	1330.32	-0.06	0.00%
15-Apr-20	0.6890	1288.50	1289.40	-0.90	-0.07%
23-Jul-19	0.4820	1359.23	1359.01	0.22	0.02%
8-Nov-17	0.4450	1275.70	1275.12	0.58	0.05%
23-Jun-17	0.4990	1325.13	1324.31	0.81	0.06%
17-Jul-19	0.5640	1348.52	1348.74	-0.21	-0.02%
28-May-19	0.5010	1178.56	1177.94	0.62	0.05%
5-Mar-19	1.0030	1381.20	1383.61	-2.41	-0.17%
4-Mar-20	0.8390	1351.43	1352.93	-1.50	-0.11%
11-Jun-19	0.8480	1346.39	1347.63	-1.25	-0.09%
10-Apr-20	0.6070	1132.48	1131.89	0.60	0.05%
7-Jan-20	0.6850	1178.39	1179.13	-0.74	-0.06%
14-May-20	0.5700	1129.64	1129.29	0.36	0.03%
8-Apr-19	0.5570	1126.89	1126.43	0.46	0.04%
2-Oct-19	0.6130	1143.73	1143.27	0.46	0.04%
2-Oct-19	0.6130	1143.73	1143.27	0.46	0.04%
12-Jun-19	0.5580	1109.70	1109.51	0.19	0.02%
8-Jul-19	0.5930	1150.45	1150.19	0.26	0.02%
8-Jul-19	0.5930	1150.45	1150.19	0.26	0.02%
23-Aug-19	0.7060	1202.11	1202.24	-0.13	-0.01%

2-Dec-19	0.4830	1280.21	1280.21	0.00	0.00%
16-Aug-19	0.4820	1277.21	1277.21	0.00	0.00%
8-May-19	0.4830	1281.67	1281.68	0.00	0.00%
31-Mar-20	0.4830	1280.49	1280.49	0.00	0.00%
29-Feb-20	0.4830	1282.40	1282.40	0.00	0.00%
2-Dec-19	0.4820	1277.22	1277.22	0.00	0.00%
29-Feb-20	0.4830	1280.45	1280.45	0.00	0.00%
2-Dec-19	0.4820	1276.95	1276.95	0.00	0.00%
8-May-19	0.4830	1280.58	1280.58	0.00	0.00%
29-Feb-20	0.4830	1280.52	1280.52	0.00	0.00%
16-Jul-19	0.4800	1312.58	1312.37	0.21	0.02%
16-Jul-19	0.4800	1312.66	1312.45	0.21	0.02%
18-Feb-20	0.7420	1330.78	1331.50	-0.73	-0.05%
18-Feb-20	0.7420	1330.78	1331.50	-0.73	-0.05%
29-Jan-19	0.4320	1344.89	1344.60	0.28	0.02%
24-Jan-20	0.8280	1392.54	1393.87	-1.32	-0.10%
14-May-20	0.7480	1369.61	1369.83	-0.22	-0.02%
26-Mar-19	0.5230	1302.09	1302.08	0.01	0.00%
26-Mar-19	0.5230	1302.09	1302.08	0.01	0.00%
28-Jun-19	0.5780	1272.10	1271.89	0.21	0.02%
28-May-19	0.4410	1201.18	1200.34	0.85	0.07%
22-Aug-19	0.7040	1201.50	1201.69	-0.18	-0.02%
21-Aug-19	0.6230	1235.60	1235.99	-0.39	-0.03%
30-Jan-18	0.4760	1272.67	1271.74	0.92	0.07%
23-Jan-18	0.5460	1238.45	1238.61	-0.15	-0.01%
13-May-19	0.5250	1317.17	1317.12	0.05	0.00%
4-May-20	0.7630	1351.22	1352.05	-0.83	-0.06%
4-May-20	0.7630	1351.22	1352.05	-0.83	-0.06%
4-Mar-20	0.8430	1357.19	1358.69	-1.51	-0.11%
10-Jun-19	0.7770	1406.27	1406.67	-0.40	-0.03%
11-Jul-19	0.8120	1387.12	1387.67	-0.55	-0.04%
11-Jul-19	0.8120	1386.89	1387.44	-0.55	-0.04%
11-Jul-19	0.8110	1386.49	1387.03	-0.55	-0.04%
11-Jul-19	0.8120	1386.69	1387.24	-0.55	-0.04%
24-Mar-20	0.7360	1394.78	1395.27	-0.49	-0.04%
16-Jul-19	0.6090	1135.39	1134.85	0.54	0.05%
16-Jul-19	0.6090	1135.39	1134.85	0.54	0.05%
13-Aug-19	0.5630	1115.23	1114.70	0.53	0.05%
1-May-19	0.5750	1136.84	1136.37	0.47	0.04%
26-May-20	0.5690	1119.59	1118.93	0.66	0.06%
26-Jul-19	0.5160	1218.13	1217.33	0.80	0.07%
26-Jul-19	0.5140	1213.95	1213.16	0.79	0.07%
31-May-19	0.8450	1281.29	1282.66	-1.37	-0.11%
11-Jun-19	0.4760	1205.14	1204.78	0.36	0.03%
22-Aug-19	0.8200	1334.35	1335.27	-0.92	-0.07%
22-Aug-19	0.8200	1334.35	1335.27	-0.92	-0.07%
4-Apr-19	0.4350	1301.60	1300.96	0.64	0.05%
31-Mar-20	0.8320	1326.72	1327.49	-0.77	-0.06%
4-Apr-19	0.4350	1299.75	1299.11	0.64	0.05%
16-Jul-19	0.4980	1316.41	1316.28	0.12	0.01%
16-Jul-19	0.4980	1316.50	1316.38	0.12	0.01%
18-Dec-19	0.7490	1310.12	1310.94	-0.82	-0.06%
24-Mar-20	0.9580	1343.40	1344.87	-1.47	-0.11%
16-Jun-20	0.8300	1323.26	1324.42	-1.16	-0.09%
25-Jun-19	0.5430	1325.57	1325.32	0.26	0.02%
30-May-19	0.4890	1291.25	1290.47	0.78	0.06%
30-May-19	0.4890	1291.25	1290.47	0.78	0.06%

23-Oct-18	0.4710	1248.65	1248.13	0.51	0.04%
22-Aug-19	0.7060	1204.05	1204.23	-0.18	-0.02%
21-Aug-19	0.6240	1235.77	1236.15	-0.39	-0.03%
19-Sep-18	0.4740	1266.91	1266.70	0.21	0.02%
15-Jan-20	0.7050	1321.63	1322.05	-0.42	-0.03%
2-Jul-19	0.7030	1325.27	1325.54	-0.27	-0.02%
25-Jul-19	0.7620	1366.96	1367.77	-0.81	-0.06%
5-Jun-19	0.7530	1358.45	1359.45	-1.00	-0.07%
5-Mar-20	0.5980	1144.56	1144.30	0.27	0.02%
12-Nov-19	0.6650	1175.36	1175.86	-0.50	-0.04%
15-Oct-18	0.5700	1123.05	1122.70	0.35	0.03%
29-Apr-19	0.6570	1165.60	1165.55	0.05	0.00%
10-Jul-19	0.6390	1172.29	1172.18	0.12	0.01%
10-Jul-19	0.6390	1172.29	1172.18	0.12	0.01%
23-Mar-20	0.5400	1112.03	1110.90	1.14	0.10%
26-Jul-18	0.6450	1184.62	1184.45	0.17	0.01%
19-Jun-20	0.6240	1134.90	1134.60	0.30	0.03%
9-Aug-19	0.7150	1145.25	1144.17	1.07	0.09%
9-Aug-19	0.7150	1145.25	1144.17	1.07	0.09%
4-Sep-19	0.6060	1106.63	1106.49	0.14	0.01%
4-Sep-19	0.6060	1106.63	1106.49	0.14	0.01%
15-Oct-18	0.5720	1129.75	1129.41	0.34	0.03%
16-Jan-19	0.4910	1274.06	1274.06	0.00	0.00%
16-Jan-19	0.4910	1274.08	1274.08	0.00	0.00%
16-Jan-19	0.4910	1274.07	1274.07	0.00	0.00%
24-Jun-19	0.4930	1341.24	1341.12	0.12	0.01%
24-Jun-19	0.4930	1341.07	1340.95	0.12	0.01%
20-Feb-20	0.6960	1328.00	1328.65	-0.65	-0.05%
20-Feb-20	0.6960	1328.00	1328.65	-0.65	-0.05%
16-May-19	0.4610	1304.39	1303.99	0.41	0.03%
16-May-19	0.4610	1304.39	1303.99	0.41	0.03%
20-Aug-18	0.5880	1607.28	1607.96	-0.67	-0.04%
9-Aug-18	0.6900	1247.01	1247.18	-0.17	-0.01%
6-Mar-18	0.4850	1261.88	1260.48	1.40	0.11%
14-Nov-19	0.8310	1267.52	1268.39	-0.87	-0.07%
14-Nov-19	0.8310	1267.74	1268.61	-0.87	-0.07%
11-Apr-19	0.5060	1319.09	1319.20	-0.11	-0.01%
10-Jul-18	0.4600	1166.39	1165.35	1.04	0.09%
5-Mar-19	0.8150	1338.50	1339.51	-1.01	-0.08%
30-Jul-19	0.8640	1276.79	1277.95	-1.16	-0.09%
5-Dec-19	0.8490	1315.81	1316.81	-1.00	-0.08%
30-May-18	0.5150	1128.41	1124.70	3.72	0.33%
9-Jul-19	0.5940	1130.42	1130.05	0.37	0.03%
9-Jul-19	0.5940	1130.42	1130.05	0.37	0.03%
6-Jun-19	0.5410	1108.66	1107.49	1.17	0.11%
15-Oct-19	0.5680	1183.70	1183.28	0.42	0.04%
15-Oct-19	0.5680	1183.70	1183.28	0.42	0.04%
26-Feb-19	0.5150	1097.72	1097.03	0.69	0.06%
16-Oct-19	0.5400	1091.54	1089.94	1.60	0.15%
16-Oct-19	0.5400	1091.54	1089.94	1.60	0.15%
23-Oct-19	1.0130	1281.21	1282.99	-1.78	-0.14%
23-Oct-19	1.0100	1276.61	1278.38	-1.77	-0.14%
25-Jul-19	0.7050	1184.90	1184.40	0.50	0.04%
25-Jul-19	0.7050	1184.90	1184.40	0.50	0.04%
18-Mar-19	0.8200	1298.41	1299.84	-1.43	-0.11%
28-Jan-20	0.7280	1304.06	1304.78	-0.72	-0.06%
	0.4920	1274.13	1274.13	0.00	0.00%

	0.4920	1274.13	1274.13	0.00	0.00%
31-Dec-19	0.8580	1310.41	1311.71	-1.30	-0.10%
11-Jul-19	0.5070	1333.40	1333.12	0.29	0.02%
11-Jul-19	0.5070	1333.60	1333.31	0.29	0.02%
3-May-19	0.5530	1345.52	1345.69	-0.16	-0.01%
3-May-19	0.5530	1344.82	1344.98	-0.16	-0.01%
26-Sep-18	0.4850	1238.86	1238.73	0.13	0.01%
26-Jun-18	0.5020	1260.55	1260.09	0.46	0.04%
17-Sep-18	0.4610	1185.73	1184.69	1.05	0.09%
22-Mar-18	0.5690	1178.03	1178.03	0.00	0.00%
20-Nov-19	0.6770	1201.77	1202.64	-0.88	-0.07%
20-Nov-19	0.6760	1199.08	1199.96	-0.87	-0.07%
31-Jan-19	0.4590	1206.51	1205.37	1.14	0.09%
24-Sep-19	1.0830	1302.06	1303.64	-1.58	-0.12%
16-Jan-19	0.5650	1294.96	1295.00	-0.03	0.00%
10-Jul-18	0.4720	1168.64	1167.39	1.25	0.11%
14-Nov-19	0.8790	1269.88	1271.37	-1.49	-0.12%
14-Nov-19	0.8790	1270.07	1271.56	-1.49	-0.12%
2-Jul-19	0.8290	1297.45	1298.72	-1.26	-0.10%
19-Mar-19	0.4690	1097.77	1096.55	1.22	0.11%
3-Mar-20	0.6090	1107.11	1106.61	0.50	0.04%
3-Mar-20	0.6090	1107.11	1106.61	0.50	0.04%
3-Mar-20	0.6090	1107.11	1106.61	0.50	0.04%
3-Mar-20	0.6090	1107.11	1106.61	0.50	0.04%
19-Jun-19	0.7080	1182.07	1181.85	0.23	0.02%
19-Jun-19	0.7080	1182.07	1181.85	0.23	0.02%
15-Oct-19	0.5390	1153.61	1153.12	0.49	0.04%
15-Oct-19	0.5390	1153.61	1153.12	0.49	0.04%
7-Oct-19	0.5910	1133.19	1132.41	0.78	0.07%
7-Oct-19	0.5910	1133.19	1132.41	0.78	0.07%
19-Sep-17	0.6600	1296.00	1295.96	0.05	0.00%
30-Apr-20	0.8350	1191.96	1191.64	0.32	0.03%
7-Aug-18	0.5400	1198.14	1198.47	-0.33	-0.03%
4-Apr-19	0.4510	1282.83	1282.25	0.58	0.05%
21-May-19	0.5220	1300.62	1300.50	0.11	0.01%
10-Jun-19	0.5250	1271.68	1271.16	0.52	0.04%
10-Jun-19	0.5250	1272.05	1271.52	0.52	0.04%
19-Aug-19	0.5790	1380.01	1380.32	-0.30	-0.02%
11-Apr-19	0.5720	1325.93	1326.10	-0.17	-0.01%
28-May-19	0.5230	1305.83	1305.87	-0.03	0.00%
17-Mar-20	0.9570	1195.72	1197.17	-1.45	-0.12%
12-Feb-19	0.3900	1230.22	1229.67	0.55	0.04%
12-Feb-19	0.3900	1229.69	1229.14	0.55	0.04%
24-Sep-19	1.0880	1307.94	1309.52	-1.59	-0.12%
19-Jun-19	0.6430	1251.69	1251.82	-0.13	-0.01%
1-Jan-20	0.7230	1274.27	1272.19	2.09	0.16%
1-Apr-20	0.8630	1316.44	1317.59	-1.15	-0.09%
10-Jan-20	0.8400	1414.29	1415.78	-1.49	-0.11%
2-Jul-19	0.8350	1306.20	1307.47	-1.28	-0.10%
19-Feb-20	0.9190	1418.19	1420.03	-1.83	-0.13%
19-Feb-20	0.9180	1417.59	1419.42	-1.83	-0.13%
24-Jan-19	0.6890	1181.56	1181.89	-0.32	-0.03%
24-Sep-19	0.6800	1185.57	1185.19	0.38	0.03%
8-Apr-19	0.6130	1164.05	1163.90	0.15	0.01%
19-Feb-20	0.6090	1148.55	1148.29	0.25	0.02%
2-Jul-19	0.6470	1166.92	1166.71	0.21	0.02%
2-Jul-19	0.6470	1166.92	1166.71	0.21	0.02%

8-Jul-19	0.6370	1142.44	1141.45	0.98	0.09%
8-Jul-19	0.6370	1142.44	1141.45	0.98	0.09%
7-Aug-19	0.6830	1161.78	1161.45	0.33	0.03%
7-Aug-19	0.6830	1161.78	1161.45	0.33	0.03%
7-Aug-19	0.6090	1136.53	1136.22	0.31	0.03%
7-Aug-19	0.6090	1136.53	1136.22	0.31	0.03%
25-Jun-19	0.6160	1119.07	1118.25	0.81	0.07%
25-Jun-19	0.6160	1119.07	1118.25	0.81	0.07%
27-Mar-19	0.5520	1239.03	1238.72	0.31	0.03%
9-Sep-19	0.6190	1217.35	1217.55	-0.20	-0.02%
9-Sep-19	0.6190	1217.35	1217.55	-0.20	-0.02%
14-Nov-19	0.7790	1346.39	1347.54	-1.15	-0.09%
14-Nov-19	0.7790	1346.82	1347.97	-1.15	-0.09%
4-Mar-19	0.4900	1310.58	1310.46	0.12	0.01%
4-Mar-19	0.4900	1309.42	1309.29	0.12	0.01%
21-Apr-20	0.7780	1346.67	1347.64	-0.97	-0.07%
7-Jun-19	0.5780	1215.13	1214.76	0.37	0.03%
28-Jun-19	0.5540	1260.37	1260.36	0.01	0.00%
30-Apr-18	0.5410	1354.40	1354.87	-0.47	-0.03%
9-Sep-19	0.8510	1250.79	1252.01	-1.22	-0.10%
9-Sep-19	0.8510	1250.79	1252.01	-1.22	-0.10%
10-Feb-20	0.9400	1503.95	1505.82	-1.87	-0.12%
23-Jul-19	0.8030	1304.24	1304.18	0.06	0.00%
5-Mar-20	0.9060	1394.66	1396.22	-1.55	-0.11%
4-Mar-20	0.9990	1440.66	1442.23	-1.57	-0.11%
17-Jan-19	1.2270	1318.08	1320.75	-2.67	-0.20%
17-Jan-19	1.2270	1318.08	1320.75	-2.67	-0.20%
	0.7890	1421.72	1421.87	-0.15	-0.01%
	0.7890	1421.72	1421.87	-0.15	-0.01%
	0.7890	1421.72	1421.87	-0.15	-0.01%
	0.7890	1421.72	1421.87	-0.15	-0.01%
	0.7890	1421.72	1421.87	-0.15	-0.01%
27-Feb-20	0.5930	1128.41	1128.59	-0.18	-0.02%
12-Nov-19	0.5950	1138.94	1139.07	-0.13	-0.01%
24-Sep-19	0.6740	1163.94	1163.27	0.67	0.06%
13-Jan-20	0.6190	1163.77	1163.96	-0.19	-0.02%
17-Apr-19	0.6330	1145.38	1145.25	0.13	0.01%
23-Jan-20	0.5510	1118.51	1118.15	0.35	0.03%
20-May-20	0.6290	1138.20	1137.90	0.31	0.03%
15-Oct-19	0.6130	1141.19	1141.02	0.17	0.01%
15-Oct-19	0.6130	1141.19	1141.02	0.17	0.01%
9-Apr-19	0.5550	1333.25	1333.59	-0.34	-0.03%
9-Apr-19	0.5550	1332.89	1333.23	-0.34	-0.03%
31-Jan-19	0.4660	1172.42	1171.83	0.59	0.05%
21-Aug-17	0.4700	1226.83	1226.38	0.45	0.04%
30-Nov-17	0.4980	1259.59	1258.70	0.89	0.07%
28-May-20	0.7790	1272.09	1272.35	-0.26	-0.02%
22-Mar-19	0.4880	1281.28	1280.51	0.76	0.06%
22-Mar-19	0.4880	1281.28	1280.51	0.76	0.06%
18-Apr-19	0.5170	1303.02	1302.94	0.08	0.01%
4-Feb-20	0.7480	1412.40	1412.93	-0.53	-0.04%
4-Feb-20	0.7470	1408.81	1409.33	-0.52	-0.04%
9-Jun-19	0.8170	1354.68	1354.18	0.51	0.04%
16-Jun-20	0.6530	1169.13	1168.41	0.72	0.06%
20-Feb-20	0.6240	1155.06	1154.52	0.55	0.05%
24-Apr-19	0.5270	1100.23	1098.97	1.26	0.11%
22-Apr-19	0.5180	1108.88	1108.44	0.44	0.04%

22-Apr-19	0.5180	1108.88	1108.44	0.44	0.04%
4-Dec-19	0.6120	1159.81	1159.90	-0.09	-0.01%
19-Feb-20	0.7770	1257.86	1259.14	-1.28	-0.10%
21-Mar-19	0.6580	1219.07	1219.14	-0.07	-0.01%
8-Jan-20	0.7510	1308.06	1308.74	-0.68	-0.05%
23-Apr-19	0.5080	1305.77	1305.71	0.06	0.00%
23-Apr-19	0.5080	1305.78	1305.72	0.06	0.00%
10-Jul-19	0.5490	1336.13	1335.79	0.35	0.03%
10-Jul-19	0.5490	1336.09	1335.74	0.35	0.03%
15-May-19	0.5480	1315.99	1316.21	-0.22	-0.02%
18-Jul-19	0.4750	1189.80	1188.08	1.71	0.14%
18-Jul-19	0.4750	1187.86	1186.15	1.71	0.14%
25-Jun-19	0.5700	1319.96	1319.87	0.08	0.01%
28-Feb-19	0.4700	1197.91	1197.43	0.49	0.04%
28-Feb-19	0.4690	1197.40	1196.91	0.49	0.04%
10-May-19	0.4450	1194.97	1193.71	1.27	0.11%
14-Jan-19	0.4840	1296.55	1296.35	0.20	0.02%
19-Dec-17	0.4710	1278.17	1277.45	0.72	0.06%
28-Jan-20	0.7840	1331.82	1332.94	-1.12	-0.08%
28-Jan-20	0.7840	1331.86	1332.98	-1.12	-0.08%
6-Dec-19	0.8290	1311.02	1311.71	-0.70	-0.05%
6-Jan-20	0.7820	1382.02	1383.11	-1.09	-0.08%
10-Jul-19	0.7080	1235.05	1235.33	-0.28	-0.02%
10-Jul-19	0.7080	1235.05	1235.33	-0.28	-0.02%
2-Jun-20	0.5880	1146.68	1145.36	1.32	0.12%
26-Mar-19	0.5090	1112.19	1112.39	-0.19	-0.02%
27-Nov-18	0.5640	1122.31	1122.26	0.05	0.00%
15-May-19	0.6130	1147.24	1146.70	0.54	0.05%
14-Jan-20	0.6470	1171.71	1171.64	0.06	0.01%
15-Jul-19	0.6500	1137.31	1137.08	0.23	0.02%
15-Jul-19	0.6500	1137.31	1137.08	0.23	0.02%
10-Jun-19	0.6320	1152.62	1152.13	0.49	0.04%
10-Jun-19	0.6320	1152.62	1152.13	0.49	0.04%
10-Apr-19	0.6710	1205.56	1205.86	-0.29	-0.02%
15-Apr-19	0.6060	1124.27	1123.57	0.70	0.06%
28-Jan-20	0.6410	1175.60	1175.58	0.02	0.00%
31-Mar-20	0.5480	1116.23	1115.70	0.53	0.05%
14-May-19	0.5100	1396.31	1396.14	0.18	0.01%
26-May-20	0.8490	1328.65	1329.38	-0.72	-0.05%
25-Oct-17	0.6420	1316.76	1315.53	1.23	0.09%
17-Sep-18	0.5720	1214.57	1214.12	0.45	0.04%
13-Jun-19	0.5740	1292.15	1291.65	0.50	0.04%
27-Nov-18	0.5060	1195.72	1195.29	0.43	0.04%
27-Nov-18	0.5060	1195.72	1195.29	0.43	0.04%
30-May-19	0.4670	1287.24	1286.71	0.53	0.04%
5-Jul-19	0.5600	1310.15	1310.08	0.07	0.01%
12-May-20	0.9470	1350.89	1352.24	-1.35	-0.10%
15-Apr-19	0.6110	1304.99	1304.83	0.16	0.01%
14-Nov-19	0.8450	1348.57	1349.46	-0.90	-0.07%
9-Apr-19	0.7990	1314.90	1314.70	0.20	0.02%
2-Apr-20	0.9620	1387.39	1389.17	-1.78	-0.13%
26-Aug-19	0.6640	1148.74	1147.80	0.94	0.08%
26-Aug-19	0.6640	1148.74	1147.80	0.94	0.08%
9-May-19	0.5120	1119.95	1118.66	1.29	0.12%
9-May-19	0.5120	1119.95	1118.66	1.29	0.12%
22-Jan-19	0.7750	1195.32	1196.39	-1.07	-0.09%
12-Nov-19	0.6450	1169.84	1169.91	-0.07	-0.01%

12-Nov-19	0.6450	1169.84	1169.91	-0.07	-0.01%
27-Feb-19	0.6000	1143.87	1143.38	0.49	0.04%
10-Jan-19	0.4760	1354.52	1353.87	0.65	0.05%
10-Jan-19	0.4760	1354.52	1353.87	0.65	0.05%
25-Jun-19	0.5420	1321.62	1321.25	0.37	0.03%
25-Jun-19	0.5420	1321.54	1321.17	0.37	0.03%
28-Jun-19	0.5370	1321.83	1321.62	0.22	0.02%
24-Jul-19	0.5320	1222.78	1221.73	1.05	0.09%
24-Jul-19	0.5320	1225.17	1224.12	1.05	0.09%
30-Jul-18	0.5300	1234.61	1233.68	0.93	0.08%
31-Jan-19	0.4610	1174.19	1173.43	0.76	0.07%
14-Nov-19	0.8480	1351.74	1352.64	-0.90	-0.07%
14-Jan-20	1.4900	1392.70	1396.95	-4.25	-0.31%
3-Jul-19	0.8110	1140.29	1140.58	-0.29	-0.03%
3-Jul-19	0.8110	1140.29	1140.58	-0.29	-0.03%
26-Nov-19	0.5870	1117.69	1117.40	0.29	0.03%
26-Nov-19	0.5850	1114.20	1113.90	0.30	0.03%
17-Apr-19	0.6180	1127.67	1126.87	0.80	0.07%
17-Apr-19	0.6180	1127.11	1126.31	0.80	0.07%
10-Jul-19	0.6820	1163.76	1163.76	0.00	0.00%
10-Jul-19	0.6820	1163.76	1163.76	0.00	0.00%
10-Dec-19	0.7120	1199.40	1198.86	0.54	0.05%
30-Apr-18	0.5040	1394.41	1394.72	-0.31	-0.02%
17-Sep-19	0.8060	1203.44	1204.04	-0.61	-0.05%
20-Jun-19	0.5190	1175.17	1174.64	0.53	0.04%
25-Jul-19	0.6730	1185.08	1185.20	-0.13	-0.01%
2-Aug-18	0.7070	1182.07	1182.95	-0.88	-0.07%
19-Jun-19	0.6420	1213.69	1213.67	0.02	0.00%
10-Dec-19	0.7990	1306.77	1307.39	-0.62	-0.05%
22-Apr-19	0.5100	1318.40	1318.07	0.34	0.03%
22-Apr-19	0.5100	1318.55	1318.21	0.34	0.03%
31-Dec-19	0.9530	1359.13	1360.56	-1.43	-0.11%
27-May-20	0.8260	1238.83	1239.53	-0.69	-0.06%
27-May-20	0.8260	1238.83	1239.53	-0.69	-0.06%
11-Mar-19	0.4990	1200.30	1199.75	0.54	0.05%
18-Sep-18	0.4640	1149.38	1148.71	0.66	0.06%
15-May-19	0.5590	1286.87	1286.81	0.06	0.00%
17-Jul-19	0.5710	1341.18	1341.21	-0.03	0.00%
17-Jul-19	0.5720	1342.00	1342.04	-0.04	0.00%
9-May-19	0.7620	1305.90	1306.96	-1.06	-0.08%
21-Aug-19	0.6240	1138.10	1137.10	0.99	0.09%
23-Apr-19	0.5410	1125.78	1124.55	1.23	0.11%
17-Jan-19	0.6470	1157.90	1157.43	0.47	0.04%
17-Jan-19	0.6480	1158.49	1158.02	0.47	0.04%
17-Jan-19	0.6450	1154.79	1154.33	0.47	0.04%
17-Jan-19	0.6450	1154.79	1154.33	0.47	0.04%
16-Jun-20	0.5990	1137.37	1136.13	1.24	0.11%
6-Aug-19	0.6710	1132.88	1131.95	0.93	0.08%
6-Aug-19	0.6710	1132.88	1131.95	0.93	0.08%
24-Oct-19	0.7860	1220.21	1220.71	-0.49	-0.04%
24-Oct-19	0.7840	1215.40	1215.89	-0.49	-0.04%
17-Sep-19	0.8080	1205.45	1206.06	-0.61	-0.05%
20-Jun-19	0.5260	1176.17	1175.57	0.60	0.05%
11-Jul-19	0.4990	1337.72	1337.46	0.26	0.02%
11-Jul-19	0.5000	1340.77	1340.51	0.26	0.02%
18-Dec-19	0.8050	1354.64	1355.93	-1.29	-0.10%
18-Feb-20	0.8450	1350.61	1351.96	-1.35	-0.10%

26-Mar-19	0.6080	1324.93	1325.18	-0.25	-0.02%
28-Nov-18	0.5360	1177.83	1177.45	0.39	0.03%
21-Mar-19	0.5660	1214.49	1214.30	0.18	0.02%
30-Jan-20	0.8530	1347.81	1349.28	-1.47	-0.11%
30-Jan-20	0.8530	1348.07	1349.54	-1.47	-0.11%
24-Jun-19	0.5800	1313.33	1313.33	0.00	0.00%
10-Jul-19	0.4950	1160.61	1159.51	1.11	0.10%
10-Jul-19	0.4950	1160.58	1159.47	1.11	0.10%
18-Jan-20	0.8770	1366.84	1368.48	-1.64	-0.12%
26-May-20	0.6360	1153.60	1153.04	0.55	0.05%
13-Jan-20	0.6370	1166.93	1166.77	0.16	0.01%
10-Feb-20	0.6330	1134.94	1134.23	0.71	0.06%
17-Jul-19	0.6390	1159.31	1158.57	0.75	0.06%
17-Jul-19	0.6390	1159.31	1158.57	0.75	0.06%
5-Mar-19	0.5390	1097.13	1096.42	0.71	0.06%
2-Aug-19	0.6580	1143.35	1142.48	0.87	0.08%
2-Aug-19	0.6570	1142.67	1141.82	0.85	0.07%
2-Aug-19	0.6560	1140.46	1139.61	0.85	0.07%
18-Apr-19	0.4870	1308.55	1307.88	0.67	0.05%
18-Apr-19	0.4870	1308.89	1308.22	0.67	0.05%
30-Jul-19	0.5430	1309.37	1309.02	0.35	0.03%
30-Jul-19	0.5430	1309.25	1308.90	0.35	0.03%
25-Feb-19	0.5770	1271.51	1271.92	-0.41	-0.03%
15-May-19	0.5790	1327.70	1326.65	1.05	0.08%
15-May-19	0.5780	1326.53	1325.47	1.05	0.08%
30-Nov-17	0.4730	1296.71	1296.38	0.33	0.03%
11-Jul-19	0.7470	1322.03	1322.83	-0.80	-0.06%
11-Jul-19	0.7470	1322.10	1322.90	-0.80	-0.06%
30-Jul-18	0.4990	1204.88	1204.50	0.38	0.03%
10-Aug-19	0.8710	1308.98	1308.91	0.07	0.00%
10-Aug-19	0.8710	1308.98	1308.91	0.07	0.00%
21-Jan-20	0.8360	1337.23	1338.39	-1.17	-0.09%
21-Jan-20	0.8360	1337.23	1338.39	-1.17	-0.09%
1-Oct-19	0.5690	1119.32	1118.38	0.94	0.08%
1-Oct-19	0.5690	1119.32	1118.38	0.94	0.08%
29-Apr-19	0.5110	1064.75	1064.15	0.60	0.06%
17-Jul-19	0.6550	1166.66	1166.38	0.28	0.02%
17-Jul-19	0.6550	1166.66	1166.38	0.28	0.02%
8-Jul-19	0.6520	1145.90	1145.14	0.76	0.07%
8-Jul-19	0.6520	1145.90	1145.14	0.76	0.07%
9-Jul-19	0.6490	1152.54	1152.38	0.16	0.01%
9-Jul-19	0.6490	1152.54	1152.38	0.16	0.01%
10-Jul-19	0.5400	1114.60	1113.89	0.71	0.06%
5-Feb-19	0.6360	1169.36	1168.82	0.54	0.05%
30-Jan-19	0.4790	1183.62	1182.73	0.89	0.07%
2-Aug-19	0.6480	1204.73	1204.45	0.28	0.02%
28-Feb-20	0.8250	1357.02	1357.89	-0.87	-0.06%
28-Feb-20	0.8250	1356.90	1357.77	-0.87	-0.06%
26-May-20	0.8760	1370.97	1371.72	-0.76	-0.06%
17-Jun-19	0.5600	1313.69	1313.38	0.31	0.02%
17-Jun-19	0.5600	1312.69	1312.39	0.31	0.02%
17-Jun-19	0.5600	1313.52	1313.22	0.31	0.02%
17-Jun-19	0.5600	1312.52	1312.21	0.31	0.02%
22-May-19	0.5650	1192.14	1191.15	0.98	0.08%
26-Feb-19	0.5060	1175.82	1175.44	0.38	0.03%
26-Feb-19	0.5060	1175.82	1175.44	0.38	0.03%
22-Sep-17	0.4950	1331.30	1330.54	0.76	0.06%

31-Jul-19	0.4820	1185.21	1184.35	0.86	0.07%
31-Jul-19	0.4820	1185.21	1184.35	0.86	0.07%
18-May-20	0.7150	1313.57	1314.05	-0.48	-0.04%
17-Sep-18	0.6210	1299.14	1299.74	-0.60	-0.05%
27-May-20	0.8260	1263.64	1264.40	-0.75	-0.06%
20-Feb-19	0.5070	1196.66	1195.77	0.89	0.07%
21-May-20	0.7870	1259.18	1260.06	-0.89	-0.07%
7-May-19	0.8220	1456.65	1457.67	-1.02	-0.07%
11-Dec-18	1.0930	1319.38	1321.20	-1.81	-0.14%
7-Dec-19	0.8500	1284.51	1285.60	-1.09	-0.08%
3-Apr-19	0.9400	1355.73	1356.93	-1.20	-0.09%
19-Feb-20	0.7780	1343.67	1344.17	-0.50	-0.04%
13-Aug-18	0.7540	1213.83	1212.35	1.48	0.12%
19-Jun-19	0.7270	1190.57	1190.10	0.47	0.04%
19-Jun-19	0.7270	1190.57	1190.10	0.47	0.04%
19-Nov-19	0.6110	1154.54	1154.31	0.23	0.02%
19-Nov-19	0.6110	1154.54	1154.31	0.23	0.02%
15-Jul-19	0.6760	1169.82	1169.55	0.27	0.02%
15-Jul-19	0.6760	1169.82	1169.55	0.27	0.02%
9-Dec-19	0.5790	1120.97	1120.55	0.42	0.04%
27-Jan-20	0.5900	1130.74	1130.59	0.14	0.01%
26-Jul-19	0.5350	1209.68	1208.42	1.26	0.10%
26-Jul-19	0.5350	1209.90	1208.64	1.26	0.10%
29-May-19	0.5290	1309.07	1308.47	0.60	0.05%
29-May-19	0.5280	1307.00	1306.39	0.60	0.05%
29-May-19	0.5290	1308.91	1308.31	0.60	0.05%
29-May-19	0.5280	1306.85	1306.25	0.60	0.05%
29-Jul-19	0.5510	1270.04	1269.55	0.49	0.04%
31-Jul-19	0.4860	1204.45	1203.49	0.96	0.08%
26-Jun-19	0.5330	1290.81	1290.54	0.26	0.02%
31-Jan-19	0.4810	1172.75	1171.88	0.87	0.07%
31-Dec-19	0.6280	1191.27	1191.87	-0.60	-0.05%
2-Jun-19	0.8290	1296.83	1297.05	-0.22	-0.02%
8-Jun-19	0.8600	1294.61	1295.19	-0.58	-0.04%
7-Dec-19	0.8530	1287.93	1289.03	-1.09	-0.08%
27-Mar-19	0.8950	1442.32	1443.45	-1.14	-0.08%
27-Mar-19	0.8950	1442.32	1443.45	-1.14	-0.08%
27-Mar-19	0.8950	1442.32	1443.45	-1.14	-0.08%
10-Jan-20	1.0000	1425.44	1427.69	-2.25	-0.16%
2-Jul-19	0.6870	1160.59	1159.33	1.26	0.11%
2-Jul-19	0.6870	1160.59	1159.33	1.26	0.11%
23-Jan-19	0.6620	1166.78	1166.47	0.31	0.03%
30-Jul-19	0.6820	1184.37	1184.62	-0.26	-0.02%
30-Jul-19	0.6820	1184.37	1184.62	-0.26	-0.02%
28-Feb-19	0.5730	1175.41	1174.81	0.60	0.05%
28-Jan-20	1.0270	1272.28	1273.99	-1.71	-0.13%
20-Jun-19	0.8160	1311.06	1312.70	-1.64	-0.13%
20-Jun-19	0.8160	1311.06	1312.70	-1.64	-0.13%
30-Jan-20	0.7340	1300.24	1300.79	-0.55	-0.04%
10-Oct-19	0.9140	1340.43	1342.05	-1.62	-0.12%
10-Oct-19	0.9140	1340.25	1341.87	-1.62	-0.12%
10-Oct-19	0.9140	1340.61	1342.23	-1.62	-0.12%
10-Oct-19	0.9140	1340.34	1341.96	-1.62	-0.12%
17-Jul-19	0.5270	1332.47	1332.29	0.18	0.01%
16-May-19	0.5270	1226.84	1226.22	0.62	0.05%
31-Jul-19	0.4880	1206.98	1206.03	0.96	0.08%
12-Sep-18	0.6240	1261.36	1261.14	0.23	0.02%

15-Aug-19	0.6100	1282.87	1282.75	0.12	0.01%
29-Jan-19	0.4910	1163.97	1163.42	0.55	0.05%
25-Jun-18	0.5460	1195.04	1194.30	0.75	0.06%
21-Nov-19	0.8180	1270.47	1271.18	-0.71	-0.06%
21-Nov-19	0.8190	1270.57	1271.28	-0.71	-0.06%
12-Nov-19	0.7820	1346.76	1347.22	-0.47	-0.03%
31-Mar-20	0.8600	1328.07	1328.93	-0.86	-0.06%
4-Mar-20	1.0110	1344.33	1346.26	-1.93	-0.14%
6-Jan-20	0.8610	1392.35	1393.34	-0.99	-0.07%
6-Jan-20	0.8590	1391.09	1392.09	-1.01	-0.07%
11-Jun-19	0.6440	1103.29	1102.23	1.05	0.10%
11-Jun-19	0.6440	1103.29	1102.23	1.05	0.10%
7-May-20	0.6750	1094.44	1093.48	0.95	0.09%
12-Nov-19	0.5890	1130.50	1129.92	0.58	0.05%
12-Nov-19	0.5890	1130.50	1129.92	0.58	0.05%
29-Jan-19	0.5400	1220.44	1219.45	0.99	0.08%
22-Aug-19	0.7150	1231.48	1231.17	0.31	0.03%
22-Aug-19	0.7150	1231.48	1231.17	0.31	0.03%
21-Mar-19	1.0510	1234.54	1236.79	-2.26	-0.18%
16-Oct-19	0.8590	1412.20	1413.29	-1.09	-0.08%
16-Oct-19	0.8600	1413.87	1414.97	-1.09	-0.08%
25-Jul-19	0.5410	1318.97	1318.73	0.23	0.02%
13-May-20	0.8160	1307.83	1308.31	-0.48	-0.04%
28-Jun-19	0.5490	1321.22	1320.85	0.37	0.03%
22-Aug-19	0.6140	1296.64	1296.52	0.12	0.01%
22-Aug-19	0.6140	1294.49	1294.36	0.12	0.01%
31-Jan-19	0.5180	1275.21	1275.46	-0.24	-0.02%
31-Jan-19	0.5180	1275.14	1275.38	-0.24	-0.02%
31-Jul-19	0.4910	1204.17	1203.24	0.92	0.08%
29-May-19	0.5280	1190.73	1190.14	0.59	0.05%
20-Dec-17	0.5350	1327.12	1326.34	0.78	0.06%
21-Aug-18	0.6180	1263.48	1263.85	-0.37	-0.03%
15-Jan-19	0.5810	1223.88	1224.17	-0.29	-0.02%
7-Jan-20	1.0830	1435.64	1438.20	-2.56	-0.18%
7-Jan-20	1.0850	1439.02	1441.59	-2.56	-0.18%
1-Jul-19	0.6490	1132.25	1131.02	1.23	0.11%
26-May-20	0.5750	1109.62	1108.76	0.85	0.08%
12-Nov-19	0.6610	1153.41	1153.28	0.13	0.01%
12-Nov-19	0.6610	1153.41	1153.28	0.13	0.01%
11-Jun-19	0.5940	1126.39	1125.33	1.05	0.09%
20-May-19	0.5340	1072.57	1071.67	0.90	0.08%
26-Apr-19	0.6010	1183.79	1182.52	1.27	0.11%
28-May-19	0.5120	1356.10	1355.71	0.39	0.03%
9-Aug-19	0.5300	1358.63	1358.71	-0.08	-0.01%
5-Jun-20	0.7890	1316.10	1316.87	-0.77	-0.06%
22-May-19	0.5810	1318.92	1318.43	0.49	0.04%
22-May-19	0.5810	1319.03	1318.54	0.49	0.04%
19-Feb-20	0.9500	1344.75	1346.43	-1.68	-0.12%
19-Feb-20	0.9500	1344.74	1346.43	-1.68	-0.12%
25-May-19	0.5340	1307.24	1307.04	0.20	0.02%
25-Oct-19	0.8110	1333.53	1334.49	-0.96	-0.07%
25-Oct-19	0.8120	1333.69	1334.65	-0.96	-0.07%
25-Oct-19	0.8110	1333.54	1334.50	-0.96	-0.07%
25-Oct-19	0.8120	1333.78	1334.74	-0.96	-0.07%
25-Apr-19	0.5070	1301.38	1300.71	0.67	0.05%
17-Jul-19	0.5540	1200.15	1200.22	-0.07	-0.01%
17-Jul-19	0.5540	1200.08	1200.15	-0.07	-0.01%

22-Aug-18	0.5510	1244.94	1244.95	-0.01	0.00%
19-May-20	0.7050	1211.54	1211.39	0.16	0.01%
10-May-19	0.5110	1199.01	1198.29	0.72	0.06%
20-Aug-18	0.5280	1289.43	1289.11	0.32	0.02%
25-Apr-18	0.5230	1179.74	1179.14	0.60	0.05%
31-Jul-19	0.5050	1192.93	1192.07	0.86	0.07%
31-Jul-19	0.4940	1207.07	1206.13	0.94	0.08%
30-Jul-18	0.5290	1240.24	1239.32	0.92	0.07%
30-Dec-19	0.9480	1524.57	1526.28	-1.71	-0.11%
17-Jan-20	1.1280	1418.91	1421.51	-2.60	-0.18%
9-Sep-19	0.8290	1372.18	1373.16	-0.98	-0.07%
1-Jul-19	0.6520	1129.47	1128.23	1.24	0.11%
15-Oct-19	0.6250	1141.22	1140.62	0.60	0.05%
15-Oct-19	0.6250	1141.22	1140.62	0.60	0.05%
18-Nov-19	0.6790	1168.37	1168.08	0.29	0.03%
18-Nov-19	0.6790	1168.37	1168.08	0.29	0.03%
6-Aug-19	0.7140	1181.45	1181.53	-0.08	-0.01%
6-Aug-19	0.7140	1181.45	1181.53	-0.08	-0.01%
29-Jan-19	0.5320	1232.97	1232.11	0.85	0.07%
26-Oct-17	0.4980	1225.31	1224.99	0.32	0.03%
20-Aug-19	0.6370	1254.55	1254.80	-0.25	-0.02%
20-Aug-19	0.6360	1252.25	1252.49	-0.24	-0.02%
16-Jan-19	0.5410	1315.15	1314.79	0.36	0.03%
16-Jan-19	0.5410	1315.16	1314.80	0.36	0.03%
14-May-19	0.6010	1274.07	1273.66	0.42	0.03%
10-Feb-20	1.0230	1317.70	1319.44	-1.74	-0.13%
9-Aug-18	0.5440	1236.49	1235.61	0.88	0.07%
18-Mar-19	0.5200	1204.27	1203.82	0.45	0.04%
31-Jul-19	0.5090	1199.88	1199.02	0.86	0.07%
31-Jul-19	0.5150	1198.06	1197.22	0.84	0.07%
23-Aug-19	0.5440	1247.73	1247.25	0.48	0.04%
22-Aug-19	0.5460	1310.86	1310.74	0.11	0.01%
30-Dec-19	0.9520	1528.99	1530.69	-1.70	-0.11%
9-Apr-19	0.8650	1268.32	1267.73	0.59	0.05%
15-Sep-19	0.8570	1358.02	1358.46	-0.44	-0.03%
15-Sep-19	0.8560	1355.99	1356.43	-0.44	-0.03%
27-Mar-19	1.2280	1393.19	1396.51	-3.32	-0.24%
9-Jul-18	1.1060	1412.91	1404.84	8.07	0.57%
1-Jul-19	0.6560	1132.52	1131.27	1.24	0.11%
17-Mar-20	0.6380	1164.27	1164.19	0.08	0.01%
24-Sep-19	0.7490	1176.45	1175.60	0.85	0.07%
19-Feb-20	0.6870	1152.38	1151.17	1.21	0.11%
13-Jan-20	0.6540	1169.55	1169.46	0.09	0.01%
1-May-19	0.6280	1149.32	1148.77	0.55	0.05%
27-Feb-19	0.4880	1108.52	1107.60	0.92	0.08%
26-Feb-19	0.6590	1142.13	1141.88	0.25	0.02%
4-Jun-20	0.6140	1126.21	1125.39	0.83	0.07%
29-Oct-19	1.1150	1408.10	1410.42	-2.32	-0.16%
14-Aug-19	0.5190	1318.96	1318.36	0.60	0.05%
17-Jul-19	0.5980	1330.38	1330.42	-0.04	0.00%
17-Jul-19	0.5980	1330.42	1330.46	-0.04	0.00%
31-Oct-18	0.5960	1342.81	1342.79	0.02	0.00%
31-Oct-18	0.5960	1341.66	1341.63	0.02	0.00%
19-Sep-19	0.8400	1207.42	1207.99	-0.57	-0.05%
19-Sep-19	0.8400	1207.34	1207.91	-0.57	-0.05%
9-Oct-19	0.7660	1198.65	1198.80	-0.15	-0.01%
9-Oct-19	0.7650	1196.43	1196.58	-0.15	-0.01%

31-Jul-19	0.5180	1204.10	1203.26	0.84	0.07%
31-Jul-19	0.5120	1178.85	1177.72	1.13	0.10%
23-Aug-19	0.5460	1251.23	1250.75	0.48	0.04%
26-Feb-18	0.5220	1220.69	1220.28	0.41	0.03%
13-Jul-18	0.5250	1343.87	1342.91	0.96	0.07%
19-Mar-19	0.8180	1339.32	1339.61	-0.29	-0.02%
4-Feb-20	0.7050	1348.90	1349.35	-0.45	-0.03%
9-Jul-19	0.7700	1345.92	1346.61	-0.69	-0.05%
2-Apr-19	1.0700	1388.71	1390.58	-1.87	-0.13%
8-Apr-20	0.6800	1160.46	1159.91	0.55	0.05%
10-Jul-19	0.6840	1166.16	1165.67	0.49	0.04%
10-Jul-19	0.6840	1166.16	1165.67	0.49	0.04%
30-Apr-18	0.5270	1396.57	1396.89	-0.33	-0.02%
29-Oct-19	1.1210	1415.23	1417.56	-2.33	-0.16%
13-May-19	0.5250	1197.75	1196.98	0.77	0.06%
13-May-19	0.5380	1195.33	1194.69	0.64	0.05%
26-Aug-19	1.1030	1349.60	1351.16	-1.55	-0.12%
26-Aug-19	1.0990	1343.37	1344.91	-1.54	-0.11%
1-Aug-19	0.6710	1214.32	1214.50	-0.19	-0.02%
1-Aug-19	0.6710	1214.32	1214.50	-0.19	-0.02%
3-Mar-20	0.9600	1339.72	1341.52	-1.80	-0.13%
28-May-19	0.7020	1311.96	1311.89	0.07	0.01%
28-May-19	0.7020	1311.92	1311.85	0.07	0.01%
28-Jun-19	0.5910	1231.64	1231.78	-0.14	-0.01%
31-Jul-19	0.5150	1181.97	1180.84	1.14	0.10%
25-Jun-18	0.5570	1194.71	1193.72	0.99	0.08%
25-Jun-19	0.4240	1162.07	1161.08	0.99	0.08%
9-Dec-19	1.0360	1355.94	1358.23	-2.29	-0.17%
6-Apr-20	1.1050	1405.53	1407.77	-2.24	-0.16%
9-Jul-19	0.7750	1353.19	1353.88	-0.68	-0.05%
11-May-20	0.8330	1388.16	1388.76	-0.60	-0.04%
11-May-20	0.8330	1388.16	1388.76	-0.60	-0.04%
24-Jan-20	0.8070	1350.06	1350.29	-0.23	-0.02%
24-Mar-20	0.8340	1369.15	1369.55	-0.40	-0.03%
24-Mar-20	0.8310	1363.03	1363.42	-0.39	-0.03%
19-Feb-20	0.8450	1380.92	1381.59	-0.67	-0.05%
24-Sep-19	0.7050	1189.32	1188.96	0.36	0.03%
26-Feb-18	0.6550	1339.18	1338.80	0.38	0.03%
21-Jun-19	0.5670	1180.56	1179.70	0.86	0.07%
	0.9330	1425.48	1427.06	-1.59	-0.11%
	0.9330	1426.26	1427.85	-1.59	-0.11%
3-Oct-19	0.9350	1428.73	1430.33	-1.60	-0.11%
18-Apr-19	0.5140	1343.27	1342.51	0.76	0.06%
18-Apr-19	0.5140	1341.66	1340.91	0.76	0.06%
27-Mar-19	0.5300	1304.51	1304.11	0.40	0.03%
27-Mar-19	0.5300	1304.54	1304.14	0.40	0.03%
25-Jun-19	0.6110	1339.59	1339.77	-0.18	-0.01%
25-Jun-19	0.6110	1339.51	1339.69	-0.18	-0.01%
11-Jul-19	0.5760	1342.15	1341.82	0.34	0.03%
11-Jul-19	0.5760	1341.56	1341.22	0.34	0.03%
12-Sep-18	0.5850	1240.81	1240.35	0.46	0.04%
25-Apr-18	0.5430	1176.74	1175.98	0.76	0.06%
21-Mar-19	0.5700	1183.17	1182.93	0.24	0.02%
31-Jul-19	0.6210	1298.85	1298.90	-0.05	0.00%
31-Jul-19	0.5140	1186.44	1185.33	1.11	0.09%
26-Apr-18	0.5450	1170.83	1170.16	0.67	0.06%
23-Apr-19	0.5770	1339.83	1339.17	0.66	0.05%

23-Apr-19	0.5770	1337.99	1337.33	0.66	0.05%
6-Feb-20	1.0350	1583.11	1585.16	-2.05	-0.13%
7-Aug-19	0.9570	1313.55	1313.55	0.00	0.00%
4-Sep-19	0.8960	1313.48	1313.61	-0.13	-0.01%
26-Jun-19	0.9830	1376.81	1378.06	-1.25	-0.09%
28-Mar-20	1.2120	1528.64	1531.41	-2.77	-0.18%
28-Mar-20	1.2120	1528.47	1531.24	-2.77	-0.18%
11-May-20	0.8090	1346.96	1347.52	-0.56	-0.04%
25-Mar-20	0.8190	1349.88	1350.38	-0.50	-0.04%
11-May-20	0.8080	1341.36	1341.92	-0.56	-0.04%
19-Feb-20	0.8500	1389.69	1390.37	-0.68	-0.05%
9-Apr-20	0.5130	1123.02	1122.15	0.86	0.08%
9-Jul-19	0.8190	1230.90	1231.11	-0.21	-0.02%
9-Jul-19	0.8190	1230.90	1231.11	-0.21	-0.02%
15-May-19	0.6980	1183.97	1183.99	-0.02	0.00%
28-Oct-19	0.6720	1165.00	1164.76	0.24	0.02%
28-Oct-19	0.6720	1165.00	1164.76	0.24	0.02%
20-Jun-19	0.5810	1089.75	1088.94	0.81	0.07%
20-Jun-19	0.5810	1089.75	1088.94	0.81	0.07%
20-Jun-19	0.5560	1178.29	1177.57	0.71	0.06%
31-Jan-19	0.5060	1183.40	1182.53	0.87	0.07%
22-Jan-19	0.6420	1270.77	1271.07	-0.30	-0.02%
22-Jan-19	0.6420	1270.29	1270.60	-0.30	-0.02%
25-Jul-19	0.8390	1177.44	1178.20	-0.76	-0.06%
25-Jul-19	0.8390	1177.44	1178.20	-0.76	-0.06%
15-Jul-19	0.6540	1321.00	1321.37	-0.37	-0.03%
15-Aug-19	0.6710	1260.41	1260.32	0.10	0.01%
26-Feb-19	0.5290	1186.03	1185.63	0.40	0.03%
25-Jun-18	0.5490	1243.88	1243.41	0.48	0.04%
24-Jul-19	0.5690	1217.20	1216.89	0.31	0.03%
23-Jul-19	0.5150	1233.30	1233.61	-0.31	-0.02%
10-Jul-19	0.5540	1268.56	1267.90	0.66	0.05%
10-Jul-19	0.5540	1265.61	1264.95	0.66	0.05%
27-Nov-17	0.5220	1200.60	1199.99	0.61	0.05%
27-Nov-17	0.5210	1197.95	1197.34	0.61	0.05%
31-Jul-19	0.5150	1188.67	1187.56	1.11	0.09%
31-Jul-19	0.5210	1198.67	1197.74	0.92	0.08%
31-Jul-19	0.5200	1194.34	1193.41	0.93	0.08%
10-Nov-19	0.8560	1352.31	1353.78	-1.47	-0.11%
10-Nov-19	0.8560	1352.31	1353.78	-1.47	-0.11%
29-Jun-20	0.8120	1341.47	1342.01	-0.54	-0.04%
10-Dec-19	0.7700	1197.23	1196.87	0.36	0.03%
30-Jul-19	0.8010	1188.37	1188.44	-0.06	-0.01%
30-Jul-19	0.8010	1188.37	1188.44	-0.06	-0.01%
12-Jun-19	0.6630	1150.71	1150.27	0.44	0.04%
25-Jul-19	0.5760	1220.51	1219.25	1.26	0.10%
25-Sep-18	0.7040	1236.45	1237.14	-0.69	-0.06%
11-Jun-19	0.7030	1278.37	1278.98	-0.61	-0.05%
15-Jul-19	0.5400	1328.56	1328.20	0.36	0.03%
25-May-19	0.5560	1359.86	1359.66	0.21	0.02%
23-Jul-19	0.6100	1302.63	1302.77	-0.14	-0.01%
23-Jul-19	0.6100	1302.62	1302.76	-0.14	-0.01%
11-Dec-18	0.6210	1151.84	1151.60	0.24	0.02%
3-Jun-19	0.5930	1285.82	1285.49	0.33	0.03%
18-Jul-18	0.7230	1242.73	1243.63	-0.90	-0.07%
24-Jul-19	0.5710	1220.44	1220.14	0.31	0.03%
31-Jan-19	0.5150	1166.14	1165.60	0.54	0.05%

19-Sep-17	0.7200	1244.94	1244.51	0.43	0.03%
27-Nov-18	0.5780	1329.80	1329.37	0.44	0.03%
23-Jul-19	0.5170	1236.55	1236.86	-0.31	-0.02%
25-Jun-18	0.5700	1193.12	1192.04	1.07	0.09%
28-Aug-18	0.5330	1300.18	1299.63	0.55	0.04%
29-Jul-19	0.5350	1162.27	1161.58	0.70	0.06%
17-Mar-20	1.0970	1364.99	1367.41	-2.42	-0.18%
17-Mar-20	1.0950	1361.97	1364.38	-2.41	-0.18%
14-Oct-19	0.6680	1127.97	1127.20	0.77	0.07%
22-Jan-20	0.7350	1184.27	1184.61	-0.35	-0.03%
25-Jul-19	0.5790	1224.31	1223.03	1.27	0.10%
25-Jul-19	0.5710	1220.60	1219.43	1.17	0.10%
7-Nov-19	1.0360	1308.50	1309.79	-1.30	-0.10%
7-Nov-19	1.0360	1308.50	1309.79	-1.30	-0.10%
31-May-19	0.5990	1168.60	1168.51	0.09	0.01%
31-May-19	0.5990	1168.60	1168.51	0.09	0.01%
30-Aug-18	0.5450	1334.97	1334.83	0.14	0.01%
29-Jul-19	0.5300	1191.45	1190.52	0.93	0.08%
17-May-18	0.5390	1137.81	1135.92	1.89	0.17%
29-Jul-19	0.5370	1165.64	1164.94	0.70	0.06%
18-Apr-18	0.5140	1179.67	1179.14	0.52	0.04%
11-Mar-19	0.7570	1307.93	1308.17	-0.23	-0.02%
15-Nov-19	1.0850	1389.37	1391.24	-1.86	-0.13%
15-Nov-19	1.0850	1389.37	1391.24	-1.86	-0.13%
24-Jul-18	1.0400	1412.87	1414.17	-1.29	-0.09%
22-Apr-20	0.6610	1132.39	1131.50	0.89	0.08%
14-Oct-19	0.6700	1131.33	1130.57	0.77	0.07%
16-Jun-20	0.7310	1193.63	1192.84	0.79	0.07%
9-Apr-19	0.6890	1176.86	1177.01	-0.15	-0.01%
9-Apr-19	0.6890	1176.86	1177.01	-0.15	-0.01%
9-Apr-19	0.6910	1181.20	1181.36	-0.16	-0.01%
9-Apr-19	0.6900	1178.21	1178.36	-0.15	-0.01%
22-Apr-20	0.6610	1132.39	1131.50	0.89	0.08%
19-Apr-19	0.6180	1144.69	1143.80	0.89	0.08%
25-Apr-19	0.7500	1178.90	1179.03	-0.13	-0.01%
20-Feb-19	0.5510	1211.40	1211.02	0.38	0.03%
25-Jul-19	0.5730	1224.99	1223.82	1.17	0.10%
8-Apr-20	0.8470	1364.47	1365.24	-0.77	-0.06%
8-Apr-20	0.8460	1362.50	1363.27	-0.76	-0.06%
19-May-19	0.5870	1319.46	1318.58	0.87	0.07%
19-May-19	0.5880	1319.60	1318.73	0.87	0.07%
16-Apr-19	0.5680	1344.08	1343.97	0.11	0.01%
16-Apr-19	0.5680	1343.96	1343.85	0.11	0.01%
29-Jul-19	0.5310	1192.50	1191.57	0.93	0.08%
29-Jul-19	0.5310	1192.72	1191.79	0.93	0.08%
26-Sep-17	0.5150	1164.07	1163.16	0.91	0.08%
15-Mar-19	0.5310	1206.45	1205.87	0.58	0.05%
18-Apr-18	0.5150	1180.54	1180.01	0.53	0.04%
19-Dec-18	0.5110	1174.07	1173.27	0.79	0.07%
14-Nov-19	1.0270	1586.89	1588.74	-1.85	-0.12%
14-Nov-19	1.0270	1586.89	1588.74	-1.85	-0.12%
1-Apr-20	0.8360	1307.30	1307.97	-0.68	-0.05%
31-Mar-20	0.8340	1354.87	1354.79	0.08	0.01%
18-Apr-19	0.8520	1257.62	1258.00	-0.37	-0.03%
19-Nov-19	0.8250	1367.04	1367.38	-0.34	-0.02%
17-Jan-19	1.4570	1333.84	1337.31	-3.46	-0.26%
23-Apr-20	1.3100	1338.25	1340.65	-2.41	-0.18%

10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
4-Jun-20	0.6900	1136.79	1136.56	0.23	0.02%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
24-Apr-19	0.7010	1173.07	1172.85	0.22	0.02%
24-Apr-19	0.7010	1173.07	1172.85	0.22	0.02%
11-Apr-19	0.7140	1138.14	1138.60	-0.46	-0.04%
24-Oct-19	0.6780	1167.57	1167.63	-0.06	-0.01%
24-Oct-19	0.6780	1167.57	1167.63	-0.06	-0.01%
13-May-20	0.6770	1157.16	1156.46	0.70	0.06%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
10-Sep-19	0.7190	1108.46	1105.83	2.63	0.24%
30-Jul-18	0.5770	1275.47	1274.04	1.43	0.11%
11-Jun-19	0.7490	1266.18	1266.91	-0.73	-0.06%
8-Apr-20	0.8500	1368.95	1369.73	-0.77	-0.06%
18-Dec-18	0.5630	1314.52	1314.34	0.18	0.01%
14-Dec-18	0.5790	1331.39	1331.88	-0.49	-0.04%
20-Feb-19	0.5370	1335.64	1335.63	0.00	0.00%
19-May-20	0.8280	1374.82	1375.49	-0.67	-0.05%
26-Feb-19	0.5340	1175.35	1175.04	0.30	0.03%
26-Feb-19	0.5340	1175.35	1175.04	0.30	0.03%
27-Jun-19	0.5520	1197.35	1196.45	0.91	0.08%
19-Mar-19	0.5320	1208.19	1207.56	0.63	0.05%
19-Mar-19	0.5320	1208.15	1207.52	0.63	0.05%
22-Sep-17	0.5410	1281.37	1279.99	1.38	0.11%
31-Mar-20	0.8390	1362.24	1362.15	0.09	0.01%
1-Apr-20	0.8410	1315.84	1316.53	-0.69	-0.05%
10-Sep-19	0.9290	1341.57	1342.64	-1.07	-0.08%
1-Jul-19	0.6890	1121.32	1120.01	1.30	0.12%
23-Apr-19	0.6570	1123.23	1121.67	1.55	0.14%
28-Jan-20	0.6650	1199.34	1199.05	0.29	0.02%
19-Jul-18	0.6920	1116.12	1113.47	2.65	0.24%
26-Feb-19	0.5150	1304.71	1303.83	0.88	0.07%
23-Jul-19	0.5400	1308.29	1308.15	0.14	0.01%
23-Jul-19	0.5400	1308.18	1308.04	0.14	0.01%
30-Jan-20	0.8440	1363.56	1364.72	-1.15	-0.08%
17-May-19	0.6750	1308.52	1308.58	-0.06	0.00%
27-Jun-19	0.5540	1195.76	1194.86	0.90	0.08%
27-Jun-19	0.5490	1199.74	1198.91	0.83	0.07%
31-Oct-17	0.5400	1180.72	1179.48	1.24	0.10%
31-Aug-18	0.5630	1211.58	1210.99	0.59	0.05%
16-Jan-19	0.8350	1213.75	1213.51	0.23	0.02%
10-Sep-19	0.9330	1346.52	1347.60	-1.08	-0.08%
	0.8600	1417.55	1418.13	-0.58	-0.04%

24-Jul-19	0.8600	1417.55	1418.13	-0.58	-0.04%
24-Jul-19	0.8620	1417.70	1418.25	-0.54	-0.04%
28-Jan-20	0.6690	1206.04	1205.74	0.30	0.02%
16-Apr-20	0.7210	1135.49	1136.00	-0.51	-0.05%
7-Jan-20	0.7440	1210.08	1210.45	-0.36	-0.03%
12-Jun-19	0.7160	1134.52	1133.77	0.75	0.07%
16-Jul-19	0.6760	1150.03	1150.34	-0.31	-0.03%
16-Jul-19	0.6760	1150.03	1150.34	-0.31	-0.03%
27-Jun-19	0.5610	1189.55	1188.53	1.02	0.09%
27-Nov-18	0.5060	1204.66	1203.64	1.02	0.08%
18-Dec-18	0.7740	1243.18	1244.57	-1.39	-0.11%
3-Mar-20	0.9820	1174.16	1175.82	-1.66	-0.14%
19-Aug-19	0.5920	1188.58	1188.23	0.35	0.03%
19-Aug-19	0.5920	1188.58	1188.23	0.35	0.03%
16-Apr-19	0.6010	1365.73	1366.02	-0.29	-0.02%
30-Jul-19	0.5390	1194.97	1194.00	0.97	0.08%
30-Jul-19	0.5390	1192.92	1191.95	0.97	0.08%
30-Apr-18	0.6280	1377.05	1377.43	-0.37	-0.03%
30-Apr-18	0.6280	1376.68	1377.06	-0.37	-0.03%
14-Sep-19	0.9300	1367.52	1367.05	0.47	0.03%
26-Mar-19	0.9370	1449.38	1450.25	-0.87	-0.06%
19-Jul-18	0.6990	1125.99	1123.32	2.67	0.24%
6-Nov-19	0.6190	1130.82	1130.15	0.68	0.06%
6-Nov-19	0.6190	1130.82	1130.15	0.68	0.06%
16-Apr-20	0.7240	1139.09	1139.60	-0.52	-0.05%
13-May-19	0.5690	1198.17	1197.41	0.76	0.06%
22-Aug-17	0.5330	1186.51	1185.47	1.03	0.09%
15-Aug-19	0.7150	1224.51	1224.82	-0.31	-0.03%
15-Aug-19	0.7150	1224.51	1224.82	-0.31	-0.03%
26-Jun-19	0.6750	1195.08	1195.33	-0.25	-0.02%
31-Oct-18	0.7090	1326.99	1327.31	-0.32	-0.02%
10-Sep-19	0.8480	1272.34	1273.55	-1.21	-0.10%
5-Feb-20	0.9650	1427.75	1429.23	-1.48	-0.10%
8-May-19	0.7820	1374.56	1375.35	-0.80	-0.06%
18-Dec-19	0.9510	1386.29	1387.63	-1.34	-0.10%
26-Mar-19	0.9380	1450.89	1451.76	-0.87	-0.06%
27-Jan-20	0.7430	1182.78	1182.85	-0.07	-0.01%
13-Nov-19	0.6550	1161.81	1161.29	0.51	0.04%
13-Nov-19	0.6550	1161.81	1161.29	0.51	0.04%
13-Feb-20	0.6340	1122.83	1121.95	0.87	0.08%
22-Oct-19	0.7860	1177.17	1177.21	-0.04	0.00%
22-Oct-19	0.7860	1177.17	1177.21	-0.04	0.00%
20-May-20	0.7310	1155.37	1154.98	0.40	0.03%
5-Mar-20	1.0870	1256.59	1258.76	-2.17	-0.17%
11-Feb-20	1.0120	1293.71	1295.06	-1.34	-0.10%
22-Jun-18	0.6030	1192.28	1190.74	1.54	0.13%
19-Dec-17	0.6160	1214.31	1213.16	1.15	0.09%
20-Mar-19	0.5920	1238.74	1237.69	1.05	0.08%
10-Sep-19	0.8780	1228.46	1229.51	-1.06	-0.09%
10-Sep-19	0.8780	1228.46	1229.51	-1.06	-0.09%
11-Feb-20	0.8910	1315.37	1316.18	-0.81	-0.06%
2-Aug-19	0.5080	1238.90	1238.88	0.02	0.00%
26-Feb-19	0.5630	1181.38	1180.92	0.46	0.04%
26-Feb-19	0.5650	1183.54	1183.00	0.54	0.05%
10-Sep-19	0.8500	1273.71	1274.92	-1.21	-0.10%
30-Nov-17	0.5310	1234.67	1234.12	0.55	0.04%
24-Jun-19	0.7070	1177.39	1176.94	0.45	0.04%

24-Jun-19	0.7070	1177.39	1176.94	0.45	0.04%
5-Aug-19	0.7060	1150.53	1149.82	0.71	0.06%
5-Aug-19	0.7060	1150.53	1149.82	0.71	0.06%
1-May-19	0.5460	1089.69	1088.91	0.78	0.07%
18-Jul-19	0.6640	1316.33	1315.25	1.08	0.08%
2-Aug-19	0.5090	1239.49	1239.46	0.03	0.00%
20-Jun-18	0.4670	1186.51	1185.50	1.02	0.09%
27-Aug-18	0.6550	1348.18	1348.16	0.02	0.00%
27-Jun-19	0.5690	1202.71	1202.07	0.64	0.05%
23-Apr-19	0.5740	1212.05	1212.30	-0.25	-0.02%
31-May-19	0.5880	1311.40	1311.18	0.22	0.02%
31-May-19	0.5880	1311.20	1310.97	0.22	0.02%
30-Nov-17	0.5540	1239.64	1238.75	0.89	0.07%
22-Aug-19	0.6710	1306.84	1307.00	-0.16	-0.01%
16-Jul-19	0.5950	1326.42	1326.28	0.14	0.01%
11-Mar-19	0.7880	1306.71	1306.96	-0.25	-0.02%
22-Aug-19	0.7890	1309.34	1309.59	-0.26	-0.02%
1-Feb-20	0.6020	1334.60	1334.65	-0.05	0.00%
22-Aug-19	0.7900	1311.33	1311.59	-0.26	-0.02%
22-Aug-19	0.7890	1309.27	1309.53	-0.26	-0.02%
21-Nov-19	0.9390	1301.48	1302.47	-1.00	-0.08%
21-Nov-19	0.9360	1297.03	1298.01	-0.98	-0.08%
24-Jul-18	1.2030	1422.57	1424.12	-1.54	-0.11%
3-Jul-18	0.6100	1278.91	1279.47	-0.56	-0.04%
11-May-20	0.9500	1356.56	1357.13	-0.57	-0.04%
11-May-20	0.9500	1356.56	1357.13	-0.57	-0.04%
12-May-20	0.8600	1353.62	1353.97	-0.35	-0.03%
16-Dec-19	0.9670	1342.78	1344.43	-1.65	-0.12%
16-Dec-19	0.9670	1342.78	1344.43	-1.65	-0.12%
25-Feb-20	0.6610	1158.52	1158.10	0.42	0.04%
31-Dec-19	0.8280	1183.25	1184.07	-0.82	-0.07%
8-Sep-17	0.5470	1185.21	1184.53	0.68	0.06%
15-Aug-19	0.6010	1317.55	1317.37	0.18	0.01%
15-Aug-19	0.6010	1317.61	1317.43	0.18	0.01%
23-Jul-19	0.5210	1302.25	1302.18	0.07	0.01%
18-Mar-19	0.5640	1209.35	1208.86	0.49	0.04%
21-Dec-18	0.5100	1180.80	1180.17	0.64	0.05%
22-Aug-19	0.6720	1307.18	1307.33	-0.15	-0.01%
22-Aug-19	0.7920	1313.58	1313.84	-0.26	-0.02%
22-Aug-19	0.7920	1315.56	1315.81	-0.26	-0.02%
22-Aug-19	0.7920	1314.48	1314.74	-0.26	-0.02%
11-Mar-19	0.9220	1318.81	1319.37	-0.56	-0.04%
10-Jun-19	0.8960	1362.27	1363.34	-1.07	-0.08%
25-May-19	0.8670	1349.52	1349.88	-0.36	-0.03%
25-May-19	0.8650	1346.18	1346.53	-0.36	-0.03%
18-Feb-19	0.8820	1393.26	1393.72	-0.46	-0.03%
18-Feb-19	0.8820	1393.26	1393.72	-0.46	-0.03%
18-Feb-19	0.8820	1393.26	1393.72	-0.46	-0.03%
18-Feb-19	0.8820	1393.26	1393.72	-0.46	-0.03%
7-Jan-20	0.6760	1195.11	1195.12	-0.02	0.00%
15-May-19	0.7190	1175.86	1175.78	0.08	0.01%
16-Apr-20	0.7670	1208.73	1208.95	-0.22	-0.02%
27-Jan-20	0.7660	1167.76	1167.91	-0.15	-0.01%
24-Oct-19	0.4980	1105.69	1104.47	1.21	0.11%
24-Oct-19	0.4980	1105.69	1104.47	1.21	0.11%
20-Aug-19	0.6910	1149.90	1148.97	0.93	0.08%
20-Aug-19	0.6910	1149.90	1148.97	0.93	0.08%

13-Jun-19	0.5780	1367.51	1367.20	0.31	0.02%
14-May-20	0.9810	1338.44	1339.72	-1.29	-0.10%
19-Nov-19	0.7800	1218.69	1219.63	-0.94	-0.08%
25-Jun-19	0.5710	1349.78	1349.30	0.48	0.04%
25-Jun-19	0.5710	1348.60	1348.12	0.48	0.04%
25-Jun-19	0.5710	1349.64	1349.16	0.48	0.04%
25-Jun-19	0.5710	1348.60	1348.12	0.48	0.04%
18-Mar-20	0.9860	1255.77	1257.04	-1.27	-0.10%
21-Aug-17	0.7610	1202.47	1202.96	-0.49	-0.04%
18-Mar-19	0.5560	1208.48	1207.63	0.85	0.07%
17-Oct-18	0.6500	1173.18	1173.76	-0.58	-0.05%
25-Feb-20	0.9880	1266.07	1267.51	-1.44	-0.11%
5-Jan-20	1.1930	1270.10	1268.65	1.45	0.11%
11-Nov-19	0.9950	1418.12	1419.75	-1.63	-0.11%
11-Nov-19	0.9950	1418.12	1419.75	-1.63	-0.11%
19-Feb-20	0.7240	1179.14	1178.89	0.25	0.02%
20-Jun-19	0.6160	1123.59	1122.36	1.24	0.11%
20-Jun-19	0.6160	1123.59	1122.36	1.24	0.11%
5-Aug-19	0.7140	1141.57	1141.07	0.49	0.04%
5-Aug-19	0.7140	1141.57	1141.07	0.49	0.04%
18-Jun-20	0.7810	1158.04	1158.09	-0.05	0.00%
23-Sep-19	0.7200	1229.18	1229.69	-0.51	-0.04%
23-Sep-19	0.7200	1229.18	1229.69	-0.51	-0.04%
23-May-19	0.6630	1352.92	1353.64	-0.72	-0.05%
27-Jul-19	0.6830	1253.37	1253.77	-0.40	-0.03%
23-Jul-18	0.6100	1286.26	1286.31	-0.05	0.00%
5-Jul-19	0.7230	1297.92	1298.14	-0.22	-0.02%
5-Jul-19	0.7230	1297.66	1297.89	-0.22	-0.02%
18-Jul-18	0.6450	1226.28	1226.31	-0.03	0.00%
14-Nov-19	0.6680	1337.28	1337.44	-0.16	-0.01%
14-Nov-19	0.6680	1337.28	1337.44	-0.16	-0.01%
18-Apr-19	0.9030	1306.83	1306.78	0.05	0.00%
18-Apr-19	1.9460	1922.96	1928.03	-5.06	-0.26%
18-May-18	0.4300	1160.60	1159.74	0.86	0.07%
16-May-19	0.6880	1133.95	1132.95	1.00	0.09%
26-Nov-19	0.6630	1154.05	1152.57	1.48	0.13%
26-Nov-19	0.6630	1154.05	1152.57	1.48	0.13%
26-Apr-17	0.4850	1140.02	1139.83	0.19	0.02%
27-Jun-19	1.0160	1297.73	1299.09	-1.36	-0.10%
1-Mar-19	0.6120	1309.57	1308.17	1.40	0.11%
1-Mar-19	0.6120	1309.37	1307.96	1.40	0.11%
8-Jan-19	0.5680	1375.98	1375.86	0.12	0.01%
8-Jan-19	0.5680	1375.98	1375.86	0.12	0.01%
10-Jun-19	0.6520	1290.90	1289.71	1.19	0.09%
10-Jun-19	0.6520	1290.90	1289.71	1.19	0.09%
21-Feb-19	0.7120	1366.85	1367.48	-0.63	-0.05%
16-May-19	0.7580	1279.02	1278.66	0.36	0.03%
29-Jul-19	0.5680	1197.42	1196.18	1.25	0.10%
29-Jul-19	0.5680	1194.98	1193.73	1.25	0.10%
27-Jul-19	0.6860	1257.63	1258.04	-0.40	-0.03%
15-Jan-20	0.8580	1318.39	1318.94	-0.55	-0.04%
15-Jan-20	0.8580	1318.39	1318.94	-0.55	-0.04%
12-Jan-20	1.0020	1364.79	1366.21	-1.41	-0.10%
19-Mar-19	0.9640	1409.84	1410.91	-1.06	-0.08%
24-Mar-20	1.0330	1406.08	1407.15	-1.07	-0.08%
24-Mar-20	1.0330	1406.08	1407.15	-1.07	-0.08%
24-Mar-20	1.0330	1406.08	1407.15	-1.07	-0.08%

26-Feb-20	0.8940	1368.86	1370.00	-1.13	-0.08%
27-Mar-19	0.7140	1148.57	1147.12	1.44	0.13%
16-Jun-20	0.7230	1171.42	1170.68	0.74	0.06%
17-Jun-19	0.7280	1125.32	1125.14	0.17	0.02%
17-Jun-19	0.7280	1125.32	1125.14	0.17	0.02%
23-Jan-20	0.6360	1132.93	1132.61	0.32	0.03%
29-Jan-19	0.5930	1180.81	1179.33	1.47	0.12%
10-Apr-18	0.5640	1277.07	1276.47	0.60	0.05%
27-May-20	0.7040	1212.62	1213.41	-0.79	-0.07%
27-Feb-19	0.5590	1327.71	1327.87	-0.16	-0.01%
27-Dec-18	0.5430	1181.64	1180.04	1.59	0.13%
15-Jul-19	0.5040	1345.69	1345.21	0.47	0.04%
22-Apr-19	0.6860	1276.51	1276.63	-0.11	-0.01%
15-Jan-20	0.8620	1324.91	1325.47	-0.56	-0.04%
14-Jul-19	0.8540	1349.42	1349.42	-0.01	0.00%
26-Feb-20	0.9010	1380.79	1381.94	-1.15	-0.08%
26-Mar-19	0.6470	1136.26	1135.83	0.43	0.04%
24-Jun-19	0.7680	1183.23	1182.27	0.96	0.08%
24-Jun-19	0.7680	1183.23	1182.27	0.96	0.08%
12-Mar-20	0.7770	1193.19	1192.77	0.42	0.04%
8-Jul-19	0.7450	1161.79	1160.75	1.04	0.09%
8-Jul-19	0.7450	1161.79	1160.75	1.04	0.09%
19-Nov-19	0.7780	1209.01	1209.80	-0.79	-0.07%
10-Jan-19	0.6230	1262.21	1261.79	0.42	0.03%
9-Jan-19	0.5950	1183.93	1184.03	-0.10	-0.01%
16-Aug-19	0.5800	1224.03	1224.00	0.03	0.00%
16-Aug-19	0.5800	1224.03	1224.00	0.03	0.00%
16-Oct-17	0.6920	1251.15	1251.03	0.13	0.01%
10-Jul-19	0.6120	1212.26	1211.33	0.93	0.08%
10-Jul-19	0.6110	1208.37	1207.44	0.93	0.08%
15-Apr-19	0.5970	1235.98	1235.62	0.36	0.03%
31-Jan-19	0.5430	1157.76	1156.82	0.94	0.08%
9-Aug-19	0.9490	1320.60	1321.18	-0.58	-0.04%
9-Aug-19	0.9470	1317.79	1318.37	-0.58	-0.04%
4-Mar-20	0.9830	1381.84	1382.95	-1.11	-0.08%
24-Jul-18	1.4120	1449.18	1451.71	-2.52	-0.17%
11-Jun-19	1.0260	1282.72	1284.49	-1.77	-0.14%
9-Aug-19	0.6190	1344.33	1344.47	-0.14	-0.01%
30-Oct-19	0.9280	1314.99	1316.33	-1.34	-0.10%
14-Apr-20	0.8000	1334.34	1334.62	-0.28	-0.02%
14-Apr-20	0.8000	1334.35	1334.63	-0.28	-0.02%
31-Jan-18	0.5400	1277.08	1276.04	1.04	0.08%
11-Mar-19	0.9530	1325.60	1326.19	-0.58	-0.04%
9-Aug-19	0.9550	1328.96	1329.55	-0.59	-0.04%
14-May-19	1.0800	1520.22	1522.15	-1.92	-0.13%
19-Apr-19	1.0790	1295.41	1296.62	-1.21	-0.09%
26-Mar-20	0.9570	1363.47	1364.35	-0.88	-0.06%
24-Jun-19	0.7290	1161.66	1160.56	1.11	0.10%
24-Jun-19	0.7290	1161.66	1160.56	1.11	0.10%
1-Nov-19	0.7290	1172.10	1171.68	0.42	0.04%
1-Oct-19	0.7290	1172.10	1171.68	0.42	0.04%
1-Sep-19	0.7290	1172.10	1171.68	0.42	0.04%
18-Jun-19	0.7290	1172.08	1171.65	0.42	0.04%
1-Feb-20	0.7290	1172.10	1171.68	0.42	0.04%
1-Dec-19	0.7290	1172.10	1171.68	0.42	0.04%
22-Oct-19	0.7390	1157.17	1156.49	0.68	0.06%
15-Mar-19	0.5810	1202.41	1201.77	0.64	0.05%

27-Mar-19	0.7930	1191.12	1190.37	0.76	0.06%
27-Mar-19	0.7930	1191.12	1190.37	0.76	0.06%
9-Apr-19	0.6010	1400.30	1400.48	-0.18	-0.01%
9-Apr-19	0.6010	1399.94	1400.12	-0.18	-0.01%
27-Nov-18	0.6140	1326.87	1326.78	0.08	0.01%
21-May-20	1.0300	1302.90	1304.46	-1.56	-0.12%
21-May-20	1.0300	1302.87	1304.43	-1.56	-0.12%
25-Oct-18	0.6930	1326.30	1326.02	0.29	0.02%
25-Nov-19	0.8520	1193.55	1194.35	-0.80	-0.07%
20-Apr-18	0.5640	1185.35	1184.56	0.79	0.07%
17-Jul-19	0.7170	1222.07	1221.71	0.36	0.03%
9-Aug-19	0.9570	1332.38	1332.97	-0.59	-0.04%
9-Aug-19	0.9580	1333.75	1334.35	-0.60	-0.04%
10-Oct-19	0.9580	1333.87	1334.46	-0.60	-0.04%
9-Aug-19	0.9580	1333.97	1334.56	-0.60	-0.04%
15-May-19	1.1670	1487.04	1489.39	-2.35	-0.16%
25-Jun-19	0.8310	1190.09	1190.22	-0.13	-0.01%
25-Jun-19	0.8310	1190.09	1190.22	-0.13	-0.01%
26-Jul-18	0.8980	1258.17	1258.51	-0.33	-0.03%
14-Oct-19	0.5780	1120.88	1120.39	0.49	0.04%
14-Oct-19	0.5780	1120.88	1120.39	0.49	0.04%
23-Apr-19	0.5890	1370.37	1369.73	0.64	0.05%
23-Apr-19	0.5890	1369.81	1369.17	0.64	0.05%
12-Mar-19	0.5710	1300.98	1300.27	0.71	0.05%
12-Mar-19	0.5710	1300.98	1300.27	0.71	0.05%
15-Nov-19	0.8040	1228.15	1228.84	-0.69	-0.06%
22-May-19	0.6080	1325.03	1324.64	0.40	0.03%
22-May-19	0.6080	1325.31	1324.92	0.40	0.03%
24-Mar-20	0.9630	1337.62	1339.13	-1.52	-0.11%
24-Mar-20	0.9630	1337.66	1339.18	-1.52	-0.11%
21-May-19	0.6740	1330.82	1329.95	0.88	0.07%
21-May-19	0.6740	1330.82	1329.95	0.88	0.07%
28-Jun-17	0.7210	1300.73	1301.14	-0.42	-0.03%
25-Nov-19	0.8540	1196.02	1196.82	-0.80	-0.07%
31-Aug-17	0.8550	1392.77	1392.67	0.10	0.01%
16-Apr-19	0.6820	1255.07	1255.14	-0.08	-0.01%
17-Jul-19	0.7210	1226.48	1226.11	0.37	0.03%
14-May-19	1.0880	1335.44	1335.70	-0.26	-0.02%
1-May-19	1.0750	1538.05	1538.41	-0.36	-0.02%
9-Mar-20	0.9110	1405.20	1405.57	-0.37	-0.03%
26-May-20	0.7620	1153.23	1152.27	0.96	0.08%
7-Jun-19	0.7490	1159.33	1158.60	0.73	0.06%
28-Oct-19	0.9870	1352.51	1354.05	-1.54	-0.11%
13-Mar-20	0.9600	1373.80	1375.33	-1.52	-0.11%
13-May-19	0.6300	1280.18	1279.79	0.39	0.03%
18-Mar-20	0.8710	1389.18	1389.77	-0.59	-0.04%
22-May-19	0.6190	1297.83	1297.63	0.19	0.01%
29-May-18	0.6160	1272.28	1271.43	0.85	0.07%
27-Mar-18	0.5870	1188.99	1188.82	0.16	0.01%
27-Mar-18	0.5870	1187.67	1187.50	0.16	0.01%
10-Jul-18	0.7050	1184.38	1184.21	0.17	0.01%
11-Mar-19	1.1800	1453.81	1456.22	-2.41	-0.17%
11-Mar-19	1.1800	1453.81	1456.22	-2.41	-0.17%
6-Dec-19	1.0580	1427.95	1429.82	-1.87	-0.13%
16-Jun-20	0.8020	1191.34	1190.53	0.81	0.07%
10-Jun-20	0.7840	1198.13	1197.59	0.55	0.05%
24-Jul-19	0.7690	1139.63	1138.03	1.59	0.14%

24-Jul-19	0.7690	1139.63	1138.03	1.59	0.14%
11-Sep-19	0.7150	1163.20	1161.78	1.42	0.12%
11-Sep-19	0.7150	1163.20	1161.78	1.42	0.12%
25-Jun-19	0.6100	1309.64	1309.41	0.23	0.02%
25-Jun-19	0.6100	1308.93	1308.70	0.23	0.02%
11-Sep-19	0.9740	1424.29	1425.89	-1.60	-0.11%
14-Jun-18	0.6460	1246.53	1245.98	0.55	0.04%
29-Jun-18	0.6130	1191.65	1190.71	0.95	0.08%
27-Feb-19	0.5530	1270.66	1270.29	0.37	0.03%
14-Sep-19	0.9680	1461.35	1461.88	-0.53	-0.04%
14-Sep-19	0.9680	1460.06	1460.59	-0.53	-0.04%
10-Sep-19	1.2000	1409.36	1410.91	-1.55	-0.11%
10-Sep-19	1.2000	1409.36	1410.91	-1.55	-0.11%
26-Nov-19	0.8130	1305.29	1305.03	0.26	0.02%
26-Nov-19	0.8130	1305.29	1305.03	0.26	0.02%
17-Jul-19	0.6890	1151.99	1151.53	0.46	0.04%
17-Jul-19	0.6890	1151.99	1151.53	0.46	0.04%
20-Jun-17	0.5920	1196.87	1195.69	1.18	0.10%
11-Sep-19	0.9760	1427.28	1428.88	-1.60	-0.11%
31-Jan-19	0.6430	1303.55	1303.59	-0.03	0.00%
31-Jan-19	0.6430	1302.80	1302.83	-0.03	0.00%
20-Jun-18	0.5830	1345.41	1345.56	-0.16	-0.01%
13-Jun-19	0.5490	1198.59	1197.61	0.98	0.08%
9-Jul-19	0.6980	1217.62	1217.90	-0.28	-0.02%
29-Jun-18	0.6270	1193.24	1192.27	0.97	0.08%
18-Apr-19	0.6500	1222.98	1223.11	-0.13	-0.01%
23-Oct-19	0.8510	1333.43	1334.15	-0.72	-0.05%
23-Oct-19	0.8510	1333.43	1334.15	-0.72	-0.05%
23-Oct-19	0.8510	1333.43	1334.15	-0.72	-0.05%
30-May-19	0.5750	1328.14	1327.53	0.61	0.05%
16-May-20	0.9010	1332.12	1332.78	-0.66	-0.05%
11-Sep-19	0.9960	1363.10	1364.00	-0.89	-0.07%
11-Sep-19	0.9960	1363.10	1364.00	-0.89	-0.07%
4-Feb-20	0.9250	1359.71	1360.52	-0.81	-0.06%
29-May-19	0.9710	1361.41	1361.89	-0.48	-0.04%
29-May-19	0.9710	1361.41	1361.89	-0.48	-0.04%
26-May-19	0.8140	1305.31	1305.05	0.27	0.02%
26-May-19	0.8140	1305.31	1305.05	0.27	0.02%
28-May-19	0.7830	1214.50	1214.10	0.40	0.03%
6-Feb-20	0.5430	1179.26	1178.58	0.68	0.06%
14-May-20	0.7870	1221.13	1220.70	0.43	0.04%
26-Jun-19	0.5980	1196.79	1195.58	1.21	0.10%
10-Sep-19	0.6600	1220.03	1220.43	-0.40	-0.03%
10-Sep-19	0.6600	1220.03	1220.43	-0.40	-0.03%
9-Jul-19	0.7020	1221.34	1221.61	-0.27	-0.02%
23-Apr-19	0.6150	1213.48	1212.55	0.93	0.08%
10-Nov-19	0.9560	1396.21	1397.74	-1.53	-0.11%
10-Nov-19	0.9560	1396.21	1397.74	-1.53	-0.11%
6-Jan-19	1.0140	1354.11	1355.06	-0.95	-0.07%
17-Jan-19	2.4940	1365.57	1373.32	-7.75	-0.57%
4-Apr-19	0.7460	1157.41	1158.58	-1.17	-0.10%
4-Apr-19	0.7460	1157.41	1158.58	-1.17	-0.10%
12-Nov-19	0.6310	1390.63	1390.48	0.16	0.01%
11-Jul-18	0.7150	1297.61	1296.09	1.52	0.12%
26-Mar-19	0.5300	1175.71	1175.23	0.48	0.04%
29-Jun-18	0.6170	1188.95	1188.01	0.95	0.08%
11-Feb-20	1.1370	1320.17	1321.92	-1.74	-0.13%

2-Apr-20	1.1190	1603.85	1605.95	-2.09	-0.13%
30-Apr-19	1.0870	1391.38	1393.04	-1.66	-0.12%
18-Feb-19	1.3730	1458.08	1461.46	-3.37	-0.23%
18-Feb-19	1.3730	1458.08	1461.46	-3.37	-0.23%
18-Feb-19	1.3730	1458.08	1461.46	-3.37	-0.23%
18-Feb-19	1.3730	1458.08	1461.46	-3.37	-0.23%
12-Mar-20	0.8170	1192.12	1191.44	0.68	0.06%
20-Mar-19	0.8580	1260.45	1260.42	0.03	0.00%
20-Mar-19	0.8580	1260.45	1260.42	0.03	0.00%
25-Jun-19	0.5960	1206.56	1205.34	1.22	0.10%
29-Jan-19	0.6190	1183.75	1182.07	1.68	0.14%
21-Jan-20	1.2050	1270.45	1271.83	-1.38	-0.11%
8-Sep-17	0.6040	1192.69	1191.56	1.13	0.09%
26-Feb-19	0.6080	1179.86	1179.38	0.48	0.04%
25-Jan-18	0.5910	1192.29	1191.14	1.14	0.10%
24-Apr-19	0.7340	1338.57	1338.66	-0.09	-0.01%
19-Aug-19	0.7050	1364.42	1364.63	-0.22	-0.02%
22-Jul-19	1.0010	1330.27	1329.62	0.65	0.05%
11-Jun-19	1.0100	1279.18	1279.26	-0.08	-0.01%
12-Mar-19	1.0620	1397.37	1398.88	-1.52	-0.11%
19-Jan-20	1.5940	1362.21	1366.19	-3.98	-0.29%
2-Jan-20	0.9600	1450.51	1451.08	-0.57	-0.04%
12-Nov-19	0.9200	1364.65	1364.65	0.00	0.00%
18-Jul-19	0.8080	1188.38	1188.56	-0.17	-0.01%
18-Jul-19	0.8080	1188.38	1188.56	-0.17	-0.01%
25-Jun-19	0.8430	1231.39	1231.48	-0.09	-0.01%
25-Jun-19	0.8430	1231.39	1231.48	-0.09	-0.01%
25-Jun-19	0.8430	1231.39	1231.48	-0.09	-0.01%
24-Jun-19	0.5950	1200.57	1199.39	1.18	0.10%
21-Mar-19	0.5700	1173.93	1172.99	0.94	0.08%
21-Mar-19	0.5700	1173.31	1172.37	0.94	0.08%
27-Oct-17	0.5600	1162.91	1162.18	0.73	0.06%
25-Sep-19	1.0230	1348.26	1349.41	-1.15	-0.09%
25-Sep-19	1.0200	1343.71	1344.85	-1.14	-0.08%
25-Jan-18	0.5930	1188.91	1187.88	1.03	0.09%
8-Oct-18	0.6620	1263.02	1262.59	0.43	0.03%
1-May-20	0.6390	1348.50	1348.49	0.00	0.00%
1-Apr-20	0.6400	1340.96	1340.96	0.00	0.00%
26-Dec-19	0.9150	1422.60	1423.07	-0.47	-0.03%
26-Dec-19	0.9140	1420.62	1421.09	-0.47	-0.03%
11-Nov-19	0.9650	1397.21	1397.93	-0.72	-0.05%
11-Nov-19	0.9650	1397.21	1397.93	-0.72	-0.05%
26-Mar-19	1.2410	1533.51	1535.38	-1.87	-0.12%
27-Mar-19	1.2840	1491.01	1493.95	-2.94	-0.20%
27-Mar-19	1.2840	1491.01	1493.95	-2.94	-0.20%
6-Oct-18	0.9010	1374.49	1375.19	-0.70	-0.05%
10-Jan-19	1.1980	1448.45	1448.87	-0.42	-0.03%
16-Dec-19	0.9380	1386.29	1386.99	-0.70	-0.05%
18-Jul-19	0.7820	1212.56	1212.70	-0.14	-0.01%
24-Jun-19	0.7680	1166.79	1165.47	1.32	0.11%
24-Jun-19	0.7680	1166.79	1165.47	1.32	0.11%
16-Jun-20	0.7840	1191.64	1191.13	0.51	0.04%
25-Jul-19	0.8410	1222.03	1221.71	0.32	0.03%
25-Jul-19	0.8420	1222.87	1222.54	0.33	0.03%
25-Jul-19	0.8400	1220.85	1220.53	0.32	0.03%
25-Jul-19	0.8400	1220.85	1220.53	0.32	0.03%
28-Apr-20	0.8330	1175.66	1175.10	0.56	0.05%

19-Jul-19	0.6210	1178.65	1176.89	1.76	0.15%
19-Jul-19	0.6210	1178.90	1177.14	1.76	0.15%
18-Jul-19	0.6150	1176.01	1174.46	1.55	0.13%
18-Jul-19	0.6150	1175.84	1174.29	1.55	0.13%
18-Jul-19	0.6140	1175.67	1174.14	1.54	0.13%
27-Nov-18	0.6350	1195.75	1195.31	0.45	0.04%
28-Mar-18	0.6160	1200.56	1200.44	0.12	0.01%
16-Oct-18	0.6530	1340.55	1339.74	0.81	0.06%
16-Oct-18	0.6530	1340.90	1340.09	0.81	0.06%
15-May-19	0.8460	1340.69	1341.27	-0.59	-0.04%
26-Dec-19	0.9190	1428.96	1429.44	-0.48	-0.03%
21-Nov-19	0.8920	1275.61	1276.27	-0.66	-0.05%
6-Dec-19	1.0700	1346.96	1348.31	-1.35	-0.10%
6-May-20	0.9760	1372.99	1373.73	-0.74	-0.05%
1-Feb-19	1.0680	1303.46	1304.10	-0.64	-0.05%
24-Jul-18	1.3430	1341.63	1342.80	-1.17	-0.09%
4-Jun-19	1.9530	1415.73	1420.94	-5.21	-0.37%
12-Nov-19	0.9290	1379.31	1379.32	0.00	0.00%
21-Mar-17	0.7830	1147.13	1146.95	0.19	0.02%
27-Jun-19	0.6240	1249.12	1248.00	1.12	0.09%
24-Oct-19	0.8600	1202.85	1203.25	-0.40	-0.03%
24-Oct-19	0.8580	1200.03	1200.42	-0.40	-0.03%
26-Feb-18	0.6140	1221.17	1220.27	0.90	0.07%
15-Feb-19	0.6450	1425.05	1425.32	-0.26	-0.02%
11-Jun-19	0.7800	1269.83	1270.82	-0.99	-0.08%
14-Aug-19	0.8160	1308.06	1309.00	-0.94	-0.07%
14-Aug-19	0.8160	1308.10	1309.04	-0.94	-0.07%
28-Feb-19	0.5910	1198.48	1197.62	0.86	0.07%
21-Nov-18	0.7240	1225.00	1225.63	-0.63	-0.05%
13-Aug-19	0.7230	1286.48	1286.53	-0.05	0.00%
12-Dec-18	0.5810	1115.24	1115.76	-0.52	-0.05%
	0.9260	1437.70	1438.16	-0.46	-0.03%
16-Aug-19	0.9550	1439.32	1440.27	-0.95	-0.07%
5-Sep-19	1.0990	1315.78	1315.31	0.47	0.04%
27-Jun-19	0.6420	1230.23	1229.13	1.10	0.09%
12-Nov-19	0.9750	1323.44	1323.78	-0.34	-0.03%
12-Nov-19	0.9760	1323.52	1323.86	-0.34	-0.03%
28-May-19	0.6010	1331.14	1330.42	0.72	0.05%
28-May-19	0.6000	1329.27	1328.55	0.73	0.05%
28-May-19	0.6010	1331.31	1330.59	0.72	0.05%
28-May-19	0.6000	1329.18	1328.46	0.73	0.05%
29-Dec-17	0.5370	1157.45	1156.30	1.15	0.10%
23-Aug-19	1.0030	1271.34	1272.56	-1.22	-0.10%
1-Mar-20	0.6490	1338.39	1338.38	0.00	0.00%
11-Nov-19	0.9770	1345.87	1346.93	-1.07	-0.08%
11-Nov-19	0.9770	1345.87	1346.93	-1.07	-0.08%
5-Aug-19	0.8180	1273.46	1273.08	0.38	0.03%
8-May-19	1.0120	1353.23	1355.04	-1.81	-0.13%
9-May-19	0.8210	1201.48	1201.81	-0.33	-0.03%
19-Mar-20	1.5000	1472.75	1476.56	-3.81	-0.26%
1-Feb-19	1.0640	1392.83	1393.93	-1.10	-0.08%
6-Jun-19	1.0210	1387.33	1387.94	-0.61	-0.04%
24-Sep-19	0.8490	1202.10	1201.39	0.71	0.06%
29-Jan-19	0.6430	1177.79	1175.79	2.00	0.17%
24-Jun-19	0.6120	1225.01	1223.63	1.38	0.11%
1-Mar-19	0.6510	1331.23	1330.37	0.85	0.06%
1-Mar-19	0.6500	1328.97	1328.11	0.86	0.06%

1-Mar-19	0.6510	1331.13	1330.28	0.85	0.06%
1-Mar-19	0.6500	1328.86	1328.00	0.86	0.06%
14-May-19	0.7550	1283.75	1283.53	0.23	0.02%
15-Feb-18	0.9510	1253.57	1253.51	0.06	0.00%
23-May-18	0.8710	1419.21	1418.50	0.71	0.05%
1-Jun-17	0.5340	1407.35	1407.25	0.10	0.01%
9-May-19	0.8260	1209.84	1210.18	-0.34	-0.03%
14-Sep-19	1.0450	1375.93	1376.96	-1.04	-0.08%
7-Jan-20	1.0580	1357.24	1358.92	-1.68	-0.12%
8-Jul-19	1.2590	1413.58	1416.15	-2.57	-0.18%
17-Jun-20	1.2840	1416.27	1418.34	-2.07	-0.15%
20-Jun-19	0.7280	1123.60	1123.15	0.46	0.04%
25-Jun-19	0.6220	1192.40	1191.31	1.09	0.09%
26-Sep-19	1.0330	1350.02	1350.91	-0.89	-0.07%
26-Sep-19	1.0330	1350.46	1351.35	-0.89	-0.07%
26-Sep-19	1.0330	1350.03	1350.92	-0.89	-0.07%
26-Sep-19	1.0330	1350.39	1351.28	-0.89	-0.07%
19-May-20	1.0000	1367.02	1367.61	-0.59	-0.04%
19-May-20	1.0000	1367.02	1367.61	-0.59	-0.04%
16-Jan-20	1.0130	1370.66	1372.05	-1.40	-0.10%
12-Sep-19	1.5230	1271.72	1274.04	-2.33	-0.18%
24-Mar-20	1.0840	1415.65	1416.82	-1.17	-0.08%
8-Jan-20	1.0680	1356.57	1358.40	-1.83	-0.13%
19-Nov-19	1.0440	1494.84	1495.54	-0.70	-0.05%
19-Jul-19	0.6480	1171.48	1169.90	1.58	0.13%
31-Jan-19	0.7060	1250.76	1250.42	0.34	0.03%
12-Jun-19	0.7240	1293.33	1292.62	0.72	0.06%
12-Jun-19	0.7220	1290.95	1290.24	0.71	0.05%
5-Apr-18	0.6470	1312.88	1312.59	0.29	0.02%
14-May-19	0.6250	1277.87	1276.55	1.32	0.10%
23-Mar-18	0.5850	1204.50	1203.65	0.85	0.07%
23-Feb-18	0.6090	1264.39	1263.37	1.02	0.08%
12-Jul-18	0.5390	1139.73	1139.53	0.20	0.02%
8-Jan-19	1.1270	1386.42	1387.91	-1.50	-0.11%
13-Jan-20	1.1180	1378.49	1380.23	-1.74	-0.13%
10-Sep-19	1.1980	1409.75	1411.46	-1.71	-0.12%
10-Jan-19	1.0190	1374.95	1375.87	-0.91	-0.07%
10-Jan-19	1.0190	1374.95	1375.87	-0.91	-0.07%
19-Nov-19	1.0480	1499.47	1500.16	-0.69	-0.05%
11-May-20	0.9560	1401.36	1401.62	-0.26	-0.02%
28-May-19	0.7100	1130.50	1129.12	1.38	0.12%
19-Jul-19	0.6500	1175.88	1174.30	1.58	0.13%
18-Jul-19	0.6510	1176.26	1174.60	1.66	0.14%
18-Jul-19	0.6510	1176.23	1174.57	1.66	0.14%
14-Aug-19	0.6680	1281.51	1281.07	0.43	0.03%
14-Aug-19	0.6690	1284.26	1283.82	0.45	0.03%
9-Apr-20	1.1960	1285.07	1287.32	-2.25	-0.18%
27-May-20	1.0930	1321.01	1321.72	-0.71	-0.05%
14-Aug-19	0.6850	1257.06	1256.66	0.40	0.03%
12-Apr-19	0.7100	1204.17	1204.97	-0.80	-0.07%
1-Apr-20	0.9490	1373.65	1374.47	-0.82	-0.06%
22-Oct-19	0.8550	1354.12	1353.91	0.21	0.02%
21-Jan-20	0.9700	1401.31	1400.98	0.33	0.02%
20-Mar-19	0.8770	1136.56	1133.82	2.74	0.24%
10-Jun-20	0.7980	1198.87	1198.63	0.24	0.02%
27-Jun-19	0.6380	1255.93	1254.83	1.10	0.09%
11-Jun-19	0.6800	1362.76	1362.56	0.20	0.01%

13-Feb-20	0.9990	1344.82	1346.38	-1.56	-0.12%
13-Feb-20	0.9990	1345.02	1346.58	-1.56	-0.12%
14-May-19	0.6740	1337.27	1336.98	0.29	0.02%
14-May-19	0.6740	1337.35	1337.06	0.29	0.02%
14-May-19	0.6050	1254.16	1252.54	1.62	0.13%
25-Nov-19	0.9670	1201.07	1202.34	-1.27	-0.11%
25-Nov-19	0.9660	1198.34	1199.61	-1.27	-0.11%
23-Apr-20	1.0370	1344.85	1345.98	-1.13	-0.08%
21-Jan-20	0.9750	1408.34	1408.03	0.32	0.02%
16-Dec-19	0.9480	1382.13	1382.89	-0.76	-0.05%
16-Dec-19	0.9480	1381.98	1382.74	-0.76	-0.05%
29-May-19	0.9060	1196.46	1196.01	0.45	0.04%
29-May-19	0.9050	1194.39	1193.94	0.45	0.04%
29-May-19	0.9050	1194.39	1193.94	0.45	0.04%
24-Jul-19	0.7590	1175.14	1174.97	0.16	0.01%
24-Jul-19	0.7590	1175.14	1174.97	0.16	0.01%
18-Jul-19	0.6470	1175.37	1173.52	1.85	0.16%
30-May-19	0.6150	1350.87	1350.00	0.87	0.06%
30-May-19	0.6150	1350.89	1350.03	0.87	0.06%
23-Apr-20	1.0260	1358.22	1359.64	-1.42	-0.10%
23-Apr-20	1.0260	1358.22	1359.64	-1.42	-0.10%
26-Sep-18	0.6280	1340.01	1338.96	1.05	0.08%
26-Sep-18	0.6280	1339.50	1338.45	1.05	0.08%
15-Mar-18	0.6690	1343.91	1342.84	1.07	0.08%
13-Feb-19	1.2200	1548.64	1550.80	-2.15	-0.14%
13-Feb-19	1.2200	1548.64	1550.80	-2.15	-0.14%
15-Mar-20	2.1870	1541.60	1548.09	-6.48	-0.42%
10-Jul-19	1.0780	1421.53	1423.23	-1.70	-0.12%
23-Apr-20	1.0270	1309.12	1309.15	-0.03	0.00%
10-Dec-19	0.9240	1196.65	1196.27	0.38	0.03%
29-May-19	0.9110	1201.69	1201.23	0.45	0.04%
7-May-19	0.8090	1173.19	1172.59	0.60	0.05%
21-May-19	0.7060	1081.76	1078.86	2.90	0.27%
21-May-19	0.7060	1081.76	1078.86	2.90	0.27%
18-Jul-19	0.6480	1176.34	1174.48	1.85	0.16%
14-Feb-19	0.7040	1342.44	1342.34	0.10	0.01%
5-Apr-18	0.6580	1313.79	1313.41	0.38	0.03%
27-Mar-18	0.6300	1214.86	1214.30	0.56	0.05%
25-Jan-18	0.6250	1194.39	1193.39	0.99	0.08%
24-Jun-19	0.6740	1335.77	1335.65	0.12	0.01%
20-Dec-18	0.5980	1180.32	1179.62	0.70	0.06%
2-Mar-20	1.0340	1327.95	1329.75	-1.80	-0.14%
8-Nov-19	1.0390	1399.89	1401.34	-1.45	-0.10%
10-Jul-19	1.0850	1431.22	1432.94	-1.72	-0.12%
26-Oct-17	0.5910	1233.51	1232.87	0.64	0.05%
24-Apr-18	0.6810	1290.96	1290.78	0.19	0.01%
28-Jan-20	0.9570	1325.55	1326.40	-0.85	-0.06%
15-May-19	0.6070	1324.57	1324.00	0.57	0.04%
20-Feb-19	0.5910	1342.69	1342.21	0.49	0.04%
18-Jul-19	0.6790	1317.17	1316.93	0.25	0.02%
25-Jun-19	0.6080	1221.72	1220.18	1.54	0.13%
26-Feb-19	0.6260	1187.18	1186.39	0.79	0.07%
12-Jul-18	0.6150	1233.22	1232.53	0.68	0.06%
6-Jun-19	1.2100	1454.30	1456.48	-2.18	-0.15%
26-May-20	0.9720	1381.40	1381.47	-0.07	0.00%
26-May-20	0.9740	1386.84	1386.92	-0.08	-0.01%
18-Jul-19	0.7930	1190.48	1190.21	0.27	0.02%

15-Apr-19	0.7940	1212.59	1212.52	0.07	0.01%
31-May-19	0.7000	1347.37	1346.95	0.43	0.03%
31-May-19	0.7000	1347.36	1346.94	0.43	0.03%
14-May-20	1.0150	1392.28	1393.54	-1.26	-0.09%
14-May-19	1.1650	1569.11	1571.17	-2.06	-0.13%
10-Sep-19	1.1370	1322.69	1320.64	2.05	0.16%
10-Sep-19	1.1370	1322.69	1320.64	2.05	0.16%
1-Jul-19	1.4980	1467.54	1470.94	-3.40	-0.23%
1-Jul-19	1.4970	1466.36	1469.76	-3.39	-0.23%
31-Jul-19	1.2410	1418.91	1421.20	-2.29	-0.16%
17-Aug-19	1.0300	1396.84	1397.17	-0.33	-0.02%
28-May-19	0.8210	1206.79	1206.97	-0.18	-0.01%
19-Jun-19	0.8430	1193.65	1192.65	1.00	0.08%
19-Jun-19	0.8430	1193.65	1192.65	1.00	0.08%
10-Dec-19	0.8360	1208.74	1208.55	0.20	0.02%
25-Jun-19	0.6430	1196.63	1195.44	1.19	0.10%
25-Jun-19	0.6430	1196.79	1195.60	1.19	0.10%
25-Jul-17	0.7220	1251.29	1251.61	-0.32	-0.03%
30-Jan-19	0.5690	1226.72	1225.82	0.89	0.07%
17-Jul-18	0.8310	1275.91	1275.68	0.23	0.02%
21-Mar-19	0.6310	1223.98	1222.66	1.32	0.11%
5-Sep-19	0.9800	1332.74	1331.18	1.57	0.12%
31-Jul-19	1.2480	1426.90	1429.21	-2.31	-0.16%
19-Jun-19	0.8450	1198.92	1198.19	0.73	0.06%
19-Jun-19	0.8450	1198.92	1198.19	0.73	0.06%
13-Aug-19	0.8470	1133.11	1133.17	-0.06	-0.01%
26-Nov-19	0.7780	1179.44	1179.68	-0.24	-0.02%
26-Nov-19	0.7780	1179.44	1179.68	-0.24	-0.02%
21-May-19	0.6360	1299.39	1298.55	0.83	0.06%
21-May-19	0.6360	1299.03	1298.20	0.83	0.06%
14-Nov-19	0.9690	1341.84	1342.63	-0.79	-0.06%
14-Nov-19	0.9700	1342.08	1342.88	-0.79	-0.06%
14-Nov-19	0.9690	1341.93	1342.72	-0.79	-0.06%
14-Nov-19	0.9700	1342.19	1342.99	-0.79	-0.06%
14-May-19	0.7670	1293.22	1292.83	0.39	0.03%
4-Dec-17	0.7080	1268.39	1267.57	0.82	0.06%
12-Aug-19	0.5650	1237.71	1235.90	1.81	0.15%
11-May-19	1.0920	1425.78	1426.52	-0.74	-0.05%
22-Oct-19	0.6940	1346.67	1345.77	0.89	0.07%
15-Apr-19	0.7700	1190.09	1189.54	0.55	0.05%
13-Dec-19	1.2720	1289.34	1291.92	-2.58	-0.20%
9-Apr-19	0.6130	1267.80	1266.64	1.15	0.09%
15-Oct-19	1.0110	1397.85	1398.91	-1.05	-0.08%
15-Oct-19	1.0110	1398.05	1399.11	-1.05	-0.08%
15-Oct-19	1.0110	1397.77	1398.82	-1.05	-0.08%
15-Oct-19	1.0110	1397.99	1399.04	-1.05	-0.08%
15-May-19	0.7250	1271.10	1271.00	0.10	0.01%
12-Aug-19	0.5660	1242.11	1240.29	1.81	0.15%
7-May-19	0.9320	1359.10	1359.95	-0.85	-0.06%
10-Sep-19	1.1600	1385.03	1385.72	-0.69	-0.05%
10-Sep-19	1.1600	1385.03	1385.72	-0.69	-0.05%
14-Jan-20	1.1650	1457.14	1459.26	-2.11	-0.15%
21-Jan-20	1.0080	1382.74	1382.95	-0.21	-0.01%
21-Jan-20	1.0030	1378.21	1378.43	-0.23	-0.02%
27-Dec-17	0.6070	1194.59	1193.82	0.77	0.06%
20-Apr-20	1.6860	1472.51	1476.66	-4.14	-0.28%
18-Jul-18	0.7080	1272.25	1272.37	-0.11	-0.01%

23-Apr-19	0.9980	1265.40	1266.13	-0.73	-0.06%
9-May-19	0.9810	1363.03	1363.08	-0.05	0.00%
30-Jul-19	1.3550	1374.37	1376.19	-1.82	-0.13%
5-Aug-19	0.9740	1368.98	1370.16	-1.18	-0.09%
3-Oct-19	1.1460	1376.91	1378.79	-1.88	-0.14%
3-Oct-19	1.1460	1376.91	1378.79	-1.88	-0.14%
12-Apr-19	1.1430	1393.27	1395.43	-2.15	-0.15%
26-Mar-20	0.9630	1323.90	1324.14	-0.24	-0.02%
25-Mar-19	1.0770	1342.15	1343.57	-1.42	-0.11%
25-Mar-19	1.0770	1342.15	1343.57	-1.42	-0.11%
16-Jul-18	0.9130	1228.14	1227.38	0.76	0.06%
24-Sep-19	0.8310	1168.94	1168.83	0.11	0.01%
28-Feb-19	0.6430	1183.59	1182.66	0.92	0.08%
18-May-20	1.0460	1362.53	1363.62	-1.09	-0.08%
18-May-20	1.0460	1362.48	1363.56	-1.09	-0.08%
14-May-19	0.7710	1277.41	1277.53	-0.12	-0.01%
14-May-19	0.6580	1189.15	1188.11	1.03	0.09%
16-May-20	1.0620	1445.90	1446.76	-0.87	-0.06%
25-Oct-19	1.1170	1325.79	1324.69	1.10	0.08%
25-Oct-19	1.1170	1325.94	1324.85	1.10	0.08%
25-Oct-19	1.1180	1326.90	1325.81	1.09	0.08%
15-Oct-19	1.1060	1396.72	1397.05	-0.33	-0.02%
15-Oct-19	1.1060	1396.72	1397.05	-0.33	-0.02%
12-Nov-19	1.0460	1407.76	1408.51	-0.75	-0.05%
29-Jul-19	0.8710	1204.13	1204.45	-0.32	-0.03%
29-Jul-19	0.8710	1204.13	1204.45	-0.32	-0.03%
26-Aug-19	1.0860	1227.76	1228.39	-0.63	-0.05%
15-Apr-19	0.9040	1269.58	1267.69	1.89	0.15%
30-Apr-19	1.3150	1368.30	1371.00	-2.70	-0.20%
5-Mar-20	1.1420	1409.05	1410.84	-1.79	-0.13%
23-Mar-20	1.0330	1415.68	1415.65	0.03	0.00%
9-Jul-19	0.8940	1388.96	1390.07	-1.11	-0.08%
9-Jul-19	0.8940	1389.06	1390.16	-1.11	-0.08%
26-Aug-19	1.0880	1228.68	1229.31	-0.63	-0.05%
31-May-19	0.6710	1375.13	1374.88	0.24	0.02%
16-Apr-19	0.7310	1349.75	1349.16	0.58	0.04%
16-Apr-19	0.7310	1350.15	1349.57	0.58	0.04%
11-Sep-19	1.1550	1206.06	1206.39	-0.34	-0.03%
11-Sep-19	1.1510	1201.45	1201.79	-0.34	-0.03%
16-May-19	0.7410	1268.94	1268.26	0.67	0.05%
11-Sep-18	1.0680	1426.44	1427.21	-0.77	-0.05%
25-Mar-19	1.1790	1408.83	1410.21	-1.37	-0.10%
30-Jul-19	1.1360	1409.87	1411.61	-1.74	-0.12%
30-Jul-19	1.1360	1409.87	1411.61	-1.74	-0.12%
30-Jul-19	1.1620	1432.41	1434.30	-1.89	-0.13%
30-Jul-19	1.1620	1432.41	1434.30	-1.89	-0.13%
17-Jan-19	1.5060	1404.25	1407.72	-3.47	-0.25%
8-Apr-19	1.0910	1316.07	1317.06	-0.99	-0.08%
22-May-18	0.6690	1304.45	1303.24	1.22	0.09%
20-Mar-19	0.6370	1321.85	1321.61	0.24	0.02%
28-Jun-18	0.7210	1294.88	1294.12	0.76	0.06%
19-Apr-18	0.8150	1290.83	1291.31	-0.48	-0.04%
4-Sep-19	1.1110	1346.88	1347.36	-0.48	-0.04%
4-Sep-19	1.1110	1346.88	1347.36	-0.48	-0.04%
22-Oct-19	1.0220	1360.72	1360.83	-0.11	-0.01%
22-Oct-19	1.0220	1360.72	1360.83	-0.11	-0.01%
13-Aug-19	0.8770	1174.06	1174.13	-0.07	-0.01%

24-Jul-19	0.6490	1297.53	1297.26	0.28	0.02%
24-Jul-19	0.6490	1297.53	1297.26	0.28	0.02%
25-Jan-18	0.6260	1193.62	1192.29	1.34	0.11%
26-Oct-17	0.6700	1238.04	1236.81	1.23	0.10%
21-Aug-17	0.6490	1194.66	1194.04	0.62	0.05%
23-May-19	0.9060	1300.36	1300.62	-0.27	-0.02%
26-Mar-20	1.1010	1384.66	1385.45	-0.78	-0.06%
26-Mar-20	1.0490	1409.56	1411.05	-1.49	-0.11%
24-Jul-19	0.6520	1301.10	1300.81	0.29	0.02%
15-Aug-19	0.6880	1322.67	1322.30	0.37	0.03%
15-Aug-19	0.6880	1322.51	1322.14	0.37	0.03%
2-Apr-19	1.2310	1394.83	1396.93	-2.10	-0.15%
23-Oct-19	0.8290	1194.32	1193.79	0.53	0.04%
23-Oct-19	0.8290	1194.32	1193.79	0.53	0.04%
13-Jul-18	0.6890	1141.81	1140.28	1.52	0.13%
13-Jul-18	0.6890	1141.81	1140.28	1.52	0.13%
24-Sep-19	1.3440	1304.11	1306.49	-2.38	-0.18%
22-Aug-17	0.7080	1330.88	1330.25	0.63	0.05%
30-Oct-17	0.6620	1321.23	1319.46	1.78	0.13%
31-Jan-19	0.6840	1337.15	1336.13	1.02	0.08%
12-Oct-19	1.1350	1307.67	1305.86	1.81	0.14%
12-Oct-19	1.1350	1307.67	1305.86	1.81	0.14%
15-May-19	1.0320	1389.11	1390.17	-1.06	-0.08%
15-Jun-20	1.0520	1406.31	1406.81	-0.50	-0.04%
25-Mar-19	1.3160	1497.92	1500.39	-2.47	-0.17%
18-Jul-19	1.0750	1432.88	1433.03	-0.15	-0.01%
24-Apr-19	0.7800	1318.13	1317.86	0.27	0.02%
7-Jun-19	0.8570	1227.59	1228.29	-0.70	-0.06%
17-May-19	0.7000	1294.75	1294.22	0.53	0.04%
29-Mar-18	0.8880	1276.62	1275.27	1.34	0.11%
16-Apr-19	0.5880	1297.01	1295.38	1.63	0.13%
31-Dec-19	1.0560	1440.69	1441.44	-0.75	-0.05%
11-Jun-19	1.0330	1378.76	1378.34	0.42	0.03%
24-Dec-19	1.2010	1445.34	1447.36	-2.02	-0.14%
3-Mar-20	0.8120	1189.37	1189.11	0.26	0.02%
27-Apr-18	0.7750	1267.31	1265.97	1.34	0.11%
27-Apr-18	0.7750	1267.37	1266.03	1.34	0.11%
20-Mar-19	0.6890	1348.16	1348.17	-0.01	0.00%
20-Mar-19	0.6890	1349.02	1349.03	-0.01	0.00%
31-Dec-19	1.1030	1371.28	1372.71	-1.43	-0.10%
8-Feb-19	0.6060	1138.60	1137.78	0.82	0.07%
15-Aug-18	0.6950	1294.78	1292.76	2.03	0.16%
20-May-20	1.0750	1360.53	1361.31	-0.78	-0.06%
30-Dec-19	1.1800	1586.45	1588.36	-1.91	-0.12%
31-Dec-19	1.0630	1448.65	1449.41	-0.75	-0.05%
14-Apr-20	1.0150	1178.06	1178.71	-0.65	-0.06%
18-Jul-19	1.0840	1443.10	1443.23	-0.13	-0.01%
12-Mar-20	0.9390	1200.59	1199.05	1.54	0.13%
27-Jun-19	0.7080	1259.78	1258.49	1.30	0.10%
20-Mar-19	0.6920	1352.19	1352.19	0.00	0.00%
19-Aug-19	0.7270	1332.57	1331.79	0.78	0.06%
8-Jan-18	0.6930	1184.21	1183.09	1.12	0.09%
15-Mar-18	0.6700	1306.57	1305.42	1.15	0.09%
23-Jan-20	1.6000	1452.60	1456.45	-3.85	-0.27%
23-Jan-20	1.6020	1455.15	1459.00	-3.86	-0.27%
11-May-20	1.1600	1540.99	1542.77	-1.79	-0.12%
30-Dec-19	1.1850	1592.93	1594.85	-1.92	-0.12%

6-Jun-19	1.0950	1333.61	1333.23	0.38	0.03%
28-Jan-20	1.1580	1257.07	1256.48	0.59	0.05%
9-Dec-19	0.7100	1249.50	1249.82	-0.32	-0.03%
29-May-20	1.0480	1262.80	1263.62	-0.82	-0.07%
5-Apr-18	0.6790	1328.51	1327.76	0.74	0.06%
30-Jul-19	1.1300	1368.30	1368.96	-0.66	-0.05%
11-Jun-19	1.1940	1333.48	1335.42	-1.94	-0.15%
23-Apr-20	0.8640	1194.42	1193.85	0.56	0.05%
24-Jul-19	0.7730	1256.20	1255.33	0.86	0.07%
24-Jul-19	0.7730	1256.20	1255.33	0.86	0.07%
6-Feb-20	0.9880	1216.06	1216.99	-0.93	-0.08%
14-May-20	0.9920	1212.25	1212.03	0.22	0.02%
21-Feb-19	0.6170	1206.06	1205.26	0.80	0.07%
1-Mar-19	0.7310	1365.70	1364.44	1.27	0.09%
25-Jan-18	0.6570	1196.62	1195.40	1.22	0.10%
21-Nov-19	0.9000	1263.18	1261.58	1.60	0.13%
21-Nov-19	0.9000	1263.18	1261.58	1.60	0.13%
9-May-19	0.8580	1355.23	1353.90	1.33	0.10%
17-Apr-19	1.0340	1330.89	1330.43	0.47	0.04%
12-May-20	1.1000	1386.73	1387.41	-0.69	-0.05%
23-Apr-20	0.8860	1216.91	1216.45	0.46	0.04%
29-May-20	1.0550	1268.61	1269.43	-0.82	-0.06%
31-Jul-19	0.7610	1256.36	1255.78	0.58	0.05%
11-Sep-19	1.1540	1361.24	1362.53	-1.29	-0.09%
11-Sep-19	1.1540	1361.24	1362.53	-1.29	-0.09%
12-Mar-20	1.2560	1319.44	1321.35	-1.92	-0.15%
19-Aug-19	0.7050	1342.00	1341.47	0.53	0.04%
19-Aug-19	0.7050	1342.30	1341.77	0.53	0.04%
19-Dec-18	0.7150	1335.44	1334.05	1.39	0.10%
31-Jul-19	0.7640	1260.82	1260.22	0.59	0.05%
4-Aug-17	0.6640	1195.94	1194.91	1.03	0.09%
1-Aug-17	0.6710	1177.28	1176.38	0.91	0.08%
15-Aug-18	0.8870	1165.89	1165.59	0.29	0.03%
18-Jun-20	0.9640	1170.86	1171.01	-0.15	-0.01%
4-Apr-19	0.7910	1338.62	1337.90	0.72	0.05%
19-Dec-18	0.7170	1338.05	1336.66	1.39	0.10%
21-Jun-17	0.7060	1346.82	1346.91	-0.08	-0.01%
15-Apr-19	0.8440	1263.09	1259.47	3.62	0.29%
5-Feb-20	1.1840	1525.61	1527.84	-2.24	-0.15%
4-Dec-19	1.2500	1447.94	1449.90	-1.96	-0.14%
18-Jul-19	1.2020	1440.15	1439.99	0.16	0.01%
18-Jul-19	1.2020	1440.59	1440.43	0.16	0.01%
30-Jul-19	1.0740	1332.27	1333.48	-1.21	-0.09%
30-Jul-19	1.0740	1332.27	1333.48	-1.21	-0.09%
23-Oct-19	0.8880	1216.74	1216.54	0.21	0.02%
23-Oct-19	0.8880	1216.74	1216.54	0.21	0.02%
19-Aug-19	1.0300	1270.31	1270.03	0.28	0.02%
19-Aug-19	1.0300	1270.31	1270.03	0.28	0.02%
28-Feb-19	0.6800	1183.78	1182.32	1.46	0.12%
28-Feb-19	0.6800	1183.92	1182.46	1.46	0.12%
12-Jul-17	0.6360	1336.56	1334.72	1.84	0.14%
7-Jun-19	0.6890	1220.18	1218.76	1.42	0.12%
21-Mar-19	0.6740	1256.69	1256.01	0.68	0.05%
9-Dec-19	1.1070	1341.01	1342.45	-1.44	-0.11%
31-Mar-20	1.0750	1382.26	1382.64	-0.38	-0.03%
28-Aug-19	1.0620	1367.17	1367.20	-0.04	0.00%
28-Aug-19	1.0620	1367.17	1367.20	-0.04	0.00%

28-Aug-19	1.0620	1367.17	1367.20	-0.04	0.00%
21-Jan-20	1.0620	1367.17	1367.20	-0.04	0.00%
28-Aug-19	1.0620	1367.17	1367.20	-0.04	0.00%
19-Aug-19	1.0330	1273.38	1273.10	0.28	0.02%
8-May-19	0.7180	1393.76	1393.45	0.31	0.02%
5-Feb-20	1.4330	1414.84	1417.64	-2.80	-0.20%
3-Oct-19	1.2820	1377.28	1379.67	-2.39	-0.17%
3-Oct-19	1.2820	1377.28	1379.67	-2.39	-0.17%
26-Mar-20	1.0790	1389.56	1389.67	-0.11	-0.01%
6-May-19	1.0210	1315.45	1316.52	-1.06	-0.08%
19-Aug-19	1.0390	1280.90	1280.62	0.28	0.02%
22-Jan-20	1.2720	1295.84	1298.00	-2.16	-0.17%
10-Apr-18	0.8280	1226.15	1223.50	2.65	0.22%
30-May-18	0.6880	1295.10	1294.49	0.61	0.05%
8-May-18	0.7520	1260.92	1260.38	0.54	0.04%
16-Apr-19	0.7280	1331.55	1331.05	0.50	0.04%
16-Apr-19	0.7280	1331.58	1331.08	0.50	0.04%
5-Jun-19	1.2090	1359.19	1361.14	-1.95	-0.14%
10-Jan-20	1.2620	1479.27	1481.16	-1.89	-0.13%
21-Apr-20	1.0640	1355.23	1355.74	-0.50	-0.04%
8-Apr-20	1.1610	1373.74	1374.57	-0.83	-0.06%
5-Feb-20	1.5390	1711.20	1714.71	-3.52	-0.21%
3-Jun-19	1.2440	1575.72	1577.80	-2.08	-0.13%
5-Feb-20	1.3410	1623.07	1624.68	-1.61	-0.10%
12-Jan-20	1.1610	1352.78	1354.25	-1.47	-0.11%
18-Jan-20	0.9920	1266.08	1267.73	-1.65	-0.13%
28-Aug-19	1.0760	1380.37	1380.36	0.02	0.00%
28-Aug-19	1.0760	1380.37	1380.36	0.02	0.00%
18-Sep-19	0.8970	1193.28	1192.80	0.48	0.04%
18-Sep-19	0.8970	1193.28	1192.80	0.48	0.04%
22-Jan-20	0.9140	1169.03	1166.60	2.43	0.21%
31-Jan-19	0.7090	1257.64	1256.53	1.11	0.09%
17-Apr-18	0.8100	1189.39	1189.72	-0.33	-0.03%
17-Sep-18	0.8970	1179.00	1175.06	3.94	0.33%
25-Jul-17	0.6920	1142.71	1141.93	0.78	0.07%
22-Aug-19	1.0390	1326.57	1326.94	-0.38	-0.03%
21-Jul-18	0.9100	1245.35	1244.55	0.81	0.06%
12-Nov-19	1.1200	1436.55	1436.63	-0.08	-0.01%
25-Mar-20	1.0840	1381.90	1381.99	-0.09	-0.01%
16-Dec-19	1.0670	1389.98	1390.73	-0.75	-0.05%
8-May-19	0.6660	1138.94	1137.75	1.19	0.10%
9-Aug-19	0.7150	1416.63	1416.25	0.39	0.03%
25-Jun-19	0.6770	1341.72	1340.62	1.10	0.08%
26-Jan-18	0.6810	1194.45	1193.08	1.37	0.11%
22-Aug-19	1.0410	1328.18	1328.56	-0.38	-0.03%
2-Jan-20	1.2040	1554.59	1555.92	-1.33	-0.09%
27-May-19	1.0870	1431.95	1433.41	-1.45	-0.10%
27-May-19	1.0870	1431.95	1433.41	-1.45	-0.10%
14-Jul-19	1.0510	1379.80	1379.62	0.18	0.01%
7-Dec-18	1.0990	1348.45	1349.26	-0.81	-0.06%
7-Dec-18	1.0990	1348.45	1349.26	-0.81	-0.06%
11-Feb-20	1.1700	1276.95	1278.30	-1.35	-0.11%
25-Jun-19	0.6780	1343.46	1342.36	1.10	0.08%
10-Feb-20	1.0950	1321.78	1323.30	-1.52	-0.11%
22-Mar-18	0.7130	1304.68	1303.33	1.35	0.10%
7-May-20	1.2510	1617.27	1618.90	-1.63	-0.10%
10-Aug-18	1.1870	1347.25	1348.61	-1.36	-0.10%

13-Dec-19	0.9140	1259.36	1258.71	0.65	0.05%
9-Feb-18	0.7060	1451.64	1450.85	0.79	0.05%
12-May-20	1.1340	1343.58	1344.22	-0.63	-0.05%
16-Jul-19	0.7440	1323.78	1323.44	0.34	0.03%
16-Jul-19	0.7440	1323.78	1323.44	0.34	0.03%
26-May-20	1.0010	1261.29	1261.26	0.03	0.00%
11-May-20	1.2740	1601.36	1603.27	-1.91	-0.12%
14-Jul-19	1.0580	1387.70	1387.52	0.18	0.01%
12-May-20	1.0380	1374.09	1374.56	-0.47	-0.03%
11-Feb-20	1.1340	1335.89	1337.26	-1.37	-0.10%
11-Feb-20	1.1340	1335.89	1337.26	-1.37	-0.10%
10-Sep-19	0.7570	1292.05	1292.74	-0.69	-0.05%
10-Sep-19	0.7570	1292.05	1292.74	-0.69	-0.05%
23-Oct-17	0.6860	1135.53	1134.70	0.83	0.07%
12-Mar-20	1.2960	1604.40	1606.53	-2.13	-0.13%
17-Aug-19	1.1360	1407.31	1407.37	-0.06	0.00%
16-Dec-19	1.0750	1383.04	1383.64	-0.59	-0.04%
14-May-19	0.7660	1342.97	1342.39	0.58	0.04%
14-May-19	0.7660	1342.86	1342.28	0.58	0.04%
14-May-20	1.1690	1356.83	1358.32	-1.49	-0.11%
4-Sep-19	1.1870	1388.72	1388.40	0.33	0.02%
4-Sep-19	1.1870	1388.72	1388.40	0.33	0.02%
16-May-19	0.8120	1234.63	1232.71	1.93	0.16%
30-Apr-20	1.3130	1437.35	1439.59	-2.23	-0.16%
3-Jun-20	1.1040	1410.54	1411.42	-0.88	-0.06%
12-Jul-18	1.1530	1187.42	1188.52	-1.10	-0.09%
25-Jun-19	0.8110	1115.75	1113.32	2.43	0.22%
25-Jun-19	0.8110	1115.75	1113.32	2.43	0.22%
24-May-19	0.7510	1311.80	1310.61	1.19	0.09%
14-May-20	1.1700	1385.58	1386.88	-1.30	-0.09%
27-Mar-18	0.7080	1210.43	1210.02	0.42	0.03%
27-Mar-18	0.7080	1210.14	1209.72	0.42	0.03%
14-May-20	1.3210	1478.87	1481.36	-2.49	-0.17%
18-Dec-18	1.1240	1348.91	1349.89	-0.98	-0.07%
5-Jan-19	0.9600	1287.61	1288.45	-0.85	-0.07%
22-Oct-19	1.1780	1364.76	1366.13	-1.36	-0.10%
22-Oct-19	1.1780	1364.76	1366.13	-1.36	-0.10%
19-Aug-19	1.0540	1316.31	1317.34	-1.04	-0.08%
19-Aug-19	1.0540	1316.31	1317.34	-1.04	-0.08%
25-Jan-18	0.7790	1253.07	1252.93	0.14	0.01%
23-Apr-20	1.3180	1356.95	1358.74	-1.79	-0.13%
30-Jan-20	1.0720	1370.04	1371.16	-1.12	-0.08%
14-May-19	1.0120	1286.46	1286.43	0.02	0.00%
14-May-19	1.0120	1286.46	1286.43	0.02	0.00%
17-Jul-19	1.2350	1331.15	1329.64	1.51	0.11%
5-Dec-19	1.0560	1312.38	1312.85	-0.47	-0.04%
5-Dec-19	1.0540	1309.82	1310.28	-0.46	-0.03%
1-Jul-19	0.9480	1152.23	1150.43	1.80	0.16%
25-Jan-18	0.7800	1254.14	1254.00	0.14	0.01%
17-Oct-19	1.0580	1344.92	1345.82	-0.91	-0.07%
17-Oct-19	1.0580	1345.18	1346.09	-0.91	-0.07%
20-Mar-19	0.5980	1055.98	1056.26	-0.28	-0.03%
11-Jul-19	0.7890	1343.38	1342.64	0.74	0.05%
11-Jul-19	0.7890	1343.58	1342.84	0.74	0.05%
11-Jul-19	0.7890	1343.54	1342.81	0.74	0.05%
11-Jul-19	0.7890	1343.76	1343.02	0.74	0.05%
5-Dec-19	1.1400	1414.97	1415.85	-0.88	-0.06%

14-Apr-20	1.2920	1606.29	1608.95	-2.66	-0.17%
4-May-19	1.1060	1296.32	1297.12	-0.80	-0.06%
16-Apr-18	0.8500	1319.03	1318.81	0.22	0.02%
26-Mar-20	1.0980	1356.59	1356.77	-0.18	-0.01%
10-Oct-19	0.9920	1257.84	1257.46	0.37	0.03%
10-Oct-19	0.9920	1257.84	1257.46	0.37	0.03%
18-Apr-18	0.7720	1338.71	1337.93	0.78	0.06%
21-Mar-19	0.7050	1160.61	1158.45	2.17	0.19%
19-May-19	0.7310	1320.32	1319.28	1.04	0.08%
19-May-19	0.7310	1320.18	1319.14	1.04	0.08%
8-Sep-19	1.2360	1470.64	1471.99	-1.34	-0.09%
8-Jan-19	1.3760	1464.03	1466.53	-2.50	-0.17%
19-Dec-18	0.9130	1218.34	1218.00	0.33	0.03%
30-Jan-18	0.7740	1294.13	1291.14	3.00	0.23%
15-Jan-19	0.6840	1281.52	1279.88	1.64	0.13%
24-Jun-20	1.0230	1327.67	1328.08	-0.42	-0.03%
16-Jun-20	0.9440	1248.70	1248.51	0.18	0.01%
16-Jan-20	1.5470	1342.02	1343.72	-1.70	-0.13%
23-Apr-19	0.8130	1125.45	1124.21	1.24	0.11%
23-Apr-19	0.8130	1125.45	1124.21	1.24	0.11%
4-Apr-19	1.0080	1266.06	1266.04	0.02	0.00%
	1.2450	1479.14	1480.47	-1.32	-0.09%
26-Apr-19	0.9950	1253.45	1253.34	0.11	0.01%
24-Jul-19	0.8220	1280.63	1280.52	0.11	0.01%
19-Mar-19	1.1030	1381.97	1382.69	-0.72	-0.05%
9-Jun-20	1.7550	1567.79	1571.43	-3.65	-0.23%
20-Feb-20	1.3430	1331.41	1333.35	-1.94	-0.15%
26-Jun-19	1.1410	1377.35	1377.35	0.00	0.00%
26-Jun-19	1.1410	1377.35	1377.35	0.00	0.00%
10-Jun-20	0.9510	1210.68	1209.65	1.02	0.08%
18-Apr-18	1.0090	1344.41	1345.12	-0.71	-0.05%
20-Mar-18	0.8170	1195.52	1194.16	1.37	0.11%
9-Aug-19	1.2170	1347.31	1347.03	0.29	0.02%
13-May-19	0.8090	1270.11	1270.54	-0.43	-0.03%
13-May-19	0.8090	1270.11	1270.54	-0.43	-0.03%
1-Nov-19	1.2840	1344.37	1341.52	2.85	0.21%
1-Nov-19	1.2850	1344.96	1342.09	2.87	0.21%
22-Apr-20	1.2030	1300.83	1301.62	-0.79	-0.06%
29-Apr-20	1.2090	1348.12	1349.27	-1.14	-0.08%
29-Apr-20	1.2090	1348.12	1349.27	-1.14	-0.08%
18-Jun-20	0.9980	1338.03	1337.40	0.63	0.05%
25-Oct-18	0.6660	1149.05	1148.91	0.14	0.01%
30-May-19	0.7930	1359.82	1359.21	0.61	0.04%
30-May-19	0.7930	1358.78	1358.17	0.61	0.04%
4-Mar-20	1.1690	1440.75	1441.74	-0.98	-0.07%
2-Jun-19	1.3850	1475.09	1477.08	-1.98	-0.13%
2-Jun-19	1.3850	1475.09	1477.08	-1.98	-0.13%
28-Aug-19	1.1350	1370.93	1370.98	-0.06	0.00%
28-Aug-19	1.1350	1370.93	1370.98	-0.06	0.00%
18-Jun-19	0.9640	1184.74	1184.69	0.05	0.00%
14-Nov-18	0.6660	1300.03	1300.34	-0.31	-0.02%
27-Jun-17	0.6990	1307.25	1304.55	2.70	0.21%
10-Oct-19	1.2980	1345.36	1345.36	0.01	0.00%
12-Nov-19	1.1260	1400.91	1401.53	-0.62	-0.04%
12-Nov-19	1.1260	1400.91	1401.53	-0.62	-0.04%
16-Dec-19	1.1110	1379.19	1379.33	-0.14	-0.01%
9-Feb-19	0.7460	1338.37	1337.69	0.69	0.05%

9-Feb-19	0.7450	1337.00	1336.31	0.69	0.05%
14-Nov-19	1.3930	1609.93	1612.19	-2.26	-0.14%
11-Apr-19	1.2940	1363.21	1365.23	-2.03	-0.15%
15-May-19	0.8300	1358.01	1357.13	0.88	0.06%
28-May-19	0.7650	1286.32	1285.89	0.43	0.03%
7-May-19	1.2270	1389.13	1390.97	-1.84	-0.13%
30-Jul-19	0.9130	1401.78	1402.38	-0.61	-0.04%
30-Jul-19	0.9130	1401.60	1402.21	-0.61	-0.04%
22-Apr-20	1.2930	1332.64	1333.14	-0.50	-0.04%
22-Apr-20	1.3560	1378.14	1379.20	-1.06	-0.08%
16-Dec-19	1.1340	1409.45	1410.06	-0.61	-0.04%
16-Dec-19	1.1340	1409.90	1410.51	-0.61	-0.04%
21-Jan-20	1.1210	1387.21	1387.30	-0.10	-0.01%
24-Jul-19	0.7790	1440.18	1439.00	1.18	0.08%
24-Jul-19	0.7790	1440.18	1439.00	1.18	0.08%
14-Nov-17	0.7560	1205.44	1203.78	1.66	0.14%
10-Dec-18	1.4570	1388.47	1391.12	-2.65	-0.19%
10-Dec-18	1.4570	1388.47	1391.12	-2.65	-0.19%
24-Dec-19	1.2190	1387.50	1388.78	-1.28	-0.09%
17-Jan-19	1.5080	1333.29	1336.15	-2.86	-0.21%
11-Jul-18	0.9110	1167.59	1165.82	1.77	0.15%
25-Sep-17	0.7270	1238.14	1236.60	1.54	0.12%
11-Jun-19	1.1450	1320.10	1321.20	-1.10	-0.08%
14-Jul-19	1.1620	1388.68	1388.68	0.00	0.00%
14-Jul-19	1.1620	1388.68	1388.68	0.00	0.00%
10-Apr-18	1.0580	1280.22	1278.28	1.94	0.15%
11-Sep-19	0.9670	1256.67	1256.77	-0.10	-0.01%
15-May-18	0.7900	1343.45	1341.42	2.02	0.15%
21-Mar-19	0.8390	1264.41	1264.56	-0.15	-0.01%
7-May-19	1.1750	1359.47	1361.41	-1.94	-0.14%
22-Feb-19	0.7180	1286.00	1285.16	0.85	0.07%
3-Jul-19	0.7520	1293.57	1292.07	1.50	0.12%
3-Jul-19	0.7520	1293.57	1292.07	1.50	0.12%
6-Mar-18	0.7220	1276.33	1274.44	1.89	0.15%
9-Apr-19	1.2010	1201.22	1201.81	-0.60	-0.05%
4-Dec-19	1.2950	1492.80	1494.82	-2.02	-0.14%
17-Mar-20	1.2340	1435.51	1437.02	-1.52	-0.11%
18-Jul-19	1.5490	1461.82	1463.48	-1.66	-0.11%
26-Feb-20	1.2100	1427.61	1428.58	-0.97	-0.07%
31-May-19	0.9140	1281.02	1278.22	2.80	0.22%
5-Dec-19	1.3540	1583.57	1585.56	-1.99	-0.13%
4-Dec-19	1.3000	1497.94	1499.97	-2.03	-0.14%
11-Jul-18	0.9130	1280.07	1278.50	1.58	0.12%
11-Feb-20	1.2410	1347.29	1348.75	-1.46	-0.11%
29-Jun-17	0.6860	1309.55	1307.73	1.82	0.14%
1-Jul-19	1.0460	1262.22	1258.71	3.52	0.28%
3-Jun-19	1.3100	1417.83	1418.20	-0.37	-0.03%
29-Mar-20	1.1710	1458.70	1459.63	-0.92	-0.06%
17-Mar-20	1.2410	1442.33	1443.84	-1.51	-0.10%
23-Jan-18	0.7350	1201.79	1200.35	1.44	0.12%
25-Apr-19	0.8660	1344.82	1344.34	0.48	0.04%
21-Mar-19	0.8540	1297.75	1296.88	0.87	0.07%
12-Apr-20	1.1170	1313.60	1313.77	-0.17	-0.01%
25-Mar-20	1.2250	1333.83	1334.91	-1.09	-0.08%
25-Mar-20	1.2250	1333.83	1334.91	-1.09	-0.08%
14-May-19	0.9550	1294.77	1294.03	0.74	0.06%
25-Feb-19	0.7900	1226.77	1225.44	1.33	0.11%

11-May-19	1.3330	1367.53	1370.01	-2.48	-0.18%
18-Jul-19	1.5700	1480.48	1482.18	-1.70	-0.11%
12-Nov-19	1.2060	1424.89	1425.09	-0.20	-0.01%
14-May-19	0.9580	1299.27	1298.54	0.73	0.06%
22-Aug-19	1.1110	1335.85	1334.84	1.01	0.08%
17-Jul-18	1.1180	1248.86	1248.32	0.54	0.04%
23-Apr-19	1.1740	1271.37	1271.98	-0.61	-0.05%
23-Apr-19	1.1740	1271.37	1271.98	-0.61	-0.05%
22-Aug-19	1.1180	1344.81	1343.79	1.02	0.08%
19-Sep-18	0.7580	1217.44	1216.56	0.87	0.07%
6-Jun-19	1.3780	1349.10	1350.39	-1.29	-0.10%
8-Oct-19	1.0190	1218.84	1218.37	0.47	0.04%
8-Oct-19	1.0190	1218.84	1218.37	0.47	0.04%
10-Sep-19	1.2810	1277.62	1278.83	-1.21	-0.09%
10-Sep-19	1.2800	1277.17	1278.38	-1.20	-0.09%
26-Jun-18	1.0460	1253.45	1254.69	-1.24	-0.10%
11-May-19	1.1730	1401.80	1403.07	-1.27	-0.09%
22-Aug-19	1.2580	1448.67	1449.79	-1.12	-0.08%
10-Sep-19	1.2820	1278.43	1279.64	-1.20	-0.09%
10-Sep-19	1.2820	1278.18	1279.39	-1.20	-0.09%
10-Jan-19	0.8760	1287.90	1288.01	-0.11	-0.01%
10-Jan-19	0.8760	1287.50	1287.61	-0.11	-0.01%
21-Jun-19	0.8890	1358.00	1356.42	1.58	0.12%
21-Jun-19	0.8880	1355.44	1353.85	1.58	0.12%
21-Jun-19	0.8890	1357.85	1356.27	1.58	0.12%
21-Jun-19	0.8880	1355.23	1353.65	1.58	0.12%
21-Nov-19	1.1480	1343.09	1343.47	-0.37	-0.03%
10-Aug-19	1.0900	1326.52	1325.58	0.94	0.07%
10-Aug-19	1.0900	1326.52	1325.58	0.94	0.07%
13-Apr-20	1.3490	1328.26	1330.15	-1.89	-0.14%
28-May-19	0.8050	1326.74	1325.59	1.15	0.09%
28-May-19	0.8050	1324.86	1323.72	1.15	0.09%
28-May-19	0.8050	1326.70	1325.55	1.15	0.09%
28-May-19	0.8050	1324.36	1323.21	1.15	0.09%
16-Apr-19	0.9770	1304.50	1303.59	0.91	0.07%
8-May-20	1.4380	1588.21	1590.07	-1.87	-0.12%
13-Nov-19	1.1710	1369.03	1370.05	-1.01	-0.07%
21-Nov-19	1.1500	1345.16	1345.53	-0.37	-0.03%
15-Oct-19	1.3650	1389.10	1390.62	-1.52	-0.11%
15-Oct-19	1.3650	1389.10	1390.62	-1.52	-0.11%
26-Apr-19	0.7740	1287.56	1284.98	2.58	0.20%
4-Jun-19	0.9560	1243.45	1244.54	-1.10	-0.09%
5-Mar-20	1.1540	1344.37	1344.90	-0.53	-0.04%
5-Mar-19	1.6640	1429.58	1431.77	-2.20	-0.15%
6-Jan-19	1.3380	1380.23	1382.43	-2.19	-0.16%
26-May-20	1.2510	1359.91	1360.28	-0.36	-0.03%
26-May-20	1.2510	1359.91	1360.28	-0.36	-0.03%
27-Mar-19	0.7480	1196.45	1195.30	1.15	0.10%
13-Nov-19	1.1780	1375.98	1377.00	-1.02	-0.07%
2-Apr-20	1.4760	1424.43	1427.38	-2.95	-0.21%
10-Aug-19	1.6540	1306.92	1310.25	-3.33	-0.25%
10-Aug-19	1.6540	1306.92	1310.25	-3.33	-0.25%
12-Nov-19	1.2840	1448.74	1448.47	0.28	0.02%
25-Mar-20	1.2730	1397.60	1397.51	0.09	0.01%
16-Dec-19	1.2680	1420.99	1421.64	-0.65	-0.05%
11-Feb-20	1.3880	1416.02	1418.71	-2.69	-0.19%
11-Feb-20	1.3880	1416.02	1418.71	-2.69	-0.19%

18-Mar-20	1.2250	1502.25	1503.27	-1.02	-0.07%
8-Oct-19	1.2000	1359.43	1359.80	-0.37	-0.03%
2-Jul-19	1.0270	1231.20	1230.88	0.32	0.03%
27-Mar-18	0.8040	1192.98	1191.72	1.26	0.11%
30-Apr-20	1.6920	1374.45	1376.75	-2.30	-0.17%
10-Aug-18	2.0780	1424.99	1428.60	-3.61	-0.25%
14-Dec-19	1.1010	1278.88	1279.76	-0.87	-0.07%
12-Nov-19	1.2950	1460.23	1459.94	0.29	0.02%
10-Feb-20	1.3660	1289.83	1291.24	-1.41	-0.11%
1-Aug-17	0.9690	1480.62	1479.67	0.95	0.06%
24-Jun-19	0.8720	1366.38	1366.67	-0.29	-0.02%
24-Jun-19	0.8710	1366.06	1366.35	-0.29	-0.02%
19-Oct-18	0.8910	1351.29	1350.48	0.81	0.06%
30-Jul-19	1.3360	1420.73	1422.74	-2.02	-0.14%
30-Jul-19	1.3360	1420.73	1422.74	-2.02	-0.14%
28-May-19	1.0800	1238.80	1238.39	0.41	0.03%
28-May-19	1.0800	1238.80	1238.39	0.41	0.03%
11-Nov-19	1.1850	1415.32	1416.53	-1.21	-0.09%
11-Nov-19	1.1850	1415.32	1416.53	-1.21	-0.09%
18-Dec-18	1.3030	1379.71	1380.88	-1.17	-0.09%
9-Mar-20	1.2470	1435.08	1435.31	-0.23	-0.02%
9-Mar-20	1.2470	1435.08	1435.31	-0.23	-0.02%
12-Nov-19	1.2460	1377.13	1378.20	-1.07	-0.08%
28-May-19	1.0860	1245.49	1245.08	0.41	0.03%
9-Apr-18	0.6490	1125.09	1124.54	0.54	0.05%
7-Apr-20	1.5170	1406.13	1407.53	-1.40	-0.10%
14-Nov-19	1.1770	1388.66	1388.06	0.60	0.04%
1-Apr-20	1.2520	1392.89	1393.70	-0.81	-0.06%
27-Mar-20	1.3460	1422.26	1423.31	-1.05	-0.07%
11-Jun-19	1.7530	1526.88	1530.49	-3.61	-0.24%
11-Jun-19	1.7530	1526.88	1530.49	-3.61	-0.24%
16-Jan-20	1.4430	1345.75	1347.64	-1.88	-0.14%
9-Mar-20	1.2560	1444.86	1445.09	-0.23	-0.02%
9-Mar-20	1.2560	1444.86	1445.09	-0.23	-0.02%
11-Oct-19	1.3260	1400.88	1402.54	-1.66	-0.12%
30-May-19	0.8360	1281.48	1280.95	0.53	0.04%
1-Apr-20	1.4080	1353.20	1355.47	-2.27	-0.17%
15-Aug-19	0.8170	1268.78	1268.46	0.32	0.02%
15-Aug-19	0.8160	1268.00	1267.68	0.32	0.03%
4-Mar-20	1.1940	1341.13	1341.67	-0.53	-0.04%
4-Sep-18	1.3750	1407.91	1409.60	-1.69	-0.12%
7-Oct-19	0.9960	1365.06	1365.58	-0.52	-0.04%
22-Apr-20	1.4020	1385.15	1386.45	-1.30	-0.09%
11-Oct-19	1.3300	1404.77	1406.42	-1.65	-0.12%
10-May-18	0.9200	1298.86	1297.41	1.44	0.11%
14-Nov-19	1.1850	1395.74	1395.11	0.62	0.04%
1-Apr-20	1.2610	1403.12	1403.95	-0.83	-0.06%
13-Dec-19	1.4070	1506.71	1508.89	-2.18	-0.14%
17-Aug-19	1.2590	1422.66	1422.70	-0.03	0.00%
19-Feb-19	0.9280	1303.75	1303.38	0.37	0.03%
19-Feb-19	0.9280	1302.33	1301.95	0.37	0.03%
10-May-18	0.9220	1299.35	1297.89	1.47	0.11%
19-Jul-18	0.7680	1205.23	1201.05	4.19	0.35%
21-Nov-19	1.3620	1337.15	1339.26	-2.11	-0.16%
4-Sep-19	1.3780	1424.36	1423.64	0.71	0.05%
4-Sep-19	1.3780	1424.36	1423.64	0.71	0.05%
21-Nov-19	1.1500	1359.95	1360.48	-0.53	-0.04%

18-Feb-20	1.4140	1450.87	1452.19	-1.32	-0.09%
18-Feb-20	1.4140	1450.87	1452.19	-1.32	-0.09%
18-Feb-20	1.4140	1450.87	1452.19	-1.32	-0.09%
13-Dec-19	1.4140	1513.50	1515.69	-2.19	-0.14%
5-May-20	1.3920	1328.41	1329.96	-1.55	-0.12%
19-Feb-19	0.8280	1234.41	1233.33	1.07	0.09%
22-Sep-17	0.8080	1320.46	1318.82	1.63	0.12%
16-Aug-19	1.3610	1432.55	1433.97	-1.42	-0.10%
8-Jan-19	1.5700	1505.41	1507.14	-1.73	-0.11%
17-Jan-19	2.3730	1434.71	1441.11	-6.40	-0.45%
12-Nov-19	1.2790	1412.99	1414.08	-1.09	-0.08%
20-Feb-19	0.8400	1225.06	1224.09	0.97	0.08%
21-Nov-19	1.1570	1367.24	1367.78	-0.54	-0.04%
22-Apr-20	1.3740	1304.27	1305.62	-1.35	-0.10%
12-Nov-19	1.2840	1417.80	1418.91	-1.10	-0.08%
12-Nov-19	1.2840	1417.80	1418.91	-1.10	-0.08%
8-May-19	1.4040	1488.78	1490.74	-1.97	-0.13%
17-Aug-18	1.2960	1377.58	1377.51	0.07	0.01%
17-Aug-18	1.2960	1377.58	1377.51	0.07	0.01%
17-Aug-18	1.2960	1377.58	1377.51	0.07	0.01%
3-Sep-19	1.1850	1125.25	1123.09	2.16	0.19%
3-Sep-19	1.1850	1125.25	1123.09	2.16	0.19%
3-Sep-19	1.1850	1125.25	1123.09	2.16	0.19%
3-Sep-19	1.1850	1125.25	1123.09	2.16	0.19%
3-Sep-19	1.1850	1125.25	1123.09	2.16	0.19%
3-Sep-19	1.1850	1125.25	1123.09	2.16	0.19%
3-Sep-19	1.1850	1125.25	1123.09	2.16	0.19%
3-Sep-19	1.1850	1125.25	1123.09	2.16	0.19%
2-Jan-18	0.7870	1327.10	1326.74	0.36	0.03%
13-Dec-19	1.2880	1255.20	1256.33	-1.14	-0.09%
9-Aug-18	1.2710	1289.90	1290.59	-0.69	-0.05%
9-Aug-18	1.2690	1287.23	1287.92	-0.68	-0.05%
17-Oct-17	0.8570	1396.16	1395.38	0.78	0.06%
30-May-18	0.8220	1201.33	1198.46	2.88	0.24%
18-Feb-20	1.1080	1313.71	1313.86	-0.15	-0.01%
12-Nov-19	1.4360	1281.52	1283.87	-2.35	-0.18%
1-Jun-17	2.5510	1546.39	1525.52	20.87	1.35%
22-May-19	0.9410	1256.13	1255.04	1.09	0.09%
21-Nov-19	1.3960	1370.25	1372.42	-2.17	-0.16%
23-Jul-18	1.2020	1309.84	1308.91	0.93	0.07%
5-Aug-19	1.2680	1213.86	1215.25	-1.39	-0.11%
5-Aug-19	1.2680	1213.86	1215.25	-1.39	-0.11%
29-May-19	0.9430	1141.45	1140.31	1.14	0.10%
18-Oct-19	1.3110	1355.60	1356.27	-0.67	-0.05%
18-Oct-19	1.3110	1355.60	1356.27	-0.67	-0.05%
19-Oct-19	1.4070	1386.84	1388.32	-1.47	-0.11%
19-Oct-19	1.4070	1386.84	1388.32	-1.47	-0.11%
19-Feb-19	1.0480	1363.48	1363.01	0.47	0.03%
21-Sep-18	0.9320	1262.01	1261.92	0.09	0.01%
11-May-18	0.8570	1334.72	1334.16	0.55	0.04%
8-Oct-19	1.3270	1227.70	1228.39	-0.68	-0.06%
8-Oct-19	1.3260	1226.55	1227.23	-0.68	-0.06%
11-May-19	1.2450	1290.03	1291.22	-1.19	-0.09%
16-Apr-19	1.6630	1395.96	1399.28	-3.31	-0.24%
16-Apr-19	1.6630	1395.96	1399.28	-3.31	-0.24%
20-Sep-19	1.2730	1263.66	1259.70	3.96	0.31%
30-Nov-17	0.8060	1347.20	1346.61	0.59	0.04%

11-May-18	0.8590	1337.70	1337.15	0.55	0.04%
29-Jul-19	1.1970	1328.76	1329.91	-1.14	-0.09%
22-Jan-20	1.5690	1307.03	1309.61	-2.58	-0.20%
22-Jan-20	1.5700	1308.41	1310.99	-2.58	-0.20%
20-Sep-18	0.9110	1396.37	1396.89	-0.52	-0.04%
12-Nov-18	1.3390	1431.70	1434.12	-2.43	-0.17%
31-Jul-19	1.2990	1325.35	1326.96	-1.62	-0.12%
26-Feb-20	1.4050	1442.19	1443.86	-1.67	-0.12%
14-Jul-19	1.3290	1352.48	1353.12	-0.64	-0.05%
14-Jul-19	1.3290	1352.48	1353.12	-0.64	-0.05%
10-May-18	0.8830	1278.74	1277.15	1.60	0.12%
8-Feb-18	0.9670	1349.70	1348.07	1.63	0.12%
4-Apr-19	1.2500	1315.30	1314.92	0.37	0.03%
30-Apr-19	1.5050	1501.51	1503.16	-1.65	-0.11%
26-Feb-19	1.4360	1425.82	1426.69	-0.87	-0.06%
26-Feb-19	1.4360	1425.82	1426.69	-0.87	-0.06%
30-Apr-20	1.7770	1373.16	1374.70	-1.53	-0.11%
13-Dec-17	0.7130	1270.89	1271.34	-0.45	-0.04%
29-Jul-19	1.1910	1347.81	1349.14	-1.33	-0.10%
	1.3100	1335.70	1337.33	-1.63	-0.12%
30-Jul-19	1.3100	1306.85	1308.27	-1.41	-0.11%
30-Jul-19	1.3100	1306.85	1308.27	-1.41	-0.11%
20-Dec-19	1.5540	1394.55	1397.04	-2.50	-0.18%
20-Dec-19	1.5550	1395.40	1397.90	-2.50	-0.18%
20-Sep-19	1.4860	1283.27	1283.53	-0.26	-0.02%
19-Sep-17	0.8480	1211.18	1210.23	0.94	0.08%
17-Jan-20	1.6800	1520.68	1523.61	-2.93	-0.19%
20-Sep-19	1.4910	1287.78	1288.03	-0.26	-0.02%
13-Feb-19	0.9510	1282.11	1281.55	0.56	0.04%
13-Feb-19	0.9520	1282.64	1282.08	0.56	0.04%
13-Feb-19	0.9510	1282.39	1281.83	0.56	0.04%
2-Jan-20	1.2610	1363.11	1362.76	0.35	0.03%
30-Jul-19	1.4220	1405.51	1407.30	-1.79	-0.13%
30-Jul-19	1.4220	1405.51	1407.30	-1.79	-0.13%
20-Nov-17	1.1750	1439.48	1439.19	0.29	0.02%
3-Sep-19	1.3190	1438.90	1439.21	-0.31	-0.02%
3-Sep-19	1.3180	1437.92	1438.23	-0.31	-0.02%
23-Dec-19	1.4870	1357.16	1359.01	-1.85	-0.14%
26-Nov-19	1.2480	1382.23	1383.07	-0.85	-0.06%
26-Nov-19	1.2480	1382.23	1383.07	-0.85	-0.06%
26-Nov-19	1.2480	1382.23	1383.07	-0.85	-0.06%
26-Feb-20	1.5590	1346.33	1348.88	-2.55	-0.19%
26-Feb-20	1.5590	1346.33	1348.88	-2.55	-0.19%
26-Jul-19	1.2080	1256.71	1257.86	-1.14	-0.09%
1-Nov-19	1.0900	1298.37	1297.69	0.68	0.05%
1-Nov-19	1.0900	1298.37	1297.69	0.68	0.05%
2-Jan-20	1.1810	1335.35	1335.30	0.05	0.00%
29-Jul-19	1.4260	1469.94	1471.84	-1.90	-0.13%
29-Jul-19	1.4260	1469.94	1471.84	-1.90	-0.13%
11-May-20	1.2320	1395.11	1395.30	-0.19	-0.01%
14-Jan-20	1.2010	1362.57	1360.87	1.70	0.12%
16-Apr-19	1.7760	1391.33	1394.93	-3.61	-0.26%
25-Apr-19	0.9770	1177.95	1171.97	5.98	0.51%
25-Apr-19	0.9770	1178.43	1172.45	5.98	0.51%
22-Sep-17	0.9220	1181.51	1178.86	2.65	0.22%
16-Jan-20	1.2230	1319.15	1318.88	0.28	0.02%
10-Jun-19	1.6070	1413.78	1415.32	-1.54	-0.11%

15-Sep-19	1.4080	1439.62	1439.26	0.35	0.02%
20-Nov-17	0.9900	1509.04	1506.85	2.18	0.14%
31-Oct-19	1.9060	1349.72	1351.15	-1.44	-0.11%
31-Oct-19	1.9060	1349.72	1351.15	-1.44	-0.11%
18-Sep-18	0.9940	1429.63	1430.23	-0.61	-0.04%
4-Mar-20	1.4950	1511.51	1513.65	-2.13	-0.14%
4-Mar-20	1.4950	1511.51	1513.65	-2.13	-0.14%
5-Jun-19	1.1720	1459.45	1460.58	-1.13	-0.08%
16-Apr-19	1.4320	1379.00	1381.16	-2.16	-0.16%
31-Jan-19	1.0220	1282.75	1281.05	1.69	0.13%
18-Dec-19	1.3510	1342.02	1343.66	-1.65	-0.12%
18-Dec-19	1.3510	1342.00	1343.64	-1.65	-0.12%
20-Nov-18	1.0870	1265.18	1265.10	0.08	0.01%
25-Mar-19	1.3290	1348.97	1349.69	-0.72	-0.05%
12-Apr-18	1.0250	1351.94	1349.13	2.81	0.21%
9-Apr-18	0.8590	1276.09	1274.16	1.93	0.15%
6-Apr-20	1.5190	1369.75	1369.84	-0.10	-0.01%
5-Mar-20	1.5230	1311.41	1313.08	-1.67	-0.13%
8-May-19	0.9830	1266.53	1265.15	1.38	0.11%
8-May-19	0.9830	1266.53	1265.15	1.38	0.11%
8-May-19	0.9830	1266.53	1265.15	1.38	0.11%
15-Oct-19	1.6740	1419.25	1421.61	-2.37	-0.17%
15-Oct-19	1.6740	1419.25	1421.61	-2.37	-0.17%
16-Aug-19	1.4820	1497.97	1499.93	-1.96	-0.13%
14-Nov-19	1.4740	1617.01	1619.10	-2.09	-0.13%
14-Nov-19	1.4740	1617.01	1619.10	-2.09	-0.13%
17-Apr-19	1.4470	1385.14	1384.99	0.15	0.01%
15-Sep-19	1.4340	1465.18	1464.83	0.35	0.02%
15-Nov-19	1.4920	1487.82	1488.55	-0.73	-0.05%
15-Nov-19	1.4930	1488.01	1488.74	-0.73	-0.05%
18-Sep-19	1.6080	1448.03	1450.52	-2.49	-0.17%
18-Sep-19	1.6080	1448.42	1450.90	-2.49	-0.17%
7-May-19	1.3700	1613.10	1613.75	-0.65	-0.04%
17-Oct-18	0.7390	1145.76	1145.86	-0.09	-0.01%
13-Jan-20	1.4850	1525.29	1526.63	-1.34	-0.09%
8-Jan-20	1.2620	1383.65	1385.35	-1.70	-0.12%
24-Apr-19	1.1610	1301.42	1301.02	0.39	0.03%
27-May-19	1.2720	1396.82	1397.88	-1.06	-0.08%
27-May-19	1.2720	1396.82	1397.88	-1.06	-0.08%
20-Nov-17	0.7070	1280.25	1277.93	2.32	0.18%
27-May-19	1.4480	1535.93	1538.17	-2.24	-0.15%
8-Jul-19	1.4360	1457.89	1459.56	-1.66	-0.11%
20-Sep-18	0.8210	1393.16	1391.52	1.64	0.12%
11-May-20	1.4660	1564.24	1566.39	-2.15	-0.14%
12-Jul-19	1.0030	1277.03	1276.29	0.74	0.06%
28-Jan-20	1.5920	1237.05	1237.30	-0.25	-0.02%
15-Jan-19	1.0080	1283.84	1283.08	0.76	0.06%
1-Jul-19	1.4640	1296.80	1289.42	7.38	0.57%
24-Mar-20	1.5920	1481.25	1483.14	-1.89	-0.13%
9-Sep-19	1.2710	1367.88	1367.60	0.27	0.02%
9-Sep-19	1.2710	1367.88	1367.60	0.27	0.02%
18-Feb-19	1.8340	1436.86	1440.25	-3.40	-0.24%
18-Feb-19	1.8340	1436.86	1440.25	-3.40	-0.24%
18-Feb-19	1.8340	1436.86	1440.25	-3.40	-0.24%
18-Feb-19	1.8340	1436.86	1440.25	-3.40	-0.24%
18-Feb-19	1.4290	1431.34	1433.22	-1.88	-0.13%
18-Feb-19	1.4290	1431.34	1433.22	-1.88	-0.13%

14-Nov-18	0.9140	1250.67	1246.26	4.41	0.35%
14-Dec-19	1.5830	1416.39	1419.82	-3.44	-0.24%
2-Aug-19	1.4860	1322.42	1323.54	-1.12	-0.08%
16-Feb-18	1.0390	1287.55	1287.22	0.32	0.03%
25-Jul-18	0.8900	1308.29	1307.14	1.15	0.09%
12-Mar-20	1.4330	1447.42	1448.04	-0.63	-0.04%
12-Mar-20	1.4330	1447.42	1448.04	-0.63	-0.04%
12-Mar-20	1.4330	1447.42	1448.04	-0.63	-0.04%
7-Oct-19	1.7920	1466.15	1469.80	-3.65	-0.25%
7-Oct-19	1.7910	1464.65	1468.30	-3.65	-0.25%
11-Feb-20	1.2240	1325.18	1327.05	-1.87	-0.14%
11-Feb-20	1.2240	1325.18	1327.05	-1.87	-0.14%
18-Apr-19	1.3540	1346.52	1347.33	-0.82	-0.06%
27-Sep-17	1.0350	1552.65	1550.63	2.01	0.13%
2-Oct-19	1.3440	1387.54	1387.62	-0.08	-0.01%
24-Nov-19	1.2030	1291.35	1290.96	0.39	0.03%
24-Nov-19	1.6790	1375.12	1377.37	-2.25	-0.16%
11-Feb-20	1.3540	1405.49	1407.35	-1.86	-0.13%
11-Feb-20	1.3540	1405.49	1407.35	-1.86	-0.13%
29-May-19	0.9860	1255.21	1252.41	2.80	0.22%
14-May-19	0.9750	1354.86	1353.42	1.44	0.11%
14-May-19	0.9750	1355.33	1353.89	1.44	0.11%
9-May-19	1.5340	1391.99	1394.66	-2.67	-0.19%
29-Aug-19	1.5040	1410.13	1407.37	2.76	0.20%
29-Aug-19	1.5040	1410.13	1407.37	2.76	0.20%
29-Aug-19	1.5040	1410.13	1407.37	2.76	0.20%
29-Aug-19	1.5040	1410.13	1407.37	2.76	0.20%
26-Feb-19	1.5810	1453.68	1455.20	-1.52	-0.10%
26-Feb-19	1.5810	1453.68	1455.20	-1.52	-0.10%
27-Oct-17	0.8710	1211.74	1207.99	3.76	0.31%
22-Feb-18	0.9340	1296.49	1295.78	0.71	0.05%
23-Jul-19	0.9410	1327.78	1327.17	0.61	0.05%
1-Jan-20	1.2270	1298.07	1296.20	1.87	0.14%
31-Jul-19	1.3810	1250.43	1251.88	-1.45	-0.12%
10-Jan-19	1.6670	1538.51	1540.22	-1.70	-0.11%
21-Jul-18	1.2600	1309.33	1308.79	0.55	0.04%
11-Jun-19	1.0600	1262.44	1261.85	0.59	0.05%
1-Feb-19	1.4560	1389.95	1390.90	-0.94	-0.07%
10-Jan-20	1.5240	1443.88	1445.67	-1.79	-0.12%
19-Sep-19	1.0200	1282.76	1281.79	0.97	0.08%
13-Aug-19	1.4090	1505.72	1506.93	-1.20	-0.08%
13-Aug-19	1.4090	1505.72	1506.93	-1.20	-0.08%
5-Feb-20	1.5810	1583.90	1586.35	-2.45	-0.15%
24-Nov-19	1.2290	1319.15	1318.78	0.37	0.03%
11-Jan-18	0.8910	1321.07	1319.46	1.61	0.12%
3-Apr-19	1.4010	1347.12	1347.95	-0.83	-0.06%
26-Feb-19	1.6550	1450.61	1451.58	-0.98	-0.07%
1-May-19	1.5050	1560.34	1562.68	-2.35	-0.15%
1-May-19	1.5050	1560.34	1562.68	-2.35	-0.15%
3-Apr-19	1.4070	1352.26	1353.09	-0.83	-0.06%
16-May-20	1.5700	1468.41	1469.38	-0.97	-0.07%
10-Aug-19	1.6370	1328.27	1330.34	-2.07	-0.16%
10-Aug-19	1.6370	1328.27	1330.34	-2.07	-0.16%
26-Feb-19	1.5150	1457.05	1458.26	-1.21	-0.08%
26-Feb-19	1.5150	1457.05	1458.26	-1.21	-0.08%
19-Sep-19	1.0290	1292.74	1291.77	0.97	0.08%
12-Apr-20	1.4140	1346.02	1346.36	-0.34	-0.03%

26-Jul-19	1.3560	1293.13	1291.99	1.14	0.09%
26-Jul-19	1.3560	1293.13	1291.99	1.14	0.09%
23-Apr-19	1.1080	1396.74	1396.82	-0.08	-0.01%
16-Apr-20	1.5680	1359.94	1362.02	-2.08	-0.15%
16-Apr-20	1.5680	1359.94	1362.02	-2.08	-0.15%
20-Sep-18	1.0630	1285.05	1284.78	0.27	0.02%
9-May-19	1.6650	1443.87	1446.69	-2.82	-0.20%
21-Sep-17	1.0880	1270.11	1269.01	1.11	0.09%
1-Feb-19	1.4260	1324.41	1325.11	-0.70	-0.05%
7-May-20	2.4620	1644.11	1649.81	-5.69	-0.35%
13-Dec-18	1.0340	1274.79	1269.94	4.85	0.38%
14-May-20	1.5660	1487.46	1489.52	-2.07	-0.14%
12-Mar-20	1.4410	1429.64	1429.90	-0.26	-0.02%
12-Mar-20	1.4410	1429.64	1429.90	-0.26	-0.02%
25-Jul-19	1.5060	1395.76	1397.82	-2.06	-0.15%
8-Jan-19	1.7320	1512.66	1514.81	-2.15	-0.14%
8-May-19	1.4000	1371.05	1373.41	-2.36	-0.17%
23-Oct-19	1.5860	1332.30	1330.36	1.93	0.15%
23-Oct-19	1.5860	1332.30	1330.36	1.93	0.15%
16-Apr-19	1.6360	1391.35	1394.21	-2.86	-0.21%
16-Apr-19	1.6360	1391.35	1394.21	-2.86	-0.21%
12-Jun-19	1.1460	1310.25	1308.04	2.21	0.17%
22-Aug-18	1.1330	1168.42	1167.86	0.56	0.05%
8-Jan-20	1.7220	1484.68	1487.21	-2.54	-0.17%
11-Jul-18	0.9340	1286.99	1284.00	3.00	0.23%
20-May-19	1.0830	1291.24	1290.88	0.35	0.03%
4-Aug-18	1.4330	1215.88	1215.37	0.51	0.04%
12-Oct-19	1.5950	1364.65	1365.29	-0.65	-0.05%
2-Jun-19	1.8750	1570.31	1573.90	-3.60	-0.23%
2-Jun-19	1.8750	1570.31	1573.90	-3.60	-0.23%
11-Feb-20	1.6260	1417.88	1420.13	-2.24	-0.16%
11-Feb-20	1.6260	1417.88	1420.13	-2.24	-0.16%
1-Jun-17	0.9350	1695.52	1694.94	0.58	0.03%
1-Jun-19	1.4110	1472.38	1474.07	-1.69	-0.12%
12-Oct-19	1.6020	1370.69	1371.34	-0.65	-0.05%
3-Jun-19	1.6090	1423.13	1424.31	-1.18	-0.08%
3-Jun-19	1.6090	1423.13	1424.31	-1.18	-0.08%
10-Jan-20	1.8280	1529.44	1532.72	-3.28	-0.21%
26-Sep-19	2.2750	1569.95	1575.17	-5.22	-0.33%
26-Sep-19	2.2750	1569.95	1575.17	-5.22	-0.33%
5-Jan-20	1.4960	1371.08	1372.43	-1.35	-0.10%
6-Jun-19	1.5640	1417.11	1418.29	-1.18	-0.08%
25-Jan-18	0.9510	1318.20	1315.99	2.21	0.17%
25-Jan-18	0.9510	1317.49	1315.28	2.21	0.17%
15-Jun-20	1.6020	1390.65	1392.28	-1.63	-0.12%
27-Dec-19	1.4010	1365.76	1366.57	-0.81	-0.06%
17-Apr-19	1.3410	1308.35	1305.05	3.30	0.25%
23-Apr-20	1.7320	1353.35	1355.18	-1.83	-0.14%
19-Sep-19	1.6760	1354.36	1355.27	-0.91	-0.07%
1-Jul-19	1.5490	1328.48	1322.74	5.74	0.43%
8-Jan-19	1.5830	1421.56	1423.75	-2.19	-0.15%
18-Feb-19	1.8560	1472.83	1476.90	-4.07	-0.28%
18-Feb-19	1.8560	1472.83	1476.90	-4.07	-0.28%
18-Feb-19	1.8560	1472.83	1476.90	-4.07	-0.28%
18-Feb-19	1.8560	1472.83	1476.90	-4.07	-0.28%
28-Jun-19	1.0830	1350.51	1350.23	0.28	0.02%
16-Jan-19	1.2580	1325.38	1325.20	0.18	0.01%

16-Jan-19	1.2580	1326.18	1326.01	0.18	0.01%
30-Nov-17	1.0730	1243.40	1240.67	2.74	0.22%
27-Dec-19	1.4950	1591.22	1593.11	-1.89	-0.12%
1-Nov-19	1.3410	1320.40	1318.86	1.55	0.12%
1-Nov-19	1.3410	1320.40	1318.86	1.55	0.12%
22-Nov-19	1.4730	1514.77	1516.25	-1.48	-0.10%
27-Nov-18	1.0310	1296.12	1294.62	1.49	0.12%
10-Apr-18	0.9390	1309.21	1306.73	2.48	0.19%
27-Dec-19	1.4120	1374.39	1375.21	-0.82	-0.06%
27-Dec-19	1.5030	1598.70	1600.60	-1.90	-0.12%
22-May-20	1.8430	1566.94	1569.37	-2.43	-0.16%
12-Jun-19	1.2720	1319.57	1317.56	2.01	0.15%
16-Jul-18	0.9930	1197.78	1194.14	3.64	0.30%
14-Nov-19	1.6740	1668.56	1671.01	-2.44	-0.15%
14-Nov-19	1.6740	1668.56	1671.01	-2.44	-0.15%
8-Aug-18	0.9260	1323.39	1319.81	3.57	0.27%
13-Dec-17	1.1260	1301.95	1300.12	1.83	0.14%
18-Feb-19	1.7410	1420.53	1421.71	-1.18	-0.08%
18-Feb-19	1.7410	1420.53	1421.71	-1.18	-0.08%
12-Jul-18	1.1200	1294.83	1291.62	3.21	0.25%
13-Dec-17	0.9450	1274.53	1272.38	2.15	0.17%
7-Oct-19	1.4920	1294.42	1291.96	2.46	0.19%
7-Oct-19	1.4920	1294.42	1291.96	2.46	0.19%
29-Apr-19	1.1760	1259.71	1257.94	1.77	0.14%
29-Apr-19	1.1760	1259.71	1257.94	1.77	0.14%
31-Jul-19	2.0410	1637.21	1640.96	-3.75	-0.23%
31-Jul-19	2.0400	1636.39	1640.14	-3.75	-0.23%
15-May-18	1.1050	1684.39	1683.44	0.96	0.06%
20-Nov-17	1.5600	1460.15	1462.35	-2.20	-0.15%
31-Oct-17	0.9700	1213.01	1208.90	4.10	0.34%
29-May-18	1.2310	1557.42	1559.17	-1.75	-0.11%
6-Aug-19	1.6430	1596.96	1598.71	-1.76	-0.11%
12-Nov-19	1.5130	1440.37	1439.79	0.57	0.04%
1-Apr-20	1.7800	1504.29	1506.99	-2.70	-0.18%
10-Aug-19	1.1920	1247.73	1245.59	2.14	0.17%
10-Aug-19	1.1920	1247.73	1245.59	2.14	0.17%
19-Mar-18	1.0240	1528.61	1528.28	0.32	0.02%
18-May-18	1.0500	1252.71	1250.69	2.02	0.16%
31-Mar-20	1.5360	1549.20	1551.05	-1.86	-0.12%
25-Jun-19	1.9790	1380.11	1384.32	-4.21	-0.30%
25-Jun-19	1.9790	1380.11	1384.32	-4.21	-0.30%
13-Nov-19	1.7220	1312.41	1313.44	-1.04	-0.08%
31-Jul-19	1.6920	1391.91	1393.50	-1.59	-0.11%
25-Mar-20	1.5230	1393.96	1393.82	0.14	0.01%
25-Mar-20	1.5230	1393.96	1393.82	0.14	0.01%
11-May-20	1.7580	1734.60	1737.20	-2.60	-0.15%
1-Jun-19	1.5320	1498.71	1499.94	-1.23	-0.08%
6-Jan-19	1.4730	1346.55	1349.14	-2.59	-0.19%
13-Nov-19	1.7310	1317.90	1318.92	-1.02	-0.08%
15-Sep-19	2.5350	1471.61	1476.30	-4.69	-0.32%
15-Sep-19	2.5350	1471.61	1476.30	-4.69	-0.32%
5-Jan-19	1.6760	1391.16	1392.35	-1.19	-0.09%
12-Nov-19	1.5730	1447.46	1447.21	0.24	0.02%
20-Mar-19	1.0380	1289.02	1287.73	1.29	0.10%
20-Mar-19	1.0390	1289.11	1287.82	1.29	0.10%
18-Sep-18	0.9880	1376.56	1375.54	1.02	0.07%
8-Aug-17	1.0640	1307.90	1307.77	0.13	0.01%

7-Oct-19	1.6670	1619.39	1621.18	-1.79	-0.11%
22-Apr-20	1.4880	1334.20	1336.31	-2.12	-0.16%
3-Jul-19	1.7840	1376.02	1377.28	-1.26	-0.09%
21-Mar-19	0.9930	1325.76	1322.55	3.21	0.24%
20-Oct-17	1.0760	1451.38	1449.05	2.33	0.16%
23-Oct-18	1.4970	1580.98	1582.64	-1.66	-0.11%
23-Oct-18	1.4970	1580.98	1582.64	-1.66	-0.11%
18-Dec-18	1.7670	1390.70	1392.65	-1.96	-0.14%
26-Jul-19	1.5910	1416.67	1418.59	-1.93	-0.14%
26-Jul-19	1.5910	1416.67	1418.59	-1.93	-0.14%
11-Apr-19	1.1570	1377.98	1374.81	3.17	0.23%
13-Aug-19	1.6410	1595.20	1596.94	-1.74	-0.11%
13-Aug-19	1.6410	1595.20	1596.94	-1.74	-0.11%
11-May-20	1.5980	1396.68	1398.48	-1.80	-0.13%
28-Oct-18	1.5350	1316.61	1318.10	-1.48	-0.11%
9-Sep-19	1.7450	1646.40	1648.43	-2.03	-0.12%
15-May-19	1.2040	1156.73	1152.66	4.07	0.35%
11-Aug-19	1.7610	1633.78	1635.80	-2.03	-0.12%
14-May-19	1.4670	1360.30	1357.02	3.28	0.24%
14-May-19	1.4670	1360.30	1357.02	3.28	0.24%
17-Oct-17	2.0280	1468.05	1472.15	-4.11	-0.28%
14-Jul-19	1.7720	1650.68	1652.62	-1.93	-0.12%
5-Apr-18	1.0650	1317.14	1316.50	0.64	0.05%
26-Dec-19	1.8190	1578.81	1581.97	-3.16	-0.20%
1-Jul-19	1.5690	1347.85	1344.66	3.19	0.24%
12-Sep-19	1.6460	1407.48	1408.12	-0.64	-0.05%
12-Sep-19	1.6460	1407.48	1408.12	-0.64	-0.05%
19-Oct-17	1.0510	1351.38	1348.04	3.34	0.25%
10-Jun-19	1.5510	1430.42	1433.52	-3.10	-0.22%
10-Jun-19	1.5510	1430.42	1433.52	-3.10	-0.22%
27-Mar-19	1.6860	1363.58	1364.42	-0.83	-0.06%
1-Jul-19	1.5820	1358.42	1355.19	3.23	0.24%
28-Aug-19	1.6080	1412.32	1412.12	0.20	0.01%
12-Aug-19	0.9660	1242.91	1240.27	2.64	0.21%
10-Jan-18	1.0730	1256.48	1254.12	2.37	0.19%
10-Jan-18	1.0730	1256.10	1253.73	2.37	0.19%
4-May-18	1.1570	1391.48	1388.70	2.77	0.20%
12-Aug-19	0.9700	1248.78	1246.14	2.64	0.21%
6-Aug-18	1.0920	1289.78	1286.41	3.36	0.26%
5-Nov-19	1.4160	1328.83	1328.72	0.11	0.01%
5-Nov-19	1.4160	1328.83	1328.72	0.11	0.01%
21-Mar-19	1.0760	1293.45	1290.58	2.88	0.22%
10-Apr-18	1.0930	1358.24	1354.65	3.59	0.26%
18-Sep-18	0.8940	1246.04	1244.97	1.07	0.09%
12-Apr-20	1.6040	1398.89	1399.53	-0.64	-0.05%
26-Mar-19	2.1470	1485.84	1489.53	-3.69	-0.25%
28-Aug-19	1.6390	1438.86	1438.65	0.21	0.01%
5-Feb-20	1.5050	1367.60	1367.48	0.13	0.01%
11-Jul-19	1.7410	1382.65	1378.77	3.89	0.28%
25-Mar-19	1.3180	1243.64	1242.90	0.74	0.06%
11-May-20	1.6710	1560.45	1562.33	-1.88	-0.12%
5-Aug-19	1.5610	1397.20	1396.21	0.99	0.07%
5-Aug-19	1.5610	1397.20	1396.21	0.99	0.07%
13-Nov-19	1.4070	1430.61	1431.59	-0.98	-0.07%
13-Nov-19	1.4070	1430.61	1431.59	-0.98	-0.07%
7-May-19	1.6310	1585.36	1586.47	-1.11	-0.07%
26-Jul-19	1.6950	1409.02	1411.24	-2.22	-0.16%

26-Jul-19	1.6950	1409.02	1411.24	-2.22	-0.16%
16-Aug-18	1.1080	1249.26	1246.04	3.22	0.26%
25-Nov-18	0.9910	1221.78	1219.67	2.11	0.17%
5-Feb-20	1.8030	1606.94	1609.02	-2.08	-0.13%
9-May-19	1.6370	1440.76	1441.97	-1.22	-0.08%
9-May-19	1.6370	1440.76	1441.97	-1.22	-0.08%
2-May-19	1.5940	1357.64	1356.52	1.13	0.08%
2-May-19	1.5940	1357.64	1356.52	1.13	0.08%
29-Apr-19	1.5510	1309.21	1310.16	-0.95	-0.07%
14-Aug-18	0.8900	1297.69	1297.62	0.08	0.01%
11-Aug-19	1.4450	1440.29	1440.20	0.10	0.01%
30-Apr-19	1.8860	1539.44	1541.99	-2.55	-0.17%
13-Apr-20	1.5340	1440.51	1443.25	-2.75	-0.19%
14-Nov-19	1.6700	1410.97	1412.53	-1.56	-0.11%
14-Nov-19	1.6680	1408.97	1410.53	-1.55	-0.11%
9-May-19	1.1390	1251.66	1247.18	4.49	0.36%
9-May-19	1.1390	1251.66	1247.18	4.49	0.36%
10-Oct-17	0.9350	1240.09	1236.52	3.57	0.29%
18-Jul-18	1.1760	1295.73	1294.24	1.49	0.11%
14-Sep-19	1.4990	1360.92	1360.61	0.32	0.02%
14-Sep-19	1.4990	1361.13	1360.81	0.32	0.02%
26-Jul-19	1.3310	1286.39	1286.41	-0.01	0.00%
25-May-19	1.6700	1459.43	1459.70	-0.27	-0.02%
21-Mar-19	0.9300	1314.58	1311.44	3.14	0.24%
16-May-19	1.1900	1305.27	1301.89	3.38	0.26%
20-Oct-17	1.2240	1351.75	1346.74	5.01	0.37%
3-Jan-20	2.0840	1467.58	1471.45	-3.88	-0.26%
12-Apr-20	1.6030	1396.05	1397.42	-1.37	-0.10%
13-Dec-19	1.7060	1378.18	1379.04	-0.86	-0.06%
11-Nov-19	2.2270	2019.42	2023.85	-4.43	-0.22%
25-May-19	1.6810	1469.10	1469.37	-0.27	-0.02%
20-Mar-19	1.3120	1297.59	1296.55	1.04	0.08%
14-Dec-17	1.0420	1300.81	1300.13	0.68	0.05%
14-Dec-17	1.0420	1301.10	1300.42	0.68	0.05%
27-Sep-17	1.4300	1329.08	1329.00	0.08	0.01%
16-Jan-20	1.3880	1315.74	1313.61	2.13	0.16%
11-Nov-19	2.2440	2033.63	2038.08	-4.45	-0.22%
6-Oct-17	0.9580	1372.43	1370.62	1.81	0.13%
27-May-20	1.8920	1274.68	1276.90	-2.23	-0.17%
20-Mar-19	1.1960	1271.38	1267.22	4.16	0.33%
17-May-18	1.2410	1361.12	1355.41	5.71	0.42%
22-Sep-17	1.1170	1348.30	1345.63	2.66	0.20%
29-Jul-18	1.7420	1489.07	1489.04	0.03	0.00%
14-Jan-20	1.5980	1304.77	1305.26	-0.50	-0.04%
16-Jan-20	1.4120	1338.07	1335.91	2.15	0.16%
21-Aug-19	1.2310	1356.34	1353.73	2.61	0.19%
20-Jun-19	0.9620	1237.62	1234.53	3.09	0.25%
11-May-20	1.8350	1667.04	1669.11	-2.08	-0.12%
9-Jun-20	2.1370	1501.26	1504.64	-3.38	-0.22%
9-Jun-20	2.1370	1501.26	1504.64	-3.38	-0.22%
26-Jun-19	1.8260	1369.65	1371.46	-1.81	-0.13%
17-May-20	1.7510	1478.17	1478.63	-0.46	-0.03%
11-Jul-19	1.9920	1492.82	1491.97	0.85	0.06%
7-Mar-18	1.0340	1308.45	1308.51	-0.07	-0.01%
27-Aug-19	1.7210	1469.51	1469.96	-0.44	-0.03%
11-Jul-19	1.9940	1493.24	1492.40	0.85	0.06%
23-Jan-20	1.8090	1430.57	1431.64	-1.08	-0.08%

21-Aug-19	1.2500	1375.95	1373.29	2.65	0.19%
4-Sep-19	1.8810	1449.05	1448.67	0.37	0.03%
10-Jan-19	1.9140	1502.42	1503.94	-1.52	-0.10%
10-Jan-19	1.9130	1501.07	1502.59	-1.52	-0.10%
12-Apr-18	1.2530	1372.52	1370.67	1.85	0.14%
6-Jun-19	1.2600	1286.81	1283.75	3.07	0.24%
13-May-20	1.8910	1446.49	1448.35	-1.86	-0.13%
7-Oct-19	1.7930	1446.39	1448.89	-2.50	-0.17%
7-Oct-19	1.7930	1446.12	1448.62	-2.50	-0.17%
9-May-19	1.6760	1412.54	1414.39	-1.85	-0.13%
26-Feb-20	2.0230	1424.23	1427.47	-3.24	-0.23%
7-Jul-17	1.1120	1305.16	1301.89	3.28	0.25%
31-Dec-19	1.8380	1322.15	1321.89	0.26	0.02%
4-Oct-18	2.1830	1395.11	1400.35	-5.24	-0.38%
16-Apr-19	1.2540	1369.55	1369.12	0.43	0.03%
16-Apr-19	1.2540	1369.46	1369.04	0.43	0.03%
12-Oct-19	1.8230	1358.70	1359.26	-0.56	-0.04%
15-Mar-18	1.8040	1321.64	1314.90	6.74	0.51%
15-May-19	1.2740	1170.72	1167.70	3.03	0.26%
22-May-20	1.7640	1295.93	1295.53	0.40	0.03%
10-Jan-18	1.1920	1247.57	1243.15	4.42	0.35%
11-Nov-19	1.2670	1304.27	1302.52	1.75	0.13%
11-Nov-19	1.2670	1304.27	1302.52	1.75	0.13%
16-May-20	1.8470	1468.58	1468.96	-0.39	-0.03%
12-Sep-19	1.6260	1389.13	1391.41	-2.29	-0.16%
12-Sep-19	1.6260	1389.16	1391.45	-2.29	-0.16%
20-Jun-18	1.3300	1476.63	1472.85	3.78	0.26%
9-May-19	1.8070	1580.68	1582.58	-1.90	-0.12%
9-May-19	1.8070	1580.68	1582.58	-1.90	-0.12%
24-May-18	0.8610	1195.60	1193.42	2.17	0.18%
19-Sep-18	1.4370	1273.14	1265.77	7.37	0.58%
14-Feb-18	1.2220	1331.88	1330.24	1.63	0.12%
4-May-19	2.3710	1451.22	1453.65	-2.44	-0.17%
26-Jul-17	1.2250	1211.79	1208.50	3.29	0.27%
27-Aug-19	1.8130	1476.00	1476.70	-0.70	-0.05%
27-Aug-19	1.8130	1476.00	1476.70	-0.70	-0.05%
19-Sep-18	1.4460	1281.02	1273.60	7.42	0.58%
19-Sep-17	1.2060	1280.06	1275.73	4.33	0.34%
20-Mar-19	1.3610	1274.43	1270.43	4.00	0.31%
6-May-19	1.8390	1403.95	1403.96	-0.01	0.00%
27-Jul-18	2.1710	1437.20	1438.38	-1.18	-0.08%
17-Apr-19	2.1290	1836.25	1838.41	-2.16	-0.12%
10-May-18	1.1970	1321.12	1313.77	7.35	0.56%
25-Aug-17	1.0610	1292.67	1289.73	2.94	0.23%
6-Aug-19	1.9060	1670.81	1672.96	-2.15	-0.13%
21-Aug-18	1.2640	1350.10	1346.72	3.38	0.25%
28-Jul-18	2.0510	1457.60	1458.02	-0.42	-0.03%
12-Apr-20	1.7850	1393.42	1393.61	-0.19	-0.01%
25-Aug-17	0.9780	1159.10	1156.20	2.90	0.25%
15-Sep-19	1.9090	1458.01	1458.80	-0.79	-0.05%
27-Oct-17	1.2440	1477.69	1476.14	1.56	0.11%
19-Oct-17	1.4300	1372.60	1365.50	7.11	0.52%
15-Sep-19	1.9170	1464.28	1465.08	-0.80	-0.05%
21-Jan-20	1.8230	1432.74	1431.29	1.45	0.10%
21-Jan-20	1.8230	1432.94	1431.49	1.45	0.10%
14-Nov-19	1.9640	1645.22	1647.50	-2.27	-0.14%
14-Nov-19	1.9640	1645.22	1647.50	-2.27	-0.14%

15-Sep-19	1.9200	1466.67	1467.47	-0.80	-0.05%
14-Nov-18	1.1550	1300.34	1297.07	3.26	0.25%
12-Nov-19	2.1630	1471.33	1474.49	-3.16	-0.21%
12-Nov-19	2.1630	1471.33	1474.49	-3.16	-0.21%
4-Oct-18	1.9800	1432.21	1434.35	-2.13	-0.15%
5-Aug-19	1.7430	1411.11	1413.72	-2.60	-0.18%
3-Oct-19	2.4350	1966.89	1972.00	-5.11	-0.26%
3-Oct-19	2.4350	1966.89	1972.00	-5.11	-0.26%
20-Aug-18	1.2820	1319.98	1316.95	3.03	0.23%
5-Aug-19	1.7540	1419.64	1422.26	-2.62	-0.18%
10-Sep-19	2.1990	1527.13	1528.30	-1.17	-0.08%
10-Sep-19	2.1990	1527.13	1528.30	-1.17	-0.08%
6-Aug-19	1.8560	1559.01	1558.22	0.79	0.05%
6-Aug-19	1.8560	1559.01	1558.22	0.79	0.05%
6-Jun-19	3.1660	1595.86	1604.51	-8.65	-0.54%
5-Jan-19	2.1770	1518.42	1520.47	-2.04	-0.13%
26-Feb-18	1.4170	1389.02	1386.14	2.88	0.21%
20-Mar-19	1.3750	1312.95	1305.76	7.19	0.55%
18-Jul-19	2.6040	1545.85	1548.84	-2.99	-0.19%
18-Jul-19	2.6040	1546.42	1549.40	-2.99	-0.19%
15-Mar-18	2.0290	1225.43	1207.19	18.24	1.49%
11-Jun-19	2.2550	1430.82	1434.40	-3.59	-0.25%
11-Jun-19	2.2560	1431.38	1434.97	-3.59	-0.25%
11-Jun-19	2.2560	1431.01	1434.60	-3.59	-0.25%
11-Jun-19	2.2560	1430.91	1434.50	-3.59	-0.25%
16-Apr-18	1.4310	1409.83	1405.06	4.77	0.34%
18-Jan-18	1.2110	1315.63	1314.97	0.66	0.05%
17-May-20	2.0640	1606.70	1607.18	-0.48	-0.03%
25-Jun-19	1.6990	1333.39	1333.68	-0.29	-0.02%
27-Feb-19	1.5090	1377.25	1377.25	0.00	0.00%
11-May-20	2.0310	1465.08	1467.35	-2.28	-0.16%
24-Jul-19	1.2130	1282.89	1280.28	2.61	0.20%
1-Mar-19	2.3120	1449.17	1454.24	-5.08	-0.35%
24-Jul-19	1.2160	1286.80	1284.19	2.61	0.20%
23-Mar-18	1.4240	1377.12	1373.96	3.16	0.23%
7-Aug-19	2.3140	1361.46	1364.77	-3.30	-0.24%
9-May-19	2.1900	1674.08	1676.85	-2.77	-0.17%
7-Aug-19	2.3280	1369.76	1373.09	-3.33	-0.24%
29-Jun-17	1.6790	1315.22	1310.88	4.34	0.33%
30-Nov-17	1.4670	1395.52	1391.16	4.35	0.31%
10-Aug-19	2.2410	1414.75	1417.87	-3.12	-0.22%
10-Aug-19	2.2410	1414.75	1417.87	-3.12	-0.22%
14-Sep-19	2.6890	1612.64	1615.16	-2.52	-0.16%
6-Oct-17	1.6450	1385.88	1378.46	7.42	0.54%
26-Jul-19	2.3600	1649.36	1653.25	-3.88	-0.24%
13-Nov-19	2.2100	1464.02	1468.53	-4.51	-0.31%
13-Nov-19	2.2100	1464.02	1468.53	-4.51	-0.31%
12-Apr-18	1.5590	1380.87	1374.55	6.33	0.46%
11-Jun-18	1.3050	1412.75	1411.41	1.34	0.09%
24-Aug-17	1.9760	1460.32	1455.23	5.09	0.35%
14-Dec-17	1.2130	1189.71	1186.81	2.90	0.24%
25-Apr-19	1.4140	1384.23	1378.73	5.50	0.40%
16-Nov-17	1.5500	1536.81	1534.66	2.15	0.14%
25-Jul-17	1.3830	1424.70	1422.26	2.44	0.17%
7-Aug-17	1.4780	1400.85	1396.87	3.97	0.28%
8-May-20	1.9580	1416.94	1417.30	-0.36	-0.03%
8-Jul-19	2.1570	1418.74	1419.75	-1.01	-0.07%

8-Jul-19	2.1570	1418.74	1419.75	-1.01	-0.07%
26-Jul-19	2.4120	1684.80	1688.79	-3.98	-0.24%
10-May-18	1.3900	1304.50	1300.62	3.89	0.30%
2-May-19	2.0790	1397.45	1398.12	-0.66	-0.05%
16-Jul-18	1.3030	1328.02	1325.50	2.52	0.19%
10-Apr-18	1.4260	1495.44	1488.88	6.56	0.44%
1-Nov-17	1.4320	1432.11	1431.63	0.48	0.03%
28-Aug-19	1.8530	1566.85	1567.89	-1.04	-0.07%
28-Aug-19	1.8530	1566.85	1567.89	-1.04	-0.07%
6-Aug-19	2.1890	1358.66	1358.21	0.45	0.03%
14-Oct-19	2.4060	1463.50	1466.96	-3.46	-0.24%
14-Oct-19	2.4060	1463.50	1466.96	-3.46	-0.24%
17-Jul-18	1.2250	1283.21	1280.55	2.66	0.21%
5-Aug-18	2.0860	1376.82	1376.17	0.64	0.05%
29-Aug-18	1.6680	1377.11	1373.00	4.12	0.30%
26-Jul-17	2.3950	1386.19	1377.73	8.46	0.61%
30-Nov-14	1.3920	1367.49	1361.14	6.35	0.46%
6-Aug-19	2.2540	1397.53	1397.07	0.46	0.03%
4-Dec-17	1.8480	1277.29	1267.65	9.63	0.75%
12-Jul-17	1.5430	1348.50	1344.54	3.96	0.29%
16-May-19	1.6340	1433.72	1430.17	3.56	0.25%
5-Feb-20	2.2650	1394.50	1393.45	1.05	0.08%
5-Jun-19	2.2680	1578.30	1581.21	-2.91	-0.18%
21-Jul-18	2.0500	1377.37	1376.19	1.18	0.09%
2-Oct-17	1.5290	1244.09	1240.31	3.77	0.30%
7-May-20	2.1640	1606.03	1606.72	-0.69	-0.04%
16-May-18	1.3750	1389.65	1386.53	3.13	0.22%
16-May-18	1.7270	1361.09	1352.82	8.27	0.61%
11-Aug-19	2.1760	1300.30	1302.03	-1.73	-0.13%
11-Aug-19	2.1830	1304.53	1306.25	-1.72	-0.13%
12-Sep-17	2.1340	1433.96	1433.79	0.17	0.01%
11-Jul-19	2.4580	1497.92	1493.76	4.16	0.28%
11-Jul-19	2.4580	1497.89	1493.73	4.16	0.28%
26-Jul-19	1.9710	1402.36	1404.31	-1.95	-0.14%
26-Jul-19	1.9710	1402.36	1404.31	-1.95	-0.14%
11-Apr-18	1.5100	1372.69	1366.96	5.72	0.42%
4-May-19	1.9160	1358.50	1356.12	2.38	0.18%
4-May-19	1.9160	1358.50	1356.12	2.38	0.18%
17-May-20	2.1450	1421.99	1422.78	-0.79	-0.06%
20-Jul-18	2.2160	1385.99	1388.86	-2.86	-0.21%
27-Jun-19	1.7190	1288.29	1282.05	6.24	0.48%
1-Nov-17	1.6250	1584.16	1581.48	2.69	0.17%
26-Jul-17	1.7160	1359.40	1350.68	8.72	0.64%
18-Oct-17	2.6060	1605.49	1604.65	0.84	0.05%
16-Aug-19	2.4020	1614.08	1612.54	1.54	0.10%
16-Aug-19	2.4020	1614.08	1612.54	1.54	0.10%
26-Jul-17	1.8160	1397.34	1390.31	7.02	0.50%
14-Mar-18	1.5510	1418.30	1414.50	3.80	0.27%
5-Jan-20	1.3980	1291.41	1288.07	3.33	0.26%
30-Sep-17	1.4800	1365.39	1361.42	3.96	0.29%
5-Feb-20	2.4310	1410.64	1412.99	-2.35	-0.17%
7-Oct-19	4.0270	2053.56	2060.60	-7.03	-0.34%
7-Oct-19	4.0270	2053.56	2060.60	-7.03	-0.34%
26-Sep-17	1.8240	1389.19	1382.11	7.08	0.51%
12-Apr-18	2.0780	1337.95	1335.65	2.30	0.17%
4-Oct-17	1.9380	1308.06	1303.85	4.22	0.32%
7-May-20	2.9670	1651.76	1656.32	-4.56	-0.28%

23-Jul-18	1.9980	1412.99	1413.94	-0.95	-0.07%
29-Jun-17	1.6970	1329.05	1323.51	5.54	0.42%
10-Apr-18	1.6610	1457.84	1454.02	3.82	0.26%
20-Mar-18	1.5730	1588.29	1583.84	4.46	0.28%
9-May-19	2.8590	1591.13	1595.55	-4.42	-0.28%
9-May-19	2.8770	1600.46	1604.90	-4.44	-0.28%
18-Aug-17	1.4040	1373.08	1372.52	0.56	0.04%
11-Jul-19	2.7110	1550.72	1547.79	2.92	0.19%
11-Jul-19	2.7130	1551.81	1548.89	2.92	0.19%
31-Jul-19	2.4000	1427.76	1431.21	-3.45	-0.24%
31-Jul-19	2.4000	1427.76	1431.21	-3.45	-0.24%
31-Mar-20	2.5940	1695.07	1696.61	-1.54	-0.09%
13-Aug-19	3.2660	1700.30	1706.28	-5.98	-0.35%
13-Nov-19	2.1270	1444.48	1447.27	-2.80	-0.19%
13-Nov-19	2.1270	1444.48	1447.27	-2.80	-0.19%
6-Aug-19	2.6660	1437.25	1433.97	3.28	0.23%
6-Aug-19	2.6690	1439.30	1436.02	3.28	0.23%
12-Apr-18	1.7710	1462.29	1460.13	2.16	0.15%
23-Aug-17	2.1730	1543.28	1539.65	3.63	0.23%
18-Apr-18	1.7270	1325.41	1319.90	5.51	0.42%
16-Jul-18	1.9850	1429.95	1428.83	1.12	0.08%
12-Apr-18	1.7820	1347.92	1340.67	7.24	0.54%
21-May-18	2.1270	1446.39	1435.12	11.27	0.78%
17-May-20	2.1710	1397.49	1396.66	0.82	0.06%
27-Apr-18	1.9440	1359.73	1352.09	7.64	0.56%
15-May-18	2.1020	1689.05	1685.69	3.36	0.20%
6-Feb-18	1.6430	1451.16	1449.91	1.25	0.09%
5-Dec-17	2.0390	1412.46	1404.61	7.84	0.56%
27-Jul-18	2.7860	1503.81	1505.58	-1.78	-0.12%
27-Jul-18	2.7860	1503.81	1505.58	-1.78	-0.12%
16-Aug-19	2.7650	1688.51	1687.81	0.70	0.04%
9-Aug-18	1.8140	1432.38	1429.34	3.04	0.21%
25-Jun-19	2.3450	1367.13	1369.07	-1.95	-0.14%
12-Sep-17	1.9350	1872.63	1869.75	2.88	0.15%
6-Aug-19	2.9710	1441.44	1439.26	2.19	0.15%
6-Aug-19	2.9720	1441.85	1439.65	2.20	0.15%
11-Apr-18	1.7980	1289.15	1284.22	4.93	0.38%
18-Oct-17	1.9350	1364.99	1356.10	8.89	0.65%
5-Aug-19	2.9630	1643.05	1637.12	5.93	0.36%
5-Aug-19	2.9630	1643.05	1637.12	5.93	0.36%
11-Apr-18	2.2470	1387.50	1383.17	4.33	0.31%
27-Jun-17	1.8320	1370.37	1370.84	-0.47	-0.03%
26-Feb-18	2.3800	1437.48	1423.46	14.02	0.98%
1-Jul-19	1.9600	1306.31	1297.22	9.09	0.70%
15-May-18	2.2930	1661.77	1658.55	3.22	0.19%
15-May-18	2.3500	1664.52	1660.99	3.53	0.21%
23-Oct-17	2.2380	1572.74	1568.44	4.30	0.27%
23-Aug-17	2.1520	1374.89	1365.85	9.04	0.66%
18-May-18	2.1840	1390.43	1380.85	9.59	0.69%
23-Oct-17	2.0560	1419.66	1413.66	6.01	0.42%
10-Jan-18	2.4950	1376.50	1360.21	16.29	1.18%
8-May-18	2.4670	1431.56	1416.73	14.83	1.04%
26-Sep-17	2.1640	1607.77	1596.27	11.50	0.71%
13-May-19	2.9790	1651.98	1649.47	2.52	0.15%
20-Nov-17	2.1050	1709.86	1706.59	3.28	0.19%
15-Mar-18	1.9380	1340.87	1339.03	1.84	0.14%
25-Jul-17	1.7420	1291.38	1286.70	4.68	0.36%

11-May-18	2.5560	1366.29	1352.60	13.70	1.00%
16-Aug-19	2.1500	1489.00	1485.62	3.37	0.23%
9-Jan-18	2.6230	1460.53	1447.22	13.31	0.91%
12-Sep-17	3.1760	1498.24	1495.08	3.16	0.21%
16-Aug-19	2.1750	1505.15	1501.75	3.40	0.23%
17-May-18	2.2510	1346.81	1338.12	8.69	0.65%
29-Jun-17	2.7120	1906.76	1904.99	1.77	0.09%
23-Aug-17	2.2750	1462.29	1455.13	7.16	0.49%
30-Nov-17	2.5110	1470.31	1468.79	1.53	0.10%
5-Dec-17	2.5370	1447.23	1435.40	11.82	0.82%
29-Jun-17	2.2750	1536.76	1533.47	3.29	0.21%
19-Mar-18	2.2100	1431.24	1424.10	7.13	0.50%
30-Jul-19	2.9680	1442.89	1446.89	-3.99	-0.28%
30-Jul-19	2.9680	1442.89	1446.89	-3.99	-0.28%
7-Feb-18	2.7110	1424.86	1410.28	14.58	1.02%
2-Apr-18	1.4770	1449.51	1443.27	6.24	0.43%
14-Feb-18	3.5120	1566.63	1564.12	2.51	0.16%
16-May-20	2.3760	1376.42	1375.90	0.52	0.04%
23-Aug-17	2.7830	1553.06	1543.30	9.76	0.63%
22-Mar-18	3.2950	1643.28	1632.24	11.04	0.67%
8-Sep-17	2.8510	1498.28	1490.10	8.17	0.55%
27-Jul-18	2.8880	1454.12	1453.91	0.21	0.01%
25-Apr-18	2.7170	1514.72	1501.24	13.49	0.89%
8-May-18	3.0500	1582.43	1571.67	10.76	0.68%
16-Feb-18	3.1300	1450.26	1438.24	12.02	0.83%
18-Apr-18	2.7170	1427.11	1418.15	8.96	0.63%
28-Jun-17	3.3540	1753.43	1752.27	1.15	0.07%
15-May-18	3.1560	1460.69	1458.17	2.52	0.17%
30-Nov-17	4.6190	1875.75	1869.04	6.71	0.36%
11-May-18	5.2270	1533.37	1519.97	13.40	0.87%
29-Jun-17	5.1320	1581.35	1567.97	13.38	0.85%
Total Number of Samples					24,820
Number of Samples Outside of the Uncertainty Requirements in the Current 3175.31(b) - ±1.0%					22
Average Percent Difference					0.012%
Percent of Samples Outside of the Uncertainty Requirements in the Current 3175.31(b) - ±1.0%					0.09%

*Note 1 - Hydrocarbon grouping is according to elution order and not necessarily carbon number, per standard methodology.

*Note 2 - Hexanes Plus assumes 60% Hexanes, 30% Heptanes, and 10% Octanes.

*Note 3 - Nones Plus utilizes the straight chain hydrocarbon properties for Hexanes, Heptanes, Octanes, and Nonanes Plus.