

Tanya Ester (adpce.ad)

To: Nancy Koon (adpce.ad)
Subject: RE: No Discharge Permit No. 4007-WR-8 Renewal Application

From: Amanda Gallagher <Amanda.Gallagher@AllianceTG.com>
Sent: Friday, April 28, 2023 9:43 AM
To: Water Permit Application <Water-Permit-Application@adeq.state.ar.us>; Linda Hanson (adpce.ad) <Linda.Hanson@adeq.state.ar.us>
Cc: Sarah Palazzi <sarah.palazzi@albemarle.com>; brian.smith@albemarle.com
Subject: No Discharge Permit No. 4007-WR-8 Renewal Application

To Whom It May Concern:

On behalf of Albemarle Corporation, please find attached the renewal application for No Discharge Permit No. 4007-WR-8.

Thanks,



Amanda Gallagher, P.E.
Project Manager/Environmental Engineer
Office: 501-847-7077 | **Mobile:** 256-445-1167
Address: 219 Brown Lane, Bryant, AR 72022
www.alliancetg.com



219 BROWN LANE, BRYANT, AR
WWW.ALLIANCETECHNICALGROUP.COM
501-847-7077

The background of the cover is a photograph of an industrial facility, likely a refinery or chemical plant. It features several tall, cylindrical smokestacks or chimneys, a complex network of pipes, and various industrial structures. The sky is a clear, deep blue. The image is partially obscured by large, dark green geometric shapes that create a modern, abstract design.

Albemarle Corporation—West Brinefield System
No-Discharge Permit No. 4007-WR-4
Renewal Application

April 2023

THIS REPORT WAS CREATED BY THE
ALLIANCE TECHNICAL GROUP FOR
ALBEMARLE CORPORATION

No-Discharge Permit No. 4007-WR-4 Renewal Application

Prepared for:

Albemarle Corporation – West Brinefield System
1550 Highway 371 West
Magnolia, AR 71753

Prepared by:

Alliance Technical Group
219 Brown Lane
Bryant, AR 72022

April 2023

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Industrial No Discharge Permit Application for Brine Management and Disposal Systems

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10-K/10-Q Reports

Application Summary

APPLICATION SUMMARY

Albemarle Corporation – West Plant located in Magnolia, Arkansas is a chemical manufacturing facility that uses elemental bromine, extracted from subsurface feed brine, with other raw materials to produce inorganic chemical products.

The facility currently maintains coverage under Arkansas Department of Energy and Environment – Division of Environmental Quality (DEQ), No-Discharge Permit No. 4007-WR-4 for the Albemarle West Brinefield System (WBFS). This application package is being submitted to request renewal of the existing No-Discharge Permit. Included with this application package are pertinent information necessary to complete the permit renewal process.

Industrial No-Discharge Permit
Application for Brine Management and
Disposal Systems



BRINE MANAGEMENT AND DISPOSAL SYSTEMS INDUSTRIAL NO-DISCHARGE PERMIT APPLICATION

ARKANSAS DIVISION of ENVIRONMENTAL QUALITY

Permit No.	AFIN	SIC	NAICS
4007-WR-4	14-00011	1499	212399

1. Permit Application Requested:

<input type="checkbox"/> New Permit	<input checked="" type="checkbox"/> Permit Renewal – 4007-WR-4	<input type="checkbox"/> Permit Modification
If Modification, explain:		

2. Organization requesting permit:

Name: Albemarle Corporation		
Address: P.O. Box 729 (2270 Highway 79 South)		
City: Magnolia	State: AR	Zip Code: 71754-0729
Contact Person: Sarah Palazzi	E-mail: sarah.palazzi@albemarle.com	
Office Telephone: 870-235-6153	Cell:	

3. Facility to be permitted (if different from above):

Name: Albemarle Corporation – West Brinefield System		
Address: 1550 Highway 371 West		
City: Magnolia	State: AR	Zip Code: 71753
Contact Person: Brian Smith	E-mail: brian.smith@albemarle.com	
Office Telephone: 870-235-6505	Cell: 985-516-0417	

4. Consulting Firm:

Name: Alliance Technical Group		
Address: 219 Brown Lane		
City: Bryant	State: AR	Zip Code: 72022
Contact Person: Amanda Gallagher	E-mail: amanda.gallagher@alliancetg.com	
Office Telephone: 501-847-7077	Cell:	

5. Location of Facility:

Latitude (deg, min, sec): 33° 15' 41.82" N		Longitude (deg, min, sec): 93° 18' 51.34" W	
Latitude (decimal): 33.261648 N		Longitude (decimal): 93.314279 W	
¼ sec: SE	Section: 18	Township: 17S	Range: 21W
Source Datum: <input checked="" type="checkbox"/> WGS 84 <input type="checkbox"/> NAD 83 <input type="checkbox"/> NAD 27			
Nearest Town: Magnolia		County: Columbia	
Directions to facility: 4.3 miles west of Magnolia, AR on Highway 371.			
Nearest Stream: Dismukes Creek			

6. Type of Facility, operation and/or process from which wastewater will be produced:

The West Brinefield supplies brine (feed brine) from underground formations via AO&GC permitted brine supply wells. The brine is then transported in underground pipelines. The brine could contain a small amount of methane and hydrogen sulfide, which is also transported via pipelines. Feed brine is ultimately used to produce bromine at the West Plant facility. The West Plant facility then returns the spent brine (tail brine) to the West Brinefield via pipelines. This recovered tail brine and any operational brine spills are then injected into our AO&GC permitted Class V injection wells. Treated recovered groundwater/brine from permit 690-WR-3 system can also be added to injection well system if needed. The recovery system has been idle since Dow Chemical started installed their UIC well. This West Brinefield injection system may receive tail brine from the South Brinefield injection system if needed to maintain optimum operations (2189-WR-8). All feed brine (West/South) originates from the same formation and is only segregated by name only. The West Brinefield System does not have any surface discharges.

7. Please list and describe all waste storage and/or treatment components:

The feed brine is pumped from the production well system into two feed brine holding tanks (260 M gallons total). After the plant removes the bromide, it returns the tail brine to three holding tanks (1.34 million gallons total). At that point the brine is pumped to the Class V Well injection system (wells are permitted by AO&GC). All brine lines, wells, and holding facilities are considered part of the West Brinefield System.

8. List all Attachments included with this application:

- Facility Maps
- Process Flow Diagram
- West Brinefield Disposal Wells and Pipeline System Map
- Secondary Containment Diagram and Volume Calculations
- Arkansas and Delaware Certificates of Good Standing
- 10-K/10-Q Reports

9. Disclosure Statement:

The applicant must complete and submit the Disclosure Statement form unless the applicant is a publicly traded company. Additional copies of the Disclosure Statement form may be obtained from ADEQ at the following link:

https://www.adeg.state.ar.us/ADEQ_Disclosure_Statement.pdf

Is the applicant organized as a corporation? Yes No

If yes, is it foreign or domestic? Domestic

Is the corporation currently registered to do business with the Arkansas Secretary of State? Yes No

Please enclose a copy of the statement of Good Standing from the AR Secretary of State’s website.

10. Permit Requirement Verification Checklist for New Permits and Modifications:

Please check the following to verify completion of permit requirements.

- A completed NOI including the following information: X
- The name of and distance to the nearest waterbody X
- A topographic map X
- A county road map or Google Earth map X
- A diagram of the secondary containment, including dimensions and composition of containment units X
- Calculations demonstrating adequate secondary containment capacity X
- List of disposal wells including permit numbers X
- How the stormwater is to be disposed (if released outside secondary containment, state the chloride testing results): X
- A copy of the Certificate of Good Standing from the AR Secretary of State’s website available at the following link: X
- http://www.sos.arkansas.gov/corps/search_all.php
- A completed ADEQ disclosure statement available from the Division’s website at the following link: X
- http://www.adeg.state.ar.us/ADEQ_Disclosure_Statement.pdf
- The required permit fee Check No. X

Please read the following carefully and sign below.

SIGNATORY REQUIREMENTS: The signature below must be in compliance with Part I, Item 4 on pages 1-2.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, which may include fines and/or imprisonment.

Dru Manuel
Printed Name of Person signing
(Must be owner/operator or person authorized by the applicant)

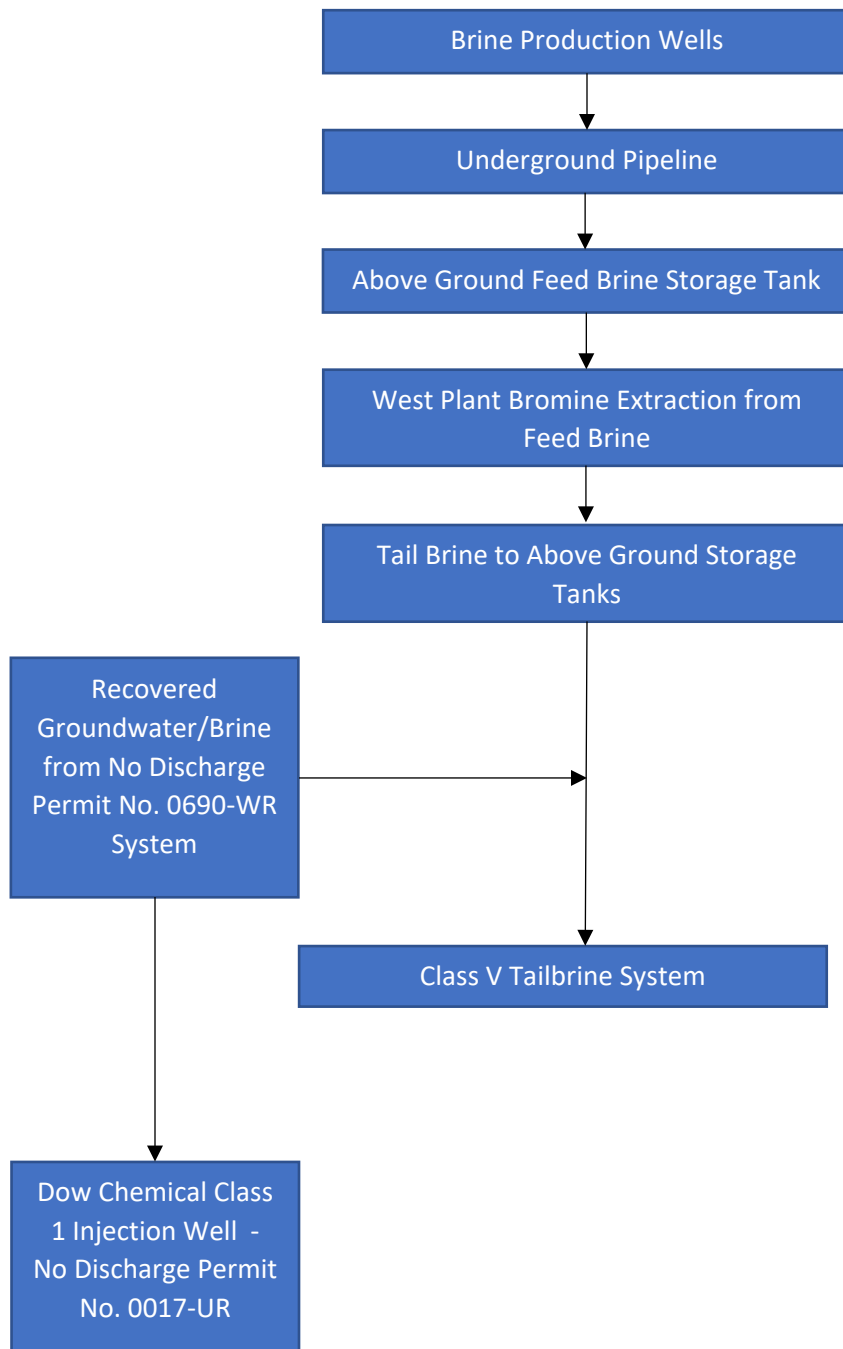
Plant Manager
Title

Dru Manuel
Signature of Applicant

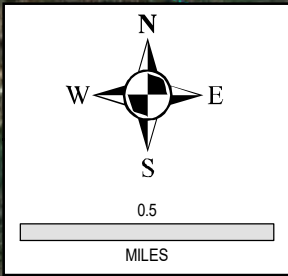
4-27-2023
Date

Process Flow Diagram

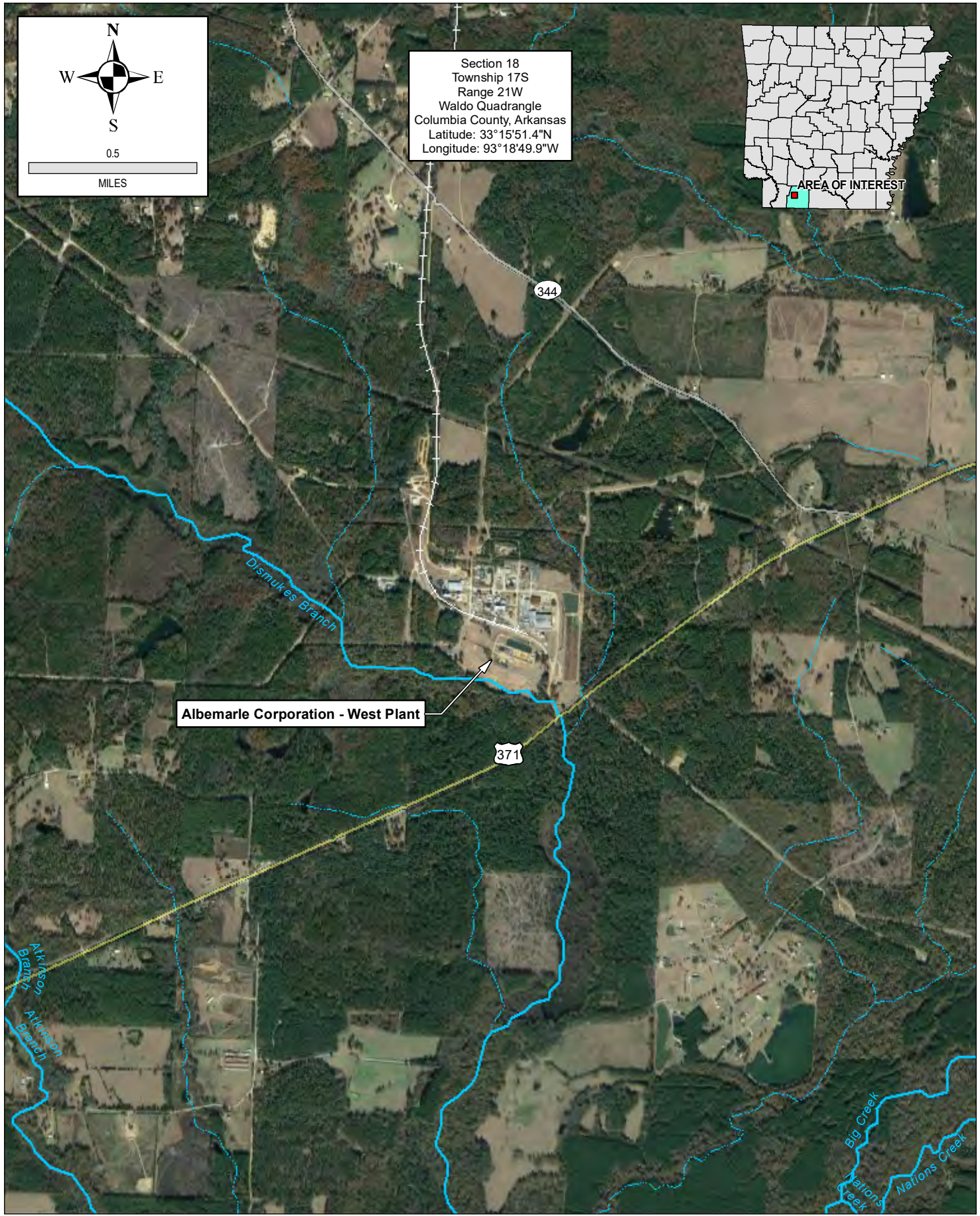
ALBEMARLE CORPORATION - WEST BRINEFIELD SYSTEM PROCESS FLOW DIAGRAM



Facility Maps



Section 18
 Township 17S
 Range 21W
 Waldo Quadrangle
 Columbia County, Arkansas
 Latitude: 33°15'51.4"N
 Longitude: 93°18'49.9"W



Albemarle Corporation - West Plant

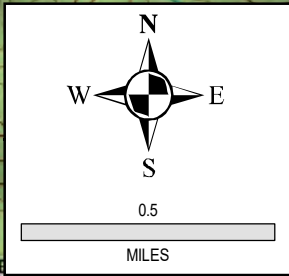
DESIGNED BY	AAG
CHECKED BY	AAG
APPR. BY	AAG
DRAWN BY	IT



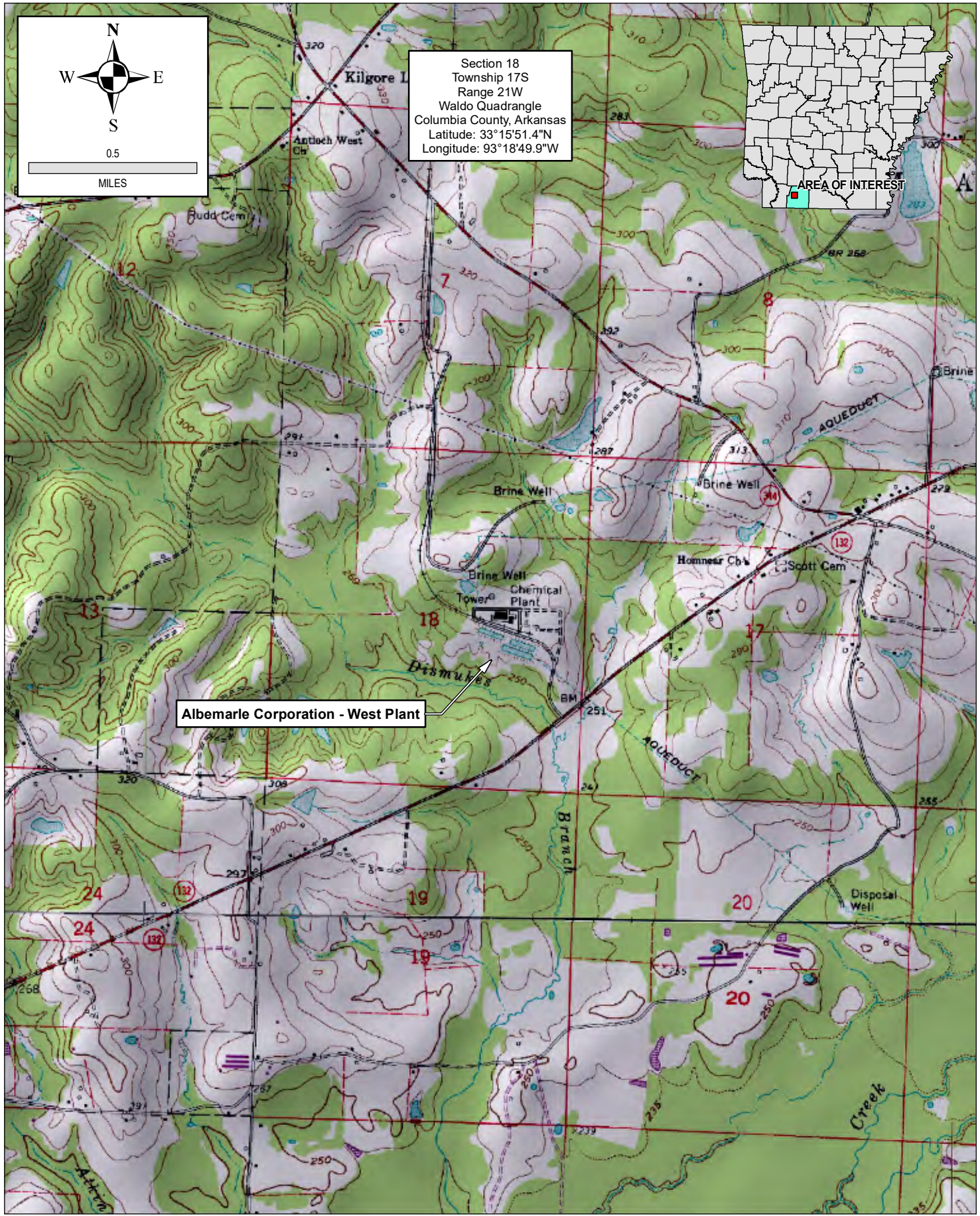
SHEET TITLE
**TOPOGRAPHIC
 SITE MAP**

JOB NAME
**ALBEMARLE CORPORATION
 WEST PLANT**
 MAGNOLIA, ARKANSAS

PROJECT NO.	2005-22-051	REV. NO.	
DATE	04/19/2023	DWG. NO.	
SCALE	SHOWN		



Section 18
 Township 17S
 Range 21W
 Waldo Quadrangle
 Columbia County, Arkansas
 Latitude: 33°15'51.4"N
 Longitude: 93°18'49.9"W



Albemarle Corporation - West Plant

DESIGNED BY AAG
 CHECKED BY AAG
 APPR. BY AAG
 DRAWN BY IT

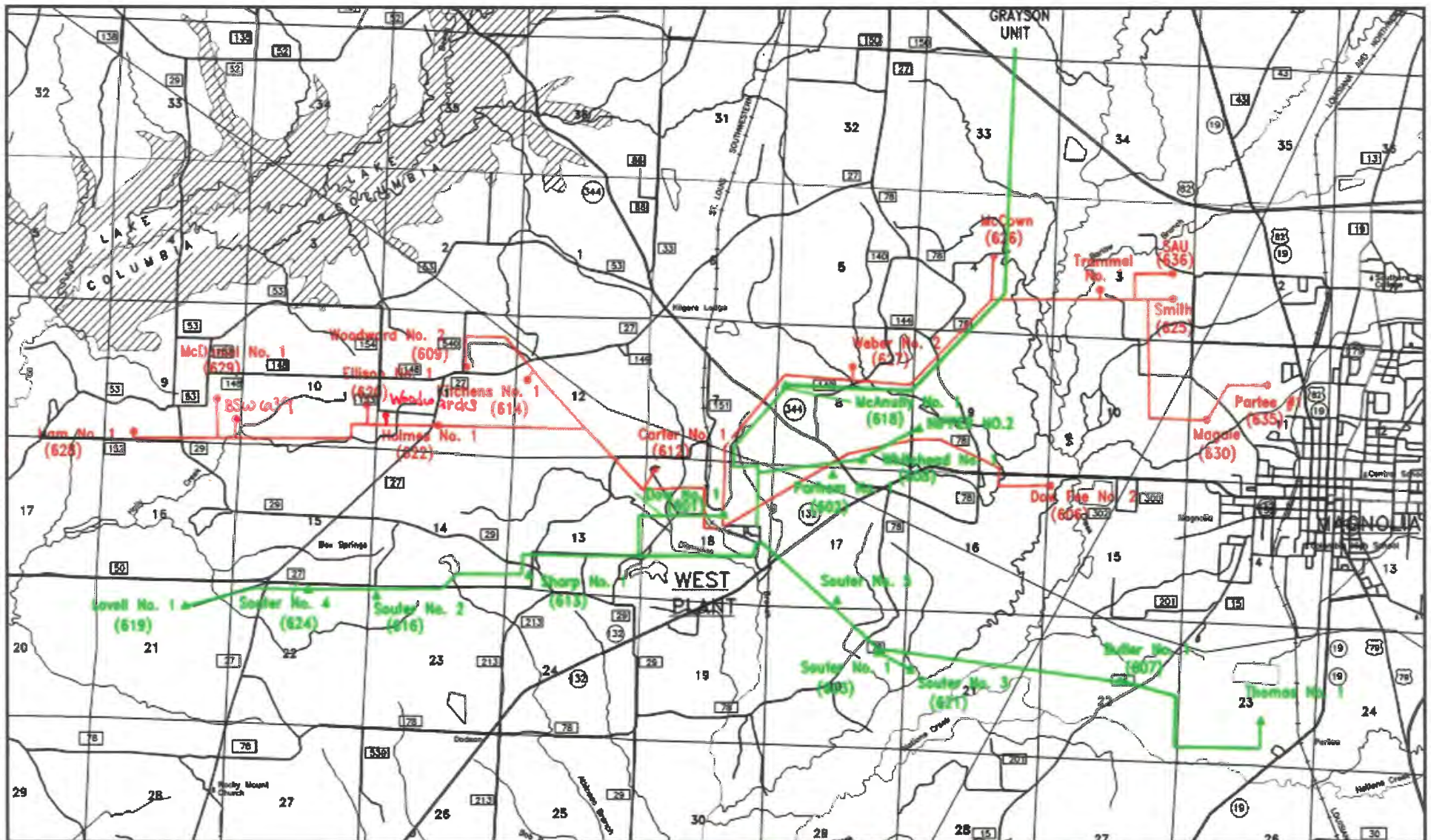


SHEET TITLE
**TOPOGRAPHIC
 SITE MAP**

JOB NAME
**ALBEMARLE CORPORATION
 WEST PLANT**
 MAGNOLIA, ARKANSAS

PROJECT NO. 2005-22-051	REV. NO.
DATE 04/19/2023	DWG. NO.
SCALE SHOWN	

West Brinefield Disposal Wells and Pipeline System Map

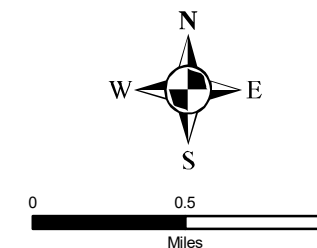
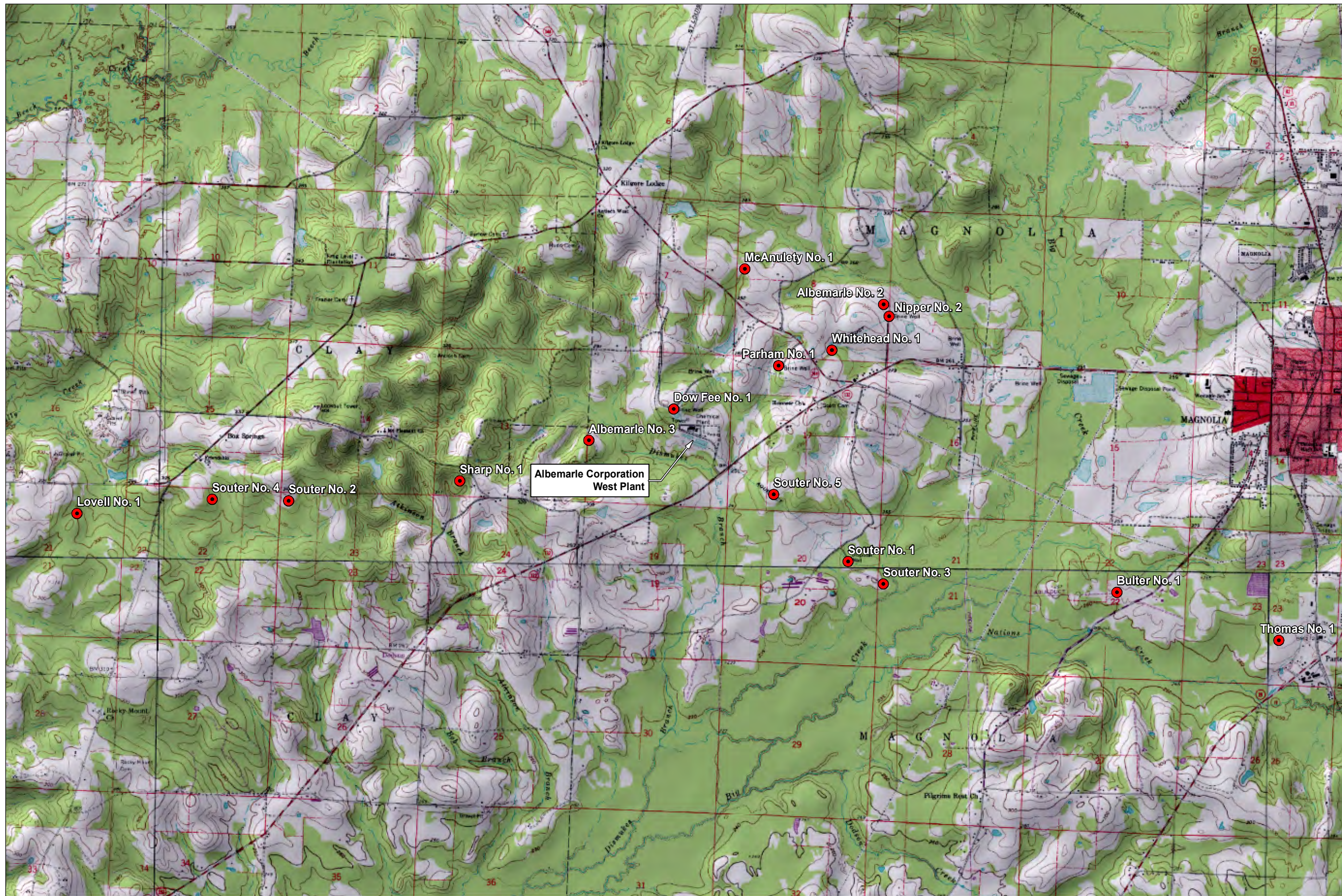


Brine Production Wells Marked In Red
 Feed Brine Pipelines Marked In Red

Class V Brine Injection Wells Marked In Green
 Tail Brine Pipelines Marked In Green

Project: West Brinefield
 AFIN: 14-00011, Permit 4007-W
 Date: March 14, 2018
 Revision 1





● Well Locations

NO	DATE	REVISION	BY	CK	APPR

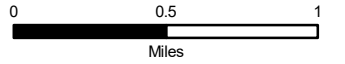
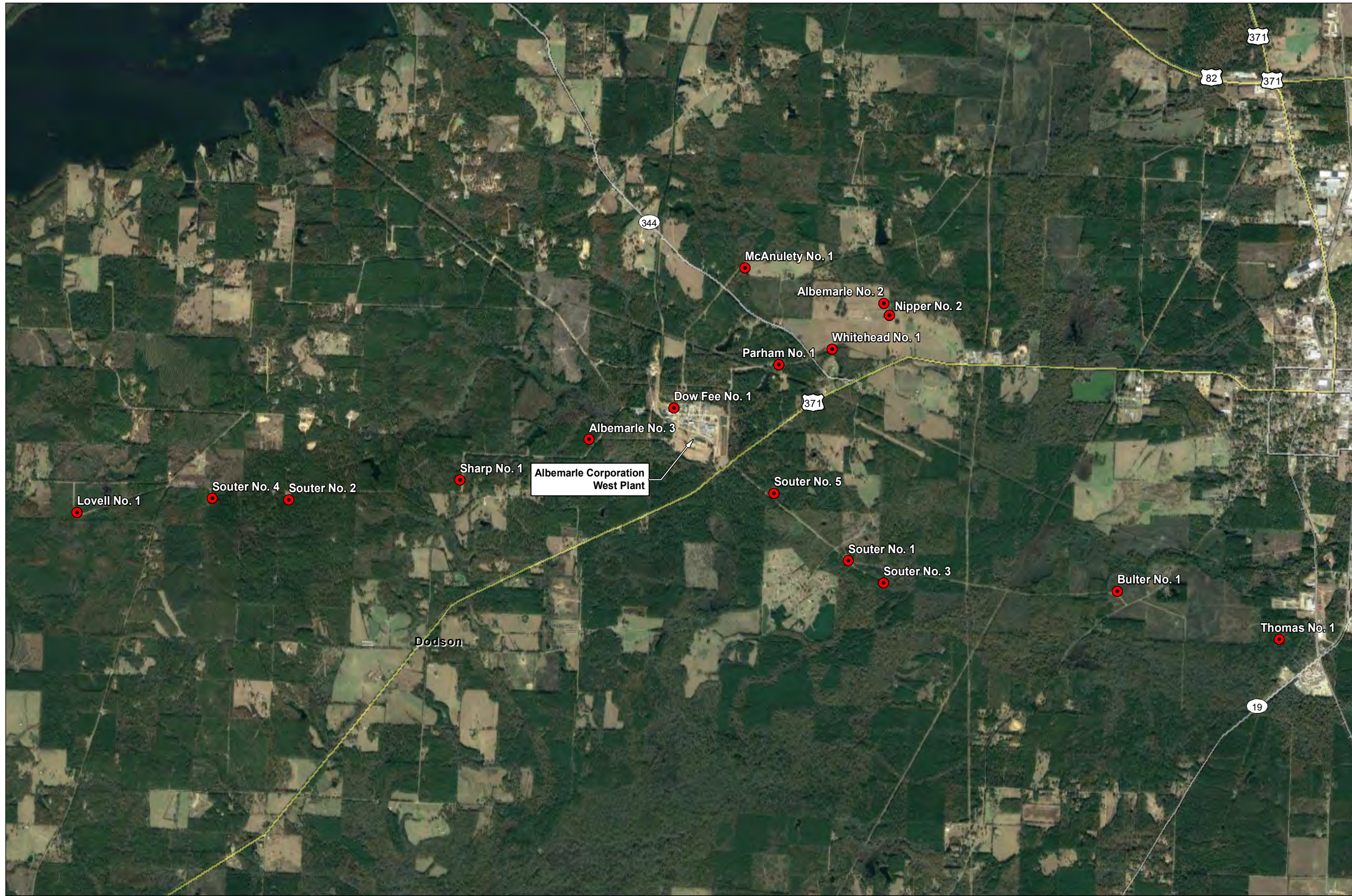
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CHECKED BY	AAG
APPR. BY	AAG
DRAWN BY	IT



SHEET TITLE
**WEST BRINEFIELD SYSTEM
 DISPOSAL WELL LOCATIONS**

JOB NAME
**ALBEMARLE CORPORATION
 WEST PLANT**
 MAGNOLIA, ARKANSAS

PROJECT NO.	2005-22-051	REV. NO.	
DATE	04/19/2023	DWG. NO.	S2
SCALE	SHOWN		



● Well Locations

NO	DATE	REVISION	BY	CK	APPR

DESIGNED BY AAG
 CHECKED BY AAG
 APPR. BY AAG
 DRAWN BY IT



SHEET TITLE

WEST BRINEFIELD SYSTEM
 DISPOSAL WELL LOCATIONS

JOB NAME

ALBEMARLE CORPORATION
 WEST PLANT
 MAGNOLIA, ARKANSAS

PROJECT NO.
2005-22-051
 DATE
04/19/2023
 SCALE
SHOWN

REV. NO.

DWG. NO.

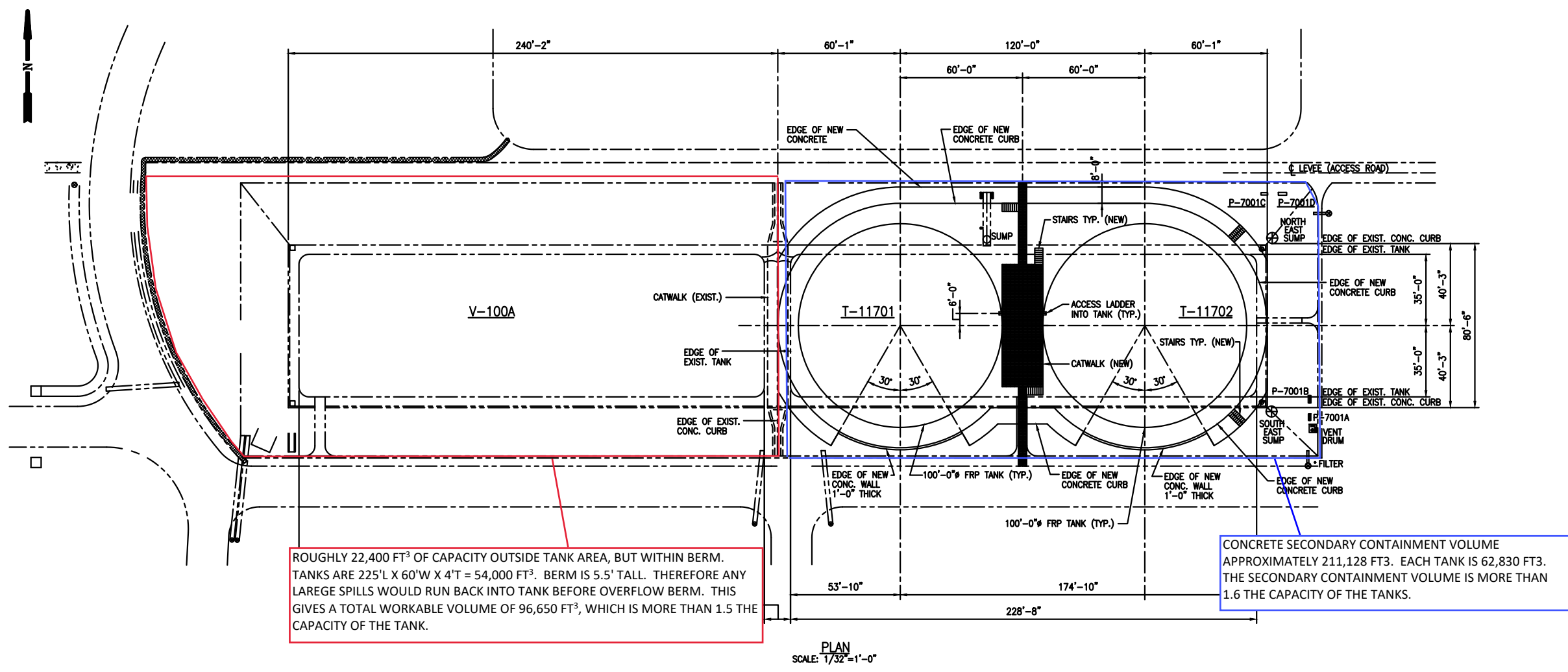
S1

ALBEMARLE CORPORATION

WEST BRINEFIELD SYSTEM DISPOSAL WELLS

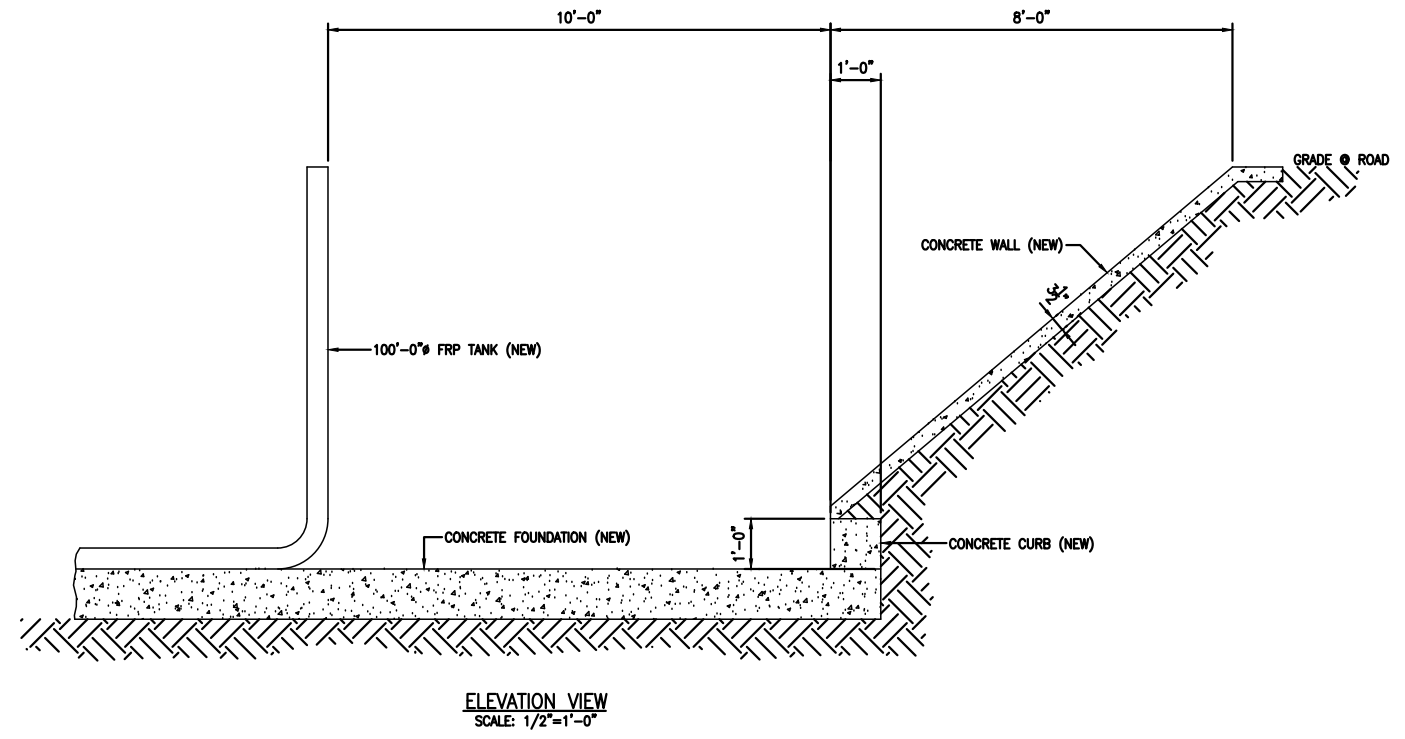
Well Name	AOGC Permit Number	Field Name	Location
Whitehead Construction Co. 1	93187	Kilgore Lodge	T 17S, R 21W, Sec. 8
McAnulety 1	23262	Kilgore Lodge	T 17S, R 21W, Sec. 8
Nipper et al, VW2	35977	Kilgore Lodge	T 17S, R 21W, Sec. 9
Souter 5	35726	Kilgore Lodge	T 17S, R 21W, Sec. 17
Parham 1	93189	Kilgore Lodge	T 17S, R 21W, Sec. 17
Dow Fee 1	92768	Kilgore Lodge	T 17S, R 21W, Sec. 18
Souter, FW 1	93190	Kilgore Lodge	T 17S, R 21W, Sec. 20
Souter 3	23385	Kilgore Lodge	T 17S, R 21W, Sec. 21
Butler, MD 1	93191	Kilgore Lodge	T 17S, R 21W, Sec. 22
Thomas 1-B1W, Earnest 634	36945	Kilgore Lodge	T 17S, R 21W, Sec. 23
Sharp, Aubrey 1 B1W	22669	Kilgore Lodge	T 17S, R 22W, Sec. 13
Lovell, Jennie 1	23332	Kilgore Lodge	T 17S, R 22W, Sec. 21
Souter 4	23861	Kilgore Lodge	T 17S, R 22W, Sec. 22
Souter 2	22963	Kilgore Lodge	T 17S, R 22W, Sec. 22
Albemarle #2 (BIW 643)	48261	Kilgore Lodge	T 17S, R 21W, Sec. 8
Albemarle #3 (BIW 648)	48267	Kilgore Lodge	T 17S, R 21W, Sec. 18

Secondary Containment Diagram and Volume Calculations



ROUGHLY 22,400 FT³ OF CAPACITY OUTSIDE TANK AREA, BUT WITHIN BERM. TANKS ARE 225'L X 60'W X 4'T = 54,000 FT³. BERM IS 5.5' TALL. THEREFORE ANY LARGE SPILLS WOULD RUN BACK INTO TANK BEFORE OVERFLOW BERM. THIS GIVES A TOTAL WORKABLE VOLUME OF 96,650 FT³, WHICH IS MORE THAN 1.5 THE CAPACITY OF THE TANK.

CONCRETE SECONDARY CONTAINMENT VOLUME APPROXIMATELY 211,128 FT³. EACH TANK IS 62,830 FT³. THE SECONDARY CONTAINMENT VOLUME IS MORE THAN 1.6 THE CAPACITY OF THE TANKS.



REFERENCE DRAWINGS:
10-40056 CONCRETE FOUNDATION PLAN

THIS DESIGN AND PRINT ARE THE PROPERTY OF ALBEMARLE CORPORATION. IT MUST BE RETURNED WITH QUOTATION OR UPON DELIVERY OF MATERIAL AND EQUIPMENT, AND MUST NOT BE USED IN MANUFACTURING FOR OTHERS EXCEPT BY PERMISSION OF OWNERS. MAGNOLIA ENGINEERING

ALBEMARLE CORPORATION

WEST PLANT
T-11701 & T-11702 TAIL BRINE TANK AREA
EQUIPMENT ARRANGEMENT PLAN

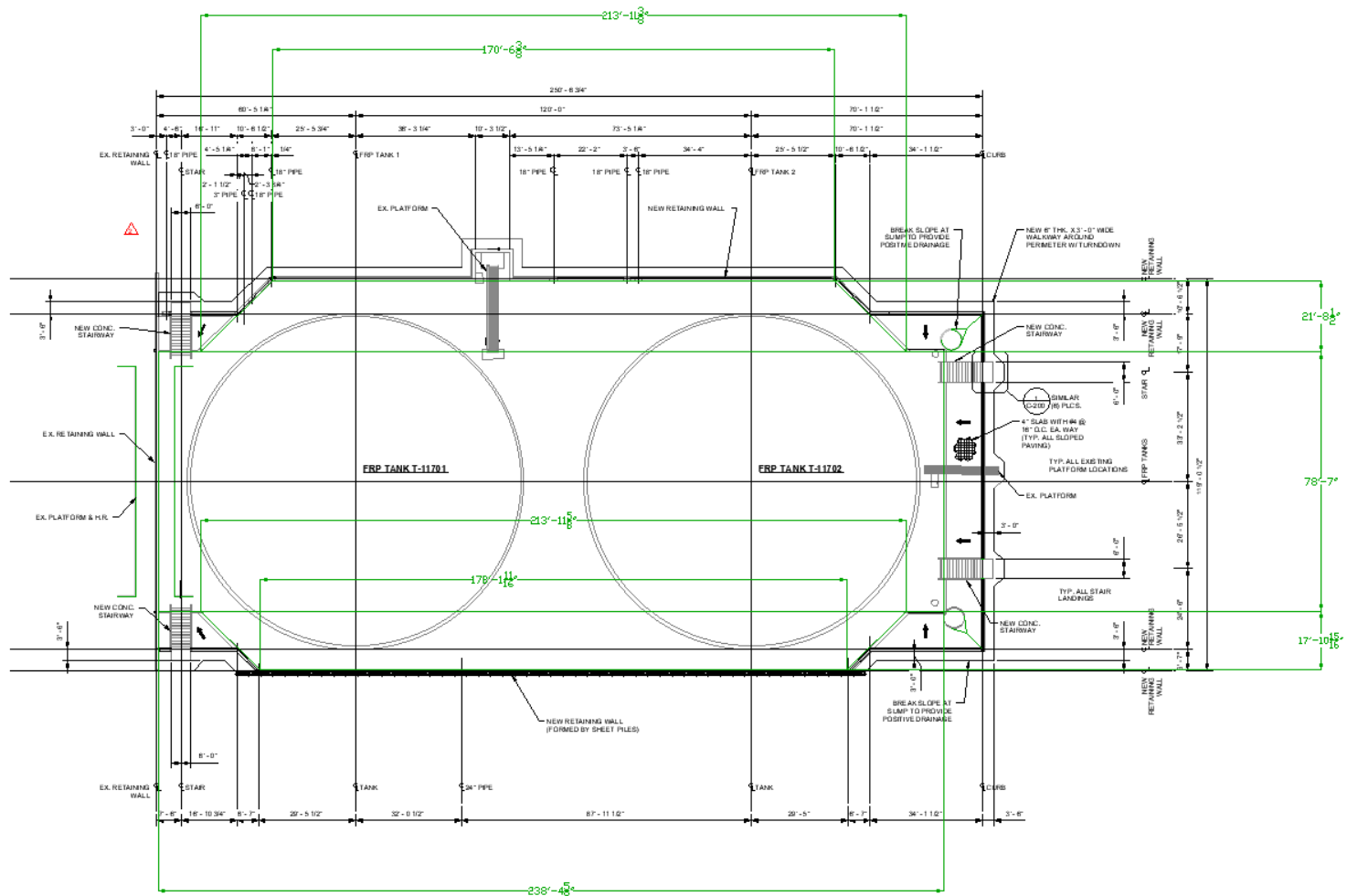
M8567 **10-20065** **00**

PROJECT NUMBER DRAWING NUMBER REV.

SCALE: OPERATING AREA: 10-20 BUILDING NO: -

0	INITIAL ISSUE FOR PROJ. #M8567	4/01/19																														
	REPLACE WEST PLANT T-7001 EAST TAIL BRINE TANK	JKI																														
NO.	REVISION	DRAWN	CHECKED	DES	ENG	DES	COOR	PROJ	COOR	APP'D	NO.	REVISION	DRAWN	CHECKED	DES	ENG	DES	COOR	PROJ	COOR	APP'D	NO.	REVISION	DRAWN	CHECKED	DES	ENG	DES	COOR	PROJ	COOR	APP'D

ALBEMARLE CORPORATION – WEST PLANT TAILBRINE TANK REPLACEMENT SECONDARY CONTAINMENT VOLUME CALCULATION



NORTH TRAPEZOID
 VOLUME = $(214' + 170.5')/2$ LONG X 217' WIDE X 8' DEEP = 33,375 FT³
MIDDLE AREA
 VOLUME = 238.3' LONG X 786' WIDE X 8' DEEP = 149,843 FT³
SOUTH TRAPEZOID
 VOLUME = $(214' + 179')/2$ LONG X 178' WIDE X 8' DEEP = 27,910 FT³
TOTAL CONTAINMENT VOLUME, EXCLUDING SLOPED AREAS:
 211,128 FT³ = 1,579,347 GALLONS
TOTAL TANK VOLUME:
 TWO (2) X 100' DIA. TANKS X 470,000 GALLONS/EA = 940,000 GALLONS
VOLUME CONTAINMENT / VOLUME TANKS = 1,579,347 / 940,000 > 1.68

Certificates of Good Standing



Search Incorporations, Cooperatives, Banks and Insurance Companies

This is only a preliminary search and no guarantee that a name is available for initial filing until a confirmation has been received from the Secretary of State after filing has been processed. Please review our [NAME AVAILABILITY GUIDELINES HERE](#) prior to searching for a new entity name.

[Printer Friendly Version](#)

LLC Member information is now confidential per Act 865 of 2007

Use your browser's back button to return to the Search Results

[Begin New Search](#)

For service of process contact the [Secretary of State's office](#).

Corporation Name	ALBEMARLE CORPORATION
Fictitious Names	
Filing #	100109935
Filing Type	Foreign For Profit Corporation
Filed under Act	For Bus Corp; 958 of 1987
Status	Good Standing
Principal Address	4250 CONGRESS ST, SUITE 900 CHARLOTTE, NC 28209
Reg. Agent	C T CORPORATION SYSTEM
Agent Address	124 WEST CAPITOL AVENUE, SUITE 1900 LITTLE ROCK, AR 72201
Date Filed	01/25/1994
Officers	SEE FILE, Incorporator/Organizer J. KENT MASTERS , President KAREN G. NARWOLD , Secretary AMY M. DUNBAR , Vice-President AMY M. DUNBAR , Treasurer JOHN CLARENCE BARICHIVICH III, Controller
Foreign Name	N/A
Foreign Address	330 SOUTH FOURTH ST. RICHMOND, 23219
State of Origin	VA

[Purchase a Certificate of Good Standing for this Entity](#)

[Pay Franchise Tax for this corporation](#)

Commonwealth of Virginia



State Corporation Commission

CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That ALBEMARLE CORPORATION is duly incorporated under the law of the Commonwealth of Virginia;

That the date of its incorporation is November 24, 1993;

That the period of its duration is perpetual; and

That the corporation is in existence and in good standing in the Commonwealth of Virginia as of the date set forth below.

Nothing more is hereby certified.



Signed and Sealed at Richmond on this Date:

May 31, 2017

Joel H. Peck

Joel H. Peck, Clerk of the Commission

10-K/10-Q Reports

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM 10-K

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended December 31, 2022

or

Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the transition period from _____ to _____

Commission file number 001-12658

ALBEMARLE CORPORATION

(Exact name of registrant as specified in its charter)

Virginia
(State or other jurisdiction of
incorporation or organization)

54-1692118
(I.R.S. Employer
Identification No.)

4250 Congress Street, Suite 900
Charlotte, North Carolina 28209
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (980) - 299-5700

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
COMMON STOCK, \$.01 Par Value	ALB	New York Stock Exchange

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for at least the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C.7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the voting and non-voting common equity stock held by non-affiliates of the registrant was approximately \$24.5 billion based on the last reported sale price of common stock on June 30, 2022, the last business day of the registrant's most recently completed second quarter.

Number of shares of common stock outstanding as of February 8, 2023: 117,197,977

Documents Incorporated by Reference

Portions of Albemarle Corporation's definitive Proxy Statement for its 2023 Annual Meeting of Shareholders to be filed with the U.S. Securities and Exchange Commission pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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Year Ended December 31, 2022**

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PART I

Item 1. Business.

Albemarle Corporation was incorporated in Virginia in 1993. Our principal executive offices are located at 4250 Congress Street, Suite 900, Charlotte, North Carolina 28209. Unless the context otherwise indicates, the terms “Albemarle,” “we,” “us,” “our” or “the Company” mean Albemarle Corporation and its consolidated subsidiaries.

We are a leading global developer, manufacturer and marketer of highly-engineered specialty chemicals that are designed to meet our customers’ needs across a diverse range of end markets. Our corporate purpose is making the world safe and sustainable by powering the potential of people. The end markets we serve include energy storage, petroleum refining, consumer electronics, construction, automotive, lubricants, pharmaceuticals and crop protection. We believe that our commercial and geographic diversity, technical expertise, access to high-quality resources, innovative capability, flexible, low-cost global manufacturing base, experienced management team and strategic focus on our core base technologies will enable us to maintain leading positions in those areas of the specialty chemicals industry in which we operate.

We and our joint ventures currently operate more than 25 production and research and development (“R&D”) facilities, as well as a number of administrative and sales offices, around the world. As of December 31, 2022, we served approximately 1,900 customers in approximately 70 countries. For information regarding our unconsolidated joint ventures see Note 10, “Investments,” to our consolidated financial statements included in Part II, Item 8 of this report.

Business Segments

During 2022, we managed and reported our operations under three reportable segments: Lithium, Bromine and Catalysts. Each segment has a dedicated team of sales, research and development, process engineering, manufacturing and sourcing, and business strategy personnel and has full accountability for improving execution through greater asset efficiency, market focus, agility and responsiveness. Financial results and discussion about our segments included in this report are organized according to these categories except where noted.

For financial information regarding our reportable segments and geographic area information, see Note 25, “Segment and Geographic Area Information,” to our consolidated financial statements included in Part II, Item 8 of this report.

In August 2022, we announced plans to realign our Lithium and Bromine global business units into a new corporate structure designed to better meet customer needs and foster talent required to deliver in a competitive global environment. In addition, we announced our decision to retain our Catalysts business under a separate, wholly-owned subsidiary. The realignment was completed in the first quarter of 2023, and resulted in the following three reportable segments: (1) Energy Storage; (2) Specialties; and (3) Ketjen (Catalysts). We will begin to report our segments in the new structure in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, the period in which the new organizational structure became effective.

Lithium Segment

Our Lithium business develops lithium-based materials for a wide range of industries and end markets. We produce one of the most diverse product portfolios of lithium derivatives in the industry.

We develop and manufacture a broad range of basic lithium compounds, including lithium carbonate, lithium hydroxide, lithium chloride, and value-added lithium specialties and reagents, including butyllithium and lithium aluminum hydride. Lithium is a key component in products and processes used in a variety of applications and industries, which include lithium batteries used in consumer electronics and electric vehicles, high performance greases, thermoplastic elastomers for car tires, rubber soles and plastic bottles, catalysts for chemical reactions, organic synthesis processes in the areas of steroid chemistry and vitamins, various life science applications, as well as intermediates in the pharmaceutical industry, among other applications. We also develop and manufacture cesium products for the chemical and pharmaceutical industries, and zirconium, barium and titanium products for various pyrotechnical applications, including airbag initiators.

In addition to developing and supplying lithium compounds, we provide technical services, including the handling and use of reactive lithium products. We also offer our customers recycling services for lithium-containing by-products resulting from synthesis with organolithium products, lithium metal and other reagents. We plan to continue to focus on the development of new products and applications.

During 2022, net sales to our customer Umicore N.V. and its affiliates represented more than 10% of our consolidated net sales.

Competition

The global lithium market is highly competitive and growing very rapidly. It is characterized by aggressive expansion and entry from existing and new players, including automotive OEMs, junior miners, and large well capitalized diversified miners. Producers are primarily located in the Americas, Asia and Australia. Major competitors in lithium compounds include Sociedad Quimica y Minera de Chile S.A., Sichuan Tianqi Lithium, Jiangxi Ganfeng Lithium, Rio Tinto plc, Pilbara Minerals, Allkem, Tesla, Chengxin Lithium, Ruifu Lithium, Livent Corporation and a large number of additional Chinese companies. Competition in the global lithium market is increasingly based on index-based market pricing and differentiated via product quality, product diversity, reliability of supply and customer service.

Raw Materials and Significant Supply Contracts

We obtain lithium: (a) through solar evaporation of our ponds at the Salar de Atacama, in Chile, and in Silver Peak, Nevada; and (b) by purchasing lithium concentrate from our 49%-owned joint venture, Windfield Holdings Pty. Ltd. (“Windfield”), which directly owns 100% of the equity of Talison Lithium Pty. Ltd., a company incorporated in Australia (“Talison”) that owns the Greenbushes mine, and from our 60%-owned unincorporated joint venture, MARBL Lithium Joint Venture (“MARBL”) in Western Australia, which owns the Wodgina hard rock lithium mine project (the “Wodgina Project”). Production of spodumene concentrate at the Wodgina site resumed in the second quarter of 2022 after it had been idled in 2019 following the acquisition of our 60% interest in the Wodgina Project and the formation of MARBL. In addition, we hold mineral rights in defined areas of Kings Mountain, North Carolina with available lithium resources and we own undeveloped land with access to a lithium resource in Antofalla, within the Catamarca Province of Argentina. As necessary, we can also obtain lithium from other sources. See Item 2. Properties, for additional disclosures of our lithium mineral properties.

Bromine Segment

Our bromine and bromine-based business includes products used in fire safety solutions and other specialty chemicals applications. Our fire safety technology enables the use of plastics in high performance, high heat applications by enhancing the flame resistant properties of these materials. End market products that benefit from our fire safety technology include plastic enclosures for consumer electronics, printed circuit boards, wire and cable products, electrical connectors, textiles and foam insulation. Our bromine-based business also includes specialty chemicals products such as elemental bromine, alkyl bromides, inorganic bromides, brominated powdered activated carbon and a number of bromine fine chemicals. These specialty products are used in chemical synthesis, oil and gas well drilling and completion fluids, mercury control, water purification, beef and poultry processing and various other industrial applications. Other specialty chemicals that we produce include tertiary amines for surfactants, biocides, and disinfectants and sanitizers. A number of customers of our bromine business operate in cyclical industries, including the consumer electronics and oil field industries. As a result, demand from our customers in such industries is also cyclical.

Competition

Our bromine business serves markets in the Americas, Asia, Europe and the Middle East, each of which is highly competitive. Product performance and quality, price and contract terms are the primary factors in determining which qualified supplier is awarded a contract. Research and development, product and process improvements, specialized customer services, the ability to attract and retain skilled personnel and maintenance of a good safety record have also been important factors to compete effectively in the marketplace. Our most significant competitors are Lanxess AG, Israel Chemicals Ltd, as well as producers in India and China.

Raw Materials and Significant Supply Contracts

The bromine we use is originally sourced from two locations: Arkansas and the Dead Sea. Our bromine production operations in Arkansas are supported by an active brine rights leasing program. In addition, through our 50% interest in Jordan Bromine Company Limited (“JBC”), a consolidated joint venture established in 1999, with operations in Safi, Jordan, we acquire bromine that is originally sourced from the Dead Sea. JBC processes the bromine at its facilities into a variety of end products. See Item 2. Properties, for additional disclosures for our mineral properties.

Catalysts Segment

Our three main product lines in this segment are (i) Clean Fuels Technologies (“CFT”), which is primarily composed of hydroprocessing catalysts (“HPC”) together with isomerization and akylation catalysts; (ii) fluidized catalytic cracking (“FCC”)

catalysts and additives; and (iii) performance catalyst solutions (“PCS”), which is primarily composed of organometallics and curatives.

We offer a wide range of HPC products, which are applied throughout the oil refining industry. Their application enables the upgrading of oil fractions to clean fuels and other usable oil feedstocks and products by removing sulfur, nitrogen and other impurities from the feedstock. In addition, they improve product properties by adding hydrogen and in some cases improve the performance of downstream catalysts and processes. We continuously seek to add more value to refinery operations by offering HPC products that meet our customers’ requirements for profitability and performance in the very demanding refining market.

We provide our customers with customized FCC catalyst systems, which assist in the high yield cracking of refinery petroleum streams into derivative, higher-value products such as transportation fuels and petrochemical feedstocks like propylene. Our FCC additives are used to reduce emissions of sulfur dioxide and nitrogen oxide in FCC units and to increase liquefied petroleum gas olefins yield, such as propylene, and to boost octane in gasoline. Albemarle offers unique refinery catalysts to crack and treat the lightest to the heaviest feedstocks while meeting refinery yield and product needs.

Within our PCS product line, we manufacture organometallic co-catalysts (e.g., aluminum, magnesium and zinc alkyls) used in the manufacture of alpha-olefins (e.g., hexene, octene, decene), polyolefins (e.g., polyethylene and polypropylene) and electronics. Our curatives include a range of curing agents used in polyurethanes, epoxies and other engineered resins.

There were more than 700 refineries world-wide as of December 31, 2022. We expect to continue to see some less profitable, typically smaller, refineries shutting down and, over the long-term, being replaced by larger scale and more complex refineries, with growth concentrated in the Middle East and Asia. Oil refinery utilization increased to near pre-COVID pandemic levels in 2022, recovering from lower rates in 2021 and 2020, as most refineries had cut throughput due to the reduction in demand resulting from global travel restrictions during those years. We estimate that there are currently approximately 600 FCC units being operated globally, each of which requires a constant supply of FCC catalysts. In addition, we estimate that there are approximately 4,000 HPC units being operated globally, each of which typically requires replacement HPC catalysts once every one to four years.

Competition

Our Catalysts segment serves the global market including the Americas, Asia, Europe and the Middle East, each of which is highly competitive. Competition in these markets is driven by a variety of factors. Product performance and quality, price and contract terms, product and process improvements, specialized customer services, the ability to attract and retain skilled personnel, and the maintenance of a good safety record are the primary factors to compete effectively in the catalysts marketplace. In addition, through our research and development programs, we strive to differentiate our business by developing value-added products and products based on proprietary technologies.

Our major competitors in the CFT catalysts market include Shell Catalysts & Technologies, Advanced Refining Technologies and Haldor Topsoe. Our major competitors in the FCC catalysts market include W.R. Grace & Co., BASF Corporation and China Petrochemical Corporation (Sinopec). In the PCS market, our major competitors include Nouryon, Lanxess AG and Arxada.

Raw Materials and Significant Supply Contracts

The major raw materials we use in our Catalysts operations include sodium silicate, sodium aluminate, kaolin, aluminum, ethylene, alpha-olefins, isobutylene, toluene and metals, such as lanthanum, molybdenum, nickel and cobalt, most of which are readily available from numerous independent suppliers and are purchased or provided under contracts at prices we believe are competitive. The cost of raw materials is generally based on market prices, although we may use contracts with price caps or other tools, as appropriate, to mitigate price volatility.

Human Capital

Our main human capital management objectives are to attract, retain and develop the highest quality talent and ensure they feel safe, supported and empowered to do the best work they can do. We believe providing a diverse, equal and inclusive workplace facilitates opportunities for innovation, fosters good decision making practices, and promotes employee engagement and high productivity across our organization.

As of December 31, 2022, we had approximately 7,400 employees, including employees of our consolidated joint ventures, of whom 3,100, or 42%, are employed in the U.S. and the Americas; 2,300, or 31%, are employed in Asia Pacific; 1,500, or 20%, are employed in Europe; and 500, or 7%, are employed in the Middle East or other areas. Approximately 30% of

these employees are represented by unions or works councils. We believe that we generally have a good relationship with our employees, and with those unions and works councils.

Health and Safety

The health and safety of our employees is a part of our core values at Albemarle and is integral to how we conduct business. Our employees, contractors, and visitors follow a comprehensive set of written health and safety policies and procedures at both the corporate and local site levels. We routinely audit ourselves against our policies, procedures and standards, using internal and third-party resources. We also include health and safety metrics in our annual incentive plan for all employees to incentivize our commitment to safety. In 2022, we improved our Occupational Safety and Health Act (“OSHA”) occupational injury and illness incident rate to 0.14 for our employees and nested contractors, compared to 0.19 in 2021. In addition, we provide all employees and their dependents with access to our Employee Assistance Program which provides free mental and behavioral health resources.

Diversity, Equity and Inclusion

In 2020, we hired a Vice President, Diversity and Inclusion, to accelerate our inclusion and diversity initiatives and deliver meaningful change in our global organization. A primary focus in our recruiting efforts is to drive greater diversity in our workforce, including higher representation in the professional and managerial job categories. We want to ensure that our workplace reflects the communities in which we live and work. Our recruiting policy includes a requirement that we include individuals from gender or racial minority groups among those we interview for openings at the manager level and above.

We seek to provide employees with a desirable workplace that will enable us to attract and retain top talent. We believe employees should be compensated through wages and benefits, based on experience, expertise, performance, and the criticality of their roles in the Company. We also perform an annual review of our pay practices by gender, and in the U.S. by gender and race, to ensure that they are fair and equitable, and not influenced by biased opinions or discrimination. In addition, we have established employee groups, known as Connect groups, to promote an atmosphere of inclusion and encouragement in which every employee’s voice can be heard. These Connect groups provide opportunities for employees to share their backgrounds, experiences, and beliefs, and to use them to benefit others through mentoring and volunteering in the local community, among other activities.

Investment in Talent

Investing in talent is a critical process for Albemarle because it allows us to be proactive and anticipate key organizational needs for talent and capabilities. This enables us to efficiently and effectively ensure that we have the right talent pipeline to drive Albemarle’s success into the future. We also provide leadership development through performance coaching, comprehensive feedback, plant training including health, safety and environmental topics, and experiential development and mentoring. Our leadership development is a cornerstone to our talent management strategy. We also invest in our people through enhanced training and development opportunities and by seeking to foster a diverse workforce, equitable workplace and an inclusive culture that enables employees to reach their full potential. We also invest in our people through enhanced training and development opportunities and by seeking to foster a diverse workforce, equitable workplace and an inclusive culture that enables employees to reach their full potential.

Our incentive program is designed to provide incentives and rewards for achieving Albemarle’s annual goals and objectives. The Executive Compensation Committee of the Board has the overall responsibility of evaluating the performance of the CEO and approving the compensation structure for senior management and other key employees. The Executive Compensation Committee determines performance goals under our incentive program annually to ensure our executive officers execute on short-term financial and strategic initiatives that drive our business strategy and long-term shareholder value.

Sales, Marketing and Distribution

We have an international strategic account program that uses cross-functional teams to serve large global customers. This program emphasizes creative strategies to improve and strengthen strategic customer relationships with emphasis on creating value for customers and promoting post-sale service. Complementing this program are regional Albemarle sales and technical personnel around the world who serve numerous additional customers globally. We also utilize commissioned sales representatives and specialists in specific market areas when necessary or required by law.

Research and Development

We believe that in order to generate revenue growth, maintain our margins and remain competitive, we must continually invest in research and development, product and process improvements and specialized customer services. Our research and

development efforts support each of our business segments. The objective of our research and development efforts is to develop innovative chemistries and technologies with applications relevant within targeted key markets through both process and new product development. Through research and development, we continue to seek increased margins by introducing value-added products and proprietary processes and innovative green chemistry technologies. Our green chemistry efforts focus on the development of products in a manner that minimizes waste and the use of raw materials and energy, avoids the use of toxic reagents and solvents and utilizes safe, environmentally friendly manufacturing processes. Green chemistry is encouraged with our researchers through periodic focus group discussions and special rewards and recognition for outstanding new green developments.

Intellectual Property

Our intellectual property, including our patents, licenses and trade names, is an important component of our business. As of December 31, 2022, we owned more than 2,100 active patents and more than 500 pending patent applications in key strategic markets worldwide. We also have acquired rights under patents and inventions of others through licenses, and we license certain patents and inventions to third parties.

Regulation

Our business is subject to a broad array of employee health and safety laws and regulations, including those under the OSHA. We also are subject to similar state laws and regulations as well as local laws and regulations for our non-U.S. operations. We devote significant resources and have developed and implemented comprehensive programs to promote the health and safety of our employees, and we maintain an active health, safety and environmental program. As noted above, we finished 2022 with an OSHA occupational injury and illness incident rate of 0.14 for Albemarle employees and nested contractors, compared to 0.19 in 2021.

Our business and our customers are subject to significant requirements under the European Community Regulation for the Registration, Evaluation, Authorization and Restriction of Chemicals (“REACH”). REACH imposes obligations on European Union manufacturers and importers of chemicals and other products into the European Union to compile and file comprehensive reports, including testing data, on each chemical substance, and perform chemical safety assessments. Additionally, substances of high concern, as defined under REACH, are subject to an authorization process. Authorization may result in restrictions in the use of products by application or even banning the product. REACH regulations impose significant additional responsibilities on chemical producers, importers, downstream users of chemical substances and preparations, and the entire supply chain. Our significant manufacturing presence and sales activities in the European Union require significant compliance costs and may result in increases in the costs of raw materials we purchase and the products we sell. Increases in the costs of our products could result in a decrease in their overall demand; additionally, customers may seek products with lower regulatory compliance requirements, which could also result in a decrease in the demand of certain products subject to the REACH regulations.

The Toxic Substances Control Act (“TSCA”), as amended in June 2016, requires chemicals to be assessed against a risk-based safety standard and calls for the elimination of unreasonable risks identified during risk evaluation. This regulation and other pending initiatives at the U.S. state level, as well as initiatives in Canada, Asia and other regions, will potentially require toxicological testing and risk assessments of a wide variety of chemicals, including chemicals used or produced by us. These assessments may result in heightened concerns about the chemicals involved and additional requirements being placed on the production, handling, labeling or use of the subject chemicals. Such concerns and additional requirements could also increase the cost incurred by our customers to use our chemical products and otherwise limit the use of these products, which could lead to a decrease in demand for these products.

Historically, there has been scrutiny of certain brominated fire safety solutions by regulatory authorities, legislative bodies and environmental interest groups in various countries. We manufacture a broad range of brominated fire safety solution products, which are used in a variety of applications. Concern about the impact of some of our products on human health or the environment may lead to regulation or reaction in our markets independent of regulation.

Environmental Regulation

We are subject to numerous foreign, federal, state and local environmental laws and regulations, including those governing the discharge of pollutants into the air and water, the management and disposal of hazardous substances and wastes and the cleanup of contaminated properties. Ongoing compliance with such laws and regulations is an important consideration for us. Key aspects of our operations are subject to these laws and regulations. In addition, we incur substantial capital and operating costs in our efforts to comply with them.

We use and generate hazardous substances and wastes in our operations and may become subject to claims for personal injury and/or property damage relating to the release of such substances into the environment. In addition, some of our current properties are, or have been, used for industrial purposes, which could contain currently unknown contamination that could expose us to governmental requirements or claims relating to environmental remediation, personal injury and/or property damage. Liabilities associated with the investigation and cleanup of hazardous substances, as well as personal injury, property damages or natural resource damages arising from the release of, or exposure to, such hazardous substances, may be imposed in many situations without regard to violations of laws or regulations or other fault, and may also be imposed jointly and severally (so that a responsible party may be held liable for more than its share of the losses involved, or even the entire loss). Such liabilities also may be imposed on many different entities with a relationship to the hazardous substances at issue, including, for example, entities that formerly owned or operated the property affected by the hazardous substances and entities that arranged for the disposal of the hazardous substances at the affected property, as well as entities that currently own or operate such property. We are subject to such laws, including the federal Comprehensive Environmental Response, Compensation and Liability Act, commonly known as CERCLA or Superfund, in the U.S., and similar foreign and state laws. We may have liability as a potentially responsible party (“PRP”) with respect to active off-site locations under CERCLA or state equivalents. We have sought to resolve our liability as a PRP at these sites through indemnification by third parties and settlements, which would provide for payment of our allocable share of remediation costs. Because the cleanup costs are estimates and are subject to revision as more information becomes available about the extent of remediation required, and in some cases we have asserted a defense to any liability, our estimates could change. Moreover, liability under CERCLA and equivalent state statutes may be joint and several, which could require us to pay in excess of our pro rata share of remediation costs. Our understanding of the financial strength of other PRPs has been considered, where appropriate, in estimating our liabilities. Accruals for these matters are included in the environmental reserve. Our management is actively involved in evaluating environmental matters and, based on information currently available to us, we have concluded that our outstanding environmental liabilities for unresolved waste sites currently known to us should not have a material effect on our operations.

See “Safety and Environmental Matters” in Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations for further details.

Climate Change and Natural Resources

The growing concerns about climate change and the related increasingly stringent regulations may provide us with new or expanded business opportunities. We provide solutions to companies pursuing alternative fuel products and technologies (such as renewable fuels), emission control technologies (including mercury emissions), alternative transportation vehicles and energy storage technologies and other similar solutions. As demand for, and legislation mandating or incentivizing the use of, alternative fuel technologies that limit or eliminate greenhouse gas emissions increase, we continue to monitor the market and offer solutions where we have appropriate technology and believe we are well positioned to take advantage of opportunities that may arise from such demand or legislation.

In addition to potential business opportunities, we acknowledge our responsibility to address the impact of our operations on the environment. We are investing in technology and people to reduce energy consumption, greenhouse gas emissions and air emissions of ozone-depleting substances. In 2021, we established greenhouse gas emission targets for each of our businesses, including achieving net zero carbon emissions by 2050, reducing the carbon-intensity of our Bromine and Catalysts businesses by a combined 35% by 2030, and growing our Lithium business in a carbon-intensity neutral manner through 2030.

Water is a critical input to Albemarle’s production operations. As water is a scarce resource, we understand the need to responsibly manage our water consumption not only for the preservation of the environment, but for the viability of our local communities. We are investing in new process technologies to reduce our water footprint and expand capacity sustainably in locations with high water risk. Our goal is to reduce our intensity of freshwater usage by 25% by 2030 in areas of high or extremely high-water risk as defined by the World Resources Institute, such as Chile and Jordan.

Our businesses are dependent on the availability and responsible management of natural resources. We manage our natural resources to operate efficiently and preserve the environment for our local communities and the world. Our natural resource management includes mineral resource transparency with local communities, governments, regulators and other key stakeholders, as well as partnering with the Initiative for Responsible Mining Assurance for our lithium production for the assurance of responsible mining. We attempt to maximize the recovery of our extracted minerals and recycle or reuse by-products where possible. In addition, we work with local communities, regulatory agencies and wildlife organizations to preserve and restore land and biodiversity before, during and after all operations commence.

Recent Acquisitions, Joint Ventures and Divestitures

During recent years, we have devoted resources to acquisitions and joint ventures, including the subsequent integration of acquired businesses. These acquisitions and joint ventures have expanded our base business, provided our customers with a wider array of products and presented new alternatives for discovery through additional chemistries. In addition, we have pursued opportunities to divest businesses which do not fit our high priority business growth profile. The following is a summary of our significant acquisitions, joint ventures and divestitures over the last three years.

On October 25, 2022 the Company completed the acquisition of all of the outstanding equity of Guangxi Tianyuan New Energy Materials Co., Ltd. (“Qinzhou”), for approximately \$200 million in cash. Qinzhou's operations include a recently constructed lithium processing plant strategically positioned near the Port of Qinzhou in Guangxi, which began commercial production in the first half of 2022. The plant has designed annual conversion capacity of up to 25,000 metric tons of lithium carbonate equivalent (“LCE”) and produces battery-grade lithium carbonate and lithium hydroxide.

On June 1, 2021, we completed the sale of our fine chemistry services (“FCS”) business to W. R. Grace & Co. (“Grace”) for proceeds of approximately \$570 million, consisting of \$300 million in cash and the issuance to Albemarle of preferred equity of a Grace subsidiary having an aggregate stated value of \$270 million. As part of the transaction, Grace acquired our manufacturing facilities located in South Haven, Michigan and Tyrone, Pennsylvania.

In the fourth quarter of 2020, we divested our ownership interest in the Saudi Organometallic Chemicals Company LLC (“SOCC”) joint venture for cash proceeds of \$11.0 million. As a result of this divestiture, the Company recorded a gain of \$7.2 million in Other income (expenses), net during the year ended December 31, 2020.

These transactions reflect our commitment to investing in future growth of our high priority businesses, maintaining leverage flexibility and returning capital to our shareholders.

Available Information

Our website address is www.albemarle.com. We make available free of charge through our website our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (“Exchange Act”), as well as beneficial ownership reports on Forms 3, 4 and 5 filed pursuant to Section 16 of the Exchange Act, as soon as reasonably practicable after such documents are electronically filed with, or furnished to, the Securities and Exchange Commission (“SEC”). The information on our website is not, and shall not be deemed to be, a part of this report or incorporated into any other filings we make with the SEC. The SEC also maintains a website at www.sec.gov that contains reports, proxy statements and other information regarding SEC registrants, including Albemarle.

Our Corporate Governance Guidelines, Code of Conduct and the charters of the Audit and Finance, Health, Safety and Environment, Executive Compensation, and Nominating and Governance Committees of our Board of Directors are also available on our website and are available in print to any shareholder upon request by writing to Investor Relations, 4250 Congress Street, Suite 900, Charlotte, North Carolina 28209, or by calling (980) 299-5700.

Item 1A. Risk Factors.

You should consider carefully the following risks when reading the information, including the financial information, contained in this Annual Report on Form 10-K.

Risks Related to Our Business

Our substantial international operations subject us to risks of doing business in foreign countries, which could adversely affect our business, financial condition and results of operations.

We conduct a substantial portion of our business outside the U.S., with approximately 88% of our sales to foreign countries. We operate and/or sell our products to customers in approximately 70 countries. We currently have many production, research and development and administrative facilities as well as sales offices located outside the U.S., as detailed in Item 2. Properties. Accordingly, our business is subject to risks related to the differing legal, political, social and regulatory requirements and economic conditions of many jurisdictions. Risks inherent in international operations include the following:

- fluctuations in foreign currency exchange rates may affect product demand and may adversely affect the profitability in U.S. dollars of products and services we provide in international markets where payment for our products and services is made in the local currency;

- transportation and other shipping costs may increase, or transportation may be inhibited;
- increased cost or decreased availability of raw materials;
- increased regulations on, or reduced access to, scarce resources, such as freshwater;
- changes in foreign laws and tax rates or U.S. laws and tax rates with respect to foreign income may unexpectedly increase the rate at which our income is taxed, impose new and additional taxes on remittances, repatriation or other payments by subsidiaries, or cause the loss of previously recorded tax benefits;
- foreign countries in which we do business may adopt other restrictions on foreign trade or investment, including currency exchange controls;
- trade sanctions by or against foreign countries in which we do business could result in our losing access to customers and suppliers in those countries;
- unexpected adverse changes in foreign laws or regulatory requirements may occur;
- our agreements with counterparties in foreign countries may be difficult for us to enforce and related receivables may be difficult for us to collect;
- compliance with the variety of foreign laws and regulations may be unduly burdensome;
- compliance with anti-bribery and anti-corruption laws (such as the Foreign Corrupt Practices Act) as well as anti-money-laundering laws may be costly;
- unexpected adverse changes in export duties, quotas and tariffs and difficulties in obtaining export licenses may occur;
- general economic conditions in the countries in which we operate could have an adverse effect on our earnings from operations in those countries;
- our foreign operations may experience staffing difficulties and labor disputes;
- termination or substantial modification of international trade agreements may adversely affect our access to raw materials and to markets for our products outside the U.S.;
- foreign governments may nationalize or expropriate private enterprises;
- increased sovereign risk (such as default by or deterioration in the economies and credit worthiness of local governments) may occur; and
- political or economic repercussions from terrorist activities, including the possibility of hyperinflationary conditions and political instability, may occur in certain countries in which we do business.

In addition, certain of our operations and ongoing capital projects are in regions of the world such as Asia, the Middle East and South America that are of high risk due to significant civil, political and security instability. Unanticipated events, such as geopolitical changes, could result in a write-down of our investment in the affected joint venture or a delay or cause cancellation of those capital projects, which could negatively impact our future growth and profitability. Our success as a global business will depend, in part, upon our ability to succeed in differing legal, regulatory, economic, social and political conditions by developing, implementing and maintaining policies and strategies that are effective in each location where we and our joint ventures do business.

Furthermore, we are subject to rules and regulations related to anti-bribery and antitrust prohibitions of the U.S. and other countries, as well as export controls and economic embargoes, violations of which may carry substantial penalties. For example, export control and economic embargo regulations limit the ability of our subsidiaries to market, sell, distribute or otherwise transfer their products or technology to prohibited countries or persons. Failure to comply with these regulations could subject our subsidiaries to fines, enforcement actions and/or have an adverse effect on our reputation and the value of our common stock.

Because we conduct substantial operations in China, risks associated with regulatory activity and political and social events in China could negatively affect our business and operating results.

In 2022, net sales shipped to China represented 33% of our total net sales. Additionally, we own three production facilities located in China and are in the process of constructing a lithium conversion plant in Meishan, China. In addition to the risks described above under “*Our substantial international operations subject us to risks of doing business in foreign countries, which could adversely affect our business, financial condition and results of operations.*”, our operations in China expose us to risks particular to conducting business in that country. For example, over the past several years the U.S. and China have applied tariffs to certain of each other’s exports, which have resulted in shifting trade flows and restrictions on certain sales of goods into China. Additionally, geopolitical disputes (including as a result of China-Taiwan and U.S.-Taiwan relations) between the U.S. and China may lead to further restrictions on trade and/or obstacles to conducting business in China. Recently, Australia

and China have attempted to improve relations and resolve trade disputes. As we ship a significant portion of our lithium from Australia into China for further processing, tensions or a breakdown in relations between the countries could have a material impact on our operations. Furthermore, the Chinese government has, from time to time, curtailed manufacturing operations, with little or no notice, in industrial regions out of growing concern over air quality and in response to COVID-19 outbreaks. The Chinese government has also instituted energy intensity and energy consumption targets in a number of provinces in its efforts to reduce energy consumption, resulting in energy quotas and shortages in energy supply that can be disruptive to construction and manufacturing operations. These and other risks may have an adverse effect on our sales to Chinese customers and/or result in our not realizing a return on, or losing some, or all, of our strategic investments in China.

Our inability to secure key raw materials, or to pass through increases in costs and expenses for other raw materials and energy, on a timely basis or at all, including due to climate change, could have an adverse effect on the margins of our products and our results of operations.

The long-term profitability of our operations will, in part, depend on our ability to continue to economically obtain resources, including energy and raw materials. For example, our lithium and bromine businesses rely upon our continued ability to produce, or otherwise obtain, lithium and bromine of sufficient quality and in adequate amounts to meet our customers' demand. If we fail to secure and retain the rights to continue to access these key raw materials, we may have to restrict or suspend our operations that rely upon these key resources, which could harm our business, results of operations and financial condition. In addition, in some cases access to these raw materials by us and our competitors is subject to decisions or actions by governmental authorities, which could adversely impact us. Furthermore, other raw material and energy costs account for a significant percentage of our total costs of products sold, even if they can be obtained on commercially reasonable terms. Our raw material and energy costs can be volatile and may increase significantly. Increases are primarily driven by tightening of market conditions and major increases in the pricing of key constituent materials for our products such as crude oil, chlorine and metals (including molybdenum and rare earths which are used in the refinery catalysts business). We generally attempt to pass through changes in the prices of raw materials and energy to our customers, but we may be unable to do so (or may be delayed in doing so). In addition, raising prices we charge to our customers in order to offset increases in the prices we pay for raw materials could cause us to suffer a loss of sales volumes. Our inability to efficiently and effectively pass through price increases, or inventory impacts resulting from price volatility, could adversely affect our margins.

Competition within our industry may place downward pressure on the prices and margins of our products and may adversely affect our businesses and results of operations.

We compete against a number of highly competitive global specialty chemical producers. Competition is based on several key criteria, including product performance and quality, product price, product availability and security of supply, and responsiveness of product development in cooperation with customers and customer service. Some of our competitors are larger than we are and may have greater financial resources. These competitors may also be able to maintain significantly greater operating and financial flexibility. As a result, these competitors may be better able to withstand changes in conditions within our industry. Competitors' pricing decisions could compel us to decrease our prices, which could negatively affect our margins and profitability. Our ability to maintain or increase our profitability is, and will continue to be, dependent upon our ability to offset decreases in the prices and margins of our products by improving production efficiency and volume and other productivity enhancements, shifting to production of higher margin chemical products and improving existing products through innovation and research and development. If we are unable to do so or to otherwise maintain our competitive position, we could lose market share to our competitors.

In addition, Albemarle's brands, product image and trademarks represent the unique product identity of each of our products and are important symbols of the Company's reputation. Accordingly, the performance of our business could be adversely affected by any marketing and promotional materials used by our competitors that make adverse claims, whether with or without merit, against our Company or its products, imply or assert immoral or improper conduct by us, or are otherwise disparaging of our Company or its products. Further, our own actions could hurt such brands, product image and trademarks if our products underperform or we otherwise draw negative publicity.

Our research and development efforts may not succeed in addressing changes in our customers' needs, and our competitors may develop more effective or successful products.

Our industries and the end markets into which we sell our products experience technological change and product improvement. Manufacturers periodically introduce new products or require new technological capacity to develop customized products. Our future growth depends on our ability to gauge the direction of the commercial and technological progress in all key end markets in which we sell our products and upon our ability to fund and successfully develop, manufacture and market products in such changing end markets. As a result, we must commit substantial resources each year to research and

development. There is no assurance that we will be able to continue to identify, develop, market and, in certain cases, secure regulatory approval for innovative products in a timely manner or at all, as may be required to replace or enhance existing products, and any such inability could have a material adverse effect on our profit margins and our competitive position.

In addition, our customers use our specialty chemicals for a broad range of applications. Changes in our customers' products or processes may enable our customers to reduce consumption of the specialty chemicals that we produce or make our specialty chemicals unnecessary. Customers may also find alternative materials or processes that do not require our products. Should a customer decide to use a different material due to price, performance or other considerations, we may not be able to supply a product that meets the customer's new requirements. Consequently, it is important that we develop new products to replace the sales of products that mature and decline in use. Our business, results of operations, cash flows and margins could be materially adversely affected if we are unable to manage successfully the maturation of our existing products and the introduction of new products.

Despite our efforts, we may not be successful in developing new products and/or technology, either alone or with third parties, or licensing intellectual property rights from third parties on a commercially competitive basis. Our new products may not be accepted by our customers or may fail to receive regulatory approval. Moreover, new products may have lower margins than the products they replace. Furthermore, ongoing investments in research and development for the future do not yield an immediate beneficial impact on our operating results and therefore could result in higher costs without a proportional increase in revenues.

The development of non-lithium battery technologies could adversely affect us.

The development and adoption of new battery technologies that rely on inputs other than lithium compounds could significantly impact our prospects and future revenues. Current and next generation high energy density batteries for use in electric vehicles rely on lithium compounds as a critical input. Alternative materials and technologies are being researched with the goal of making batteries lighter, more efficient, faster charging and less expensive, and some of these could be less reliant on lithium compounds. We cannot predict which new technologies may ultimately prove to be commercially viable and on what time horizon. Commercialized battery technologies that use no, or significantly less, lithium could materially and adversely impact our prospects and future revenues.

Downturns in our customers' industries, many of which are cyclical, could adversely affect our sales and profitability.

Downturns in the businesses that use our specialty chemicals may adversely affect our sales. Many of our customers are in industries, including the electronics, building and construction, oilfield and automotive industries, which are cyclical in nature, or which are subject to secular market downturns. Historically, cyclical or secular industry downturns have resulted in diminished demand for our products, excess manufacturing capacity and lower average selling prices, and we may experience similar problems in the future. A decline in our customers' industries may have a material adverse effect on our sales and profitability.

Our results are subject to fluctuation because of irregularities in the demand for our HPC catalysts and certain of our agrichemicals.

Our HPC catalysts are used by petroleum refiners in their processing units to reduce the quantity of sulfur and other impurities in petroleum products. The effectiveness of HPC catalysts diminishes with use, requiring the HPC catalysts to be replaced, on average, once every one to four years. The sales of our HPC catalysts, therefore, are largely dependent on the useful life cycle of the HPC catalysts in the processing units and may vary materially by quarter. In addition, the timing and profitability of HPC catalysts sales can have a significant impact on revenue and profit in any one quarter. Sales of our agrichemicals are also subject to fluctuation as demand varies depending on climate and other environmental conditions, which may prevent or reduce farming for extended periods. In addition, crop pricing and the timing of when farms alternate from one crop to another crop in a particular year can also alter sales of agrichemicals.

Regulation, or the threat of regulation, of some of our products could have an adverse effect on our sales and profitability.

We manufacture or market a number of products that are or have been the subject of attention by regulatory authorities and environmental interest groups. For example, over the past decade, there has been increasing scrutiny of certain brominated fire safety solutions by regulatory authorities, legislative bodies and environmental interest groups in various countries. We manufacture a broad range of brominated fire safety solution products, which are used in a variety of applications to protect people, property and the environment from injury and damage caused by fire. Concern about the impact of some of our products on human health or the environment may lead to regulation, or reaction in our markets independent of regulation, that could reduce or eliminate markets for such products.

Agencies in the European Union (“E.U.”) continue to evaluate the risks to human health and the environment associated with certain brominated fire safety solutions such as tetrabromobisphenol A and decabromodiphenylethane, both of which we manufacture. Additional government regulations, including limitations or bans on the use of brominated flame retardants, could result in a decline in our net sales of brominated fire safety solutions and have an adverse effect on our sales and profitability. In addition, the threat of additional regulation or concern about the impact of brominated fire safety solutions on human health or the environment could lead to a negative reaction in our markets that could reduce or eliminate our markets for these products, which could have an adverse effect on our sales and profitability.

Our business and our customers are subject to significant requirements under REACH, which imposes obligations on E.U. manufacturers and importers of chemicals and other products into the E.U. to compile and file comprehensive reports, including testing data, on each chemical substance, and perform chemical safety assessments. Additionally, substances of high concern, as defined under REACH, are subject to an authorization process, which may result in restrictions in the use of products by application or even banning the product. REACH regulations impose significant additional burdens on chemical producers, importers, downstream users of chemical substances and preparations, and the entire supply chain. See “Regulation” in Item 1. Business. Our significant manufacturing presence and sales activities in the E.U. require significant compliance costs and may result in increases in the costs of raw materials we purchase and the products we sell. Increases in the costs of our products could result in a decrease in their overall demand; additionally, customers may seek products with lower regulatory compliance requirements, which could also result in a decrease in the demand of certain products subject to the REACH regulations.

The TSCA requires chemicals to be assessed against a risk-based safety standard and calling for the elimination of unreasonable risks identified during risk evaluation. This regulation and other pending initiatives at the U.S. state level, as well as initiatives in Canada, Asia and other regions, could potentially require toxicological testing and risk assessments of a wide variety of chemicals, including chemicals used or produced by us. These assessments may result in heightened concerns about the chemicals involved and additional requirements being placed on the production, handling, labeling or use of the subject chemicals. Such concerns and additional requirements could also increase the cost incurred by our customers to use our chemical products and otherwise limit the use of these products, which could lead to a decrease in demand for these products. Such a decrease in demand could have an adverse impact on our business and results of operations.

We could be subject to damages based on claims brought against us by our customers or lose customers as a result of the failure of our products to meet certain quality specifications.

Our products enable important performance attributes to our customers’ products. If a product fails to perform in a manner consistent with quality specifications or has a shorter useful life than guaranteed, a customer of ours could seek the replacement of the product or damages for costs incurred as a result of the product failing to perform as guaranteed. These risks apply to our refinery catalysts in particular because, in certain instances, we sell our refinery catalysts under agreements that contain limited performance and life cycle guarantees. Also, because many of our products are integrated into our customers’ products, we may be requested to participate in, or fund in whole or in part the costs of, a product recall conducted by a customer. For example, some of our businesses supply products to customers in the automotive industry. In the event one of these customers conducts a product recall that it believes is related to one of our products, we may be asked to participate in, or fund in whole or in part, such a recall.

Our customers often require our subsidiaries to represent that our products conform to certain product specifications provided by our customers. Any failure to comply with such specifications could result in claims or legal action against us.

A successful claim or series of claims against us could have a material adverse effect on our financial condition and results of operations and could result in our loss of one or more customers.

Our business is subject to hazards common to chemical and natural resource extraction businesses, any of which could injure our employees or other persons, damage our facilities or other properties, interrupt our production and adversely affect our reputation and results of operations.

Our business is subject to hazards common to chemical manufacturing, storage, handling and transportation, as well as natural resource extraction, including explosions, fires, severe weather, natural disasters, mechanical failure, unscheduled downtime, transportation interruptions, remediation, chemical spills, discharges or releases of toxic or hazardous substances or gases and other risks. These hazards can cause personal injury and loss of life to our employees and other persons, severe damage to, or destruction of, property and equipment and environmental contamination. In addition, the occurrence of disruptions, shutdowns or other material operating problems at our facilities due to any of these hazards may diminish our ability to meet our output goals. Accordingly, these hazards and their consequences could adversely affect our reputation and

have a material adverse effect on our operations as a whole, including our results of operations and cash flows, both during and after the period of operational difficulties.

Our business could be adversely affected by environmental, health and safety laws and regulations.

The nature of our business, including historical operations at our current and former facilities, exposes us to risks of liability under environmental laws and regulations due to the production, storage, use, transportation and sale of materials that can cause contamination or personal injury if released into the environment. In the jurisdictions in which we operate, we are subject to numerous U.S. and non-U.S. national, federal, state and local environmental, health and safety laws and regulations, including those governing the discharge of pollutants into the air and water, the management and disposal of hazardous substances and wastes and the cleanup of contaminated properties. We currently use, and in the past have used, hazardous substances at many of our facilities, and we have in the past been, and may in the future be, subject to claims relating to exposure to hazardous materials. We also have generated, and continue to generate, hazardous wastes at a number of our facilities. Some of our facilities also have lengthy histories of manufacturing or other activities that may have resulted in site contamination. Liabilities associated with the investigation and cleanup of hazardous substances, as well as personal injury, property damages or natural resource damages arising from the release of, or exposure to, such hazardous substances, may be imposed in many situations without regard to violations of laws or regulations or other fault, and may also be imposed jointly and severally (so that a responsible party may be held liable for more than its share of the losses involved, or even the entire loss). Such liabilities may also be imposed on many different entities, including, for example, current and prior property owners or operators, as well as entities that arranged for the disposal of the hazardous substances. Such liabilities may be material and can be difficult to identify or quantify.

Further, some of the raw materials we handle are subject to government regulation. These regulations affect the manufacturing processes, handling, uses and applications of our products. In addition, our production facilities and a number of our distribution centers require numerous operating permits. Due to the nature of these requirements and changes in our operations, our operations may exceed limits under permits or we may not have the proper permits to conduct our operations. Ongoing compliance with such laws, regulations and permits is an important consideration for us and we incur substantial capital and operating costs in our compliance efforts.

Compliance with environmental laws generally increases the costs of manufacturing, registration/approval requirements, transportation and storage of raw materials and finished products, and storage and disposal of wastes, and could have a material adverse effect on our results of operations. We may incur substantial costs, including fines, damages, criminal or civil sanctions and remediation costs, or experience interruptions in our operations, for violations arising under these laws or permit requirements. Additional information may arise in the future concerning the nature or extent of our liability with respect to identified sites, and additional sites may be identified for which we are alleged to be liable, that could cause us to materially increase our environmental accrual or the upper range of the costs we believe we could reasonably incur for such matters. Furthermore, environmental laws are subject to change and have become increasingly stringent in recent years. We expect this trend to continue and to require materially increased capital expenditures and operating and compliance costs.

We may be subject to indemnity claims and liable for other payments relating to properties or businesses we have divested.

In connection with the sale of certain properties and businesses, we have agreed to indemnify the purchasers of such properties for certain types of matters, such as certain breaches of representations and warranties, taxes and certain environmental matters. With respect to environmental matters, the discovery of contamination arising from properties that we have divested may expose us to indemnity obligations under the sale agreements with the buyers of such properties or cleanup obligations and other damages under applicable environmental laws. We may not have insurance coverage for such indemnity obligations or cash flows to make such indemnity or other payments. Further, we cannot predict the nature of and the amount of any indemnity or other obligations we may have to the applicable purchaser. Such payments may be costly and may adversely affect our financial condition and results of operations. For example, in 2021, we agreed to pay \$665 million to settle claims related to a legacy Rockwood Holdings, Inc. (“Rockwood”) business sold to a third party prior to our acquisition of Rockwood in 2015.

At several of our properties where hazardous substances are known to exist (including some sites where hazardous substances are being investigated or remediated), we believe we are entitled to contractual indemnification from one or more former owners or operators; however, in the event we make a claim, the indemnifier may disagree with us regarding, or not have the financial capacity to fulfill, its indemnity obligation. If our contractual indemnity is not upheld or effective, our accrual and/or our costs for the investigation and cleanup of hazardous substances could increase materially.

We could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act and similar foreign anti-corruption laws.

The U.S. Foreign Corrupt Practices Act (the “FCPA”) and similar foreign anti-corruption laws in other jurisdictions around the world generally prohibit companies and their intermediaries from making improper payments or providing anything of value to non-U.S. government officials for the purpose of obtaining or retaining business or securing an unfair advantage. We operate in some parts of the world that have experienced governmental corruption to some degree, and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. Although we have established formal policies or procedures for prohibiting or monitoring this conduct, we cannot assure you that our employees or other agents will not engage in such conduct for which we might be held responsible. In the event that we believe or have reason to believe that our employees, agents or distributors have or may have violated applicable anti-corruption laws, including the FCPA, we may be required to investigate or have outside counsel investigate the relevant facts and circumstances, which can be expensive and require significant time and attention from senior management. If we are found to be liable for violations of the FCPA or other applicable anti-corruption laws (either due to our own acts or our inadvertence, or due to the acts or inadvertence of others, including employees of our joint ventures), we could suffer from civil and criminal penalties or other sanctions, which could have a material adverse effect on our business and results of operations.

As first reported in 2018, following receipt of information regarding potential improper payments being made by third-party sales representatives of our Refining Solutions business, within our Catalysts segment, we promptly retained outside counsel and forensic accountants to investigate potential violations of the Company’s Code of Conduct, the Foreign Corrupt Practices Act, and other potentially applicable laws. Based on this internal investigation, we have voluntarily self-reported potential issues relating to the use of third-party sales representatives in our Refining Solutions business, within our Catalysts segment, to the U.S. Department of Justice (“DOJ”), the SEC, and the Dutch Public Prosecutor (“DPP”), and are cooperating with the DOJ, the SEC, and the DPP in their review of these matters. In connection with our internal investigation, we have implemented, and are continuing to implement, appropriate remedial measures. We have commenced discussions with the SEC, DOJ and DPP about a potential resolution of these matters.

At this time, we are unable to predict the duration, scope, result, or related costs associated with the investigations. We also are unable to predict what action may be taken by the DOJ, the SEC, or the DPP, or what penalties or remedial actions they may ultimately seek. Any determination that our operations or activities are not, or were not, in compliance with existing laws or regulations could result in the imposition of fines, penalties, disgorgement, equitable relief, or other losses. We do not believe, however, that any such fines, penalties, disgorgement, equitable relief, or other losses would have a material adverse effect on our financial condition or liquidity. However, an adverse resolution could have a material adverse effect on our results of operations in a particular period.

We are subject to extensive foreign government regulation that can negatively impact our business.

We are subject to government regulation in non-U.S. jurisdictions in which we conduct our business. The requirements for compliance with these laws and regulations may be unclear or indeterminate and may involve significant costs, including additional capital expenditures or increased operating expenses, or require changes in business practice, in each case that could result in reduced profitability for our business. Our having to comply with these foreign laws or regulations may provide a competitive advantage to competitors who are not subject to comparable restrictions or prevent us from taking advantage of growth opportunities. Determination of noncompliance can result in penalties or sanctions that could also adversely impact our operating results and financial condition.

Our inability to protect our intellectual property rights, or being accused of infringing on intellectual property rights of third parties, could have a material adverse effect on our business, financial condition and results of operations.

Protection of our proprietary processes, methods and compounds and other technology is important to our business. We generally rely on patent, trade secret, trademark and copyright laws of the U.S. and certain other countries in which our products are produced or sold, as well as licenses and nondisclosure and confidentiality agreements, to protect our intellectual property rights. The patent, trade secret, trademark and copyright laws of some countries, or their enforcement, may not protect our intellectual property rights to the same extent as the laws of the U.S. Failure to protect our intellectual property rights may result in the loss of valuable proprietary technologies. Additionally, some of our technologies are not covered by any patent or patent application and, even if a patent application has been filed, it may not result in an issued patent. If patents are issued to us, those patents may not provide meaningful protection against competitors or against competitive technologies. We cannot assure you that our intellectual property rights will not be challenged, invalidated, circumvented or rendered unenforceable.

We also conduct research and development activities with third parties and license certain intellectual property rights from third parties and we plan to continue to do so in the future. We endeavor to license or otherwise obtain intellectual

property rights on terms favorable to us. However, we may not be able to license or otherwise obtain intellectual property rights on such terms or at all. Our inability to license or otherwise obtain such intellectual property rights could have a material adverse effect on our ability to create a competitive advantage and create innovative solutions for our customers, which will adversely affect our net sales and our relationships with our customers.

We could face patent infringement claims from our competitors or others alleging that our processes or products infringe on their proprietary technologies. If we are found to be infringing on the proprietary technology of others, we may be liable for damages and we may be required to change our processes, redesign our products partially or completely, pay to use the technology of others, stop using certain technologies or stop producing the infringing product entirely. Even if we ultimately prevail in an infringement suit, the existence of the suit could prompt customers to switch to products that are not the subject of infringement suits. We may not prevail in intellectual property litigation and such litigation may result in significant legal costs or otherwise impede our ability to produce and distribute key products.

We also rely upon unpatented proprietary manufacturing expertise, continuing technological innovation and other trade secrets to develop and maintain our competitive position. While we generally enter into confidentiality agreements with our employees and third parties to protect our intellectual property, we cannot assure you that our confidentiality agreements will not be breached, that they will provide meaningful protection for our trade secrets and proprietary manufacturing expertise or that adequate remedies will be available in the event of an unauthorized use or disclosure of our trade secrets or manufacturing expertise. In addition, our trade secrets and know-how may be improperly obtained by other means, such as a breach of our information technologies security systems or direct theft.

Our inability to acquire or develop additional reserves that are economically viable could have a material adverse effect on our future profitability.

Our lithium reserves will, without more, decline as we continue to extract these raw materials. Accordingly, our future profitability depends upon our ability to acquire additional lithium reserves that are economically viable to replace the reserves we will extract. Exploration and development of lithium resources are highly speculative in nature. Exploration projects involve many risks, require substantial expenditures and may not result in the discovery of sufficient additional resources that can be extracted profitably. Once a site with potential resources is discovered, it may take several years of development until production is possible, during which time the economic viability of production may change. Substantial expenditures are required to establish recoverable proven and probable reserves and to construct extraction and production facilities. As a result, there is no assurance that current or future exploration programs will be successful and there is a risk that depletion of reserves will not be offset by discoveries or acquisitions.

We utilize feasibility studies to estimate the anticipated economic returns of an exploration project. The actual project profitability or economic feasibility may differ from such estimates as a result of factors such as, but not limited to, changes in volumes, grades and characteristics of resources to be mined and processed; changes in labor costs or availability of adequate and skilled labor force; the quality of the data on which engineering assumptions were made; adverse geotechnical conditions; availability, supply and cost of water and power; fluctuations in inflation and currency exchange rates; delays in obtaining environmental or other government permits or approvals or changes in the laws and regulations related to our operations or project development; changes in royalty agreements, laws and/or regulations around royalties and other taxes; and weather or severe climate impacts.

For our existing operations, we utilize geological and metallurgical assumptions, financial projections and price estimates. These estimates are periodically updated to reflect changes in our operations, including modifications to our proven and probable reserves and mineralized material, revisions to environmental obligations, changes in legislation and/or social, political or economic environment, and other significant events associated with natural resource extraction operations. There are numerous uncertainties inherent in estimating quantities and qualities of lithium and costs to extract recoverable reserves, including many factors beyond our control, that could cause results to differ materially from expected financial and operating results or result in future impairment charges. In addition, it cannot be assumed that any part or all of the inferred mineral resources will ever be converted into mineral reserves, as defined by the SEC. See Item 2. Properties, for a discussion and quantification of our current mineral resources and reserves.

There is risk to the growth of lithium markets.

Our lithium business is significantly dependent on the development and adoption of new applications for lithium batteries and the growth in demand for plug-in hybrid electric vehicles and battery electric vehicles. To the extent that such development, adoption and growth do not occur in the volume and/or manner that we contemplate, including for reasons described under the heading “The development of non-lithium battery technologies could adversely affect us,” above, the long-term growth in the

markets for lithium products may be adversely affected, which would have a material adverse effect on our business, financial condition and operating results.

Demand and market prices for lithium will greatly affect the value of our investment in our lithium resources and our revenues and profitability generally.

Our ability to successfully develop our lithium resources, including our 60% interest in MARBL's Wodgina mine, and generate a return on investment will be affected by changes in the demand for and market price of lithium-based end products, such as lithium hydroxide. The market price of these products can fluctuate and is affected by numerous factors beyond our control, primarily world supply and demand. Such external economic factors are influenced by changes in international investment patterns, various political developments and macro-economic circumstances. In addition, the price of lithium products is impacted by their purity and performance. We may not be able to effectively mitigate against such fluctuations.

Following the Wodgina acquisition, the Wodgina mine idled production of spodumene until market demand supported bringing the mine back into production. We have resumed spodumene concentrate production at the Wodgina mine, but there are no assurances that we will not idle production at the Wodgina mine or one of our other mines in the future due to lack of market demand or for other reasons.

In addition, we have renegotiated certain of our long-term agreements to include higher pricing that is more reflective of current market conditions. In other cases, we have moved from our previous fixed-price, long-term agreements toward index-referenced and variable-priced contracts. As a result, our Lithium business is more aligned with changes in market and index pricing than it has been in the past. While lithium market indices have increased 70% to 200% since the start of 2022, they may decline in the future, and any such decline could have a material and adverse effect on the revenues and profitability of our Lithium business and on our company generally.

If we are unable to retain key personnel or attract new skilled personnel, it could have an adverse effect on our business.

Our success depends on our ability to attract and retain key personnel including our management team. In light of the specialized and technical nature of our business, our performance is dependent on the continued service of, and on our ability to attract and retain, qualified management, scientific, technical, marketing and support personnel. Competition for such personnel is intense, and we may be unable to continue to attract or retain such personnel. In addition, because of our reliance on our senior management team, the unanticipated departure of any key member of our management team could have an adverse effect on our business. Our future success depends, in part, on our ability to identify and develop or recruit talent to succeed our senior management and other key positions throughout the organization. If we fail to identify and develop or recruit successors, we are at risk of being harmed by the departures of these key employees. Effective succession planning is also important to our long-term success. Failure to ensure effective transfer of knowledge and smooth transitions involving key employees could hinder our strategic planning and execution. In addition, the U.S. and other regions in which we operate are experiencing an acute workforce shortage for skilled workers, which in turn has created a hyper-competitive wage environment that may impact our ability to attract and retain employees.

Some of our employees are unionized, represented by works councils or are employed subject to local laws that are less favorable to employers than the laws of the U.S.

As of December 31, 2022, we had approximately 7,400 employees, including employees of our consolidated joint ventures. Approximately 30% of these employees are represented by unions or works councils. In addition, a large number of our employees are employed in countries in which employment laws provide greater bargaining or other rights to employees than the laws of the U.S. Such employment rights require us to work collaboratively with the legal representatives of those employees to effect any changes to labor arrangements. For example, most of our employees in Europe are represented by works councils that must approve any changes in conditions of employment, including salaries and benefits and staff changes, and may impede efforts to restructure our workforce. Although we believe that we have a good working relationship with our employees, a strike, work stoppage, slowdown or significant dispute with our employees could result in a significant disruption of our operations or higher labor costs.

Our joint ventures may not operate according to their business plans if our partners fail to fulfill their obligations, which may adversely affect our results of operations and may force us to dedicate additional resources to these joint ventures.

We currently participate in a number of joint ventures and may enter into additional joint ventures in the future. The nature of a joint venture requires us to share control with unaffiliated third parties. If our joint venture partners do not fulfill their obligations, the affected joint venture may not be able to operate according to its business plan. In that case, our results of operations may be adversely affected and we may be required to materially change the level of our commitment to the joint

venture. Also, differences in views among joint venture participants may result in delayed decisions or failures to agree on major issues. If these differences cause the joint ventures to deviate from their business plans, our results of operations could be adversely affected.

The realignment of our former Lithium, Bromine and Catalysts segments into our Energy Storage, Specialties and Ketjen (Catalysts) segments may not benefit us as we expect or result in an improvement in our operating results.

In August 2022, we announced plans to realign our Lithium and Bromine global business units into a new corporate structure designed to better meet customer needs and foster talent required to deliver in a competitive global environment. In addition, we announced our decision to retain our Catalysts business under a separate, wholly-owned subsidiary. Effective January 1, 2023, we realigned our Lithium and Bromine global business units into new Energy Storage and Specialties segments. Energy Storage focuses on the lithium-ion battery evolution and the transition to clean energy. Specialties combines the former Bromine business with the Lithium specialties business. We also reorganized our former Catalysts business unit into a wholly-owned subsidiary branded as Ketjen. If we do not manage this reorganization and the consequent realignment of responsibilities effectively, or if this new organization does not provide better service and products to our customers, then our overall business could suffer with an adverse impact on our financial condition and results of operations.

We will continue to report our segments in the current structure until our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, the period in which the new organizational structure became effective.

Risks Related to Our Financial Condition

Our required capital expenditures can be complex, may experience delays or other difficulties, and the costs may exceed our estimates.

Our capital expenditures generally consist of expenditures to maintain and improve existing equipment, facilities and properties, and substantial investments in new or expanded equipment, facilities and properties. Execution of these capital expenditures can be complex, and commencement of production requires start-up, commission and certification of product quality by our customers, which may impact the expected output and timing of sales of product from such facilities. Construction of large chemical operations is subject to numerous risks and uncertainties, including, among others, the ability to complete a project on a timely basis and in accordance with the estimated budget for such projects and our ability to estimate future demand for our products. In addition, our returns on these capital expenditures may not meet our expectations.

Future capital expenditures may be significantly higher, depending on the investment requirements of each of our business lines, and may also vary substantially if we are required to undertake actions to compete with new technologies in our industry. We may not have the capital necessary to undertake these capital investments. If we are unable to do so, we may not be able to effectively compete in some of our markets.

We will need a significant amount of cash to service our indebtedness and our ability to generate cash depends on many factors beyond our control.

Our ability to generate sufficient cash flow from operations or use existing cash balances to make scheduled payments on our debt depends on a range of economic, competitive and business factors, many of which are outside our control. Our business may not generate sufficient cash flow from operations to service our debt obligations. If we are unable to service our debt obligations, we may need to refinance all or a portion of our indebtedness on or before maturity, reduce or delay capital expenditures, sell assets or raise additional equity. We may not be able to refinance any of our indebtedness, sell assets or raise additional equity on commercially reasonable terms or at all, which could cause us to default on our obligations and impair our liquidity. Our inability to generate sufficient cash flow or use existing cash balances to satisfy our debt obligations, or to refinance our obligations on commercially reasonable terms, could have a material adverse effect on our business and financial condition.

Restrictive covenants in our debt instruments may adversely affect our business.

Our senior credit facilities and the indentures governing our senior notes contain select restrictive covenants. These covenants provide constraints on our financial flexibility. The failure to comply with these or other covenants governing other indebtedness, including indebtedness incurred in the future, could result in an event of default, which, if not cured or waived, could have a material adverse effect on our business, financial condition and results of operations, including cross-defaults to other debt facilities. See “Financial Condition and Liquidity—Long-Term Debt” in Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Changes in credit ratings issued by nationally recognized statistical rating organizations could adversely affect our cost of financing, the market price of our securities and our debt service obligations.

Credit rating agencies rate our debt securities on factors that include our operating results, actions that we take, their view of the general outlook for our industry and their view of the general outlook for the economy. Actions taken by the rating agencies can include maintaining, upgrading or downgrading the current rating or placing us on a watch list for possible future downgrades. Downgrading the credit rating of our debt securities or placing us on a watch list for possible future downgrades would likely increase our cost of future financing, limit our access to the capital markets and have an adverse effect on the market price of our securities.

Borrowings under a portion of our debt facilities bear interest at floating rates, and are subject to adjustment based on the ratings of our senior unsecured long-term debt. The downgrading of any of our ratings or an increase in any of the benchmark interest rates would result in an increase of the interest expense on our variable rate borrowings.

We are exposed to fluctuations in currency exchange rates, which may adversely affect our operating results and net income.

We conduct our business and incur costs in the local currency of most of the countries in which we operate. Changes in exchange rates between foreign currencies and the U.S. Dollar will affect the recorded levels of our assets, liabilities, net sales, cost of goods sold and operating margins and could result in exchange losses. The primary currencies to which we have exposure are the Chinese Renminbi, Euro, Australian Dollar, Chilean Peso and Japanese Yen. Exchange rates between these currencies and the U.S. Dollar in recent years have fluctuated significantly and may do so in the future. With respect to our potential exposure to foreign currency fluctuations and devaluations, for the year ended December 31, 2022, approximately 29% of our net sales were denominated in currencies other than the U.S. Dollar. Significant changes in these foreign currencies relative to the U.S. Dollar could also have an adverse effect on our ability to meet interest and principal payments on any foreign currency-denominated debt outstanding. In addition to currency translation risks, we incur currency transaction risks whenever one of our operating subsidiaries or joint ventures enters into either a purchase or a sales transaction using a different currency from its functional currency. Our operating results and net income may be affected by any volatility in currency exchange rates and our ability to manage effectively our currency transaction and translation risks.

Inflationary trends in the price of our input costs, such as raw materials, transportation and energy, could adversely affect our business and financial results.

We have experienced, and may continue to experience, volatility and increases in the price of certain raw materials and in transportation and energy costs as a result of global market and supply chain disruptions and the broader inflationary environment. For example, results for our Catalysts segment have been negatively impacted in 2022 as a result of inflationary pressures in freight and input costs, including as a result of the volatility of natural gas pricing in Europe related to the war in Ukraine.

If we are unable to increase the prices to our customers of our products to offset inflationary cost trends, or if we are unable to achieve cost savings to offset such cost increases, we could fail to meet our cost expectations, and our profits and operating results could be adversely affected. Our ability to price our products competitively to timely reflect higher input costs is critical to maintain and grow our sales. Increases in prices of our products to customers or the impact of the broader inflationary environment on our customers and may lead to declines in demand and sales volumes. Further, we may not be able to accurately predict the volume impact of price increases, especially if our competitors are able to more successfully adjust to such input cost volatility. Increasing our prices to our customers could result in long-term sales declines or loss of market share if our customers find alternative suppliers or purchase less of our products, which could have an adverse long-term impact on our results of operations.

Changes in, or the interpretation of, tax legislation or rates throughout the world could materially impact our results.

Our effective tax rate and related tax balance sheet attributes could be impacted by changes in tax legislation throughout the world. Recent changes in the U.S. include the Inflation Reduction Act of 2022 (the "Inflation Reduction Act"), enacted August 16, 2022, which, among other items, imposes a 15% alternative minimum tax on corporations with three-year average annual adjusted financial statement income exceeding \$1 billion and introduces or extends a number of tax credits to promote clean energy development. We continue to monitor the effects of the Inflation Reduction Act and other regulatory developments on our financial condition, operating results, and income tax rate. Currently, the majority of our net sales are generated from customers located outside the U.S., and a substantial portion of our assets and employees are located outside of the U.S.

We have not accrued income taxes or foreign withholding taxes on undistributed earnings for most non-U.S. subsidiaries, because those earnings are intended to be indefinitely reinvested in the operations of those subsidiaries. Certain tax proposals with respect to such earnings could substantially increase our tax expense, which would substantially reduce our income and have a material adverse effect on our results of operations and cash flows from operating activities.

Our future effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, expirations of tax holidays or rulings, changes in the assessment regarding the realization of the valuation of deferred tax assets, or changes in tax laws and regulations or their interpretation. Recent developments, including the European Commission's investigations on illegal state aid, as well as the Organisation for Economic Co-operation and Development ("OECD") project on Base Erosion and Profit Shifting may result in changes to long-standing tax principles, which could adversely affect our effective tax rates or result in higher cash tax liabilities. The OECD has also proposed the introduction of a global minimum tax rate at 15%. Consultations are ongoing and while we expect increased tax compliance requirements, we are unable to predict the ultimate outcome of this proposal.

We are subject to the regular examination of our income tax returns by various tax authorities. Examinations in material jurisdictions or changes in laws, rules, regulations or interpretations by local taxing authorities could result in impacts to tax years open under statute or to foreign operating structures currently in place. We regularly assess the likelihood of adverse outcomes resulting from these examinations or changes in laws, rules, regulations or interpretations to determine the adequacy of our provision for taxes. It is possible the outcomes from these examinations will have a material adverse effect on our financial condition and operating results.

Future events may impact our deferred tax asset position and U.S. deferred federal income taxes on undistributed earnings of international affiliates that are considered to be indefinitely reinvested.

We evaluate our ability to utilize deferred tax assets and our need for valuation allowances based on available evidence. This process involves significant management judgment about assumptions that are subject to change from period to period based on changes in tax laws or variances between future projected operating performance and actual results. We are required to establish a valuation allowance for deferred tax assets if we determine, based on available evidence at the time the determination is made, that it is more likely than not that some portion or all of the deferred tax assets will not be utilized. In making this determination, we evaluate all positive and negative evidence as of the end of each reporting period. Future adjustments (either increases or decreases) to the deferred tax asset valuation allowance are determined based upon changes in the expected realization of the net deferred tax assets. The utilization of our deferred tax assets ultimately depends on the existence of sufficient taxable income in either the carry-back or carry-forward periods under the applicable tax law. Due to significant estimates used to establish the valuation allowance and the potential for changes in facts and circumstances, it is reasonably possible that we will be required to record adjustments to the valuation allowance in future reporting periods. Changes to the valuation allowance or the amount of deferred tax liabilities could have a materially adverse effect on our business, financial condition and results of operations. Further, should we change our assertion regarding the permanent reinvestment of the undistributed earnings in foreign operations, a deferred tax liability may need to be established.

Our business and financial results may be adversely affected by various legal and regulatory proceedings.

We are involved from time to time in legal and regulatory proceedings, which may be material in the future. The outcome of proceedings, lawsuits and claims may differ from our expectations, leading us to change estimates of liabilities and related insurance receivables.

Legal and regulatory proceedings, whether with or without merit, and associated internal investigations, may be time-consuming and expensive to prosecute, defend or conduct, may divert management's attention and other resources, inhibit our ability to sell our products, result in adverse judgments for damages, injunctive relief, penalties and fines, and otherwise negatively affect our business.

Because a significant portion of our operations is conducted through our subsidiaries and joint ventures, our ability to service our debt may be dependent on our receipt of distributions or other payments from our subsidiaries and joint ventures.

A significant portion of our operations is conducted through our subsidiaries and joint ventures. As a result, our ability to service our debt may be partially dependent on the earnings of our subsidiaries and joint ventures and the payment of those earnings to us in the form of dividends, loans or advances and through repayment of loans or advances from us. Payments to us by our subsidiaries and joint ventures are contingent upon our subsidiaries' or joint ventures' earnings and other business considerations and may be subject to statutory or contractual restrictions. In addition, there may be significant tax and other legal restrictions on the ability of our non-U.S. subsidiaries or joint ventures to remit money to us.

Although our pension plans currently meet minimum funding requirements, events could occur that would require us to make significant contributions to the plans and reduce the cash available for our business.

We have several defined benefit pension plans around the world, including in the U.S., U.K., Germany, Belgium and Japan. We are required to make cash contributions to our pension plans to the extent necessary to comply with minimum funding requirements imposed by the various countries' benefit and tax laws. The amount of any such required contributions will be determined annually based on an actuarial valuation of the plans as performed by the plans' actuaries.

In previous years, we have made voluntary contributions to our U.S. qualified defined benefit pension plans. We anticipate approximately \$12 million of required cash contributions during 2023 for our defined benefit pension plans. Additional voluntary pension contributions in and after 2023 may vary depending on factors such as asset returns, interest rates, and legislative changes. The amounts we may elect or be required to contribute to our pension plans in the future may increase significantly. These contributions could be substantial and would reduce the cash available for our business.

Further, an economic downturn or recession or market disruption in the capital and credit markets may adversely impact the value of our pension plan assets, our results of operations, our statement of changes in stockholders' equity and our liquidity. Our funding obligations could change significantly based on the investment performance of the pension plan assets and changes in actuarial assumptions for local statutory funding valuations. Any deterioration of the capital markets or returns available in such markets may negatively impact our pension plan assets and increase our funding obligations for one or more of these plans and negatively impact our liquidity. We cannot predict the impact of this or any further market disruption on our pension funding obligations.

We may not be able to consummate future acquisitions or integrate acquisitions into our business, which could result in unanticipated expenses and losses.

We believe that our customers are increasingly looking for strong, long-term relationships with a few key suppliers that help them improve product performance, reduce costs, and support new product development. To satisfy these growing customer requirements, our competitors have been consolidating within product lines through mergers and acquisitions.

As part of our business growth strategy, we have acquired businesses and entered into joint ventures in the past and intend to pursue acquisitions and joint venture opportunities in the future. Our ability to implement this component of our growth strategy will be limited by our ability to identify appropriate acquisition or joint venture candidates and our financial resources, including available cash and borrowing capacity. The expense incurred in consummating acquisitions or entering into joint ventures, the time it takes to integrate an acquisition or our failure to integrate businesses successfully, could result in unanticipated expenses and losses. Furthermore, we may not be able to realize any of the anticipated benefits from acquisitions or joint ventures.

The process of integrating acquired operations into our existing operations may result in unforeseen operating difficulties and may require significant financial resources that would otherwise be available for the ongoing development or expansion of existing operations. Some of the risks associated with the integration of acquisitions include:

- potential disruption of our ongoing business and distraction of management;
- unforeseen claims and liabilities, including unexpected environmental exposures;
- unforeseen adjustments, charges and write-offs;
- problems enforcing the indemnification obligations of sellers of businesses or joint venture partners for claims and liabilities;
- unexpected losses of customers of, or suppliers to, the acquired business;
- difficulty in conforming the acquired businesses' standards, processes, procedures and controls with our operations;
- in the case of foreign acquisitions, the need to integrate operations across different cultures and languages and to address the particular economic, currency, political and regulatory risks associated with specific countries;
- variability in financial information arising from the implementation of purchase price accounting;
- inability to coordinate new product and process development;
- loss of senior managers and other critical personnel and problems with new labor unions and cultural challenges associated with integrating employees from the acquired company into our organization; and
- challenges arising from the increased scope, geographic diversity and complexity of our operations.

We may continue to expand our business through acquisitions and we may incur additional indebtedness, including indebtedness related to acquisitions.

We have historically expanded our business primarily through acquisitions. A part of our business strategy is to continue to grow through acquisitions that complement our existing technologies and accelerate our growth. Our credit facilities have limited financial maintenance covenants. In addition, the indenture and other agreements governing our senior notes do not limit our ability to incur additional indebtedness in connection with acquisitions or otherwise. As a result, we may incur substantial additional indebtedness in connection with acquisitions.

Any such additional indebtedness and the related debt service obligations (whether or not arising from acquisitions) could have important consequences and risks for us, including:

- reducing flexibility in planning for, or reacting to, changes in our businesses, the competitive environment and the industries in which we operate, and to technological and other changes;
- lowering credit ratings;
- reducing access to capital and increasing borrowing costs generally or for any additional indebtedness to finance future operating and capital expenses and for general corporate purposes;
- to the extent that our debt is subject to floating interest rates, increasing our vulnerability to fluctuations in market interest rates;
- reducing funds available for operations, capital expenditures, share repurchases, dividends and other activities; and
- creating competitive disadvantages relative to other companies with lower debt levels.

If our goodwill, intangible assets or long-lived assets become impaired, we may be required to record a significant charge to earnings.

Under U.S. Generally Accepted Accounting Principles (“GAAP”), we review our intangible assets and long-lived assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is tested for impairment on October 31 of each year, or more frequently if required. Factors that may be considered a change in circumstances, indicating that the carrying value of our goodwill, intangible assets or long-lived assets may not be recoverable, include, but are not limited to, a decline in our stock price and market capitalization, reduced future cash flow estimates, and slower growth rates in our industry. We may be required to record a significant charge in our financial statements during the period in which any impairment of our goodwill, intangible assets or long-lived assets is determined, negatively impacting our results of operations and financial condition.

General Risk Factors

Adverse conditions in the economy, and volatility and disruption of financial markets can negatively impact our customers, suppliers and other business partners and therefore have a material adverse effect on our business and results of operations.

A global, regional or localized economic downturn may reduce customer demand or inhibit our ability to produce our products, negatively impacting our operating results. Our business and operating results have been and will continue to be sensitive to the many challenges that can affect national, regional and global economies, including economic downturns (including credit market tightness, which can impact our liquidity as well as that of our customers, suppliers and other business partners), declining consumer and business confidence, fluctuating commodity prices and volatile exchange rates. Our customers may experience deterioration of their businesses, cash flow shortages and difficulty obtaining financing, leading them to delay or cancel plans to purchase products, and they may not be able to fulfill their obligations in a timely fashion. Further, suppliers and other business partners may experience similar conditions, which could impact their ability to fulfill their obligations to us. Also, it could be difficult to find replacements for business partners without incurring significant delays or cost increases. Finally, any such adverse conditions in the economy and financial markets could make it difficult for us to raise debt or equity capital on favorable terms.

Our business and operations could suffer in the event of cybersecurity breaches, information technology system failures, or network disruptions.

Attempts to gain unauthorized access to our information technology systems become more sophisticated over time. These attempts, which might be related to industrial or other espionage, include covertly introducing malware to our computers and networks and impersonating authorized users, among others. We seek to detect and investigate all security incidents and to prevent their recurrence, but in some cases we might be unaware of an incident or its magnitude and effects. The theft, unauthorized use or publication of our intellectual property and/or confidential business information could harm our competitive position, reduce the value of our investment in research and development and other strategic initiatives or otherwise

adversely affect our business. To the extent that any cybersecurity breach results in inappropriate disclosure of our customers' or licensees' confidential information, we may incur liability as a result. The devotion of additional resources to the security of our information technology systems in the future could significantly increase the cost of doing business or otherwise adversely impact our financial results.

In addition, risks associated with information technology systems failures or network disruptions, including risks associated with upgrading our systems or in successfully integrating information technology and other systems in connection with the integration of businesses we acquire, could disrupt our operations by impeding our processing of transactions, financial reporting and our ability to protect our customer or company information, which could adversely affect our business and results of operations. Finally, we face increased information technology security and fraud risks due to our increased reliance on working remotely during the COVID-19 pandemic and beyond, which may create additional information security vulnerabilities and/or magnify the impact of any disruption in information technology systems.

The occurrence or threat of extraordinary events, including domestic and international terrorist attacks, may disrupt our operations and decrease demand for our products.

Chemical-related assets may be at greater risk of future terrorist attacks than other possible targets in the U.S. and around the world. As a result, we are subject to existing federal rules and regulations (and may be subject to additional legislation or regulations in the future) that impose site security requirements on chemical manufacturing facilities, which increase our overhead expenses.

We are also subject to federal regulations that have heightened security requirements for the transportation of hazardous chemicals in the U.S. We believe we have met these requirements but additional federal and local regulations that limit the distribution of hazardous materials are being considered. We ship and receive materials that are classified as hazardous. Bans on movement of hazardous materials through cities, like Washington, D.C., could affect the efficiency of our logistical operations. Broader restrictions on hazardous material movements could lead to additional investment to produce hazardous raw materials and change where and what products we manufacture.

The Chemical Facility Anti-Terrorism Standards program ("CFATS Program"), which is administered by the Department of Homeland Security ("DHS"), identifies and regulates chemical facilities to ensure that they have security measures in place to reduce the risks associated with potential terrorist attacks on chemical plants located in the U.S. In December 2014, the Protecting and Securing Chemical Facilities from Terrorist Attacks Act of 2014 ("CFATS Act") was enacted. DHS has enacted new rules under the CFATS Program that imposes comprehensive federal security regulations for high-risk chemical facilities in possession of specified quantities of chemicals of interest. This rule establishes risk-based performance standards for the security of the U.S.'s chemical facilities. It requires covered chemical facilities to prepare Security Vulnerability Assessments, which identify facility security vulnerabilities, and to develop and implement Site Security Plans, which include measures that satisfy the identified risk-based performance standards. We have implemented all necessary changes to comply with the rules under the CFATS Program to date, however, we cannot determine with certainty any future costs associated with any additional security measures that DHS may require.

The occurrence of extraordinary events, including future terrorist attacks and the outbreak or escalation of hostilities, cannot be predicted, and their occurrence can be expected to continue to negatively affect the economy in general, and the markets for our products in particular. The resulting damage from a direct attack on our assets, or assets used by us, could include loss of life and property damage. In addition, available insurance coverage may not be sufficient to cover all of the damage incurred or, if available, may be prohibitively expensive.

The COVID-19 pandemic, and any future pandemic, could have a material adverse effect on our results of operations, financial position, and cash flows.

We continue to closely monitor the impact of the COVID-19 pandemic and its impact on our business. The COVID-19 pandemic has created significant uncertainty, volatility and economic disruption and any future pandemics could have a serious adverse impact on the economy and on our business, results of operations and cash flows. While we have not experienced a material impact as a result of the COVID-19 pandemic to date, the ultimate extent to which the COVID-19 pandemic and any future pandemics impact our business, results of operations, financial position, and cash flows is difficult to predict and dependent upon many factors over which we have no control. These factors include, but are not limited to, the duration and severity of the pandemic, including from the discovery of new strain variants; government restrictions on businesses and individuals; the health and safety of our employees and communities in which we do business; the impact of the pandemic on our customers' businesses and the resulting demand for our products; the impact on our suppliers and supply chain network; the impact on U.S. and global economies and the timing and rate of economic recovery; and potential adverse effects on the financial markets.

The military conflict between Russia and Ukraine, and the global response to it, could impact our results of operations.

The U.S. government and other nations have imposed significant restrictions on most companies' ability to do business in Russia as a result of the military conflict between Russia and Ukraine. It is not possible to predict the broader or longer-term consequences of this conflict, which could include further sanctions, embargoes, regional instability, energy shortages, geopolitical shifts and adverse effects on macroeconomic conditions, security conditions, currency exchange rates and financial markets. Such geo-political instability and uncertainty could have a negative impact on our ability to sell to, ship products to, collect payments from, and support customers in certain regions based on trade restrictions, embargoes and export control law restrictions, and logistics restrictions including closures of air space, and could increase the costs, risks and adverse impacts from these new challenges. For example, results for our Catalysts segment were negatively impacted in 2022 as a result of inflationary pressures in freight and input costs, including the volatility of natural gas pricing in Europe related to the war in Ukraine. We may also be the subject of increased cybersecurity breaches. We currently do not sell our products into Russia nor have assets or any operations in the country, however, a significant escalation or expansion of economic disruption or the conflict's current scope could have a material adverse effect on our results of operations due to its impact in the countries in which we do conduct business.

Natural disasters or other unanticipated catastrophes could impact our results of operations.

The occurrence of natural disasters, such as hurricanes, floods or earthquakes; pandemics, such as COVID-19; or other unanticipated catastrophes at any of the locations in which we or our key partners, suppliers and customers do business, could cause interruptions in our operations. Historically, major hurricanes have caused significant disruption to the operations on the U.S. Gulf Coast for many of our customers and our suppliers of certain raw materials, which had an adverse impact on volume and cost for some of our products. Our operations in Chile could be subject to significant rain events and earthquakes, and our operations in Asia could be subject to weather events such as typhoons. A global or regional pandemic or similar outbreak in a region of our, our customers, or our suppliers could disrupt business. If similar or other weather events, natural disasters, or other catastrophe events occur in the future, they could negatively affect the results of operations at our sites in the affected regions as well as have adverse impacts on the global economy.

Our insurance may not fully cover all potential exposures.

We maintain property, business interruption, casualty, and other insurance, but such insurance may not cover all risks associated with the hazards of our business and is subject to limitations, including deductibles and coverage limits. We may incur losses beyond the limits, or outside the coverage, of our insurance policies, including liabilities for environmental remediation. In addition, from time to time, various types of insurance for companies in the specialty chemical industry have not been available on commercially acceptable terms or, in some cases, have not been available at all. We are potentially at additional risk if one or more of our insurance carriers fail. Additionally, severe disruptions in the domestic and global financial markets could adversely impact the ratings and survival of some insurers. Future downgrades in the ratings of enough insurers could adversely impact both the availability of appropriate insurance coverage and its cost. In the future, we may not be able to obtain coverage at current levels, if at all, and our premiums may increase significantly on coverage that we maintain.

We may be exposed to certain regulatory and financial risks related to climate change.

Growing concerns about climate change may result in the imposition of additional regulations or restrictions to which we may become subject. Climate changes include changes in rainfall and in storm patterns and intensities, water shortages, significantly changing sea levels and increasing atmospheric and water temperatures, among others. For example, there have been concerns regarding the declining water level of the Dead Sea, from which our joint venture, JBC, produces bromine. Climate changes and unprecedented weather events may pose a risk to business operations in vulnerable areas. Storms could cause business interruptions, incur additional restoration costs, and impact product availability and pricing. Disruptions to the global supply chain due to climate related impacts or geopolitical events are possible and exist as external risk factors that we can respond to but not control. These events could limit the supply of key raw materials to us, or could have significant impacts to pricing. We work with numerous independent suppliers to mitigate lack of availability from a single supplier, however in some cases products with limited numbers of suppliers may become difficult to obtain.

A number of governments or governmental bodies have introduced or are contemplating regulatory changes in response to climate change, including regulating greenhouse gas emissions. Potentially, additional U.S. federal regulation will be forthcoming with respect to greenhouse gas emissions (including carbon dioxide) and/or "cap and trade" legislation that could impact our operations. In addition, we have operations in the E.U., Brazil, China, Japan, Jordan, Saudi Arabia, Singapore and the United Arab Emirates, which have implemented, or may implement, measures to achieve objectives under the 2015 Paris Climate Agreement, an international agreement linked to the United Nations Framework Convention on Climate Change ("UNFCCC"), which set targets for reducing greenhouse gas emissions. Significant regional or national differences in approaches

to environmental laws and regulations could affect us disproportionately compared to our competitors and result in a competitive disadvantage to us.

The outcome of new legislation or regulation in the U.S. and other jurisdictions in which we operate may result in new or additional requirements, additional charges to fund energy efficiency activities, and fees or restrictions on certain activities. We may have heightened credit risk due to our exposure to climate risks. While certain climate change initiatives may result in new business opportunities for us in the area of alternative fuel technologies and emissions control, compliance with these initiatives may also result in additional costs to us, including, among other things, increased production costs, additional taxes, reduced emission allowances or additional restrictions on production or operations. Any adopted future climate change regulations could also negatively impact our ability to compete with companies situated in areas not subject to such limitations. Even without such regulation, increased public awareness and adverse publicity about potential impacts on climate change emanating from us or our industry could harm us. We may not be able to recover the cost of compliance with new or more stringent laws and regulations, which could adversely affect our business and negatively impact our growth. Furthermore, the potential impact of climate change and related regulation, market trends or litigation on the Company is highly uncertain and there can be no assurance that it will not have an adverse effect on our financial condition and results of operations.

Item 1B. Unresolved Staff Comments.

NONE

Item 2. Properties.

We operate globally, with our principal executive offices located in Charlotte, North Carolina and regional shared services offices located in Budapest, Hungary and Dalian, China. Each of these properties are leased. We and our affiliates also operate regional sales and administrative offices in various locations throughout the world, which are generally leased.

We believe that our production facilities, research and development facilities, and sales and administrative offices are generally well maintained, effectively used and are adequate to operate our business. During 2022, the Company's manufacturing plants operated at approximately 84% capacity, in the aggregate.

Set forth below is information regarding our production facilities operated by us and our affiliates. Additional details regarding our significant mineral properties can be found below the table.

Location	Principal Use	Owned/Leased
Lithium		
Chengdu, China	Production of lithium carbonate and technical and battery-grade lithium hydroxide	Owned
Greenbushes, Australia ^(a)	Production of lithium spodumene minerals and lithium concentrate	Owned ^(c)
Kemerton, Australia	Production of lithium carbonate and technical and battery-grade lithium hydroxide	Owned ^(c)
Kings Mountain, NC	Production of technical and battery-grade lithium hydroxide, lithium salts and battery-grade lithium metal products	Owned
La Negra, Chile	Production of technical and battery-grade lithium carbonate and lithium chloride	Owned
Langelsheim, Germany	Production of butyllithium, lithium chloride, specialty products, lithium hydrides, cesium and special metals	Owned
New Johnsonville, TN	Production of butyllithium and specialty products	Owned
Qinzhou, China	Production of lithium carbonate and technical and battery-grade lithium hydroxide	Owned
Salar de Atacama, Chile ^(a)	Production of lithium brine and potash	Owned ^(d)
Silver Peak, NV ^(a)	Production of lithium brine, technical-grade lithium carbonate and lithium hydroxide	Owned
Taichung, Taiwan	Production of butyllithium	Owned
Wodgina, Australia ^(a)	Production of lithium spodumene minerals and lithium concentrate	Owned and leased ^(c)
Xinyu, China	Production of lithium carbonate and technical and battery-grade lithium hydroxide	Owned
Bromine		
Baton Rouge, LA	Research and product development activities, and production of fire safety solutions	Leased
Magnolia, AR ^(a)	Production of fire safety solutions, bromine, inorganic bromides, agricultural intermediates and tertiary amines	Owned

Location	Principal Use	Owned/Leased
Safi, Jordan ^(a)	Production of bromine and derivatives and fire safety solutions	Owned and leased ^(c)
Twinsburg, OH	Production of bromine-activated carbon	Leased
Catalysts		
Amsterdam, the Netherlands	Production of refinery catalysts, research and product development activities	Owned
Bitterfeld, Germany	Refinery catalyst regeneration, rejuvenation, and sulfiding	Owned ^(c)
La Voulte, France	Refinery catalysts regeneration and treatment, research and development activities	Owned ^(c)
McAlester, OK	Refinery catalyst regeneration, rejuvenation, pre-reclaim burn off, as well as specialty zeolites and additives marketing activities	Owned ^(c)
Mobile, AL	Production of tin stabilizers	Owned ^(c)
Niihama, Japan	Production of refinery catalysts	Leased ^(c)
Pasadena, TX ^(b)	Production of aluminum alkyls, orthoalkylated anilines, refinery catalysts and other specialty chemicals; refinery catalysts regeneration services and research and development activities	Owned
Santa Cruz, Brazil	Production of catalysts, research and product development activities	Owned ^(c)
Takaishi City, Osaka, Japan	Production of aluminum alkyls	Owned ^(c)

(a) See below for further discussion of these significant mineral extraction facilities.

(b) The Pasadena, Texas location includes three separate manufacturing plants which are owned, primarily utilized by Catalysts, including one plant that is owned by an unconsolidated joint venture.

(c) Owned or leased by joint venture.

(d) Ownership will revert to the Chilean government once we have sold all remaining amounts under our contract with the Chilean government pursuant to which we obtain lithium brine in Chile.

Mineral Properties

Set forth below are details regarding our mineral properties operated by us and our affiliates which have been prepared in accordance with the requirements of subpart 1300 of Regulation S-K, issued by the SEC. As used in this Annual Report on Form 10-K, the terms “mineral resource,” “measured mineral resource,” “indicated mineral resource,” “inferred mineral resource,” “mineral reserve,” “proven mineral reserve” and “probable mineral reserve” are defined and used in accordance with subpart 1300 of Regulation S-K. Under subpart 1300 of Regulation S-K, mineral resources may not be classified as “mineral reserves” unless the determination has been made by a qualified person (“QP”) that the mineral resources can be the basis of an economically viable project.

Except for that portion of mineral resources classified as mineral reserves, mineral resources do not have demonstrated economic value. Inferred mineral resources are estimates based on limited geological evidence and sampling and have a too high of a degree of uncertainty as to their existence to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Estimates of inferred mineral resources may not be converted to a mineral reserve. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to a higher category. A significant amount of exploration must be completed in order to determine whether an inferred mineral resource may be upgraded to a higher category. Therefore, it cannot be assumed that all or any part of an inferred mineral resource exists, that it can be the basis of an economically viable project, that it will ever be upgraded to a higher category, or that all or any part of the mineral resources will ever be converted into mineral reserves. See risk factor - “Our inability to acquire or develop additional reserves that are economically viable could have a material adverse effect on our future profitability,” in Item 1A. Risk Factors.

Overview


At December 31, 2022, we had the following mineral extraction facilities:

Location	Business Segment	Ownership %	Extraction Type	Stage
Australia				
Greenbushes	Lithium	49%	Hard rock	Production
Wodgina	Lithium	60%	Hard rock	Production ^(a)
Chile				
Salar de Atacama	Lithium	100%	Brine	Production
Jordan				
Safi ^(b)	Bromine	50%	Brine	Production
United States				
Kings Mountain, NC	Lithium	100%	Hard rock	Development
Magnolia, AR ^(b)	Bromine	100%	Brine	Production
Silver Peak, NV ^(b)	Lithium	100%	Brine	Production

(a) Production of spodumene concentrate at the Wodgina mine resumed in the second quarter of 2022 after it had been idled in 2019, following the acquisition of our the 60% interest in the Wodgina Project.

(b) Site includes on-site, or otherwise near-by exclusive, conversion facilities. See individual property disclosure below for further details.

Aggregate annual production from our mineral extraction facilities is shown in the below table. Amounts represent Albemarle's attributable portion based on ownership percentages noted above and are shown in thousands of metric tonnes of lithium metal and bromine production. Lithium and bromine is extracted as brine or hard rock concentrate at the extraction facilities. These are then further converted into various compounds and products at on-site processing facilities or other conversion facilities owned by Albemarle around the world. In addition, the brine or concentrate can be used by tolling entities for further processing.

	Aggregate Annual Production (metric tonnes in thousands)		
	Year Ended December 31,		
	2022	2021	2020
Lithium (lithium metal)^(a)			
Australia			
Greenbushes ^(b)	19	13	8
Wodgina ^(c)	3	—	—
Chile			
Salar de Atacama ^(d)	10	8	8
United States			
Silver Peak, NV	2	2	2
Total lithium metal	34	23	18
Bromine			
Jordan			
Safi ^{(e)(f)}	60	57	56
United States			
Magnolia, AR ^(g)	73	71	74
Total bromine	133	128	130

- (a) Lithium production amounts shown as lithium metal. Conversion to LCE is 0.1878 metric tonne of lithium metal to 1 metric tonne of LCE.
- (b) Production from Greenbushes represents 49% of production of the Greenbushes mine which is attributable to the Company's interest in the Talison joint venture.
- (c) Production of spodumene concentrate at the Wodgina mine resumed in the second quarter of 2022 after it had been idled in 2019. Production amounts presented from Wodgina represent 60% of production of the Wodgina mine which is attributable to the Company's interest in the MARBL joint venture.
- (d) The Salar de Atacama operation also produces potash (potassium chloride), bichofite, halite and sylvinitite as byproducts. However, the Company does not consider production of these byproducts as material to the economics of the operation.
- (e) Production from Safi represents the 50% production by the Jordan Bromine Project which is attributable to the Company's interest in the JBC joint venture.
- (f) The Safi operation also produces potassium hydroxide ("KOH") as a byproduct. However, the Company does not consider production of this byproduct as material to the economics of the operation.
- (g) In addition, elemental sulfur and sodium hydrosulfide solution ("NaHS") are manufactured from the sour gas produced by the Magnolia operation. However, the Company does not consider these products as material to the economics of the operation.

See individual property disclosure below for further details regarding mineral rights, titles, property size, permits and other information for our significant mineral extraction properties. The extracted brine or hard rock is processed at facilities on location (as described below) or processed, or further processed, at other facilities throughout the world.

The following table provides a summary of our mineral resources, exclusive of reserves, at December 31, 2022. The below mineral resource amounts are rounded and shown in thousands of metric tonnes. Where applicable, the amounts represent Albemarle's attributable portion based on ownership percentages noted. The relevant technical information supporting mineral resources for each material property is included in the "Material Individual Properties" section below, as well as in the technical report summaries filed as Exhibits 96.1 to 96.6 to this report.

	Measured Mineral Resources		Indicated Mineral Resources		Measured and Indicated Mineral Resources		Inferred Mineral Resources	
	Amount ('000s metric tonnes)	Grade (Li ₂ O%)	Amount ('000s metric tonnes)	Grade (Li ₂ O%)	Amount ('000s metric tonnes)	Grade (Li ₂ O%)	Amount ('000s metric tonnes)	Grade (Li ₂ O%)
Lithium - Hard Rock:								
Australia								
Greenbushes ^(a)	—	—	21,800	1.53%	21,800	1.53%	28,300	1.15%
Wodgina ^(b)	—	—	12,600	1.36%	12,600	1.36%	98,300	1.12%
United States								
Kings Mountain, NC	—	—	46,816	1.37%	46,816	1.37%	42,869	1.10%
	Amount ('000s metric tonnes)	Concentration (mg/L)	Amount ('000s metric tonnes)	Concentration (mg/L)	Amount ('000s metric tonnes)	Concentration (mg/L)	Amount ('000s metric tonnes)	Concentration (mg/L)
Lithium - Brine:								
Chile								
Salar de Atacama	471	2,390	363	1,943	834	2,159	237	1,617
United States								
Silver Peak, NV	14	153	36	144	50	146	90	121

(a) Through our Talison joint venture, we own a 49% interest in the Greenbushes mine. We are therefore reporting 49% of Greenbushes' mineral resources.

(b) Through our MARBL joint venture, we own a 60% interest in the Wodgina project. We are therefore reporting 60% of Wodgina's mineral resources.

The feedstock for the Safi, Jordan site, owned 50% by Albemarle through its JBC joint venture, is drawn from the Dead Sea, a nonconventional reservoir owned by the nations of Israel and Jordan. As such, there are no specific resources owned by JBC, but Albemarle's joint venture partner, Arab Potash Company ("APC") has exclusive rights granted by the Hashemite Kingdom of Jordan to withdraw brine from the Dead Sea and process it to extract minerals. The measured resource of bromide ion attributable to Albemarle's 50% interest in its JBC joint venture is estimated to be approximately 178.3 million metric tonnes. JBC is extracting approximately 1 percent of the bromine available in Jordan's share of the Dead Sea. Bromide concentration in the Dead Sea is estimated to average approximately 5,000 parts per million ("ppm").

There are no mineral resource estimates at the Magnolia, AR bromine extraction site. All bromine mineral accumulations of economic interest and with reasonable prospects for eventual economic extraction within the Magnolia production lease area are either currently on production or subject to an economically viable future development plan and are classified as mineral reserves.

The following table provides a summary of our mineral reserves at December 31, 2022. The below mineral reserve amounts are rounded and shown in thousands of metric tonnes. The amounts represent Albemarle's attributable portion based on ownership percentages noted above. The relevant technical information supporting mineral reserves for each material property is included in the "Material Individual Properties" section below, as well as the in the technical report summaries referenced in Exhibits 96.1 to 96.6 to this report.

	Proven Mineral Reserves		Probable Mineral Reserves		Total Mineral Reserves	
	Amount ('000s metric tonnes)	Grade (Li ₂ O%)	Amount ('000s metric tonnes)	Grade (Li ₂ O%)	Amount ('000s metric tonnes)	Grade (Li ₂ O%)
Lithium - Hard Rock^(a):						
Australia						
Greenbushes ^(b)	—	—	77,000	1.91%	77,000	1.91%
	Amount ('000s metric tonnes)	Concentration (mg/L)	Amount ('000s metric tonnes)	Concentration (mg/L)	Amount ('000s metric tonnes)	Concentration (mg/L)
Lithium - Brine:						
Chile						
Salar de Atacama	329	2,430	237	2,063	566	2,262
United States						
Silver Peak, NV	13	95	56	95	69	95
Bromine:						
United States						
Magnolia, AR ^(c)	2,419		565		2,984	

(a) The Wodgina mine is at an initial assessment level, and as a result, contains no mineral reserves. Mineral reserve estimates are not applicable for the Kings Mountain site.

(b) Through our Talison joint venture, we own a 49% interest in the Greenbushes mine. We are therefore reporting 49% of Greenbushes' mineral reserves.

(c) The concentration of bromine at the Magnolia site varies based on the physical location of the field and can range over 6,000 mg/L.

All bromine reserves reported by Albemarle for the JBC project are classified as proven mineral reserves. The mineral reserve estimate for the Safi, Jordan bromine site attributable to Albemarle's 50% interest in its JBC joint venture is approximately 2.38 million metric tonnes of bromine from the Dead Sea. This estimate is based on the time available under the concession agreement with the Hashemite Kingdom of Jordan and the processing capability of the JBC plant. As only approximately one percent of the available resource is consumed from the Dead Sea, as noted above, the reserve estimate is based on the amount the JBC plant can produce over until the end of 2058, when the APC concession agreement ends. Bromine concentration used to calculate the reserve estimate from the Dead Sea was approximately 8,890 ppm based on historical pumping.

Mineral resource and reserve estimates were prepared by a QP with an effective date provided in the individual technical report summaries referenced in Exhibits 96.1 to 96.6 to this report. Differences between the amounts in the table above and those amounts in the technical report summaries represent estimated depletion from the effective date of the report until December 31, 2022. Our mineral resource and reserve estimates are based on many factors, including the area and volume covered by our mining rights, assumptions regarding our extraction rates based upon an expectation of operating the mines on a long-term basis and the quality of in-place reserves.

Internal Controls

The modeling and analysis of our mineral resources and reserves was developed by our site personnel and reviewed by several levels of internal management, as well as the QP for each site. The development of such resources and reserves estimates, including related assumptions, were prepared by a QP.

When determining resources and reserves, as well as the differences between resources and reserves, management developed specific criteria, each of which must be met to qualify as a resource or reserve, respectively. These criteria, such as demonstration of economic viability, points of reference and grade, are specific and attainable. The QP and management agree on the reasonableness of the criteria for the purposes of estimating resources and reserves. Calculations using these criteria are reviewed and validated by the QP.

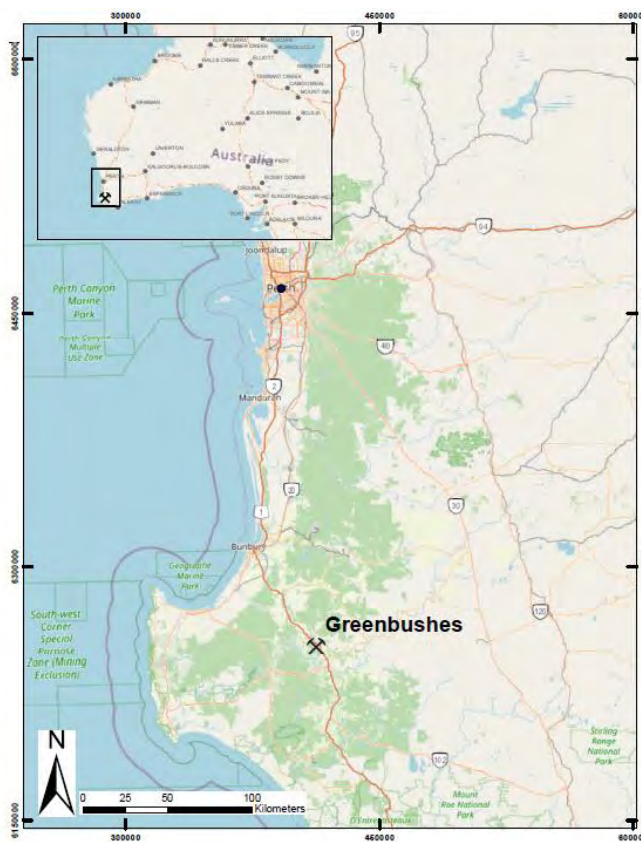
Estimations and assumptions were developed independently for each significant mineral location. All estimates require a combination of historical data and key assumptions and parameters. When possible, resources and data from public information and generally accepted industry sources, such as governmental resource agencies, were used to develop these estimations.

Each site has developed quality control and quality assurance (“QC/QA”) procedures, which were reviewed by the QP, to ensure the process for developing mineral resource and reserve estimates were sufficiently accurate. QC/QA procedures include independent checks (duplicates) on samples by third party laboratories, blind blank/standard insertion into sample streams, duplicate sampling, among others. In addition, the QPs reviewed the consistency of historical production at each site as part of their analysis of the QC/QA procedures. See details of the controls for each site in the technical summary reports filed as Exhibits 96.1 to 96.6 to this report.

We recognize the risks inherent in mineral resource and reserve estimates, such as the geological complexity, the interpretation and extrapolation of field and well data, changes in operating approach, macroeconomic conditions and new data, among others. The capital, operating and economic analysis estimates rely on a range of assumptions and forecasts that are subject to change. In addition, certain estimates are based on mineral rights agreements with local and foreign governments. Any changes to these access rights could impact the estimates of mineral resources and reserves calculated in these reports. Overestimated resources and reserves resulting from these risks could have a material effect on future profitability.

Material Individual Properties

Greenbushes, Australia



The Greenbushes mine is a hard rock, open pit mine (latitude 33° 52’ S, longitude 116° 04’ E) located approximately 250km south of Perth, Western Australia, 90km southeast of the port of Bunbury, a major bulk-handling port in the southwest of Western Australia. The lithium mining operation is near the Greenbushes townsite located in the Shire of Bridgetown-Greenbushes. Access to the Greenbushes Mine is via the paved South Western Highway between Bunbury and Bridgetown to Greenbushes Township and via the paved Maranup Ford Road to the Greenbushes Mine.

Lithium production from the Greenbushes Mine has been undertaken continuously for more than 20 years. Modern exploration has been undertaken on the property since the mid-1980s, first by Greenbushes Limited, then by Lithium Australia

Ltd and in turn by Sons of Gwalia prior to the acquisition of Greenbushes by Talison in 2007. Initial exploration focused largely on tantalum, with the emphasis changing to lithium from around 2000. In 2014, Rockwood acquired a 49% ownership interest in Windfield, which owns 100% of Talison, from Sichuan Tianqi Lithium Industries Inc. This 49% ownership in Windfield was assumed by Albemarle in 2015 as part of the acquisition of Rockwood. We purchase lithium concentrate from Windfield, and our investment in the joint venture is reported as an unconsolidated equity investment on our balance sheet.

About 55% of the tenements held by Talison are covered by Western Australia's State Forest, which is under the authority of the Western Australia Department of Biodiversity, Conservation and Attractions. The majority of the remaining land is private land that covers about 40% of the surface rights. The remaining ground comprises crown land, road reserves and other miscellaneous reserves. The tenements cover a total area of approximately 10,000 hectares and include the historic Greenbushes tin, tantalum and current lithium mining areas. See section 3 of the Greenbushes technical report summary, filed as Exhibit 96.1 to this report, for a listing of tenements held by the Greenbushes site. Talison holds the mining rights for all lithium minerals on these tenements. The operating open pit lithium mining and processing plant area covers approximately 2,000 hectares comprising three mining leases. All lithium mining activities, including tailings storage, processing plant operations, open pits and waste rock dumps, are currently carried out within the boundaries of the three mining leases plus two general purpose leases. In order to keep the granted tenements in good standing, Talison is required to maintain permits, make an annual contribution to the statutory Mining Rehabilitation Fund and pay a royalty on concentrate sales for lithium mineral production as prescribed under the Mining Act 1978 in Western Australia. There are no private royalties that apply to the Greenbushes property. Talison reviews and renews all tenements on an annual basis.

The Greenbushes pegmatite deposit consists of a primary pegmatite intrusion (Central Lode) with a smaller, sub-parallel pegmatite to the east (Kapanga). The primary intrusion and its subsidiary dikes and pods are concentrated within shear zones within a metamorphic belt consisting of granofels, ultramafic schists and amphibolites. The pegmatites are crosscut by mafic dolerite dikes. The Central Lode pegmatite is over 3 kilometers long (north by northwest), up to 300 meters wide (normal to dip), strikes north to north-west and dips moderately to steeply west to south-west. The Kapanga deposit sits approximately 300 m to the east of the Central Lode deposit with strike length of 1.8 km, thickness averaging 150 meters and dips between 40° and 60° toward the west. Current drilling has defined the Kapanga deposit to approximately 450 meters depth below surface. The major minerals from the Greenbushes pegmatite are quartz, spodumene, albite and K-feldspar.

The main lithium-bearing minerals are spodumene (containing approximately 8% lithium oxide) and varieties kunzite and hiddenite. Minor to trace lithium minerals include lepidolite mica, ambygonite and lithiophilite. Lithium is readily leached in the weathering environment and thus is virtually non-existent in weathered pegmatite. Exploration drilling at Greenbushes has been ongoing for over 40 years, including drilling in 2020, using reverse circulation and diamond drill holes.

Three lithium mineral processing plants are currently operating on the Greenbushes site, two chemical grade plants and a technical grade plant. Tailings are discharged to the tailings storage facility without the need for any neutralization process. Additional infrastructure on site includes power and water supply facilities, a laboratory, administrative offices, occupational health/safety/training offices, dedicated mines rescue area, stores, storage sheds, workshops and engineering offices. The Greenbushes site also leases production drills, excavators, trucks and various support equipment to extract the ore deposit by open pit methods. Talison's power is delivered by a local distribution system and reticulated and metered within the site. Water is sourced from rainfall and stored in several process dams located on site. We consider the condition of all of our plants, facilities and equipment to be suitable and adequate for the businesses we conduct, and we maintain them regularly. As of December 31, 2022, our 49% ownership interest of the gross asset value of the facilities at the Greenbushes site was approximately \$471.7 million. Greenbushes is currently constructing a new chemical grade plant with a target completion in 2025 and is developing plans for a fourth chemical grade plant to be constructed in 2027. Other planned upgrades to the infrastructure include a new mine service area, a new mine access road, expansions of warehouse and laboratories and the expansion of tailings facilities.

Talison ships the chemical-grade lithium concentrate in vessels to our facilities in Meishan and Xinyu, China, and by land transport to our recently completed Kemerton, Australia facility, to process into battery-grade lithium hydroxide. In addition, the output from Talison can be used by tolling entities in China to produce both lithium carbonate and lithium hydroxide.

A summary of the Greenbushes facility's lithium mineral resources, exclusive of reserves, and reserves as of December 31, 2022 are shown in the following tables. SRK Consulting (U.S.) Inc. ("SRK"), a third-party firm comprising mining experts in accordance with Item 1302(b)(1) of Regulation S-K, served as the QP and prepared the estimates of lithium mineral resources and reserves at the Greenbushes facility, with an effective date of December 31, 2022. A copy of the QP's technical report summary with respect to the lithium mineral resource and reserve estimates at the Greenbushes facility, dated February 14, 2023 is filed as Exhibit 96.1 to this report. The amounts represent Albemarle's attributable portion based on a 49% ownership percentage, and are presented as metric tonnes of lithium ore in thousands.

The Greenbushes mineral resources, exclusive of reserves, estimates with depletion from production from the effective date of the report through December 31, 2022 are summarized in the following table:

	Amount ('000s metric tonnes)	Grade (Li ₂ O%)
Indicated mineral resources	21,800	1.53%
Inferred mineral resources	28,300	1.15%

- Albemarle's attributable portion of mineral resources is 49%.
- Mineral resources are reported exclusive of mineral reserves. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
- Resources have been reported as in situ (hard rock within an optimized pit shell).
- Resources have been categorized subject to the opinion of a QP based on the quality of informing data for the estimate, consistency of geological/grade distribution, data quality, and have been validated against long term mine reconciliation.
- Resources which are contained within the mineral reserve pit design may be excluded from reserves due to an Inferred classification.
- All stockpiled resources have been converted to mineral reserves.
- Mineral resources are reported considering a nominal set of assumptions for reporting purposes:
 - The mass yield for resources processed through the chemical grade plants is estimated based on Greenbushes' mass yield formula, which is $\text{Yield}\% = 9.362 * (\text{Li}_2\text{O}\%)^{1.319}$, subject to a 97% recovery limitation when the Li₂O grade exceeds 5.5%.
 - Derivation of economic cutoff grade for resources is based on the mine gate pricing of \$1,523/metric tonne of 6% Li₂O concentrate. The mine gate price is based on \$1,650/metric tonne-conc CIF less \$127/metric tonne-conc for government royalty and transportation to China.
 - Costs estimated in Australian Dollars were converted to U.S. dollars based on an exchange rate of AU\$1.00:\$0.72.
 - The economic cutoff grade calculation is based on \$2.79/metric tonne-ore incremental ore mining cost, \$23.35/metric tonne-ore processing cost, \$3.57/metric tonne-ore G&A cost, and \$1.88/metric tonne-ore sustaining capital cost. Incremental ore mining costs are the costs associated with the run-of-mine loader, stockpile rehandling, grade control assays and rockbreaker.
 - The price, cost and mass yield parameters produce a calculated resource economic cutoff grade of 0.319% Li₂O. However, due to the internal constraints of the current operations, an elevated resource cutoff grade of 0.7% Li₂O has been applied. SRK notes actual economic cutoff grade is lower, but it is the QP's opinion to use a 0.7% Li₂O cutoff grade to align with current site practices.
 - An overall 42° (east side) and 46° (west side) pit slope angle, 0% mining dilution, and 100% mining recovery.
 - Resources were reported above the assigned 0.7% Li₂O cutoff grade and are constrained by an optimized 0.95 revenue factor pit shell.
 - No infrastructure movement capital costs have been added to the optimization.
- Mineral resources tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.

The Greenbushes indicated mineral resources of 21.8 million metric tonnes at December 31, 2022 increased by 29% from 16.9 million metric tonnes at December 31, 2021. The Greenbushes inferred mineral resources of 28.3 million metric tonnes at December 31, 2022 increased by 42% from 20.0 million metric tonnes at December 31, 2021. The increase in mineral resources was primarily driven by an update of the resource model including the addition of Kapanga, changes in the economic parameters (specifically the increase in lithium pricing) and updating of the economic pit shell, partially offset by mine depletion and an increase to the cutoff grade used in the resource model.

The Greenbushes mineral reserve estimates with depletion from production from the effective date of the report through December 31, 2022 are summarized in the following table:

	Amount ('000s metric tonnes)	Grade (Li ₂ O%)
Probable mineral reserves:		
Reserve Pit	75,000	1.91%
Stockpiles	2,000	1.99%

- Albemarle's attributable portion of mineral resources and reserves is 49%.
- Mineral reserves are reported exclusive of mineral resources.
- Indicated in situ resources have been converted to Probable reserves.
- Measured and Indicated stockpile resources have been converted to Probable mineral reserves.
- Mineral reserves are reported considering a nominal set of assumptions for reporting purposes:
 - Mineral reserves are based on a mine gate price of \$1,381/metric tonne of chemical grade concentrate (6% Li₂O).
 - Mineral reserves assume 93% global mining recovery.

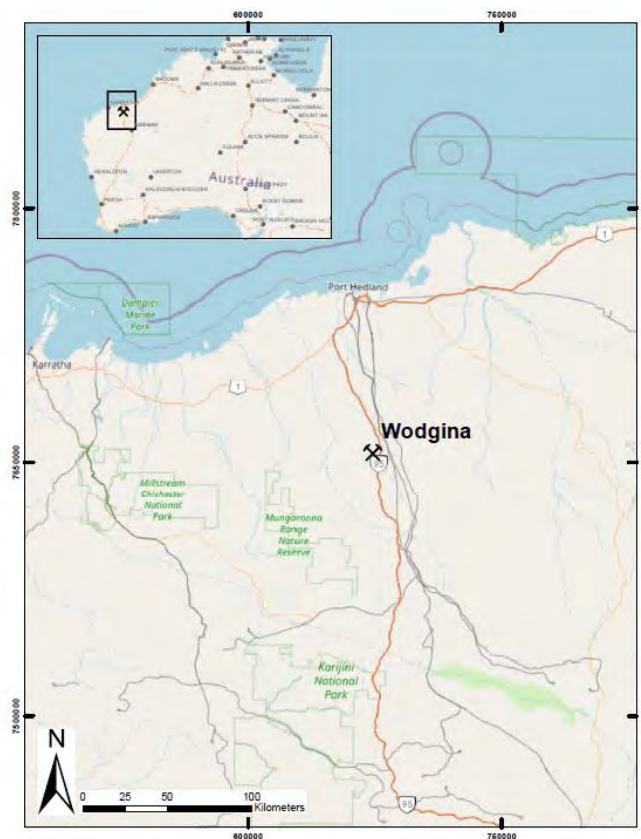
- Mineral reserves are diluted at approximately 5% at zero grade for all mineral reserve blocks in addition to internal dilution built into the resource model (2.7% with the assumed selective mining unit of 5 meter x 5 meter x 5 meter).
- The mass yield for reserves processed through the chemical grade plants is estimated based on Greenbushes' mass yield formula, which is $\text{Yield}\% = 9.362 * (\text{Li}_2\text{O}\%)^1.319$, subject to a 97% recovery limitation when the Li_2O grade exceeds 5.5%. The average life of mine mass yield for the chemical grade plants is 22.2%.
- The mass yield for reserves processed through the technical grade plant is estimated based on Greenbushes' mass yield formula, which is $\text{Yield}\% = (31.792 * \text{Li}_2\text{O}\%) - 80.809$. There is approximately 3.2 million metric tonnes of technical grade plant feed at 3.7% Li_2O . The average life of mine mass yield for the technical grade plant is 37.5%.
- Although Greenbushes produces a technical grade product from the current operation, it is assumed that the reserves reported herein will be sold as a chemical grade product. This assumption is necessary because feed for the technical grade plant is currently only defined at the grade control or blasting level. Therefore, it is conservatively assumed that concentrate produced by the technical grade plant will be sold at the chemical grade product price
- Derivation of economic cutoff grade for reserves is based on mine gate pricing of \$1,381/metric tonne of 6% Li_2O concentrate. The mine gate price is based on \$1,500/metric tonne-conc CIF less \$119/metric tonne-conc for government royalty and transportation to China.
- Costs estimated in Australian Dollars were converted to U.S. dollars based on an exchange rate of AU\$1.00:\$0.72.
- The economic cutoff grade calculation is based on \$2.79/metric tonne-ore incremental ore mining cost, \$23.35/metric tonne-ore processing cost, \$3.57/metric tonne-ore G&A cost, and \$1.88/metric tonne-ore sustaining capital cost. Incremental ore mining costs are the costs associated with the run-of-mine loader, stockpile rehandling, grade control assays and rockbreaker.
- The price, cost and mass yield parameters produce a calculated economic cutoff grade of 0.344% Li_2O . However, due to the internal constraints of the current operations, an elevated mineral reserves cutoff grade of 0.7% Li_2O has been applied.
- The cutoff grade of 0.7% Li_2O was applied to reserves that are constrained by the ultimate pit design and are detailed in a yearly mine schedule.
- Stockpile reserves have been previously mined and are reported at a 0.7% Li_2O cutoff grade.
- Waste tonnage within the reserve pit is 701.5 million metric tonnes at a strip ratio of 4.58:1 (waste to ore – not including reserve stockpiles)
- Mineral reserve tonnage, grade and mass yield have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.

The Greenbushes total mineral reserves of 77.0 million metric tonnes at December 31, 2022 increased by 10% from 69.9 million metric tonnes at December 31, 2021. The increase in total mineral reserves was primarily driven by use of a different resource block model, changes in the economic parameters (specifically the increase in lithium pricing) and updating of the economic pit shell, partially offset by mine depletion differing recovery and dilution methodology and a higher strip ratio. The increases in costs were offset by higher revenue.

The LoM sustaining capital cost of \$1.88/metric tonne of ore was used only for the purposes of pit optimization and cut-off grade calculation. This sustaining capital cost was based on estimates of LoM annual sustaining capital costs for Greenbushes that were included in the 2023 budget. Subsequent to pit optimization, design and scheduling, a detailed estimate of LoM sustaining capital costs was prepared.

Additional information about key assumptions and parameters relating to the lithium mineral resources and reserves at the Greenbushes facility is discussed in sections 11 and 12, respectively, of the Greenbushes technical report summary.

Wodgina, Australia



The Wodgina property, which includes a hard rock, open pit mine (latitude -21° 11' 25"S, longitude 118° 40' 25"E) is located approximately 110 km south-southeast of Port Hedland, Western Australia between the Turner and Yule Rivers. The area includes multiple prominent greenstone ridges up to 180 m above mean sea level surrounded by granitic plains and lowlands. The property is accessible via National Highway 1 to National highway 95 to the Wodgina camp road. All roads to site are paved. The nearest large regional airport is in Port Hedland which also hosts an international deep-water port facility. In addition, a site dedicated all-weather airstrip is located near to site, capable of landing certain aircrafts.

The Wodgina pegmatite deposits were discovered in 1902. Since then, the pegmatite-hosted deposits have been mined for tin, tantalum, beryl, and lithium by various companies. Mining occurred sporadically until Goldrim Mining formed a new partnership with Pan West Tantalum Pty Ltd., who opened open pit mining at the site in 1989 and progressively expanded during the 1990s. Active mining at the Mt. Cassiterite pit has been started and stopped regularly between 2008 and the present. The mine was placed on care and maintenance in 2008, 2012, and most recently in 2019. In 2016, MRL acquired the mine and upgraded the processing facilities and site infrastructure to 750ktpa spodumene plant producing 6% spodumene concentrate, completed in 2019. On October 31, 2019, we completed the acquisition of a 60% interest in this hard rock lithium mine project and formed an unincorporated joint venture with MRL, named MARBL. We formed MARBL for the exploration, development, mining, processing and production of lithium and other minerals (other than iron ore and tantalum) from the Wodgina Project. Production of spodumene concentrate from the first and second trains at the Wodgina mine was achieved in May and July of this year, respectively, after it had been idled following its acquisition in 2019.

Wodgina holds mining tenements within the Karriyarra native title claim and are subject to the Land Use Agreement dated March 2001 between the Karriyarra People and Gwalia Tantalum Ltd (now Wodgina Lithium, a 100% subsidiary of MRL, our MARBL joint venture partner). See section 3 of the Wodgina technical report summary, filed as Exhibit 96.2 to this report, for a listing of all mining and exploration land tenements, which are in good standing and no known impediments exist. Certain

tenements are due for renewal in 2026 and another in 2030. Drilling and exploration activities have been conducted throughout the mining life of the Wodgina property.

The Wodgina mine is a pegmatite lithium deposit with spodumene the dominant mineral. The lithium mineralization occurs as 10 - 30 cm long grey-white spodumene crystals within medium grained pegmatites comprising primarily of quartz, feldspar, spodumene, and muscovite. Typically, the spodumene crystals are oriented orthogonal to the pegmatite contacts.

The facilities at Wodgina consist of a three stage crushing plant, the spodumene concentration plant, administrative offices, an accommodation camp, a power station, gas pipeline, three mature and reliable water bore fields, extension for future tailing storage and a fleet of owned and leased mine production equipment. The gas pipeline feeds the site power station to provide the power to the facilities. Water is obtained from the dedicated water bore fields. We consider the condition of all of our plants, facilities and equipment to be suitable and adequate for the businesses we conduct, and we maintain them regularly. As of December 31, 2022, our 60% ownership interest of the gross asset value of the facilities at our Wodgina site was approximately \$255.4 million.

A summary of the Wodgina facility's lithium mineral resources as of December 31, 2022 is shown in the following table. SRK served as the QP and prepared the estimates of lithium mineral resources at the Wodgina facility, with an effective date of September 30, 2020. No reserves have been declared at Wodgina. A copy of the QP's amended technical report summary with respect to the lithium mineral resource estimates at the Wodgina facility, dated December 16, 2022, is referenced in Exhibit 96.2 to this report. The mineral resource economic pit and cutoff grade economic assumptions remain unchanged from December 31, 2021. The September 30, 2020 resource has been depleted for 2022 production and is reported as of December 31, 2022 in the below table. Mineral resources for Wodgina represent 60% interest in the Wodgina Project, which is attributable to the Company's interest in the MARBL joint venture. Amounts are presented as metric tonnes of lithium ore in thousands.

The Wodgina mineral resources, exclusive of reserves, estimates with depletion from production from the effective date of the report through December 31, 2022 are summarized in the following table:

	Amount ('000s metric tonnes)	Grade (Li ₂ O%)
Indicated mineral resources	12,600	1.36%
Inferred mineral resources	98,300	1.12%

- The summary mineral resources attributable tonnes reflects Albemarle's 60% ownership percentage in the Wodgina project.
- All significant figures are rounded to reflect the relative accuracy of the estimates.
- The mineral resource estimate has been classified in accordance with SEC S-K 1300 guidelines and definitions.
- The Cassiterite Deposit comprises the historically mined Mt. Cassiterite pit and undeveloped North Hill areas.
- Mineral resources are not mineral reserves and do not have demonstrated economic viability. Inferred mineral resources have a high degree of uncertainty as to their economic and technical feasibility. It cannot be assumed that all or any part of an inferred mineral resources can be upgraded to measured or indicated mineral resources.
- Metallurgical recovery of lithium has been estimated on a block basis at a consistent 65% based on documentation from historical plant production.
- To demonstrate reasonable prospects for eventual economic extraction of Mineral Resources, a cut-off grade of 0.5% Li₂O based on metal recoverability assumptions, long-term price assumptions of \$584 per metric tonne, variable mining costs averaging \$3.40/metric tonne, processing costs and G&A costs totaling \$23/metric tonne.
- The mineral resources are constrained by an economic pit shell using an overall 43° pit slope angle, 0% mining dilution, and 100% mining recovery.
- There are no known legal, political, environmental, or other risks that could materially affect the potential development of the Mineral Resources based on the level of study completed for this property.

The Wodgina indicated mineral resources of 12.6 million metric tonnes at December 31, 2022 decreased by 6% from 13.4 million metric tonnes at December 31, 2021. The Wodgina inferred mineral resources of 98.3 million metric tonnes at December 31, 2022 decreased by less than 1% from 98.5 million metric tonnes at December 31, 2021. The decrease in mineral resources was driven by mine depletion from the restart of mining activities during 2022.

The Wodgina mine is at an initial assessment level, and as a result, contains no mineral reserves. Additional information about key assumptions and parameters relating to the lithium mineral resources at the Wodgina facility is discussed in section 11 of the Wodgina technical report summary.

Salar de Atacama/La Negra, Chile

The Salar de Atacama is located in the commune of San Pedro de Atacama, with the operations approximately 100 kilometers to the south of this commune, in the extreme east of the Antofagasta Region and close to the border with the republics of Argentina and Bolivia. Access to the property is on the major four-lane paved Panamericana Route 5 north from Antofagasta, Chile approximately 60 km northeast to B-385. On B-385, a two-lane paved highway, the Albemarle Salar de Atacama project (latitude 23°38'31.52"S, longitude 68°19'30.31"W) is approximately 175 km to the east. The site has a small private airport that serves the project. A small paved runway airport is also located near San Pedro de Atacama and a large international airport is located in Antofagasta. The La Negra plant (latitude 23°45'20.31"S, longitude 70°18'36.92"W) has direct access roads and located approximately 20 km by paved four lane highway Route 28 southeast of Antofagasta turning north approximately 3 km on Route 5.

In the early 1960s, water with high concentrations of salts was discovered in the Salar de Atacama Basin. In January 1975, one of our predecessors, Foote Mineral Company, signed a long-term contract with the Chilean government for mineral rights with respect to the Salar de Atacama consisting exclusively of the right to access lithium brine, covering an area of approximately 16,700 hectares. See section 3 of the Salar de Atacama technical report summary, filed as Exhibit 96.3 to this report, for a listing of mining concessions at the Salar de Atacama site. The contract originally permitted the production and sale of up to 200,000 metric tons of lithium metal equivalent ("LME"), a calculated percentage of LCE. In 1981, the first construction of evaporation ponds in the Salar de Atacama began. The following year, the construction of the lithium carbonate plant in La Negra began. In 1990, the facilities at the Salar de Atacama were expanded with a new well system and the capacity of the lithium carbonate plant in the La Negra plant was expanded. In 1998, the lithium chloride plant in La Negra began operating, the same year that Chemetall purchased Foote Mineral Company. Subsequently, in 2004, Chemetall was acquired by Rockwood, and in 2015, Rockwood was acquired by Albemarle. Effective January 1, 2017, the Chilean government and Albemarle entered into an annex to the original agreement through which its duration was modified, extending it until the balance of: (a) the original 200,000 metric tons of LME and an additional 262,132 metric tons of LME granted through this

annex have been exploited, processed, and sold, or (b) on January 1, 2044, whichever comes first. In addition, the amended agreement provides for commission payments to the Chilean government based on sales price/metric ton on the amounts sold under the additional quota granted, our support of research and development in Chile of lithium applications and solar energy, and our support of local communities in Northern Chile. Albemarle currently operates its extraction and production facilities in Chile under this mineral rights agreement with the Chilean government.

The Salar de Atacama is a salt flat, the largest in Chile, located in the Atacama Desert in northern Chile, which is the driest place on the planet and thus has an extremely high annual rate of evaporation and extremely low annual rainfall. Our extraction through evaporation process works as follows: snow in the Andes Mountains melts and flows into underground pools of water containing brine, which generally have high concentrations of lithium. We then pump the water containing brine above ground through a series of pumps and wells into a network of large evaporation ponds. Over the course of approximately eighteen months, the desert sun evaporates the water causing other salts to precipitate and leaving behind concentrated lithium brine. If weather conditions are not favorable, the evaporation process may be prolonged. After we obtain the lithium brine from the Salar de Atacama, we process it into lithium carbonate and lithium chloride at our manufacturing facilities in nearby La Negra, Chile.

The filling materials of the Salar de Atacama Basin are dominated by the Vilama Formation and the more recently, in geologic time, by evaporitic and clastic materials that are currently being deposited in the basin. These units house the basin's aquifer system and are composed of evaporitic chemical sediments that include carbonate, gypsum and halite intervals interrupted by volcanic deposits of large sheets of ignimbrite, volcanic ash and smaller classical deposits. Lithium-rich brines are extracted from the halite aquifer that is located within the nucleus of the salt flat. The Salar de Atacama basin contains a continental system of lithium-rich brine. These types of systems have six common (global) characteristics: arid climate; closed basin that contains a salt flat (salt crust), a salt lake, or both; igneous and/or hydrothermal activity; tectonic subsidence; suitable sources of lithium; and sufficient time to concentrate the lithium in the brine.

In the Salar de Atacama basin, lithium-rich brines are found in a halite aquifer. Carbonate and sulfates are found near the edges of the basin. The average, minimum and maximum concentrations of lithium in the Salar de Atacama basin are approximately 1,400, 900 and 7,000 mg/L, respectively. From 2017 through 2019, two drilling campaigns were carried out in order to obtain geological and hydrogeological information at the Albemarle mining concession.

The facilities at the Salar de Atacama consist of extraction wells, evaporation and concentration ponds, leaching plants, a potash plant, a drying plant, salar yield improvement plant, services and general areas, including salt stockpiles, as well as a fleet of owned and leased equipment. In addition, the site includes administrative offices, an operations building and a laboratory. The extracted concentrated lithium brine is sent to the La Negra plant by truck for processing. The Salar de Atacama has its own powerhouse that generates the energy necessary for the entire operation of the facilities. We also have permanent and continuous groundwater exploitation rights for two wells that are for industrial use and to supply the Salar de Atacama facilities. The La Negra facilities consist of a boron removal plant, a calcium and magnesium removal plant, two lithium carbonate conversion plants, a lithium chloride plant, evaporation-sedimentation ponds, an offsite area where the raw materials are housed and the inputs that are used in the process are prepared, a dry area where the various products are prepared, as well as a fleet of owned and leased equipment. La Negra is supplied electricity from a local company and has rights to a well in the Peine community for its water supply. We have completed construction of the third lithium carbonate conversion plant in late 2022. The plant has begun a six-month commissioning, qualification process, and ramp up process. We consider the condition of all of our plants, facilities and equipment to be suitable and adequate for the businesses we conduct, and we maintain them regularly. As of December 31, 2022, the combined gross asset value of our facilities at the Salar de Atacama and in La Negra, Chile (not inclusive of construction in process) was approximately \$1,673.5 million.

A summary of the Salar de Atacama facility's lithium mineral resources, exclusive of reserves, and reserves as of December 31, 2022 are shown in the following tables. SRK served as the QP and prepared the estimates of lithium mineral resources and reserves at the Salar de Atacama facility, with an effective date of August 31, 2022. A copy of the QP's technical report summary with respect to the lithium mineral resource and reserve estimates at the Salar de Atacama facility, dated February 14, 2023, is filed as Exhibit 96.3 to this report. The amounts represent Albemarle's attributable portion based on a 100% ownership percentage, and are presented as metric tonnes of lithium metal in thousands.

The Salar de Atacama mineral resource, exclusive of reserves, estimates with depletion from production from the effective date of the report to December 31, 2022 are summarized in the following table:

	Amount ('000s metric tonnes)	Li Concentration (mg/L)
Measured mineral resources	471	2,390
Indicated mineral resources	363	1,943
Measured and Indicated mineral resources	834	2,159
Inferred mineral resources	237	1,617

- Mineral resources are reported exclusive of mineral reserves. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
- Given the dynamic reserve versus the static resource, a direct measurement of resources post-reserve extraction is not practical. Therefore, as a simplification, to calculate mineral resources, exclusive of reserves, the quantity of lithium pumped in the life of mine plan was subtracted from the overall resource without modification to lithium concentration. Measured and indicated resource were deducted proportionate to their contribution to the overall mineral resource.
- Resources are reported on an in situ basis.
- Resources are reported above the elevation of 2,200 meters above sea level. Resources are reported as lithium metal.
- Resources have been categorized subject to the opinion of a QP based on the amount/robustness of informing data for the estimate, consistency of geological/grade distribution, survey information.
- Resources have been calculated using drainable porosity estimated from measured values in Upper Halite and Volcano-sedimentary units, and bibliographical values based on the lithology and QP's experience in similar deposits.
- The estimated economic cutoff grade utilized for resource reporting purposes is 800 mg/l lithium, based on the following assumptions:
 - A technical grade lithium carbonate price of \$22,000/metric tonne CIF La Negra. This is a 10% premium to the price utilized for reserve reporting purposes. The 10% premium applied to the resource versus the reserve was selected to generate a resource larger than the reserve, ensuring the resource fully encompassed the reserve while still maintaining reasonable prospect for eventual economic extraction.
 - Recovery factors for the salar operation increase gradually over the span of 4 years, from the current 40% to the proposed salar yield improvement program 65% recovery in 2025. After that point, evaporation pond recovery is relatively constant at 65%. An additional recovery factor of 80% lithium recovery is applied to the La Negra lithium carbonate plant.
 - An average annual brine pumping rate of 414 L/s is assumed to meet drawdown constraint consistent with Albemarle's permit conditions.
 - Operating cost estimates are based on a combination of fixed brine extraction, G&A and plant costs and variable costs associated with raw brine pumping rate or lithium production rate. Average life of mine operating cost is calculated at approximately \$4,155/metric tonne CIF Asia.
 - Sustaining capital costs are included in the cut-off grade calculation and post the salar yield improvement program installation, average around \$98 million per year.
- Mineral Resources tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.

The Salar de Atacama measured and indicated mineral resources, exclusive of reserves, of 834,000 metric tonnes at December 31, 2022 decreased by 39% from 1.4 million metric tonnes at December 31, 2021. The Salar de Atacama inferred mineral resources, exclusive of reserves, of 237,000 metric tonnes at December 31, 2022 increased by 81% from 131,000 metric tonnes at December 31, 2021. The geology model reinterpretation coupled with results from the sampling campaign reduced the brine volume and lithium contained. Some specific yield factors in the salar decreased, reducing the resource by approximately 10%. Increases in grade were driven by higher grade in some deeper wells. The re-estimation also resulted in the reclassification of some brine from indicated to the inferred. Increases in revenue were offset by cost increase. The mineral resources were also reduced by depletion during the year.

The Salar de Atacama reserve estimates with depletion from production from the effective date of the report through December 31, 2022 are summarized in the following table:

	Amount ('000s metric tonnes)	Concentration (mg/L)
Proven mineral reserves:		
In Situ	306	2,407
In Process	23	2,741
Probable mineral reserves:		
In Situ	237	2,063
Total mineral reserves:		
In Situ	542	2,244
In Process	23	2,741

- In process reserves quantify the prior 24 months of pumping data and reflect the raw brine, at the time of pumping. These reserves represent the first 24 months of feed to the lithium process plant in the economic model.
- Proven reserves have been estimated as the lithium mass pumped during Years 2020 through 2030 of the proposed life of mine plan.
- Probable reserves have been estimated as the lithium mass pumped from 2031 until the end of the proposed life of mine plan (2041).
- Reserves are reported as lithium metal
- This mineral reserve estimate was derived based on a production pumping plan truncated in December 31, 2041 (i.e., approximately 20 years). This plan was truncated to reflect the projected depletion of Albemarle's authorized lithium production quota.
- The estimated economic cut-off grade for the Project is 858 mg/l lithium, based on the assumptions discussed below. The truncated production pumping plan remained well above the economic cut-off grade (i.e., the economic cut-off grade did not result in a limiting factor to the estimation of the reserve).
 - A technical grade lithium carbonate price of \$20,000/metric tonne CIF Asia.
 - Recovery factors for the salar operation increase gradually over the span of 4 years, from the current 40% to the proposed salar yield improvement program 65% recovery in 2025. After that point, evaporation pond recovery remains relatively constant at 65%. An additional recovery factor of 80% lithium recovery is applied to the La Negra lithium carbonate plant.
 - A fixed average annual brine pumping rate of 414 L/s is assumed to meet consistent with Albemarle's permit conditions.
 - Operating cost estimates are based on a combination of fixed brine extraction, G&A and plant costs and variable costs associated with raw brine pumping rate or lithium production rate. Average life of mine operating cost is calculated at approximately \$4,155/metric tonne CIF Asia.
 - Sustaining capital costs are included in the cut-off grade calculation and post the salar yield improvement program installation, average around \$98 million per year.
- Mineral reserve tonnage, grade and mass yield have been rounded to reflect the accuracy of the estimate and numbers may not add due to rounding.

The Salar de Atacama total mineral reserves of 566,000 metric tonnes at December 31, 2022 decreased by 13% from 647,000 metric tonnes at December 31, 2021. The decrease in total mineral reserves was driven by depletion during the year. Increases in model assumptions such as lithium pricing were offset by higher costs. These changes in economics did not have a material impact because mining at the Salar de Atacama is done at an elevated cutoff grade. Changes in the resource had minimal impact on the reserve as the production total is limited by quota.

Additional information about key assumptions and parameters relating to the lithium mineral resources and reserves at the Salar de Atacama facility is discussed in sections 11 and 12, respectively, of the Salar de Atacama technical report summary.

Silver Peak, Nevada

The Silver Peak site (latitude 37.751773°N, longitude 117.639027°W) is located in a rural area approximately 30 miles southwest of Tonopah, in Esmeralda County, Nevada. It is located in the Clayton Valley, an arid valley historically covered with dry lake beds (playas). The operation borders the small unincorporated town of Silver Peak, Nevada. Albemarle uses the Silver Peak site for the production of lithium brines, which are used to make lithium carbonate and, to a lesser degree, lithium hydroxide. Access to the site is off of the paved highway SR-265 in the town of Silver Peak, Nevada. The administrative offices are located on the south side of the road. The process facility is on the north side of the road and the brine operations are located approximately three miles east of Silver Peak on Silver Peak Road and occupy both the north and south sides of the road. In addition, access to the site is also possible via gravel/dirt roads from Tonopah, Nevada and Goldfield, Nevada.

Lithium brine extraction in the Clayton Valley began in the mid-1960's by one of our predecessors, the Foote Mineral Company. Since that time, lithium brine operations have been operated on a continuous basis. In 1998, Chemetall purchased Foote Mineral Company. Subsequently, in 2004, Chemetall was acquired by Rockwood, and in 2015, Rockwood was acquired by Albemarle. Our mineral rights in Silver Peak consist of our right to access lithium brine pursuant to our permitted and certified senior water rights, a settlement agreement with the U.S. government, originally entered into in June 1991, and our patented and unpatented land claims. Pursuant to the 1991 agreement, our water rights and our land claims, we have rights to all lithium that we can remove economically from the Clayton Valley Basin in Nevada. See section 3 of the Silver Peak technical report summary, filed as Exhibit 96.4 to this report, for a listing of patented and unpatented claims at the Silver Peak site. We have been operating at the Silver Peak site since 1966. Our Silver Peak site covers a surface of over 13,500 acres, more than 10,500 acres of which we own through a subsidiary. The remaining acres are owned by the U.S. government from whom we lease the land pursuant to unpatented land claims that are renewed annually. Actual surface disturbance associated with the operations is 7,390 acres, primarily associated with the evaporation ponds. The manufacturing and administrative activities are confined to an area approximately 20 acres in size.

We extract lithium brine from our Silver Peak site through substantially the same evaporation process we use at the Salar de Atacama. We process the lithium brine extracted from our Silver Peak site into lithium carbonate at our plant in Silver Peak. It is hypothesized that the current levels of lithium dissolved in brine originate from relatively recent dissolution of halite by meteoric waters that have penetrated the playa in the last 10,000 years. The halite formed in the playa during the aforementioned climatic periods of low precipitation and that the concentrated lithium was incorporated as liquid inclusions into the halite crystals. There are no current exploration activities on the Silver Peak lithium operation. However, in January 2021, we announced that we will expand capacity in Silver Peak and begin a program to evaluate clays and other available Nevada resources for commercial production of lithium. As previously announced, we are investing in our Silver Peak site with the goal of doubling the current production in Silver Peak by 2025 by making full use of the brine water rights.

The facilities at Silver Peak consist of extraction wells, evaporation and concentration ponds, a lithium carbonate plant, a lithium anhydrous plant, a lithium hydroxide plant, a new liming plant, wellfield and mill maintenance, a shipping and packaging facility and administrative offices, as well as a fleet of owned and leased equipment. Silver Peak is supplied electricity from a local company and we currently have two operating fresh water wells nearby that supply water to the facilities. We consider the condition of all of our plants, facilities and equipment to be suitable and adequate for the businesses we conduct, and we maintain them regularly. As of December 31, 2022, the gross asset value of our facilities at our Silver Peak site was approximately \$77.8 million.

A summary of the Silver Peak facility's lithium mineral resources, exclusive of reserves, and reserves as of December 31, 2022 are shown in the following tables. SRK served as the QP and prepared the estimates of lithium mineral resources (exclusive of reserves) and reserves at the Silver Peak facility, with an effective date of September 30, 2022. A copy of the QP's technical report summary with respect to the lithium mineral resource and reserve estimates at the Silver Peak facility, dated February 14, 2023, is filed as Exhibit 96.4 to this report. The amounts represent Albemarle's attributable portion based on a 100% ownership percentage, and are presented as metric tonnes of lithium metal in thousands.

The Silver Peak mineral resources, exclusive of reserves, estimates with depletion from production from the effective date of the report through December 31, 2022 are summarized in the following table:

	Amount ('000s metric tonnes)	Concentration (mg/L)
Measured mineral resources	14	153
Indicated mineral resources	36	144
Measured and Indicated mineral resources	50	146
Inferred mineral resources	90	121

- Mineral resources are reported exclusive of mineral reserves. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
- Given the dynamic reserve versus the static resource, a direct measurement of resources post-reserve extraction is not practical. Therefore, as a simplification, to calculate mineral resources, exclusive of reserves, the quantity of lithium pumped in the life of mine plan was subtracted from the overall resource without modification to lithium concentration. Measured and indicated resource were deducted proportionate to their contribution to the overall mineral resource.
- Resources are reported on an in-situ basis.
- Resources are reported as lithium metal.
- The resources have been calculated from the block model above 740 meters above sea level.
- Resources have been categorized subject to the opinion of a QP based on the amount/robustness of informing data for the estimate, consistency of geological/grade distribution, survey information.
- Resources have been calculated using drainable porosity estimated from bibliographical values based on the lithology and QP's experience in similar deposits.
- The estimated economic cutoff grade utilized for resource reporting purposes is 50 mg/l lithium, based on the following assumptions:
 - A technical grade lithium carbonate price of \$22,000/metric tonne CIF North Carolina. This is a 10% premium to the price utilized for reserve reporting purposes. The 10% premium applied to the resource versus the reserve was selected to generate a resource larger than the reserve, ensuring the resource fully encompassed the reserve while still maintaining reasonable prospect for eventual economic extraction.
 - Recovery factors for the wellfield are $= -206.23 * (\text{Li wellfield feed})^2 + 7.1903 * (\text{wellfield Li feed}) + 0.4609$. An additional recovery factor of 78% lithium recovery is applied to the lithium carbonate plant.
 - A fixed brine pumping rate of 20,000 acre feet per year, ramped up from current levels over a period of five years.
 - Operating cost estimates are based on a combination of fixed brine extraction, G&A and plant costs and variable costs associated with raw brine pumping rate or lithium production rate. Average life of mine operating costs is calculated at approximately \$6,200/metric tonne lithium carbonate CIF North Carolina.

- Sustaining capital costs are included in the cut-off grade calculation and include a fixed component at \$7.0 million per year and an additional component tied to the estimated number of wells replaced per year and other planned capital programs.
- Mineral Resources tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.

The Silver Peak measured and indicated mineral resources of 50,200 metric tonnes at December 31, 2022 increased by 43% from 35,100 metric tonnes at December 31, 2021. The Silver Peak inferred mineral resources of 89,500 metric tonnes at December 31, 2022 increased by 43% from 62,800 metric tonnes at December 31, 2021. The increase in mineral resources was driven by updated geologic modeling and increased brine volume at depth. Cost increases offset revenue increase with minimal impact to the overall resource as the overall grade is unchanged. The increase in resource was partially offset by production depletion during the year.

The Silver Peak reserve estimates with depletion from production from the effective date of the report through December 31, 2022 are summarized in the following table:

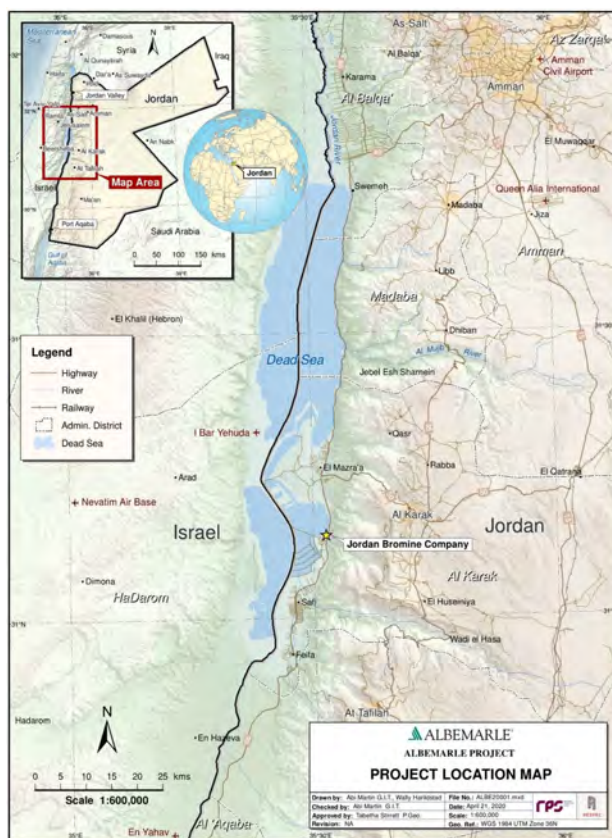
	Amount (*000s metric tonnes)	Concentration (mg/L)
Proven mineral reserves:		
In Situ	12	94
In Process	1	104
Probable mineral reserves:		
In Situ	56	95
Total mineral reserves:		
In Situ	68	95
In Process	1	104

- In process reserves quantify the prior 24 months of pumping data and reflect the raw brine, at the time of pumping. These reserves represent the first 24 months of feed to the lithium process plant in the economic model.
- Proven reserves have been estimated as the lithium mass pumped during the Partial Year 2022 through 2027 of the proposed life of mine plan.
- Probable reserves have been estimated as the lithium mass pumped from 2028 until the end of the proposed life of mine plan (2052).
- Reserves are reported as lithium metal.
- This mineral reserve estimate was derived based on a production pumping plan truncated at the end of year 2052 (i.e., approximately 29.5 years). This plan was truncated to reflect the QP's opinion on uncertainty associated with the production plan as a direct conversion of measured and indicated resource to proven and probable reserve is not possible in the same way as a typical hard-rock mining project.
- The estimated economic cutoff grade for the Silver Peak project is 57 mg/l lithium, based on the assumptions discussed below. The production pumping plan was truncated due to technical uncertainty inherent in long-term production modeling and remained well above the economic cutoff grade (i.e., the economic cutoff grade did not result in a limiting factor to the estimation of the reserve).
 - A technical grade lithium carbonate price of US\$20,000/metric tonne CIF North Carolina.
 - Recovery factors for the wellfield are $-206.23*(Li\ wellfield\ feed)^2 + 7.1903*(wellfield\ Li\ feed) + 0.4609$. An additional recovery factor of 78% lithium recovery is applied to the lithium carbonate plant.
 - A fixed brine pumping rate of 20,000 acre feet per year, ramped up from current levels over a period of five years.
 - Operating cost estimates are based on a combination of fixed brine extraction, G&A and plant costs and variable costs associated with raw brine pumping rate or lithium production rate. Average life of mine operating costs is calculated at approximately \$6,200/metric tonne lithium carbonate CIF North Carolina.
 - Sustaining capital costs are included in the cut-off grade calculation and include a fixed component at \$7.0 million per year and an additional component tied to the estimated number of wells replaced per year and other planned capital programs.
- Mineral reserve tonnage, grade and mass yield have been rounded to reflect the accuracy of the estimate (thousand tonnes), and numbers may not add due to rounding.

The Silver Peak total mineral reserves of 69,100 metric tonnes at December 31, 2022 increased by 12% from 61,700 metric tonnes at December 31, 2021. The increase in total mineral reserves was driven by increase brine grades at depth, partially offset by a decrease in the recovery factor at the processing plant to 78% from 85% based on recent operating history. The Silver Peak reserves were also offset by depletion during the year.

Additional information about key assumptions and parameters relating to the lithium mineral resources and reserves at the Silver Peak facility is discussed in sections 11 and 12, respectively, of the Silver Peak technical report summary.

Safi, Jordan



Our 50% interest in JBC, a consolidated joint venture established in 1999, with operations in Safi, Jordan, acquires bromine that is originally sourced from the Dead Sea. JBC processes the bromine at its facilities into a variety of end products. The JBC operation (latitude 31°8'34.85"N , longitude 35°31'34.68"E) is located in Safi, Jordan, and is located on a 26-ha area on the southeastern edge of the Dead Sea, about 6 kilometers north of the of the APC plant. JBC also has a 2-hectare storage facility within the free-zone industrial area at the Port of Aqaba. The Jordan Valley Highway/Route 65 is the primary method of access for supplies and personnel to JBC. The Port of Aqaba is the main entry point for supplies and equipment for JBC, where imported shipping containers are offloaded from ships and are transported by truck to JBC via the Jordan Valley Highway. Aqaba is approximately 205 km south of JBC via Highway 65. Major international airports can be readily accessed either at Amman or Aqaba. Jordan’s railway transport runs north-south through Jordan and is not used to transport JBC employees and product.

In 1958, the Government of the Hashemite Kingdom of Jordan granted APC a concession for exclusive rights to exploit the minerals and salts from the Dead Sea brine until 2058; at that time, APC factories and installations would become the property of the Government. APC was granted its exclusive mineral rights under the Concession Ratification Law No. 16 of 1958. APC produces potash from the brine extracted from the Dead Sea. A concentrated bromide-enriched brine extracted from APC’s evaporation ponds is the feed material for the JBC plant. Following the formation of the joint venture, the JBC bromine plant began operations in 2002. Expansion of the facilities to double its bromine production capacity went into operation in 2017.

The climate, geology and location provide a setting that makes the Dead Sea a valuable large-scale natural resource for potash and bromine. Today, the Dead Sea has a surface area of 583 km² and a brine volume of 110 km³. The Dead Sea is the world’s saltiest natural lake, containing high concentrations of ions compared to that of regular sea water and an unusually high amount of magnesium and bromine. There is an estimated 900 million tonnes of bromine in the Dead Sea.

Mining methods consist of all activities necessary to extract brine from the Dead Sea and extract Bromine. The low rainfall, low humidity and high temperatures in the Dead Sea area provide ideal conditions for recovering potash from the brine by solar evaporation. JBC obtains its feedbrine from APC's evaporation pond and this supply is intimately linked to the APC operation. As evaporation takes place the specific gravity of the brine increases until its constituent salts progressively crystallize and precipitate out of solution, starting with sodium chloride (common salt) precipitating out to the bottom of the ponds (pre-carnallite ponds). Brine is transferred to other pans in succession where its specific gravity increases further, ultimately precipitating out of the sodium chloride. Carnallite precipitation takes place at the evaporation pond where it is harvested from the brine and pumped as slurry to a process plant (where the potassium chloride is separated from the magnesium chloride). JBC extracts the bromide-rich, "carnallite-free" brine through a pumping station. This brine feeds the bromine and magnesium plants. There is no exploration as typically conducted for the characterization of a mineral deposit.

Infrastructure and facilities to support the operation of the bromine production plant at the Safi site is compact and contained in an approximately 33 ha area. JBC ships product in bulk through a storage terminal in Aqaba. There are above ground storage tanks as well as pumps and piping for loading these products onto ships. JBC main activities at Aqaba are raw material/product storing, importing, and exporting. An evaporation pond collects the waste streams from pipe flushing, housekeeping, and other activities. Fresh water is sourced from the Mujib Reservoir, a man-made reservoir. JBC is supplied electricity from the National Electric Power Company of Jordan. We consider the condition of all of our plants, facilities and equipment to be suitable and adequate for the businesses we conduct, and we maintain them regularly. As of December 31, 2022, our 50% ownership interest of the gross asset value of the facilities at the Safi, Jordan site was approximately \$222.3 million.

A summary of the Safi facility's bromine mineral resources and reserves as of December 31, 2022 is provided below. RPS Energy Canada Ltd ("RPS"), a third-party firm comprising mining experts in accordance with Item 1302(b)(1) of Regulation S-K, served as the QP and prepared the estimates of bromine mineral resources and reserves at the Safi facility, with an effective date of December 31, 2022. A copy of the QP's amended technical report summary with respect to the bromine mineral resource and reserve estimates at the Safi facility, dated February 15, 2023, is filed as Exhibit 96.5 to this report.

The feedstock is drawn from the Dead Sea, a nonconventional reservoir owned by the nations of Israel and Jordan. As such, there are no specific resources owned by JBC, but Albemarle's joint venture partner, APC, has exclusive rights granted by the Hashemite Kingdom of Jordan to withdraw brine from the Dead Sea and process it to extract minerals. Revenues are based on a forecast bromine price ranging from \$3,560 to \$6,480 per metric tonne and the operating cost ranges between \$341 and \$529 per metric tonne. The measured resource of bromide ion attributable to Albemarle's 50% interest in its JBC joint venture is estimated to be approximately 178.3 million metric tonnes. JBC is extracting approximately 1 percent of the bromine available in Jordan's share of the Dead Sea. Bromide concentration in the Dead Sea is estimated to average approximately 5,000 ppm. The cut-off grade of the Albemarle bromine operations has been estimated to be at 1,000 ppm. The bromide ion concentration in the brine extracted which feeds the bromine plants, significantly exceeds the selected cut-off grade.

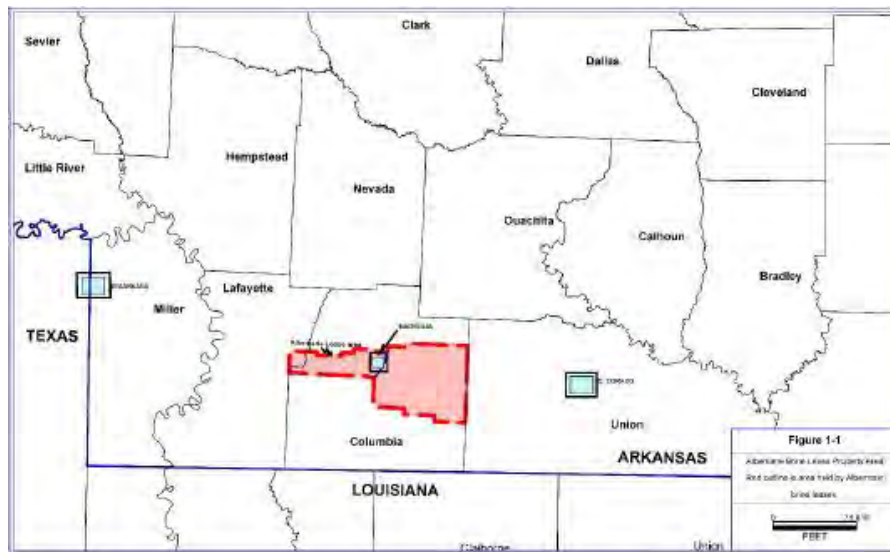
The Safi measured mineral reserves of 178.3 million metric tonnes at December 31, 2022 increased by 1% from 177.5 million metric tonnes at December 31, 2021. The increase in measured mineral resources was driven by evaporation in the Dead Sea, partially offset by the end date of the forecast remained unchanged due to the concession agreement and depletion during 2022.

All bromine reserves reported by Albemarle for the JBC project are classified as proven mineral reserves. The mineral reserve estimate attributable to Albemarle's 50% interest in its JBC joint venture is approximately 2.38 million metric tonnes of bromine from the Dead Sea. This estimate is based on the time available under the concession agreement with the Hashemite Kingdom of Jordan and the processing capability of the JBC plant. As only approximately one percent of the available resource is consumed from the Dead Sea, as noted above, the reserve estimate is based on the amount the JBC plant can produce over until the end of 2058, when the APC concession agreement ends. Revenues are based on a forecast bromine price ranging from \$3,560 to \$6,480 per metric tonne and the operating cost ranges between \$341 and \$529 per metric tonne. At the plant process recovery of 80 to 85 percent (bromine from bromide), product bromine is estimated at approximately 120,000 metric tonnes per year. Bromine concentration used to calculate the reserve estimate from the Dead Sea was approximately 8,890 ppm based on historical pumping. The cut-off grade of the Albemarle bromine operations has been estimated to be at 1,000 ppm. The bromide ion concentration in the brine extracted which feeds the bromine plants, significantly exceeds the selected cut-off grade.

The Safi total mineral reserves of 2.38 million metric tonnes at December 31, 2022 decreased by 3% from 2.45 million metric tonnes at December 31, 2021. The decrease in total mineral reserves was driven by depletion during 2022 and the end date of the forecast remained unchanged due to the concession agreement.

Additional information about key assumptions and parameters relating to the bromine mineral resources and reserves at the Safi facility is discussed in sections 11 and 12, respectively, of the Safi technical report summary.

Magnolia, Arkansas



Magnolia is located in the southwest Arkansas, north of the center of Columbia County, approximately 50 miles east of Texarkana and 135 miles south of Little Rock. Our facilities include two separate production plants, the South Plant and the West Plant. The South Plant (latitude 33.1775°N, longitude 93.2161°W) is accessible via U.S. Route 79 and paved local roads. The West Plant (latitude 33.2648°N, longitude 93.3151°W) is accessible by U.S. Route 371 and paved local roads. The decentralized well sites around the brine fields are accessed via paved Arkansas Highway 19, 98, 160 and 344.

In Magnolia, bromine is recovered from underground brine wells and then processed into a variety of end products at the plant on location. Albemarle has more than 50 brine production and injection wells that are currently active on the property. Albemarle’s area of bromine operation is comprised of over 9,500 individual leases with local landowners comprising a total area of over 99,500 acres. The leases have been acquired over time as field development extended across the field. Each lease continues for a period of 25 years or longer until after a two year period where brine is not injected or produced from/to a well within two miles of lease land areas, as long as lease rentals are continuing to be paid. See section 3 of the Magnolia technical report summary, filed as Exhibit 96.6 to this report, for a map of leases and burdens on those leases at the Magnolia site.

Bromine extraction began in Magnolia in 1965 as the first brine supply well was drilled, and additional wells were put into production over the next few years. In 1987, a predecessor company took over operations of certain brine supply and injection wells, which Albemarle continues to operate to this day. In 2019, Albemarle completed, and put into production, two new brine production supply wells in Magnolia.

In Magnolia, bromine exists as sodium bromide in the formation waters or brine of the Jurassic age Smackover Formation, a geological formation in Arkansas, in the subsurface at 7,000 to 8,500 feet below sea level. The mineralization occurs within the highly saline Smackover Formation waters or brine where the bromide has an abnormally rich composition. The bromine concentration is more than twice as high as that found in normal evaporated sea water. The bromine mineralization of the brine is distributed throughout the porous intervals of the upper and middle Smackover on the property. The strong permeability and porosity of the Smackover grainstones provide excellent continuity of the bromine mineralization within the brine.

The facilities at Magnolia consist of brine production and injection wells, brine ponds, two bromine processing plants, pipelines between the plants and wells, a laboratory, storage and warehouses, administrative offices, as well as a fleet of owned and leased equipment. Our Magnolia facilities are supplied electricity from a local company and we currently have several operating freshwater wells nearby that supply water to the facilities. In addition, both plants have dedicated rail spurs that provide access to several rail lines to transport product throughout the country. We consider the condition of all of our plants,

facilities and equipment to be suitable and adequate for the businesses we conduct, and we maintain them regularly. As of December 31, 2022, the gross asset value of our facilities at our Magnolia site was approximately \$833.5 million.

A summary of the Magnolia facility’s bromine mineral reserves as of December 31, 2022 is shown in the following table. RPS served as the QP and prepared the estimates of bromine mineral reserves at the Magnolia facility, with an effective date of December 31, 2022. A copy of the QP’s technical report summary with respect to the bromine mineral resource and reserve estimates at the Magnolia facility, dated February 15, 2023, is filed as Exhibit 96.6 to this report. The amounts represent Albemarle’s attributable portion based on a 100% ownership percentage, and are presented as metric tonnes in thousands.

There are no mineral resource estimates at the Magnolia, AR bromine extraction site. All bromine mineral accumulations of economic interest and with reasonable prospects for eventual economic extraction within the Magnolia production lease area are either currently on production or subject to an economically viable future development plan and are classified as mineral reserves.

	Amount ('000s metric tonnes)
Proven mineral reserves	2,419
Probable mineral reserves	565
Total mineral reserves	2,984

- Reserves are reported as bromine, on an in situ basis.
- The estimated economic cutoff grade utilized for reserve reporting purposes is 1,000 mg/L bromine, with a bromine price ranging from \$3,560 to \$6,480 per metric tonne and operating costs ranging from \$850 to \$1,150 per metric tonne.
- Recovery factors for the Magnolia are 75% and 82% for the proven mineral reserves and total mineral reserves, respectively.
- The concentration of bromine at the Magnolia site varies based on the physical location of the field and can range up to over 6,000 mg/L.

The Magnolia total mineral reserves of 3.0 million metric tonnes at December 31, 2022 decreased by 3% from 3.1 million metric tonnes at December 31, 2021. The decrease in total mineral reserves was driven by depletion of the reserve during 2022.

Additional information about key assumptions and parameters relating to the bromine mineral reserves at the Magnolia facility is discussed in section 12 of the Magnolia technical report summary.

Item 3. Legal Proceedings.

We are involved in litigation incidental to our business and are a party to a number of legal actions and claims, various governmental proceedings and private civil lawsuits, including, but not limited to, those related to environmental and hazardous material exposure matters, product liability, and breach of contract. Some of the legal proceedings include claims for compensatory as well as punitive damages. While the final outcome of these matters cannot be predicted with certainty, considering, among other things, the legal defenses available and liabilities that have been recorded along with applicable insurance, it is currently the opinion of management that none of these pending items will have a material adverse effect on our financial condition, results of operations or liquidity.

In addition, the information set forth under Note 17, “Commitments and Contingencies – Litigation” to the Consolidated Financial Statements of this Annual Report on Form 10-K is incorporated herein by reference.

An unexpected adverse resolution of one or more of these items, however, could have a material adverse effect on our financial condition, results of operations or liquidity in that particular period.

Item 4. Mine Safety Disclosures.

NONE

Executive Officers of the Registrant.

The names, ages and biographies of our executive officers, as of February 15, 2023, are set forth below. The term of office of each officer is until the meeting of the Board of Directors following the next annual shareholders’ meeting in May 2023.

Name	Age	Position
J. Kent Masters	62	Chairman, President and Chief Executive Officer
Scott A. Tozier	57	Executive Vice President, Chief Financial Officer
Kristin M. Coleman	54	Executive Vice President, General Counsel and Corporate Secretary
Karen G. Narwold	63	Executive Vice President, Chief Administrative Officer
Melissa Anderson	58	Senior Vice President, Chief Human Resources Officer
John C. Barichivich III	55	Vice President, Corporate Controller, Chief Accounting Officer
Raphael Crawford	47	President, Catalysts Global Business Unit
Netha Johnson	52	President, Bromine Global Business Unit
Eric Norris	56	President, Lithium Global Business Unit

J. Kent Masters was elected as Chairman, President and Chief Executive Officer in April 2020. He joined the Albemarle board of directors in 2015 and served as Lead Independent Director from 2018 until April 2020. Prior to joining Albemarle, Mr. Masters served as Operating Partner of Advent International, an international private equity group. Prior to Advent, he served as Chief Executive Officer of Foster Wheeler AG, a global engineering and construction contractor and power equipment supplier, when Foster Wheeler AG was acquired by Amec plc to form Amec Foster Wheeler plc. He is also a former member of the executive board of Linde AG, a global leader in manufacturing and sales of industrial gases, with responsibility for the Americas, Africa, and the South Pacific.

Scott A. Tozier was elected as our Executive Vice President and Chief Financial Officer effective January 2011. Mr. Tozier also served as our Chief Accounting Officer from January 2013 until February 2014. Mr. Tozier has over 25 years of diversified international financial management experience. Following four years of assurance services with the international firm Ernst & Young, LLP, Mr. Tozier joined Honeywell International, Inc., where his 16 year career spanned senior financial positions in the U.S., Australia and Europe. His roles of increasing responsibilities included management of financial planning, analysis and reporting, global credit and treasury services and Chief Financial Officer of Honeywell's Transportation Systems, Turbo Technologies and Building Solutions divisions. Most recently, Mr. Tozier served as Vice President of Finance, Operations and Transformation of Honeywell International, Inc.

Kristin M. Coleman joined us in November of 2022 and currently serves as Executive Vice President, General Counsel and Corporate Secretary. Ms. Coleman has nearly 30 years of legal experience, previously serving as Executive Vice President, General Counsel, and Chief Compliance Officer at US Foods. She also served as Senior Vice President, General Counsel, and Corporate Secretary of Sears Holdings Corporation and as Vice President, General Counsel, and Corporate Secretary for Brunswick Corporation. Before moving in-house, she worked in private practice with Sidley Austin LLP. Ms. Coleman founded the Chicago General Counsel Forum and is a member of the Economic Club of Chicago. She serves as a Board Member Emeritus for the Center for Enriched Living.

Karen G. Narwold joined us in September of 2010 and currently serves as Executive Vice President and Chief Administrative Officer. Ms. Narwold has over 25 years of legal, management and business experience with global industrial and chemical companies. After five years in private practice, she served as Vice President, General Counsel, Human Resources and Secretary of GrafTech International Ltd., a global graphite and carbon manufacturer and former subsidiary of Union Carbide. She then served as Vice President and Strategic Counsel of Barzel Industries, a North American steel processor and distributor. Prior to joining Albemarle, Ms. Narwold served as Special Counsel with Kelley Drye & Warren LLP and with Symmetry Advisors where she worked in the areas of strategic, financial and capital structure planning and restructuring for public and private companies. Ms. Narwold was appointed as a member of the Board of Directors of Ingevity Corporation on February 20, 2019. On October 31, 2022, Ms. Narwold announced that she will retire from the Company, effective April 4, 2023.

Melissa Anderson joined Albemarle as Senior Vice President, Chief Human Resources Officer in January 2021. Prior to joining Albemarle, Ms. Anderson served as Executive Vice President, Administration and Chief Human Resources Officer at Duke Energy, an American electric power holding company based in North Carolina. Previous to that role, she held the role of Senior Vice President, Human Resources, for Domtar Corporation in South Carolina. Her previous experience also includes 17 years with IBM in progressive Human Resources leadership roles. Ms. Anderson serves on the board of Vulcan Materials and as Chair of the Society of Human Resource Management (SHRM), the world's largest HR professional association. She is also a member of the advisory board for the Center for Executive Succession at the University of South Carolina's Darla Moore School of Business.

John C. Barichivich III was elected Vice President, Corporate Controller and Chief Accounting Officer effective November 2019. Mr. Barichivich has worked for the Company since 2007, holding various staff and leadership positions of increasing responsibility. Most recently, Mr. Barichivich served as Chief Financial Officer Vice President Finance, Purchasing, and S&OP Catalysts GBU since February 2019. Between January 2016 and February 2019, Mr. Barichivich acted as Vice President - Finance, Bromine Specialties global business unit, and he previously served as Vice President of Finance, Catalysts global business unit from September 2012 until December 2015. Mr. Barichivich was also the Director of Finance for the Albemarle shared service centers and he started his career with Albemarle as the Operations Controller for the Polymer Solutions business. Prior to Albemarle, Mr. Barichivich held a number of positions, including Director of Finance at the Home Depot, CFO Sensors SBE at PerkinElmer, and Manager of FP&A at General Electric. Mr. Barichivich began his career at Georgia Pacific, where he worked as an internal auditor and was a financial analyst supporting the restructuring of the Distribution Division.

Raphael Crawford was appointed President, Catalysts Global Business Unit in 2018. Mr. Crawford joined Albemarle in 2012 as Vice President of the Performance Catalysts Solutions unit, and the additional responsibility of Managing Director for Rockwood Lithium GmbH after the Rockwood acquisition. In 2015, Mr. Crawford was appointed President of the Bromine Specialties business unit until being named to his current role. Prior to Albemarle, Mr. Crawford served as the Director of Global Marketing and Business Development for Dow Coating Materials, a global business unit of The Dow Chemical Company. He also served as the Global Commercial Director and Global Asset Director for Dow Water and Process Solutions, following the acquisition of Rohm and Haas Company. Previously, Crawford held various strategic marketing and commercial roles at Rohm and Haas. Prior to Rohm and Haas, Mr. Crawford worked at Campbell Soup Company as a Marketing Manager. He began his career at SNET Telecommunications where he served in several capacities including new ventures, finance and marketing. Mr. Crawford is a member of the board of directors of the American Fuel & Petrochemical Manufacturers (AFPM) association, where he had served as chairman of the Petrochemical Members Committee and as a member of the Executive Committee.

Netha Johnson joined Albemarle as President, Bromine Global Business Unit in 2018. Mr. Johnson has more than 20 years of diverse leadership experience, both domestically and internationally, including having worked extensively in Singapore, Malaysia, Taiwan, Japan and Germany. Prior to joining Albemarle, Mr. Johnson served in several progressive leadership roles with 3M Company. Most recently, he served as Vice President and General Manager, Electrical Markets Division, where he was directly responsible for 3M's electrical and renewable energy solutions. Prior to that, he served as 3M's Vice President, Advanced Materials Division. In this role, he was responsible for three distinct businesses comprising the Advanced Material division, which provided world-leading, innovative solutions in fluoropolymer chemicals, advanced ceramics and light-weighting materials. Preceding his business career, Mr. Johnson served as a U.S. Naval Officer. Mr. Johnson has served as a member of the board of directors of Xcel Energy, Inc. since March 2020.

Eric Norris was appointed President, Lithium Global Business Unit in August 2018. Mr. Norris joined Albemarle in January 2018 as Chief Strategy Officer. In this role, he managed the company's strategic planning, M&A, and corporate business development programs as well as its investor relations efforts. Prior to joining Albemarle, Mr. Norris served as President of Health and Nutrition for FMC Corporation. Following FMC's announcement to acquire DuPont Agricultural Chemical assets, he led the divestiture of FMC Health and Nutrition to DuPont. Previously, Mr. Norris served as Vice President and Global Business Director for FMC Health and Nutrition, and Vice President and Global Business Director for FMC Lithium. During his 16-year FMC career, he served in additional leadership roles including Investor Relations, Corporate Development and Director of FMC Healthcare Ventures. Prior to FMC, Mr. Norris founded and led an internet-based firm offering formulation and design tools to the chemical industry. Previously, he served in a variety of roles for Rohm and Haas Company including sales, marketing, strategic planning and investor relations. Norris is a member of the board of directors of Communities in Schools of Charlotte-Mecklenburg and is a member of the board of directors of The Zero Emission Transportation Association (ZETA).

PART II

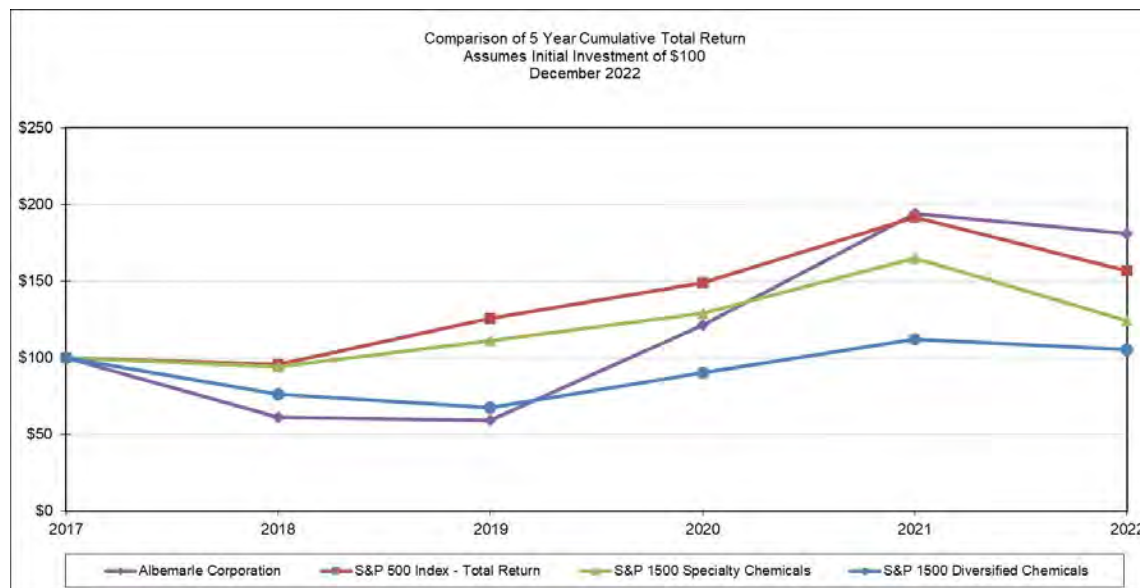
Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Our common stock trades on the New York Stock Exchange ("NYSE") under the symbol "ALB." There were 117,197,977 shares of common stock held by 2,101 shareholders of record as of February 8, 2023. On each of February 24, 2022, May 3, 2022, July 18, 2022, and October 24, 2022, we declared a dividend of \$0.395 per share. In each quarter of 2021, we declared a dividend of \$0.39 per share and, in each quarter of 2020, we declared a dividend of \$0.385 per share. We expect to continue to declare and pay comparable dividends to our shareholders in the future, however, dividends are declared solely at

the discretion of our Board of Directors and there is no guarantee that the Board of Directors will continue to declare dividends in the future.

Stock Performance Graph

The graph below shows the cumulative total shareholder return assuming the investment of \$100 in our common stock on December 31, 2017 and the reinvestment of all dividends thereafter. The information contained in the graph below is furnished and therefore not to be considered “filed” with the SEC, and is not incorporated by reference into any document that incorporates this Annual Report on Form 10-K by reference.



Item 6. [Reserved]

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Forward-looking Statements

Some of the information presented in this Annual Report on Form 10-K, including the documents incorporated by reference herein, may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements are based on our current expectations, which are in turn based on assumptions that we believe are reasonable based on our current knowledge of our business and operations. We have used words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “should,” “would,” “will” and variations of such words and similar expressions to identify such forward-looking statements.

These forward-looking statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions, which are difficult to predict and many of which are beyond our control. There can be no assurance that our actual results will not differ materially from the results and expectations expressed or implied in the forward-looking statements. Factors that could cause actual results to differ materially from the outlook expressed or implied in any forward-looking statement include, without limitation, information related to:

- changes in economic and business conditions;
- product development;
- changes in financial and operating performance of our major customers and industries and markets served by us;
- the timing of orders received from customers;
- the gain or loss of significant customers;

- fluctuations in lithium market pricing, which could impact our revenues and profitability particularly due to our increased exposure to index-referenced and variable-priced contracts for battery grade lithium sales;
- inflationary trends in our input costs, such as raw materials, transportation and energy, and their effects on our business and financial results;
- changes with respect to contract renegotiations;
- potential production volume shortfalls;
- competition from other manufacturers;
- changes in the demand for our products or the end-user markets in which our products are sold;
- limitations or prohibitions on the manufacture and sale of our products;
- availability of raw materials;
- increases in the cost of raw materials and energy, and our ability to pass through such increases to our customers;
- technological change and development;
- changes in our markets in general;
- fluctuations in foreign currencies;
- changes in laws and government regulation impacting our operations or our products;
- the occurrence of regulatory actions, proceedings, claims or litigation (including with respect to the U.S. Foreign Corrupt Practices Act and foreign anti-corruption laws);
- the occurrence of cyber-security breaches, terrorist attacks, industrial accidents or natural disasters;
- the effects of climate change, including any regulatory changes to which we might be subject;
- hazards associated with chemicals manufacturing;
- the inability to maintain current levels of insurance, including product or premises liability insurance, or the denial of such coverage;
- political unrest affecting the global economy, including adverse effects from terrorism or hostilities;
- political instability affecting our manufacturing operations or joint ventures;
- changes in accounting standards;
- the inability to achieve results from our global manufacturing cost reduction initiatives as well as our ongoing continuous improvement and rationalization programs;
- changes in the jurisdictional mix of our earnings and changes in tax laws and rates or interpretation;
- changes in monetary policies, inflation or interest rates that may impact our ability to raise capital or increase our cost of funds, impact the performance of our pension fund investments and increase our pension expense and funding obligations;
- volatility and uncertainties in the debt and equity markets;
- technology or intellectual property infringement, including cyber-security breaches, and other innovation risks;
- decisions we may make in the future;
- future acquisition and divestiture transactions, including the ability to successfully execute, operate and integrate acquisitions and divestitures and incurring additional indebtedness;
- expected benefits from proposed transactions;
- timing of active and proposed projects;
- continuing uncertainties as to the duration and impact of the novel coronavirus (“COVID-19”) pandemic and any future pandemic;
- impacts of the military conflict between Russia and Ukraine and the global response to it;
- performance of our partners in joint ventures and other projects;
- changes in credit ratings;
- the inability to realize the benefits of our decision to retain our Catalysts business as a wholly-owned subsidiary and to realign our Lithium and Bromine global business units into a new corporate structure, including Energy Storage and Specialties business units; and
- the other factors detailed from time to time in the reports we file with the SEC.

We assume no obligation to provide revisions to any forward-looking statements should circumstances change, except as otherwise required by securities and other applicable laws. The following discussion should be read together with our consolidated financial statements and related notes included in this Annual Report on Form 10-K.

The following is a discussion and analysis of our results of operations for the years ended December 31, 2022, 2021 and 2020. A discussion of our consolidated financial condition and sources of additional capital is included under a separate heading “Financial Condition and Liquidity.”

Overview

We are a leading global developer, manufacturer and marketer of highly-engineered specialty chemicals that are designed to meet our customers’ needs across a diverse range of end markets. Our corporate purpose is making the world safe and sustainable by powering the potential of people. The end markets we serve include energy storage, petroleum refining, consumer electronics, construction, automotive, lubricants, pharmaceuticals and crop protection. We believe that our commercial and geographic diversity, technical expertise, access to high-quality resources, innovative capability, flexible, low-cost global manufacturing base, experienced management team and strategic focus on our core base technologies will enable us to maintain leading positions in those areas of the specialty chemicals industry in which we operate.

Secular trends favorably impacting demand within the end markets that we serve combined with our diverse product portfolio, broad geographic presence and customer-focused solutions will continue to be key drivers of our future earnings growth. We continue to build upon our existing green solutions portfolio and our ongoing mission to provide innovative, yet commercially viable, clean energy products and services to the marketplace to contribute to our sustainable revenue. For example, our Lithium business contributes to the growth of clean miles driven with electric vehicles and more efficient use of renewable energy through grid storage; Bromine enables the prevention of fires starting in electronic equipment, greater fuel efficiency from rubber tires and the reduction of emissions from coal fired power plants; and the Catalysts business creates efficiency of natural resources through more usable products from a single barrel of oil, enables safer, greener production of alkylates used to produce more environmentally-friendly fuels, and reduced emissions through cleaner transportation fuels. We believe our disciplined cost reduction efforts and ongoing productivity improvements, among other factors, position us well to take advantage of strengthening economic conditions as they occur, while softening the negative impact of the current challenging global economic environment.

2022 Highlights

- In the first quarter of 2022, we increased our quarterly dividend for the 29th consecutive year, to \$0.395 per share.
- In January 2022, we signed a joint development agreement with 6K to explore the use of 6K’s patented UniMelt® advanced, sustainable materials production platform to develop novel lithium battery materials through potentially disruptive manufacturing processes.
- In February 2022, we announced that we signed a non-binding letter agreement with our MARBL joint venture partner, MRL, to explore a potential expansion of the MARBL joint venture, in an effort to expand lithium conversion capacity with increased optionality and reduced risk.
- In May 2022, we issued \$1.7 billion of senior notes pursuant to an underwritten public offering. The proceeds from this issuance were used to redeem the 4.15% Senior Notes due in 2024 (the “2024 Notes”), repay the balance of commercial paper outstanding and for general corporate purposes.
- Production of spodumene concentrate from the first and second trains at the Wodgina mine managed by our 60%-owned MARBL joint venture was achieved in May and July of this year, respectively.
- We announced plans to build integrated lithium operations in the United States, including the Kings Mountain, North Carolina spodumene mine and a lithium conversion plant in the Southeast.
- We announced the conclusion of our strategic review of the Catalysts business. As a result of the review, we chose to retain the business under a separate, wholly-owned subsidiary of Albemarle that has been renamed Ketjen in 2023. This structure is intended to allow the Catalysts business to respond to unique customer needs and global market dynamics more effectively while also achieving its growth ambitions.
- We announced the realignment of our Lithium and Bromine global business units into a new corporate structure designed to better meet customer needs and foster talent required to deliver in a competitive global environment. The realignment was effective January 1, 2023, and resulted in the following three reportable segments: (1) Energy Storage; (2) Specialties; and (3) Ketjen (Catalysts).
- In October 2022, we announced that we have been awarded a nearly \$150 million grant from the U.S. Department of Energy to expand domestic manufacturing of batteries for EVs and the electric grid and for materials and components

currently imported from other countries. The grant funding is intended to support a portion of the anticipated cost to construct a new, commercial-scale U.S.-based lithium concentrator facility at our Kings Mountain, North Carolina, location.

- In October 2022, we completed the acquisition of all of the outstanding equity of Qinzhou, for approximately \$200 million in cash. Qinzhou's operations include a recently constructed lithium processing plant strategically positioned near the Port of Qinzhou in Guangxi, which began commercial production in the first half of 2022. The plant has designed annual conversion capacity of up to 25,000 metric tonnes of LCE and is capable of producing battery-grade lithium carbonate and lithium hydroxide.
- In December 2022, we unveiled a groundbreaking product, MercLok™, which captures mercury from soil and mining waste, helping to remove this harmful element from the food chain.
- In December 2022, we announced the acquisition of a location in Charlotte, North Carolina, where we intend to invest at least \$180 million to establish the Albemarle Technology Park, a world-class facility designed for novel materials research, advanced process development, and acceleration of next-generation lithium products to market. We anticipate that innovations from the new site will enhance lithium recovery, improve production methods, and introduce new forms of lithium to enable breakthrough levels of battery performance. In addition, we anticipate the creation of at least 200 jobs at the site.
- We achieved net income of \$2.7 billion during 2022 compared to \$123.7 million for 2021. The increase in 2022 net income was primarily driven by increased lithium prices reflecting tight market conditions and greater volumes sold under index-referenced and variable-based contracts.
- Cash flows from operations in 2022 were \$1.9 billion compared to \$344.3 million in 2021.

Outlook

The current global business environment presents a diverse set of opportunities and challenges in the markets we serve. In particular, the market for lithium battery and energy storage, particularly for electric vehicles (“EVs”), remains strong, providing the opportunity to continue to develop high quality and innovative products while managing the high cost of expanding capacity. The other markets we serve continue to present various opportunities for value and growth as we have positioned ourselves to manage the impact on our business of changing global conditions, such as slow and uneven global growth, currency exchange volatility, crude oil price fluctuation, a dynamic pricing environment, an ever-changing landscape in electronics, the continuous need for cutting edge catalysts and technology by our refinery customers and increasingly stringent environmental standards. Amidst these dynamics, we believe our business fundamentals are sound and that we are strategically well-positioned as we remain focused on increasing sales volumes, optimizing and improving the value of our portfolio primarily through pricing and product development, managing costs and delivering value to our customers and shareholders. We believe that our businesses remain well-positioned to capitalize on new business opportunities and long-term trends driving growth within our end markets and to respond quickly to changes in economic conditions in these markets.

Beginning in the first quarter of 2023, the chief operating decision maker began evaluating performance, forecasting and making resource allocation decisions based on our previously announced realignment of the Lithium and Bromine global business units. The new corporate structure was designed to better meet customer needs and foster talent required to deliver in a competitive global environment. The realignment resulted in the following three reportable segments: (1) Energy Storage; (2) Specialties; and (3) Ketjen (Catalysts). The below segment outlook is presented in the new segment structure based on how the chief operating decision maker started reviewing the business starting in 2023.

Energy Storage: We expect Energy Storage results to increase year-over-year in 2023, mainly due to increased pricing as well as higher sales volume. The increased market pricing reflects tight market conditions, primarily in battery- and tech-grade carbonate and hydroxide, as well as renegotiations of certain of our long-term agreements. Since the beginning of 2022 market indices have increased 70% to 200%. Some of our renegotiated contracts include higher prices on existing long-term agreements that are more reflective of current market conditions. In other cases, we have moved from previous fixed-price, long-term agreements towards index-referenced and variable-priced contracts. As a result, our Energy Storage business is more aligned with changes in market and index pricing than it has been in the past. While we expect these prices to remain strong throughout the year, a material decline in these market prices would have a negative impact on our outlook. The increased sales volume is primarily expected from new capacity coming on line from La Negra, Chile, Kemerton, Western Australia, and the recently completed acquisition of Qinzhou, which includes a lithium hydroxide conversion plant designed to produce up to 25,000 metric tons of LCE per year. While we ramp up our new capacity, we will continue to utilize tolling arrangements to meet growing customer demand. EV sales are expected to continue to increase over the prior year as the lithium battery market remains strong.

We announced agreements for a strategic investment in China with plans to build a battery grade lithium conversion plant in Meishan initially targeting 50,000 metric tons of LCE per year. Construction of the Meishan facility is currently underway and is expected to be complete by the end of 2024. In addition, production of spodumene concentrate from the first and second trains at the Wodgina mine managed by our 60%-owned MARBL joint venture was achieved in May and July of this year, respectively. In February 2022, we announced that we signed a non-binding letter agreement with our MARBL joint venture partner, MRL, to explore a potential expansion of the MARBL joint venture, in an effort to expand lithium conversion capacity with increased optionality and reduced risk.

On a longer-term basis, we believe that demand for lithium will continue to grow as new lithium applications advance and the use of plug-in hybrid electric vehicles and full battery electric vehicles increases. This demand for lithium is supported by a favorable backdrop of steadily declining lithium-ion battery costs, increasing battery performance, continuing significant investments in the battery and EV supply chain by cathode and battery producers and automotive OEMs and favorable global public policy toward e-mobility/renewable energy usage. Our outlook is also bolstered by long-term supply agreements with key strategic customers, reflecting our standing as a preferred global lithium partner, highlighted by our scale, access to geographically diverse, low-cost resources and long-term track record of reliability of supply and operating execution.

Specialties: We expect both net sales and profitability to increase in 2023 due to strength in demand across our product portfolio that benefits from diverse end markets. One anticipated contributor to growth is the December 2022 launch of MercLok, a groundbreaking new bromine-based product that sequesters elemental and ionic mercury in the environment. Volumes are expected to increase compared to 2022 due to the continued successful execution of growth projects, assuming continued availability of raw materials like chlorine. In addition, Specialties' ongoing cost savings initiatives and higher pricing are expected to offset higher freight and raw material costs such as lithium chloride.

On a longer-term basis, we continue to believe that improving global standards of living, widespread digitization, increasing demand for data management capacity and the potential for increasingly stringent fire safety regulations in developing markets are likely to drive continued demand for fire safety products. We are focused on profitably growing our globally competitive bromine and derivatives production network to serve all major bromine consuming products and markets. The combination of our solid, long-term business fundamentals, strong cost position, product innovations and effective management of raw material costs should enable us to manage our business through end-market challenges and to capitalize on opportunities that are expected with favorable market trends in select end markets.

Ketjen (Catalysts): Total Ketjen results in 2023 are expected to increase year-over-year despite inflationary pressures in freight and input costs, including the volatility of natural gas pricing in Europe related to the war in Ukraine. These higher costs are expected to be offset by higher pricing in refining markets. Volume is expected to grow across each of the Ketjen businesses. The fluidized catalytic cracking ("FCC") market has recovered from the COVID-19 pandemic as a result of increased travel and depletion of global gasoline inventories. Hydroprocessing catalysts ("HPC") demand tends to be lumpier than FCC demand, but is expected to see a prolonged recovery due to refineries pushing out turnarounds. In addition, the Ketjen business is seeking contingent business interruption insurance settlements for lost income from 2019 to 2022 due to multiple incidents with one of its customers. If we prevail with these claims, we could receive these settlements in multiple distributions in 2023, totaling up to an additional \$47 million. Our decision to retain this business as a separate, wholly-owned subsidiary is intended to better meet customer needs and foster talent required to deliver in a competitive global environment.

On a longer-term basis, we believe increased global demand for transportation fuels, new refinery start-ups and ongoing adoption of cleaner fuels will be the primary drivers of growth in our Ketjen business. We believe delivering superior end-use performance continues to be the most effective way to create sustainable value in the refinery catalysts industry. We also believe our technologies continue to provide significant performance and financial benefits to refiners challenged to meet tighter regulations around the world, including those managing new contaminants present in North America tight oil, and those in the Middle East and Asia seeking to use heavier feedstock while pushing for higher propylene yields. Longer-term, we believe that the global crude supply will get heavier and more sour, a trend that bodes well for our catalysts portfolio. With superior technology and production capacities, and expected growth in end market demand, we believe that Ketjen remains well-positioned for the future. In performance catalyst solutions ("PCS"), we expect growth on a longer-term basis in our organometallics business due to growing global demand for plastics driven by rising standards of living and infrastructure spending.

Corporate: We continue to focus on cash generation, working capital management and process efficiencies. We expect our global effective tax rate will vary based on the locales in which income is actually earned and remains subject to potential volatility from changing legislation in the United States, such as the Inflation Reduction Act and the CHIPS and Science Act of 2022, and other tax jurisdictions.

Actuarial gains and losses related to our defined benefit pension and OPEB plan obligations are reflected in Corporate as a component of non-operating pension and OPEB plan costs under mark-to-market accounting. Results for the year ended December 31, 2022 include an actuarial gain of \$37.0 million (\$26.5 million after income taxes), as compared to a loss of \$56.9 million (\$43.6 million after income taxes) for the year ended December 31, 2021.

We remain committed to evaluating the merits of any opportunities that may arise for acquisitions or other business development activities that will complement our business footprint. Additional information regarding our products, markets and financial performance is provided at our website, www.albemarle.com. Our website is not a part of this document nor is it incorporated herein by reference.

Results of Operations

The following data and discussion provides an analysis of certain significant factors affecting our results of operations during the periods included in the accompanying consolidated statements of income.

Discussion of our results of operations for the year ended December 31, 2021 compared to the year ended December 31, 2020 can be found in Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2021.

Comparison of 2022 to 2021

Selected Financial Data

Net Sales

<i>In thousands</i>	2022	2021	\$ Change	% Change
Net sales	\$ 7,320,104	\$ 3,327,957	\$ 3,992,147	120 %

- \$3.5 billion of favorable pricing from each of our businesses, primarily in Lithium
- \$698.6 million of higher sales volume from each of our businesses, primarily in Lithium
- \$75.1 million decrease in net sales following the sale of the FCS business on June 1, 2021
- \$177.8 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies

Gross Profit

<i>In thousands</i>	2022	2021	\$ Change	% Change
Gross profit	\$ 3,074,587	\$ 997,971	\$ 2,076,616	208 %
Gross profit margin	42.0 %	30.0 %		

- Favorable pricing impacts and higher sales volume in all businesses, primarily in Lithium
- Increased commission expenses in Chile resulting from the higher pricing in Lithium
- Increased utility costs, primarily natural gas in Europe, and freight costs in each of our businesses
- Unfavorable currency exchange impacts resulting from the stronger U.S. Dollar against various currencies

Selling, General and Administrative ("SG&A") Expenses

<i>In thousands</i>	2022	2021	\$ Change	% Change
Selling, general and administrative expenses	\$ 524,145	\$ 441,482	\$ 82,663	19 %
Percentage of Net sales	7.2 %	13.3 %		

- Higher compensation, including incentive-based, expenses across all businesses and Corporate
- Increase in professional fees for various growth and improvement projects
- Partially offset by productivity improvements and a reduction in administrative costs
- 2021 included a \$20.0 million charitable contribution, using a portion of the proceeds received from the FCS divestiture, to the Albemarle Foundation, in addition to the normal annual contributions
- 2021 also included \$11.5 million of legal fees related to a legacy Rockwood legal matter and \$9.8 million of expenses in 2021 primarily related to non-routine labor and compensation related costs that are outside normal compensation arrangements

Research and Development Expenses

<i>In thousands</i>	2022	2021	\$ Change	% Change
Research and development expenses	\$ 71,981	\$ 54,026	\$ 17,955	33 %
Percentage of Net sales	1.0 %	1.6 %		

- Increased research and development spending in each of our businesses

Loss (Gain) on Sale of Business/Interest in Properties, Net

<i>In thousands</i>	2022	2021	\$ Change	% Change
Loss (gain) on sale of business/interest in properties, net	\$ 8,400	\$ (295,971)	\$ 304,371	

- 2022 expense related to cost overruns for MRL's 40% interest in lithium hydroxide conversion assets being built in Kemerton, Western Australia
- 2021 included a gain of \$428.4 million resulting from the sale of the FCS business on June 1, 2021
- A \$132.4 million expense related to cost overruns for MRL's 40% interest in lithium hydroxide conversion assets being built in Kemerton in 2021

Interest and Financing Expenses

<i>In thousands</i>	2022	2021	\$ Change	% Change
Interest and financing expenses	\$ (122,973)	\$ (61,476)	\$ (61,497)	100 %

- 2022 included a \$19.2 million loss on early extinguishment of debt, representing the tender premiums, fees, unamortized discounts, unamortized deferred financing costs and accelerated amortization of the interest rate swap balance from the redemption of debt during the second quarter of 2022
- 2022 also included an expense of \$17.5 million related to the correction of out of period errors regarding overstated capitalized interest values in prior periods
- 2021 included a \$29.0 million loss on early extinguishment of debt, representing the tender premiums, fees, unamortized discounts and unamortized deferred financing costs from the redemption of debt during the first quarter of 2021
- Increased debt balance during 2022 compared to 2021 following the issuance of \$1.7 billion in new senior notes

Other Income (Expenses), Net

<i>In thousands</i>	2022	2021	\$ Change	% Change
Other income (expenses), net	\$ 86,356	\$ (603,340)	\$ 689,696	(114)%

- 2021 included \$657.4 million of additional expense recorded following the settlement of an arbitration ruling for a prior legal matter. See Note 17, "Commitments and Contingencies," to our consolidated financial statements included in Part II, Item 8 of this report for further details
- \$39.4 million of indemnification expenses in 2021 primarily to revise an indemnification estimate for an ongoing tax-related matter of a previously disposed business in Germany
- \$21.8 million increase in foreign exchange losses
- \$5.3 million increase in income from accretion of discount in preferred equity of Grace subsidiary acquired as a portion of the proceeds of the FCS sale
- \$57.0 million of pension and OPEB credits (including mark-to-market actuarial gains of \$37.0 million) in 2022 as compared to \$78.8 million of pension and OPEB credits (including mark-to-market actuarial gains of \$56.9 million) in 2021
 - The mark-to-market actuarial gain in 2022 is primarily attributable to a significant increase in the weighted-average discount rate to 5.46% from 2.86% for our U.S. pension plans and to 4.04% from 1.44% for our foreign pension plans to reflect market conditions as of the December 31, 2022 measurement date. This was partially offset by a lower return on pension plan assets in 2022 than was expected, as a result of overall market and investment portfolio performance. The weighted-average actual return on our U.S. and foreign pension plan assets was (17.94)% versus an expected return of 6.48%.
 - The mark-to-market actuarial loss in 2021 is primarily attributable to a higher return on pension plan assets in 2021 than was expected, as a result of overall market and investment portfolio performance. The weighted-average actual return on our U.S. and foreign pension plan assets was 8.42% versus an expected return of 6.50%. In addition, there was an increase in the weighted-average discount rate to 2.86% from 2.50% for our U.S. pension plans and to 1.44% from 0.86% for our foreign pension plans to reflect market conditions as of the December 31, 2021 measurement date.

Income Tax Expense

<i>In thousands</i>	2022	2021	\$ Change	% Change
Income Tax Expense	\$ 390,588	\$ 29,446	\$ 361,142	1,226 %
Effective income tax rate	16.1 %	22.0 %		

- 2022 includes a \$91.8 million tax benefit resulting from the release of a valuation allowance in Australia, a \$72.6 million benefit resulting from foreign-derived intangible income, partially offset by a \$50.6 million current year tax reserve related to an uncertain tax position in Chile
- Change in geographic mix in earnings in 2022
- 2021 included \$148.9 million tax benefit resulting from an accrual recorded following an arbitration ruling related to a prior legal matter. See Note 17, "Commitments and Contingencies," to our consolidated financial statements included in Part II, Item 8 of this report for further details
- \$97.5 million one-time tax expense recorded for the gain on the sale of the FCS business in 2021
- \$27.9 million discrete tax benefit recorded in 2021 related to the indemnification estimate of an ongoing tax-related matter in Germany
- 2021 included a discrete tax expense due to an out-of-period adjustment for an overstated deferred tax liability recorded during the three-month period ended December 31, 2017

Equity in Net Income of Unconsolidated Investments

<i>In thousands</i>	2022	2021	\$ Change	% Change
Equity in net income of unconsolidated investments	\$ 772,275	\$ 95,770	\$ 676,505	706 %

- Increased earnings due to strong pricing and volume increases from the Talison joint venture
- \$10.9 million of favorable foreign exchange impacts from the Talison joint venture

Net Income Attributable to Noncontrolling Interests

<i>In thousands</i>	2022	2021	\$ Change	% Change
Net income attributable to noncontrolling interests	\$ (125,315)	\$ (76,270)	\$ (49,045)	64 %

- Increase in consolidated income related to our JBC joint venture due to favorable pricing

Net Income Attributable to Albemarle Corporation

<i>In thousands</i>	2022	2021	\$ Change	% Change
Net income attributable to Albemarle Corporation	\$ 2,689,816	\$ 123,672	\$ 2,566,144	2,075 %
Percentage of Net Sales	36.7 %	3.7 %		
Basic earnings per share	\$ 22.97	\$ 1.07	\$ 21.90	2,047 %
Diluted earnings per share	\$ 22.84	\$ 1.06	\$ 21.78	2,055 %

- Favorable pricing and increased sales volume in all businesses, particularly in Lithium
- Increased earnings from Talison joint venture
- Productivity improvements and a reduction in administrative costs
- Increased commission expenses in Chile resulting from the higher pricing in Lithium
- \$504.5 million, net of income taxes, of additional expense recorded following the settlement of an arbitration ruling for a prior legal matter in 2021
- Gain on sale of FCS business of \$330.9 million, net of tax in 2021
- \$132.4 million expense related to cost overruns for MRL's 40% interest in lithium hydroxide conversion assets being built in Kemerton in 2021
- Increased utility, primarily natural gas in Europe, and freight costs in each of our businesses
- Increased SG&A expenses, primarily related to increased compensation expense
- Increased interest and financing expenses due to higher debt balances
- Mark-to-market actuarial gains of \$26.5 million, net of income taxes, recorded in 2022 compared to mark-to-market actuarial gains of \$43.6 million, net of income taxes, recorded in 2021

Other Comprehensive (Loss) Income, Net of Tax

<i>In thousands</i>	2022	2021	\$ Change	% Change
Other comprehensive (loss) income, net of tax	\$ (168,295)	\$ (66,478)	\$ (101,817)	153 %
• Foreign currency translation	\$ (171,295)	\$ (74,385)	\$ (96,910)	130 %
▪ 2022 included unfavorable movements in the Chinese Renminbi of approximately \$74 million, the Euro of approximately \$64 million, the Japanese Yen of approximately \$14 million, the Taiwanese Dollar of approximately \$9 million, the South Korean Won of approximately \$5 million and the net unfavorable variance in other currencies totaling approximately \$6 million				
▪ 2022 included a \$0.9 million gain compared to a loss of \$5.4 million in 2021, representing adjustments to the fair value of our available-for-sale debt securities				
▪ 2021 included unfavorable movements in the Euro of approximately \$62 million, the Japanese Yen of approximately \$8 million, the Brazilian Real of approximately \$5 million, the South Korean Won of approximately \$4 million and the net unfavorable variance in other currencies totaling approximately \$5 million, partially offset by favorable movements in the Chinese Renminbi of approximately \$10 million				
• Net investment hedge	\$ —	\$ 5,110	\$ (5,110)	(100)%
• Cash flow hedge	\$ (4,399)	\$ 174	\$ (4,573)	*
• Interest rate swap	\$ 7,399	\$ 2,623	\$ 4,776	182 %
▪ Accelerated the amortization of the remaining interest rate swap balance in 2022 as a result of the repayment of the 4.15% senior notes in 2024				
• Percentage calculation is not meaningful				

Segment Information Overview. We have identified three reportable segments according to the nature and economic characteristics of our products as well as the manner in which the information is used internally by the Company's chief operating decision maker to evaluate performance and make resource allocation decisions. During 2022, our reportable business segments consisted of: (1) Lithium, (2) Bromine and (3) Catalysts.

Summarized financial information concerning our reportable segments is shown in the following tables. The "All Other" category included only the FCS business that did not fit into any of the Company's core businesses. On June 1, 2021, the Company completed the sale of the FCS business. Amounts in the "All Other" category represent activity in this business until divested on June 1, 2021.

The Corporate category is not considered to be a segment and includes corporate-related items not allocated to the operating segments. Pension and OPEB service cost (which represents the benefits earned by active employees during the period) and amortization of prior service cost or benefit are allocated to the reportable segments, All Other, and Corporate, whereas the remaining components of pension and OPEB benefits cost or credit ("Non-operating pension and OPEB items") are included in Corporate. Segment data includes intersegment transfers of raw materials at cost and allocations for certain corporate costs.

Our chief operating decision maker uses adjusted EBITDA (as defined below) to assess the ongoing performance of the Company's business segments and to allocate resources. We define adjusted EBITDA as earnings before interest and financing expenses, income tax expense, depreciation and amortization, as adjusted on a consistent basis for certain non-operating, non-recurring or unusual items in a balanced manner and on a segment basis. These non-operating, non-recurring or unusual items may include acquisition and integration-related costs, gains or losses on sales of businesses, restructuring charges, facility divestiture charges, certain litigation and arbitration costs and charges, non-operating pension and OPEB items and other significant non-recurring items. In addition, management uses adjusted EBITDA for business planning purposes and as a significant component in the calculation of performance-based compensation for management and other employees. We reported adjusted EBITDA because management believes it provides transparency to investors and enables period-to-period comparability of financial performance. Total adjusted EBITDA is a financial measure that is not required by, or presented in accordance with, the generally accepted accounting principles in the United States ("U.S. GAAP"). Adjusted EBITDA should not be considered as an alternative to Net (loss) income attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with U.S. GAAP, or any other financial measure reported in accordance with U.S. GAAP.

	Year Ended December 31,				Percentage Change
	2022	%	2021	%	2022 vs. 2021
(In thousands, except percentages)					
Net sales:					
Lithium	\$ 5,008,850	68.4 %	\$ 1,363,284	41.0 %	267 %
Bromine	1,411,682	19.3 %	1,128,343	33.9 %	25 %
Catalysts	899,572	12.3 %	761,235	22.9 %	18 %
All Other	—	— %	75,095	2.2 %	(100)%
Total net sales	<u>\$ 7,320,104</u>	<u>100.0 %</u>	<u>\$ 3,327,957</u>	<u>100.0 %</u>	<u>120 %</u>
Adjusted EBITDA:					
Lithium	\$ 3,102,662	89.3 %	\$ 479,538	55.1 %	547 %
Bromine	456,916	13.1 %	360,682	41.4 %	27 %
Catalysts	28,732	0.8 %	106,941	12.3 %	(73)%
All Other	—	— %	29,858	3.4 %	(100)%
Corporate	(112,453)	(3.2)%	(106,045)	(12.2)%	6 %
Total adjusted EBITDA	<u>\$ 3,475,857</u>	<u>100.0 %</u>	<u>\$ 870,974</u>	<u>100.0 %</u>	<u>299 %</u>

See below for a reconciliation of adjusted EBITDA, the non-GAAP financial measure, from Net income attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with U.S. GAAP, (in thousands):

	Lithium	Bromine	Catalysts	All Other	Corporate	Consolidated Total
2022						
Net income (loss) attributable to Albemarle Corporation	\$ 2,903,076	\$ 402,820	\$ (27,104)	\$ —	\$ (588,976)	\$ 2,689,816
Depreciation and amortization	189,347	54,096	51,417	—	5,981	300,841
Loss on sale of interest in properties ^(a)	8,400	—	—	—	—	8,400
Acquisition and integration related costs ^(b)	—	—	—	—	16,259	16,259
Interest and financing expenses ^(c)	—	—	—	—	122,973	122,973
Income tax expense	—	—	—	—	390,588	390,588
Non-operating pension and OPEB items	—	—	—	—	(57,032)	(57,032)
Other ^(d)	1,839	—	4,419	—	(2,246)	4,012
Adjusted EBITDA	\$ 3,102,662	\$ 456,916	\$ 28,732	\$ —	\$ (112,453)	\$ 3,475,857
2021						
Net income (loss) attributable to Albemarle Corporation	\$ 192,244	\$ 309,501	\$ 55,353	\$ 27,988	\$ (461,414)	\$ 123,672
Depreciation and amortization	138,772	51,181	51,588	1,870	10,589	254,000
Restructuring and other ^(e)	—	—	—	—	3,027	3,027
Loss (gain) on sale of business/interest in properties, net ^(f)	132,400	—	—	—	(428,371)	(295,971)
Acquisition and integration related costs ^(b)	—	—	—	—	12,670	12,670
Interest and financing expenses ^(c)	—	—	—	—	61,476	61,476
Income tax expense	—	—	—	—	29,446	29,446
Non-operating pension and OPEB items	—	—	—	—	(78,814)	(78,814)
Legal accrual ^(g)	—	—	—	—	657,412	657,412
Albemarle Foundation contribution ^(h)	—	—	—	—	20,000	20,000
Indemnification adjustments ⁽ⁱ⁾	—	—	—	—	39,381	39,381
Other ^(j)	16,122	—	—	—	28,553	44,675
Adjusted EBITDA	\$ 479,538	\$ 360,682	\$ 106,941	\$ 29,858	\$ (106,045)	\$ 870,974

- (a) Expense recorded as a result of revised estimates of the obligation to construct certain lithium hydroxide conversion assets in Kemerton, Western Australia, due to cost overruns from supply chain, labor and COVID-19 pandemic related issues. The corresponding obligation was recorded in Accrued liabilities to be transferred to Mineral Resources Limited (“MRL”), which maintains a 40% ownership interest in these Kemerton assets.
- (b) See Note 2, “Acquisitions,” for additional information.
- (c) Included in Interest and financing expenses is a loss on early extinguishment of debt of \$19.2 million and \$29.0 million for the years ended December 31, 2022 and 2021, respectively. See Note 14, “Long-term Debt,” for additional information. In addition, Interest and financing expenses for the year ended December 31, 2022 includes the correction of an out of period error of \$17.5 million related to the overstatement of capitalized interest in prior periods.
- (d) Included amounts for the year ended December 31, 2022 recorded in:
- Cost of goods sold - \$2.7 million of expense related to one-time retention payments for certain employees during the Catalysts strategic review and business unit realignment, and \$0.5 million related to the settlement of a legal matter resulting from a prior acquisition.
 - SG&A - \$4.3 million related to facility closure expenses of offices in Germany, \$2.8 million of charges for environmental reserves at sites not part of our operations, \$2.8 million of shortfall contributions for our multiemployer plan financial improvement plan, \$1.9 million of expense primarily related to one-time retention payments for certain employees during the Catalysts strategic review, partially offset by \$4.3 million of gains from the sale of legacy properties not part of our operations.
 - Other income (expenses), net - \$4.3 million net gain related to the fair value adjustment of equity securities in a public company, a \$3.0 million gain from the reversal of a liability related to a previous divestiture, a \$2.0 million gain relating to the adjustment of an environmental reserve at non-operating businesses we have previously divested and a \$0.6 million gain related to a

settlement received from a legal matter in a prior period, partially offset by a \$3.2 million loss resulting from the adjustment of indemnification related to previously disposed businesses.

- (e) In 2021, we recorded facility closure related to offices in Germany, and severance expenses in Germany and Belgium, in SG&A.
- (f) Includes a \$428.4 million gain related to the FCS divestiture recorded during the year ended December 31, 2021. In addition, includes a \$132.4 million expense related to anticipated cost overruns for MRL's 40% interest in lithium hydroxide conversion assets being built in Kemerton.
- (g) Loss recorded in Other income (expenses), net for the year ended December 31, 2021 related to the settlement of an arbitration ruling for a prior legal matter. See Note 17, "Commitments and Contingencies," for further details.
- (h) Included in SG&A is a charitable contribution, using a portion of the proceeds received from the FCS divestiture, to the Albemarle Foundation, a non-profit organization that sponsors grants, health and social projects, educational initiatives, disaster relief, matching gift programs, scholarships and other charitable initiatives in locations where the Company's employees live and the Company operates. This contribution is in addition to the normal annual contribution made to the Albemarle Foundation by the Company, and is significant in size and nature in that it is intended to provide more long-term benefits in these communities.
- (i) Included in Other income (expenses), net to revise an indemnification estimate for an ongoing tax-related matter of a previously disposed business in Germany. A corresponding discrete tax benefit of \$27.9 million was recorded in Income tax expense during the same period, netting to an expected cash obligation of approximately \$11.5 million.
- (j) Included amounts for the year ended December 31, 2021 recorded in:
- Cost of goods sold - \$10.5 million of expense related to a legal matter as part of a prior acquisition in our Lithium business.
 - SG&A - \$11.5 million of legal fees related to a legacy Rockwood legal matter noted above, \$9.8 million of expenses primarily related to non-routine labor and compensation related costs that are outside normal compensation arrangements, a \$4.0 million loss resulting from the sale of property, plant and equipment and \$3.8 million of charges for environmental reserves at a sites not part of our operations.
 - Other income (expenses), net - \$4.8 million of net expenses primarily related to asset retirement obligation charges to update of an estimate at a site formerly owned by Albemarle.

Lithium

<i>In thousands</i>	2022	2021	\$ Change	% Change
Net sales	\$ 5,008,850	\$ 1,363,284	\$ 3,645,566	267 %
<ul style="list-style-type: none"> • \$3.2 billion of favorable pricing impacts, reflecting tight market conditions, primarily in battery- and tech-grade carbonate and hydroxide, as well as greater volumes sold under index-referenced and variable-priced contracts, and mix • \$549.2 million of higher sales volume, driven by the La Negra III/IV expansion in Chile and increased tolling volume to meet growing customer demand • \$133.1 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				
Adjusted EBITDA	\$ 3,102,662	\$ 479,538	\$ 2,623,124	547 %
<ul style="list-style-type: none"> • Favorable pricing impacts and higher sales volume • Higher equity in net income from the Talison joint venture, driven by increased pricing and sales volume • Savings from designed productivity improvements • Increased commission expenses in Chile resulting from the higher pricing in Lithium • Increased SG&A expenses from higher compensation and other administrative costs • Increased utility and freight costs • Increased spending for investments to support business growth • \$2.2 million of unfavorable currency translation resulting from a stronger Chilean Peso 				

Bromine

<i>In thousands</i>	2022	2021	\$ Change	% Change
Net sales	\$ 1,411,682	\$ 1,128,343	\$ 283,339	25 %
<ul style="list-style-type: none"> • \$260.6 million of favorable pricing impacts, primarily in the fire safety solutions division • \$49.8 million of higher sales volume related to increased demand across all products • \$26.9 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				
Adjusted EBITDA	\$ 456,916	\$ 360,682	\$ 96,234	27 %
<ul style="list-style-type: none"> • Favorable pricing impacts and higher sales volume • Increased freight costs, partially due to trucker strikes in Jordan during the fourth quarter of 2022 • Increased utility costs and raw material prices, primarily due to the higher costs of bisphenol A (BPA) • Increased SG&A expenses from higher compensation costs • 2021 included higher production and utility costs of approximately \$6 million resulting from the U.S. Gulf Coast winter storm • \$19.9 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				

Catalysts

<i>In thousands</i>	2022	2021	\$ Change	% Change
Net sales	\$ 899,572	\$ 761,235	\$ 138,337	18 %
<ul style="list-style-type: none"> \$99.7 million of higher sales volume, primarily from the timing of clean fuel technologies sales, which has lumpier demand; sales volume was negatively affected by the impacts of a winter freeze in the U.S. during the fourth quarter of 2022 \$56.5 million of favorable pricing impacts, primarily in clean fuel technologies and PCS \$17.8 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				
Adjusted EBITDA	\$ 28,732	\$ 106,941	\$ (78,209)	(73)%
<ul style="list-style-type: none"> Increased utility costs, primarily natural gas in Europe Increased raw material and freight costs Higher sales volume and favorable pricing impacts; adjusted EBITDA was negatively affected by the impacts of a winter freeze in the U.S. during the fourth quarter of 2022 2022 benefited from \$7 million of government grants from the Netherlands in response to losses during the COVID-19 pandemic as compared to \$19 million of these grants in 2021 Recorded \$10 million gain from contingent business interruption insurance settlements resulting from lost income during 2019 to 2022 due to multiple incidents at one of its customers 2021 included higher production and utility costs of approximately \$16 million resulting from the U.S. Gulf Coast winter storm 2021 included a \$3.1 million out-of-period adjustment expense recorded in Cost of goods sold to correct inventory foreign exchange values relating to prior year periods 				

All Other

<i>In thousands</i>	2022	2021	\$ Change	% Change
Net sales	\$ —	\$ 75,095	\$ (75,095)	(100)%
<ul style="list-style-type: none"> Decreased volume resulting from the sale of the FCS business in the second quarter of 2021 				
Adjusted EBITDA	\$ —	\$ 29,858	\$ (29,858)	(100)%
<ul style="list-style-type: none"> Decreased volume resulting from the sale of the FCS business in the second quarter of 2021 				

Corporate

<i>In thousands</i>	2022	2021	\$ Change	% Change
Adjusted EBITDA	\$ (112,453)	\$ (106,045)	\$ (6,408)	6 %
<ul style="list-style-type: none"> Increase in compensation costs, including incentive-based compensation \$10.9 million of unfavorable currency exchange impacts, including a \$10.9 million increase in foreign currency impacts from our Talison joint venture 				

Summary of Critical Accounting Policies and Estimates**Estimates, Assumptions and Reclassifications**

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements. Listed below are the estimates and assumptions that we consider to be critical in the preparation of our financial statements.

Property, Plant and Equipment. We assign the useful lives of our property, plant and equipment based upon our internal engineering estimates which are reviewed periodically. The estimated useful lives of our property, plant and equipment range from two to sixty years and depreciation is recorded on the straight-line method, with the exception of our mineral rights and reserves, which are depleted on a units-of-production method. We evaluate the recovery of our property, plant and equipment by comparing the net carrying value of the asset group to the undiscounted net cash flows expected to be generated from the use and eventual disposition of that asset group when events or changes in circumstances indicate that its carrying amount may not be recoverable. If the carrying amount of the asset group is not recoverable, the fair value of the asset group is measured and if the carrying amount exceeds the fair value, an impairment loss is recognized.

Acquisition Method of Accounting. We recognize the identifiable assets acquired, the liabilities assumed and any noncontrolling interest in the acquiree at their estimated fair values on the date of acquisition for acquired businesses. Determining the fair value of these items requires management's judgment and the utilization of independent valuation

specialists and involves the use of significant estimates and assumptions with respect to the timing and amounts of future cash flows and discount rates, among other items. When acquiring mineral reserves, the fair value is estimated using an excess earnings approach, which requires management to estimate future cash flows, net of capital investments in the specific operation. Management's cash flow projections involved the use of significant estimates and assumptions with respect to the expected production of the mine over the estimated time period, sales prices, shipment volumes, and expected profit margins. The present value of the projected net cash flows represents the preliminary fair value assigned to mineral reserves. The discount rate is a significant assumption used in the valuation model. The judgments made in the determination of the estimated fair value assigned to the assets acquired, the liabilities assumed and any noncontrolling interest in the investee, as well as the estimated useful life of each asset and the duration of each liability, can materially impact the financial statements in periods after acquisition, such as through depreciation and amortization expense. For more information on our acquisitions and application of the acquisition method, see Note 2, "Acquisitions," to our consolidated financial statements included in Part II, Item 8 of this report.

Income Taxes. We assume the deductibility of certain costs in our income tax filings, and we estimate the future recovery of deferred tax assets, uncertain tax positions and indefinite investment assertions.

Environmental Remediation Liabilities. We estimate and accrue the costs required to remediate a specific site depending on site-specific facts and circumstances. Cost estimates to remediate each specific site are developed by assessing (i) the scope of our contribution to the environmental matter, (ii) the scope of the anticipated remediation and monitoring plan and (iii) the extent of other parties' share of responsibility.

Actual results could differ materially from the estimates and assumptions that we use in the preparation of our financial statements.

Revenue Recognition

Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services, and is recognized when performance obligations are satisfied under the terms of contracts with our customers. A performance obligation is deemed to be satisfied when control of the product or service is transferred to our customer. The transaction price of a contract, or the amount we expect to receive upon satisfaction of all performance obligations, is determined by reference to the contract's terms and includes adjustments, if applicable, for any variable consideration, such as customer rebates, noncash consideration or consideration payable to the customer, although these adjustments are generally not material. Where a contract contains more than one distinct performance obligation, the transaction price is allocated to each performance obligation based on the standalone selling price of each performance obligation, although these situations do not occur frequently and are generally not built into our contracts. Any unsatisfied performance obligations are not material. Standalone selling prices are based on prices we charge to our customers, which in some cases are based on established market prices. Sales and other similar taxes collected from customers on behalf of third parties are excluded from revenue. Our payment terms are generally between 30 to 90 days, however, they vary by market factors, such as customer size, creditworthiness, geography and competitive environment.

All of our revenue is derived from contracts with customers, and almost all of our contracts with customers contain one performance obligation for the transfer of goods where such performance obligation is satisfied at a point in time. Control of a product is deemed to be transferred to the customer upon shipment or delivery. Significant portions of our sales are sold free on board shipping point or on an equivalent basis, while delivery terms of other transactions are based upon specific contractual arrangements. Our standard terms of delivery are generally included in our contracts of sale, order confirmation documents and invoices, while the timing between shipment and delivery generally ranges between 1 and 45 days. Costs for shipping and handling activities, whether performed before or after the customer obtains control of the goods, are accounted for as fulfillment costs.

The Company currently utilizes the following practical expedients, as permitted by Accounting Standards Codification ("ASC") 606, *Revenue from Contracts with Customers*:

- All sales and other pass-through taxes are excluded from contract value;
- In utilizing the modified retrospective transition method, no adjustment was necessary for contracts that did not cross over the reporting year;
- We will not consider the possibility of a contract having a significant financing component (which would effectively attribute a portion of the sales price to interest income) unless, if at contract inception, the expected payment terms (from time of delivery or other relevant criterion) are more than one year;

- If our right to customer payment is directly related to the value of our completed performance, we recognize revenue consistent with the invoicing right; and
- We expense as incurred all costs of obtaining a contract incremental to any costs/compensation attributable to individual product sales/shipments for contracts where the amortization period for such costs would otherwise be one year or less.

Certain products we produce are made to our customer's specifications where such products have no alternative use or would need significant rework costs in order to be sold to another customer. In management's judgment, control of these arrangements is transferred to the customer at a point in time (upon shipment or delivery) and not over the time they are produced. Therefore revenue is recognized upon shipment or delivery of these products.

Costs incurred to obtain contracts with customers are not significant and are expensed immediately as the amortization period would be one year or less. When the Company incurs pre-production or other fulfillment costs in connection with an existing or specific anticipated contract and such costs are recoverable through margin or explicitly reimbursable, such costs are capitalized and amortized to Cost of goods sold on a systematic basis that is consistent with the pattern of transfer to the customer of the goods or services to which the asset relates, which is less than one year. We record bad debt expense in specific situations when we determine the customer is unable to meet its financial obligation.

Goodwill and Other Intangible Assets

We account for goodwill and other intangibles acquired in a business combination in conformity with current accounting guidance which requires goodwill and indefinite-lived intangible assets to not be amortized.

We test goodwill for impairment by comparing the estimated fair value of our reporting units to the related carrying value. Our reporting units are either our operating business segments or one level below our operating business segments for which discrete financial information is available and for which operating results are regularly reviewed by the business management. In applying the goodwill impairment test, we initially perform a qualitative test ("Step 0"), where we first assess qualitative factors to determine whether it is more likely than not that the fair value of the reporting units is less than its carrying value. Qualitative factors may include, but are not limited to, economic conditions, industry and market considerations, cost factors, overall financial performance of the reporting units and other entity and reporting unit specific events. If after assessing these qualitative factors, we determine it is "more-likely-than-not" that the fair value of the reporting unit is less than the carrying value, we perform a quantitative test ("Step 1"). During Step 1, we estimate the fair value based on present value techniques involving future cash flows. Future cash flows for all reporting units include assumptions about revenue growth rates, adjusted EBITDA margins, discount rate as well as other economic or industry-related factors. For the Refining Solutions reporting unit, the revenue growth rates, adjusted EBITDA margins and the discount rate were deemed to be significant assumptions. Significant management judgment is involved in estimating these variables and they include inherent uncertainties since they are forecasting future events. We use a Weighted Average Cost of Capital ("WACC") approach to determine our discount rate for goodwill recoverability testing. Our WACC calculation incorporates industry-weighted average returns on debt and equity from a market perspective. The factors in this calculation are largely external to Albemarle and, therefore, are beyond our control. We perform a sensitivity analysis by using a range of inputs to confirm the reasonableness of these estimates being used in the goodwill impairment analysis. We test our recorded goodwill for impairment in the fourth quarter of each year or upon the occurrence of events or changes in circumstances that would more likely than not reduce the fair value of our reporting units below their carrying amounts. We performed our annual goodwill impairment test as of October 31, 2022 and no evidence of impairment was noted from the analysis. As a result, we concluded there was no impairment as of that date. However, if the adjusted EBITDA or discount rate estimates for the Refining Solutions reporting unit negatively changed by 10%, the Refining Solutions fair value would be below its carrying value.

We assess our indefinite-lived intangible assets, which include trade names and trademarks, for impairment annually and between annual tests if events or changes in circumstances indicate that it is more likely than not that the asset is impaired. The indefinite-lived intangible asset impairment standard allows us to first assess qualitative factors to determine if a quantitative impairment test is necessary. Further testing is only required if we determine, based on the qualitative assessment, that it is more likely than not that the indefinite-lived intangible asset's fair value is less than its carrying amount. If we determine based on the qualitative assessment that it is more likely than not that the asset is impaired, an impairment test is performed by comparing the fair value of the indefinite-lived intangible asset to its carrying amount. During the year ended December 31, 2022, no evidence of impairment was noted from the analysis for our indefinite-lived intangible assets.

Definite-lived intangible assets, such as purchased technology, patents and customer lists, are amortized over their estimated useful lives generally for periods ranging from five to twenty-five years. Except for customer lists and relationships associated with the majority of our Lithium business, which are amortized using the pattern of economic benefit method,

definite-lived intangible assets are amortized using the straight-line method. We evaluate the recovery of our definite-lived intangible assets by comparing the net carrying value of the asset group to the undiscounted net cash flows expected to be generated from the use and eventual disposition of that asset group when events or changes in circumstances indicate that its carrying amount may not be recoverable. If the carrying amount of the asset group is not recoverable, the fair value of the asset group is measured and if the carrying amount exceeds the fair value, an impairment loss is recognized. See Note 12, "Goodwill and Other Intangibles," to our consolidated financial statements included in Part II, Item 8 of this report.

Pension Plans and Other Postretirement Benefits

Under authoritative accounting standards, assumptions are made regarding the valuation of benefit obligations and the performance of plan assets. As required, we recognize a balance sheet asset or liability for each of our pension and OPEB plans equal to the plan's funded status as of the measurement date. The primary assumptions are as follows:

- **Discount Rate**—The discount rate is used in calculating the present value of benefits, which is based on projections of benefit payments to be made in the future.
- **Expected Return on Plan Assets**—We project the future return on plan assets based on prior performance and future expectations for the types of investments held by the plans as well as the expected long-term allocation of plan assets for these investments. These projected returns reduce the net benefit costs recorded currently.
- **Rate of Compensation Increase**—For salary-related plans, we project employees' annual pay increases, which are used to project employees' pension benefits at retirement.
- **Mortality Assumptions**—Assumptions about life expectancy of plan participants are used in the measurement of related plan obligations.

Actuarial gains and losses are recognized annually in our consolidated statements of income in the fourth quarter and whenever a plan is determined to qualify for a remeasurement during a fiscal year. The remaining components of pension and OPEB plan expense, primarily service cost, interest cost and expected return on assets, are recorded on a monthly basis. The market-related value of assets equals the actual market value as of the date of measurement.

During 2022, we made changes to assumptions related to discount rates and expected rates of return on plan assets. We consider available information that we deem relevant when selecting each of these assumptions.

Our U.S. defined benefit plans for non-represented employees are closed to new participants, with no additional benefits accruing under these plans as participants' accrued benefits have been frozen. In selecting the discount rates for the U.S. plans, we consider expected benefit payments on a plan-by-plan basis. As a result, the Company uses different discount rates for each plan depending on the demographics of participants and the expected timing of benefit payments. For 2022, the discount rates were calculated using the results from a bond matching technique developed by Milliman, which matched the future estimated annual benefit payments of each respective plan against a portfolio of bonds of high quality to determine the discount rate. We believe our selected discount rates are determined using preferred methodology under authoritative accounting guidance and accurately reflect market conditions as of the December 31, 2022 measurement date.

In selecting the discount rates for the foreign plans, we look at long-term yields on AA-rated corporate bonds when available. Our actuaries have developed yield curves based on the yields of constituent bonds in the various indices as well as on other market indicators such as swap rates, particularly at the longer durations. For the Eurozone, we apply the Aon Hewitt yield curve to projected cash flows from the relevant plans to derive the discount rate. For the U.K., the discount rate is determined by applying the Aon Hewitt yield curve for typical schemes of similar duration to projected cash flows of Albemarle's U.K. plan. In other countries where there is not a sufficiently deep market of high-quality corporate bonds, we set the discount rate by referencing the yield on government bonds of an appropriate duration.

At December 31, 2022, the weighted-average discount rate for the U.S. and foreign pension plans increased to 5.46% and 4.04%, respectively, from 2.86% and 1.44%, respectively, at December 31, 2021 to reflect market conditions as of the December 31, 2022 measurement date. The discount rate for the OPEB plans at December 31, 2022 and 2021 was 5.45% and 2.85%, respectively.

In estimating the expected return on plan assets, we consider past performance and future expectations for the types of investments held by the plan as well as the expected long-term allocations of plan assets to these investments. For the years 2022 and 2021, the weighted-average expected rate of return on U.S. pension plan assets was 6.89%, and the weighted-average expected rate of return on foreign pension plan assets was 3.85% and 3.98%, respectively. Effective January 1, 2023, the weighted-average expected rate of return on U.S. and foreign pension plan assets is 6.88% and 4.86%, respectively.

In projecting the rate of compensation increase, we consider past experience in light of changes in inflation rates. At December 31, 2022 and 2021, the assumed weighted-average rate of compensation increase was 3.67% and 3.20%, respectively, for our foreign pension plans.

For the purpose of measuring our U.S. pension and OPEB obligations at December 31, 2022 and 2021, we used the Pri-2012 Mortality Tables along with the MP-2021 Mortality Improvement Scale, respectively, published by the SOA.

At December 31, 2022, the assumed rate of increase in the pre-65 and post-65 per capita cost of covered health care benefits for U.S. retirees was zero as the employer-paid premium caps (pre-65 and post-65) were met starting January 1, 2013.

A variance in the assumptions discussed above would have an impact on the projected benefit obligations, the accrued OPEB liabilities, and the annual net periodic pension and OPEB cost. The following table reflects the sensitivities associated with a hypothetical change in certain assumptions, primarily in the U.S. (in thousands):

	(Favorable) Unfavorable			
	1% Increase		1% Decrease	
	Increase (Decrease) in Benefit Obligation	Increase (Decrease) in Benefit Cost	Increase (Decrease) in Benefit Obligation	Increase (Decrease) in Benefit Cost
Actuarial Assumptions				
Discount Rate:				
Pension	\$ (60,603)	\$ 2,670	\$ 71,494	\$ (3,289)
Other postretirement benefits	\$ (2,822)	\$ 158	\$ 3,293	\$ (193)
Expected return on plan assets:				
Pension	*	\$ (5,066)	*	\$ 5,066
Other postretirement benefits	*	\$ —	*	\$ —

* Not applicable.

Of the \$528.1 million total pension and postretirement assets at December 31, 2022, \$68.7 million, or approximately 13%, are measured using the net asset value as a practical expedient. Gains or losses attributable to these assets are recognized in the consolidated balance sheets as either an increase or decrease in plan assets. See Note 15, "Pension Plans and Other Postretirement Benefits," to our consolidated financial statements included in Part II, Item 8 of this report.

Income Taxes

We use the liability method for determining our income taxes, under which current and deferred tax liabilities and assets are recorded in accordance with enacted tax laws and rates. Under this method, the amounts of deferred tax liabilities and assets at the end of each period are determined using the tax rate expected to be in effect when taxes are actually paid or recovered. Future tax benefits are recognized to the extent that realization of such benefits is more likely than not. In order to record deferred tax assets and liabilities, we are following guidance under ASU 2015-17, which requires deferred tax assets and liabilities to be classified as noncurrent on the balance sheet, along with any related valuation allowance. Tax effects are released from Accumulated Other Comprehensive Income using either the specific identification approach or the portfolio approach based on the nature of the underlying item.

Deferred income taxes are provided for the estimated income tax effect of temporary differences between the financial statement carrying amounts and the tax basis of existing assets and liabilities. Deferred tax assets are also provided for operating losses, capital losses and certain tax credit carryovers. A valuation allowance, reducing deferred tax assets, is established when it is more likely than not that some portion or all of the deferred tax assets will not be realized. The realization of such deferred tax assets is dependent upon the generation of sufficient future taxable income of the appropriate character. Although realization is not assured, we do not establish a valuation allowance when we believe it is more likely than not that a net deferred tax asset will be realized. We elected to not consider the estimated impact of potential future Corporate Alternative Minimum Tax liabilities for purposes of assessing valuation allowances on its deferred tax balances.

We only recognize a tax benefit after concluding that it is more likely than not that the benefit will be sustained upon audit by the respective taxing authority based solely on the technical merits of the associated tax position. Once the recognition threshold is met, we recognize a tax benefit measured as the largest amount of the tax benefit that, in our judgment, is greater than 50% likely to be realized. Interest and penalties related to income tax liabilities are included in Income tax expense on the consolidated statements of income.

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. Due to the statute of limitations, we are no longer subject to U.S. federal income tax audits by the Internal Revenue Service (“IRS”) for years prior to 2019. Due to the statute of limitations, we also are no longer subject to U.S. state income tax audits prior to 2017.

With respect to jurisdictions outside the U.S., several audits are in process. We have audits ongoing for the years 2011 through 2022 in Germany, Italy, Belgium, South Africa, China, Canada and Chile, some of which are for entities that have since been divested.

While we believe we have adequately provided for all tax positions, amounts asserted by taxing authorities could be greater than our accrued position. Accordingly, additional provisions on federal and foreign tax-related matters could be recorded in the future as revised estimates are made or the underlying matters are settled or otherwise resolved.

Since the timing of resolutions and/or closure of tax audits are uncertain, it is difficult to predict with certainty the range of reasonably possible significant increases or decreases in the liability related to uncertain tax positions that may occur within the next twelve months. Our current view is that it is reasonably possible that we could record a decrease in the liability related to uncertain tax positions, relating to a number of issues, up to approximately \$0.3 million as a result of closure of tax statutes. As a result of the sale of the Chemetall Surface Treatment business in 2016, we agreed to indemnify certain income and non-income tax liabilities, including uncertain tax positions, associated with the entities sold. The associated liability is recorded in Other noncurrent liabilities. See Note 16, “Other Noncurrent Liabilities,” and Note 21, “Income Taxes,” to our consolidated financial statements included in Part II, Item 8 of this report for further details.

We have designated the undistributed earnings of a portion of our foreign operations as indefinitely reinvested and as a result we do not provide for deferred income taxes on the unremitted earnings of these subsidiaries. Our foreign earnings are computed under U.S. federal tax earnings and profits (“E&P”) principles. In general, to the extent our financial reporting book basis over tax basis of a foreign subsidiary exceeds these E&P amounts, deferred taxes have not been provided, as they are essentially permanent in duration. The determination of the amount of such unrecognized deferred tax liability is not practicable. We provide for deferred income taxes on our undistributed earnings of foreign operations that are not deemed to be indefinitely invested. We will continue to evaluate our permanent investment assertion taking into consideration all relevant and current tax laws.

Financial Condition and Liquidity

Overview

The principal uses of cash in our business generally have been capital investments and resource development costs, funding working capital, and service of debt. We also make contributions to our defined benefit pension plans, pay dividends to our shareholders and have the ability to repurchase shares of our common stock. Historically, cash to fund the needs of our business has been principally provided by cash from operations, debt financing and equity issuances.

We are continually focused on working capital efficiency particularly in the areas of accounts receivable, payables and inventory. We anticipate that cash on hand, cash provided by operating activities, proceeds from divestitures and borrowings will be sufficient to pay our operating expenses, satisfy debt service obligations, fund capital expenditures and other investing activities, fund pension contributions and pay dividends for the foreseeable future.

Cash Flow

Our cash and cash equivalents were \$1.5 billion at December 31, 2022 as compared to \$439.3 million at December 31, 2021. Cash provided by operating activities was \$1.9 billion, \$344.3 million and \$798.9 million during the years ended December 31, 2022, 2021 and 2020, respectively.

The increase in cash provided by operating activities in 2022 versus 2021 was primarily due to significantly higher earnings from the Lithium and Bromine segments and higher dividends received from unconsolidated investments, primarily from the Talison joint venture. This increase was partially offset by an increase in working capital outflow driven by higher inventory and accounts receivable balances from higher lithium pricing and increased sales. The decrease in cash provided by operating activities in 2021 versus 2020 was primarily due to the \$332.5 million payment to settle a prior legal matter, lower earnings from the FCS business sold on June 1, 2021, as well as increased inventory balances and accounts receivable due to the timing of payments. This was partially offset by increased sales in our Lithium and Bromine segments.

During 2022, cash on hand, cash provided by operations and the proceeds of \$2.0 billion in long-term debt and credit agreements funded \$1.3 billion of capital expenditures for plant, machinery and equipment, the repayment of long-term debt

and credit agreements of \$705.0 million, the net repayment of \$391.7 million of commercial paper, the final payment of \$332.5 million of a settlement of an arbitration ruling for a prior legal matter and dividends to shareholders of \$184.4 million. During 2021, cash on hand, cash provided by operations, net cash proceeds of \$289.8 million from the sale of the FCS business, \$388.5 million of commercial paper borrowings and the \$1.5 billion net proceeds from our underwritten public offering of common stock funded debt principal payments of approximately \$1.5 billion, early extinguishment of debt fees of \$24.9 million, \$332.5 million of a settlement of an arbitration ruling for a prior legal matter, \$953.7 million of capital expenditures for plant, machinery and equipment, dividends to shareholders of \$177.9 million, and pension and postretirement contributions of \$30.3 million. During 2020, cash on hand, cash provided by operations and proceeds from borrowings of \$200 million from one of our credit facilities funded \$850.0 million of capital expenditures for plant, machinery and equipment, dividends to shareholders of \$161.8 million, and pension and postretirement contributions of \$16.4 million. In addition, during 2020 we received \$11.0 million in proceeds from the sale of our ownership interest in the SOCC joint venture during and paid \$22.6 million of agreed upon purchase price adjustments for the Wodgina Project acquisition. In addition, during the years ended December 31, 2022, 2021 and 2020, our consolidated joint venture, JBC, declared dividends of \$274.5 million, \$274.6 million and \$89.9 million, respectively, which resulted in dividends paid to noncontrolling interests of \$44.2 million (\$53.1 million declared in 2022 was paid in the first quarter of 2023), \$96.1 million and \$32.1 million, respectively.

On October 25, 2022, the Company completed the acquisition of all of the outstanding equity of Qinzhou, for approximately \$200 million in cash, which includes a deferral of approximately \$29 million to be paid in installments within a year of the acquisition closing date. Qinzhou's operations include a recently constructed lithium processing plant strategically positioned near the Port of Qinzhou in Guangxi, which began commercial production in the first half of 2022. The plant has designed annual conversion capacity of up to 25,000 metric tonnes of LCE and is capable of producing battery-grade lithium carbonate and lithium hydroxide.

On May 13, 2022, the Company issued a series of notes (collectively, the "2022 Notes") as follows:

- \$650.0 million aggregate principal amount of senior notes, bearing interest at a rate of 4.65% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 4.84%. These senior notes mature on June 1, 2027.
- \$600.0 million aggregate principal amount of senior notes, bearing interest at a rate of 5.05% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 5.18%. These senior notes mature on June 1, 2032.
- \$450.0 million aggregate principal amount of senior notes, bearing interest at a rate of 5.65% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 5.71%. These senior notes mature on June 1, 2052.

The net proceeds from the issuance of the 2022 Notes were used to repay the balance of the commercial paper notes, the remaining balance of \$425.0 million of the 4.15% Senior Notes due 2024 (the "2024 Notes") and for general corporate purposes. The 2024 Notes were originally due to mature on December 15, 2024 and bore interest at a rate of 4.15%. During the year ended December 31, 2022, the Company recorded a loss on early extinguishment of debt of \$19.2 million in Interest and financing expenses, representing the tender premiums, fees, unamortized discounts and unamortized deferred financing costs from the redemption of the 2024 Notes. In addition, the loss on early extinguishment of debt includes the accelerated amortization of the interest rate swap associated with the 2024 Notes from Accumulated other comprehensive income.

On June 1, 2021, we completed the sale of the FCS business to Grace for proceeds of approximately \$570 million, consisting of \$300 million in cash and the issuance to Albemarle of preferred equity of a Grace subsidiary having an aggregate stated value of \$270 million. The preferred equity can be redeemed at Grace's option under certain conditions and will accrue payment-in-kind dividends at an annual rate of 12% beginning on June 1, 2023, two years after issuance.

On February 8, 2021, we completed an underwritten public offering of 8,496,773 shares of our common stock at a price to the public of \$153.00 per share. We also granted to the underwriters an option to purchase up to an additional 1,274,509 shares, which was exercised. The total gross proceeds from this offering were approximately \$1.5 billion, before deducting expenses, underwriting discounts and commissions. In the first quarter of 2021, we made the following debt principal payments using the net proceeds from this underwritten public offering:

- €123.8 million of the 1.125% notes due in November 2025
- €393.0 million, the remaining balance, of the 1.875% Senior notes originally due in December 2021
- \$128.4 million of the 3.45% senior notes due in November 2029
- \$200.0 million, the remaining balance, of the floating rate notes originally due in November 2022

- €183.3 million, the outstanding balance, of the unsecured credit facility originally entered into on August 14, 2019, as amended and restated on December 15, 2020 (the “2019 Credit Facility”)
- \$325.0 million, the outstanding balance, of the commercial paper notes

Capital expenditures were \$1.3 billion, \$953.7 million and \$850.5 million for the years ended December 31, 2022, 2021 and 2020, respectively, and were incurred mainly for plant, machinery and equipment. We expect our capital expenditures to be between \$1.7 billion and \$1.9 billion in 2023 primarily for Energy Storage growth and capacity increases, including in Australia, Chile, China and Silver Peak, Nevada, as well as productivity and continuity of operations projects in all segments. Our La Negra, Chile plant has completed the qualification stage and is running as expected. Train I of our Kemerton, Western Australia plant is complete and ramping through the commissioning stage. Train II has achieved mechanical completion and transitioned to the commissioning stage, with commercial sales volume from Train II expected to begin in 2023. In addition, construction of our announced lithium conversion plant in Meishan, China is progressing on schedule, with estimated completion by the end of 2024.

The Company is permitted to repurchase up to a maximum of 15,000,000 shares under a share repurchase program authorized by our Board of Directors. There were no shares of our common stock repurchased during 2022, 2021 or 2020. At December 31, 2022, there were 7,396,263 remaining shares available for repurchase under the Company’s authorized share repurchase program.

Net current assets increased to approximately \$2.4 billion at December 31, 2022 from \$119.3 million at December 31, 2021. The increase is primarily due to increases in cash and cash equivalents from the issuance of the 2022 Notes, as well as increased inventory and accounts receivable balances from higher lithium pricing. Additional changes in the components of net current assets are primarily due to the timing of the sale of goods and other ordinary transactions leading up to the balance sheet dates. The additional changes are not the result of any policy changes by the Company, and do not reflect any change in either the quality of our net current assets or our expectation of success in converting net working capital to cash in the ordinary course of business.

At December 31, 2022 and 2021, our cash and cash equivalents included \$1.3 billion and \$374.0 million, respectively, held by our foreign subsidiaries. The majority of these foreign cash balances are associated with earnings that we have asserted are indefinitely reinvested and which we plan to use to support our continued growth plans outside the U.S. through funding of capital expenditures, acquisitions, research, operating expenses or other similar cash needs of our foreign operations. From time to time, we repatriate cash associated with earnings from our foreign subsidiaries to the U.S. for normal operating needs through intercompany dividends, but only from subsidiaries whose earnings we have not asserted to be indefinitely reinvested or whose earnings qualify as “previously taxed income” as defined by the Internal Revenue Code. For the years ended December 31, 2022, 2021 and 2020, we repatriated approximately \$1.7 million, \$0.9 million and \$1.8 million of cash, respectively, as part of these foreign earnings cash repatriation activities.

While we continue to closely monitor our cash generation, working capital management and capital spending in light of continuing uncertainties in the global economy, we believe that we will continue to have the financial flexibility and capability to opportunistically fund future growth initiatives. Additionally, we anticipate that future capital spending, including business acquisitions, share repurchases and other cash outlays, should be financed primarily with cash flow provided by operations and cash on hand, with additional cash needed, if any, provided by borrowings. The amount and timing of any additional borrowings will depend on our specific cash requirements.

Long-Term Debt

We currently have the following notes outstanding:

Issue Month/Year	Principal (in millions)	Interest Rate	Interest Payment Dates	Maturity Date
November 2019	€371.7	1.125%	November 25	November 25, 2025
May 2022 ^(a)	\$650.0	4.65%	June 1 and December 1	June 1, 2027
November 2019	€500.0	1.625%	November 25	November 25, 2028
November 2019 ^(a)	\$171.6	3.45%	May 15 and November 15	November 15, 2029
May 2022 ^(a)	\$600.0	5.05%	June 1 and December 1	June 1, 2032
November 2014 ^(a)	\$350.0	5.45%	June 1 and December 1	December 1, 2044
May 2022 ^(a)	\$450.0	5.65%	June 1 and December 1	June 1, 2052

(a) Denotes senior notes.

Our senior notes are senior unsecured obligations and rank equally with all our other senior unsecured indebtedness from time to time outstanding. The notes are effectively subordinated to all of our existing or future secured indebtedness and to the existing and future indebtedness of our subsidiaries. As is customary for such long-term debt instruments, each series of notes outstanding has terms that allow us to redeem the notes before maturity, in whole at any time or in part from time to time, at a redemption price equal to the greater of (i) 100% of the principal amount of these notes to be redeemed, or (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon (exclusive of interest accrued to the date of redemption) discounted to the redemption date on a semi-annual basis using the comparable government rate (as defined in the indentures governing these notes) plus between 25 and 40 basis points, depending on the series of notes, plus, in each case, accrued interest thereon to the date of redemption. Holders may require us to purchase such notes at 101% upon a change of control triggering event, as defined in the indentures. These notes are subject to typical events of default, including bankruptcy and insolvency events, nonpayment and the acceleration of certain subsidiary indebtedness of \$40 million or more caused by a nonpayment default.

Our Euro notes issued in 2019 are unsecured and unsubordinated obligations and rank equally in right of payment to all our other unsecured senior obligations. The Euro notes are effectively subordinated to all of our existing or future secured indebtedness and to the existing and future indebtedness of our subsidiaries. As is customary for such long-term debt instruments, each series of notes outstanding has terms that allow us to redeem the notes before their maturity, in whole at any time or in part from time to time, at a redemption price equal to the greater of (i) 100% of the principal amount of the notes to be redeemed and (ii) the sum of the present values of the remaining scheduled payments of principal thereof and interest thereon (exclusive of interest accrued to, but excluding, the date of redemption) discounted to the redemption date on an annual basis using the bond rate (as defined in the indentures governing these notes) plus between 25 and 35 basis points, depending on the series of notes, plus, in each case, accrued and unpaid interest on the principal amount being redeemed to, but excluding, the date of redemption. Holders may require us to purchase such notes at 101% upon a change of control triggering event, as defined in the indentures. These notes are subject to typical events of default, including bankruptcy and insolvency events, nonpayment and the acceleration of certain subsidiary indebtedness exceeding \$100 million caused by a nonpayment default.

On October 28, 2022, we amended our revolving, unsecured credit agreement (the “2018 Credit Agreement”), which provides for borrowings of up to \$1.5 billion and matures on October 28, 2027. The 2018 Credit Agreement was originally dated as of June 21, 2018, and was previously amended on August 14, 2019, May 11, 2020 and December 10, 2021. Borrowings under the 2018 Credit Agreement bear interest at variable rates based on a benchmark rate depending on the currency in which the loans are denominated, plus an applicable margin which ranges from 0.910% to 1.375%, depending on the Company’s credit rating from Standard & Poor’s Ratings Services LLC (“S&P”), Moody’s Investors Services, Inc. (“Moody’s”) and Fitch Ratings, Inc. (“Fitch”). With respect to loans denominated in U.S. dollars, interest is calculated using the term Secured Overnight Financing Rate (“SOFR”) plus a term SOFR adjustment of 0.10%, plus the applicable margin. The applicable margin on the facility was 1.125% as of December 31, 2022. There were no borrowings outstanding under the 2018 Credit Agreement as of December 31, 2022.

On August 14, 2019, the Company entered into a \$1.2 billion unsecured credit facility with several banks and other financial institutions, which was amended and restated on December 15, 2020 and again on December 10, 2021 (the “2019 Credit Facility”). On October 24, 2022, the 2019 Credit Facility was terminated, with the outstanding balance of \$250 million repaid using cash on hand.

Borrowings under the 2018 Credit Agreement are conditioned upon satisfaction of certain conditions precedent, including the absence of defaults. The Company is subject to one financial covenant, as well as customary affirmative and negative covenants. The financial covenant requires that the Company’s consolidated net funded debt to consolidated EBITDA ratio (as such terms are defined in the 2018 Credit Agreement) be less than or equal to 3.50:1 for all fiscal quarters, subject to adjustments in accordance with the terms of the 2018 Credit Agreement relating to a consummation of an acquisition where the consideration includes cash proceeds from issuance of funded debt in excess of \$500 million. The 2018 Credit Agreement also contains customary default provisions, including defaults for non-payment, breach of representations and warranties, insolvency, non-performance of covenants and cross-defaults to other material indebtedness. The occurrence of an event of default under the 2018 Credit Agreement could result in all loans and other obligations becoming immediately due and payable and the 2018 Credit Agreement being terminated.

On May 29, 2013, we entered into agreements to initiate a commercial paper program on a private placement basis under which we may issue unsecured commercial paper notes (the “Commercial Paper Notes”) from time-to-time up to a maximum aggregate principal amount outstanding at any time of \$750.0 million. The proceeds from the issuance of the Commercial Paper Notes are expected to be used for general corporate purposes, including the repayment of other debt of the Company. The 2018

Credit Agreement is available to repay the Commercial Paper Notes, if necessary. Aggregate borrowings outstanding under the 2018 Credit Agreement and the Commercial Paper Notes will not exceed the \$1.5 billion current maximum amount available under the 2018 Credit Agreement. The Commercial Paper Notes will be sold at a discount from par, or alternatively, will be sold at par and bear interest at rates that will vary based upon market conditions at the time of issuance. The maturities of the Commercial Paper Notes will vary but may not exceed 397 days from the date of issue. The definitive documents relating to the commercial paper program contain customary representations, warranties, default and indemnification provisions. There were no Commercial Paper Notes outstanding at December 31, 2022.

When constructing new facilities or making major enhancements to existing facilities, we may have the opportunity to enter into incentive agreements with local government agencies in order to reduce certain state and local tax expenditures. Under these agreements, we transfer the related assets to various local government entities and receive bonds. We immediately lease the facilities from the local government entities and have an option to repurchase the facilities for a nominal amount upon tendering the bonds to the local government entities at various predetermined dates. The bonds and the associated obligations for the leases of the facilities offset, and the underlying assets are recorded in property, plant and equipment. We currently have the ability to transfer up to \$540 million in assets under these arrangements, however, at December 31, 2022, there are no amounts outstanding under these arrangements.

The non-current portion of our long-term debt amounted to \$3.2 billion at December 31, 2022, compared to \$2.0 billion at December 31, 2021. In addition, at December 31, 2022, we had the ability to borrow \$1.5 billion under our commercial paper program and the 2018 Credit Agreement, and \$179.0 million under other existing lines of credit, subject to various financial covenants under the 2018 Credit Agreement. We have the ability and intent to refinance our borrowings under our other existing credit lines with borrowings under the 2018 Credit Agreement, as applicable. Therefore, the amounts outstanding under those credit lines, if any, are classified as long-term debt. We believe that as of December 31, 2022 we were, and currently are, in compliance with all of our debt covenants. For additional information about our long-term debt obligations, see Note 14, "Long-Term Debt," to our consolidated financial statements included in Part II, Item 8 of this report.

Off-Balance Sheet Arrangements

In the normal course of business with customers, vendors and others, we have entered into off-balance sheet arrangements, including bank guarantees and letters of credit, which totaled approximately \$142.3 million at December 31, 2022. None of these off-balance sheet arrangements has, or is likely to have, a material effect on our current or future financial condition, results of operations, liquidity or capital resources.

Liquidity Outlook

We anticipate that cash on hand and cash provided by operating activities, divestitures and borrowings will be sufficient to pay our operating expenses, satisfy debt service obligations, fund any capital expenditures and share repurchases, make acquisitions, make pension contributions and pay dividends for the foreseeable future. Our main focus in the short-term, during the continued uncertainty surrounding the global economy, including caused by the ongoing COVID-19 pandemic and recent inflationary trends, is to continue to maintain financial flexibility by continuing our cost savings initiative, while still protecting our employees and customers, committing to shareholder returns and maintaining an investment grade rating. Over the next three years, in terms of uses of cash, we will continue to invest in growth of the businesses and return value to shareholders. Additionally, we will continue to evaluate the merits of any opportunities that may arise for acquisitions of businesses or assets, which may require additional liquidity.

Our growth investments include the recently completed acquisition all of the outstanding equity of Qinzhou for approximately \$200 million in cash. Qinzhou's operations include a recently constructed lithium processing plant that has designed annual conversion capacity of up to 25,000 metric tons of LCE and is capable of producing battery-grade lithium carbonate and lithium hydroxide. In addition, we announced agreements for a strategic investment in China with plans to build a battery grade lithium conversion plant in Meishan initially targeting 50,000 metric tons of LCE per year. Construction of the Meishan facility is currently underway and is expected to be complete by the end of 2024.

In October 2022, we announced we had been awarded a nearly \$150 million grant from the U.S. Department of Energy to expand domestic manufacturing of batteries for EVs and the electrical grid and for materials and components currently imported from other countries. The grant funding is intended to support a portion of the anticipated cost to construct a new, commercial-scale U.S.-based lithium concentrator facility at our Kings Mountain, North Carolina, location. We expect the concentrator facility to create hundreds of construction and full-time jobs, and to supply up to 350,000 metric tons per year of spodumene concentrate to our previously announced mega-flex lithium conversion facility.

Overall, with generally strong cash-generative businesses and no significant long-term debt maturities before November 2025, we believe we have, and will be able to maintain a solid liquidity position. Our annual maturities of long-term debt as of December 31, 2022 are as follows (in millions): 2023—\$2.1; 2024—\$0.0; 2025—\$401.3; 2026—\$0.0; 2027—\$650.0; thereafter—\$2,192.4. In addition, we expect to make interest payments on those long-term debt obligations as follows (in millions): 2023—\$124.5; 2024—\$124.5; 2025—\$124.1; 2026—\$119.8; 2027—\$102.3; thereafter—\$1,098.5. For variable-rate debt obligations, projected interest payments are calculated using the December 31, 2022 weighted average interest rate of approximately 0.07%.

In addition, we expect our capital expenditures to be between \$1.7 billion and \$1.9 billion in 2023, primarily for Energy Storage growth and capacity increases, including in Australia, Chile, China and Silver Peak, Nevada, as well as productivity and continuity of operations projects in all segments. As of December 31, 2022, we have also committed to approximately \$350.7 million of payments to third-party vendors in the normal course of business to secure raw materials for our production processes, with approximately \$161.2 million to be paid in 2023. In order to secure materials, sometimes for long durations, these contracts mandate a minimum amount of product to be purchased at predetermined rates over a set timeframe.

See Note 18, “Leases,” to our consolidated financial statements included in Part II, Item 8 of this report for our annual expected payments under our operating lease obligations at December 31, 2022.

In 2023, we expect to pay \$41.8 million of the \$233.5 million balance remaining from the transition tax on foreign earnings as a result of the Tax Cuts and Jobs Act (“TCJA”) signed into law in December 2017. The one-time transition tax imposed by the TCJA is based on our total post-1986 earnings and profits that we previously deferred from U.S. income taxes and is payable over an eight-year period, with the final payment made in 2026.

Contributions to our domestic and foreign qualified and nonqualified pension plans, including our supplemental executive retirement plan, are expected to approximate \$15 million in 2023. We may choose to make additional pension contributions in excess of this amount. We made contributions of approximately \$13.4 million to our domestic and foreign pension plans (both qualified and nonqualified) during the year ended December 31, 2022.

The liability related to uncertain tax positions, including interest and penalties, recorded in Other noncurrent liabilities totaled \$83.7 million and \$27.7 million at December 31, 2022 and 2021, respectively. Related assets for corresponding offsetting benefits recorded in Other assets totaled \$32.4 million and \$32.9 million at December 31, 2022 and 2021, respectively. We cannot estimate the amounts of any cash payments during the next twelve months associated with these liabilities and are unable to estimate the timing of any such cash payments in the future at this time.

Our cash flows from operations may be negatively affected by adverse consequences to our customers and the markets in which we compete as a result of moderating global economic conditions, continuing inflationary trends and reduced capital availability. We have experienced, and may continue to experience, volatility and increases in the price of certain raw materials and in transportation and energy costs as a result of global market and supply chain disruptions and the broader inflationary environment. In addition, the COVID-19 pandemic has not had a material impact on our liquidity to date; however, we cannot predict the overall impact in terms of cash flow generation as that will depend on the length and severity of the outbreak and any future pandemics and its and their impact. As a result, we are planning for various economic scenarios and actively monitoring our balance sheet to maintain the financial flexibility needed.

Although we maintain business relationships with a diverse group of financial institutions as sources of financing, an adverse change in their credit standing could lead them to not honor their contractual credit commitments to us, decline funding under our existing but uncommitted lines of credit with them, not renew their extensions of credit or not provide new financing to us. While the global corporate bond and bank loan markets remain strong, periods of elevated uncertainty related to the COVID-19 pandemic or future pandemic or global economic and/or geopolitical concerns may limit efficient access to such markets for extended periods of time. If such concerns heighten, we may incur increased borrowing costs and reduced credit capacity as our various credit facilities mature. If the U.S. Federal Reserve or similar national reserve banks in other countries decide to continue tightening the monetary supply, we may incur increased borrowing costs (as interest rates increase on our variable rate credit facilities, as our various credit facilities mature or as we refinance any maturing fixed rate debt obligations), although these cost increases would be partially offset by increased income rates on portions of our cash deposits.

On February 6, 2017, Huntsman International LLC (“Huntsman”), a subsidiary of Huntsman Corporation, filed a lawsuit in New York state court against Rockwood Holdings, Inc. (“Rockwood”), Rockwood Specialties, Inc., certain former executives of Rockwood and its subsidiaries, Seifollah Ghasemi, Thomas Riordan, Andrew Ross, and Michael Valente, and Albemarle. The lawsuit arises out of Huntsman’s acquisition of certain Rockwood subsidiaries in connection with a stock purchase agreement (the “SPA”), dated September 17, 2013. Before that transaction closed on October 1, 2014, Albemarle began discussions with Rockwood to purchase all outstanding equity of Rockwood and did so in a transaction that closed on

January 12, 2015. Huntsman's complaint asserted that certain technology that Rockwood had developed for a production facility in Augusta, Georgia, and which was among the assets that Huntsman acquired pursuant to the SPA, did not work, and that Rockwood and the defendant executives had intentionally misled Huntsman about that technology in connection with the Huntsman-Rockwood transaction. The complaint asserted claims for, among other things, fraud, negligent misrepresentation, and breach of the SPA, and sought certain costs for completing construction of the production facility.

On March 10, 2017, Albemarle moved in New York state court to compel arbitration, which was granted on January 8, 2018 (although Huntsman unsuccessfully appealed that decision). Huntsman's arbitration demand asserted claims substantially similar to those asserted in its state court complaint, and sought various forms of legal remedies, including cost overruns, compensatory damages, expectation damages, punitive damages, and restitution. After a trial, the arbitration panel issued an award on October 28, 2021, awarding approximately \$600 million (including interest) to be paid by Albemarle to Huntsman, in addition to the possibility of attorney's fees, costs and expenses. Following the arbitration panel decision, Albemarle reached a settlement with Huntsman to pay \$665 million in two equal installments, with the first payment made in December 2021. The second and final payment of \$332.5 million was made in May 2022. As a result, the consolidated statements of income for the year ended December 31, 2021, includes expense of \$657.4 million (\$508.5 million net of income tax), inclusive of estimated possible legal fees incurred by Huntsman and other related obligations, to reflect the increase in liabilities for this legal matter.

As first reported in 2018, following receipt of information regarding potential improper payments being made by third-party sales representatives of our Refining Solutions business, within our Catalysts segment, we promptly retained outside counsel and forensic accountants to investigate potential violations of the Company's Code of Conduct, the Foreign Corrupt Practices Act, and other potentially applicable laws. Based on this internal investigation, we have voluntarily self-reported potential issues relating to the use of third-party sales representatives in our Refining Solutions business, within our Catalysts segment, to the U.S. Department of Justice ("DOJ"), the SEC, and the Dutch Public Prosecutor ("DPP"), and are cooperating with the DOJ, the SEC, and the DPP in their review of these matters. In connection with our internal investigation, we have implemented, and are continuing to implement, appropriate remedial measures. We have commenced discussions with the SEC, DOJ and DPP about a potential resolution of these matters.

At this time, we are unable to predict the duration, scope, result, or related costs associated with the investigations. We also are unable to predict what action may be taken by the DOJ, the SEC, or the DPP, or what penalties or remedial actions they may ultimately seek. Any determination that our operations or activities are not, or were not, in compliance with existing laws or regulations could result in the imposition of fines, penalties, disgorgement, equitable relief, or other losses. We do not believe, however, that any such fines, penalties, disgorgement, equitable relief, or other losses would have a material adverse effect on our financial condition or liquidity. However, an adverse resolution could have a material adverse effect on our results of operations in a particular period.

We had cash and cash equivalents totaling \$1.5 billion as of December 31, 2022, of which \$1.3 billion is held by our foreign subsidiaries. This cash represents an important source of our liquidity and is invested in bank accounts or money market investments with no limitations on access. The cash held by our foreign subsidiaries is intended for use outside of the U.S. We anticipate that any needs for liquidity within the U.S. in excess of our cash held in the U.S. can be readily satisfied with borrowings under our existing U.S. credit facilities or our commercial paper program.

Guarantor Financial Information

Albemarle Wodgina Pty Ltd Issued Notes

Albemarle Wodgina Pty Ltd (the "Issuer"), a wholly-owned subsidiary of Albemarle Corporation, issued \$300.0 million aggregate principal amount of 3.45% Senior Notes due 2029 (the "3.45% Senior Notes") in November 2019. The 3.45% Senior Notes are fully and unconditionally guaranteed (the "Guarantee") on a senior unsecured basis by Albemarle Corporation (the "Parent Guarantor"). No direct or indirect subsidiaries of the Parent Guarantor guarantee the 3.45% Senior Notes (such subsidiaries are referred to as the "Non-Guarantors").

In 2019, we completed the acquisition of a 60% interest in MRL's Wodgina hard rock lithium mine project ("Wodgina Project") in Western Australia and formed an unincorporated joint venture with MRL, named MARBL Lithium Joint Venture, for the exploration, development, mining, processing and production of lithium and other minerals (other than iron ore and tantalum) from the Wodgina spodumene mine and for the operation of the Kemerton assets in Western Australia. We participate in the Wodgina Project through our ownership interest in the Issuer.

The Parent Guarantor conducts its U.S. Bromine and Catalysts operations directly, and conducts its other operations (other than operations conducted through the Issuer) through the Non-Guarantors.

The 3.45% Senior Notes are the Issuer's senior unsecured obligations and rank equally in right of payment to the senior indebtedness of the Issuer, effectively subordinated to all of the secured indebtedness of the Issuer, to the extent of the value of the assets securing that indebtedness, and structurally subordinated to all indebtedness and other liabilities of its subsidiaries. The Guarantee is the senior unsecured obligation of the Parent Guarantor and ranks equally in right of payment to the senior indebtedness of the Parent Guarantor, effectively subordinated to the secured debt of the Parent Guarantor to the extent of the value of the assets securing the indebtedness and structurally subordinated to all indebtedness and other liabilities of its subsidiaries.

For cash management purposes, the Parent Guarantor transfers cash among itself, the Issuer and the Non-Guarantors through intercompany financing arrangements, contributions or declaration of dividends between the respective parent and its subsidiaries. The transfer of cash under these activities facilitates the ability of the recipient to make specified third-party payments for principal and interest on the Issuer and/or the Parent Guarantor's outstanding debt, common stock dividends and common stock repurchases. There are no significant restrictions on the ability of the Issuer or the Parent Guarantor to obtain funds from subsidiaries by dividend or loan.

The following tables present summarized financial information for the Parent Guarantor and the Issuer on a combined basis after elimination of (i) intercompany transactions and balances among the Issuer and the Parent Guarantor and (ii) equity in earnings from and investments in any subsidiary that is a Non-Guarantor. Each entity in the combined financial information follows the same accounting policies as described herein.

Summarized Statement of Operations

	Year ended December 31, 2022
<i>\$ in thousands</i>	
Net sales ^(a)	\$ 2,981,170
Gross profit	636,894
Loss before income taxes and equity in net income of unconsolidated investments ^(b)	52,048
Net loss attributable to the Guarantor and the Issuer	119,551

(a) Includes net sales to Non-Guarantors of \$2,155.7 million for the year ended December 31, 2022.

(b) Includes intergroup expenses to Non-Guarantors of \$134.2 million for the year ended December 31, 2022.

Summarized Balance Sheet

	At December 31, 2022
<i>\$ in thousands</i>	
Current assets ^(a)	\$ 1,274,018
Net property, plant and equipment	3,379,369
Other non-current assets ^(b)	687,603
Current liabilities ^(c)	\$ 2,103,749
Long-term debt	2,260,397
Other non-current liabilities ^(d)	7,173,636

(a) Includes receivables from Non-Guarantors of \$605.3 million at December 31, 2022.

(b) Includes non-current receivables from Non-Guarantors of \$109.3 million at December 31, 2022.

(c) Includes current payables to Non-Guarantors of \$1.6 billion at December 31, 2022.

(d) Includes non-current payables to Non-Guarantors of \$6.6 billion at December 31, 2022.

The 3.45% Senior Notes are structurally subordinated to the indebtedness and other liabilities of the Non-Guarantors. The Non-Guarantors are separate and distinct legal entities and have no obligation, contingent or otherwise, to pay any amounts due pursuant to the 3.45% Senior Notes or the Indenture under which the 3.45% Senior Notes were issued, or to make any funds available therefor, whether by dividends, loans, distributions or other payments. Any right that the Parent Guarantor has to receive any assets of any of the Non-Guarantors upon the liquidation or reorganization of any Non-Guarantor, and the consequent rights of holders of the 3.45% Senior Notes to realize proceeds from the sale of any of a Non-Guarantor's assets, would be effectively subordinated to the claims of such Non-Guarantor's creditors, including trade creditors and holders of

preferred equity interests, if any, of such Non-Guarantor. Accordingly, in the event of a bankruptcy, liquidation or reorganization of any of the Non-Guarantors, the Non-Guarantors will pay the holders of their debts, holders of preferred equity interests, if any, and their trade creditors before they will be able to distribute any of their assets to the Parent Guarantor.

The 3.45% Senior Notes are obligations of the Issuer. The Issuer's cash flow and ability to make payments on the 3.45% Senior Notes could be dependent upon the earnings it derives from the production from MARBL for the Wodgina Project. Absent income received from sales of its share of production from MARBL, the Issuer's ability to service the 3.45% Senior Notes could be dependent upon the earnings of the Parent Guarantor's subsidiaries and other joint ventures and the payment of those earnings to the Issuer in the form of equity, loans or advances and through repayment of loans or advances from the Issuer.

The Issuer's obligations in respect of MARBL are guaranteed by the Parent Guarantor. Further, under MARBL pursuant to a deed of cross security between the Issuer, the joint venture partner and the manager of the project (the "Manager"), each of the Issuer, and the joint venture partner have granted security to each other and the Manager for the obligations each of the Issuer and the joint venture partner have to each other and to the Manager. The claims of the joint venture partner, the Manager and other secured creditors of the Issuer will have priority as to the assets of the Issuer over the claims of holders of the 3.45% Senior Notes.

Albemarle Corporation Issued Notes

In March 2021, Albemarle New Holding GmbH (the "Subsidiary Guarantor"), a wholly-owned subsidiary of Albemarle Corporation, added a full and unconditional guarantee (the "Upstream Guarantee") to all securities of Albemarle Corporation (the "Parent Issuer") issued and outstanding as of such date and, subject to the terms of the applicable amendment or supplement, securities issuable by the Parent Issuer pursuant to the Indenture, dated as of January 20, 2005, as amended and supplemented from time to time (the "Indenture"). No other direct or indirect subsidiaries of the Parent Issuer guarantee these securities (such subsidiaries are referred to as the "Upstream Non-Guarantors"). See Long-term debt section above for a description of the securities issued by the Parent Issuer.

The current securities outstanding under the Indenture are the Parent Issuer's unsecured and unsubordinated obligations and rank equally in right of payment with all other unsecured and unsubordinated indebtedness of the Parent Issuer. All securities currently outstanding under the Indenture are effectively subordinated to the Parent Issuer's existing and future secured indebtedness to the extent of the value of the assets securing that indebtedness. With respect to any series of securities issued under the Indenture that is subject to the Upstream Guarantee (which series of securities does not include the 2022 Notes), the Upstream Guarantee is, and will be, an unsecured and unsubordinated obligation of the Subsidiary Guarantor, ranking pari passu with all other existing and future unsubordinated and unsecured indebtedness of the Subsidiary Guarantor. All securities currently outstanding under the Indenture (other than the 2022 Notes) are effectively subordinated to all existing and future indebtedness and other liabilities of the Parent's Subsidiaries other than the Subsidiary Guarantor. The 2022 Notes are effectively subordinated to all existing and future indebtedness and other liabilities of the Parent's Subsidiaries, including the Subsidiary Guarantor.

For cash management purposes, the Parent Issuer transfers cash among itself, the Subsidiary Guarantor and the Upstream Non-Guarantors through intercompany financing arrangements, contributions or declaration of dividends between the respective parent and its subsidiaries. The transfer of cash under these activities facilitates the ability of the recipient to make specified third-party payments for principal and interest on the Parent Issuer and/or the Subsidiary Guarantor's outstanding debt, common stock dividends and common stock repurchases. There are no significant restrictions on the ability of the Parent Issuer or the Subsidiary Guarantor to obtain funds from subsidiaries by dividend or loan.

The following tables present summarized financial information for the Subsidiary Guarantor and the Parent Issuer on a combined basis after elimination of (i) intercompany transactions and balances among the Parent Issuer and the Subsidiary Guarantor and (ii) equity in earnings from and investments in any subsidiary that is an Upstream Non-Guarantor.

Summarized Statement of Operations

	Year ended December 31, 2022
<i>\$ in thousands</i>	
Net sales ^(a)	\$ 2,557,914
Gross profit	353,515
Loss before income taxes and equity in net income of unconsolidated investments ^(b)	(121,421)
Net loss attributable to the Subsidiary Guarantor and the Parent Issuer	(77,487)

(a) Includes net sales to Non-Guarantors of \$1,752.5 million for the year ended December 31, 2022.

(b) Includes intergroup expenses to Non-Guarantors of \$25.4 million for the year ended December 31, 2022.

Summarized Balance Sheet

	At December 31, 2022
<i>\$ in thousands</i>	
Current assets ^(a)	\$ 1,261,682
Net property, plant and equipment	893,715
Other non-current assets ^(b)	1,783,357
Current liabilities ^(c)	\$ 1,981,456
Long-term debt	2,955,934
Other non-current liabilities ^(d)	6,393,534

(a) Includes current receivables from Non-Guarantors of \$644.0 million at December 31, 2022.

(b) Includes noncurrent receivables from Non-Guarantors of \$1.2 billion at December 31, 2022.

(c) Includes current payables to Non-Guarantors of \$1.6 billion at December 31, 2022.

(d) Includes non-current payables to Non-Guarantors of \$5.8 billion at December 31, 2022.

These securities are structurally subordinated to the indebtedness and other liabilities of the Upstream Non-Guarantors. The Upstream Non-Guarantors are separate and distinct legal entities and have no obligation, contingent or otherwise, to pay any amounts due pursuant to these securities or the Indenture under which these securities were issued, or to make any funds available therefor, whether by dividends, loans, distributions or other payments. Any right that the Subsidiary Guarantor has to receive any assets of any of the Upstream Non-Guarantors upon the liquidation or reorganization of any Upstream Non-Guarantors, and the consequent rights of holders of these securities to realize proceeds from the sale of any of an Upstream Non-Guarantor's assets, would be effectively subordinated to the claims of such Upstream Non-Guarantor's creditors, including trade creditors and holders of preferred equity interests, if any, of such Upstream Non-Guarantor. Accordingly, in the event of a bankruptcy, liquidation or reorganization of any of the Upstream Non-Guarantors, the Upstream Non-Guarantors will pay the holders of their debts, holders of preferred equity interests, if any, and their trade creditors before they will be able to distribute any of their assets to the Subsidiary Guarantor.

Safety and Environmental Matters

We are subject to federal, state, local and foreign requirements regulating the handling, manufacture and use of materials (some of which may be classified as hazardous or toxic by one or more regulatory agencies), the discharge of materials into the environment and the protection of the environment. To our knowledge, we are currently complying and expect to continue to comply in all material respects with applicable environmental laws, regulations, statutes and ordinances. Compliance with existing federal, state, local and foreign environmental protection laws is not currently expected to have a material effect on capital expenditures, earnings or our competitive position, but the costs associated with increased legal or regulatory requirements could have an adverse effect on our operating results.

Among other environmental requirements, we are subject to the federal Superfund law, and similar state laws, under which we may be designated as a PRP, and may be liable for a share of the costs associated with cleaning up various hazardous waste sites. Management believes that in cases in which we may have liability as a PRP, our liability for our share of cleanup is de minimis. Further, almost all such sites represent environmental issues that are quite mature and have been investigated, studied and in many cases settled. In de minimis situations, our policy generally is to negotiate a consent decree and to pay any

apportioned settlement, enabling us to be effectively relieved of any further liability as a PRP, except for remote contingencies. In other than de minimis PRP matters, our records indicate that unresolved PRP exposures should be immaterial. We accrue and expense our proportionate share of PRP costs. Because management has been actively involved in evaluating environmental matters, we are able to conclude that the outstanding environmental liabilities for unresolved PRP sites should not have a material adverse effect upon our results of operations or financial condition.

Our environmental and safety operating costs charged to expense were \$46.3 million, \$43.2 million and \$44.9 million in 2022, 2021 and 2020, respectively, excluding depreciation of previous capital expenditures, and are expected to be in the same range in the next few years. Costs for remediation have been accrued and payments related to sites are charged against accrued liabilities, which at December 31, 2022 totaled approximately \$38.2 million, a decrease of \$8.4 million from \$46.6 million at December 31, 2021. See Note 17, "Commitments and Contingencies" to our consolidated financial statements included in Part II, Item 8 of this report for a reconciliation of our environmental liabilities for the years ended December 31, 2022, 2021 and 2020.

We believe that any sum we may be required to pay in connection with environmental remediation and asset retirement obligation matters in excess of the amounts recorded should occur over a period of time and should not have a material adverse effect upon our results of operations, financial condition or cash flows on a consolidated annual basis, although any such sum could have a material adverse impact on our results of operations, financial condition or cash flows in a particular quarterly reporting period.

Capital expenditures for pollution-abatement and safety projects, including such costs that are included in other projects, were approximately \$75.6 million, \$55.4 million and \$40.4 million in 2022, 2021 and 2020, respectively. In the future, capital expenditures for these types of projects may increase due to more stringent environmental regulatory requirements and our efforts in reaching sustainability goals. Management's estimates of the effects of compliance with governmental pollution-abatement and safety regulations are subject to (a) the possibility of changes in the applicable statutes and regulations or in judicial or administrative construction of such statutes and regulations and (b) uncertainty as to whether anticipated solutions to pollution problems will be successful, or whether additional expenditures may prove necessary.

Recently Issued Accounting Pronouncements

See Note 1, "Summary of Significant Accounting Policies" to our consolidated financial statements included in Part II, Item 8 of this report for a discussion of our Recently Issued Accounting Pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

The primary currencies to which we have foreign currency exchange rate exposure are the Chinese Renminbi, Euro, Australian Dollar, Chilean Peso and Japanese Yen. In response to greater fluctuations in foreign currency exchange rates in recent periods, we have increased the degree of exposure risk management activities to minimize the potential impact on earnings.

We manage our foreign currency exposures by balancing certain assets and liabilities denominated in foreign currencies and through the use, from time to time, of foreign currency forward contracts. The principal objective of such contracts is to minimize the financial impact of changes in foreign currency exchange rates. The counterparties to these contractual agreements are major financial institutions with which we generally have other financial relationships. We are exposed to credit loss in the event of nonperformance by these counterparties. However, we do not anticipate nonperformance by the counterparties. We do not utilize financial instruments for trading or other speculative purposes.

The primary method we use to reduce foreign currency exposure is to identify natural hedges, in which the operating activities denominated in respective currencies across various subsidiaries balance in respect to timing and the underlying exposures. In the event a natural hedge is not available, we may employ a forward contract to reduce exposure, generally expiring within one year. While these contracts are subject to fluctuations in value, such fluctuations are intended to offset the changes in the value of the underlying exposures being hedged. In the fourth quarter of 2019, we entered into a foreign currency forward contract to hedge the cash flow exposure of non-functional currency purchases during the construction of the Kemerton plant in Australia. This contract has been designated as an effective hedging instrument, and beginning the date of designation, gains or losses on the revaluation of this contract to our reporting currency have been and will be recorded in Accumulated other comprehensive loss. All other gains and losses on foreign currency forward contracts not designated as an effective hedging instrument are recognized in Other income (expenses), net, and generally do not have a significant impact on results of operations.

At December 31, 2022, our financial instruments subject to foreign currency exchange risk consisted of foreign currency forward contracts with an aggregate notional value of \$2.9 billion and with a fair value representing a net asset position of \$2.8 million. The aggregate notional value of foreign currency forward contracts increased in 2022 due to increased balance sheet exposure from higher sales and income in foreign-denominated currencies. Fluctuations in the value of these contracts are intended to offset the changes in the value of the underlying exposures being hedged. We conducted a sensitivity analysis on the fair value of our foreign currency hedge portfolio assuming an instantaneous 10% change in select foreign currency exchange rates from their levels as of December 31, 2022, with all other variables held constant. A 10% appreciation of the U.S. Dollar against foreign currencies that we hedge would result in a decrease of approximately \$30.0 million in the fair value of our foreign currency forward contracts. A 10% depreciation of the U.S. Dollar against these foreign currencies would result in an increase of approximately \$15.2 million in the fair value of our foreign currency forward contracts. The sensitivity of the fair value of our foreign currency hedge portfolio represents changes in fair values estimated based on market conditions as of December 31, 2022, without reflecting the effects of underlying anticipated transactions. When those anticipated transactions are realized, actual effects of changing foreign currency exchange rates could have a material impact on our earnings and cash flows in future periods.

On December 18, 2014, the carrying value of our 1.875% Euro-denominated senior notes was designated as an effective hedge of our net investment in foreign subsidiaries where the Euro serves as the functional currency, and beginning on the date of designation, gains or losses on the revaluation of these senior notes to our reporting currency have been recorded in Accumulated other comprehensive loss. In the first quarter of 2021, we repaid the outstanding balance of these senior notes, and as a result, this net investment hedge was discontinued. The balance of foreign exchange revaluation gains and losses associated with this discontinued net investment hedge will remain within accumulated other comprehensive loss until the hedged net investment is sold or liquidated.

We are exposed to changes in interest rates that could impact our results of operations and financial condition. We manage global interest rate and foreign exchange exposure as part of our regular operational and financing strategies. We had variable interest rate borrowings of \$14.4 million and \$393.7 million outstanding at December 31, 2022 and 2021, respectively. These borrowings represented less than 1% and 16% of total outstanding debt and bore average interest rates of 0.07% and 0.40% at December 31, 2022 and 2021, respectively. A hypothetical 100 basis point increase in the average interest rate applicable to these borrowings would change our annualized interest expense by approximately \$0.1 million as of December 31, 2022. We may enter into interest rate swaps, collars or similar instruments with the objective of reducing interest rate volatility relating to our borrowing costs.

Our raw materials are subject to price volatility caused by weather, supply conditions, political and economic variables and other unpredictable factors. Historically, we have not used futures, options or swap contracts to manage the volatility related to the above exposures. However, the refinery catalysts business has used financing arrangements to provide long-term protection against changes in natural gas and metals prices. We seek to limit our exposure by entering into long-term contracts when available, and we seek price increase limitations through contracts. These contracts do not have a significant impact on our results of operations.

Item 8. Financial Statements and Supplementary Data.

MANAGEMENT’S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Exchange Act Rule 13a-15(f) and 15d-15(f). Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States. Our internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States, and that receipts and expenditures of the Company are being made only in accordance with management’s and our directors’ authorizations; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2022. In making this assessment, management used the criteria for effective internal control over financial reporting described in the *Internal Control—Integrated Framework 2013* set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on the assessment, management concluded that, as of December 31, 2022, our internal control over financial reporting was effective to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States. The concept of reasonable assurance is based on the recognition that there are inherent limitations in all systems of internal control. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management’s assessment of internal control over financial reporting as of December 31, 2022 excludes the Guangxi Tianyuan New Energy Materials Co., Ltd. (“Qinzhou”) business because it was acquired in a purchase business combination during 2022. Qinzhou is a wholly-owned subsidiary whose total assets and total revenues represent 1% and 0%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2022.

The effectiveness of our internal control over financial reporting as of December 31, 2022 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

/s/ J. KENT MASTERS

J. Kent Masters
Chairman, President and Chief Executive Officer
(principal executive officer)
February 15, 2023

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Albemarle Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Albemarle Corporation and its subsidiaries (the “Company”) as of December 31, 2022 and 2021, and the related consolidated statements of income, of comprehensive income, of changes in equity and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control—Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control—Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As described in Management’s Report on Internal Control over Financial Reporting, management has excluded Guangxi Albemarle Lithium Co., Ltd. from its assessment of internal control over financial reporting as of December 31, 2022 because it was acquired by the Company in a purchase business combination during 2022. We have also excluded Guangxi Albemarle Lithium Co., Ltd. from our audit of internal control over financial reporting. Guangxi Albemarle Lithium Co., Ltd. is a wholly-owned subsidiary whose total assets and total revenues excluded from management’s assessment and our audit of internal control over financial reporting represent 1% and 0%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2022.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and

dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill Impairment Assessment – Refining Solutions Reporting Unit

As described in Notes 1 and 12 to the consolidated financial statements, the Company's goodwill balance was \$1,618 million as of December 31, 2022, and the goodwill associated with the Refining Solutions reporting unit was \$166 million. Management conducts an impairment test as of October 31 of each year, or more frequently if events or circumstances indicate that the carrying value of goodwill may be impaired. Potential impairment is identified by comparing the fair value of a reporting unit to its carrying value, including goodwill. Fair value is estimated by management using present value techniques involving future cash flows. Management's cash flow projections for the Refining Solutions reporting unit included significant judgment and assumptions relating to revenue growth rates, adjusted EBITDA margins and the discount rate.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment of the Refining Solutions reporting unit is a critical audit matter are (i) the significant judgment by management when developing the fair value measurement of the reporting unit; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to revenue growth rates, adjusted EBITDA margins, and the discount rate; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment assessment, including controls over the valuation of the Refining Solutions reporting unit. These procedures also included, among others (i) testing management's process for developing the fair value estimate of the Refining Solutions reporting unit; (ii) evaluating the appropriateness of the discounted cash flow model; (iii) testing the completeness and accuracy of underlying data used in the model; and (iv) evaluating the significant assumptions used by management related to the revenue growth rates, adjusted EBITDA margins, and the discount rate. Evaluating management's assumptions related to the revenue growth rates and adjusted EBITDA margins involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the reporting unit; (ii) the consistency with external economic and industry data; and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's discounted cash flow model and the discount rate assumption.

/s/ PricewaterhouseCoopers LLP
Charlotte, North Carolina
February 15, 2023

We have served as the Company's auditor since 1994.

CONSOLIDATED STATEMENTS OF INCOME*(In Thousands, Except Per Share Amounts)*

Year Ended December 31	2022	2021	2020
Net sales	\$ 7,320,104	\$ 3,327,957	\$ 3,128,909
Cost of goods sold	4,245,517	2,329,986	2,134,056
Gross profit	3,074,587	997,971	994,853
Selling, general and administrative expenses	524,145	441,482	429,827
Research and development expenses	71,981	54,026	59,214
Loss (gain) on sale of business/interest in properties, net	8,400	(295,971)	—
Operating profit	2,470,061	798,434	505,812
Interest and financing expenses	(122,973)	(61,476)	(73,116)
Other income (expenses), net	86,356	(603,340)	(59,177)
Income before income taxes and equity in net income of unconsolidated investments	2,433,444	133,618	373,519
Income tax expense	390,588	29,446	54,425
Income before equity in net income of unconsolidated investments	2,042,856	104,172	319,094
Equity in net income of unconsolidated investments (net of tax)	772,275	95,770	127,521
Net income	2,815,131	199,942	446,615
Net income attributable to noncontrolling interests	(125,315)	(76,270)	(70,851)
Net income attributable to Albemarle Corporation	\$ 2,689,816	\$ 123,672	\$ 375,764
Basic earnings per share	\$ 22.97	\$ 1.07	\$ 3.53
Diluted earnings per share	\$ 22.84	\$ 1.06	\$ 3.52
Weighted-average common shares outstanding—basic	117,120	115,841	106,402
Weighted-average common shares outstanding—diluted	117,793	116,536	106,808

See accompanying notes to the consolidated financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In Thousands)

Year Ended December 31	2022	2021	2020
Net income	\$ 2,815,131	\$ 199,942	\$ 446,615
Other comprehensive (loss) income, net of tax:			
Foreign currency translation and other	(171,295)	(74,385)	99,832
Net investment hedge	—	5,110	(34,185)
Cash flow hedge	(4,399)	174	1,602
Interest rate swap	7,399	2,623	2,601
Total other comprehensive (loss) income, net of tax	(168,295)	(66,478)	69,850
Comprehensive income	2,646,836	133,464	516,465
Comprehensive income attributable to noncontrolling interests	(125,232)	(76,110)	(71,098)
Comprehensive income attributable to Albemarle Corporation	<u>\$ 2,521,604</u>	<u>\$ 57,354</u>	<u>\$ 445,367</u>

See accompanying notes to the consolidated financial statements.

Albemarle Corporation and Subsidiaries
CONSOLIDATED BALANCE SHEETS

(In Thousands)

December 31	2022	2021
Assets		
Current assets:		
Cash and cash equivalents	\$ 1,499,142	\$ 439,272
Trade accounts receivable, less allowance for doubtful accounts (2022—\$2,534; 2021—\$2,559)	1,190,970	556,922
Other accounts receivable	185,819	66,184
Inventories	2,076,031	798,620
Other current assets	234,955	132,683
Total current assets	5,186,917	1,993,681
Property, plant and equipment, at cost	9,354,330	8,074,746
Less accumulated depreciation and amortization	2,391,333	2,165,130
Net property, plant and equipment	6,962,997	5,909,616
Investments	1,150,553	912,008
Other assets	250,558	252,239
Goodwill	1,617,627	1,597,627
Other intangibles, net of amortization	287,870	308,947
Total assets	\$ 15,456,522	\$ 10,974,118
Liabilities and Equity		
Current liabilities:		
Accounts payable to third parties	\$ 1,533,624	\$ 600,487
Accounts payable to related parties	518,377	47,499
Accrued expenses	505,894	763,293
Current portion of long-term debt	2,128	389,920
Dividends payable	46,116	45,469
Income taxes payable	134,876	27,667
Total current liabilities	2,741,015	1,874,335
Long-term debt	3,214,972	2,004,319
Postretirement benefits	32,751	43,693
Pension benefits	159,571	229,187
Other noncurrent liabilities	636,596	663,698
Deferred income taxes	480,770	353,279
Commitments and contingencies (Note 17)		
Equity:		
Albemarle Corporation shareholders' equity:		
Common stock, \$.01 par value (authorized 150,000 shares), issued and outstanding — 117,168 in 2022 and 117,015 in 2021	1,172	1,170
Additional paid-in capital	2,940,840	2,920,007
Accumulated other comprehensive loss	(560,662)	(392,450)
Retained earnings	5,601,277	3,096,539
Total Albemarle Corporation shareholders' equity	7,982,627	5,625,266
Noncontrolling interests	208,220	180,341
Total equity	8,190,847	5,805,607
Total liabilities and equity	\$ 15,456,522	\$ 10,974,118

See accompanying notes to the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(In Thousands, Except Share Data)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive (Loss) Income	Retained Earnings	Total Albemarle Shareholders' Equity	Noncontrolling Interests	Total Equity
	Shares	Amounts						
Balance at January 1, 2020	106,040,215	\$ 1,061	\$ 1,383,446	\$ (395,735)	\$ 2,943,478	\$ 3,932,250	\$ 161,330	\$ 4,093,580
Net income					375,764	375,764	70,851	446,615
Other comprehensive income				69,603		69,603	247	69,850
Cash dividends declared, \$1.54 per common share					(163,990)	(163,990)	(32,061)	(196,051)
Stock-based compensation			19,306			19,306		19,306
Exercise of stock options	682,068	7	40,430			40,437		40,437
Issuance of common stock, net	185,918	2	(2)			—		—
Shares withheld for withholding taxes associated with common stock issuances	(65,832)	(1)	(5,142)			(5,143)		(5,143)
Balance at December 31, 2020	106,842,369	\$ 1,069	\$ 1,438,038	\$ (326,132)	\$ 3,155,252	\$ 4,268,227	\$ 200,367	\$ 4,468,594
Net income					123,672	123,672	76,270	199,942
Other comprehensive loss				(66,318)		(66,318)	(160)	(66,478)
Cash dividends declared, \$1.56 per common share					(182,385)	(182,385)	(96,136)	(278,521)
Stock-based compensation			18,818			18,818		18,818
Fees related to public issuance of common stock			(888)			(888)		(888)
Exercise of stock options	302,151	3	18,389			18,392		18,392
Issuance of common stock, net	9,919,755	99	1,453,789			1,453,888		1,453,888
Shares withheld for withholding taxes associated with common stock issuances	(48,942)	(1)	(8,139)			(8,140)		(8,140)
Balance at December 31, 2021	117,015,333	\$ 1,170	\$ 2,920,007	\$ (392,450)	\$ 3,096,539	\$ 5,625,266	\$ 180,341	\$ 5,805,607
Net income					2,689,816	2,689,816	125,315	2,815,131
Other comprehensive loss				(168,212)		(168,212)	(83)	(168,295)
Cash dividends declared, \$1.58 per common share					(185,078)	(185,078)	(97,353)	(282,431)
Stock-based compensation			31,390			31,390		31,390
Exercise of stock options	32,581	1	2,395			2,396		2,396
Issuance of common stock, net	186,768	2	385			387		387
Shares withheld for withholding taxes associated with common stock issuances	(66,316)	(1)	(13,337)			(13,338)		(13,338)
Balance at December 31, 2022	117,168,366	\$ 1,172	\$ 2,940,840	\$ (560,662)	\$ 5,601,277	\$ 7,982,627	\$ 208,220	\$ 8,190,847

See accompanying notes to the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS*(In Thousands)*

Year Ended December 31	2022	2021	2020
Cash and cash equivalents at beginning of year	\$ 439,272	\$ 746,724	\$ 613,110
Cash flows from operating activities:			
Net income	2,815,131	199,942	446,615
Adjustments to reconcile net income to cash flows from operating activities:			
Depreciation and amortization	300,841	254,000	231,984
Gain on sale of business/interest in properties, net	8,400	(295,971)	(7,168)
Stock-based compensation and other	30,474	20,120	22,837
Equity in net income of unconsolidated investments (net of tax)	(772,275)	(95,770)	(127,521)
Dividends received from unconsolidated investments and nonmarketable securities	801,239	78,391	88,161
Pension and postretirement (benefit) expense	(52,254)	(74,010)	45,658
Pension and postretirement contributions	(16,112)	(30,253)	(16,434)
Unrealized gain on investments in marketable securities	3,279	(3,818)	(4,635)
Loss on early extinguishment of debt	19,219	28,955	—
Deferred income taxes	93,339	(38,500)	(1,976)
Changes in current assets and liabilities, net of effects of acquisitions and divestitures:			
(Increase) decrease in accounts receivable	(786,121)	(49,295)	100,118
(Increase) decrease in inventories	(1,609,642)	(127,401)	51,978
(Increase) decrease in other current assets	(104,655)	17,411	7,902
Increase (decrease) in accounts payable	1,287,072	143,939	(31,519)
(Decrease) increase in accrued expenses and income taxes payable	(201,356)	127,068	(215,011)
Non-cash transfer of 40% value of construction in progress of Kemerton plant to MRL	122,682	135,928	179,437
Other, net	(31,412)	53,521	28,488
Net cash provided by operating activities	<u>1,907,849</u>	<u>344,257</u>	<u>798,914</u>
Cash flows from investing activities:			
Acquisitions, net of cash acquired	(162,239)	—	(22,572)
Capital expenditures	(1,261,646)	(953,667)	(850,477)
Cash proceeds from divestitures, net	—	289,791	—
Proceeds from sale of joint venture	—	—	11,000
Sales of marketable securities, net	1,942	3,774	903
Investments in equity and other corporate investments	(706)	(6,488)	(2,427)
Net cash used in investing activities	<u>(1,422,649)</u>	<u>(666,590)</u>	<u>(863,573)</u>
Cash flows from financing activities:			
Proceeds from issuance of common stock	—	1,453,888	—
Proceeds from borrowings of other long-term debt	1,964,216	—	452,163
Repayments of long-term debt and credit agreements	(705,000)	(1,173,823)	(250,000)
Other (repayments) borrowings, net	(391,662)	60,991	137,635
Fees related to early extinguishment of debt	(9,767)	(24,877)	—
Dividends paid to shareholders	(184,429)	(177,853)	(161,818)
Dividends paid to noncontrolling interests	(44,208)	(96,136)	(32,061)
Proceeds from exercise of stock options	2,783	18,392	40,437
Withholding taxes paid on stock-based compensation award distributions	(13,338)	(8,140)	(5,143)
Other	(6,708)	(2,230)	(3,952)
Net cash provided by financing activities	<u>611,887</u>	<u>50,212</u>	<u>177,261</u>
Net effect of foreign exchange on cash and cash equivalents	(37,217)	(35,331)	21,012
Increase (decrease) in cash and cash equivalents	<u>1,059,870</u>	<u>(307,452)</u>	<u>133,614</u>
Cash and cash equivalents at end of year	<u>\$ 1,499,142</u>	<u>\$ 439,272</u>	<u>\$ 746,724</u>

See accompanying notes to the consolidated financial statements.

NOTE 1—Summary of Significant Accounting Policies:*Basis of Consolidation*

The consolidated financial statements include the accounts and operations of Albemarle Corporation and our wholly owned, majority owned and controlled subsidiaries. Unless the context otherwise indicates, the terms “Albemarle,” “we,” “us,” “our” or “the Company” mean Albemarle Corporation and its consolidated subsidiaries. For entities that we control and are the primary beneficiary, but own less than 100%, we record the minority ownership as noncontrolling interest, except as noted below. We apply the equity method of accounting for investments in which we have an ownership interest from 20% to 50% or where we exercise significant influence over the related investee’s operations. In addition, the consolidated financial statements contained herein include our 60% proportionate share of the results of operations of the MARBL Lithium Joint Venture (“MARBL”), which manages the exploration, development, mining, processing and production of lithium and other minerals from the Wodgina hard rock lithium mine project (“Wodgina Project”). The joint venture is unincorporated with each investor holding an undivided interest in each asset and proportionately liable for each liability; therefore our proportionate share of assets, liabilities, revenue and expenses are included in the appropriate classifications in the consolidated financial statements. All significant intercompany accounts and transactions are eliminated in consolidation.

Interest and financing expenses for the year ended December 31, 2022 includes an expense of \$17.5 million for the correction of out-of-period errors regarding overstated capitalized interest values in prior periods. For the years ended December 31, 2021, 2020 and 2019, Interest expense was understated by \$11.4 million, \$5.5 million and \$0.6 million, respectively. The Company does not believe these adjustments are material to the consolidated financial statements for any of the prior periods presented or to the year ended December 31, 2022, in which they were corrected.

Estimates, Assumptions and Reclassifications

The preparation of financial statements in conformity with generally accepted accounting principles (“GAAP”) in the United States (“U.S.”) requires management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Revenue Recognition

Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services, and is recognized when performance obligations are satisfied under the terms of contracts with our customers. A performance obligation is deemed to be satisfied when control of the product or service is transferred to our customer. The transaction price of a contract, or the amount we expect to receive upon satisfaction of all performance obligations, is determined by reference to the contract’s terms and includes adjustments, if applicable, for any variable consideration, such as customer rebates, noncash consideration or consideration payable to the customer, although these adjustments are generally not material. Where a contract contains more than one distinct performance obligation, the transaction price is allocated to each performance obligation based on the standalone selling price of each performance obligation, although these situations do not occur frequently and are generally not built into our contracts. Any unsatisfied performance obligations are not material. Standalone selling prices are based on prices we charge to our customers, which in some cases are based on established market prices. Sales and other similar taxes collected from customers on behalf of third parties are excluded from revenue. Our payment terms are generally between 30 to 90 days, however, they vary by market factors, such as customer size, creditworthiness, geography and competitive environment.

All of our revenue is derived from contracts with customers, and almost all of our contracts with customers contain one performance obligation for the transfer of goods where such performance obligation is satisfied at a point in time. Control of a product is deemed to be transferred to the customer upon shipment or delivery. Significant portions of our sales are sold free on board shipping point or on an equivalent basis, while delivery terms of other transactions are based upon specific contractual arrangements. Our standard terms of delivery are generally included in our contracts of sale, order confirmation documents and invoices, while the timing between shipment and delivery generally ranges between 1 and 45 days. Costs for shipping and handling activities, whether performed before or after the customer obtains control of the goods, are accounted for as fulfillment costs.

The Company currently utilizes the following practical expedients, as permitted by Accounting Standards Codification (“ASC”) 606, *Revenue from Contracts with Customers*:

- All sales and other pass-through taxes are excluded from contract value;

- In utilizing the modified retrospective transition method, no adjustment was necessary for contracts that did not cross over the reporting year;
- We will not consider the possibility of a contract having a significant financing component (which would effectively attribute a portion of the sales price to interest income) unless, if at contract inception, the expected payment terms (from time of delivery or other relevant criterion) are more than one year;
- If our right to customer payment is directly related to the value of our completed performance, we recognize revenue consistent with the invoicing right; and
- We expense as incurred all costs of obtaining a contract incremental to any costs/compensation attributable to individual product sales/shipments for contracts where the amortization period for such costs would otherwise be one year or less.

Certain products we produce are made to our customer's specifications where such products have limited alternative use or would need significant rework costs in order to be sold to another customer. In management's judgment, control of these arrangements is transferred to the customer at a point in time (upon shipment or delivery) and not over the time they are produced. Therefore revenue is recognized upon shipment or delivery of these products.

Costs incurred to obtain contracts with customers are not significant and are expensed immediately as the amortization period would be one year or less. When the Company incurs pre-production or other fulfillment costs in connection with an existing or specific anticipated contract and such costs are recoverable through margin or explicitly reimbursable, such costs are capitalized and amortized to Cost of goods sold on a systematic basis that is consistent with the pattern of transfer to the customer of the goods or services to which the asset relates, which is less than one year. We record bad debt expense in specific situations when we determine the customer is unable to meet its financial obligation.

Included in Trade accounts receivable at December 31, 2022 and 2021 is approximately \$1.0 billion and \$544.1 million, respectively, arising from contracts with customers. The remaining balance of Trade accounts receivable at December 31, 2022 and 2021 primarily includes value-added taxes collected from customers on behalf of various taxing authorities.

Cash and Cash Equivalents

Cash and cash equivalents include cash and money market investments with insignificant interest rate risks and no limitations on access.

Inventories

Inventories are stated at lower of cost and net realizable value with cost determined primarily on the first-in, first-out basis. Cost is determined on the weighted-average basis for a small portion of our inventories at foreign plants and our stores, supplies and other inventory. A portion of our domestic produced finished goods and raw materials are determined on the last-in, first-out basis. The balance of deferred profits on sales from its equity method investments to the Company are recorded to finished goods.

Property, Plant and Equipment

Property, plant and equipment include costs of assets constructed, purchased or leased under a finance lease, related delivery and installation costs and interest incurred on significant capital projects during their construction periods. Expenditures for renewals and betterments also are capitalized, but expenditures for normal repairs and maintenance are expensed as incurred. Costs associated with yearly planned major maintenance are generally deferred and amortized over 12 months or until the same major maintenance activities must be repeated, whichever is shorter. The cost and accumulated depreciation applicable to assets retired or sold are removed from the respective accounts, and gains or losses thereon are included in income.

We assign the useful lives of our property, plant and equipment based upon our internal engineering estimates which are reviewed periodically. The estimated useful lives of our property, plant and equipment range from two to sixty years and depreciation is recorded on the straight-line method, with the exception of our mineral rights and reserves, which are depleted on a units-of-production method.

We evaluate the recovery of our property, plant and equipment by comparing the net carrying value of the asset group to the undiscounted net cash flows expected to be generated from the use and eventual disposition of that asset group when events or changes in circumstances indicate that its carrying amount may not be recoverable. If the carrying amount of the asset group is not recoverable, the fair value of the asset group is measured and if the carrying amount exceeds the fair value, an impairment loss is recognized.

Leases

We determine if an arrangement is a lease at inception. Right-of-use (“ROU”) assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As an implicit rate for most of our leases is not determinable, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. The lease payments for the initial measurement of lease ROU assets and lease liabilities include fixed and variable payments based on an index or a rate. Variable lease payments that are not index or rate based are recorded as expenses when incurred. Our variable lease payments typically include real estate taxes, insurance costs and common-area maintenance. The operating lease ROU asset also includes any lease payments made, net of lease incentives. The lease term is the non-cancelable period of the lease, including any options to extend, purchase or terminate the lease when it is reasonably certain that we will exercise that option. We amortize the operating lease ROU assets on a straight-line basis over the period of the lease and the finance lease ROU assets on a straight-line basis over the shorter of their estimated useful lives or the lease terms. Leases with an initial term of 12 months or less are not recorded on the balance sheet, and we recognize lease expense for these leases on a straight-line basis over the lease term.

Additionally, we have made accounting policy elections such as exclusion of short-term leases (leases with a term of 12 months or less and which do not include a purchase option that we are reasonably certain to exercise) from the balance sheet presentation, use of portfolio approach in determination of discount rate and accounting for non-lease components in a contract as part of a single lease component for all asset classes, except specific mining operation equipment.

Resource Development Expenses

We incur costs in resource exploration, evaluation and development during the different phases of our resource development projects. Exploration costs incurred before the declaration of proven and probable resources are generally expensed as incurred. After proven and probable resources are declared, exploration, evaluation and development costs necessary to bring the property to commercial capacity or increase the capacity or useful life are capitalized. Any costs to maintain the production capacity in a property under production are expensed as incurred.

Capitalized resource costs are depleted using the units-of-production method. Our resource development assets are evaluated for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable.

Investments

Investments are accounted for using the equity method of accounting if the investment gives us the ability to exercise significant influence, but not control, over the investee. Significant influence is generally deemed to exist if we have an ownership interest in the voting stock of the investee between 20% and 50%, although other factors, such as representation on the investee’s board of directors and the impact of commercial arrangements, are considered in determining whether the equity method of accounting is appropriate. Under the equity method of accounting, we record our investments in equity-method investees in the consolidated balance sheets as Investments and our share of investees’ earnings or losses together with other-than-temporary impairments in value as Equity in net income of unconsolidated investments in the consolidated statements of income. We evaluate our equity method investments for impairment whenever events or changes in circumstances indicate that the carrying amounts of such investments may be impaired. If a decline in the value of an equity method investment is determined to be other than temporary, a loss is recorded in earnings in the current period.

Certain mutual fund investments are accounted for as trading equities and are marked-to-market on a periodic basis through the consolidated statements of income. Investments in joint ventures and nonmarketable securities of immaterial entities are estimated based upon the overall performance of the entity where financial results are not available on a timely basis.

Environmental Compliance and Remediation

Environmental compliance costs include the cost of purchasing and/or constructing assets to prevent, limit and/or control pollution or to monitor the environmental status at various locations. These costs are capitalized and depreciated based on estimated useful lives. Environmental compliance costs also include maintenance and operating costs with respect to pollution prevention and control facilities and other administrative costs. Such operating costs are expensed as incurred. Environmental remediation costs of facilities used in current operations are generally immaterial and are expensed as incurred. We accrue for environmental remediation costs and post-remediation costs that relate to existing conditions caused by past operations at facilities or off-plant disposal sites in the accounting period in which responsibility is established and when the related liability

is considered probable and estimable. In developing these cost estimates, we evaluate currently available facts regarding each site, with consideration given to existing technology, presently enacted laws and regulations, prior experience in remediation of contaminated sites, the financial capability of other potentially responsible parties and other factors, subject to uncertainties inherent in the estimation process. If the amount and timing of the cash payments for a site are fixed or reliably determinable, the liability is discounted, if the calculated discount is material. Additionally, these estimates are reviewed periodically, with adjustments to the accruals recorded as necessary.

Research and Development Expenses

Our research and development expenses related to present and future products are expensed as incurred. These expenses consist primarily of personnel-related costs and other overheads, as well as outside service and consulting costs incurred for specific programs. Our U.S. facilities in Texas and Louisiana and our global facilities in the Netherlands, Germany, Belgium and Korea form the capability base for our contract research and custom manufacturing businesses. These business areas provide research and scale-up services primarily to innovative life science companies.

Goodwill and Other Intangible Assets

We account for goodwill and other intangibles acquired in a business combination in conformity with current accounting guidance that requires that goodwill and indefinite-lived intangible assets not be amortized.

We test goodwill for impairment by comparing the estimated fair value of our reporting units to the related carrying value. Our reporting units are either our operating business segments or one level below our operating business segments for which discrete financial information is available and for which operating results are regularly reviewed by the business management. In applying the goodwill impairment test, the Company initially performs a qualitative test ("Step 0"), where it first assesses qualitative factors to determine whether it is more likely than not that the fair value of the reporting units is less than its carrying value. Qualitative factors may include, but are not limited to, economic conditions, industry and market considerations, cost factors, overall financial performance of the reporting units and other entity and reporting unit specific events. If after assessing these qualitative factors, the Company determines it is "more-likely-than-not" that the fair value of the reporting unit is less than the carrying value, the Company performs a quantitative test ("Step 1"). During Step 1, the Company estimates the fair value based on present value techniques involving future cash flows. Future cash flows for all reporting units include assumptions about revenue growth rates, adjusted EBITDA margins, discount rate as well as other economic or industry-related factors. For the Refining Solutions reporting unit, the revenue growth rates, adjusted EBITDA margins and the discount rate were deemed to be significant assumptions. Significant management judgment is involved in estimating these variables and they include inherent uncertainties since they are forecasting future events. The Company uses a Weighted Average Cost of Capital ("WACC") approach to determine our discount rate for goodwill recoverability testing. The WACC calculation incorporates industry-weighted average returns on debt and equity from a market perspective. The factors in this calculation are largely external to the Company and, therefore, are beyond its control. The Company performs a sensitivity analysis by using a range of inputs to confirm the reasonableness of these estimates being used in the goodwill impairment analysis. The Company tests its recorded goodwill for impairment in the fourth quarter of each year or upon the occurrence of events or changes in circumstances that would more likely than not reduce the fair value of its reporting units below their carrying amounts. The Company performed its annual goodwill impairment test as of October 31, 2022 and no evidence of impairment was noted from the analysis. As a result, the Company concluded there was no impairment as of that date. However, if the adjusted EBITDA or discount rate estimates for the Refining Solutions reporting unit negatively changed by 10%, the Refining Solutions fair value would be below its carrying value.

The Company assesses its indefinite-lived intangible assets, which include trade names and trademarks, for impairment annually and between annual tests if events or changes in circumstances indicate that it is more likely than not that the asset is impaired. The indefinite-lived intangible asset impairment standard allows the Company to first assess qualitative factors to determine if a quantitative impairment test is necessary. Further testing is only required if we determine, based on the qualitative assessment, that it is more likely than not that the indefinite-lived intangible asset's fair value is less than its carrying amount. If we determine based on the qualitative assessment that it is more likely than not that the asset is impaired, an impairment test is performed by comparing the fair value of the indefinite-lived intangible asset to its carrying amount. During the year ended December 31, 2022, no evidence of impairment was noted from the analysis for the Company's indefinite-lived intangible assets.

Definite-lived intangible assets, such as purchased technology, patents and customer lists, are amortized over their estimated useful lives generally for periods ranging from five to twenty-five years. Except for customer lists and relationships associated with the majority of our Lithium business, which are amortized using the pattern of economic benefit method, definite-lived intangible assets are amortized using the straight-line method. We evaluate the recovery of our definite-lived

intangible assets by comparing the net carrying value of the asset group to the undiscounted net cash flows expected to be generated from the use and eventual disposition of that asset group when events or changes in circumstances indicate that its carrying amount may not be recoverable. If the carrying amount of the asset group is not recoverable, the fair value of the asset group is measured and if the carrying amount exceeds the fair value, an impairment loss is recognized. See Note 12, "Goodwill and Other Intangibles."

Pension Plans and Other Postretirement Benefits

Under authoritative accounting standards, assumptions are made regarding the valuation of benefit obligations and the performance of plan assets. As required, we recognize a balance sheet asset or liability for each of our pension and other postretirement benefit ("OPEB") plans equal to the plan's funded status as of the measurement date. The primary assumptions are as follows:

- **Discount Rate**—The discount rate is used in calculating the present value of benefits, which is based on projections of benefit payments to be made in the future.
- **Expected Return on Plan Assets**—We project the future return on plan assets based on prior performance and future expectations for the types of investments held by the plans, as well as the expected long-term allocation of plan assets for these investments. These projected returns reduce the net benefit costs recorded currently.
- **Rate of Compensation Increase**—For salary-related plans, we project employees' annual pay increases, which are used to project employees' pension benefits at retirement.
- **Mortality Assumptions**—Assumptions about life expectancy of plan participants are used in the measurement of related plan obligations.

Actuarial gains and losses are recognized annually in our consolidated statements of income in the fourth quarter and whenever a plan is determined to qualify for a remeasurement during a fiscal year. The remaining components of pension and OPEB plan expense, primarily service cost, interest cost and expected return on assets, are recorded on a monthly basis. The market-related value of assets equals the actual market value as of the date of measurement.

During 2022, we made changes to assumptions related to discount rates and expected rates of return on plan assets. We consider available information that we deem relevant when selecting each of these assumptions.

In selecting the discount rates for the U.S. plans, we consider expected benefit payments on a plan-by-plan basis. As a result, the Company uses different discount rates for each plan depending on the demographics of participants and the expected timing of benefit payments. For 2022, the discount rates were calculated using the results from a bond matching technique developed by Milliman, which matched the future estimated annual benefit payments of each respective plan against a portfolio of bonds of high quality to determine the discount rate. We believe our selected discount rates are determined using preferred methodology under authoritative accounting guidance and accurately reflect market conditions as of the December 31, 2022 measurement date.

In selecting the discount rates for the foreign plans, we look at long-term yields on AA-rated corporate bonds when available. Our actuaries have developed yield curves based on the yields on the constituent bonds in the various indices as well as on other market indicators such as swap rates, particularly at the longer durations. For the Eurozone, we apply the Aon Hewitt yield curve to projected cash flows from the relevant plans to derive the discount rate. For the United Kingdom ("U.K."), the discount rate is determined by applying the Aon Hewitt yield curve for typical schemes of similar duration to projected cash flows of Albemarle's U.K. plan. In other countries where there is not a sufficiently deep market of high-quality corporate bonds, we set the discount rate by referencing the yield on government bonds of an appropriate duration.

In estimating the expected return on plan assets, we consider past performance and future expectations for the types of investments held by the plan as well as the expected long-term allocation of plan assets to these investments. In projecting the rate of compensation increase, we consider past experience in light of movements in inflation rates.

For the purpose of measuring our U.S. pension and OPEB obligations at December 31, 2022 and 2021, we used the Pri-2012 Mortality Tables along with the MP-2021 Mortality Improvement Scale, respectively, published by the SOA.

Stock-based Compensation Expense

The fair value of restricted stock awards, restricted stock unit awards and performance unit awards with a service condition are determined based on the number of shares or units granted and the quoted price of our common stock on the date of grant, and the fair value of stock options is determined using the Black-Scholes valuation model. The fair value of performance unit awards with a service condition and a market condition are estimated on the date of grant using a Monte Carlo

simulation model. The fair value of these awards is determined after giving effect to estimated forfeitures. Such value is recognized as expense over the service period, which is generally the vesting period of the equity grant. To the extent restricted stock awards, restricted stock unit awards, performance unit awards and stock options are forfeited prior to vesting in excess of the estimated forfeiture rate, the corresponding previously recognized expense is reversed as an offset to operating expenses.

Income Taxes

We use the liability method for determining our income taxes, under which current and deferred tax liabilities and assets are recorded in accordance with enacted tax laws and rates. Under this method, the amounts of deferred tax liabilities and assets at the end of each period are determined using the tax rate expected to be in effect when taxes are actually paid or recovered. Future tax benefits are recognized to the extent that realization of such benefits is more likely than not. The Company's deferred tax assets and liabilities are classified as noncurrent on the balance sheet, along with any related valuation allowance. Tax effects are released from Accumulated Other Comprehensive Income using either the specific identification approach or the portfolio approach based on the nature of the underlying item.

Deferred income taxes are provided for the estimated income tax effect of temporary differences between the financial statement carrying amounts and the tax basis of existing assets and liabilities. Deferred tax assets are also provided for operating losses, capital losses and certain tax credit carryovers. A valuation allowance, reducing deferred tax assets, is established when it is more likely than not that some portion or all of the deferred tax assets will not be realized. The realization of such deferred tax assets is dependent upon the generation of sufficient future taxable income of the appropriate character. Although realization is not assured, we do not establish a valuation allowance when we believe it is more likely than not that a net deferred tax asset will be realized. The Company elected to not consider the estimated impact of potential future Corporate Alternative Minimum Tax liabilities for purposes of assessing valuation allowances on its deferred tax balances.

We only recognize a tax benefit after concluding that it is more likely than not that the benefit will be sustained upon audit by the respective taxing authority based solely on the technical merits of the associated tax position. Once the recognition threshold is met, we recognize a tax benefit measured as the largest amount of the tax benefit that, in our judgment, is greater than 50% likely to be realized. Under current accounting guidance for uncertain tax positions, interest and penalties related to income tax liabilities are included in Income tax expense on the consolidated statements of income.

We have designated the undistributed earnings of a portion of our foreign operations as indefinitely reinvested and as a result we do not provide for deferred income taxes on the unremitted earnings of these subsidiaries. Our foreign earnings are computed under U.S. federal tax earnings and profits, or E&P, principles. In general, to the extent our financial reporting book basis over tax basis of a foreign subsidiary exceeds these E&P amounts, deferred taxes have not been provided as they are essentially permanent in duration. The determination of the amount of such unrecognized deferred tax liability is not practicable. We provide for deferred income taxes on our undistributed earnings of foreign operations that are not deemed to be indefinitely invested. We will continue to evaluate our permanent investment assertion taking into consideration all relevant and current tax laws.

Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss comprises principally foreign currency translation adjustments, gains or losses on foreign currency cash flow hedges designated as effective hedging instruments, amounts related to the revaluation of our euro-denominated senior notes which were designated as a hedge of our net investment in foreign operations in 2014, a realized loss on a forward starting interest rate swap entered into in 2014 which was designated as a cash flow hedge, and deferred income taxes related to the aforementioned items.

Foreign Currency Translation

The assets and liabilities of all foreign subsidiaries were prepared in their respective functional currencies and translated into U.S. Dollars based on the current exchange rate in effect at the balance sheet dates, while income and expenses were translated at average exchange rates for the periods presented. Translation adjustments are reflected as a separate component of equity.

Foreign exchange transaction and revaluation (losses) gains were (\$21.8) million, \$0.1 million and (\$28.8) million for the years ended December 31, 2022, 2021 and 2020, respectively, and are included in Other income (expenses), net, in our consolidated statements of income, with the unrealized portion included in Other, net, in our consolidated statements of cash flows.

Derivative Financial Instruments

We manage our foreign currency exposures by balancing certain assets and liabilities denominated in foreign currencies and through the use of foreign currency forward contracts from time to time, which generally expire within one year. The principal objective of such contracts is to minimize the financial impact of changes in foreign currency exchange rates. While these contracts are subject to fluctuations in value, such fluctuations are generally expected to be offset by changes in the value of the underlying foreign currency exposures being hedged. Gains or losses under foreign currency forward contracts that have been designated as an effective hedging instrument under ASC 815, *Derivatives and Hedging* will be recorded in Accumulated other comprehensive loss beginning on the date of designation. All other gains and losses on foreign currency forward contracts not designated as an effective hedging instrument are recognized currently in Other income (expenses), net, and generally do not have a significant impact on results of operations.

We may also enter into interest rate swaps, collars or similar instruments from time to time, with the objective of reducing interest rate volatility relating to our borrowing costs.

The counterparties to these contractual agreements are major financial institutions with which we generally have other financial relationships. We are exposed to credit loss in the event of nonperformance by these counterparties. However, we do not anticipate nonperformance by the counterparties. We do not utilize financial instruments for trading or other speculative purposes. In the fourth quarter of 2019, we entered into a foreign currency forward contract to hedge the cash flow exposure of non-functional currency purchases during the construction of the Kemerton plant in Australia and designated it as an effective hedging instrument under ASC 815, *Derivatives and Hedging*. All other foreign currency forward contracts outstanding at December 31, 2022 and 2021 have not been designated as hedging instruments under ASC 815, *Derivatives and Hedging*.

Recently Issued Accounting Pronouncements

In March 2020, the Financial Accounting Standards Board (“FASB”) issued accounting guidance that provides optional expedients and exceptions for applying U.S. GAAP to contracts, hedging relationships and other transactions affected by reference rate reform if certain criteria are met. The guidance applies only to contracts, hedging relationships and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. In January 2021, the FASB issued additional accounting guidance which clarifies that certain optional expedients and exceptions apply to derivatives that are affected by the discounting transition. The guidance under both FASB issuances was originally effective March 12, 2020 through December 31, 2022. However, in December 2022, the FASB issued an update to defer the sunset date of this guidance to December 31, 2024. The Company currently does not expect this guidance to have a significant impact on its consolidated financial statements.

In October 2021, the FASB issued guidance on how to recognize and measure acquired contract assets and liabilities from revenue contracts in a business combination, which requires the acquirer to recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with ASC 606, *Revenue from Contracts with Customers* as if it had originated the contracts. This guidance is effective for financial statements issued for annual periods beginning after December 15, 2022, including interim periods within those annual periods. The Company currently does not expect this guidance to have a significant impact on its consolidated financial statements.

In November 2021, the FASB issued accounting guidance that requires disclosures about government assistance in the notes to the financial statements. This guidance will require the disclosure of: (1) the types of government assistance received; (2) the accounting for such assistance; and (3) the effect of the assistance on a business entity’s financial statements. This guidance is effective for financial statements issued for annual periods beginning after December 15, 2021. The Company has adopted this guidance and provided the required disclosures in this Annual Report on Form 10-K.

In March 2022, the FASB issued accounting guidance that expands the Company’s abilities to hedge the benchmark interest rate risk of portfolios of financial assets or beneficial interests in a fair value hedge. This guidance expands the use of the portfolio layer method to allow multiple hedges of a single closed portfolio of assets using spot starting, forward starting, and amortizing-notional swaps. This also permits both prepayable and non prepayable financial assets to be included in the closed portfolio of assets hedged in a portfolio layer hedge. In addition, this guidance requires that basis adjustments not be allocated to individual assets for active portfolio layer method hedges, but rather be maintained on the closed portfolio of assets as a whole. This guidance is effective for financial statements issued for annual periods beginning after December 15, 2022, including interim periods within those annual periods. The Company currently does not expect this guidance to have a significant impact on its consolidated financial statements.

NOTE 2—Acquisitions:*Guangxi Tianyuan New Energy Materials Acquisition*

On October 25, 2022, the Company completed the acquisition of all of the outstanding equity of Guangxi Tianyuan New Energy Materials Co., Ltd. (“Qinzhou”), for approximately \$200 million in cash, which includes a deferral of approximately \$29 million to be paid in installments within a year of the acquisition closing date. Qinzhou's operations include a recently constructed lithium processing plant strategically positioned near the Port of Qinzhou in Guangxi, which began commercial production in the first half of 2022. The plant has designed annual conversion capacity of up to 25,000 metric tonnes of LCE and is capable of producing battery-grade lithium carbonate and lithium hydroxide.

Qinzhou did not provide material Net sales or Net income attributable to Albemarle Corporation from October 25, 2022 through December 31, 2022. Pro forma financial information of the combined entities for periods prior to the acquisition is not presented due to the immaterial impact of the Net Sales and Net Income of Qinzhou on our consolidated statements of income.

The aggregate purchase price noted above was allocated to the major categories of assets and liabilities acquired based upon their estimated fair values at the acquisition closing date, which were based, in part, upon third-party appraisals for certain assets. The fair value of the assets and liabilities was primarily related to Property, plant and equipment of \$106.6 million, Other intangibles of \$16.3 million, net current liabilities of \$5.5 million, and long-term liabilities of \$7.1 million. The excess of the purchase price over the preliminary estimated fair value of the net assets acquired was approximately \$76.1 million and was recorded as Goodwill.

The allocation of the purchase price to the assets acquired and liabilities assumed, including the residual amount allocated to Goodwill, is based upon preliminary information and is subject to change within the measurement-period (up to one year from the acquisition date) as additional information concerning final asset and liability valuations is obtained. The primary area of the preliminary purchase price allocation that is not yet finalized relates to the fair value of the net working capital and Goodwill. The fair value of the assets acquired and liabilities assumed was based on management's estimates and assumptions, as well as other information compiled by management, including valuations that utilize customary valuation procedures and techniques. The discount rate is a significant assumption used in the valuation model. If the actual results differ from the estimates and judgments used in these fair values, the amounts recorded in the consolidated financial statements could be subject to possible impairment.

Goodwill arising from the acquisition consists largely of anticipated synergies and economies of scale from the combined companies and overall strategic importance of the acquired businesses to Albemarle. The goodwill attributable to the acquisition will not be amortizable or deductible for tax purposes.

Wodgina Acquisition

In 2019, we completed the acquisition of a 60% interest in Mineral Resources Limited's (“MRL”) Wodgina Project for a total purchase price of approximately \$1.3 billion. The purchase price was comprised of \$820 million in cash and the transfer of 40% interest in certain lithium hydroxide conversion assets being built by Albemarle in Kemerton, Western Australia, originally valued at \$480 million. During the years ended December 31, 2022 and 2021, the Company revised its estimate of the obligation to construct these lithium hydroxide conversion assets due to anticipated cost overruns from supply chain, labor and COVID-19 pandemic related issues. Consequently, expenses of \$8.4 million and \$132.4 million were included in Loss (gain) on sale of business/interest in properties, net, within operating income for the years ended December 31, 2022 and 2021, respectively, with a corresponding obligation recorded in Accrued liabilities.

In addition, during the year ended December 31, 2020, we paid \$22.6 million of agreed upon purchase price adjustments for this acquisition. The stamp duty levied on the assets purchased of \$61.5 million, originally recorded as an expense based on an estimated calculation during the year ended December 31, 2019, was paid during the year ended December 31, 2020 and is included in Change in working capital on the consolidated statement of cash flows.

Acquisition and integration related costs

Acquisition and integration related costs for the years ended December 31, 2022, 2021 and 2020 of \$16.3 million, \$12.7 million and \$17.3 million were included primarily in Selling, general and administrative expenses, respectively, on our consolidated statements of income. These include costs for the Qinzhou acquisitions noted above, as well as various other completed or potential acquisitions and divestitures.

NOTE 3—Divestitures:

On June 1, 2021, the Company completed the sale of its fine chemistry services (“FCS”) business to W. R. Grace & Co. (“Grace”) for proceeds of approximately \$570 million, consisting of \$300 million in cash and the issuance to Albemarle of preferred equity of a Grace subsidiary having an aggregate stated value of \$270 million. The preferred equity can be redeemed at Grace’s option under certain conditions and will accrue payment-in-kind (“PIK”) dividends at an annual rate of 12% beginning two years after issuance.

As part of the transaction, Grace acquired our manufacturing facilities located in South Haven, Michigan and Tyrone, Pennsylvania. The sale of the FCS business reflects the Company’s commitment to investing in its core, growth-oriented business segments. During the year ended December 31, 2021 we recorded a gain of \$428.4 million (\$330.9 million after taxes) related to the sale of this business.

We determined that this business met the assets held for sale criteria in accordance with ASC 360, *Property, Plant and Equipment* during the first quarter of 2021. The results of operations of the business classified as held for sale are included in the consolidated statements of income through June 1, 2021. This business did not qualify for discontinued operations treatment because the Company’s management does not consider the sale as representing a strategic shift that had or will have a major effect on the Company’s operations and financial results.

NOTE 4—Supplemental Cash Flow Information:

Supplemental information related to the consolidated statements of cash flows is as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Cash paid during the year for:			
Income taxes (net of refunds of \$11,564, \$32,677 and \$25,991 in 2022, 2021 and 2020, respectively) ^(a)	\$ 248,143	\$ 130,840	\$ 52,103
Interest (net of capitalization)	\$ 92,095	\$ 27,734	\$ 66,379
Supplemental non-cash disclosures related to investing activities:			
Capital expenditures included in Accounts payable	\$ 296,294	\$ 165,677	\$ 139,120
Promissory note issued for capital expenditures ^(b)	\$ 10,876	\$ —	\$ —
Non-cash proceeds from divestitures ^(c)	\$ —	\$ 244,530	\$ —

- (a) Cash paid for income tax during the year ended December 31, 2021 includes a \$45.0 million payment in the U.S. primarily resulting from the proceeds on the sale of the FCS business.
- (b) During the first quarter of 2022, the Company issued a promissory note with a present value of \$10.9 million for land purchased in Kings Mountain, North Carolina. The promissory note is payable in equal annual installments from the years 2027 to 2048.
- (c) Fair value of preferred equity of a Grace subsidiary received as part of proceeds for the sale of our FCS business. See Note 3, “Divestitures,” for further details.

As part of the purchase price paid for the acquisition of a 60% interest in MRL’s Wodgina Project, the Company transferred \$122.7 million, \$135.9 million and \$179.4 million of its construction in progress of the designated Kemerton assets during the years ended December 31, 2022, 2021 and 2020, respectively, representing MRL’s 40% interest in the assets. Since the acquisition, the Company has transferred the full \$480 million of construction in progress to MRL, as defined in the purchase agreement. During the years ended December 31, 2022 and 2021, the Company recorded expenses of \$8.4 million and \$132.4 million, respectively, related to anticipated cost overruns of the designated Kemerton assets. See Note 2, “Acquisitions,” for further details. The cash outflow for these assets was recorded in Capital expenditures within Cash flows from investing activities on the condensed consolidated statements of cash flows. The non-cash transfer of these assets is recorded in Non-cash transfer of 40% value of construction in progress of the Kemerton plant to MRL within Cash flows from operating activities on the consolidated statements of cash flows.

Other, net within Cash flows from operating activities on the consolidated statements of cash flows for the years ended December 31, 2022, 2021 and 2020 included \$41.8 million, \$28.7 million and \$30.4 million, respectively, representing the reclassification of the current portion of the one-time transition tax resulting from the enactment of the Tax Cuts and Jobs Act (“TCJA”) in 2017, from Other noncurrent liabilities to Income taxes payable within current liabilities. For additional information, see Note 21, “Income Taxes.” In addition, included in Other, net for the years ended December 31, 2022, 2021 and

2020 is \$21.8 million, (\$0.1) million and \$28.8 million, respectively, related to (gains) losses on fluctuations in foreign currency exchange rates.

NOTE 5—Earnings Per Share:

Basic and diluted earnings per share are calculated as follows (in thousands, except per share amounts):

	Year Ended December 31,		
	2022	2021	2020
Basic earnings per share			
Numerator:			
Net income attributable to Albemarle Corporation	\$ 2,689,816	\$ 123,672	\$ 375,764
Denominator:			
Weighted-average common shares for basic earnings per share	117,120	115,841	106,402
Basic earnings per share	\$ 22.97	\$ 1.07	\$ 3.53
Diluted earnings per share			
Numerator:			
Net income attributable to Albemarle Corporation	\$ 2,689,816	\$ 123,672	\$ 375,764
Denominator:			
Weighted-average common shares for basic earnings per share	117,120	115,841	106,402
Incremental shares under stock compensation plans	673	695	406
Weighted-average common shares for diluted earnings per share	117,793	116,536	106,808
Diluted earnings per share	\$ 22.84	\$ 1.06	\$ 3.52

Included in the calculation of basic earnings per share are unvested restricted stock awards that contain nonforfeitable rights to dividends. At December 31, 2022, there were 5,117 unvested shares of restricted stock awards outstanding.

We have the authority to issue 15 million shares of preferred stock in one or more classes or series. As of December 31, 2022, no shares of preferred stock have been issued.

On February 8, 2021, we completed an underwritten public offering of 8,496,773 shares of our common stock, par value \$0.01 per share, at a price to the public of \$153.00 per share. The Company also granted to the Underwriters an option to purchase up to an additional 1,274,509 shares for a period of 30 days, which was exercised. The total gross proceeds from this offering were approximately \$1.5 billion, before deducting expenses, underwriting discounts and commissions.

In November 2016, our Board of Directors authorized an increase in the number of shares the Company is permitted to repurchase under our share repurchase program, pursuant to which the Company is now permitted to repurchase up to a maximum of 15 million shares, including those previously authorized but not yet repurchased.

There were no shares of the Company's common stock repurchased during the year ended December 31, 2022, 2021 or 2020. As of December 31, 2022, there were 7,396,263 remaining shares available for repurchase under the Company's authorized share repurchase program.

NOTE 6—Other Accounts Receivable:

Other accounts receivable consist of the following at December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Value added tax/consumption tax	\$ 141,856	\$ 35,758
Other	43,963	30,426
Total	\$ 185,819	\$ 66,184

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

NOTE 7—Inventories:

The following table provides a breakdown of inventories at December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Finished goods	\$ 1,679,473	\$ 459,536
Raw materials and work in process ^(a)	296,998	259,221
Stores, supplies and other	99,560	79,863
Total	<u>\$ 2,076,031</u>	<u>\$ 798,620</u>

(a) Included \$133.2 million and \$149.4 million at December 31, 2022 and 2021, respectively, of work in process in our Lithium segment.

Approximately 3% and 6% of our inventories are valued using the last-in, first-out (“LIFO”) method at December 31, 2022 and 2021, respectively. The portion of our domestic inventories stated on the LIFO basis amounted to \$52.9 million and \$51.2 million at December 31, 2022 and 2021, respectively, which are below replacement cost by approximately \$57.9 million and \$45.3 million, respectively.

Effective in 2022 the Company began recording the balance of deferred profits on sales from its equity method investments to the Company to Inventories, specifically finished goods. Historically this balance was recorded in Investments in the consolidated balance sheets. As a result, the historical balances have been reclassified to reflect the current period presentation. This change in presentation was made to better align the location of these deferred profits with their respective inventory balances until they are sold to a third party. Deferred profits from equity method investments totaled \$332.3 million and \$14.3 million at December 31, 2022 and 2021, respectively, with the increase primarily driven by increased pricing and volume of sales from the Talison joint venture. There was no impact to the statements of income, comprehensive (loss) income, changes in equity or cash flows for any period as a result of this change in presentation. In addition, the Company does not believe this change in presentation is material to the consolidated financial statements for any prior period.

NOTE 8—Other Current Assets:

Other current assets consist of the following at December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Income tax receivables	\$ 71,795	\$ 76,952
Prepaid taxes	97,682	12,573
Other prepaid expenses	58,754	37,360
Other	6,724	5,798
Total	<u>\$ 234,955</u>	<u>\$ 132,683</u>

NOTE 9—Property, Plant and Equipment:

Property, plant and equipment, at cost, consist of the following at December 31, 2022 and 2021 (in thousands):

	Useful Lives (Years)	December 31,	
		2022	2021
Land	—	\$ 172,464	\$ 117,703
Land improvements	10 – 30	201,284	112,374
Buildings and improvements	10 – 50	492,509	383,879
Machinery and equipment ^(a)	2 – 45	4,446,315	3,619,712
Mineral rights and reserves	7 – 60	1,795,668	1,783,691
Construction in progress	—	2,246,090	2,057,387
Total		<u>\$ 9,354,330</u>	<u>\$ 8,074,746</u>

(a) Consists primarily of (1) short-lived production equipment components, office and building equipment and other equipment with estimated lives ranging 2 – 7 years, (2) production process equipment (intermediate components) with estimated lives ranging 8 – 19 years, (3) production process equipment (major unit components) with estimated lives ranging 20 – 29 years, and (4) production process equipment (infrastructure and other) with estimated lives ranging 30 – 45 years.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

The cost of property, plant and equipment is depreciated generally by the straight-line method. Depletion of mineral rights is based on the units-of-production method. Depreciation expense, including depletion, amounted to \$273.0 million, \$225.6 million and \$203.6 million during the years ended December 31, 2022, 2021 and 2020, respectively. Interest capitalized on significant capital projects in 2022, 2021 and 2020 was \$31.1 million, \$50.0 million and \$30.4 million, respectively.

In October 2022, the Company announced it has been awarded a nearly \$150 million grant from the U.S. Department of Energy to expand domestic manufacturing of batteries for EVs and the electric grid and for materials and components currently imported from other countries. The grant funding is intended to support a portion of the anticipated cost to construct a new, commercial-scale U.S.-based lithium concentrator facility at our Kings Mountain, North Carolina location. The grant will be received over the life of the construction period for the new facility (projected as 2023 to 2026) as reimbursement for capital expenditures. As funds are received the Company will reduce the cost of the assets by the amount of the grant, and income will be recognized by the lower depreciation expense over the useful life of the assets.

NOTE 10—Investments:

Investments include our share of unconsolidated joint ventures, nonmarketable securities and marketable equity securities. The following table details our investment balances at December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Joint ventures	\$ 832,119	\$ 607,644
Available for sale debt securities	260,139	246,517
Nonmarketable securities	18,760	20,660
Marketable equity securities	39,535	37,187
Total	\$ 1,150,553	\$ 912,008

Our ownership positions in significant unconsolidated investments are shown below:

	December 31,		
	2022	2021	2020
* Windfield Holdings Pty. Ltd. - a joint venture with Sichuan Tianqi Lithium Industries, Inc., that mines lithium ore and produces lithium concentrate	49 %	49 %	49 %
* Nippon Aluminum Alkyls - a joint venture with Mitsui Chemicals, Inc. that produces aluminum alkyls	50 %	50 %	50 %
* Nippon Ketjen Company Limited - a joint venture with Sumitomo Metal Mining Company Limited that produces refinery catalysts	50 %	50 %	50 %
* Eurecat S.A. - a joint venture with Axens Group for refinery catalysts regeneration services	50 %	50 %	50 %
* Fábrica Carioca de Catalisadores S.A. - a joint venture with Petrobras Quimica S.A. - PETROQUISA that produces catalysts and includes catalysts research and product development activities	50 %	50 %	50 %

Our investment in the significant unconsolidated joint ventures above amounted to \$813.9 million and \$575.3 million as of December 31, 2022 and 2021, respectively, and the amount included in Equity in net income of unconsolidated investments (net of tax) in the consolidated statements of income totaled \$771.6 million, \$94.9 million and \$126.0 million for the years ended December 31, 2022, 2021 and 2020, respectively. Undistributed earnings attributable to our significant unconsolidated investments represented approximately \$242.7 million and \$271.9 million of our consolidated retained earnings at December 31, 2022 and 2021, respectively. All of the unconsolidated joint ventures in which we have investments are private companies and accordingly do not have a quoted market price available.

The following summary lists the assets, liabilities and results of operations for our significant unconsolidated joint ventures presented herein (in thousands):

	December 31,	
	2022	2021
Summary of Balance Sheet Information:		
Current assets	\$ 1,927,791	\$ 485,730
Noncurrent assets	1,659,692	1,590,958
Total assets	\$ 3,587,483	\$ 2,076,688
Current liabilities	\$ 770,211	\$ 209,621
Noncurrent liabilities	1,175,773	739,599
Total liabilities	\$ 1,945,984	\$ 949,220

	Year Ended December 31,		
	2022	2021	2020
Summary of Statements of Income Information:			
Net sales	\$ 4,290,223	\$ 827,848	\$ 597,082
Gross profit	\$ 3,765,304	\$ 443,129	\$ 266,026
Income before income taxes	\$ 3,301,875	\$ 269,788	\$ 225,436
Net income	\$ 2,314,094	\$ 187,084	\$ 157,628

We have evaluated each of the unconsolidated investments pursuant to current accounting guidance and none qualify for consolidation. Dividends received from our significant unconsolidated investments were \$800.9 million, \$78.4 million and \$87.4 million in 2022, 2021 and 2020, respectively.

At December 31, 2022 and 2021, the carrying amount of our investments in unconsolidated joint ventures differed from the amount of underlying equity in net assets by approximately \$5.6 million and \$30.4 million, respectively. These amounts represent the differences between the value of certain assets of the joint ventures and our related valuation on a U.S. GAAP basis.

The Company holds a 49% equity interest in Windfield Holdings Pty. Ltd. (“Windfield”), which we acquired in the Rockwood acquisition. With regards to the Company’s ownership in Windfield, the parties share risks and benefits disproportionate to their voting interests. As a result, the Company considers Windfield to be a variable interest entity (“VIE”). However, the Company does not consolidate Windfield as it is not the primary beneficiary. The carrying amount of our 49% equity interest in Windfield, which is our most significant VIE, was \$694.5 million and \$462.3 million at December 31, 2022 and 2021, respectively. The Company’s aggregate net investment in all other entities which it considers to be VIEs for which the Company is not the primary beneficiary was \$6.7 million and \$8.0 million at December 31, 2022 and 2021, respectively. Our unconsolidated VIEs are reported in Investments in the consolidated balance sheets. The Company does not guarantee debt for, or have other financial support obligations to, these entities, and its maximum exposure to loss in connection with its continuing involvement with these entities is limited to the carrying value of the investments.

Effective in 2022 the Company began recording the balance of deferred profits on sales from its equity method investments to the Company to Inventories, specifically finished goods. Historically this balance was recorded in Investments in the consolidated balance sheets. As a result, the historical balances have been reclassified to reflect the current period presentation. This change in presentation was made to better align the location of these deferred profits with their respective inventory balances until they are sold to a third party. Deferred profits from equity method investments totaled \$332.3 million and \$14.3 million at December 31, 2022 and 2021, respectively, with the increase primarily driven by increased pricing and volume of sales from the Talison joint venture. There was no impact to the statements of income, comprehensive income, changes in equity or cash flows for any period as a result of this change in presentation. In addition, the Company does not believe this change in presentation is material to the consolidated financial statements for any prior period.

In the fourth quarter of 2020, the Company divested its ownership interest in the Saudi Organometallic Chemicals Company LLC (“SOCC”) joint venture for cash proceeds of \$11.0 million. As a result of this divestiture, the Company recorded a gain of \$7.2 million in Other income (expenses), net during the year ended December 31, 2020.

The Company holds a 50% equity interest in Jordan Bromine Company Limited (“JBC”), reported in the Bromine segment. The Company consolidates this venture as it is considered the primary beneficiary due to its operational and financial control.

The Company holds a 60% interest in MRL’s Wodgina Project and formed an unincorporated joint venture with MRL. The joint venture is unincorporated with each investor holding an undivided interest in each asset and proportionately liable for each liability; therefore our proportionate share of assets, liabilities, revenue and expenses are included in the appropriate classifications in the consolidated financial statements.

On June 1, 2021, the Company completed the sale of its FCS business to Grace for proceeds of approximately \$570 million, consisting of \$300 million in cash and the issuance to Albemarle of preferred equity of a Grace subsidiary having an aggregate stated value of \$270 million. The preferred equity can be redeemed at Grace’s option under certain conditions and will accrue PIK dividends at an annual rate of 12% beginning June 1, 2023, two years after issuance. The fair value of this preferred equity was \$260.1 million and \$246.5 million at December 31, 2022 and 2021, respectively.

We maintain a Benefit Protection Trust (the “Trust”) that was created to provide a source of funds to assist in meeting the obligations of our Executive Deferred Compensation Plan (“EDCP”), subject to the claims of our creditors in the event of our insolvency. Assets of the Trust, in conjunction with our EDCP, are accounted for as trading securities in accordance with authoritative accounting guidance. The assets of the Trust consist primarily of mutual fund investments and are marked-to-market on a monthly basis through the consolidated statements of income. At December 31, 2022 and 2021, these marketable securities amounted to \$27.3 million and \$32.5 million, respectively.

NOTE 11—Other Assets:

Other assets consist of the following at December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Deferred income taxes ^(a)	\$ 46,434	\$ 18,797
Assets related to unrecognized tax benefits ^(a)	32,421	32,868
Operating leases ^(b)	128,173	154,741
Other	43,530	45,833
Total	\$ 250,558	\$ 252,239

(a) See Note 1, “Summary of Significant Accounting Policies” and Note 21, “Income Taxes.”

(b) See Note 18, “Leases.”

NOTE 12—Goodwill and Other Intangibles:

The following table summarizes the changes in goodwill by reportable segment for the years ended December 31, 2022 and 2021 (in thousands):

	Lithium	Bromine	Catalysts ^(c)	All Other	Total
Balance at December 31, 2020	\$ 1,441,781	\$ 20,319	\$ 196,834	\$ 6,586	\$ 1,665,520
Divestitures ^(a)	—	—	—	(6,586)	(6,586)
Foreign currency translation adjustments and other	(47,599)	—	(13,708)	—	(61,307)
Balance at December 31, 2021	1,394,182	20,319	183,126	—	1,597,627
Acquisitions ^(b)	76,105	—	—	—	76,105
Foreign currency translation adjustments and other	(46,012)	—	(10,093)	—	(56,105)
Balance at December 31, 2022	\$ 1,424,275	\$ 20,319	\$ 173,033	\$ —	\$ 1,617,627

(a) Represents goodwill of the FCS business. See Note 3, “Divestitures,” for additional information.

(b) Represents preliminary purchase price adjustments for the Qinzhou acquisition. See Note 2, “Acquisitions,” for additional information.

(c) Balance at December 31, 2022 and 2021 consists of goodwill related to Refining Solutions (composed of our clean fuels technologies (“CFT”) and fluidized catalytic cracking (“FCC”) catalysts and additives businesses) of \$166.2 million and \$176.0 million, respectively, and performance catalyst solutions (“PCS”) of \$6.8 million and \$7.1 million, respectively.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

Other intangibles consist of the following at December 31, 2022 and 2021 (in thousands):

	Customer Lists and Relationships	Trade Names and Trademarks ^(c)	Patents and Technology	Other	Total
Gross Asset Value					
Balance at December 31, 2020	\$ 448,748	\$ 18,710	\$ 58,096	\$ 39,864	\$ 565,418
Divestitures ^(a)	—	—	—	(1,473)	(1,473)
Foreign currency translation adjustments and other	(20,369)	(827)	(783)	(1,686)	(23,665)
Balance at December 31, 2021	428,379	17,883	57,313	36,705	540,280
Acquisitions ^(b)	6,000	—	8,300	2,030	16,330
Retirements	—	(4,253)	(16,206)	(5,844)	(26,303)
Foreign currency translation adjustments and other	(21,709)	(469)	(3,008)	2,295	(22,891)
Balance at December 31, 2022	\$ 412,670	\$ 13,161	\$ 46,399	\$ 35,186	\$ 507,416
Accumulated Amortization					
Balance at December 31, 2020	\$ (147,286)	\$ (8,176)	\$ (39,500)	\$ (21,351)	\$ (216,313)
Amortization	(22,982)	—	(1,461)	(891)	(25,334)
Divestitures ^(a)	—	—	—	1,457	1,457
Foreign currency translation adjustments and other	6,985	193	1,165	514	8,857
Balance at December 31, 2021	(163,283)	(7,983)	(39,796)	(20,271)	(231,333)
Amortization	(22,144)	—	(1,649)	(914)	(24,707)
Retirements	—	4,253	16,206	5,844	26,303
Foreign currency translation adjustments and other	7,800	143	1,449	799	10,191
Balance at December 31, 2022	\$ (177,627)	\$ (3,587)	\$ (23,790)	\$ (14,542)	\$ (219,546)
Net Book Value at December 31, 2021	\$ 265,096	\$ 9,900	\$ 17,517	\$ 16,434	\$ 308,947
Net Book Value at December 31, 2022	\$ 235,043	\$ 9,574	\$ 22,609	\$ 20,644	\$ 287,870

(a) Represents other intangibles of the FCS business. See Note 3, "Divestitures," for additional information.

(b) Represents preliminary purchase price adjustments for the Qinzhou acquisition. See Note 2, "Acquisitions," for additional information.

(c) Net Book Value includes only indefinite-lived intangible assets.

Useful lives range from 13 – 25 years for customer lists and relationships; 8 – 20 years for patents and technology; and primarily 5 – 25 years for other.

Amortization of other intangibles amounted to \$24.7 million, \$25.3 million and \$24.9 million for the years ended December 31, 2022, 2021 and 2020, respectively. Included in amortization for the years ended December 31, 2022, 2021 and 2020 is \$17.2 million, \$19.3 million and \$19.1 million, respectively, of amortization using the pattern of economic benefit method.

Total estimated amortization expense of other intangibles for the next five fiscal years is as follows (in thousands):

	Estimated Amortization Expense
2023	\$ 29,163
2024	\$ 24,230
2025	\$ 23,693
2026	\$ 23,172
2027	\$ 22,671

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

NOTE 13—Accrued Expenses:

Accrued expenses consist of the following at December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Employee benefits, payroll and related taxes	\$ 145,885	\$ 100,718
Dividend payable to noncontrolling interest	53,168	—
Settlement of prior legal matter ^(a)	—	332,500
Wodgina Project acquisition consideration obligation ^(b)	18,380	132,400
Other ^(c)	288,461	197,675
Total	\$ 505,894	\$ 763,293

(a) Balance paid in 2022 for the settlement of an arbitration ruling for a prior legal matter. See Note 17, “Commitments and Contingencies,” for further details.

(b) Represents the 40% interest in the Kemerton assets, which are under construction, expected to be transferred to MRL in the next twelve months as part of the consideration paid for the Wodgina Project acquisition. See Note 2, “Acquisitions,” for further details.

(c) Other accrued expenses represent balances such as operating lease liabilities, environmental reserves, asset retirement obligations, pension obligations, interest, utilities, other taxes, among other liabilities, expected to be paid within the next 12 months. No individual component exceeds 5% of total current liabilities.

NOTE 14—Long-Term Debt:

Long-term debt consisted of the following at December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
1.125% notes due 2025	\$ 401,265	\$ 426,571
1.625% notes due 2028	532,000	565,550
3.45% Senior notes due 2029	171,612	171,612
4.15% Senior notes due 2024	—	425,000
4.65% Senior notes due 2027	650,000	—
5.05% Senior notes due 2032	600,000	—
5.45% Senior notes due 2044	350,000	350,000
5.65% Senior notes due 2052	450,000	—
Commercial paper notes	—	388,500
Variable-rate foreign bank loans	2,997	5,226
Finance lease obligations	76,537	75,431
Other	11,378	—
Unamortized discount and debt issuance costs	(28,689)	(13,651)
Total long-term debt	3,217,100	2,394,239
Less amounts due within one year	2,128	389,920
Long-term debt, less current portion	\$ 3,214,972	\$ 2,004,319

Aggregate annual maturities of long-term debt as of December 31, 2022 are as follows (in millions): 2023—\$2.1; 2024—\$0.0; 2025—\$401.3; 2026—\$0.0; 2027—\$650.0; thereafter—\$2,192.4.

2022 Notes

On May 13, 2022, the Company issued a series of notes (collectively, the “2022 Notes”) as follows:

- \$650.0 million aggregate principal amount of senior notes, bearing interest at a rate of 4.65% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 4.84%. These senior notes mature on June 1, 2027.
- \$600.0 million aggregate principal amount of senior notes, bearing interest at a rate of 5.05% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 5.18%. These senior notes mature on June 1, 2032.

- \$450.0 million aggregate principal amount of senior notes, bearing interest at a rate of 5.65% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 5.71%. These senior notes mature on June 1, 2052.

The net proceeds from the issuance of the 2022 Notes were used to repay the balance of the commercial paper notes, the remaining balance of \$425.0 million of the 4.15% Senior Notes due 2024 (the “2024 Notes”) and for general corporate purposes. The 2024 Notes were originally due to mature on December 15, 2024 and bore interest at a rate of 4.15%. During the year ended December 31, 2022, the Company recorded a loss on early extinguishment of debt of \$19.2 million in Interest and financing expenses, representing the tender premiums, fees, unamortized discounts and unamortized deferred financing costs from the redemption of the 2024 Notes. In addition, the loss on early extinguishment of debt includes the accelerated amortization of the interest rate swap associated with the 2024 Notes from Accumulated other comprehensive income.

2019 Notes

On November 25, 2019, the Company issued a series of notes (collectively, the “2019 Notes”) as follows:

- \$200.0 million aggregate principal amount of notes, bearing interest at a floating rate, which were fully repaid in the first quarter of 2021, as noted below.
- €500.0 million aggregate principal amount of notes, bearing interest at a rate of 1.125% payable annually on November 25 of each year, beginning in 2020. The effective interest rate on these notes is approximately 1.30%. These notes mature on November 25, 2025. These notes were partially repaid in the first quarter of 2021, as noted below.
- €500.0 million aggregate principal amount of notes, bearing interest at a rate of 1.625% payable annually on November 25 of each year, beginning in 2020. The effective interest rate on these notes is approximately 1.74%. These notes mature on November 25, 2028.
- \$300.0 million aggregate principal amount of senior notes, bearing interest at a rate of 3.45% payable semi-annually on May 15 and November 15 of each year, beginning in 2020. The effective interest rate on these senior notes is approximately 3.58%. These senior notes mature on November 15, 2029. These notes were partially repaid in the first quarter of 2021, as noted below.

The net proceeds from the issuance of the 2019 Notes were used to repay the \$1.0 billion balance of the 2019 Credit Facility (see below for further details), a large portion of approximately \$370 million of commercial paper notes, the remaining balance of \$175.2 million of the senior notes issued on December 10, 2010 (“2010 Senior Notes”), and for general corporate purposes. The 2010 Senior Notes were originally due to mature on December 15, 2020 and bore interest at a rate of 4.50%. During the year ended December 31, 2019, we recorded a loss on early extinguishment of debt of \$4.8 million in Interest and financing expenses, representing the tender premiums, fees, unamortized discounts and unamortized deferred financing costs from the redemption of the 2010 Senior Notes.

2014 Senior Notes

We currently have \$350.0 million aggregate principal amount of senior notes outstanding, which were issued on November 24, 2014, bearing interest at a rate of 5.45% payable semi-annually on June 1 and December 1 of each year, beginning June 1, 2015. The effective interest rate on these senior notes is approximately 5.50%. These senior notes mature on December 1, 2044.

In the first quarter of 2021, the Company made certain debt principal payments using proceeds from the February 2021 underwritten public offering of common stock. As a result, included in Interest and financing expenses for the year ended December 31, 2021 is a loss on early extinguishment of debt of \$29.0 million representing the tender premiums, fees, unamortized discounts and unamortized deferred financing costs from the redemption of this debt.

On January 22, 2014, we entered into a pay fixed, receive variable rate forward starting interest rate swap, with a notional amount of \$325.0 million, with J.P. Morgan Chase Bank, N.A., to be effective October 15, 2014. Our risk management objective and strategy for undertaking this hedge was to eliminate the variability in the interest rate and partial credit spread on the 20 future semi-annual coupon payments that were to be paid in connection with the 2024 Notes. On October 15, 2014, the swap was settled, resulting in a payment to the counterparty of \$33.4 million. This amount was recorded in Accumulated other comprehensive loss and was to be amortized to interest expense over the life of the 2024 Notes. As noted above, the 2024 Notes were repaid in the second quarter of 2022, and as a result, the unamortized balance of this interest rate swap was reclassified to interest expense during the same period as part of the early extinguishment of debt.

Prior to repayment in the first quarter of 2021, the carrying value of the 1.875% Euro-denominated senior notes was designated as an effective hedge of our net investment in certain foreign subsidiaries where the Euro serves as the functional currency, and gains or losses on the revaluation of these senior notes to our reporting currency were recorded in accumulated other comprehensive loss. Upon repayment of these notes, this net investment hedge was discontinued. The balance of foreign exchange revaluation gains and losses associated with this discontinued net investment hedge will remain within accumulated other comprehensive loss until the hedged net investment is sold or liquidated. Prior to the net investment hedge being discontinued, gains (losses) of \$5.1 million and (\$34.2) million (net of income taxes), during the years ended December 31, 2021 and 2020, respectively, were recorded in Accumulated other comprehensive loss.

Credit Agreements

On October 28, 2022, we amended our revolving, unsecured credit agreement (the “2018 Credit Agreement”), which provides for borrowings of up to \$1.5 billion and matures on October 28, 2027. This credit agreement was originally dated as of June 21, 2018, and was previously amended on August 14, 2019, May 11, 2020 and December 10, 2021. Borrowings under the 2018 Credit Agreement bear interest at variable rates based on a benchmark rate depending on the currency in which the loans are denominated, plus an applicable margin which ranges from 0.910% to 1.375%, depending on the Company’s credit rating from Standard & Poor’s Ratings Services LLC (“S&P”), Moody’s Investors Services, Inc. (“Moody’s”) and Fitch Ratings, Inc. (“Fitch”). With respect to loans denominated in U.S. dollars, interest is calculated using the term Secured Overnight Financing Rate (“SOFR”) plus a term SOFR adjustment of 0.10%, plus the applicable margin. The applicable margin on the facility was 1.125% as of December 31, 2022. There were no borrowings outstanding under the 2018 Credit Agreement as of December 31, 2022.

On August 14, 2019, the Company entered into a \$1.2 billion unsecured credit facility with several banks and other financial institutions, which was amended and restated on December 15, 2020 and again on December 10, 2021 (the “2019 Credit Facility”). On October 24, 2022, the 2019 Credit Facility was terminated, with the outstanding balance of \$250 million repaid using cash on hand.

Borrowings under the 2018 Credit Agreement are conditioned upon satisfaction of certain conditions precedent, including the absence of defaults. The Company is subject to one financial covenant, as well as customary affirmative and negative covenants. The financial covenant requires that the Company’s consolidated net funded debt to consolidated EBITDA ratio (as such terms are defined in the 2018 Credit Agreement) be less than or equal to 3.50:1 for all fiscal quarters, subject to adjustments in accordance with the terms of the 2018 Credit Agreement relating to a consummation of an acquisition where the consideration includes cash proceeds from issuance of funded debt in excess of \$500 million. The 2018 Credit Agreement also contains customary default provisions, including defaults for non-payment, breach of representations and warranties, insolvency, non-performance of covenants and cross-defaults to other material indebtedness. The occurrence of an event of default under the 2018 Credit Agreement could result in all loans and other obligations becoming immediately due and payable and the 2018 Credit Agreement being terminated.

Commercial Paper Notes

On May 29, 2013, we entered into agreements to initiate a commercial paper program on a private placement basis under which we may issue unsecured commercial paper notes (the “Commercial Paper Notes”) from time-to-time up to a maximum aggregate principal amount outstanding at any time of \$750.0 million. The proceeds from the issuance of the Commercial Paper Notes are expected to be used for general corporate purposes, including the repayment of other debt of the Company. The 2018 Credit Agreement is available to repay the Commercial Paper Notes, if necessary. Aggregate borrowings outstanding under the 2018 Credit Agreement and the Commercial Paper Notes will not exceed the \$1.5 billion current maximum amount available under the 2018 Credit Agreement. The Commercial Paper Notes will be sold at a discount from par, or alternatively, will be sold at par and bear interest at rates that will vary based upon market conditions at the time of issuance. The maturities of the Commercial Paper Notes will vary but may not exceed 397 days from the date of issue. The definitive documents relating to the commercial paper program contain customary representations, warranties, default and indemnification provisions. There were no Commercial Paper Notes outstanding at December 31, 2022.

Other

We have additional uncommitted credit lines with various U.S. and foreign financial institutions that provide for borrowings of up to approximately \$274.3 million at December 31, 2022. Outstanding borrowings under these agreements were \$3.0 million and \$5.2 million at December 31, 2022 and 2021, respectively. The average interest rate on borrowings under these agreements during 2022, 2021 and 2020 was approximately 0.36%.

At December 31, 2022 and 2021, we had the ability and intent to refinance our borrowings under our other existing credit lines with borrowings under the 2018 Credit Agreement. Therefore, the amounts outstanding under those credit lines, if any, are

classified as long-term debt at December 31, 2022 and 2021. At December 31, 2022, we had the ability to borrow \$1.5 billion under our commercial paper program and the Credit Agreements.

We believe that as of December 31, 2022, we were, and currently are, in compliance with all of our debt covenants.

NOTE 15—Pension Plans and Other Postretirement Benefits:

We maintain various noncontributory defined benefit pension plans covering certain employees, primarily in the U.S., the U.K., Germany and Japan. We also have a contributory defined benefit plan covering certain Belgian employees. The benefits for these plans are based primarily on compensation and/or years of service. Our U.S. and U.K. defined benefit plans for non-represented employees are closed to new participants, with no additional benefits accruing under these plans as participants' accrued benefits have been frozen. The funding policy for each plan complies with the requirements of relevant governmental laws and regulations. The pension information for all periods presented includes amounts related to salaried and hourly plans.

The following provides a reconciliation of benefit obligations, plan assets and funded status, as well as a summary of significant assumptions, for our defined benefit pension plans (in thousands):

	Year Ended December 31, 2022		Year Ended December 31, 2021	
	U.S. Pension Plans	Foreign Pension Plans	U.S. Pension Plans	Foreign Pension Plans
Change in benefit obligations:				
Benefit obligation at January 1	\$ 680,696	\$ 255,234	\$ 740,951	\$ 290,385
Service cost	904	3,700	869	3,697
Interest cost	18,827	3,363	18,005	2,427
Actuarial gain	(144,288)	(49,380)	(24,576)	(14,769)
Benefits paid	(41,168)	(11,049)	(54,553)	(10,451)
Employee contributions	—	64	—	78
Foreign exchange gain	—	(18,562)	—	(14,080)
Settlements/curtailments	—	(1,028)	—	(1,998)
Other	—	(1,781)	—	(55)
Benefit obligation at December 31	\$ 514,971	\$ 180,561	\$ 680,696	\$ 255,234
Change in plan assets:				
Fair value of plan assets at January 1	\$ 605,991	\$ 94,256	\$ 594,228	\$ 89,241
Actual return on plan assets	(95,925)	(29,694)	50,256	7,305
Employer contributions	930	12,451	16,060	11,550
Benefits paid	(41,168)	(11,049)	(54,553)	(10,451)
Employee contributions	—	64	—	78
Foreign exchange gain	—	(9,004)	—	(1,419)
Settlements/curtailments	—	(1,028)	—	(1,998)
Other	—	2,233	—	(50)
Fair value of plan assets at December 31	\$ 469,828	\$ 58,229	\$ 605,991	\$ 94,256
Funded status at December 31	\$ (45,143)	\$ (122,332)	\$ (74,705)	\$ (160,978)

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

	December 31, 2022		December 31, 2021	
	U.S. Pension Plans	Foreign Pension Plans	U.S. Pension Plans	Foreign Pension Plans
Amounts recognized in consolidated balance sheets:				
Current liabilities (accrued expenses)	\$ (947)	\$ (6,957)	\$ (525)	\$ (5,972)
Noncurrent liabilities (pension benefits)	(44,196)	(115,375)	(74,180)	(155,006)
Net pension liability	<u>\$ (45,143)</u>	<u>\$ (122,332)</u>	<u>\$ (74,705)</u>	<u>\$ (160,978)</u>
Amounts recognized in accumulated other comprehensive (loss) income:				
Prior service benefit	\$ —	\$ (615)	\$ —	\$ (773)
Net amount recognized	<u>\$ —</u>	<u>\$ (615)</u>	<u>\$ —</u>	<u>\$ (773)</u>
Weighted-average assumptions used to determine benefit obligations at December 31:				
Discount rate	5.46 %	4.04 %	2.86 %	1.44 %
Rate of compensation increase	— %	3.67 %	— %	3.20 %

The accumulated benefit obligation for all defined benefit pension plans was \$688.0 million and \$928.8 million at December 31, 2022 and 2021, respectively.

Postretirement medical benefits and life insurance is provided for certain groups of U.S. retired employees. Medical and life insurance benefit costs have been funded principally on a pay-as-you-go basis. Although the availability of medical coverage after retirement varies for different groups of employees, the majority of employees who retire before becoming eligible for Medicare can continue group coverage by paying a portion of the cost of a monthly premium designed to cover the claims incurred by retired employees subject to a cap on payments allowed. The availability of group coverage for Medicare-eligible retirees also varies by employee group with coverage designed either to supplement or coordinate with Medicare. Retirees generally pay a portion of the cost of the coverage. Plan assets for retiree life insurance are held under an insurance contract and are reserved for retiree life insurance benefits. In 2005, the postretirement medical benefit available to U.S. employees was changed to provide that employees who are under age 50 as of December 31, 2005 would no longer be eligible for a company-paid retiree medical premium subsidy. Employees who are of age 50 and above as of December 31, 2005 and who retire after January 1, 2006 will have their retiree medical premium subsidy capped. Effective January 1, 2008, our medical insurance for certain groups of U.S. retired employees is now insured through a medical carrier.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

The following provides a reconciliation of benefit obligations, plan assets and funded status, as well as a summary of significant assumptions, for our postretirement benefit plans (in thousands):

	Year Ended December 31,	
	2022	2021
	Other Postretirement Benefits	Other Postretirement Benefits
Change in benefit obligations:		
Benefit obligation at January 1	\$ 47,493	\$ 51,343
Service cost	85	123
Interest cost	1,307	1,238
Actuarial (gain) loss	(10,164)	(2,568)
Benefits paid	(2,731)	(2,643)
Benefit obligation at December 31	<u>\$ 35,990</u>	<u>\$ 47,493</u>
Change in plan assets:		
Fair value of plan assets at January 1	\$ —	\$ —
Employer contributions	2,731	2,643
Benefits paid	(2,731)	(2,643)
Fair value of plan assets at December 31	<u>\$ —</u>	<u>\$ —</u>
Funded status at December 31	<u>\$ (35,990)</u>	<u>\$ (47,493)</u>
	December 31,	
	2022	2021
	Other Postretirement Benefits	Other Postretirement Benefits
Amounts recognized in consolidated balance sheets:		
Current liabilities (accrued expenses)	\$ (3,239)	\$ (3,800)
Noncurrent liabilities (postretirement benefits)	(32,751)	(43,693)
Net postretirement liability	<u>\$ (35,990)</u>	<u>\$ (47,493)</u>
Weighted-average assumptions used to determine benefit obligations at December 31:		
Discount rate	5.45 %	2.85 %
Rate of compensation increase	— %	3.50 %

The components of pension benefits cost (credit) are as follows (in thousands):

	Year Ended December 31, 2022		Year Ended December 31, 2021		Year Ended December 31, 2020	
	U.S. Pension Plans	Foreign Pension Plans	U.S. Pension Plans	Foreign Pension Plans	U.S. Pension Plans	Foreign Pension Plans
Service cost	\$ 904	\$ 3,700	\$ 869	\$ 3,697	\$ 849	\$ 4,000
Interest cost	18,827	3,363	18,005	2,427	23,402	3,357
Expected return on assets	(40,288)	(3,252)	(39,972)	(3,593)	(36,957)	(3,274)
Actuarial (gain) loss	(8,008)	(18,818)	(34,857)	(19,494)	40,653	14,189
Amortization of prior service benefit	—	89	—	115	—	36
Total net pension benefits (credit) cost	\$ (28,565)	\$ (14,918)	\$ (55,955)	\$ (16,848)	\$ 27,947	\$ 18,308
Weighted-average assumption percentages:						
Discount rate	2.86 %	1.44 %	2.50 %	0.86 %	3.56 %	1.33 %
Expected return on plan assets	6.89 %	3.85 %	6.88 %	3.98 %	6.88 %	4.07 %
Rate of compensation increase	— %	3.12 %	— %	3.26 %	— %	3.72 %

Effective January 1, 2023, the weighted-average expected rate of return on plan assets for the U.S. and foreign defined benefit pension plans is 6.88% and 4.86%, respectively.

The components of postretirement benefits cost (credit) are as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
	Other Postretirement Benefits	Other Postretirement Benefits	Other Postretirement Benefits
Service cost	\$ 85	\$ 123	\$ 105
Interest cost	1,307	1,238	1,871
Actuarial gain	(10,163)	(2,568)	(2,573)
Total net postretirement benefits credit	\$ (8,771)	\$ (1,207)	\$ (597)
Weighted-average assumption percentages:			
Discount rate	2.85 %	2.49 %	3.53 %
Rate of compensation increase	3.50 %	3.50 %	3.50 %

All components of net benefit cost (credit), other than service cost, are included in Other income (expenses), net on the consolidated statements of income.

The mark-to-market actuarial gain in 2022 is primarily attributable to a significant increase in the weighted-average discount rate to 5.46% from 2.86% for our U.S. pension plans and to 4.04% from 1.44% for our foreign pension plans to reflect market conditions as of the December 31, 2022 measurement date. This was partially offset by a lower return on pension plan assets in 2022 than was expected, as a result of overall market and investment portfolio performance. The weighted-average actual return on our U.S. and foreign pension plan assets was (17.94)% versus an expected return of 6.48%.

The mark-to-market actuarial gain in 2021 is primarily attributable to a higher return on pension plan assets in 2021 than was expected, as a result of overall market and investment portfolio performance. The weighted-average actual return on our U.S. and foreign pension plan assets was 8.42% versus an expected return of 6.50%. In addition, there was an increase in the weighted average discount rate to 2.86% from 2.50% for our U.S. pension plans and to 1.44% from 0.86% for our foreign pension plans to reflect market conditions as of the December 31, 2021 measurement date.

The mark-to-market actuarial loss in 2020 is primarily attributable to a decrease in the weighted-average discount rate to 2.50% from 3.56% for our U.S. pension plans and to 0.86% from 1.33% for our foreign pension plans to reflect market conditions as of the December 31, 2020 measurement date. This was partially offset by a higher return on pension plan assets in 2020 than was expected, as a result of overall market and investment portfolio performance. The weighted-average actual return on our U.S. and foreign pension plan assets was 13.15% versus an expected return of 6.52%.

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Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). The inputs used to measure fair value are classified into the following hierarchy:

- Level 1 Unadjusted quoted prices in active markets for identical assets or liabilities
- Level 2 Unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability
- Level 3 Unobservable inputs for the asset or liability

We endeavor to utilize the best available information in measuring fair value. Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. Investments for which market quotations are readily available are valued at the closing price on the last business day of the year. Listed securities for which no sale was reported on such date are valued at the mean between the last reported bid and asked price. Securities traded in the over-the-counter market are valued at the closing price on the last business day of the year or at bid price. The net asset value of shares or units is based on the quoted market value of the underlying assets. The market value of corporate bonds is based on institutional trading lots and is most often reflective of bid price. Government securities are valued at the mean between bid and ask prices. Holdings in private equity securities are typically valued using the net asset valuations provided by the underlying private investment companies.

The following tables set forth the assets of our pension and postretirement plans that were accounted for at fair value on a recurring basis as of December 31, 2022 and 2021 (in thousands):

	December 31, 2022	Quoted Prices in Active Markets for Identical Items (Level 1)	Quoted Prices in Active Markets for Similar Items (Level 2)	Unobservable Inputs (Level 3)
Pension Assets:				
Domestic Equity ^(a)	\$ 98,080	\$ 97,984	\$ 96	\$ —
International Equity ^(b)	88,002	79,815	8,187	—
Fixed Income ^(c)	269,352	235,184	34,168	—
Absolute Return Measured at Net Asset Value ^(d)	68,725	—	—	—
Cash	3,898	3,898	—	—
Total Pension Assets	\$ 528,057	\$ 416,881	\$ 42,451	\$ —
	December 31, 2021	Quoted Prices in Active Markets for Identical Items (Level 1)	Quoted Prices in Active Markets for Similar Items (Level 2)	Unobservable Inputs (Level 3)
Pension Assets:				
Domestic Equity ^(a)	\$ 129,946	\$ 129,139	\$ 807	\$ —
International Equity ^(b)	128,353	103,554	24,799	—
Fixed Income ^(c)	345,635	290,177	55,458	—
Absolute Return Measured at Net Asset Value ^(d)	96,313	—	—	—
Total Pension Assets	\$ 700,247	\$ 522,870	\$ 81,064	\$ —

(a) Consists primarily of U.S. stock funds that track or are actively managed and measured against the S&P 500 index.

(b) Consists primarily of international equity funds which invest in common stocks and other securities whose value is based on an international equity index or an underlying equity security or basket of equity securities.

(c) Consists primarily of debt obligations issued by governments, corporations, municipalities and other borrowers. Also includes insurance policies.

(d) Consists primarily of funds with holdings in private investment companies. See additional information about the Absolute Return investments below. Holdings in private investment companies are measured at fair value using the net asset value per share as a practical expedient and have not been categorized in the fair value hierarchy. The fair value amounts of \$68.7 million and \$96.3 million as of December 31, 2022 and 2021, respectively, are included in this table to permit reconciliation to the reconciliation of plan assets table above.

The Company's pension plan assets in the U.S. and U.K. represent approximately 96% of the total pension plan assets. The investment objective of these pension plan assets is to achieve solid returns while preserving capital to meet current plan cash flow requirements. Assets should participate in rising markets, with defensive action in declining markets expected to an even greater degree. Depending on market conditions, the broad asset class targets may range up or down by approximately 10%. These asset classes include but are not limited to hedge fund of funds, bonds and other fixed income vehicles, high yield fixed income securities, equities and distressed debt. At December 31, 2022 and 2021, equity securities held by our pension and OPEB plans did not include direct ownership of Albemarle common stock.

The weighted-average target allocations as of the measurement date are as follows:

	Target Allocation
Equity securities	41 %
Fixed income	49 %
Absolute return	10 %

Our Absolute Return investments consist primarily of our investments in hedge fund of funds. These are holdings in private investment companies with fair values that are based on significant unobservable inputs including assumptions where there is little, if any, market activity for the investment. Investment managers or fund managers associated with these investments provide valuations of the investments on a monthly basis utilizing the net asset valuation approach for determining fair values. These valuations are reviewed by the Company for reasonableness based on applicable sector, benchmark and company performance to validate the appropriateness of the net asset values as a fair value measurement. Where available, audited financial statements are obtained and reviewed for the investments as support for the manager's investment valuation. In general, the investment objective of these funds is high risk-adjusted returns with an emphasis on preservation of capital. The investment strategies of each of the funds vary; however, the objective of our Absolute Return investments is complementary to the overall investment objective of our U.S. pension plan assets.

We made contributions to our defined benefit pension and OPEB plans of \$16.1 million, \$30.3 million and \$16.4 million during the years ended December 31, 2022, 2021 and 2020, respectively. We expect contributions to our domestic nonqualified and foreign qualified and nonqualified pension plans to approximate \$14.6 million in 2023. Also, we expect to pay approximately \$3.2 million in premiums to our U.S. postretirement benefit plan in 2023. However, we may choose to make additional voluntary pension contributions in excess of these amounts.

The current forecast of benefit payments, which reflects expected future service, amounts to (in millions):

	U.S. Pension Plans	Foreign Pension Plans	Other Postretirement Benefits
2023	\$ 43.2	\$ 14.5	\$ 3.2
2024	\$ 43.5	\$ 12.5	\$ 3.2
2025	\$ 43.6	\$ 12.9	\$ 3.1
2026	\$ 43.3	\$ 12.0	\$ 3.1
2027	\$ 42.8	\$ 12.6	\$ 3.0
2026-2030	\$ 201.4	\$ 68.3	\$ 14.0

We have a supplemental executive retirement plan ("SERP"), which provides unfunded supplemental retirement benefits to certain management or highly compensated employees. The SERP provides for incremental pension benefits to offset the limitations imposed on qualified plan benefits by federal income tax regulations. (Credits) costs relating to our SERP were (\$1.2) million, (\$0.2) million and \$3.8 million for the years ended December 31, 2022, 2021 and 2020, respectively. The projected benefit obligation for the SERP recognized in the consolidated balance sheets at December 31, 2022 and 2021 was \$6.5 million and \$8.7 million, respectively. The benefit expenses and obligations of this SERP are included in the tables above. Benefits of \$0.9 million are expected to be paid to SERP retirees in 2023. On October 1, 2012, our Board of Directors approved amendments to the SERP, such that effective December 31, 2014, no additional benefits shall accrue under this plan and participants' accrued benefits shall be frozen as of that date to reflect the same changes as were made under the U.S. qualified defined benefit plan.

At December 31, 2022, the assumed rate of increase in the pre-65 and post-65 per capita cost of covered health care benefits for U.S. retirees was zero as the employer-paid premium caps (pre-65 and post-65) were met starting January 1, 2013.

Defined Contribution Plans

On March 31, 2004, a new defined contribution pension plan benefit was adopted under the qualified defined contribution plan for U.S. non-represented employees hired after March 31, 2004. On October 1, 2012 our Board of Directors approved certain plan amendments, such that effective January 1, 2013, the defined contribution pension plan benefit is expanded to include non-represented employees hired prior to March 31, 2004, and revised the contribution for all participants to be based on 5% of eligible employee compensation. The employer portion of contributions to our U.S. defined contribution pension plan amounted to \$12.1 million, \$16.7 million, and \$6.9 million in 2022, 2021 and 2020, respectively. Contributions in 2021 included amounts deferred from 2020 as a result of the Company's plan to maintain financial flexibility during the COVID-19 pandemic.

Certain of our employees participate in our defined contribution 401(k) employee savings plan, which is generally available to all U.S. full-time salaried and non-union hourly employees and to employees who are covered by a collective bargaining agreement that provides for such participation. This U.S. defined contribution plan is funded with contributions made by the participants and us. Our contributions to the 401(k) plan amounted to \$12.7 million, \$17.4 million and \$7.5 million in 2022, 2021 and 2020, respectively. Contributions in 2021 included amounts deferred from 2020 as a result of the Company's plan to maintain financial flexibility during the COVID-19 pandemic.

Multiemployer Plan

Prior to 2022, certain current and former employees participated in a multiemployer plan in Germany, the Pensionskasse Dynamit Nobel Versicherungsverein auf Gegenseitigkeit, Troisdorf ("DN Pensionskasse") that provided monthly payments in the case of disability, death or retirement. On January 1, 2022, the Company terminated its membership with the DN Pensionskasse and as a result did not make any contributions during the year.

In prior years, the majority of the Company's contributions to the DN Pensionskasse were tied to employees' contributions, which are generally calculated as a percentage of base compensation, up to a certain statutory ceiling. Our normal contributions to this plan were \$1.5 million in both the years ended December 31, 2021 and 2020, respectively.

Effective July 1, 2016, the DN Pensionskasse was subject to a financial improvement plan which expired on December 31, 2022, with the final contribution in the second quarter of 2023. This financial improvement plan called for increased capital reserves to avoid future underfunding risk. During the years ended December 31, 2022, 2021 and 2020, the Company made contributions for its employees covered under this plan of \$2.8 million, \$1.3 million and \$3.1 million, respectively, recorded in Selling, general and administrative expenses, as a result of this financial improvement plan. The value of the additional funding required under the financial improvement plan each year is determined upon the completion of the annual financial statements and are payable in the second quarter of the following year. A portion of the additional funding necessary for the year will be based on an estimate prepared on September 30 of each year and payable in the fourth quarter of that same year.

NOTE 16—Other Noncurrent Liabilities:

Other noncurrent liabilities consist of the following at December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Transition tax on foreign earnings ^(a)	\$ 191,708	\$ 234,180
Operating leases ^(b)	99,269	126,997
Liabilities related to uncertain tax positions ^(c)	83,670	27,719
Executive deferred compensation plan obligation	27,270	32,491
Environmental liabilities ^(d)	31,272	37,540
Asset retirement obligations ^(d)	79,522	76,196
Tax indemnification liability ^(e)	66,137	66,799
Other ^(f)	57,748	61,776
Total	\$ 636,596	\$ 663,698

(a) Noncurrent portion of one-time transition tax on foreign earnings. See Note 21, "Income Taxes," for additional information.

(b) See Note 18, "Leases."

(c) See Note 21, "Income Taxes."

(d) See Note 17, "Commitments and Contingencies."

- (e) Indemnification of certain income and non-income tax liabilities primarily associated with the Chemetall Surface Treatment entities sold in 2017.
(f) No individual component exceeds 5% of total liabilities.

NOTE 17—Commitments and Contingencies:

In the ordinary course of business, we have commitments in connection with various activities. We believe that amounts recorded are adequate for known items which might become due in the current year. The most significant commitments are as follows:

Environmental

We had the following activity in our recorded environmental liabilities for the years ended December 31, 2022, 2021 and 2020 (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Balance, beginning of year	\$ 46,617	\$ 45,771	\$ 42,592
Expenditures	(10,378)	(2,752)	(3,290)
Accretion of discount	1,031	960	925
Additions, liability releases and changes in estimates, net	673	4,063	3,815
Foreign currency translation adjustments and other	302	(1,425)	1,729
Balance, end of year	38,245	46,617	45,771
Less amounts reported in Accrued expenses	6,973	9,077	9,473
Amounts reported in Other noncurrent liabilities	\$ 31,272	\$ 37,540	\$ 36,298

Environmental remediation liabilities included discounted liabilities of \$30.1 million and \$39.7 million at December 31, 2022 and 2021, respectively, discounted at rates with a weighted-average of 3.4% and 3.5%, respectively, with the undiscounted amount totaling \$57.5 million and \$70.0 million at December 31, 2022 and 2021, respectively. For certain locations where the Company is operating groundwater monitoring and/or remediation systems, prior owners or insurers have assumed all or most of the responsibility.

The amounts recorded represent our future remediation and other anticipated environmental liabilities. These liabilities typically arise during the normal course of our operational and environmental management activities or at the time of acquisition of the site, and are based on internal analysis as well as input from outside consultants. As evaluations proceed at each relevant site, changes in risk assessment practices, remediation techniques and regulatory requirements can occur, therefore such liability estimates may be adjusted accordingly. The timing and duration of remediation activities at these sites will be determined when evaluations are completed. Although it is difficult to quantify the potential financial impact of these remediation liabilities, management estimates (based on the latest available information) that there is a reasonable possibility that future environmental remediation costs associated with our past operations could represent an additional \$9 million before income taxes, in excess of amounts already recorded.

We believe that any sum we may be required to pay in connection with environmental remediation matters in excess of the amounts recorded would likely occur over a period of time and would likely not have a material adverse effect upon our results of operations, financial condition or cash flows on a consolidated annual basis although any such sum could have a material adverse impact on our results of operations, financial condition or cash flows in a particular quarterly reporting period.

Asset Retirement Obligations

The following is a reconciliation of our beginning and ending asset retirement obligation balances for 2022 and 2021 (in thousands):

	Year Ended December 31,	
	2022	2021
Balance, beginning of year	\$ 79,213	\$ 75,872
Additions and changes in estimates ^(a)	2,919	4,832
Accretion of discount	1,996	2,098
Liabilities settled	(4,266)	(3,605)
Foreign currency translation adjustments and other	239	16
Balance, end of year	\$ 80,101	\$ 79,213
Less amounts reported in Accrued expenses	579	3,017
Amounts reported in Other noncurrent liabilities	\$ 79,522	\$ 76,196

(a) Additions in 2022 primarily related to updated estimates of asset retirement obligations in Australia. 2021 additions primarily related to the update of an estimate at a site formerly owned by Albemarle.

Asset retirement obligations primarily relate to post-closure reclamation of brine wells and sites involved in the surface mining and manufacturing of lithium. We are not aware of any conditional asset retirement obligations that would require recognition in our consolidated financial statements.

Litigation

We are involved from time to time in legal proceedings of types regarded as common in our business, including administrative or judicial proceedings seeking remediation under environmental laws, such as the federal Comprehensive Environmental Response, Compensation and Liability Act, commonly known as CERCLA or Superfund, products liability, breach of contract liability and premises liability litigation. Where appropriate, we may establish financial reserves for such proceedings. We also maintain insurance to mitigate certain of such risks. Costs for legal services are generally expensed as incurred.

On February 6, 2017, Huntsman International LLC (“Huntsman”), a subsidiary of Huntsman Corporation, filed a lawsuit in New York state court against Rockwood Holdings, Inc. (“Rockwood”), Rockwood Specialties, Inc., certain former executives of Rockwood and its subsidiaries, Seifollah Ghasemi, Thomas Riordan, Andrew Ross, and Michael Valente, and Albemarle. The lawsuit arises out of Huntsman’s acquisition of certain Rockwood subsidiaries in connection with a stock purchase agreement (the “SPA”), dated September 17, 2013. Before that transaction closed on October 1, 2014, Albemarle began discussions with Rockwood to purchase all outstanding equity of Rockwood and did so in a transaction that closed on January 12, 2015. Huntsman’s complaint asserted that certain technology that Rockwood had developed for a production facility in Augusta, Georgia, and which was among the assets that Huntsman acquired pursuant to the SPA, did not work, and that Rockwood and the defendant executives had intentionally misled Huntsman about that technology in connection with the Huntsman-Rockwood transaction. The complaint asserted claims for, among other things, fraud, negligent misrepresentation, and breach of the SPA, and sought certain costs for completing construction of the production facility.

On March 10, 2017, Albemarle moved in New York state court to compel arbitration, which was granted on January 8, 2018 (although Huntsman unsuccessfully appealed that decision). Huntsman’s arbitration demand asserted claims substantially similar to those asserted in its state court complaint, and sought various forms of legal remedies, including cost overruns, compensatory damages, expectation damages, punitive damages, and restitution. After a trial, the arbitration panel issued an award on October 28, 2021, awarding approximately \$600 million (including interest) to be paid by Albemarle to Huntsman, in addition to the possibility of attorney’s fees, costs and expenses. Following the arbitration panel decision, Albemarle reached a settlement with Huntsman to pay \$665 million in two equal installments, with the first payment made in December 2021. The second and final payment of \$332.5 million was made in May 2022. As a result, the consolidated statements of income for the year ended December 31, 2021, includes expense of \$657.4 million (\$508.5 million net of income tax), inclusive of estimated possible legal fees incurred by Huntsman and other related obligations, to reflect the increase in liabilities for this legal matter.

As first reported in 2018, following receipt of information regarding potential improper payments being made by third-party sales representatives of our Refining Solutions business, within our Catalysts segment, we promptly retained outside counsel and forensic accountants to investigate potential violations of the Company’s Code of Conduct, the Foreign Corrupt

Practices Act, and other potentially applicable laws. Based on this internal investigation, we have voluntarily self-reported potential issues relating to the use of third-party sales representatives in our Refining Solutions business, within our Catalysts segment, to the U.S. Department of Justice (“DOJ”), the SEC, and the Dutch Public Prosecutor (“DPP”), and are cooperating with the DOJ, the SEC, and the DPP in their review of these matters. In connection with our internal investigation, we have implemented, and are continuing to implement, appropriate remedial measures. We have commenced discussions with the SEC, DOJ and DPP about a potential resolution of these matters.

At this time, we are unable to predict the duration, scope, result, or related costs associated with the investigations. We also are unable to predict what action may be taken by the DOJ, the SEC, or the DPP, or what penalties or remedial actions they may ultimately seek. Any determination that our operations or activities are not, or were not, in compliance with existing laws or regulations could result in the imposition of fines, penalties, disgorgement, equitable relief, or other losses. We do not believe, however, that any such fines, penalties, disgorgement, equitable relief, or other losses would have a material adverse effect on our financial condition or liquidity. However, an adverse resolution could have a material adverse effect on our results of operations in a particular period.

Indemnities

We are indemnified by third parties in connection with certain matters related to acquired and divested businesses. Although we believe that the financial condition of those parties who may have indemnification obligations to the Company is generally sound, in the event the Company seeks indemnity under any of these agreements or through other means, there can be no assurance that any party who may have obligations to indemnify us will adhere to their obligations and we may have to resort to legal action to enforce our rights under the indemnities.

The Company may be subject to indemnity claims relating to properties or businesses it divested, including properties or businesses of acquired businesses that were divested prior to the completion of the acquisition. In the opinion of management, and based upon information currently available, the ultimate resolution of any indemnification obligations owed to the Company or by the Company is not expected to have a material effect on the Company’s financial condition, results of operations or cash flows. The Company had approximately \$66.1 million and \$66.8 million at December 31, 2022 and 2021, respectively, recorded in Other noncurrent liabilities primarily related to the indemnification of certain income and non-income tax liabilities associated with the Chemetall Surface Treatment entities sold in 2017. During the year ended December 31, 2021, the Company recorded \$39.4 million to revise this indemnification estimate for an ongoing tax-related matter in Germany. A corresponding discrete tax benefit of \$27.9 million was recorded in Income tax expense during the same period, netting to an expected cash obligation of approximately \$11.5 million.

Other

The Company has standby letters of credit and guarantees with various financial institutions. The following table summarizes our letters of credit and guarantee agreements (in thousands):

	2023	2024	2025	2026	2027	Thereafter
Letters of credit and other guarantees	\$ 127,235	\$ 10,366	\$ 1,770	\$ 1,931	\$ 344	\$ 684

The outstanding letters of credit are primarily related to insurance claim payment guarantees. The majority of the Company’s other guarantees have terms of one year and mainly consist of performance and environmental guarantees, as well as guarantees to customs and port authorities. The guarantees arose during the ordinary course of business.

We do not have recorded reserves for the letters of credit and guarantees as of December 31, 2022. We are unable to estimate the maximum amount of the potential future liability under guarantees and letters of credit. However, we accrue for any potential loss for which we believe a future payment is probable and a range of loss can be reasonably estimated. We believe our liability under such obligations is immaterial.

We currently, and are from time to time, subject to transactional audits in various taxing jurisdictions and to customs audits globally. We do not expect the financial impact of any of these audits to have a material adverse effect on the Company’s results of operations, financial condition or cash flows.

NOTE 18—Leases:

We lease certain office space, buildings, transportation and equipment in various countries. The initial lease terms generally range from 1 to 30 years for real estate leases, and from 2 to 15 years for non-real estate leases. Leases with an initial

term of 12 months or less are not recorded on the balance sheet, and we recognize lease expense for these leases on a straight-line basis over the lease term.

Many leases include options to terminate or renew, with renewal terms that can extend the lease term from 1 to 50 years or more. The exercise of lease renewal options is at our sole discretion. Certain leases also include options to purchase the leased property. The depreciable life of assets and leasehold improvements are limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain of exercise. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants.

The following table provides details of our lease contracts for the years ended December 31, 2022, 2021 and 2020 (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Operating lease cost	\$ 43,809	\$ 42,338	\$ 33,904
Finance lease cost:			
Amortization of right of use assets	3,377	614	585
Interest on lease liabilities	3,504	3,010	2,681
Total finance lease cost	6,881	3,624	3,266
Short-term lease cost	13,985	11,084	11,663
Variable lease cost	8,064	8,002	8,691
Total lease cost	\$ 72,739	\$ 65,048	\$ 57,524

Supplemental cash flow information related to our lease contracts for the years ended December 31, 2022, 2021 and 2020 is as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows from operating leases	\$ 36,629	\$ 33,030	\$ 36,245
Operating cash flows from finance leases	3,389	1,776	1,568
Financing cash flows from finance leases	1,432	687	663
Right-of-use assets obtained in exchange for lease obligations:			
Operating leases	15,913	56,814	29,581
Finance leases	3,976	17,096	—

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

Supplemental balance sheet information related to our lease contracts, including the location on balance sheet, at December 31, 2022 and 2021 is as follows (in thousands, except as noted):

	December 31,	
	2022	2021
Operating leases:		
Other assets	\$ 128,173	\$ 154,741
Accrued expenses	35,515	31,603
Other noncurrent liabilities	99,269	126,997
Total operating lease liabilities	134,784	158,600
Finance leases:		
Net property, plant and equipment	81,356	75,302
Current portion of long-term debt ^(a)	4,995	3,768
Long-term debt	74,409	74,011
Total finance lease liabilities	79,404	77,779
Weighted average remaining lease term (in years):		
Operating leases	13.3	12.9
Finance leases	22.8	24.5
Weighted average discount rate (%):		
Operating leases	3.60 %	3.44 %
Finance leases	4.41 %	4.47 %

(a) Balance includes accrued interest of finance lease.

Maturities of lease liabilities as of December 31, 2022 were as follows (in thousands):

	Operating Leases	Finance Leases
2023	\$ 38,529	\$ 6,979
2024	24,565	9,328
2025	13,518	6,088
2026	10,551	5,450
2027	8,866	5,450
Thereafter	112,836	91,801
Total lease payments	208,865	125,096
Less imputed interest	74,081	45,692
Total	\$ 134,784	\$ 79,404

NOTE 19—Stock-based Compensation Expense:*Incentive Plans*

We have various share-based compensation plans that authorize the granting of (i) qualified and non-qualified stock options to purchase shares of our common stock, (ii) restricted stock and restricted stock units, (iii) performance unit awards and (iv) stock appreciation rights (“SARs”) to employees and non-employee directors, at our option. Stock options granted to employees generally vest over three years and have a term of ten years. Restricted stock and restricted stock unit awards vest in periods ranging from one to five years from the date of grant. Performance unit awards are earned at a level ranging from 0% to 200% contingent upon the achievement of specific performance criteria over periods ranging from one to three years. Distribution of earned units occurs generally 50% upon completion of the applicable measurement period with the remaining 50% distributed one year thereafter.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

In May 2017, the Company adopted the Albemarle Corporation 2017 Incentive Plan (the “Incentive Plan”), which replaced the Albemarle Corporation 2008 Incentive Plan. The maximum number of shares available for issuance to participants under the Incentive Plan is 4,500,000 shares. The adoption of the Incentive Plan did not affect awards already granted under the Albemarle Corporation 2008 Incentive Plan. Under the Albemarle Corporation 2013 Stock Compensation and Deferral Election Plan for Non-Employee Directors (the “Non-Employee Directors Plan”), a maximum aggregate number of 500,000 shares of our common stock is authorized for issuance to the Company’s non-employee directors; any shares remaining available for issuance under the prior plans were canceled. The aggregate fair market value of shares that may be issued to a director during any compensation year (as defined in the agreement, generally July 1 to June 30) shall not exceed \$150,000. At December 31, 2022, there were 3,334,570 shares available for grant under the Incentive Plan and 328,572 shares available for grant under the Non-Employee Directors Plan.

Total stock-based compensation expense associated with our incentive plans for the years ended December 31, 2022, 2021 and 2020 amounted to \$31.4 million, \$18.8 million and \$19.3 million, respectively, and is included in Cost of goods sold and Selling, general and administrative expenses in the consolidated statements of income. Total related recognized tax benefits for the years ended December 31, 2022, 2021 and 2020 amounted to \$4.0 million, \$2.3 million and \$2.4 million, respectively.

The following table summarizes information about the Company’s fixed-price stock options as of and for the year ended December 31, 2022:

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2021	360,169	\$ 98.19	6.6	\$ 48,833
Granted	57,348	191.95		
Exercised	(32,581)	73.54		
Outstanding at December 31, 2022	384,936	\$ 114.24	6.3	\$ 39,501
Exercisable at December 31, 2022	194,393	\$ 89.29	4.6	\$ 24,798

We granted 57,348, 62,479 and 76,221 stock options during 2022, 2021 and 2020, respectively. There were no significant modifications made to any share-based grants during these periods.

The fair value of each option granted during the years ended December 31, 2022, 2021 and 2020 was estimated on the date of grant using the Black-Scholes option-pricing model with the following weighted-average assumptions:

	Year Ended December 31,		
	2022	2021	2020
Dividend yield	1.32 %	1.43 %	1.69 %
Volatility	36.21 %	36.19 %	32.65 %
Average expected life (years)	6	6	6
Risk-free interest rate	1.97 %	1.44 %	1.13 %
Fair value of options granted	\$ 63.00	\$ 49.42	\$ 22.14

Dividend yield is the average of historical yields and those estimated over the average expected life. The stock volatility is based on historical volatilities of our common stock. The average expected life represents the weighted average period of time that options granted are expected to be outstanding giving consideration to vesting schedules and our historical exercise patterns. The risk-free interest rate is based on the U.S. Treasury strip rate with stripped coupon interest for the period equal to the contractual term of the share option grant in effect at the time of grant.

The intrinsic value of options exercised during the years ended December 31, 2022, 2021 and 2020 was \$6.9 million, \$37.2 million and \$31.3 million, respectively. The intrinsic value of a stock option is the amount by which the market value of the underlying stock exceeds the exercise price of the option.

Total compensation cost not yet recognized for nonvested stock options outstanding as of December 31, 2022 is approximately \$3.8 million and is expected to be recognized over a remaining weighted-average period of 1.8 years. Cash proceeds from stock options exercised and tax benefits related to stock options exercised were \$2.8 million and \$1.6 million for the year ended December 31, 2022, respectively. The Company issues new shares of common stock upon exercise of stock options and vesting of restricted common stock awards.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

The following table summarizes activity in performance unit awards as of and for the year ended December 31, 2022:

	Shares	Weighted-Average Grant Date Fair Value Per Share
Nonvested, beginning of period	224,903	\$ 121.39
Granted	64,106	204.60
Vested	(60,639)	118.91
Forfeited	(3,822)	137.12
Nonvested, end of period	<u>224,548</u>	<u>140.44</u>

The weighted average grant date fair value of performance unit awards granted in 2022, 2021 and 2020 was \$13.1 million, \$10.0 million and \$8.7 million, respectively. For all periods presented, half of the performance unit awards granted were based on the targeted return on invested capital (“ROIC Award”), while the other half were granted based on targeted market conditions (“TSR Award”). The fair value of each TSR Award was estimated on the date of grant using the Monte Carlo simulation model as these equity awards are tied to a service and market condition. The calculation used the following weighted-average assumptions:

	Year Ended December 31,		
	2022	2021	2020
Volatility	51.51 %	47.13 %	33.66 %
Risk-free interest rate	1.72 %	0.27 %	0.85 %

The weighted average fair value of performance unit awards that vested during 2022, 2021 and 2020 was \$11.9 million, \$5.8 million and \$3.0 million, respectively, based on the closing prices of our common stock on the dates of vesting. Total compensation cost not yet recognized for nonvested performance unit awards outstanding as of December 31, 2022 is approximately \$20.0 million, calculated based on current expectation of specific performance criteria, and is expected to be recognized over a remaining weighted-average period of approximately 1.2 years. Each performance unit represents one share of common stock.

The following table summarizes activity in non-performance based restricted stock and restricted stock unit awards as of and for the year ended December 31, 2022:

	Shares	Weighted-Average Grant Date Fair Value Per Share
Nonvested, beginning of period	309,254	\$ 92.52
Granted	74,887	205.45
Vested	(75,643)	90.26
Forfeited	(7,545)	140.13
Nonvested, end of period	<u>300,953</u>	<u>120.09</u>

The weighted average grant date fair value of restricted stock and restricted stock unit awards granted in 2022, 2021 and 2020 was \$15.4 million, \$10.6 million and \$13.3 million, respectively. The weighted average fair value of restricted stock and restricted stock unit awards that vested in 2022, 2021 and 2020 was \$17.8 million, \$11.0 million and \$9.0 million, respectively, based on the closing prices of our common stock on the dates of vesting. Total compensation cost not yet recognized for nonvested, non-performance based restricted stock and restricted stock units as of December 31, 2022 is approximately \$17.5 million and is expected to be recognized over a remaining weighted-average period of 2.0 years. The fair value of the non-performance based restricted stock and restricted stock units was estimated on the date of grant adjusted for a dividend factor, if necessary.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

NOTE 20—Accumulated Other Comprehensive (Loss) Income:

The components and activity in Accumulated other comprehensive (loss) income (net of deferred income taxes) consisted of the following during the years ended December 31, 2022, 2021 and 2020 (in thousands):

	Foreign Currency Translation and Other	Net Investment Hedge ^(a)	Cash Flow Hedge ^(b)	Interest Rate Swap ^(c)	Total
Balance at December 31, 2019	\$ (468,737)	\$ 80,778	\$ 4,847	\$ (12,623)	\$ (395,735)
Other comprehensive income (loss) before reclassifications	99,809	(34,185)	1,602	—	67,226
Amounts reclassified from accumulated other comprehensive loss	23	—	—	2,601	2,624
Other comprehensive income (loss), net of tax	99,832	(34,185)	1,602	2,601	69,850
Other comprehensive income attributable to noncontrolling interests	(247)	—	—	—	(247)
Balance at December 31, 2020	\$ (369,152)	\$ 46,593	\$ 6,449	\$ (10,022)	\$ (326,132)
Other comprehensive (loss) income before reclassifications	(74,478)	5,110	174	—	(69,194)
Amounts reclassified from accumulated other comprehensive loss	93	—	—	2,623	2,716
Other comprehensive (loss) income, net of tax	(74,385)	5,110	174	2,623	(66,478)
Amounts reclassified within accumulated other comprehensive income	51,703	(51,703)	—	—	—
Other comprehensive loss attributable to noncontrolling interests	160	—	—	—	160
Balance at December 31, 2021	\$ (391,674)	\$ —	\$ 6,623	\$ (7,399)	\$ (392,450)
Other comprehensive (loss) income before reclassifications	(171,367)	—	(4,399)	—	(175,766)
Amounts reclassified from accumulated other comprehensive loss	72	—	—	7,399	7,471
Other comprehensive (loss) income, net of tax	(171,295)	—	(4,399)	7,399	(168,295)
Other comprehensive loss attributable to noncontrolling interests	83	—	—	—	83
Balance at December 31, 2022	\$ (562,886)	\$ —	\$ 2,224	\$ —	\$ (560,662)

- (a) During the first quarter of 2021 the net investment hedge was discontinued following the repayment of the 1.875% Euro-denominated senior notes. The balance of foreign exchange revaluation gains and losses associated with this discontinued net investment hedge have been reclassified to Foreign currency translation and other, and will remain within accumulated other comprehensive loss until the hedged net investment is sold or liquidated.
- (b) We entered into a foreign currency forward contract in the fourth quarter of 2019, which was designated and accounted for as a cash flow hedge under ASC 815, *Derivatives and Hedging*. See Note 22, “Fair Value of Financial Instruments,” for additional information.
- (c) The pre-tax portion of amounts reclassified from accumulated other comprehensive loss is included in interest expense. The balance of this interest rate swap was being amortized to Interest and financing expenses over the life of the 4.15% senior notes originally due in 2024. As discussed in Note 14, “Long-term Debt,” the Company repaid these notes in the second quarter of 2022, and as a result, reclassified the remaining balance of this interest rate swap to interest expense during the same period as part of the early extinguishment of debt.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

The amount of income tax benefit (expense) allocated to each component of Other comprehensive income (loss) for the years ended December 31, 2022, 2021 and 2020 is provided in the following tables (in thousands):

	Foreign Currency Translation and Other	Net Investment Hedge	Cash Flow Hedge	Interest Rate Swap
2022				
Other comprehensive (loss) income, before tax	\$ (168,953)	\$ —	\$ (4,399)	\$ 9,739
Income tax benefit (expense)	(2,342)	—	—	(2,340)
Other comprehensive (loss) income, net of tax	<u>\$ (171,295)</u>	<u>\$ —</u>	<u>\$ (4,399)</u>	<u>\$ 7,399</u>
2021				
Other comprehensive income (loss), before tax	\$ (76,544)	\$ 6,552	\$ 174	\$ 3,336
Income tax benefit (expense)	2,159	(1,442)	—	(713)
Other comprehensive income (loss), net of tax	<u>\$ (74,385)</u>	<u>\$ 5,110</u>	<u>\$ 174</u>	<u>\$ 2,623</u>
2020				
Other comprehensive (loss) income, before tax	\$ 99,710	\$ (43,826)	\$ 1,602	\$ 3,336
Income tax expense	122	9,641	—	(735)
Other comprehensive (loss) income, net of tax	<u>\$ 99,832</u>	<u>\$ (34,185)</u>	<u>\$ 1,602</u>	<u>\$ 2,601</u>

NOTE 21—Income Taxes:

Income before income taxes and equity in net income of unconsolidated investments, and current and deferred income tax expense (benefit) are composed of the following (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Income before income taxes and equity in net income of unconsolidated investments:			
Domestic	\$ 952,799	\$ (186,077)	\$ 41,346
Foreign	1,480,645	319,695	332,173
Total	<u>\$ 2,433,444</u>	<u>\$ 133,618</u>	<u>\$ 373,519</u>
Current income tax expense (benefit):			
Federal	\$ 33,230	\$ 11,722	\$ (140)
State	4,965	694	(193)
Foreign	259,054	55,530	56,734
Total	<u>\$ 297,249</u>	<u>\$ 67,946</u>	<u>\$ 56,401</u>
Deferred income tax (benefit) expense:			
Federal	\$ 84,054	\$ (38,413)	\$ 4,564
State	(3,511)	(5,544)	(2,893)
Foreign	12,796	5,457	(3,647)
Total	<u>\$ 93,339</u>	<u>\$ (38,500)</u>	<u>\$ (1,976)</u>
Total income tax expense	<u>\$ 390,588</u>	<u>\$ 29,446</u>	<u>\$ 54,425</u>

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

The reconciliation of the U.S. federal statutory rate to the effective income tax rate is as follows:

	% of Income Before Income Taxes		
	2022	2021	2020
Federal statutory rate	21.0 %	21.0 %	21.0 %
State taxes, net of federal tax benefit	—	(3.5)	0.3
Change in valuation allowance ^(a)	(3.9)	33.7	1.9
Impact of foreign earnings, net ^{(b)(c)}	(0.1)	(40.5)	(8.4)
Global intangible low tax inclusion	0.3	12.3	1.9
Foreign-derived intangible income	(3.0)	—	—
Section 162(m) limitation	0.3	4.5	0.5
Subpart F income	0.2	4.8	1.3
Stock-based compensation	(0.3)	(7.2)	(1.0)
Depletion	(0.2)	(2.9)	(0.9)
U.S. federal return to provision	(0.4)	(1.7)	(0.9)
Revaluation of unrecognized tax benefits/reserve requirements	2.3	3.0	(0.4)
Other items, net	(0.1)	(1.5)	(0.7)
Effective income tax rate	16.1 %	22.0 %	14.6 %

(a) The years ended December 31, 2022 and 2021 include benefits of \$91.8 million and \$6.0 million, respectively, due to the release of a foreign valuation allowance due to changes in expected profitability.

(b) The year ended December 31, 2021 includes a discrete tax benefit of \$27.9 million related to the revision of an indemnification estimate for an ongoing tax-related matter in Germany.

(c) Our statutory rate is decreased by our share of the income of JBC, a Free Zones company under the laws of the Hashemite Kingdom of Jordan. The applicable provisions of the Jordanian law, and applicable regulations thereunder, do not have a termination provision and the exemption is indefinite. As a Free Zones company, JBC is not subject to income taxes on the profits of products exported from Jordan, and currently, substantially all of the profits are from exports. This resulted in a rate benefit of 3.2%, 34.6%, and 11.9% for 2022, 2021, and 2020, respectively.

Deferred income tax assets and liabilities recorded on the consolidated balance sheets as of December 31, 2022 and 2021 consist of the following (in thousands):

	December 31,	
	2022	2021
Deferred tax assets:		
Accrued employee benefits	\$ 20,060	\$ 18,374
Operating loss carryovers	1,157,841	1,295,925
Pensions	26,229	48,720
Tax credit carryovers	3,750	2,448
Other ^(a)	122,333	212,882
Gross deferred tax assets	1,330,213	1,578,349
Valuation allowance	(1,087,505)	(1,276,305)
Deferred tax assets	242,708	302,044
Deferred tax liabilities:		
Depreciation	(446,942)	(411,336)
Intangibles	(84,690)	(83,182)
Other	(145,412)	(142,008)
Deferred tax liabilities	(677,044)	(636,526)
Net deferred tax liabilities	\$ (434,336)	\$ (334,482)
Classification in the consolidated balance sheets:		
Noncurrent deferred tax assets	\$ 46,434	\$ 18,797
Noncurrent deferred tax liabilities	(480,770)	(353,279)
Net deferred tax liabilities	\$ (434,336)	\$ (334,482)

- (a) Decrease in other primarily related to a reduction in the deferred tax assets for the payment of the settlement of an arbitration ruling for a prior legal matter.

Changes in the balance of our deferred tax asset valuation allowance are as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Balance at January 1	\$ (1,276,305)	\$ (1,326,204)	\$ (1,148,268)
Additions	(5,810)	(61,470)	(182,325)
Deductions	194,610	111,369	4,389
Balance at December 31	\$ (1,087,505)	\$ (1,276,305)	\$ (1,326,204)

At December 31, 2022, we had approximately \$2.7 million of domestic credits available to offset future payments of income taxes, expiring in varying amounts between 2023 and 2027. We have established valuation allowances for \$0.2 million of those domestic credits since we believe that it is more likely than not that the related deferred tax assets will not be realized. We believe that sufficient taxable income will be generated during the carryover period in order to utilize the other remaining credit carryovers.

At December 31, 2022, we have on a pre-tax basis, domestic state net operating losses of \$345.9 million, expiring between 2022 and 2041, which have pre-tax valuation allowances of \$15.3 million established. In addition, we have on a pre-tax basis \$4.55 billion of foreign net operating losses, which have pre-tax valuation allowances for \$4.34 billion established. \$2.63 billion of these foreign net operating losses expire in 2035 and \$1.68 billion have an indefinite life. We have established valuation allowances for these deferred tax assets since we believe that it is more likely than not that the related deferred tax assets will not be realized. For the same reason, we established pre-tax valuation allowances of \$226.4 million and \$30.4 million for other state and foreign deferred tax assets, respectively, unrelated to net operating losses. The realization of the deferred tax assets is dependent on the generation of sufficient taxable income in the appropriate tax jurisdictions. Although realization is not assured, we believe it is more likely than not that the remaining deferred tax assets will be realized. However, the amount considered realizable could be reduced if estimates of future taxable income change.

As of December 31, 2022, we have not recorded taxes on approximately \$8.3 billion of cumulative undistributed earnings of our non-U.S. subsidiaries and joint ventures. The TCJA imposed a mandatory transition tax on accumulated foreign earnings and generally eliminated U.S. taxes on foreign subsidiary distribution with the exception of foreign withholding taxes and other foreign local tax. We generally do not provide for taxes related to our undistributed earnings because such earnings either would not be taxable when remitted or they are considered to be indefinitely reinvested. If in the foreseeable future, we can no longer demonstrate that these earnings are indefinitely reinvested, a deferred tax liability will be recognized. A determination of the amount of the unrecognized deferred tax liability related to these undistributed earnings is not practicable due to the complexity and variety of assumptions necessary based on the manner in which the undistributed earnings would be repatriated.

Liabilities related to uncertain tax positions were \$83.7 million and \$27.7 million at December 31, 2022 and 2021, respectively, inclusive of interest and penalties of \$11.5 million and \$7.0 million at December 31, 2022 and 2021, respectively, and are reported in Other noncurrent liabilities as provided in Note 16, "Other Noncurrent Liabilities." These liabilities at December 31, 2022 and 2021 were reduced by \$32.4 million and \$32.9 million, respectively, for offsetting benefits from the corresponding effects of potential transfer pricing adjustments, state income taxes and rate arbitrage related to foreign structure. These offsetting benefits are recorded in Other assets as provided in Note 11, "Other Assets." The resulting net liability of \$39.8 million as of December 31, 2022 would favorably affect earnings if recognized and released, while the net asset of \$12.2 million at December 31, 2021 would unfavorably affect earnings if recognized and released.

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The liabilities related to uncertain tax positions, exclusive of interest, were \$72.2 million and \$20.7 million at December 31, 2022 and 2021, respectively. The following is a reconciliation of our total gross liability related to uncertain tax positions for 2022, 2021 and 2020 (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Balance at January 1	\$ 20,717	\$ 11,639	\$ 17,548
Additions for tax positions related to prior years	1,673	75	5,646
Reductions for tax positions related to prior years	—	(6)	(174)
Additions for tax positions related to current year	50,531	10,911	315
Lapses in statutes of limitations/settlements	(995)	(1,931)	(12,128)
Foreign currency translation adjustment	236	29	432
Balance at December 31	\$ 72,162	\$ 20,717	\$ 11,639

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. Due to the statute of limitations, we are no longer subject to U.S. federal income tax audits by the Internal Revenue Service (“IRS”) for years prior to 2019. Due to the statute of limitations, we also are no longer subject to U.S. state income tax audits prior to 2017.

With respect to jurisdictions outside the U.S., several audits are in process. We have audits ongoing for the years 2011 through 2022 related to Germany, Italy, Belgium, China, Canada, South Africa and Chile, some of which are for entities that have since been divested.

While we believe we have adequately provided for all tax positions, amounts asserted by taxing authorities could be greater than our accrued position. Accordingly, additional provisions on federal and foreign tax-related matters could be recorded in the future as revised estimates are made or the underlying matters are settled or otherwise resolved.

Since the timing of resolutions and/or closure of tax audits is uncertain, it is difficult to predict with certainty the range of reasonably possible significant increases or decreases in the liability related to uncertain tax positions that may occur within the next twelve months. Our current view is that it is reasonably possible that we could record an increase in the liability related to uncertain tax positions, relating to a number of issues, up to approximately \$0.3 million as a result of closure of tax statutes.

NOTE 22—Fair Value of Financial Instruments:

In assessing the fair value of financial instruments, we use methods and assumptions that are based on market conditions and other risk factors existing at the time of assessment. Fair value information for our financial instruments is as follows:

Long-Term Debt—the fair values of our notes are estimated using Level 1 inputs and account for the difference between the recorded amount and fair value of our long-term debt. The carrying value of our remaining long-term debt reported in the accompanying consolidated balance sheets approximates fair value as substantially all of such debt bears interest based on prevailing variable market rates currently available in the countries in which we have borrowings.

	December 31,			
	2022		2021	
	Recorded Amount	Fair Value	Recorded Amount	Fair Value
	(In thousands)			
Long-term debt	\$ 3,239,853	\$ 2,993,027	\$ 2,405,021	\$ 2,593,590

Foreign Currency Forward Contracts—during the fourth quarter of 2019, we entered into a foreign currency forward contract to hedge the cash flow exposure of non-functional currency purchases during the construction of the Kemerton plant in Australia. This derivative financial instrument is used to manage risk and is not used for trading or other speculative purposes. This foreign currency forward contract has been designated as a hedging instrument under ASC 815, *Derivatives and Hedging*. At December 31, 2022 and 2021, we had outstanding designated foreign currency forward contracts with notional values totaling the equivalent of \$64.5 million and \$36.5 million, respectively.

We also enter into foreign currency forward contracts in connection with our risk management strategies that have not been designated as hedging instruments under ASC 815, *Derivatives and Hedging*, in an attempt to minimize the financial impact of changes in foreign currency exchange rates. These derivative financial instruments are used to manage risk and are

not used for trading or other speculative purposes. The fair values of our non-designated foreign currency forward contracts are estimated based on current settlement values. At December 31, 2022 and 2021, we had outstanding non-designated foreign currency forward contracts with notional values totaling \$2.8 billion and \$618.1 million, respectively, hedging our exposure to various currencies including the Chinese Renminbi, Euro, Australian Dollar, Chilean Peso and Japanese Yen.

The following table summarizes the fair value of our foreign currency forward contracts included in the consolidated balance sheets at December 31, 2022 and 2021 (in thousands):

	December 31,			
	2022		2021	
	Assets	Liabilities	Assets	Liabilities
Designated as hedging instruments				
Other current assets	\$ —	\$ —	\$ 237	\$ —
Accrued expenses	—	3,159	—	57
Total designated as hedging instruments	—	3,159	237	57
Not designated as hedging instruments				
Other current assets	6,016	—	2,901	—
Accrued expenses	—	85	—	248
Total not designated as hedging instruments	6,016	85	2,901	248
Total	\$ 6,016	\$ 3,244	\$ 3,138	\$ 305

The following table summarizes the net gains (losses) recognized for our foreign currency forward contracts during the years ended December 31, 2022, 2021 and 2020 (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Designated as hedging instruments:			
(Losses) gains recognized in Other comprehensive income (loss)	\$ (4,398)	\$ 174	\$ 1,602
Not designated as hedging instruments:			
(Losses) gains recognized in Other income (expenses), net ^(a)	\$ (41,088)	\$ 1,068	\$ (7,665)

(a) Fluctuations in the value of our foreign currency forward contracts not designated as hedging instruments are generally expected to be offset by changes in the value of the underlying exposures being hedged, which are also reported in Other income (expenses), net.

In addition, for the years ended December 31, 2022, 2021 and 2020, we recorded net cash settlements of \$44.4 million, \$2.4 million and \$19.4 million, respectively, primarily within Changes in current assets and liabilities, in our consolidated statements of cash flows.

Unrealized gains and losses related to the cash flow hedges will be reclassified to earnings over the life of the related assets when settled and the related assets are placed into service.

The counterparties to our foreign currency forward contracts are major financial institutions with which we generally have other financial relationships. We are exposed to credit loss in the event of nonperformance by these counterparties. However, we do not anticipate nonperformance by the counterparties.

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NOTE 23—Fair Value Measurement:

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). The inputs used to measure fair value are classified into the following hierarchy:

Level 1	Unadjusted quoted prices in active markets for identical assets or liabilities
Level 2	Unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability
Level 3	Unobservable inputs for the asset or liability

We endeavor to utilize the best available information in measuring fair value. Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The following tables set forth our financial assets and liabilities that were accounted for at fair value on a recurring basis as of December 31, 2022 and 2021 (in thousands):

	December 31, 2022	Quoted Prices in Active Markets for Identical Items (Level 1)	Quoted Prices in Active Markets for Similar Items (Level 2)	Unobservable Inputs (Level 3)
Assets:				
Available for sale debt securities ^(a)	\$ 260,139	\$ —	\$ —	\$ 260,139
Investments under executive deferred compensation plan ^(b)	\$ 27,270	\$ 27,270	\$ —	\$ —
Public equity securities ^(c)	\$ 5,890	\$ 5,890	\$ —	\$ —
Private equity securities measured at net asset value ^{(d)(e)}	\$ 6,375	\$ —	\$ —	\$ —
Foreign currency forward contracts ^(f)	\$ 6,016	\$ —	\$ 6,016	\$ —
Liabilities:				
Obligations under executive deferred compensation plan ^(b)	\$ 27,270	\$ 27,270	\$ —	\$ —
Foreign currency forward contracts ^(f)	\$ 3,244	\$ —	\$ 3,244	\$ —

	December 31, 2021	Quoted Prices in Active Markets for Identical Items (Level 1)	Quoted Prices in Active Markets for Similar Items (Level 2)	Unobservable Inputs (Level 3)
Assets:				
Available for sale debt securities ^(a)	\$ 246,517	\$ —	\$ —	\$ 246,517
Investments under executive deferred compensation plan ^(b)	\$ 32,491	\$ 32,491	\$ —	\$ —
Private equity securities measured at net asset value ^{(d)(e)}	\$ 4,696	\$ —	\$ —	\$ —
Foreign currency forward contracts ^(f)	\$ 3,138	\$ —	\$ 3,138	\$ —
Liabilities:				
Obligations under executive deferred compensation plan ^(b)	\$ 32,491	\$ 32,491	\$ —	\$ —
Foreign currency forward contracts ^(f)	\$ 305	\$ —	\$ 305	\$ —

(a) Preferred equity of a Grace subsidiary acquired as a portion of the proceeds of the FCS sale on June 1, 2021. See Note 2, “Divestitures,” for further details on the material terms and conditions. A third-party estimate of the fair value was prepared using expected future cash flows over the period up to when the asset is likely to be redeemed, applying a discount rate that appropriately captures a market participant’s view of the risk associated with the investment. These are considered to be Level 3 inputs.

(b) We maintain an EDCP that was adopted in 2001 and subsequently amended. The purpose of the EDCP is to provide current tax planning opportunities as well as supplemental funds upon the retirement or death of certain of our employees. The EDCP is intended to aid in attracting and retaining employees of exceptional ability by providing them with these benefits. We also maintain a Benefit Protection Trust (the “Trust”) that was created to provide a source of funds to assist in meeting the obligations of the EDCP, subject to the claims of our creditors in the event of our insolvency. Assets of the Trust are consolidated in accordance with authoritative guidance. The assets of the Trust consist primarily of mutual fund investments (which are accounted for as trading securities and are marked-to-market on a monthly basis through the consolidated statements of income) and cash and cash equivalents. As such, these assets and obligations are classified within Level 1.

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- (c) Holdings in equity securities of public companies reported in Investments in the consolidated balance sheets. The fair value is measured using publicly available share prices of the investments, with any changes reported in Other income (expense), net, in our consolidated statements of income.
- (d) Primarily consists of private equity securities reported in Investments in the consolidated balance sheets. The changes in fair value are reported in Other income (expense), net, in our consolidated statements of income.
- (e) Holdings in certain private equity securities are measured at fair value using the net asset value per share (or its equivalent) practical expedient and have not been categorized in the fair value hierarchy.
- (f) As a result of our global operating and financing activities, we are exposed to market risks from changes in foreign currency exchange rates which may adversely affect our operating results and financial position. When deemed appropriate, we minimize our risks from foreign currency exchange rate fluctuations through the use of foreign currency forward contracts. The foreign currency forward contracts are valued using broker quotations or market transactions in either the listed or over-the-counter markets. As such, these derivative instruments are classified within Level 2. See Note 22, "Fair Value of Financial Instruments," for further details about our foreign currency forward contracts.

The following tables set forth the reconciliation of the beginning and ending balance for the Level 3 recurring fair value measurements (in thousands):

	Available for Sale Debt Securities	
	Year Ended December 31,	
	2022	2021
Beginning balance	\$ 246,517	\$ —
Additions	—	244,530
Accretion of discount	12,735	7,429
Change in fair value	887	(5,442)
Ending balance	\$ 260,139	\$ 246,517

NOTE 24—Related Party Transactions:

Our consolidated statements of income include sales to and purchases from unconsolidated affiliates in the ordinary course of business as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Sales to unconsolidated affiliates	\$ 51,906	\$ 19,441	\$ 22,589
Purchases from unconsolidated affiliates ^(a)	\$ 1,920,476	\$ 213,077	\$ 168,072

- (a) Increases in purchases from unconsolidated affiliates primarily relate to increased pricing and volume of spodumene purchased from the Company's Windfield joint venture.

Our consolidated balance sheets include accounts receivable due from and payable to unconsolidated affiliates in the ordinary course of business as follows (in thousands):

	December 31,	
	2022	2021
Receivables from related parties	\$ 21,495	\$ 2,139
Payables to related parties ^(a)	\$ 518,377	\$ 47,499

- (a) Increases in payables to unconsolidated affiliates primarily relate to increased purchases of spodumene purchased from the Company's joint venture under normal payment terms.

NOTE 25—Segment and Geographic Area Information:

During 2022, the Company's three reportable segments included: (1) Lithium; (2) Bromine; and (3) Catalysts. Each segment had a dedicated team of sales, research and development, process engineering, manufacturing and sourcing, and business strategy personnel and had full accountability for improving execution through greater asset and market focus, agility and responsiveness. This business structure aligned with the markets and customers we serve through each of the segments. This structure also facilitated the continued standardization of business processes across the organization, and was consistent

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with the manner in which information is presently used internally by the Company's chief operating decision maker to evaluate performance and make resource allocation decisions.

Summarized financial information concerning our reportable segments is shown in the following tables. The "All Other" category included only the FCS business that did not fit into any of the Company's core businesses. On June 1, 2021, the Company completed the sale of the FCS business. See Note 3, "Divestitures," for additional information. Amounts in the "All Other" category represent activity in this business until divested on June 1, 2021.

The Corporate category is not considered to be a segment and includes corporate-related items not allocated to the operating segments. Pension and other post-employment benefit ("OPEB") service cost (which represents the benefits earned by active employees during the period) and amortization of prior service cost or benefit are allocated to the reportable segments, All Other, and Corporate, whereas the remaining components of pension and OPEB benefits cost or credit ("Non-operating pension and OPEB items") are included in Corporate. Segment data includes inter-segment transfers of raw materials at cost and allocations for certain corporate costs.

The Company's chief operating decision maker uses adjusted EBITDA (as defined below) to assess the ongoing performance of the Company's business segments and to allocate resources. The Company defines adjusted EBITDA as earnings before interest and financing expenses, income tax expenses, depreciation and amortization, as adjusted on a consistent basis for certain non-operating, non-recurring or unusual items in a balanced manner and on a segment basis. These non-operating, non-recurring or unusual items may include acquisition and integration related costs, gains or losses on sales of businesses, restructuring charges, facility divestiture charges, certain litigation and arbitration costs and charges, non-operating pension and OPEB items and other significant non-recurring items. In addition, management uses adjusted EBITDA for business and enterprise planning purposes and as a significant component in the calculation of performance-based compensation for management and other employees. The Company has reported adjusted EBITDA because management believes it provides transparency to investors and enables period-to-period comparability of financial performance. Adjusted EBITDA is a financial measure that is not required by, or presented in accordance with, U.S. GAAP. Adjusted EBITDA should not be considered as an alternative to Net income (loss) attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with U.S. GAAP, or any other financial measure reported in accordance with U.S. GAAP.

	Year Ended December 31,		
	2022	2021	2020
	(In thousands)		
Net sales:			
Lithium	\$ 5,008,850	\$ 1,363,284	\$ 1,144,778
Bromine	1,411,682	1,128,343	964,962
Catalysts	899,572	761,235	797,914
All Other	—	75,095	221,255
Total net sales	<u>\$ 7,320,104</u>	<u>\$ 3,327,957</u>	<u>\$ 3,128,909</u>
Adjusted EBITDA:			
Lithium	\$ 3,102,662	\$ 479,538	\$ 393,093
Bromine	456,916	360,682	323,605
Catalysts	28,732	106,941	130,134
All Other	—	29,858	84,821
Corporate	(112,453)	(106,045)	(112,915)
Total adjusted EBITDA	<u>\$ 3,475,857</u>	<u>\$ 870,974</u>	<u>\$ 818,738</u>

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See below for a reconciliation of adjusted EBITDA, the non-GAAP financial measure, from Net income attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with U.S. GAAP (in thousands):

	Lithium	Bromine	Catalysts	All Other	Corporate	Consolidated Total
2022						
Net income (loss) attributable to Albemarle Corporation	\$ 2,903,076	\$ 402,820	\$ (27,104)	\$ —	\$ (588,976)	\$ 2,689,816
Depreciation and amortization	189,347	54,096	51,417	—	5,981	300,841
Loss on sale of interest in properties ^(a)	8,400	—	—	—	—	8,400
Acquisition and integration related costs ^(b)	—	—	—	—	16,259	16,259
Interest and financing expenses ^(c)	—	—	—	—	122,973	122,973
Income tax expense	—	—	—	—	390,588	390,588
Non-operating pension and OPEB items	—	—	—	—	(57,032)	(57,032)
Other ^(d)	1,839	—	4,419	—	(2,246)	4,012
Adjusted EBITDA	\$ 3,102,662	\$ 456,916	\$ 28,732	\$ —	\$ (112,453)	\$ 3,475,857
2021						
Net income (loss) attributable to Albemarle Corporation	\$ 192,244	\$ 309,501	\$ 55,353	\$ 27,988	\$ (461,414)	\$ 123,672
Depreciation and amortization	138,772	51,181	51,588	1,870	10,589	254,000
Restructuring and other ^(e)	—	—	—	—	3,027	3,027
Loss (gain) on sale of business/interest in properties, net ^(f)	132,400	—	—	—	(428,371)	(295,971)
Acquisition and integration related costs ^(b)	—	—	—	—	12,670	12,670
Interest and financing expenses ^(c)	—	—	—	—	61,476	61,476
Income tax expense	—	—	—	—	29,446	29,446
Non-operating pension and OPEB items	—	—	—	—	(78,814)	(78,814)
Legal accrual ^(g)	—	—	—	—	657,412	657,412
Albemarle Foundation contribution ^(h)	—	—	—	—	20,000	20,000
Indemnification adjustments ⁽ⁱ⁾	—	—	—	—	39,381	39,381
Other ^(j)	16,122	—	—	—	28,553	44,675
Adjusted EBITDA	\$ 479,538	\$ 360,682	\$ 106,941	\$ 29,858	\$ (106,045)	\$ 870,974
2020						
Net income (loss) attributable to Albemarle Corporation	\$ 277,711	\$ 274,495	\$ 80,149	\$ 76,323	\$ (332,914)	\$ 375,764
Depreciation and amortization	112,854	50,310	49,985	8,498	10,337	231,984
Restructuring and other ^(e)	—	—	—	—	19,597	19,597
Acquisition and integration related costs ^(b)	—	—	—	—	17,263	17,263
Interest and financing expenses	—	—	—	—	73,116	73,116
Income tax expense	—	—	—	—	54,425	54,425
Non-operating pension and OPEB items	—	—	—	—	40,668	40,668
Other ^(k)	2,528	(1,200)	—	—	4,593	5,921
Adjusted EBITDA	\$ 393,093	\$ 323,605	\$ 130,134	\$ 84,821	\$ (112,915)	\$ 818,738

(a) Expense recorded as a result of revised estimates of the obligation to construct certain lithium hydroxide conversion assets in Kemerton, Western Australia, due to cost overruns from supply chain, labor and COVID-19 pandemic related issues. The corresponding obligation was recorded in Accrued liabilities to be transferred to Mineral Resources Limited ("MRL"), which maintains a 40% ownership interest in these Kemerton assets.

(b) See Note 2, "Acquisitions," for additional information.

(c) Included in Interest and financing expenses is a loss on early extinguishment of debt of \$19.2 million and \$29.0 million for the years ended December 31, 2022 and 2021, respectively. See Note 14, "Long-term Debt," for additional information. In addition, Interest and financing expenses for the year ended December 31, 2022 includes the correction of an out of period error of \$17.5 million related to the overstatement of capitalized interest in prior periods. See Note 1, "Summary of Significant Accounting Policies," for further details.

(d) Included amounts for the year ended December 31, 2022 recorded in:

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- Cost of goods sold - \$2.7 million of expense related to one-time retention payments for certain employees during the Catalysts strategic review and business unit realignment, and \$0.5 million related to the settlement of a legal matter resulting from a prior acquisition.
 - SG&A - \$4.3 million primarily related to facility closure expenses of offices in Germany, \$2.8 million of charges for environmental reserves at sites not part of our operations, \$2.8 million of shortfall contributions for our multiemployer plan financial improvement plan, \$1.9 million of expense related to one-time retention payments for certain employees during the Catalysts strategic review, partially offset by \$4.3 million of gains from the sale of legacy properties not part of our operations.
 - Other income (expenses), net - \$4.3 million net gain related to the fair value adjustment of equity securities in a public company, a \$3.0 million gain from the reversal of a liability related to a previous divestiture, a \$2.0 million gain relating to the adjustment of an environmental reserve at non-operating businesses we previously divested and a \$0.6 million gain related to a settlement received from a legal matter in a prior period, partially offset by a \$3.2 million loss resulting from the adjustment of indemnification related to previously disposed businesses.
- (e) In 2021, we recorded facility closure related to offices in Germany, and severance expenses in Germany and Belgium, in SG&A. During the year ended December 31, 2020, we recorded severance expenses as part of business reorganization plans, impacting each of our businesses and Corporate, primarily in the U.S., Belgium, Germany and with our Jordanian joint venture partner. We recorded expenses of \$0.7 million in Cost of goods sold, \$19.2 million in SG&A and a \$0.3 million gain in Net income attributable to noncontrolling interests for the portion of severance expense allocated to our Jordanian joint venture partner.
- (f) Includes a \$428.4 million gain related to the FCS divestiture recorded during the year ended December 31, 2021. See Note 3, "Divestitures," for additional information on this gain. In addition, includes a \$132.4 million expense related to anticipated cost overruns for MRL's 40% interest in lithium hydroxide conversion assets being built in Kemerton. See Note 2, "Acquisitions," for additional information.
- (g) Loss recorded in Other income (expenses), net for the year ended December 31, 2021 related to the settlement of an arbitration ruling for a prior legal matter. See Note 17, "Commitments and Contingencies," for further details.
- (h) Included in SG&A is a charitable contribution, using a portion of the proceeds received from the FCS divestiture, to the Albemarle Foundation, a non-profit organization that sponsors grants, health and social projects, educational initiatives, disaster relief, matching gift programs, scholarships and other charitable initiatives in locations where the Company's employees live and the Company operates. This contribution is in addition to the normal annual contribution made to the Albemarle Foundation by the Company, and is significant in size and nature in that it is intended to provide more long-term benefits in these communities.
- (i) Included in Other income (expenses), net to revise an indemnification estimate for an ongoing tax-related matter of a previously disposed business in Germany. A corresponding discrete tax benefit of \$27.9 million was recorded in Income tax expense during the same period, netting to an expected cash obligation of approximately \$11.5 million.
- (j) Included amounts for the year ended December 31, 2021 recorded in:
- Cost of goods sold - \$10.5 million of expense related to a legal matter as part of a prior acquisition in our Lithium business.
 - SG&A - \$11.5 million of legal fees related to a legacy Rockwood legal matter noted above, \$9.8 million of expenses primarily related to non-routine labor and compensation related costs that are outside normal compensation arrangements, a \$4.0 million loss resulting from the sale of property, plant and equipment and \$3.8 million of charges for environmental reserves at a sites not part of our operations.
 - Other income (expenses), net - \$4.8 million of net expenses primarily related to asset retirement obligation charges to update of an estimate at a site formerly owned by Albemarle.
- (k) Included amounts for the year ended December 31, 2020 recorded in:
- Cost of goods sold - \$1.3 million of expense related to a legal matter as part of a prior acquisition in our Lithium business.
 - SG&A - \$3.1 million of shortfall contributions for our multiemployer plan financial improvement plan and \$3.8 million of a net expense primarily relating to the increase of environmental reserves at non-operating businesses we have previously divested.
 - Other income (expenses), net - \$7.2 million gain related to the sale of our ownership percentage in the SOCC joint venture, \$3.6 million of a net gain primarily relating to the sale of intangible assets in our Bromine business and property in Germany not used as part of our operations and a \$2.5 million net gain resulting from the settlement of legal matters related to a business sold or a site in the process of being sold, partially offset by \$9.6 million of losses resulting from the adjustment of indemnifications related to previously disposed businesses and \$1.2 million of expenses related to other costs outside of our regular operations.

	December 31,		
	2022	2021	2020
	(In thousands)		
Identifiable assets:			
Lithium ^(a)	\$ 10,795,997	\$ 7,676,259	\$ 7,134,229
Bromine	1,072,535	939,808	867,648
Catalysts	1,214,482	1,149,592	1,066,089
All Other	—	—	136,659
Corporate	2,373,508	1,208,459	1,246,321
Total identifiable assets	\$ 15,456,522	\$ 10,974,118	\$ 10,450,946

- (a) Increase in Lithium identifiable assets each year primarily due to capital expenditures for growth and capacity increases, and the impact of increased lithium pricing on working capital balances.

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	Year Ended December 31,		
	2022	2021	2020
	(In thousands)		
Depreciation and amortization:			
Lithium	\$ 189,347	\$ 138,772	\$ 112,854
Bromine	54,096	51,181	50,310
Catalysts	51,417	51,588	49,985
All Other	—	1,870	8,498
Corporate	5,981	10,589	10,337
Total depreciation and amortization	\$ 300,841	\$ 254,000	\$ 231,984
Capital expenditures:			
Lithium	\$ 1,010,661	\$ 813,128	\$ 720,563
Bromine	153,407	70,711	57,486
Catalysts	66,319	49,312	44,448
All Other	—	2,339	6,792
Corporate	31,259	18,177	21,188
Total capital expenditures	\$ 1,261,646	\$ 953,667	\$ 850,477

	Year Ended December 31,		
	2022	2021	2020
	(In thousands)		
Net Sales^(a):			
United States	\$ 888,612	\$ 730,738	\$ 743,834
Foreign ^(b)	6,431,492	2,597,219	2,385,075
Total	\$ 7,320,104	\$ 3,327,957	\$ 3,128,909

(a) Net sales are attributed to countries based upon shipments to final destination.

(b) In 2022, net sales to China, South Korea and Japan represented 33%, 22% and 15%, respectively, of total net sales. In 2021, net sales to China, Japan and South Korea represented 18%, 14% and 11%, respectively, of total net sales. In 2020, net sales to South Korea, China and Japan represented 14%, 14%, and 13%, respectively, of total net sales.

During 2022, the only customer that represented more than 10% of the Company's consolidated net sales was Umicore N.V. and its affiliates.

	As of December 31,		
	2022	2021	2020
	(In thousands)		
Long-Lived Assets^(a):			
United States	\$ 1,371,347	\$ 1,040,252	\$ 1,007,793
Australia	3,253,069	2,736,590	2,362,377
Chile	2,057,270	1,923,821	1,814,658
China	438,090	139,537	122,749
Jordan	267,612	262,392	256,640
Netherlands	167,264	177,405	181,206
Germany	77,845	80,956	90,174
France	52,894	49,740	45,505
Brazil	31,855	29,474	24,393
Other foreign countries	77,747	62,667	66,273
Total	\$ 7,794,993	\$ 6,502,834	\$ 5,971,768

(a) Long-lived assets are comprised of the Company's Property, plant and equipment and joint ventures included in Investments.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

NONE

Item 9A. Controls and Procedures.***Evaluation of Disclosure Controls and Procedures***

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), as of the end of the period covered by this report. Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of the end of the period covered by this report, our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Management's report on internal control over financial reporting and the independent registered public accounting firm's report are included in Item 8 under the captions entitled "Management's Report on Internal Control over Financial Reporting" and "Report of Independent Registered Public Accounting Firm" and are incorporated herein by reference.

Prior Year Remediation

On January 26, 2023, we filed an amended Annual Report on Form 10-K/A for the year ended December 31, 2021 (the "Form 10-K/A") to amend certain disclosures within the Mineral Properties section of Part I, Item 2. Properties, and file amended versions of the material individual mineral property technical report summaries responding to Item 601(b)(96) and subpart 1300 of Regulation S-K (the "Mining Disclosures"). In connection with the preparation and filing of this the Form 10-K/A, our principal executive officer and principal financial officer re-evaluated the effectiveness of the design and operation of our disclosure controls and procedures. Based on this re-evaluation and solely as a result of the updated Mining Disclosures included in this Form 10-K/A, our principal executive officer and principal financial officer concluded that, as of the end of the period covered by the Form 10-K/A, our disclosure controls and procedures were not effective.

During the re-evaluation, our principal executive officer and principal financial officer concluded that, while the design of our disclosure controls and procedures is appropriate, there was a deficiency in their operation solely in connection with certain of the new disclosures required by the Mining Disclosures that we were required to provide for the first time in the Annual Report on Form 10-K for the year ended December 31, 2021. Following the initial preparation of the Mining Disclosures and in connection with the re-evaluation of the design and operation of our disclosure controls and procedures described above, we implemented additional operational procedures with respect to the Mining Disclosures included in this Annual Report on Form 10-K for the year ended December 31, 2022 and that will be applied to the preparation of the Mining Disclosures for future reports that we file or submit to the SEC under the Exchange Act, including:

- additional reviews of rule-based disclosure checklists for the Mining Disclosures;
- more frequent communication, including discussion of the Mining Disclosure rules specifically, with qualified persons in connection with their preparation of the technical report summaries for each of our mineral properties to ensure effective processes and procedures were applied in preparing and reviewing the Mining Disclosures; and
- review of best practices for Mining Disclosures based on SEC comment letters and SEC filings of industry peers in connection with their preparation.

In light of the additional operation procedures discussed above, our principal executive officer and principal financial officer concluded that, as of the end of the period covered by this report, our disclosure controls and procedures were effective and the deficiencies in the operation of the disclosure controls and procedures related to the Mining Disclosures as of the end of the period covered by the Form 10-K/A were remediated. Even with the implementation of the additional operational procedures discussed above, our management recognizes that any controls and procedures, no matter how well designed and operated, can only provide reasonable, and not absolute, assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Control over Financial Reporting

No changes in our internal control over financial reporting (as such term is defined in Exchange Act Rule 13a-15(f)) occurred during the fiscal quarter ended December 31, 2022 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

NONE

Item 9C. Disclosure Regarding Foreign Jurisdictions That Prevent Inspections.

NONE

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item 10 will be contained in the Proxy Statement and is incorporated herein by reference. In addition, the information in “Executive Officers of the Registrant” appearing after Item 4 in Part I of this Annual Report, is incorporated herein by reference.

Code of Conduct

We have adopted a code of conduct and ethics for directors, officers and employees, known as the Albemarle Code of Conduct. The Albemarle Code of Conduct is available on our website, www.albemarle.com. Shareholders may also request a free copy of the Albemarle Code of Conduct from: Albemarle Corporation, Attention: Investor Relations, 4250 Congress Street, Suite 900, Charlotte, North Carolina 28209. We will disclose any amendments to, or waivers from, a provision of our Code of Conduct that applies to the principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions that relates to any element of the Code of Conduct as defined in Item 406 of Regulation S-K by posting such information on our website.

New York Stock Exchange Certifications

Because our common stock is listed on the New York Stock Exchange (“NYSE”), our Chief Executive Officer is required to make, and he has made, an annual certification to the NYSE stating that he was not aware of any violation by us of the corporate governance listing standards of the NYSE. Our Chief Executive Officer made his annual certification to that effect to the NYSE as of May 4, 2022. In addition, we have filed, as exhibits to this Annual Report on Form 10-K, the certifications of our principal executive officer and principal financial officer required under Sections 906 and 302 of the Sarbanes-Oxley Act of 2002 to be filed with the Securities and Exchange Commission regarding the quality of our public disclosure.

Additional information will be contained in the Proxy Statement and is incorporated herein by reference.

Item 11. Executive Compensation.

The information required by this Item 11 will be contained in the Proxy Statement and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this Item 12 will be contained in the Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this Item 13 will be contained in the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services.

The information required by this Item 14 will be contained in the Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

(a)(1) The following consolidated financial and informational statements of the registrant are included in Part II Item 8 on pages 80 to 131:

Management's Report on Internal Control Over Financial Reporting

Report of Independent Registered Public Accounting Firm (PCAOB ID 238)

Consolidated Balance Sheets as of December 31, 2022 and 2021

Consolidated Statements of Income, Comprehensive Income, Changes in Equity and Cash Flows for the years ended December 31, 2022, 2021 and 2020

Notes to the Consolidated Financial Statements

(a)(2) No financial statement schedules are provided in accordance with Item 15(a)(2) as the information is either not applicable, not required or has been furnished in the Consolidated Financial Statements or Notes thereto.

(a)(3) Exhibits

The following documents are filed as exhibits to this Annual Report on Form 10-K pursuant to Item 601 of Regulation S-K:

- [2.1](#) [Agreement and Plan of Merger, dated as of July 15, 2014, among Albemarle Corporation, Albemarle Holdings Corporation and Rockwood Holdings, Inc. \[filed as Exhibit 2.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on July 18, 2014, and incorporated herein by reference\].](#)
- [2.2](#) [Share Purchase Agreement, dated as of June 17, 2016, between Albemarle Corporation and BASF SE \[filed as Exhibit 2.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016 \(No. 1-12658\), filed on August 5, 2016, and incorporated herein by reference\].](#)
- [2.3](#) [First Amendment to the Share Purchase Agreement, dated December 7, 2016, between Albemarle Corporation and BASF SE \[filed as Exhibit 2.3 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [2.4](#) [Second Amendment to the Share Purchase Agreement, dated December 14, 2016, between Albemarle Corporation and BASF SE \[filed as Exhibit 2.4 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [3.1](#) [Amended and Restated Articles of Incorporation of Albemarle Corporation \[filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on August 7, 2018, and incorporated herein by reference\].](#)
- [3.2](#) [Amended and Restated Bylaws, effective July 23, 2019, of Albemarle Corporation \[filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on August 7, 2019, and incorporated herein by reference\].](#)
- [4.1](#) [Indenture, dated as of January 20, 2005, between Albemarle Corporation and The Bank of New York, as trustee \[filed as Exhibit 4.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on January 20, 2005, and incorporated herein by reference\].](#)

- [4.2 Third Supplemental Indenture, dated as of November 24, 2014, among Albemarle Corporation, Albemarle Holdings Corporation \(now Rockwood Holdings, Inc.\) and Albemarle Holdings II Corporation \(now Rockwood Specialties Group, Inc.\) and U.S. Bank National Association, as trustee \[filed as Exhibit 4.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on November 24, 2014, and incorporated herein by reference\].](#)
- [4.3 Fourth Supplemental Indenture, dated as of January 29, 2015, among Albemarle Corporation, Rockwood Holdings, Inc. \(as successor by merger to Albemarle Holdings Corporation\), Rockwood Specialties Group, Inc. \(as successor by merger to Albemarle Holdings II Corporation\), The Bank of New York Mellon Trust Company, N.A., a national banking association, as successor to The Bank of New York, as resigning trustee, and U.S. Bank National Association, as successor trustee \[filed as Exhibit 4.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on January 29, 2015, and incorporated herein by reference\].](#)
- [4.4 Form of Global Security for the 5.450% Senior Notes due 2044 \[filed as Exhibit 4.4 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on November 24, 2014, and incorporated herein by reference\].](#)
- [4.5 Form of 3.450% Note due 2029 \[filed as Exhibit 4.3 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on November 25, 2019, and incorporated herein by reference\].](#)
- [4.6 Form of 1.125% Note due 2025 \[filed as Exhibit 4.4 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on November 25, 2019, and incorporated herein by reference\].](#)
- [4.7 Form of 1.625% Note due 2028 \[filed as Exhibit 4.5 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on November 25, 2019, and incorporated herein by reference\].](#)
- [4.8 Form of 4.650% Senior Notes due 2027 \[filed as Exhibit 4.2 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on May 13, 2022, and incorporated herein by reference\].](#)
- [4.9 Form of 5.050% Senior Notes due 2032 \[filed as Exhibit 4.3 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on May 13, 2022, and incorporated herein by reference\].](#)
- [4.10 Form of 5.650% Senior Notes due 2052 \[filed as Exhibit 4.4 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on May 13, 2022, and incorporated herein by reference\].](#)
- [4.11 Description of Securities \[filed on the Company's Current Report on Form 8-K \(No. 1-12658\) filed February 15, 2023, and incorporated herein by reference\].](#)
- [#10.1 2013 Stock Compensation and Deferral Election Plan for Non-Employee Directors of Albemarle Corporation \[filed as Annex A to the Company's definitive Proxy Statement on Schedule 14A \(No. 1-12658\) filed on March 28, 2013, and incorporated herein by reference\].](#)
- [#10.2 First Amendment to the Albemarle Corporation Stock Compensation and Deferral Election Plan \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.3 Form of Notice of Option Grant under the Albemarle Corporation 2008 Incentive Plan \[filed as Exhibit 10.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on March 2, 2016, and incorporated herein by reference\].](#)
- [#10.4 Form Notice of Restricted Stock Unit Award under the Albemarle Corporation 2008 Incentive Plan \[filed as Exhibit 10.4 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on December 9, 2016, and incorporated herein by reference\].](#)
- [#10.5 Form of Notice of TSR Performance Unit Award under the Albemarle Corporation 2008 Incentive Plan \[filed as Exhibit 10.5 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on December 9, 2016, and incorporated herein by reference\].](#)

- #10.6 [Form of Notice of TSR Performance Unit Award under the Albemarle Corporation 2017 Incentive Plan \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 9, 2018, and incorporated herein by reference\].](#)
- #10.7 [Form of Notice of Option Grant under the Albemarle Corporation 2017 Incentive Plan \[filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 9, 2018, and incorporated herein by reference\].](#)
- #10.8 [Form of Notice of Restricted Stock Unit Award under the Albemarle Corporation 2017 Incentive Plan \[filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 9, 2018, and incorporated herein by reference\].](#)
- #10.9 [Form of Notice of ROIC Performance Unit Award under the Albemarle Corporation 2017 Incentive Plan \[filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 8, 2019, and incorporated herein by reference\].](#)
- #10.10 [Notice of 3-Year Cliff Vest Restricted Stock Unit Award under the Albemarle Corporation 2017 Incentive Plan \[filed as Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 8, 2019, and incorporated herein by reference\].](#)
- #10.11 [Form of Notice of NEO Special Retention Restricted Stock Unit Award under the Albemarle Corporation 2017 Incentive Plan \[filed as Exhibit 10.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 27, 2020, and incorporated herein by reference\].](#)
- #10.12 [Form of Notice of Special Restricted Stock Unit Award under the Albemarle Corporation 2017 Incentive Plan \[filed as Exhibit 10.6 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 27, 2020, and incorporated herein by reference\].](#)
- #10.13 [Amended and Restated Albemarle Corporation Supplemental Executive Retirement Plan, effective as of January 1, 2005 \[filed as Exhibit 10.13 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014 \(No. 1-12658\), and incorporated herein by reference\].](#)
- #10.14 [First Amendment to the Albemarle Corporation Supplemental Executive Retirement Plan, dated December 1, 2010 \[filed as Exhibit 10.14 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014 \(No. 1-12658\), and incorporated herein by reference\].](#)
- #10.15 [Second Amendment to the Albemarle Corporation Supplemental Executive Retirement Plan, dated December 18, 2011 \[filed as Exhibit 10.15 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014 \(No. 1-12658\), and incorporated herein by reference\].](#)
- #10.16 [Third Amendment to the Albemarle Corporation Supplemental Executive Retirement Plan, dated December 2, 2013 \[filed as Exhibit 10.16 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014 \(No. 1-12658\), and incorporated herein by reference\].](#)
- #10.17 [Form of Severance Compensation Agreement \(Pension-Eligible Employees\) \[filed as Exhibit 10.19 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015 \(No. 1-12658\), and incorporated herein by reference\].](#)
- #10.18 [Form of Severance Compensation Agreement \(Non-Pension-Eligible Employees\) \[filed as Exhibit 10.20 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015 \(No. 1-12658\), and incorporated herein by reference\].](#)
- #10.19 [Form of Amendment to Severance Compensation Agreement \[filed as Exhibit 10.21 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015 \(No. 1-12658\), and incorporated herein by reference\].](#)
- #10.20 [Second Amendment to Severance Compensation Agreement between Luther C. Kissam, IV and Albemarle Corporation \[filed as Exhibit 10.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on December 9, 2016, and incorporated herein by reference\].](#)

- [#10.21](#) [Form of Second Amendment to Severance Compensation Agreement between each of Karen Narwold and Scott Tozier, and Albemarle Corporation \[filed as Exhibit 10.2 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on December 9, 2016, and incorporated herein by reference\].](#)
- [#10.22](#) [Albemarle Corporation Severance Pay Plan, as revised effective as of December 13, 2006 \[filed as Exhibit 10.6 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on December 18, 2006, and incorporated herein by reference\].](#)
- [#10.23](#) [Amended and Restated Albemarle Corporation Benefits Protection Trust, effective as of December 13, 2006 \[filed as Exhibit 10.9 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on December 18, 2006, and incorporated herein by reference\].](#)
- [#10.24](#) [Albemarle Corporation Employee Relocation Policy \[filed as Exhibit 10.33 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2008 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.25](#) [Albemarle Corporation 2008 Incentive Plan, as amended and restated as of April 20, 2010 \[filed as Exhibit 10.1 to the Company's Registration Statement on Form S-8 \(No. 333-166828\) filed on May 14, 2010, and incorporated herein by reference\].](#)
- [#10.26](#) [Amended and Restated Albemarle Corporation Executive Deferred Compensation Plan, effective as of January 1, 2013 \[filed as Exhibit 10.23 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.27](#) [First Amendment to the Albemarle Corporation Executive Deferred Compensation Plan, dated as of November 14, 2014 \[filed as Exhibit 10.24 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.28](#) [Second Amendment to the Albemarle Corporation Executive Deferred Compensation Plan, dated as of February 12, 2015 \[filed as Exhibit 10.28 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.29](#) [Third Amendment to the Albemarle Corporation Executive Deferred Compensation Plan, dated as of July 31, 2015 \[filed as Exhibit 10.29 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.30](#) [Fourth Amendment to the Albemarle Corporation Executive Deferred Compensation Plan, dated as of December 17, 2015 \[filed as Exhibit 10.30 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.31](#) [Fifth Amendment to the Albemarle Corporation Executive Deferred Compensation Plan, dated as of March 31, 2017 \[filed as Exhibit 10.38 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.32](#) [Sixth Amendment to the Albemarle Corporation Executive Deferred Compensation Plan, dated as of July 5, 2017 \[filed as Exhibit 10.39 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.33](#) [Seventh Amendment to the Albemarle Corporation Executive Deferred Compensation Plan, dated as of November 9, 2017 \[filed as Exhibit 10.40 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017 \(No. 1-12658\), and incorporated herein by reference\].](#)
- [#10.34](#) [Albemarle Corporation 2017 Incentive Plan, adopted May 12, 2017 \[filed as Appendix A to the Company's Definitive Proxy Statement filed on March 30, 2017, and incorporated herein by reference\].](#)
- [#10.35](#) [Albemarle Corporation Compensation Recoupment and Forfeiture Policy, effective July 10, 2017 \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017 \(No. 1-12658\), and incorporated herein by reference\].](#)

- #10.36 [Form of letter agreement dated February 26, 2018 between the Company and each of Luther C. Kissam, IV, Karen Narwold, Scott Tozier and Donald J. LaBauve, Jr. \[filed as Exhibit 10.43 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017 \(No. 1-12658\), and incorporated herein by reference\].](#)

- 10.37 [Credit Agreement, dated as of June 21, 2018, among Albemarle Corporation, Albemarle Global Finance Company SCA and Albemarle Europe SPRL, as borrowers, certain of the Company's subsidiaries that from time to time become parties thereto, the several banks and other financial institutions as may from time to time become parties thereto, and Bank of America, N.A., as Administrative Agent and Swing Line Lender \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on August 7, 2018, and incorporated herein by reference\].](#)

- 10.38 [Asset Sale and Share Subscription Agreement, dated December 14, 2018, by and among Albemarle Corporation, Albemarle Wodgina Pty Ltd, a wholly-owned subsidiary of Albemarle Corporation, Mineral Resources Limited and Wodgina Lithium Pty Ltd, a wholly-owned subsidiary of Mineral Resources Limited \[filed as Exhibit 10.41 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 \(No. 1-12658\), and incorporated herein by reference\].](#)

- 10.39 [Form of Wodgina Joint Venture Agreement by and among Wodgina Lithium Pty Ltd, Albemarle Wodgina Pty Ltd and Wodgina Lithium Operations Pty Ltd \[filed as Exhibit 10.42 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 \(No. 1-12658\), and incorporated herein by reference\].](#)

- 10.40 [Form of Letter Agreement, dated June 13, 2019, among Wodgina Lithium Pty Ltd, Albemarle Wodgina Pty Ltd, Mineral Resources Limited and the Company \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on August 7, 2019, and incorporated herein by reference\].](#)

- 10.41 [Form of Amendment Deed to Asset Sale and Share Subscription Agreement, dated August 1, 2019, among Wodgina Lithium Pty Ltd, Albemarle Wodgina Pty Ltd, Mineral Resources Limited and the Company \[filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on August 7, 2019, and incorporated herein by reference\].](#)

- 10.42 [Form of MRL Kemerton Asset Sale Agreement among Wodgina Lithium Pty Ltd, Albemarle Wodgina Pty Ltd, Mineral Resources Limited, Albemarle Lithium Pty Ltd and the Company \[filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on August 7, 2019, and incorporated herein by reference\].](#)

- 10.43 [Form of break fee letter, dated August 1, 2019, between the Company and Mineral Resources Limited \[filed as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on August 7, 2019, and incorporated herein by reference\].](#)

- 10.44 [Syndicated Facility Agreement, dated as of August 14, 2019, among Albemarle Corporation, Albemarle Finance Company B.V., Albemarle New Holding GmbH, Albemarle Wodgina Pty Ltd, the Lenders Party Thereto and JPMorgan Chase Bank, N.A., as Administrative Agent \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on November 6, 2019, and incorporated herein by reference\].](#)

- 10.45 [First Amendment to Credit Agreement, dated as of August 14, 2019, among Albemarle Corporation, Albemarle Europe SRL, the Lenders party thereto, and Bank of America, N.A., as Administrative Agent for the Lenders \[filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on November 6, 2019, and incorporated herein by reference\].](#)

- 10.46 [MARBL Joint Venture Agreement, dated August 1, 2019, among Wodgina Lithium Pty Ltd, Albemarle Wodgina Pty Ltd, and MARBL Lithium Operations \[filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on November 6, 2019, and incorporated herein by reference\].](#)

- 10.47 [Amendment Deed to Asset Sale and Share Subscription Agreement and MRL Kemerton ASA, dated August 1, 2019, among Wodgina Lithium Pty Ltd, Albemarle Wodgina Pty Ltd, Mineral Resources Limited, Albemarle Corporation, and Albemarle Lithium Pty Ltd \[filed as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on November 6, 2019, and incorporated herein by reference\].](#)

- [10.48](#) [Second Amendment to Credit Agreement, dated as of May 11, 2020, among Albemarle Corporation, Albemarle Europe SRL, the Lenders party thereto, and Bank of America, N.A., as Administrative Agent for the Lenders \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 11, 2020, and incorporated herein by reference\].](#)
- [10.49](#) [First Amendment to Syndicated Facility Agreement, dated as of May 11, 2020, among Albemarle Corporation, Albemarle Finance Company B.V., Albemarle New Holding GmbH, Albemarle Wodgina Pty Ltd, the Lenders Party Thereto and JPMorgan Chase Bank, N.A., as Administrative Agent \[filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 11, 2020, and incorporated herein by reference\].](#)
- [#10.50](#) [Executive Employment Agreement with J. Kent Masters, dated April 20, 2020 \[filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 11, 2020, and incorporated herein by reference\].](#)
- [#10.51](#) [Change in Control Agreement with J. Kent Masters, dated April 20, 2020 \[filed as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 11, 2020, and incorporated herein by reference\].](#)
- [#10.52](#) [Notice of Restricted Stock Unit Award to J. Kent Masters, dated May 8, 2020 \[filed as Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 11, 2020, and incorporated herein by reference\].](#)
- [#10.53](#) [Second Amendment to the Albemarle Corporation 2013 Stock Compensation and Deferral Election Plan for Non-Employee Directors \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on August 5, 2020, and incorporated herein by reference\].](#)
- [#10.54](#) [Third Amendment to the Albemarle Corporation 2013 Stock Compensation and Deferral Election Plan for Non-Employee Directors \[filed as Exhibit 10.56 to the Company's Annual Report on Form 10-K \(No. 1-12658\) filed on February 19, 2021 and incorporated herein by reference\].](#)
- [10.55](#) [Second Amendment to Syndicated Facility Agreement, dated as of December 15, 2020, among Albemarle Corporation, Albemarle Finance Company B.V., Albemarle New Holding GmbH, Albemarle Wodgina Pty Ltd, the Lenders Party Thereto and JPMorgan Chase Bank, N.A., as Administrative Agent \[filed as Exhibit 10.57 to the Company's Annual Report on Form 10-K \(No. 1-12658\) filed on February 19, 2021 and incorporated herein by reference\].](#)
- [10.56](#) [Sale, Purchase and Contribution Agreement, dated February 25, 2021 among Albemarle Corporation, W. R. Grace & Co.-Conn and Fine Chemical Manufacturing Services LLC \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on May 5, 2021, and incorporated herein by reference\].](#)
- [#10.57](#) [Fourth Amendment to the Albemarle Corporation 2013 Stock Compensation and Deferral Election Plan for Non-Employee Directors \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on August 4, 2021, and incorporated herein by reference\].](#)
- [#10.58](#) [Letter Agreement with Raphael Crawford, dated November 3, 2021 \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on November 4, 2021, and incorporated herein by reference\].](#)
- [10.59](#) [Third Amendment to Credit Agreement, dated as of December 10, 2021, among Albemarle Corporation, Albemarle Europe SRL, the Lenders party thereto, and Bank of America, N.A., as Administrative Agent for the Lenders \[filed as Exhibit 10.61 to the Company's Annual Report on Form 10-K \(No. 1-12658\) filed on February 18, 2022 and incorporated herein by reference\].](#)
- [10.60](#) [Second Amendment and Restatement Agreement, dated as of December 10, 2021, among Albemarle Corporation, the Lenders Party hereto, and JPMorgan Chase Bank, N.A., as Administrative Agent \[filed as Exhibit 10.62 to the Company's Annual Report on Form 10-K \(No. 1-12658\) filed on February 18, 2022 and incorporated herein by reference\].](#)

- [#10.61 Form of Restricted Stock Unit Award Agreement \[filed as Exhibit 10.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 28, 2022, and incorporated herein by reference\].](#)
- [#10.62 Form of Adjusted ROIC Performance Unit Award Agreement \[filed as Exhibit 10.2 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 28, 2022, and incorporated herein by reference\].](#)
- [#10.63 Form of TSR Performance Unit Award Agreement \[filed as Exhibit 10.3 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 28, 2022, and incorporated herein by reference\].](#)
- [#10.64 Form of Stock Option Grant Agreement \[filed as Exhibit 10.4 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 28, 2022, and incorporated herein by reference\].](#)
- [#10.65 Form of Special Restricted Stock Unit Award Agreement \[filed as Exhibit 10.5 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 28, 2022, and incorporated herein by reference\].](#)
- [10.66 Amended and Restated Credit Agreement, dated as of October 28, 2022, among Albemarle Corporation, certain other subsidiaries of the Company, the Lenders Party thereto, and Bank of America, N.A., as Administrative Agent for the Lenders \[filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on November 2, 2022, and incorporated herein by reference\].](#)
- [#10.67 Form Notice of Special Retention Restricted Stock Unit Award under the Albemarle Corporation 2017 Incentive Plan \[filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q \(No. 1-12658\) filed on November 2, 2022, and incorporated herein by reference\].](#)
- [10.68 Form of Employee Non-Solicitation, Non-Compete and Confidentiality Agreement \[filed as Exhibit 10.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on March 9, 2022 and incorporated herein by reference\].](#)
- [*21.1 Subsidiaries of the Company.](#)
- [*23.1 Consent of PricewaterhouseCoopers LLP.](#)
- [23.2 Consent of SRK Consulting \(U.S\), Inc. regarding lithium reserves and resources \[filed as Exhibit 23.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 15, 2023 and incorporated herein by reference\].](#)
- [23.3 Consent of Fastmarkets Group Limited regarding market studies for lithium reserves and resources \[filed as Exhibit 23.2 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 15, 2023 and incorporated herein by reference\].](#)
- [23.4 Consent of RPS Energy Canada Ltd regarding bromine reserves and resources \[filed as Exhibit 23.3 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 15, 2023 and incorporated herein by reference\].](#)
- [23.5 Consent of RESPEC regarding bromine reserves and resources \[filed as Exhibit 23.4 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 15, 2023 and incorporated herein by reference\].](#)
- [*31.1 Certification of Chief Executive Officer pursuant to Rule 13a-15\(e\) and 15d-15\(e\) of the Securities Exchange Act of 1934, as amended.](#)
- [*31.2 Certification of Chief Financial Officer pursuant to Rule 13a-15\(e\) and 15d-15\(e\) of the Securities Exchange Act of 1934, as amended.](#)
- [*32.1 Certification of Chief Executive Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- [*32.2 Certification of Chief Financial Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)

- [96.1 SEC Technical Report Summary, Pre-Feasibility Study, Greenbushes Mine, Western Australia, prepared by SRK Consulting \(U.S\), Inc., dated February 14, 2023 \[filed as Exhibit 96.1 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 15, 2023 and incorporated herein by reference\].](#)
- [96.2 SEC Technical Report Summary, Initial Assessment, Wodgina, Western Australia, prepared by SRK Consulting \(U.S\), Inc., dated December 16, 2022 \[filed as Exhibit 96.2 to the Company's Annual Report on Form 10-K/A \(No. 1-12658\) filed on January 26, 2023, and incorporated herein by reference\].](#)
- [96.3 SEC Technical Report Summary, Pre-Feasibility Study, Salar de Atacama Region II, Chile, prepared by SRK Consulting \(U.S\), Inc., dated February 14, 2023 \[filed as Exhibit 96.2 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 15, 2023 and incorporated herein by reference\].](#)
- [96.4 SEC Technical Report Summary Pre-Feasibility Study, Silver Peak Lithium Operation, Nevada, USA, prepared by SRK Consulting \(U.S\), Inc., dated February 14, 2023 \[filed as Exhibit 96.3 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 15, 2023 and incorporated herein by reference\].](#)
- [96.5 SEC Technical Report Summary for Jordan Bromine Operation, prepared by RPS Energy Canada Ltd and RESPEC Consulting Inc., dated February 15, 2023 \[filed as Exhibit 96.4 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 15, 2023 and incorporated herein by reference\].](#)
- [96.6 SEC Technical Report Summary for Magnolia Field Bromine Reserves, prepared by RPS Energy Canada Ltd, dated February 15, 2023 \[filed as Exhibit 96.5 to the Company's Current Report on Form 8-K \(No. 1-12658\) filed on February 15, 2023 and incorporated herein by reference\].](#)
- *101 Interactive Data Files (Annual Report on Form 10-K, for the fiscal year ended December 31, 2022, furnished in XBRL (eXtensible Business Reporting Language)).
- Attached as Exhibit 101 to this report are the following documents formatted in XBRL: (i) the Consolidated Statements of Income for the fiscal years ended December 31, 2022, 2021 and 2020, (ii) the Consolidated Statements of Comprehensive Income for the fiscal years ended December 31, 2022, 2021 and 2020, (iii) the Consolidated Balance Sheets at December 31, 2022 and 2021, (iv) the Consolidated Statements of Changes in Equity for the fiscal years ended December 31, 2022, 2021 and 2020, (v) the Consolidated Statements of Cash Flows for the fiscal years ended December 31, 2022, 2021 and 2020 and (vi) the Notes to Consolidated Financial Statements.
- *104 Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101).

Management contract or compensatory plan or arrangement.

* Included with this filing.

(c) In accordance with Regulation S-X Rule 3-09, the audited financial statements of Windfield Holdings Pty. Ltd. ("Windfield") for the year ended December 31, 2022, Windfield's fiscal year end, will be filed by amendment to this Annual Report on Form 10-K on or before June 30, 2023.

Item 16. Form 10-K Summary.

NONE

SUBSIDIARIES OF ALBEMARLE CORPORATION

<u>NAME</u>	<u>PLACE OF FORMATION</u>
ACI Cyprus, L.L.C.	Delaware
Albemarle Amendments, LLC	Delaware
Albemarle Argentina S.R.L.	Argentina
Albemarle Brazil Holdings Ltda.	Brazil
Albemarle Care Fund	Virginia
Albemarle Catalysts Company B.V.	Netherlands
Albemarle Chemical Canada Ltd.	Canada
Albemarle Chemicals (Shanghai) Co., Ltd.	China
Albemarle Chemicals Ltd	Cyprus
Albemarle Chemicals SAS	France
Albemarle Chemicals South Africa (Proprietary) Limited	South Africa
Albemarle Delaware Holdings 1 LLC	Delaware
Albemarle Delaware Holdings 2 LLC	Delaware
Albemarle Dutch Holdings B.V.	Netherlands
Albemarle Dutch Holdings 2 B.V.	Netherlands
Albemarle Europe SRL	Belgium
Albemarle Finance Company B.V.	Netherlands
Albemarle Foundation	Virginia
Albemarle Germany GmbH	Germany
Albemarle Hilfe GmbH Unterstützungskasse	Germany
Albemarle Holdings Company Limited	Turks & Caicos
Albemarle Holdings Limited	Hong Kong
Albemarle Hungary Ltd.	Hungary
Albemarle Italy S.R.L.	Italy
Albemarle Japan Corporation	Japan
Albemarle Japan Holdings B.V.	Netherlands
Albemarle Knight Lux 1 Holdings Corporation	Delaware
Albemarle Korea Corporation	Korea
Albemarle Limitada	Chile
Albemarle Lithium Holding Corporation	Delaware
Albemarle Lithium Holding GmbH	Germany
Albemarle Lithium (Jiangsu) Co., Ltd.	China
Albemarle Lithium Pty Ltd	Australia
Albemarle Lithium UK Limited	United Kingdom
Albemarle Malaysia Sdn Bhd.	Malaysia
Albemarle Management (Shanghai) Co., Ltd.	China
Albemarle Middle East FZE	United Arab Emirates
Albemarle Middle East Trading Company L.L.C.	United Arab Emirates
Albemarle Netherlands B.V.	Netherlands
Albemarle New Holding GmbH	Germany
Albemarle Overseas Employment Corporation	Virginia
Albemarle Química Ltda.	Brazil
Albemarle Saudi Trading Company	Saudi Arabia
Albemarle Sichuan New Materials Co., Ltd.	China

<u>NAME</u>	<u>PLACE OF FORMATION</u>
Albemarle Singapore Pte. Ltd.	Singapore
Albemarle Spain S.L.	Spain
Albemarle Specialty Products Singapore Pte. Ltd.	Singapore
Albemarle (Thailand) Co., Ltd.	Thailand
Albemarle Taiwan Limited	Taiwan
Albemarle U.S., Inc.	Delaware
Albemarle Vietnam Limited Liability Company	Vietnam
Albemarle Wodgina Pty Ltd	Australia
Dynamit Nobel GmbH	Germany
Dynamit Nobel Unterstützungsfonds GmbH	Germany
Excalibur Realty Company	Delaware
Excalibur II Realty Company	Delaware
Foote Chile Holding Company	Delaware
Foote Minera e Inversiones Limitada	Chile
Guangxi Albemarle Lithium Co., Ltd.	China
Jiangxi Albemarle Lithium Co., Ltd.	China
Jordan Bromine Company Ltd.	Jordan
Ketjen Canada Limited	Canada
Ketjen Corporation	Delaware
Ketjen Hungary Limited Liability Company	Hungary
Ketjen Japan GK	Japan
Ketjen Korea Limited	Republic of Korea
Ketjen Limited Liability Company	Delaware
Ketjen Netherlands Holdings B.V.	Netherlands
Ketjen UK Limited	United Kingdom
Knight Lux 1 S.à r.l.	Luxembourg
Knight Lux 2 S.à r.l.	Luxembourg
MARBL Lithium Operations Pty Ltd	Australia
Metalon Environmental Management & Solutions GmbH	Germany
PT Ketjen Catalysts Indonesia	Indonesia
Rockwood Holdings, Inc.	Delaware
Rockwood Lithium India Private Limited	India
Rockwood Lithium Japan K.K.	Japan
Rockwood Lithium Korea LLC	Republic of Korea
Rockwood Lithium (Shanghai) Co., Ltd.	China
Rockwood Lithium Taiwan Co., Ltd.	Taiwan
Rockwood Specialties GmbH	Germany
Rockwood Specialties Group, LLC	Delaware
Rockwood Specialties LLC	Delaware
Rockwood Specialties Limited	United Kingdom
RT Lithium Limited	United Kingdom
RSG Immobilien GmbH	Germany
Sales de Magnesio Limitada	Chile
Shandong Sinobrom Albemarle Bromine Chemicals Company Limited	China
Sichuan Guorun New Material Co., Ltd.	China

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-150694, 333-166828, 333-188599 and 333-223167) of Albemarle Corporation of our report dated February 15, 2023 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Charlotte, North Carolina
February 15, 2023

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER

I, J. Kent Masters, certify that:

1. I have reviewed this Annual Report on Form 10-K of Albemarle Corporation for the period ended December 31, 2022;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 15, 2023

/s/ J. KENT MASTERS

J. Kent Masters

Chairman, President and Chief Executive Officer

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Scott A. Tozier, certify that:

1. I have reviewed this Annual Report on Form 10-K of Albemarle Corporation for the period ended December 31, 2022;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 15, 2023

/s/ SCOTT A. TOZIER

Scott A. Tozier

Executive Vice President and Chief Financial Officer

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K of Albemarle Corporation (the “Company”) for the period ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, J. Kent Masters, principal executive officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ J. KENT MASTERS

J. Kent Masters
Chairman, President and Chief Executive Officer
February 15, 2023

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K of Albemarle Corporation (the “Company”) for the period ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Scott A. Tozier, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ SCOTT A. TOZIER

Scott A. Tozier

Executive Vice President and Chief Financial Officer

February 15, 2023

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For Quarterly Period Ended September 30, 2022

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number 1-12658

ALBEMARLE CORPORATION

(Exact name of registrant as specified in its charter)

Virginia
(State or other jurisdiction of
incorporation or organization)

54-1692118
(I.R.S. Employer
Identification No.)

4250 Congress Street, Suite 900
Charlotte, North Carolina 28209
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code - (980) 299-5700

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
COMMON STOCK, \$.01 Par Value	ALB	New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Number of shares of common stock, \$.01 par value, outstanding as of October 31, 2022: 117,152,794

ALBEMARLE CORPORATION

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited).

ALBEMARLE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME (LOSS)
(In Thousands, Except Per Share Amounts)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Net sales	\$ 2,091,805	\$ 830,566	\$ 4,699,126	\$ 2,433,753
Cost of goods sold	1,047,991	581,293	2,625,858	1,672,376
Gross profit	1,043,814	249,273	2,073,268	761,377
Selling, general and administrative expenses	134,479	103,477	375,989	318,180
Research and development expenses	18,358	13,289	51,827	41,901
Loss (gain) on sale of business/interest in properties	—	984	8,400	(428,424)
Operating profit	890,977	131,523	1,637,052	829,720
Interest and financing expenses	(29,691)	(5,136)	(98,934)	(56,170)
Other income (expense), net	7,974	(643,196)	32,237	(631,870)
Income (loss) before income taxes and equity in net income of unconsolidated investments	869,260	(516,809)	1,570,355	141,680
Income tax expense (benefit)	196,938	(114,670)	366,486	14,422
Income (loss) before equity in net income of unconsolidated investments	672,322	(402,139)	1,203,869	127,258
Equity in net income of unconsolidated investments (net of tax)	258,884	27,706	449,476	62,215
Net income (loss)	931,206	(374,433)	1,653,345	189,473
Net income attributable to noncontrolling interests	(33,991)	(18,348)	(95,974)	(61,977)
Net income (loss) attributable to Albemarle Corporation	\$ 897,215	\$ (392,781)	\$ 1,557,371	\$ 127,496
Basic earnings (loss) per share	\$ 7.66	\$ (3.36)	\$ 13.30	\$ 1.10
Diluted earnings (loss) per share	\$ 7.61	\$ (3.36)	\$ 13.23	\$ 1.10
Weighted-average common shares outstanding – basic	117,136	116,965	117,106	115,455
Weighted-average common shares outstanding – diluted	117,869	116,965	117,749	116,140

See accompanying Notes to the Condensed Consolidated Financial Statements.

ALBEMARLE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In Thousands)
(Unaudited)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2022	2021	2022	2021
Net income (loss)	\$ 931,206	\$ (374,433)	\$ 1,653,345	\$ 189,473
Other comprehensive (loss) income, net of tax:				
Foreign currency translation and other	(200,520)	(39,274)	(324,230)	(46,852)
Net investment hedge	—	—	—	5,110
Cash flow hedge	(9,652)	214	(8,144)	(563)
Interest rate swap	—	651	7,399	1,951
Total other comprehensive loss, net of tax	(210,172)	(38,409)	(324,975)	(40,354)
Comprehensive income (loss)	721,034	(412,842)	1,328,370	149,119
Comprehensive income attributable to noncontrolling interests	(33,990)	(18,374)	(95,858)	(61,927)
Comprehensive income (loss) attributable to Albemarle Corporation	<u>\$ 687,044</u>	<u>\$ (431,216)</u>	<u>\$ 1,232,512</u>	<u>\$ 87,192</u>

See accompanying Notes to the Condensed Consolidated Financial Statements.

ALBEMARLE CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(In Thousands)
(Unaudited)

	September 30, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	\$ 1,382,803	\$ 439,272
Trade accounts receivable, less allowance for doubtful accounts (2022 – \$2,495; 2021 – \$2,559)	1,035,117	556,922
Other accounts receivable	135,709	66,184
Inventories	1,614,299	798,620
Other current assets	129,043	132,683
Total current assets	<u>4,296,971</u>	<u>1,993,681</u>
Property, plant and equipment, at cost	8,713,771	8,074,746
Less accumulated depreciation and amortization	2,288,664	2,165,130
Net property, plant and equipment	<u>6,425,107</u>	<u>5,909,616</u>
Investments	1,158,535	912,008
Other assets	217,057	252,239
Goodwill	1,467,848	1,597,627
Other intangibles, net of amortization	262,984	308,947
Total assets	<u>\$ 13,828,502</u>	<u>\$ 10,974,118</u>
Liabilities And Equity		
Current liabilities:		
Accounts payable	\$ 1,651,866	\$ 647,986
Accrued expenses	385,327	763,293
Current portion of long-term debt	251,216	389,920
Dividends payable	46,098	45,469
Income taxes payable	153,444	27,667
Total current liabilities	<u>2,487,951</u>	<u>1,874,335</u>
Long-term debt	3,118,753	2,004,319
Postretirement benefits	42,681	43,693
Pension benefits	187,498	229,187
Other noncurrent liabilities	597,980	663,698
Deferred income taxes	429,012	353,279
Commitments and contingencies (Note 10)		
Equity:		
Albemarle Corporation shareholders' equity:		
Common stock, \$.01 par value, issued and outstanding – 117,145 in 2022 and 117,015 in 2021	1,171	1,170
Additional paid-in capital	2,933,659	2,920,007
Accumulated other comprehensive loss	(717,309)	(392,450)
Retained earnings	4,515,115	3,096,539
Total Albemarle Corporation shareholders' equity	<u>6,732,636</u>	<u>5,625,266</u>
Noncontrolling interests	231,991	180,341
Total equity	<u>6,964,627</u>	<u>5,805,607</u>
Total liabilities and equity	<u>\$ 13,828,502</u>	<u>\$ 10,974,118</u>

See accompanying Notes to the Condensed Consolidated Financial Statements.

ALBEMARLE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(Unaudited)

(In Thousands, Except Share Data)	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Albemarle Shareholders' Equity	Noncontrolling Interests	Total Equity
	Shares	Amounts						
Balance at June 30, 2022	117,121,748	\$ 1,171	\$ 2,927,086	\$ (507,138)	\$ 3,664,172	\$ 6,085,291	\$ 215,684	\$ 6,300,975
Net income					897,215	897,215	33,991	931,206
Other comprehensive loss				(210,171)		(210,171)	(1)	(210,172)
Cash dividends declared, \$0.395 per common share					(46,272)	(46,272)	(17,683)	(63,955)
Stock-based compensation			7,405			7,405		7,405
Exercise of stock options	8,377	—	735			735		735
Issuance of common stock, net	21,597	—	—			—		—
Withholding taxes paid on stock-based compensation award distributions	(6,358)	—	(1,567)			(1,567)		(1,567)
Balance at September 30, 2022	117,145,364	\$ 1,171	\$ 2,933,659	\$ (717,309)	\$ 4,515,115	\$ 6,732,636	\$ 231,991	\$ 6,964,627
Balance at June 30, 2021	116,944,511	\$ 1,169	\$ 2,907,981	\$ (328,001)	\$ 3,584,400	\$ 6,165,549	\$ 200,222	\$ 6,365,771
Net (loss) income					(392,781)	(392,781)	18,348	(374,433)
Other comprehensive (loss) income				(38,435)		(38,435)	26	(38,409)
Cash dividends declared, \$0.39 per common share					(45,620)	(45,620)	(17,480)	(63,100)
Stock-based compensation			4,203			4,203		4,203
Fees related to the public issuance of common stock			23			23		23
Exercise of stock options	22,226	1	1,884			1,885		1,885
Issuance of common stock, net	12,688	—	—			—		—
Withholding taxes paid on stock-based compensation award distributions	(3,107)	—	(708)			(708)		(708)
Balance at September 30, 2021	116,976,318	\$ 1,170	\$ 2,913,383	\$ (366,436)	\$ 3,145,999	\$ 5,694,116	\$ 201,116	\$ 5,895,232
Balance at December 31, 2021	117,015,333	\$ 1,170	\$ 2,920,007	\$ (392,450)	\$ 3,096,539	\$ 5,625,266	\$ 180,341	\$ 5,805,607
Net income					1,557,371	1,557,371	95,974	1,653,345
Other comprehensive loss				(324,859)		(324,859)	(116)	(324,975)
Cash dividends declared, \$1.19 per common share					(138,795)	(138,795)	(44,208)	(183,003)
Stock-based compensation			24,213			24,213		24,213
Exercise of stock options	16,166	—	1,203			1,203		1,203
Issuance of common stock, net	176,293	2	385			387		387
Withholding taxes paid on stock-based compensation award distributions	(62,428)	(1)	(12,149)			(12,150)		(12,150)
Balance at September 30, 2022	117,145,364	\$ 1,171	\$ 2,933,659	\$ (717,309)	\$ 4,515,115	\$ 6,732,636	\$ 231,991	\$ 6,964,627
Balance at December 31, 2020	106,842,369	\$ 1,069	\$ 1,438,038	\$ (326,132)	\$ 3,155,252	\$ 4,268,227	\$ 200,367	\$ 4,468,594
Net income					127,496	127,496	61,977	189,473
Other comprehensive loss				(40,304)		(40,304)	(50)	(40,354)
Cash dividends declared, \$1.17 per common share					(136,749)	(136,749)	(61,178)	(197,927)
Stock-based compensation			13,981			13,981		13,981
Fees related to public issuance of common stock			(888)			(888)		(888)
Exercise of stock options	263,875	3	16,217			16,220		16,220
Issuance of common stock, net	9,918,778	99	1,453,789			1,453,888		1,453,888
Withholding taxes paid on stock-based compensation award distributions	(48,704)	(1)	(7,754)			(7,755)		(7,755)
Balance at September 30, 2021	116,976,318	\$ 1,170	\$ 2,913,383	\$ (366,436)	\$ 3,145,999	\$ 5,694,116	\$ 201,116	\$ 5,895,232

See accompanying Notes to the Condensed Consolidated Financial Statements.

ALBEMARLE CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In Thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2022	2021
Cash and cash equivalents at beginning of year	\$ 439,272	\$ 746,724
Cash flows from operating activities:		
Net income	1,653,345	189,473
Adjustments to reconcile net income to cash flows from operating activities:		
Depreciation and amortization	215,280	185,765
Loss (gain) on sale of business/investment in properties	8,400	(428,424)
Stock-based compensation and other	24,649	14,668
Equity in net income of unconsolidated investments (net of tax)	(449,476)	(62,215)
Dividends received from unconsolidated investments and nonmarketable securities	350,895	43,374
Pension and postretirement benefit	(12,299)	(12,451)
Pension and postretirement contributions	(10,929)	(24,145)
Unrealized gain on investments in marketable securities	3,864	(3,912)
Loss on early extinguishment of debt	19,219	28,955
Deferred income taxes	77,968	(38,924)
Working capital changes	(1,004,236)	456,405
Non-cash transfer of 40% value of construction in progress of Kemerton plant to MRL	115,969	135,928
Other, net	(37,047)	6,089
Net cash provided by operating activities	955,602	490,586
Cash flows from investing activities:		
Capital expenditures	(815,934)	(652,739)
Cash proceeds from divestitures, net	—	289,791
Sales of marketable securities, net	3,132	4,407
Investments in equity and other corporate investments	(507)	(286)
Net cash used in investing activities	(813,309)	(358,827)
Cash flows from financing activities:		
Proceeds from issuance of common stock	—	1,453,888
Repayments of long-term debt and credit agreements	(455,000)	(1,173,823)
Proceeds from borrowings of long-term debt and credit agreements	1,964,216	—
Other debt repayments, net	(391,067)	(327,292)
Fees related to early extinguishment of debt	(9,767)	(24,877)
Dividends paid to shareholders	(138,165)	(132,236)
Dividends paid to noncontrolling interests	(44,208)	(61,178)
Proceeds from exercise of stock options	1,590	16,220
Withholding taxes paid on stock-based compensation award distributions	(12,150)	(7,755)
Other	(4,198)	(1,384)
Net cash provided by (used in) financing activities	911,251	(258,437)
Net effect of foreign exchange on cash and cash equivalents	(110,013)	(24,997)
Increase in cash and cash equivalents	943,531	(151,675)
Cash and cash equivalents at end of period	\$ 1,382,803	\$ 595,049

See accompanying Notes to the Condensed Consolidated Financial Statements.

ALBEMARLE CORPORATION AND SUBSIDIARIES
Notes to the Condensed Consolidated Financial Statements
(Unaudited)

NOTE 1—Basis of Presentation:

In the opinion of management, the accompanying unaudited condensed consolidated financial statements of Albemarle Corporation and our wholly-owned, majority-owned and controlled subsidiaries (collectively, “Albemarle,” “we,” “us,” “our” or the “Company”) contain all adjustments necessary for a fair statement, in all material respects, of our consolidated balance sheets as of September 30, 2022 and December 31, 2021, our consolidated statements of income, consolidated statements of comprehensive income and consolidated statements of changes in equity for the three- and nine-month periods ended September 30, 2022 and 2021 and our condensed consolidated statements of cash flows for the nine-month periods ended September 30, 2022 and 2021. These unaudited condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2021, which was filed with the U.S. Securities and Exchange Commission (“SEC”) on February 22, 2022. The December 31, 2021 consolidated balance sheet data herein was derived from audited financial statements, but does not include all disclosures required by generally accepted accounting principles (“GAAP”) in the United States (“U.S.”). The results of operations for the three- and nine-month periods ended September 30, 2022 are not necessarily indicative of the results to be expected for the full year. Certain reclassifications have been made to the accompanying condensed consolidated financial statements and the notes thereto to conform to the current presentation.

Interest and financing expenses for the nine-month period ended September 30, 2022 include an expense of \$17.5 million for the correction of out-of-period errors regarding overstated capitalized interest values in prior periods. For the years ended December 31, 2021, 2020 and 2019, Interest expense was understated by \$11.4 million, \$5.5 million and \$0.6 million, respectively. The Company does not believe these adjustments are material to the consolidated financial statements for any of the prior periods presented or to the nine-month period ended September 30, 2022, in which they were corrected.

NOTE 2—Acquisitions:

On October 25, 2022 the Company completed the acquisition of all of the outstanding equity of Guangxi Tianyuan New Energy Materials Co., Ltd. (“Tianyuan”), for approximately \$200 million in cash. Tianyuan's operations include a recently constructed lithium processing plant strategically positioned near the Port of Qinzhou in Guangxi, which began commercial production in the first half of 2022. The plant has designed annual conversion capacity of up to 25,000 metric tons of LCE and is capable of producing battery-grade lithium carbonate and lithium hydroxide.

As this acquisition was completed on October 25, 2022, the preliminary fair value of the assets acquired and liabilities assumed are not recorded in the Company's consolidated balance sheet as of September 30, 2022. The preliminary fair value of these assets and liabilities, as well as the results of operations of this acquisition, will be recorded in the fourth quarter of 2022. The Company has not completed the detailed valuation work necessary to arrive at the required estimates of the fair value of the assets acquired and liabilities assumed and the related allocation of purchase price.

NOTE 3—Divestitures:

On June 1, 2021, the Company completed the sale of its fine chemistry services (“FCS”) business to W. R. Grace & Co. (“Grace”) for proceeds of approximately \$570 million, consisting of \$300 million in cash and the issuance to Albemarle of preferred equity of a Grace subsidiary having an aggregate stated value of \$270 million. The preferred equity can be redeemed at Grace's option under certain conditions and will accrue payment-in-kind (“PIK”) dividends at an annual rate of 12% beginning two years after issuance.

As part of the transaction, Grace acquired our manufacturing facilities located in South Haven, Michigan and Tyrone, Pennsylvania. The sale of the FCS business reflects the Company's commitment to investing in its core, growth-oriented business segments. During the nine-month period ended September 30, 2021, we recorded a gain of \$428.4 million (\$330.9 million after income taxes) related to the sale of this business. Historical financial statements include results from this business until divested on June 1, 2021.

We determined that the FCS business met the assets held for sale criteria in accordance with ASC 360, *Property, Plant and Equipment* during the first quarter of 2021. The results of operations of the business classified as held for sale are included in the consolidated statements of income through June 1, 2021. This business did not qualify for discontinued operations treatment because the Company's management does not consider the sale as representing a strategic shift that had or will have a major effect on the Company's operations and financial results.

ALBEMARLE CORPORATION AND SUBSIDIARIES
Notes to the Condensed Consolidated Financial Statements
(Unaudited)

NOTE 4—Goodwill and Other Intangibles:

The following table summarizes the changes in goodwill by reportable segment for the nine months ended September 30, 2022 (in thousands):

	Lithium	Bromine	Catalysts	Total
Balance at December 31, 2021	\$ 1,394,182	\$ 20,319	\$ 183,126	\$ 1,597,627
Foreign currency translation adjustments	(103,887)	—	(25,892)	(129,779)
Balance at September 30, 2022	<u>\$ 1,290,295</u>	<u>\$ 20,319</u>	<u>\$ 157,234</u>	<u>\$ 1,467,848</u>

The following table summarizes the changes in other intangibles and related accumulated amortization for the nine months ended September 30, 2022 (in thousands):

	Customer Lists and Relationships	Trade Names and Trademarks ^(a)	Patents and Technology	Other	Total
Gross Asset Value					
Balance at December 31, 2021	\$ 428,379	\$ 17,883	\$ 57,313	\$ 36,705	\$ 540,280
Additions	—	—	—	3,813	3,813
Retirements	—	(4,253)	(16,206)	(5,844)	(26,303)
Foreign currency translation adjustments and other	(45,283)	(1,300)	(4,902)	(3,610)	(55,095)
Balance at September 30, 2022	<u>\$ 383,096</u>	<u>\$ 12,330</u>	<u>\$ 36,205</u>	<u>\$ 31,064</u>	<u>\$ 462,695</u>
Accumulated Amortization					
Balance at December 31, 2021	\$ (163,283)	\$ (7,983)	\$ (39,796)	\$ (20,271)	\$ (231,333)
Amortization	(15,756)	—	(1,017)	(676)	(17,449)
Retirements	—	4,253	16,206	5,844	26,303
Foreign currency translation adjustments and other	17,618	365	3,148	1,637	22,768
Balance at September 30, 2022	<u>\$ (161,421)</u>	<u>\$ (3,365)</u>	<u>\$ (21,459)</u>	<u>\$ (13,466)</u>	<u>\$ (199,711)</u>
Net Book Value at December 31, 2021	<u>\$ 265,096</u>	<u>\$ 9,900</u>	<u>\$ 17,517</u>	<u>\$ 16,434</u>	<u>\$ 308,947</u>
Net Book Value at September 30, 2022	<u>\$ 221,675</u>	<u>\$ 8,965</u>	<u>\$ 14,746</u>	<u>\$ 17,598</u>	<u>\$ 262,984</u>

(a) Net Book Value includes only indefinite-lived intangible assets.

NOTE 5—Income Taxes:

The effective income tax rate for the three-month and nine-month periods ended September 30, 2022 was 22.7% and 23.3%, respectively, compared to 22.2% and 10.2% for the three-month and nine-month periods ended September 30, 2021, respectively. The three- and nine-month periods ended September 30, 2022 included a tax benefit related to global intangible low-taxed income, and net discrete tax benefits related to excess tax benefits realized from stock-based compensation arrangements and foreign return to provisions. The Company's effective income tax rate fluctuates based on, among other factors, the amount and location of income. The three- and nine-month periods ended September 30, 2021 included a tax benefit of \$152.9 million related to an accrual recorded as a subsequent event for the settlement of an arbitration ruling for a prior legal matter in October 2021. See Note 10, "Commitments and Contingencies," for further details of this legal matter. The difference between the U.S. federal statutory income tax rate and our effective income tax rate for the three- and nine-month periods ended September 30, 2022 was impacted by a variety of factors, primarily global intangible low-taxed income and the location in which income was earned, and an uncertain tax position recorded in Chile. The difference between the U.S. federal statutory income tax rate and our effective income tax rate for the three-month and nine-month periods ended September 30, 2021 was impacted by a variety of factors, primarily global intangible low-taxed income, the location in which income was earned. In addition, the three- and nine-month periods ended September 30, 2021 includes a \$97.5 million tax expense recorded for the gain on the sale of the FCS business, offset by the tax benefit for the settlement of the arbitration ruling noted above and a benefit from foreign rate differences.

ALBEMARLE CORPORATION AND SUBSIDIARIES
Notes to the Condensed Consolidated Financial Statements
(Unaudited)

NOTE 6—Earnings Per Share:

Basic and diluted earnings per share for the three-month and nine-month periods ended September 30, 2022 and 2021 are calculated as follows (in thousands, except per share amounts):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Basic earnings per share				
Numerator:				
Net income (loss) attributable to Albemarle Corporation	\$ 897,215	\$ (392,781)	\$ 1,557,371	\$ 127,496
Denominator:				
Weighted-average common shares for basic earnings per share	117,136	116,965	117,106	115,455
Basic earnings (loss) per share	\$ 7.66	\$ (3.36)	\$ 13.30	\$ 1.10
Diluted earnings per share				
Numerator:				
Net income (loss) attributable to Albemarle Corporation	\$ 897,215	\$ (392,781)	\$ 1,557,371	\$ 127,496
Denominator:				
Weighted-average common shares for basic earnings per share	117,136	116,965	117,106	115,455
Incremental shares under stock compensation plans	733	—	643	685
Weighted-average common shares for diluted earnings per share	117,869	116,965	117,749	116,140
Diluted earnings (loss) per share	\$ 7.61	\$ (3.36)	\$ 13.23	\$ 1.10

On February 8, 2021, we completed an underwritten public offering of 8,496,773 shares of our common stock, par value \$0.01 per share, at a price to the public of \$153.00 per share. The Company also granted to the underwriters an option to purchase up to an additional 1,274,509 shares, which was exercised. The total gross proceeds from this offering were approximately \$1.5 billion, before deducting expenses, underwriting discounts and commissions. The net proceeds were used for debt repayments and general corporate purposes.

On July 18, 2022, the Company declared a cash dividend of \$0.395, an increase from the prior year regular quarterly dividend. This dividend was paid on October 3, 2022 to shareholders of record at the close of business as of September 16, 2022. On October 24, 2022, the Company declared a cash dividend of \$0.395 per share, which is payable on January 3, 2023 to shareholders of record at the close of business as of December 16, 2022.

NOTE 7—Inventories:

The following table provides a breakdown of inventories at September 30, 2022 and December 31, 2021 (in thousands):

	September 30, 2022	December 31, 2021
Finished goods	\$ 1,244,674	\$ 459,536
Raw materials and work in process ^(a)	277,594	259,221
Stores, supplies and other	92,031	79,863
Total	\$ 1,614,299	\$ 798,620

(a) Included \$132.1 million and \$149.4 million at September 30, 2022 and December 31, 2021, respectively, of work in process in our Lithium segment.

NOTE 8—Investments:

The Company holds a 49% equity interest in Windfield Holdings Pty. Ltd. (“Talison”), where the ownership parties share risks and benefits disproportionate to their voting interests. As a result, the Company considers Talison to be a variable interest entity (“VIE”), however this investment is not consolidated as the Company is not the primary beneficiary. The carrying

ALBEMARLE CORPORATION AND SUBSIDIARIES
Notes to the Condensed Consolidated Financial Statements
(Unaudited)

amount of our 49% equity interest in Windfield, which is our most significant VIE, was \$706.5 million and \$476.6 million at September 30, 2022 and December 31, 2021, respectively. The Company's aggregate net investment in all other entities which it considers to be VIEs of which the Company is not the primary beneficiary was \$7.2 million at September 30, 2022 and \$8.0 million at December 31, 2021. The Company's unconsolidated VIEs are reported in Investments on the consolidated balance sheets. The Company does not guarantee debt for, or have other financial support obligations to, these entities, and its maximum exposure to loss in connection with its continuing involvement with these entities is limited to the carrying value of the investments.

Effective September 30, 2022 the Company began recording the balance of deferred profits on sales from its equity method investments to the Company to Inventories, specifically finished goods. Historically this balance was recorded in Investments in the consolidated balance sheets. As a result, the historical balances have been reclassified to reflect the current period presentation. This change in presentation was made to better align the location of these deferred profits with their respective inventory balances until they are sold to a third party. Deferred profits from equity method investments totaled \$222.1 million and \$14.3 million as of September 30, 2022 and December 31, 2021, respectively, with the increase primarily driven by increased pricing and volume of sales from the Talison joint venture. There was no impact to the statements of income, comprehensive (loss) income, changes in equity or cash flows for any period as a result of this change in presentation. In addition, the Company does not believe this change in presentation is material to the consolidated financial statements for any prior period.

As part of the proceeds from the sale of the FCS business on June 1, 2021, Grace issued Albemarle preferred equity of a Grace subsidiary having an aggregate stated value of \$270 million. The preferred equity can be redeemed at Grace's option under certain conditions and will accrue PIK dividends at an annual rate of 12% beginning two years after issuance. This preferred equity had a fair value of \$253.7 million and \$246.5 million at September 30, 2022 and December 31, 2021, respectively, which is reported in Investments in the consolidated balance sheets.

NOTE 9—Long-Term Debt:

Long-term debt at September 30, 2022 and December 31, 2021 consisted of the following (in thousands):

	September 30, 2022	December 31, 2021
1.125% notes due 2025	\$ 361,818	\$ 426,571
1.625% notes due 2028	479,700	565,550
3.45% Senior notes due 2029	171,612	171,612
4.15% Senior notes due 2024	—	425,000
4.65% Senior notes due 2027	650,000	—
5.05% Senior notes due 2032	600,000	—
5.45% Senior notes due 2044	350,000	350,000
5.65% Senior notes due 2052	450,000	—
Credit facilities	250,000	—
Commercial paper notes	—	388,500
Variable-rate foreign bank loans	2,763	5,226
Finance lease obligations	71,975	75,431
Other	11,252	—
Unamortized discount and debt issuance costs	(29,151)	(13,651)
Total long-term debt	3,369,969	2,394,239
Less amounts due within one year	251,216	389,920
Long-term debt, less current portion	\$ 3,118,753	\$ 2,004,319

On May 13, 2022, the Company issued a series of notes (collectively, the "2022 Notes") as follows:

- \$650.0 million aggregate principal amount of senior notes, bearing interest at a rate of 4.65% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 4.84%. These senior notes mature on June 1, 2027.

ALBEMARLE CORPORATION AND SUBSIDIARIES
Notes to the Condensed Consolidated Financial Statements
(Unaudited)

- \$600.0 million aggregate principal amount of senior notes, bearing interest at a rate of 5.05% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 5.18%. These senior notes mature on June 1, 2032.
- \$450.0 million aggregate principal amount of senior notes, bearing interest at a rate of 5.65% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 5.71%. These senior notes mature on June 1, 2052.

The net proceeds from the issuance of the 2022 Notes were used to repay the balance of the commercial paper notes, the remaining balance of \$425.0 million of the 4.15% Senior Notes due 2024 (the “2024 Notes”) and for general corporate purposes. The 2024 Notes were originally due to mature on December 15, 2024 and bore interest at a rate of 4.15%. During the nine-month period ended September 30, 2022, the Company recorded a loss on early extinguishment of debt of \$19.2 million in Interest and financing expenses, representing the tender premiums, fees, unamortized discounts and unamortized deferred financing costs from the redemption of the 2024 Notes. In addition, the loss on early extinguishment of debt includes the accelerated amortization of the interest rate swap associated with the 2024 Notes from Accumulated other comprehensive income.

On October 28, 2022, we amended our revolving, unsecured credit agreement (the “2018 Credit Agreement”), which provides for borrowings of up to \$1.5 billion and matures on October 28, 2027. This credit agreement was originally dated as of June 21, 2018, and was previously amended on August 14, 2019, May 11, 2020 and December 10, 2021. Borrowings under the 2018 Credit Agreement bear interest at variable rates based on a benchmark rate depending on the currency in which the loans are denominated, plus an applicable margin which ranges from 0.91% to 1.375%, depending on the Company’s credit rating from Standard & Poor’s Ratings Services LLC, Moody’s Investors Services, Inc. and Fitch Ratings, Inc. With respect to loans denominated in U.S. dollars, interest is calculated using the term Secured Overnight Financing Rate (“SOFR”) plus a term SOFR adjustment of 0.10%, plus the applicable margin.

During the second quarter of 2022 the Company drew \$250 million under the unsecured credit facility originally entered into on August 14, 2019, as amended and restated on December 15, 2020 and again on December 10, 2021 (the “2019 Credit Facility”) for general corporate purposes. The applicable margin on the 2019 Credit Facility was 1.125% at September 30, 2022. On October 24, 2022, the 2019 Credit Facility was terminated, with the outstanding balance of \$250 million repaid using cash on hand.

In the first quarter of 2021, the Company made certain debt principal payments using proceeds from the February 2021 underwritten public offering of common stock. As a result, included in Interest and financing expenses for the nine-month period ended September 30, 2021 is a loss on early extinguishment of debt of \$29.0 million representing the tender premiums, fees, unamortized discounts and unamortized deferred financing costs from the redemption of this debt.

Prior to repayment in the first quarter of 2021, the carrying value of the 1.875% Euro-denominated senior notes was designated as an effective hedge of the net investment in certain foreign subsidiaries where the Euro serves as the functional currency, and gains or losses on the revaluation of these senior notes to our reporting currency were recorded in accumulated other comprehensive loss. Upon repayment of these notes, this net investment hedge was discontinued. The balance of foreign exchange revaluation gains and losses associated with this discontinued net investment hedge will remain within accumulated other comprehensive loss until the hedged net investment is sold or liquidated. Prior to the net investment hedge being discontinued, we recorded a gain of \$5.1 million (net of income taxes) during the nine-month period ended September 30, 2021 in accumulated other comprehensive loss.

NOTE 10—Commitments and Contingencies:

Environmental

The following activity was recorded in environmental liabilities for the nine months ended September 30, 2022 (in thousands):

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Beginning balance at December 31, 2021	\$	46,617
Expenditures		(2,495)
Accretion of discount		777
Additions and changes in estimates		2,811
Foreign currency translation adjustments and other		(3,533)
Ending balance at September 30, 2022		44,177
Less amounts reported in Accrued expenses		9,496
Amounts reported in Other noncurrent liabilities	\$	<u>34,681</u>

Environmental remediation liabilities included discounted liabilities of \$37.3 million and \$39.7 million at September 30, 2022 and December 31, 2021, respectively, discounted at rates with a weighted-average of 3.5%, and with the undiscounted amount totaling \$65.2 million and \$70.0 million at September 30, 2022 and December 31, 2021, respectively. For certain locations where the Company is operating groundwater monitoring and/or remediation systems, prior owners or insurers have assumed all or most of the responsibility.

The amounts recorded represent our future remediation and other anticipated environmental liabilities. These liabilities typically arise during the normal course of our operational and environmental management activities or at the time of acquisition of the site, and are based on internal analysis as well as input from outside consultants. As evaluations proceed at each relevant site, changes in risk assessment practices, remediation techniques and regulatory requirements can occur, therefore such liability estimates may be adjusted accordingly. The timing and duration of remediation activities at these sites will be determined when evaluations are completed. Although it is difficult to quantify the potential financial impact of these remediation liabilities, management estimates (based on the latest available information) that there is a reasonable possibility that future environmental remediation costs associated with our past operations could represent an additional \$9 million before income taxes, in excess of amounts already recorded.

We believe that any sum we may be required to pay in connection with environmental remediation matters in excess of the amounts recorded would likely occur over a period of time and would likely not have a material adverse effect upon our results of operations, financial condition or cash flows on a consolidated annual basis although any such sum could have a material adverse impact on our results of operations, financial condition or cash flows in a particular quarterly reporting period.

Litigation

We are involved from time to time in legal proceedings of types regarded as common in our business, including administrative or judicial proceedings seeking remediation under environmental laws, such as the federal Comprehensive Environmental Response, Compensation and Liability Act, commonly known as CERCLA or Superfund, products liability, breach of contract liability and premises liability litigation. Where appropriate, we may establish financial reserves for such proceedings. We also maintain insurance to mitigate certain of such risks. Costs for legal services are generally expensed as incurred.

On February 6, 2017, Huntsman International LLC (“Huntsman”), a subsidiary of Huntsman Corporation, filed a lawsuit in New York state court against Rockwood Holdings, Inc. (“Rockwood”), Rockwood Specialties, Inc., certain former executives of Rockwood and its subsidiaries, Seifollah Ghasemi, Thomas Riordan, Andrew Ross, and Michael Valente, and Albemarle. The lawsuit arises out of Huntsman’s acquisition of certain Rockwood subsidiaries in connection with a stock purchase agreement (the “SPA”), dated September 17, 2013. Before that transaction closed on October 1, 2014, Albemarle began discussions with Rockwood to purchase all outstanding equity of Rockwood and did so in a transaction that closed on January 12, 2015. Huntsman’s complaint asserted that certain technology that Rockwood had developed for a production facility in Augusta, Georgia, and which was among the assets that Huntsman acquired pursuant to the SPA, did not work, and that Rockwood and the defendant executives had intentionally misled Huntsman about that technology in connection with the Huntsman-Rockwood transaction. The complaint asserted claims for, among other things, fraud, negligent misrepresentation, and breach of the SPA, and sought certain costs for completing construction of the production facility.

On March 10, 2017, Albemarle moved in New York state court to compel arbitration, which was granted on January 8, 2018 (although Huntsman unsuccessfully appealed that decision). Huntsman’s arbitration demand asserted claims substantially similar to those asserted in its state court complaint, and sought various forms of legal remedies, including cost overruns, compensatory damages, expectation damages, punitive damages, and restitution. After a trial, the arbitration panel issued an award on October 28, 2021, awarding approximately \$600 million (including interest) to be paid by Albemarle to Huntsman, in addition to the possibility of attorney’s fees, costs and expenses. Following the arbitration panel decision, Albemarle reached a

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settlement with Huntsman to pay \$665 million in two equal installments, with the first payment made in December 2021. The second and final payment of \$332.5 million was made in May 2022. As a result, the consolidated statements of income for the three- and nine-month periods ended September 30, 2021, included a loss of \$657.4 million (\$504.5 million net of income tax), inclusive of estimated possible legal fees incurred by Huntsman and other related obligations, to reflect the increase in liabilities for this legal matter.

As first reported in 2018, following receipt of information regarding potential improper payments being made by third-party sales representatives of our Refining Solutions business, within our Catalysts segment, we promptly retained outside counsel and forensic accountants to investigate potential violations of the Company's Code of Conduct, the Foreign Corrupt Practices Act, and other potentially applicable laws. Based on this internal investigation, we have voluntarily self-reported potential issues relating to the use of third-party sales representatives in our Refining Solutions business, within our Catalysts segment, to the U.S. Department of Justice ("DOJ"), the SEC, and the Dutch Public Prosecutor ("DPP"), and are cooperating with the DOJ, the SEC, and the DPP in their review of these matters. In connection with our internal investigation, we have implemented, and are continuing to implement, appropriate remedial measures. We have commenced discussions with the SEC, DOJ and DPP about a potential resolution of these matters.

At this time, we are unable to predict the duration, scope, result, or related costs associated with the investigations. We also are unable to predict what action may be taken by the DOJ, the SEC, or the DPP, or what penalties or remedial actions they may ultimately seek. Any determination that our operations or activities are not, or were not, in compliance with existing laws or regulations could result in the imposition of fines, penalties, disgorgement, equitable relief, or other losses. We do not believe, however, that any such fines, penalties, disgorgement, equitable relief, or other losses would have a material adverse effect on our financial condition or liquidity. However, an adverse resolution could have a material adverse effect on our results of operations in a particular period.

Indemnities

We are indemnified by third parties in connection with certain matters related to acquired and divested businesses. Although we believe that the financial condition of those parties who may have indemnification obligations to the Company is generally sound, in the event the Company seeks indemnity under any of these agreements or through other means, there can be no assurance that any party who may have obligations to indemnify us will adhere to their obligations and we may have to resort to legal action to enforce our rights under the indemnities.

The Company may be subject to indemnity claims relating to properties or businesses it divested, including properties or businesses of acquired businesses that were divested prior to the completion of the acquisition. In the opinion of management, and based upon information currently available, the ultimate resolution of any indemnification obligations owed to the Company or by the Company is not expected to have a material effect on the Company's financial condition, results of operations or cash flows. The Company had approximately \$55.8 million and \$66.8 million at September 30, 2022 and December 31, 2021, respectively, recorded in Other noncurrent liabilities, primarily related to the indemnification of certain income and non-income tax liabilities associated with the Chemetall Surface Treatment entities sold in 2017.

Other

We have contracts with certain of our customers which serve as guarantees on product delivery and performance according to customer specifications that can cover both shipments on an individual basis, as well as blanket coverage of multiple shipments under certain customer supply contracts. The financial coverage provided by these guarantees is typically based on a percentage of net sales value.

NOTE 11—Leases:

We lease certain office space, buildings, transportation and equipment in various countries. The initial lease terms generally range from 1 to 30 years for real estate leases, and from 2 to 15 years for non-real estate leases. Leases with an initial term of 12 months or less are not recorded on the balance sheet, and we recognize lease expense for these leases on a straight-line basis over the lease term.

Many leases include options to terminate or renew, with renewal terms that can extend the lease term from 1 to 50 years or more. The exercise of lease renewal options is at our sole discretion. Certain leases also include options to purchase the leased property. The depreciable life of assets and leasehold improvements are limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain of exercise. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants.

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The following table provides details of our lease contracts for the three-month and nine-month periods ended September 30, 2022 and 2021 (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Operating lease cost	\$ 11,456	\$ 13,807	\$ 32,657	\$ 32,954
Finance lease cost:				
Amortization of right of use assets	952	153	2,354	466
Interest on lease liabilities	826	722	2,519	2,229
Total finance lease cost	1,778	875	4,873	2,695
Short-term lease cost	4,171	2,949	10,141	7,729
Variable lease cost	3,179	2,441	5,810	6,619
Total lease cost	<u>\$ 20,584</u>	<u>\$ 20,072</u>	<u>\$ 53,481</u>	<u>\$ 49,997</u>

Supplemental cash flow information related to our lease contracts for the nine-month periods ended September 30, 2022 and 2021 is as follows (in thousands):

	Nine Months Ended September 30,	
	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	\$ 27,201	\$ 24,462
Operating cash flows from finance leases	2,360	1,295
Financing cash flows from finance leases	999	471
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	8,378	57,136

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Supplemental balance sheet information related to our lease contracts, including the location on balance sheet, at September 30, 2022 and December 31, 2021 is as follows (in thousands, except as noted):

	<u>September 30, 2022</u>	<u>December 31, 2021</u>
Operating leases:		
Other assets	\$ 130,257	\$ 154,741
Accrued expenses	30,039	31,603
Other noncurrent liabilities	102,198	126,997
Total operating lease liabilities	132,237	158,600
Finance leases:		
Net property, plant and equipment	70,968	75,302
Current portion of long-term debt ^(a)	3,723	3,768
Long-term debt	70,758	74,011
Total finance lease liabilities	74,481	77,779
Weighted average remaining lease term (in years):		
Operating leases	13.7	12.9
Finance leases	24.5	24.5
Weighted average discount rate (%):		
Operating leases	3.60 %	3.44 %
Finance leases	4.41 %	4.47 %

(a) Balance includes accrued interest of finance lease recorded in Accrued liabilities.

Maturities of lease liabilities at September 30, 2022 were as follows (in thousands):

	<u>Operating Leases</u>	<u>Finance Leases</u>
Remainder of 2022	\$ 9,376	\$ 1,470
2023	33,845	5,879
2024	21,552	5,879
2025	12,328	5,879
2026	9,977	5,303
Thereafter	121,460	96,580
Total lease payments	208,538	120,990
Less imputed interest	76,301	46,509
Total	\$ 132,237	\$ 74,481

NOTE 12—Segment Information:

During 2022, the Company's three reportable segments include: (1) Lithium; (2) Bromine; and (3) Catalysts. Each segment has a dedicated team of sales, research and development, process engineering, manufacturing and sourcing, and business strategy personnel and has full accountability for improving execution through greater asset and market focus, agility and responsiveness. This business structure aligns with the markets and customers we serve through each of the segments. This structure also facilitates the continued standardization of business processes across the organization, and is consistent with the manner in which information is presently used internally by the Company's chief operating decision maker to evaluate performance and make resource allocation decisions. In August 2022, the Company announced plans to realign its Lithium and Bromine global business units into a new corporate structure designed to better meet customer needs and foster talent required to deliver in a competitive global environment. In addition, the Company announced its decision to retain its Catalysts business under a separate, wholly-owned subsidiary. The realignment is expected to be completed in the first quarter of 2023, and will

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result in the following three reportable segments: (1) Energy Storage; (2) Specialties; and (3) Catalysts. The Company will continue to report its segments in its current structure until the new structure becomes effective.

Summarized financial information concerning our reportable segments is shown in the following tables. The “All Other” category included only the FCS business that did not fit into any of our core businesses. On June 1, 2021, we completed the sale of the FCS business. See Note 3, “Divestitures,” for additional information. Amounts in the “All Other” category represent activity in this business until divested on June 1, 2021.

The Corporate category is not considered to be a segment and includes corporate-related items not allocated to the operating segments. Pension and other post-employment benefit (“OPEB”) service cost (which represents the benefits earned by active employees during the period) and amortization of prior service cost or benefit are allocated to the reportable segments, All Other, and Corporate, whereas the remaining components of pension and OPEB benefits cost or credit (“Non-operating pension and OPEB items”) are included in Corporate. Segment data includes inter-segment transfers of raw materials at cost and allocations for certain corporate costs.

The Company’s chief operating decision maker uses adjusted EBITDA (as defined below) to assess the ongoing performance of the Company’s business segments and to allocate resources. The Company defines adjusted EBITDA as earnings before interest and financing expenses, income tax expenses, depreciation and amortization, as adjusted on a consistent basis for certain non-operating, non-recurring or unusual items in a balanced manner and on a segment basis. These non-operating, non-recurring or unusual items may include acquisition and integration related costs, gains or losses on sales of businesses, restructuring charges, facility divestiture charges, certain litigation and arbitration costs and charges, non-operating pension and OPEB items and other significant non-recurring items. In addition, management uses adjusted EBITDA for business and enterprise planning purposes and as a significant component in the calculation of performance-based compensation for management and other employees. The Company has reported adjusted EBITDA because management believes it provides transparency to investors and enables period-to-period comparability of financial performance. Adjusted EBITDA is a financial measure that is not required by, or presented in accordance with, U.S. GAAP. Adjusted EBITDA should not be considered as an alternative to Net (loss) income attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with U.S. GAAP, or any other financial measure reported in accordance with U.S. GAAP.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(In thousands)		(In thousands)	
Net sales:				
Lithium	\$ 1,501,073	\$ 359,229	\$ 2,942,861	\$ 958,539
Bromine	354,908	277,783	1,092,239	837,978
Catalysts	235,824	193,554	664,026	562,141
All Other	—	—	—	75,095
Total net sales	<u>\$ 2,091,805</u>	<u>\$ 830,566</u>	<u>\$ 4,699,126</u>	<u>\$ 2,433,753</u>
Adjusted EBITDA:				
Lithium	\$ 1,111,243	\$ 125,416	\$ 1,915,066	\$ 341,293
Bromine	106,958	86,012	371,875	273,298
Catalysts	4,635	33,103	31,337	79,694
All Other	—	—	—	29,858
Corporate	(32,870)	(26,962)	(86,173)	(81,892)
Total adjusted EBITDA	<u>\$ 1,189,966</u>	<u>\$ 217,569</u>	<u>\$ 2,232,105</u>	<u>\$ 642,251</u>

See below for a reconciliation of adjusted EBITDA, a non-GAAP financial measure, from Net (loss) income attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with U.S. GAAP (in thousands):

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	<u>Lithium</u>	<u>Bromine</u>	<u>Catalysts</u>	<u>All Other</u>	<u>Corporate</u>	<u>Consolidated Total</u>
Three months ended September 30, 2022						
Net income (loss) attributable to Albemarle Corporation	\$ 1,063,426	\$ 93,186	\$ (12,473)	\$ —	\$ (246,924)	\$ 897,215
Depreciation and amortization	47,758	13,772	12,689	—	3,494	77,713
Acquisition and integration related costs ^(a)	—	—	—	—	2,145	2,145
Interest and financing expenses	—	—	—	—	29,691	29,691
Income tax expense	—	—	—	—	196,938	196,938
Non-operating pension and OPEB items	—	—	—	—	(5,027)	(5,027)
Other ^(b)	59	—	4,419	—	(13,187)	(8,709)
Adjusted EBITDA	<u>\$ 1,111,243</u>	<u>\$ 106,958</u>	<u>\$ 4,635</u>	<u>\$ —</u>	<u>\$ (32,870)</u>	<u>\$ 1,189,966</u>
Three months ended September 30, 2021						
Net income (loss) attributable to Albemarle Corporation	\$ 92,449	\$ 73,409	\$ 20,039	\$ —	\$ (578,678)	\$ (392,781)
Depreciation and amortization	34,256	12,603	13,064	—	2,159	62,082
Restructuring and other ^(c)	—	—	—	—	754	754
Gain on sale of business ^(d)	—	—	—	—	984	984
Acquisition and integration related costs ^(a)	—	—	—	—	1,553	1,553
Interest and financing expenses	—	—	—	—	5,136	5,136
Income tax expense	—	—	—	—	(114,670)	(114,670)
Non-operating pension and OPEB items	—	—	—	—	(5,471)	(5,471)
Legal accrual ^(e)	—	—	—	—	657,412	657,412
Other ^(f)	(1,289)	—	—	—	3,859	2,570
Adjusted EBITDA	<u>\$ 125,416</u>	<u>\$ 86,012</u>	<u>\$ 33,103</u>	<u>\$ —</u>	<u>\$ (26,962)</u>	<u>\$ 217,569</u>
Nine months ended September 30, 2022						
Net income (loss) attributable to Albemarle Corporation	\$ 1,777,214	\$ 332,208	\$ (11,867)	\$ —	\$ (540,184)	\$ 1,557,371
Depreciation and amortization	128,786	39,667	38,785	—	8,042	215,280
Loss on sale of interest in properties ^(g)	8,400	—	—	—	—	8,400
Acquisition and integration related costs ^(a)	—	—	—	—	9,244	9,244
Interest and financing expenses ^(h)	—	—	—	—	98,934	98,934
Income tax expense	—	—	—	—	366,486	366,486
Non-operating pension and OPEB items	—	—	—	—	(15,345)	(15,345)
Other ^(b)	666	—	4,419	—	(13,350)	(8,265)
Adjusted EBITDA	<u>\$ 1,915,066</u>	<u>\$ 371,875</u>	<u>\$ 31,337</u>	<u>\$ —</u>	<u>\$ (86,173)</u>	<u>\$ 2,232,105</u>
Nine months ended September 30, 2021						
Net income (loss) attributable to Albemarle Corporation	\$ 237,293	\$ 235,670	\$ 41,401	\$ 27,988	\$ (414,856)	\$ 127,496
Depreciation and amortization	99,559	37,628	38,293	1,870	8,415	185,765
Restructuring and other ^(c)	—	—	—	—	2,294	2,294
Gain on sale of business ^(d)	—	—	—	—	(428,424)	(428,424)
Acquisition and integration related costs ^(a)	—	—	—	—	5,629	5,629
Interest and financing expenses ^(h)	—	—	—	—	56,170	56,170
Income tax expense	—	—	—	—	14,422	14,422
Non-operating pension and OPEB items	—	—	—	—	(16,407)	(16,407)
Legal accrual ^(e)	—	—	—	—	657,412	657,412
Albemarle Foundation contribution ⁽ⁱ⁾	—	—	—	—	20,000	20,000
Other ^(f)	4,441	—	—	—	13,453	17,894
Adjusted EBITDA	<u>\$ 341,293</u>	<u>\$ 273,298</u>	<u>\$ 79,694</u>	<u>\$ 29,858</u>	<u>\$ (81,892)</u>	<u>\$ 642,251</u>

(a) Costs related to the acquisition, integration and potential divestitures for various significant projects, recorded in Selling, general and administrative expenses (“SG&A”).

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- (b) Included amounts for the three months ended September 30, 2022 recorded in:
- Cost of goods sold - \$2.7 million of expense related to one-time retention payments for certain employees during the Catalysts strategic review and business unit realignment.
 - SG&A - \$1.9 million of expense primarily related to one-time retention payments for certain employees during the Catalysts strategic review and business unit realignment and \$1.3 million primarily related to facility closure expenses of offices in Germany.
 - Other income, net - \$10.6 million net gain related to the fair value adjustment of equity securities in a public company, a \$3.0 million gain from the reversal of a liability related to a previous divestiture and \$1.1 million of gain resulting from the adjustment of indemnification related to previously disposed businesses.
- Included amounts for the nine months ended September 30, 2022 recorded in:
- Cost of goods sold - \$2.7 million of expense related to one-time retention payments for certain employees during the Catalysts strategic review and business unit realignment, and \$0.5 million related to the settlement of a legal matter resulting from a prior acquisition.
 - SG&A - \$3.2 million primarily related to facility closure expenses of offices in Germany, \$2.8 million of charges for environmental reserves at sites not part of our operations and \$1.9 million of expense primarily related to one-time retention payments for certain employees during the Catalysts strategic review, partially offset by \$4.3 million of gains from the sale of legacy properties not part of our operations.
 - Other income, net - \$10.6 million net gain related to the fair value adjustment of equity securities in a public company, a \$3.0 million gain from the reversal of a liability related to a previous divestiture, \$1.1 million of gain resulting from the adjustment of indemnification related to previously disposed businesses and a \$0.6 million gain related to a settlement received from a legal matter in a prior period.
- (c) In 2021, the Company recorded facility closure related to offices in Germany, and severance expenses in Germany and Belgium, in SG&A.
- (d) See Note 3, “Divestitures,” for additional information.
- (e) Loss recorded in Other expense, net in the three and nine months ended September 30, 2021 related to the settlement of an arbitration ruling for a prior legal matter. See Note 10, “Commitments and Contingencies,” for further details.
- (f) Included amounts for the three months ended September 30, 2021 recorded in:
- SG&A - \$2.5 million of expenses primarily related to non-routine labor and compensation related costs that are outside normal compensation arrangements.
 - Other income, net - \$0.1 million of loss resulting from the adjustment of indemnification related to previously disposed businesses.
- Included amounts for the nine months ended September 30, 2021 recorded in:
- SG&A - \$8.6 million of expenses primarily related to non-routine labor and compensation related costs that are outside normal compensation arrangements, a \$4.0 million loss resulting from the sale of property, plant and equipment and \$1.6 million of charges for an environmental reserve at a site not part of our operations.
 - Other income, net - \$3.7 million of expenses primarily related to asset retirement obligation charges to update of an estimate at a site formerly owned by Albemarle.
- (g) Expense recorded as a result of revised estimates of the obligation to construct certain lithium hydroxide conversion assets in Kemerton, Western Australia, due to cost overruns from supply chain, labor and COVID-19 pandemic related issues. The corresponding obligation was recorded in Accrued liabilities to be transferred to Mineral Resources Limited (“MRL”), which maintains a 40% ownership interest in these Kemerton assets.
- (h) Included in Interest and financing expenses is a loss on early extinguishment of debt of \$19.2 million and \$29.0 million for the nine months ended September 30, 2022 and 2021, respectively. See Note 9, “Long-term Debt,” for additional information. In addition, Interest and financing expenses for the nine months ended September 30, 2022 includes the correction of an out of period error of \$17.5 million related to the overstatement of capitalized interest in prior periods. See Note 1, “Basis of Presentation,” for further details.
- (i) Included in SG&A is a charitable contribution, using a portion of the proceeds received from the FCS divestiture, to the Albemarle Foundation, a non-profit organization that sponsors grants, health and social projects, educational initiatives, disaster relief, matching gift programs, scholarships and other charitable initiatives in locations where the Company’s employees live and the Company operates. This contribution is in addition to the normal annual contribution made to the Albemarle Foundation by the Company, and is significant in size and nature in that it is intended to provide more long-term benefits in these communities.

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NOTE 13—Pension Plans and Other Postretirement Benefits:

The components of pension and postretirement benefits cost (credit) for the three-month and nine-month periods ended September 30, 2022 and 2021 were as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Pension Benefits Cost (Credit):				
Service cost	\$ 959	\$ 1,425	\$ 2,914	\$ 3,776
Interest cost	5,530	5,113	16,703	15,352
Expected return on assets	(10,884)	(10,893)	(33,028)	(32,687)
Amortization of prior service benefit	21	29	68	87
Total net pension benefits credit	<u>\$ (4,374)</u>	<u>\$ (4,326)</u>	<u>\$ (13,343)</u>	<u>\$ (13,472)</u>
Postretirement Benefits Cost:				
Service cost	\$ 21	\$ 31	\$ 64	\$ 93
Interest cost	327	309	980	928
Total net postretirement benefits cost	<u>\$ 348</u>	<u>\$ 340</u>	<u>\$ 1,044</u>	<u>\$ 1,021</u>
Total net pension and postretirement benefits credit	<u>\$ (4,026)</u>	<u>\$ (3,986)</u>	<u>\$ (12,299)</u>	<u>\$ (12,451)</u>

All components of net benefit cost (credit), other than service cost, are included in Other income, net on the consolidated statements of income.

During the three-month and nine-month periods ended September 30, 2022, the Company made contributions of \$2.5 million and \$8.9 million, respectively, to its qualified and nonqualified pension plans. During the three-month and nine-month periods ended September 30, 2021, the Company made contributions of \$3.2 million and \$22.1 million, respectively, to its qualified and nonqualified pension plans. The contributions made in 2021 included deferred contributions from the prior year resulting from uncertainty during the COVID-19 pandemic.

The Company paid \$0.7 million and \$2.1 million in premiums to the U.S. postretirement benefit plan during the three-month and nine-month periods ended September 30, 2022, respectively. During the three-month and nine-month periods ended September 30, 2021, the Company paid \$0.7 million and \$2.1 million, respectively, in premiums to the U.S. postretirement benefit plan.

NOTE 14—Fair Value of Financial Instruments:

In assessing the fair value of financial instruments, we use methods and assumptions that are based on market conditions and other risk factors existing at the time of assessment. Fair value information for our financial instruments is as follows:

Long-Term Debt—the fair values of our notes are estimated using Level 1 inputs and account for the difference between the recorded amount and fair value of our long-term debt. The carrying value of our remaining long-term debt reported in the accompanying consolidated balance sheets approximates fair value as substantially all of such debt bears interest based on prevailing variable market rates currently available in the countries in which we have borrowings.

	September 30, 2022		December 31, 2021	
	Recorded Amount	Fair Value	Recorded Amount	Fair Value
	(In thousands)			
Long-term debt	\$ 3,393,136	\$ 3,091,805	\$ 2,405,021	\$ 2,593,590

Foreign Currency Forward Contracts—during the fourth quarter of 2019, we entered into a foreign currency forward contract to hedge the cash flow exposure of non-functional currency purchases during the construction of the Kemerton plant in Australia. This derivative financial instrument is used to manage risk and is not used for trading or other speculative purposes. This foreign currency forward contract has been designated as a hedging instrument under ASC 815, *Derivatives and Hedging*. We had outstanding designated foreign currency forward contracts with notional values totaling the equivalent of \$101.6 million and \$36.5 million at September 30, 2022 and December 31, 2021, respectively.

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We also enter into foreign currency forward contracts in connection with our risk management strategies that have not been designated as hedging instruments under ASC 815, *Derivatives and Hedging*, in an attempt to minimize the financial impact of changes in foreign currency exchange rates. These derivative financial instruments are used to manage risk and are not used for trading or other speculative purposes. The fair values of our non-designated foreign currency forward contracts are estimated based on current settlement values. At September 30, 2022 and December 31, 2021, we had outstanding non-designated foreign currency forward contracts with notional values totaling \$2,057.7 million and \$618.1 million, respectively, hedging our exposure to various currencies including the Chilean Peso, Euro, Chinese Renminbi, Japanese Yen, Australian Dollar and Singapore Dollar.

The following table summarizes the fair value of our foreign currency forward contracts included in the consolidated balance sheets as of September 30, 2022 and December 31, 2021 (in thousands):

	September 30, 2022		December 31, 2021	
	Assets	Liabilities	Assets	Liabilities
Designated as hedging instruments				
Other current assets	\$ —	\$ —	\$ 237	\$ —
Accrued expenses	—	9,169	—	57
Total designated as hedging instruments	—	9,169	237	57
Not designated as hedging instruments				
Other current assets	4,968	—	2,901	—
Accrued expenses	—	50	—	248
Total not designated as hedging instruments	4,968	50	2,901	248
Total	\$ 4,968	\$ 9,219	\$ 3,138	\$ 305

The following table summarizes the net gains (losses) recognized for our foreign currency forward contracts during the three-month and nine-month periods ended September 30, 2022 and 2021 (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Designated as hedging instruments				
(Loss) income recognized in Other comprehensive loss	\$ (9,653)	\$ 214	\$ (8,144)	\$ (563)
Not designated as hedging instruments				
(Loss) income recognized in Other income, net ^(a)	\$ (9,056)	\$ (1,199)	\$ (36,326)	\$ 658

(a) Fluctuations in the value of our foreign currency forward contracts not designated as hedging instruments are generally expected to be offset by changes in the value of the underlying exposures being hedged, which are also reported in Other income, net.

In addition, for the nine-month periods ended September 30, 2022 and 2021, we recorded net cash (settlements) receipts of (\$38.6) million and \$0.8 million, respectively, in Other, net, in our condensed consolidated statements of cash flows.

Unrealized gains and losses related to the cash flow hedges will be reclassified to earnings over the life of the related assets when settled and the related assets are placed into service.

The counterparties to our foreign currency forward contracts are major financial institutions with which we generally have other financial relationships. We are exposed to credit loss in the event of nonperformance by these counterparties. However, we do not anticipate nonperformance by the counterparties.

NOTE 15—Fair Value Measurement:

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). The inputs used to measure fair value are classified into the following hierarchy:

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Level 1	Unadjusted quoted prices in active markets for identical assets or liabilities
Level 2	Unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability
Level 3	Unobservable inputs for the asset or liability

We endeavor to utilize the best available information in measuring fair value. Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The following tables set forth our financial assets and liabilities that were accounted for at fair value on a recurring basis as of September 30, 2022 and December 31, 2021 (in thousands):

	September 30, 2022	Quoted Prices in Active Markets for Identical Items (Level 1)	Quoted Prices in Active Markets for Similar Items (Level 2)	Unobservable Inputs (Level 3)
Assets:				
Available for sale debt securities ^(a)	\$ 253,701	\$ —	\$ —	\$ 253,701
Investments under executive deferred compensation plan ^(b)	\$ 25,495	\$ 25,495	\$ —	\$ —
Public equity securities ^(c)	\$ 12,197	\$ 12,197	\$ —	\$ —
Private equity securities measured at net asset value ^{(d)(e)}	\$ 4,716	\$ —	\$ —	\$ —
Foreign currency forward contracts ^(f)	\$ 4,968	\$ —	\$ 4,968	\$ —
Liabilities:				
Obligations under executive deferred compensation plan ^(b)	\$ 25,495	\$ 25,495	\$ —	\$ —
Foreign currency forward contracts ^(f)	\$ 9,219	\$ —	\$ 9,219	\$ —

	December 31, 2021	Quoted Prices in Active Markets for Identical Items (Level 1)	Quoted Prices in Active Markets for Similar Items (Level 2)	Unobservable Inputs (Level 3)
Assets:				
Available for sale debt securities ^(a)	\$ 246,517	\$ —	\$ —	\$ 246,517
Investments under executive deferred compensation plan ^(b)	\$ 32,491	\$ 32,491	\$ —	\$ —
Private equity securities measured at net asset value ^{(d)(e)}	\$ 4,696	\$ —	\$ —	\$ —
Foreign currency forward contracts ^(f)	\$ 3,138	\$ —	\$ 3,138	\$ —
Liabilities:				
Obligations under executive deferred compensation plan ^(b)	\$ 32,491	\$ 32,491	\$ —	\$ —
Foreign currency forward contracts ^(f)	\$ 305	\$ —	\$ 305	\$ —

- (a) Preferred equity of a Grace subsidiary acquired as a portion of the proceeds of the FCS sale on June 1, 2021. See Note 2, “Divestitures,” for further details on the material terms and conditions. A third-party estimate of the fair value was prepared using expected future cash flows over the period up to when the asset is likely to be redeemed, applying a discount rate that appropriately captures a market participant’s view of the risk associated with the investment. These are considered to be Level 3 inputs.
- (b) We maintain an Executive Deferred Compensation Plan (“EDCP”) that was adopted in 2001 and subsequently amended. The purpose of the EDCP is to provide current tax planning opportunities as well as supplemental funds upon the retirement or death of certain of our employees. The EDCP is intended to aid in attracting and retaining employees of exceptional ability by providing them with these benefits. We also maintain a Benefit Protection Trust (the “Trust”) that was created to provide a source of funds to assist in meeting the obligations of the EDCP, subject to the claims of our creditors in the event of our insolvency. Assets of the Trust are consolidated in accordance with authoritative guidance. The assets of the Trust consist primarily of mutual fund investments (which are accounted for as trading securities and are marked-to-market on a monthly basis through the consolidated statements of income) and cash and cash equivalents. As such, these assets and obligations are classified within Level 1.

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- (c) Holdings in equity securities of public companies reported in Investments in the consolidated balance sheets. The fair value is measured using publicly available share prices of the investments, with any changes reported in Other income (expense), net, in our consolidated statements of income.
- (d) Primarily consists of private equity securities reported in Investments in the consolidated balance sheets. The changes in fair value are reported in Other income (expense), net, in our consolidated statements of income.
- (e) Holdings in certain private equity securities are measured at fair value using the net asset value per share (or its equivalent) practical expedient and have not been categorized in the fair value hierarchy.
- (f) As a result of our global operating and financing activities, we are exposed to market risks from changes in foreign currency exchange rates which may adversely affect our operating results and financial position. When deemed appropriate, we minimize our risks from foreign currency exchange rate fluctuations through the use of foreign currency forward contracts. The foreign currency forward contracts are valued using broker quotations or market transactions in either the listed or over-the-counter markets. As such, these derivative instruments are classified within Level 2. See Note 14, "Fair Value of Financial Instruments," for further details about our foreign currency forward contracts.

The following tables set forth the reconciliation of the beginning and ending balance for the Level 3 recurring fair value measurements (in thousands):

	Available for Sale Debt Securities
Beginning balance at December 31, 2021	\$ 246,517
Fair value adjustment	(2,368)
Accretion of discount	9,552
Ending balance at September 30, 2022	<u>\$ 253,701</u>

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NOTE 16—Accumulated Other Comprehensive (Loss) Income:

The components and activity in Accumulated other comprehensive (loss) income (net of deferred income taxes) consisted of the following during the periods indicated below (in thousands):

	Foreign Currency Translation and Other	Net Investment Hedge ^(a)	Cash Flow Hedge ^(b)	Interest Rate Swap ^(c)	Total
Three months ended September 30, 2022					
Balance at June 30, 2022	\$ (515,269)	\$ —	\$ 8,131	\$ —	\$ (507,138)
Other comprehensive loss before reclassifications	(200,538)	—	(9,652)	—	(210,190)
Amounts reclassified from accumulated other comprehensive loss	18	—	—	—	18
Other comprehensive loss, net of tax	(200,520)	—	(9,652)	—	(210,172)
Other comprehensive income attributable to noncontrolling interests	1	—	—	—	1
Balance at September 30, 2022	<u>\$ (715,788)</u>	<u>\$ —</u>	<u>\$ (1,521)</u>	<u>\$ —</u>	<u>\$ (717,309)</u>
Three months ended September 30, 2021					
Balance at June 30, 2021	\$ (324,951)	\$ —	\$ 5,672	\$ (8,722)	\$ (328,001)
Other comprehensive (loss) income before reclassifications	(39,295)	—	214	—	(39,081)
Amounts reclassified from accumulated other comprehensive loss	21	—	—	651	672
Other comprehensive (loss) income, net of tax	(39,274)	—	214	651	(38,409)
Other comprehensive loss attributable to noncontrolling interests	(26)	—	—	—	(26)
Balance at September 30, 2021	<u>\$ (364,251)</u>	<u>\$ —</u>	<u>\$ 5,886</u>	<u>\$ (8,071)</u>	<u>\$ (366,436)</u>
Nine months ended September 30, 2022					
Balance at December 31, 2021	\$ (391,674)	\$ —	\$ 6,623	\$ (7,399)	\$ (392,450)
Other comprehensive (loss) income before reclassifications	(324,287)	—	(8,144)	—	(332,431)
Amounts reclassified from accumulated other comprehensive loss	57	—	—	7,399	7,456
Other comprehensive (loss) income, net of tax	(324,230)	—	(8,144)	7,399	(324,975)
Other comprehensive income attributable to noncontrolling interests	116	—	—	—	116
Balance at September 30, 2022	<u>\$ (715,788)</u>	<u>\$ —</u>	<u>\$ (1,521)</u>	<u>\$ —</u>	<u>\$ (717,309)</u>
Nine months ended September 30, 2021					
Balance at December 31, 2020	\$ (369,152)	\$ 46,593	\$ 6,449	\$ (10,022)	\$ (326,132)
Other comprehensive (loss) income before reclassifications	(46,923)	5,110	(563)	—	(42,376)
Amounts reclassified from accumulated other comprehensive loss	71	—	—	1,951	2,022
Other comprehensive (loss) income, net of tax	(46,852)	5,110	(563)	1,951	(40,354)
Amounts reclassified within accumulated other comprehensive loss	51,703	(51,703)	—	—	—
Other comprehensive income attributable to noncontrolling interests	50	—	—	—	50
Balance at September 30, 2021	<u>\$ (364,251)</u>	<u>\$ —</u>	<u>\$ 5,886</u>	<u>\$ (8,071)</u>	<u>\$ (366,436)</u>

- (a) During the first quarter of 2021 the net investment hedge was discontinued following the repayment of the 1.875% Euro-denominated senior notes. The balance of foreign exchange revaluation gains and losses associated with this discontinued net investment hedge have been reclassified to Foreign currency translation and other, and will remain within accumulated other comprehensive loss until the hedged net investment is sold or liquidated.
- (b) We entered into a foreign currency forward contract, which was designated and accounted for as a cash flow hedge under ASC 815, *Derivatives and Hedging*. See Note 14, “Fair Value of Financial Instruments,” for additional information.
- (c) The pre-tax portion of amounts reclassified from accumulated other comprehensive loss is included in Interest and financing expenses. The balance of this interest rate swap was being amortized to Interest and financing expenses over the life of the 4.15% senior notes originally due in 2024. As discussed in Note 9, “Long-term Debt,” the Company repaid these notes in the second quarter of 2022, and as

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a result, reclassified the remaining balance of this interest rate swap to interest expense during the same period as part of the early extinguishment of debt.

The amount of income tax (expense) benefit allocated to each component of Other comprehensive (loss) income for the three-month and nine-month periods ended September 30, 2022 and 2021 is provided in the following tables (in thousands):

	Foreign Currency Translation and Other	Net Investment Hedge	Cash Flow Hedge	Interest Rate Swap
Three months ended September 30, 2022				
Other comprehensive (loss) income, before tax	\$ (198,888)	\$ —	\$ (9,652)	\$ —
Income tax benefit (expense)	(1,632)	—	—	—
Other comprehensive (loss) income, net of tax	<u>\$ (200,520)</u>	<u>\$ —</u>	<u>\$ (9,652)</u>	<u>\$ —</u>
Three months ended September 30, 2021				
Other comprehensive income (loss), before tax	\$ (39,266)	\$ —	\$ 214	\$ 834
Income tax expense	(8)	—	—	(183)
Other comprehensive income (loss), net of tax	<u>\$ (39,274)</u>	<u>\$ —</u>	<u>\$ 214</u>	<u>\$ 651</u>
Nine months ended September 30, 2022				
Other comprehensive (loss) income, before tax	\$ (323,777)	\$ —	\$ (8,144)	\$ 9,739
Income tax benefit (expense)	(453)	—	—	(2,340)
Other comprehensive (loss) income, net of tax	<u>\$ (324,230)</u>	<u>\$ —</u>	<u>\$ (8,144)</u>	<u>\$ 7,399</u>
Nine months ended September 30, 2021				
Other comprehensive income (loss), before tax	\$ (46,836)	\$ 6,552	\$ (563)	\$ 2,502
Income tax expense	(16)	(1,442)	—	(551)
Other comprehensive income (loss), net of tax	<u>\$ (46,852)</u>	<u>\$ 5,110</u>	<u>\$ (563)</u>	<u>\$ 1,951</u>

NOTE 17—Related Party Transactions:

Our consolidated statements of income include sales to and purchases from unconsolidated affiliates in the ordinary course of business as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Sales to unconsolidated affiliates	\$ 9,490	\$ 5,629	\$ 24,359	\$ 16,357
Purchases from unconsolidated affiliates ^(a)	\$ 614,889	\$ 55,540	\$ 1,146,329	\$ 144,461

(a) Increases in purchases from unconsolidated affiliates primarily relate to increased pricing and volume of spodumene purchased from the Company's Windfield joint venture.

Our consolidated balance sheets include accounts receivable due from and payable to unconsolidated affiliates in the ordinary course of business as follows (in thousands):

	September 30, 2022	December 31, 2021
Receivables from unconsolidated affiliates	\$ 3,301	\$ 2,139
Payables to unconsolidated affiliates ^(a)	\$ 554,845	\$ 47,499

(a) Increases in payables to unconsolidated affiliates primarily relate to increased purchases of spodumene purchased from the Company's joint venture under normal payment terms.

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NOTE 18—Supplemental Cash Flow Information:

Supplemental information related to the condensed consolidated statements of cash flows is as follows (in thousands):

	Nine Months Ended September 30,	
	2022	2021
Supplemental non-cash disclosure related to investing and financing activities:		
Capital expenditures included in Accounts payable	\$ 253,183	\$ 157,743
Promissory note issued for capital expenditures ^(a)	\$ 10,876	\$ —
Non-cash proceeds from divestitures ^(b)	\$ —	\$ 244,530

(a) During the first quarter of 2022, the Company issued a promissory note with a present value of \$10.9 million for land purchased in Kings Mountain, NC. The promissory note is payable in equal annual installments from the years 2027 to 2048.

(b) Fair value of preferred equity of a Grace subsidiary received as part of the proceeds for the sale of the FCS business. See Note 2, “Divestitures,” for further details.

As part of the purchase price paid for the acquisition of a 60% interest in the MRL Wodgina Project, the Company transferred \$116.0 million and \$135.9 million of its construction in progress of the designated Kemerton assets during the nine months ended September 30, 2022 and 2021, respectively, representing MRL’s 40% interest in the assets. The cash outflow for these assets was recorded in Capital expenditures within Cash flows from investing activities on the condensed consolidated statements of cash flows. The non-cash transfer of these assets is recorded in Non-cash transfer of 40% value of construction in progress of the Kemerton plant to MRL within Cash flows from operating activities on the consolidated statements of cash flows.

Other, net within Cash flows from operating activities on the condensed consolidated statements of cash flows for the nine months ended September 30, 2022 and 2021 included \$42.5 million and \$28.7 million, respectively, representing the reclassification of the current portion of the one-time transition tax resulting from the enactment of the U.S. Tax Cuts and Jobs Act, from Other noncurrent liabilities to Income taxes payable within current liabilities.

NOTE 19—Recently Issued Accounting Pronouncements:

In March 2020, the Financial Accounting Standards Board (“FASB”) issued accounting guidance that provides optional expedients and exceptions for applying U.S. GAAP to contracts, hedging relationships and other transactions affected by reference rate reform if certain criteria are met. The guidance applies only to contracts, hedging relationships and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. In January 2021, the FASB issued additional accounting guidance which clarifies that certain optional expedients and exceptions apply to derivatives that are affected by the discounting transition. The guidance under both FASB issuances is effective March 12, 2020 through December 31, 2022. The Company currently does not expect this guidance to have a significant impact on its consolidated financial statements.

In November 2021, the FASB issued accounting guidance that requires disclosures about government assistance in the notes to the financial statements. This guidance will require the disclosure of: (1) the types of government assistance received; (2) the accounting for such assistance; and (3) the effect of the assistance on a business entity’s financial statements. This guidance is effective for financial statements issued for annual periods beginning after December 15, 2021. The Company currently does not expect this guidance to have a significant impact on its annual financial statement disclosures.

In March 2022, the FASB issued accounting guidance that expands the Company’s abilities to hedge the benchmark interest rate risk of portfolios of financial assets or beneficial interests in a fair value hedge. This guidance expands the use of the portfolio layer method to allow multiple hedges of a single closed portfolio of assets using spot starting, forward starting, and amortizing-notional swaps. This also permits both prepayable and non prepayable financial assets to be included in the closed portfolio of assets hedged in a portfolio layer hedge. In addition, this guidance requires that basis adjustments not be allocated to individual assets for active portfolio layer method hedges, but rather be maintained on the closed portfolio of assets as a whole. This guidance is effective for financial statements issued for annual periods beginning after December 15, 2022, including interim periods within those annual periods. The Company currently does not expect this guidance to have a significant impact on its consolidated financial statements.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Forward-looking Statements

Some of the information presented in this Quarterly Report on Form 10-Q, including the documents incorporated by reference, may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements are based on our current expectations, which are in turn based on assumptions that we believe are reasonable based on our current knowledge of our business and operations. We have used words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “should,” “would,” “will” and variations of such words and similar expressions to identify such forward-looking statements.

These forward-looking statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions, which are difficult to predict and many of which are beyond our control. There can be no assurance that our actual results will not differ materially from the results and expectations expressed or implied in the forward-looking statements. Factors that could cause actual results to differ materially from the outlook expressed or implied in any forward-looking statement include, without limitation, information related to:

- changes in economic and business conditions;
- product development;
- changes in financial and operating performance of our major customers and industries and markets served by us;
- the timing of orders received from customers;
- the gain or loss of significant customers;
- fluctuations in lithium market pricing, which could impact our revenues and profitability particularly due to our increased exposure to index-referenced and variable-priced contracts for battery grade lithium sales;
- changes with respect to contract renegotiations;
- potential production volume shortfalls;
- competition from other manufacturers;
- changes in the demand for our products or the end-user markets in which our products are sold;
- limitations or prohibitions on the manufacture and sale of our products;
- availability of raw materials;
- increases in the cost of raw materials and energy, and our ability to pass through such increases to our customers;
- technological change and development;
- changes in our markets in general;
- fluctuations in foreign currencies;
- changes in laws and government regulation impacting our operations or our products;
- the occurrence of regulatory actions, proceedings, claims or litigation (including with respect to the U.S. Foreign Corrupt Practices Act and foreign anti-corruption laws);
- the occurrence of cyber-security breaches, terrorist attacks, industrial accidents or natural disasters;
- the effects of climate change, including any regulatory changes to which we might be subject;
- hazards associated with chemicals manufacturing;
- the inability to maintain current levels of insurance, including product or premises liability insurance, or the denial of such coverage;
- political unrest affecting the global economy, including adverse effects from terrorism or hostilities;
- political instability affecting our manufacturing operations or joint ventures;
- changes in accounting standards;
- the inability to achieve results from our global manufacturing cost reduction initiatives as well as our ongoing continuous improvement and rationalization programs;
- changes in the jurisdictional mix of our earnings and changes in tax laws and rates or interpretation;
- changes in monetary policies, inflation or interest rates that may impact our ability to raise capital or increase our cost of funds, impact the performance of our pension fund investments and increase our pension expense and funding obligations;
- volatility and uncertainties in the debt and equity markets;
- technology or intellectual property infringement, including cyber-security breaches, and other innovation risks;

- decisions we may make in the future;
- future acquisition and divestiture transactions, including the ability to successfully execute, operate and integrate acquisitions and divestitures and incurring additional indebtedness;
- expected benefits from proposed transactions;
- timing of active and proposed projects;
- continuing uncertainties as to the duration and impact of the novel coronavirus (“COVID-19”) pandemic;
- performance of our partners in joint ventures and other projects;
- changes in credit ratings;
- the inability to realize the benefits of our decision to retain our Catalysts business and to realign our Lithium and Bromine global business units into a new corporate structure; and
- the other factors detailed from time to time in the reports we file with the U.S. Securities and Exchange Commission (“SEC”) including those described under “Risk Factors” in our most recent Annual Report on Form 10-K and any subsequently filed Quarterly Reports on Form 10-Q.

These forward-looking statements speak only as of the date of this Quarterly Report on Form 10-Q. We assume no obligation to provide any revisions to any forward-looking statements should circumstances change, except as otherwise required by securities and other applicable laws. The following discussion should be read together with our condensed consolidated financial statements and related notes included in this Quarterly Report on Form 10-Q.

The following is a discussion and analysis of our results of operations for the three-month and nine-month periods ended September 30, 2022 and 2021. A discussion of our consolidated financial condition and sources of additional capital is included under a separate heading “Financial Condition and Liquidity.”

Overview

We are a leading global developer, manufacturer and marketer of highly-engineered specialty chemicals that are designed to meet our customers’ needs across a diverse range of end markets. Our corporate purpose is making the world safe and sustainable by powering the potential of people. The end markets we serve include energy storage, petroleum refining, consumer electronics, construction, automotive, lubricants, pharmaceuticals and crop protection. We believe that our commercial and geographic diversity, technical expertise, access to high-quality resources, innovative capability, flexible, low-cost global manufacturing base, experienced management team and strategic focus on our core base technologies will enable us to maintain leading positions in those areas of the specialty chemicals industry in which we operate.

Secular trends favorably impacting demand within the end markets that we serve combined with our diverse product portfolio, broad geographic presence and customer-focused solutions will continue to be key drivers of our future earnings growth. We continue to build upon our existing green solutions portfolio and our ongoing mission to provide innovative, yet commercially viable, clean energy products and services to the marketplace to contribute to our sustainable revenue. For example, our Lithium business contributes to the growth of clean miles driven with electric vehicles and more efficient use of renewable energy through grid storage; Bromine enables the prevention of fires starting in electronic equipment, greater fuel efficiency from rubber tires and the reduction of emissions from coal fired power plants; and the Catalysts business creates efficiency of natural resources through more usable products from a single barrel of oil, enables safer, greener production of alkylates used to produce more environmentally-friendly fuels, and reduced emissions through cleaner transportation fuels. We believe our disciplined cost reduction efforts and ongoing productivity improvements, among other factors, position us well to take advantage of strengthening economic conditions as they occur, while softening the negative impact of the current challenging global economic environment.

Third Quarter 2022

During the third quarter of 2022:

- Our board of directors declared a quarterly dividend of \$0.395 per share on July 18, 2022, which was paid on October 3, 2022 to shareholders of record at the close of business as of September 16, 2022.
- Production of spodumene concentrate from the second train at the Wodgina mine managed by our 60%-owned MARBL joint venture was achieved in July 2022.
- We announced plans to build integrated lithium operations in the United States, including the Kings Mountain, North Carolina, spodumene mine and a lithium conversion plant in the southeast.
- We announced the conclusion of the strategic review of the Catalysts business. As a result of the review, we chose to retain the business under a separate, wholly-owned subsidiary of Albemarle. This structure is intended to allow the

Catalysts business to respond to unique customer needs and global market dynamics more effectively while also achieving its growth ambitions.

- We announced the realignment of our Lithium and Bromine global business units into a new corporate structure designed to better meet customer needs and foster talent required to deliver in a competitive global environment. The realignment is expected to be effective January 1, 2023, and will result in the following three reportable segments: (1) Energy Storage; (2) Specialties; and (3) Catalysts.
- Our net sales for the quarter were \$2.1 billion, an increase of 152% compared to net sales of \$830.6 million in the third quarter of 2021.
- Diluted earnings per share was \$7.61, compared to a loss of \$(3.36) from the third quarter of 2021. The third quarter of 2021 included an after tax loss of \$2.82 per diluted share following the settlement of an arbitration ruling for a prior legal matter.

Outlook

The current global business environment presents a diverse set of opportunities and challenges in the markets we serve. In particular, the market for lithium battery and energy storage, particularly that for electric vehicles (“EVs”), remains strong, providing the opportunity to continue to develop high quality and innovative products while managing the high cost of expanding capacity. The other markets we serve continue to present various opportunities for value and growth as we have positioned ourselves to manage the impact on our business of changing global conditions, such as slow and uneven global growth, currency exchange volatility, crude oil price fluctuation, a dynamic pricing environment, an ever-changing landscape in electronics, the continuous need for cutting edge catalysts and technology by our refinery customers and increasingly stringent environmental standards. Amidst these dynamics, we believe our business fundamentals are sound and that we are strategically well-positioned as we remain focused on increasing sales volumes, optimizing and improving the value of our portfolio primarily through pricing and product development, managing costs and delivering value to our customers and shareholders. We believe that our businesses remain well-positioned to capitalize on new business opportunities and long-term trends driving growth within our end markets and to respond quickly to changes in economic conditions in these markets.

While global economic conditions have been improving, the COVID-19 pandemic continues to have an impact globally. We have not seen a material impact to our operations to date, however, the ultimate impact on our business will depend on the length and severity of the outbreak throughout the world. All of our information technology systems are running as designed and all sites are operating at normal capacity while we continue to comply with all government and health agency recommendations and requirements, as well as protecting the safety of our employees and communities. We believe we have sufficient inventory to continue to produce at current levels, however, government mandated shutdowns could impact our ability to acquire additional materials and disrupt our customers’ purchases. At this time, we cannot predict the expected overall financial impact of the COVID-19 pandemic on our business, but we are planning for various economic scenarios and continue to make efforts to protect the safety of our employees and the health of our business.

Lithium: We expect Lithium results to be higher year-over-year for the remainder of 2022, mainly due to increased pricing as well as higher sales volume. The increased market pricing reflects tight market conditions, primarily in battery- and tech-grade carbonate and hydroxide, as well as renegotiations of certain of our long-term agreements. Since the beginning of the year, market indices have increased 70% to 140%. Renegotiated contracts include higher prices on existing long-term agreements that are more reflective of current market conditions. In other cases, we have moved from previous fixed-priced, long-term agreements towards index-referenced and variable-priced contracts. As a result, our lithium business is more aligned with changes in market and index pricing than it has been in the past. While we expect these prices to remain strong throughout the year, a material decline in these market prices would have a negative impact on our outlook. The increased sales volume is primarily expected from new capacity coming on line from La Negra, Chile, Train 1 in Kemerton, Western Australia, and the recently completed acquisition of Tianyuan, which includes a lithium hydroxide conversion plant designed to produce up to 25,000 metric tons of LCE per year. While we ramp up our new capacity, we will continue to utilize tolling arrangements to meet growing customer demand. EV sales are expected to continue to increase over the prior year as the lithium battery market remains strong.

We also announced agreements for strategic investments in China with plans to build two battery grade lithium conversion plants, Meishan and Zhangjiagang, each initially targeting 50,000 metric tons per year. At Meishan, construction is currently underway and is expected to be complete by the end of 2024. The Zhangjiagang plant is currently in engineering. In addition, production of spodumene concentrate from the first and second trains at the Wodgina mine managed by our 60%-owned MARBL joint venture were achieved in May and July of this year, respectively. In February 2022, we announced that we signed a non-binding letter agreement with our MARBL joint venture partner, MRL, to explore a potential expansion of the MARBL joint venture, in an effort to expand lithium conversion capacity with increased optionality and reduced risk.

On a longer-term basis, we believe that demand for lithium will continue to grow as new lithium applications advance and the use of plug-in hybrid electric vehicles and full battery electric vehicles increases. This demand for lithium is supported by a favorable backdrop of steadily declining lithium-ion battery costs, increasing battery performance, continuing significant investments in the battery and EV supply chain by cathode and battery producers, and automotive OEM's, favorable global public policy toward e-mobility/renewable energy usage, and additional stimulus measures taken in Europe in light of the COVID-19 pandemic that we expect to strengthen EV demand. Our outlook is also bolstered by long-term supply agreements with key strategic customers, reflecting our standing as a preferred global lithium partner, highlighted by our scale, access to geographically diverse, low-cost resources and long-term track record of reliability of supply and operating execution.

Bromine: We expect both net sales and profitability to grow 25% to 30% in 2022 due to strength in demand for fire safety solutions, as well as benefiting from diverse end markets. Volumes are expected to increase slightly compared to full year 2021 due to the successful execution of growth projects in 2021, assuming continued availability of raw materials like chlorine. Bromine's ongoing cost savings initiatives and higher pricing are expected to offset higher freight and raw material costs.

On a longer-term basis, we continue to believe that improving global standards of living, widespread digitization, increasing demand for data management capacity and the potential for increasingly stringent fire safety regulations in developing markets are likely to drive continued demand for fire safety products. We are focused on profitably growing our globally competitive bromine and derivatives production network to serve all major bromine consuming products and markets. The combination of our solid, long-term business fundamentals, strong cost position, product innovations and effective management of raw material costs will enable us to manage our business through end-market challenges and to capitalize on opportunities that are expected with favorable market trends in select end markets.

Catalysts: Total Catalysts results in 2022 are expected to be down 45% to 65% year-over-year as a result of inflationary pressures in freight and input costs, including the volatility of natural gas pricing in Europe related to the war in Ukraine. This is expected to be partially offset by higher pricing in refining markets. Volume is expected to grow across each of the Catalysts segments. The fluidized catalytic cracking ("FCC") market has recovered from the COVID-19 pandemic as a result of increased travel and depletion of global gasoline inventories. Hydroprocessing catalysts ("HPC") demand tends to be lumpier than FCC demand, but is expected to see a prolonged recovery due to refineries pushing out turnarounds. In addition, the Catalysts business is seeking contingent business interruption insurance settlements for lost income from 2019 to 2022 due to multiple incidents at one of its customers. If we prevail with these claims, we could receive these settlements in multiple distributions in 2022 and 2023, totaling up to \$53 million. We concluded the strategic review of the Catalysts business, choosing to retain the business under a separate, wholly-owned subsidiary of Albemarle. This structure is intended to better meet customer needs and foster talent required to deliver in a competitive global environment.

On a longer-term basis, we believe increased global demand for transportation fuels, new refinery start-ups and ongoing adoption of cleaner fuels will be the primary drivers of growth in our Catalysts business. We believe delivering superior end-use performance continues to be the most effective way to create sustainable value in the refinery catalysts industry. We also believe our technologies continue to provide significant performance and financial benefits to refiners challenged to meet tighter regulations around the world, including those managing new contaminants present in North America tight oil, and those in the Middle East and Asia seeking to use heavier feedstock while pushing for higher propylene yields. Longer-term, we believe that the global crude supply will get heavier and more sour, a trend that bodes well for our catalysts portfolio. With superior technology and production capacities, and expected growth in end market demand, we believe that Catalysts remains well-positioned for the future. In performance catalyst solutions ("PCS"), we expect growth on a longer-term basis in our organometallics business due to growing global demand for plastics driven by rising standards of living and infrastructure spending.

Corporate: In the first quarter of 2022, we increased our quarterly dividend rate to \$0.395 per share. We continue to focus on cash generation, working capital management and process efficiencies. In addition, we expect our global effective tax rate for 2022 to continue to vary based on the locations in which income is actually earned and remains subject to potential volatility from changing legislation in the U.S., such as the Inflation Reduction Act and the CHIPS Act, and other tax jurisdictions. As of September 30, 2022, we have a valuation allowance recorded against certain foreign deferred tax assets and intend to maintain the valuation allowance until there is sufficient evidence to support its reversal. We believe there is a reasonable possibility within the next 12 months sufficient positive evidence may become available to allow us to reach a conclusion the valuation allowance will no longer be needed. Release of the valuation allowance would result in the recognition of certain foreign deferred tax assets and decrease our income tax expense for the period the release is recorded.

We remain committed to evaluating the merits of any opportunities that may arise for acquisitions or other business development activities that will complement our business footprint. Additional information regarding our products, markets and financial performance is provided at our website, www.albemarle.com. Our website is not a part of this document nor is it incorporated herein by reference.

Results of Operations

The following data and discussion provides an analysis of certain significant factors affecting our results of operations during the periods included in the accompanying consolidated statements of income.

*Third Quarter 2022 Compared to Third Quarter 2021***Selected Financial Data (Unaudited)****Net Sales**

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Net sales	\$ 2,091,805	\$ 830,566	\$ 1,261,239	152 %
<ul style="list-style-type: none"> \$1,172.7 million of increased pricing from each of our businesses \$135.6 million of higher sales volume in each of our businesses \$46.8 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				

Gross Profit

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Gross profit	\$ 1,043,814	\$ 249,273	\$ 794,541	319 %
Gross profit margin	49.9 %	30.0 %		
<ul style="list-style-type: none"> Favorable pricing impacts and higher sales volume in all businesses Increased utility, primarily natural gas in Europe, and freight costs in each of our businesses Increased commission expenses in Chile resulting from the higher pricing in Lithium 2021 included \$13.5 million of out-of-period adjustment expense in Cost of goods sold to correct inventory foreign exchange values relating to prior periods Unfavorable currency exchange impacts resulting from the weaker U.S. Dollar against various currencies 				

Selling, General and Administrative (“SG&A”) Expenses

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Selling, general and administrative expenses	\$ 134,479	\$ 103,477	\$ 31,002	30 %
Percentage of Net sales	6.4 %	12.5 %		
<ul style="list-style-type: none"> Higher compensation, including incentive-based, expenses across all businesses and Corporate Partially offset by productivity improvements and a reduction in administrative costs 2022 included \$1.9 million of expense primarily related to one-time retention payments for certain employees during the Catalysts strategic review and business unit realignment and \$1.3 million primarily related to facility closure expenses of offices in Germany 2021 included \$2.5 million of expenses primarily related to non-routine labor and compensation related costs that are outside normal compensation arrangements 				

Research and Development Expenses

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Research and development expenses	\$ 18,358	\$ 13,289	\$ 5,069	38 %
Percentage of Net sales	0.9 %	1.6 %		

Loss on Sale of Business/Interest in Properties

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Loss on sale of business/interest in properties	\$ —	\$ 984	\$ (984)	
<ul style="list-style-type: none"> Adjustment to the gain resulting from the sale of the FCS business on June 1, 2021, primarily due to working capital adjustments 				

Interest and Financing Expenses

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Interest and financing expenses	\$ (29,691)	\$ (5,136)	\$ (24,555)	478 %

- Increased debt balance during the third quarter of 2022 compared to 2021 following the issuance of \$1.7 billion in new senior notes

Other Income (Expense), Net

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Other income (expense), net	\$ 7,974	\$ (643,196)	\$ 651,170	(101)%

- 2021 included \$657.4 million of additional accrual recorded following the settlement of an arbitration ruling for a prior legal matter. See Note 10, "Commitments and Contingencies," for further details
- \$22.8 million increase in foreign exchange losses
- 2022 included a \$10.6 million net gain related to the fair value adjustment of equity securities in a public company

Income Tax Expense (Benefit)

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Income tax expense (benefit)	\$ 196,938	\$ (114,670)	\$ 311,608	(272)%
Effective income tax rate	22.7 %	22.2 %		

- 2022 included a benefit from global intangible low-taxed income
- Current year tax reserve related to an uncertain tax position in Chile
- Change in geographic mix of earnings
- 2021 included \$152.9 million tax benefit resulting from the settlement of an arbitration ruling for a prior legal matter

Equity in Net Income of Unconsolidated Investments

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Equity in net income of unconsolidated investments	\$ 258,884	\$ 27,706	\$ 231,178	834 %

- Increased earnings from strong pricing and volume increases from the Windfield Holdings Pty Ltd ("Talison") joint venture
- \$19.9 million of favorable foreign exchange impacts from the Talison joint venture

Net Income Attributable to Noncontrolling Interests

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Net income attributable to noncontrolling interests	\$ (33,991)	\$ (18,348)	\$ (15,643)	85 %

- Increase in consolidated income related to our Jordan Bromine Company Limited ("JBC") joint venture primarily due to favorable pricing

Net Income (Loss) Attributable to Albemarle Corporation

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Net income (loss) attributable to Albemarle Corporation	\$ 897,215	\$ (392,781)	\$ 1,289,996	(328)%
Percentage of Net sales	42.9 %	(47.3)%		
Basic earnings per share	\$ 7.66	\$ (3.36)	\$ 11.02	(328)%
Diluted earnings per share	\$ 7.61	\$ (3.36)	\$ 10.97	(326)%
<ul style="list-style-type: none"> ▪ Favorable pricing and increased sales volume in all businesses ▪ Increased earnings from Talison joint venture ▪ 2021 included \$504.5 million, net of income taxes, of additional accrual recorded following settlement of an arbitration ruling for a legal matter ▪ Productivity improvements and a reduction in administrative costs ▪ Increased commission expenses in Chile resulting from the higher pricing in Lithium ▪ Increased utility, primarily natural gas in Europe, and freight costs in each of our businesses ▪ Increased SG&A expenses, primarily related to increased compensation expense ▪ Increased interest and financing expenses due to increased debt balances ▪ 2021 included \$13.5 million of additional expense in Cost of goods sold to correct inventory foreign exchange values relating to prior periods 				

Other Comprehensive (Loss) Income, Net of Tax

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Other comprehensive (loss) income, net of tax	\$ (210,172)	\$ (38,409)	\$ (171,763)	447 %
<ul style="list-style-type: none"> ▪ Foreign currency translation and other <ul style="list-style-type: none"> ▪ 2022 included unfavorable movements in the Euro of approximately \$119 million, the Chinese Renminbi of approximately \$57 million, the Japanese Yen of approximately \$8 million, the Korean Won of approximately \$6 million and the Taiwanese Dollar of approximately \$5 million, partially offset by and a net favorable variance in various other currencies of less than \$1 million ▪ 2022 included a \$2.2 million gain representing an adjustment to the fair value of our available for sale debt securities ▪ 2021 included unfavorable movements in the Euro of approximately \$29 million, the Brazilian Real of approximately \$7 million and a net unfavorable variance in various other currencies of \$4 million ▪ Cash flow hedge ▪ Interest rate swap 	\$ (200,520)	\$ (39,274)	\$ (161,246)	411 %
	\$ (9,652)	\$ 214	\$ (9,866)	
	\$ —	\$ 651	\$ (651)	(100)%

Segment Information Overview. We have identified three reportable segments according to the nature and economic characteristics of our products as well as the manner in which the information is used internally by the Company's chief operating decision maker to evaluate performance and make resource allocation decisions. Our reportable business segments consist of: (1) Lithium, (2) Bromine and (3) Catalysts. In August 2022, the Company announced plans to realign its Lithium and Bromine global business units into a new corporate structure designed to better meet customer needs and foster talent required to deliver in a competitive global environment. In addition, the Company announced its decision to retain its Catalysts business under a separate, wholly-owned subsidiary. The realignment is expected to be completed in the first quarter of 2023, and will result in the following three reportable segments: (1) Energy Storage; (2) Specialties; and (3) Catalysts. The Company will continue to report its segments in its current structure until the new structure becomes effective.

Summarized financial information concerning our reportable segments is shown in the following tables. The "All Other" category includes only the FCS business, the sale of which was completed on June 1, 2021, that does not fit into any of our core businesses.

The Corporate category is not considered to be a segment and includes corporate-related items not allocated to the operating segments. Pension and OPEB service cost (which represents the benefits earned by active employees during the period) and amortization of prior service cost or benefit are allocated to the reportable segments, All Other, and Corporate, whereas the remaining components of pension and OPEB benefits cost or credit ("Non-operating pension and OPEB items") are included in Corporate. Segment data includes intersegment transfers of raw materials at cost and allocations for certain corporate costs.

Our chief operating decision maker uses adjusted EBITDA (as defined below) to assess the ongoing performance of the Company's business segments and to allocate resources. We define adjusted EBITDA as earnings before interest and financing expenses, income tax expense, depreciation and amortization, as adjusted on a consistent basis for certain non-operating, non-

recurring or unusual items in a balanced manner and on a segment basis. These non-operating, non-recurring or unusual items may include acquisition and integration related costs, gains or losses on sales of businesses, restructuring charges, facility divestiture charges, certain litigation and arbitration costs and charges, non-operating pension and OPEB items and other significant non-recurring items. In addition, management uses adjusted EBITDA for business planning purposes and as a significant component in the calculation of performance-based compensation for management and other employees. We reported adjusted EBITDA because management believes it provides transparency to investors and enables period-to-period comparability of financial performance. Adjusted EBITDA is a financial measure that is not required by, or presented in accordance with, the generally accepted accounting principles in the United States (“U.S. GAAP”). Adjusted EBITDA should not be considered as an alternative to Net (loss) income attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with U.S. GAAP, or any other financial measure reported in accordance with U.S. GAAP.

	Three Months Ended September 30,				Percentage Change
	2022	%	2021	%	2022 vs 2021
(In thousands, except percentages)					
Net sales:					
Lithium	\$ 1,501,073	71.7 %	\$ 359,229	43.3 %	318 %
Bromine	354,908	17.0 %	277,783	33.4 %	28 %
Catalysts	235,824	11.3 %	193,554	23.3 %	22 %
Total net sales	<u>\$ 2,091,805</u>	<u>100.0 %</u>	<u>\$ 830,566</u>	<u>100.0 %</u>	<u>152 %</u>
Adjusted EBITDA:					
Lithium	\$ 1,111,243	93.4 %	\$ 125,416	57.7 %	786 %
Bromine	106,958	9.0 %	86,012	39.5 %	24 %
Catalysts	4,635	0.4 %	33,103	15.2 %	(86)%
Corporate	(32,870)	(2.8)%	(26,962)	(12.4)%	(22)%
Total adjusted EBITDA	<u>\$ 1,189,966</u>	<u>100.0 %</u>	<u>\$ 217,569</u>	<u>100.0 %</u>	<u>447 %</u>

See below for a reconciliation of adjusted EBITDA, the non-GAAP financial measure, from Net (loss) income attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with U.S. GAAP (in thousands):

	Lithium	Bromine	Catalysts	Corporate	Consolidated Total
Three months ended September 30, 2022					
Net income (loss) attributable to Albemarle Corporation	\$ 1,063,426	\$ 93,186	\$ (12,473)	\$ (246,924)	\$ 897,215
Depreciation and amortization	47,758	13,772	12,689	3,494	77,713
Acquisition and integration related costs ^(a)	—	—	—	2,145	2,145
Interest and financing expenses	—	—	—	29,691	29,691
Income tax expense	—	—	—	196,938	196,938
Non-operating pension and OPEB items	—	—	—	(5,027)	(5,027)
Other ^(b)	59	—	4,419	(13,187)	(8,709)
Adjusted EBITDA	<u>\$ 1,111,243</u>	<u>\$ 106,958</u>	<u>\$ 4,635</u>	<u>\$ (32,870)</u>	<u>\$ 1,189,966</u>
Three months ended September 30, 2021					
Net income (loss) attributable to Albemarle Corporation	\$ 92,449	\$ 73,409	\$ 20,039	\$ (578,678)	\$ (392,781)
Depreciation and amortization	34,256	12,603	13,064	2,159	62,082
Restructuring and other ^(c)	—	—	—	754	754
Gain on sale of business ^(d)	—	—	—	984	984
Acquisition and integration related costs ^(a)	—	—	—	1,553	1,553
Interest and financing expenses	—	—	—	5,136	5,136
Income tax expense	—	—	—	(114,670)	(114,670)
Non-operating pension and OPEB items	—	—	—	(5,471)	(5,471)
Legal accrual ^(e)	—	—	—	657,412	657,412
Other ^(f)	(1,289)	—	—	3,859	2,570
Adjusted EBITDA	<u>\$ 125,416</u>	<u>\$ 86,012</u>	<u>\$ 33,103</u>	<u>\$ (26,962)</u>	<u>\$ 217,569</u>

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- (a) Costs related to the acquisition, integration and potential divestitures for various significant projects, recorded in Selling, general and administrative expenses (“SG&A”).
- (b) Included amounts for the three months ended September 30, 2022 recorded in:
- Cost of goods sold - \$2.7 million of expense related to one-time retention payments for certain employees during the Catalysts strategic review and business unit realignment.
 - SG&A - \$1.9 million of expense primarily related to one-time retention payments for certain employees during the Catalysts strategic review and business unit realignment and \$1.3 million primarily related to facility closure expenses of offices in Germany.
 - Other income, net - \$10.6 million net gain related to the fair value adjustment of equity securities in a public company, a \$3.0 million gain from the reversal of a liability related to a previous divestiture and \$1.1 million of gain resulting from the adjustment of indemnification related to previously disposed businesses.
- (c) In 2021, the Company recorded facility closure related to offices in Germany, and severance expenses in Germany and Belgium, in SG&A.
- (d) Adjustments to the gain resulting from the sale of the FCS business completed on June 1, 2021.
- (e) Loss recorded in Other expense, net in the three months ended September 30, 2021 related to the settlement of an arbitration ruling for a prior legal matter. See Note 10, “Commitments and Contingencies,” for further details.
- (f) Included amounts for the three months ended September 30, 2021 recorded in:
- SG&A - \$2.5 million of expenses primarily related to non-routine labor and compensation related costs that are outside normal compensation arrangements.
 - Other income, net - \$0.1 million of a loss resulting from the adjustment of indemnification related to previously disposed businesses.

Lithium

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Net sales	\$ 1,501,073	\$ 359,229	\$ 1,141,844	318 %
<ul style="list-style-type: none"> • \$1,102.0 million of favorable pricing impacts, reflecting tight market conditions, primarily in battery- and tech-grade carbonate and hydroxide, as well as greater volumes sold under index-referenced and variable-priced contracts, and mix • \$73.0 million of higher sales volume, primarily driven by increased tolling • \$33.0 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				
Adjusted EBITDA	\$ 1,111,243	\$ 125,416	\$ 985,827	786 %
<ul style="list-style-type: none"> • Favorable pricing impacts and higher sales volume • Increased equity in net income from the Talison joint venture, driven by increased pricing and sales volume • Savings from designed productivity improvements • Increased SG&A expenses from higher compensation and other administrative costs • Increased utility and freight costs • Increased spending for investments to support business growth • Increased commission expenses in Chile resulting from the higher pricing in Lithium • 2021 included a \$7.8 million out-of-period adjustment expense recorded in Cost of goods sold to correct inventory foreign exchange values relating to prior year periods • \$12.2 million of favorable currency translation resulting from a stronger Chilean Peso 				

Bromine

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Net sales	\$ 354,908	\$ 277,783	\$ 77,125	28 %
<ul style="list-style-type: none"> • \$56.3 million of favorable pricing impacts, primarily in the fire safety solutions division • \$29.1 million of higher sales volume related to increased demand across all products • \$8.2 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				
Adjusted EBITDA	\$ 106,958	\$ 86,012	\$ 20,946	24 %
<ul style="list-style-type: none"> • Favorable pricing impacts and higher sales volume as demand continues to be strong • Increased freight costs • Increased utility costs and raw material prices, primarily due to the higher cost of BPA • \$6.1 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				

Catalysts

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Net sales	\$ 235,824	\$ 193,554	\$ 42,270	22 %
<ul style="list-style-type: none"> \$33.5 million of higher sales volume, primarily from the timing of clean fuel technologies sales, which has lumpier demand \$14.3 million of favorable pricing impacts, primarily in clean fuel technologies and PCS \$5.6 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				
Adjusted EBITDA	\$ 4,635	\$ 33,103	\$ (28,468)	(86)%
<ul style="list-style-type: none"> Increased utility costs, primarily natural gas in Europe Increased raw material and freight costs 2021 included a \$4.2 million out-of-period adjustment expense recorded in Cost of goods sold to correct inventory foreign exchange values relating to prior year periods Higher sales volume and favorable pricing impacts 				

Corporate

<i>In thousands</i>	Q3 2022	Q3 2021	\$ Change	% Change
Adjusted EBITDA	\$ (32,870)	\$ (26,962)	\$ (5,908)	(22)%
<ul style="list-style-type: none"> \$2.8 million of unfavorable currency exchange impacts, including a \$19.9 million increase in foreign exchange impacts from our Talison joint venture \$3.2 million of income in 2022 from accretion of discount in preferred equity of Grace subsidiary acquired as a portion of the proceeds of the FCS sale Increase in incentive compensation costs 				

First Nine Months 2022 Compared to First Nine Months 2021

Selected Financial Data (Unaudited)

Net Sales

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Net sales	\$ 4,699,126	\$ 2,433,753	\$ 2,265,373	93 %
<ul style="list-style-type: none"> \$2,070.8 million of increased pricing from each of our businesses \$349.5 million of higher sales volume in each of our businesses \$75.1 million decrease in net sales following the sale of the FCS business on June 1, 2021 \$79.6 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				

Gross Profit

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Gross profit	\$ 2,073,268	\$ 761,377	\$ 1,311,891	172 %
Gross profit margin	44.1 %	31.3 %		
<ul style="list-style-type: none"> Favorable pricing impacts and higher sales volume in all businesses Increased utility, primarily natural gas in Europe, and freight costs in each of our businesses Increased commission expenses in Chile resulting from the higher pricing in Lithium Decrease in net sales resulting from the disposal of the FCS business on June 1, 2021 2021 included \$22 million of additional production and utility costs in Bromine and Catalysts resulting from the U.S. Gulf Coast winter storm 2021 also included \$8.7 million of out-of-period adjustment expense in Cost of goods sold to correct inventory foreign exchange values relating to prior periods Unfavorable currency exchange impacts resulting from the weaker U.S. Dollar against various currencies 				

Selling, General and Administrative Expenses

<i>In thousands</i>	<u>YTD 2022</u>	<u>YTD 2021</u>	<u>\$ Change</u>	<u>% Change</u>
Selling, general and administrative expenses	\$ 375,989	\$ 318,180	\$ 57,809	18 %
Percentage of Net sales	8.0 %	13.1 %		
<ul style="list-style-type: none"> Higher compensation, including incentive-based, expenses across all businesses and Corporate Partially offset by productivity improvements and a reduction in administrative costs 2022 included \$4.3 million of gains from the sale of legacy properties not part of our operations and \$3.2 million primarily related to facility closure expenses of offices in Germany 2021 included a \$20.0 million charitable contribution, using a portion of the proceeds received from the FCS divestiture, to the Albemarle Foundation, in addition to the normal annual contributions in 2021 2021 also included \$8.6 million of expenses primarily related to non-routine labor and compensation related costs that are outside normal compensation arrangements and a \$4.0 million loss resulting from the sale of property, plant and equipment 				

Research and Development Expenses

<i>In thousands</i>	<u>YTD 2022</u>	<u>YTD 2021</u>	<u>\$ Change</u>	<u>% Change</u>
Research and development expenses	\$ 51,827	\$ 41,901	\$ 9,926	24 %
Percentage of Net sales	1.1 %	1.7 %		
<ul style="list-style-type: none"> Increased research and development spend in each of the reportable segments 				

(Gain) Loss on Sale of Business/Interest in Properties

<i>In thousands</i>	<u>YTD 2022</u>	<u>YTD 2021</u>	<u>\$ Change</u>	<u>% Change</u>
(Gain) loss on sale of business/interest in properties	\$ 8,400	\$ (428,424)	\$ 436,824	
<ul style="list-style-type: none"> 2022 expense related to cost overruns for MRL's 40% interest in lithium hydroxide conversion assets being built in Kemerton, Western Australia 2021 gain resulting from sale of FCS business on June 1, 2021 				

Interest and Financing Expenses

<i>In thousands</i>	<u>YTD 2022</u>	<u>YTD 2021</u>	<u>\$ Change</u>	<u>% Change</u>
Interest and financing expenses	\$ (98,934)	\$ (56,170)	\$ (42,764)	76 %
<ul style="list-style-type: none"> 2022 included a \$19.2 million loss on early extinguishment of debt, representing the tender premiums, fees, unamortized discounts, unamortized deferred financing costs and accelerated amortization of the interest rate swap balance from the redemption of debt during the second quarter of 2022 2022 also included an expense of \$17.5 million related to the correction of out of period errors regarding overstated capitalized interest values in prior periods 2021 included a \$29.0 million loss on early extinguishment of debt, representing the tender premiums, fees, unamortized discounts and unamortized deferred financing costs from the redemption of debt during the first quarter of 2021 Increased debt balance during 2022 compared to 2021 following the issuance of \$1.7 billion in new senior notes 				

Other Income (Expense), Net

<i>In thousands</i>	<u>YTD 2022</u>	<u>YTD 2021</u>	<u>\$ Change</u>	<u>% Change</u>
Other income (expense), net	\$ 32,237	\$ (631,870)	\$ 664,107	(105)%
<ul style="list-style-type: none"> 2021 included \$657.4 million of additional accrual recorded following the settlement of an arbitration ruling for a prior legal matter. See Note 10, "Commitments and Contingencies," for further details. 2022 included a \$10.6 million net gain related to the fair value adjustment of equity securities in a public company \$5.4 million increase in income in 2022 from accretion of discount in preferred equity of the Grace subsidiary acquired as a portion of the proceeds of the FCS sale \$21.5 million increase in foreign exchange losses 2021 included \$3.6 million of expenses primarily related to asset retirement obligation charges to update an estimate at a site formerly owned by Albemarle 				

Income Tax Expense

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Income tax expense	\$ 366,486	\$ 14,422	\$ 352,064	2,441 %
Effective income tax rate	23.3 %	10.2 %		

- Change in geographic mix of earnings
- Current year tax reserve related to an uncertain tax position in Chile
- 2021 included \$152.9 million tax benefit resulting from an accrual recorded following an arbitration ruling related to a legacy Rockwood legal matter
- \$97.5 million one-time tax expense recorded for the gain on the sale of the FCS business in 2021
- 2021 included certain discrete tax benefits, partially offset by expense due to an out-of-period adjustment for an overstated deferred tax liability recorded during the three-month period ended December 31, 2017

Equity in Net Income of Unconsolidated Investments

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Equity in net income of unconsolidated investments	\$ 449,476	\$ 62,215	\$ 387,261	622 %

- Increased earnings from strong pricing and volume increases results from the Talison joint venture
- \$21.4 million of favorable foreign exchange impacts from the Talison joint venture

Net Income Attributable to Noncontrolling Interests

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Net income attributable to noncontrolling interests	\$ (95,974)	\$ (61,977)	\$ (33,997)	55 %

- Increase in consolidated income related to our JBC joint venture primarily due to favorable pricing

Net Income Attributable to Albemarle Corporation

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Net income attributable to Albemarle Corporation	\$ 1,557,371	\$ 127,496	\$ 1,429,875	1,122 %
Percentage of Net sales	33.1 %	5.2 %		
Basic earnings per share	\$ 13.30	\$ 1.10	\$ 12.20	1,109 %
Diluted earnings per share	\$ 13.23	\$ 1.10	\$ 12.13	1,103 %

- Favorable pricing and increased sales volume in all businesses
- Increased earnings from Talison joint venture
- \$504.5 million, net of income taxes, of additional accrual recorded following the settlement of an arbitration ruling for a prior legal matter in 2021
- 2021 included a gain on sale of FCS business of \$330.9 million, net of tax
- Productivity improvements and a reduction in administrative costs
- Increased commission expenses in Chile resulting from the higher pricing in Lithium
- Increased utility, primarily natural gas in Europe, and freight costs in each of our businesses
- Increased SG&A expenses, primarily related to increased compensation expense
- Increased interest and financing expenses due to increased debt balances
- 2021 included \$13.5 million of additional expense in Cost of goods sold to correct inventory foreign exchange values relating to prior periods

Other Comprehensive Income (loss), Net of Tax

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Other comprehensive income (loss), net of tax	\$ (324,975)	\$ (40,354)	\$ (284,621)	705 %
▪ Foreign currency translation and other	\$ (324,230)	\$ (46,852)	\$ (277,378)	592 %
▪ 2022 included unfavorable movements in the Euro of approximately \$187 million, the Chinese Renminbi of approximately \$88 million, the Japanese Yen of approximately \$23 million, the Taiwanese Dollar of approximately \$11 million, the South Korean Won of approximately \$11 million and a net unfavorable variance in various other currencies of less than \$1 million				
▪ 2022 included a \$2.4 million loss representing an adjustment to the fair value of our available for sale debt securities				
▪ 2021 included unfavorable movements in the Euro of approximately \$40 million, the Japanese Yen of approximately \$5 million, the South Korean Won of approximately \$4 million and the net unfavorable variance in various other currencies of approximately \$2 million, partially offset by favorable movements in the Chinese Renminbi of approximately \$4 million				
▪ Net investment hedge	\$ —	\$ 5,110	\$ (5,110)	(100)%
▪ Cash flow hedge	\$ (8,144)	\$ (563)	\$ (7,581)	1,347 %
▪ Interest rate swap	\$ 7,399	\$ 1,951	\$ 5,448	279 %
▪ Accelerated the amortization of the remaining interest rate swap balance in 2022 as a result of the repayment of the 4.15% senior notes due in 2024				

Segment Information Overview. Summarized financial information concerning our reportable segments is shown in the following tables. The “All Other” category includes only the FCS business that does not fit into any of our core businesses.

	Nine Months Ended September 30,				Percentage Change
	2022	%	2021	%	2022 vs 2021
	(In thousands, except percentages)				
Net sales:					
Lithium	\$ 2,942,861	62.6 %	\$ 958,539	39.4 %	207 %
Bromine	1,092,239	23.3 %	837,978	34.4 %	30 %
Catalysts	664,026	14.1 %	562,141	23.1 %	18 %
All Other	—	— %	75,095	3.1 %	(100)%
Total net sales	\$ 4,699,126	100.0 %	\$ 2,433,753	100.0 %	93 %
Adjusted EBITDA:					
Lithium	\$ 1,915,066	85.8 %	\$ 341,293	53.1 %	461 %
Bromine	371,875	16.7 %	273,298	42.6 %	36 %
Catalysts	31,337	1.4 %	79,694	12.4 %	(61)%
All Other	—	— %	29,858	4.6 %	(100)%
Corporate	(86,173)	(3.9)%	(81,892)	(12.7)%	(5)%
Total adjusted EBITDA	\$ 2,232,105	100.0 %	\$ 642,251	100.0 %	248 %

See below for a reconciliation of adjusted EBITDA, the non-GAAP financial measure, from Net (loss) income attributable to Albemarle Corporation, the most directly comparable financial measure calculated and reported in accordance with U.S. GAAP, (in thousands):

	<u>Lithium</u>	<u>Bromine</u>	<u>Catalysts</u>	<u>All Other</u>	<u>Corporate</u>	<u>Consolidated Total</u>
Nine months ended September 30, 2022						
Net income (loss) attributable to Albemarle Corporation	\$ 1,777,214	\$ 332,208	\$ (11,867)	\$ —	\$ (540,184)	\$ 1,557,371
Depreciation and amortization	128,786	39,667	38,785	—	8,042	215,280
Loss on sale of interest in properties ^(a)	8,400	—	—	—	—	8,400
Acquisition and integration related costs ^(b)	—	—	—	—	9,244	9,244
Interest and financing expenses ^(c)	—	—	—	—	98,934	98,934
Income tax expense	—	—	—	—	366,486	366,486
Non-operating pension and OPEB items	—	—	—	—	(15,345)	(15,345)
Other ^(d)	666	—	4,419	—	(13,350)	(8,265)
Adjusted EBITDA	<u>\$ 1,915,066</u>	<u>\$ 371,875</u>	<u>\$ 31,337</u>	<u>\$ —</u>	<u>\$ (86,173)</u>	<u>\$ 2,232,105</u>
Nine months ended September 30, 2021						
Net income (loss) attributable to Albemarle Corporation	\$ 237,293	\$ 235,670	\$ 41,401	\$ 27,988	\$ (414,856)	\$ 127,496
Depreciation and amortization	99,559	37,628	38,293	1,870	8,415	185,765
Restructuring and other ^(e)	—	—	—	—	2,294	2,294
Gain on sale of business ^(f)	—	—	—	—	(428,424)	(428,424)
Acquisition and integration related costs ^(b)	—	—	—	—	5,629	5,629
Interest and financing expenses ^(c)	—	—	—	—	56,170	56,170
Income tax expense	—	—	—	—	14,422	14,422
Non-operating pension and OPEB items	—	—	—	—	(16,407)	(16,407)
Legal accrual ^(g)	—	—	—	—	657,412	657,412
Albemarle Foundation contribution ^(h)	—	—	—	—	20,000	20,000
Other ⁽ⁱ⁾	4,441	—	—	—	13,453	17,894
Adjusted EBITDA	<u>\$ 341,293</u>	<u>\$ 273,298</u>	<u>\$ 79,694</u>	<u>\$ 29,858</u>	<u>\$ (81,892)</u>	<u>\$ 642,251</u>

- (a) Expense recorded as a result of revised estimates of the obligation to construct certain lithium hydroxide conversion assets in Kemerton, Western Australia, due to cost overruns from supply chain, labor and COVID-19 pandemic related issues. The corresponding obligation was recorded in Accrued liabilities to be transferred to Mineral Resources Limited (“MRL”), which maintains a 40% ownership interest in these Kemerton assets.
- (b) Costs related to the acquisition, integration and potential divestitures for various significant projects, recorded in Selling, general and administrative expenses (“SG&A”).
- (c) Included in Interest and financing expenses is a loss on early extinguishment of debt of \$19.2 million and \$29.0 million for the nine months ended September 30, 2022 and 2021, respectively. See Note 9, “Long-term Debt,” for additional information. In addition, Interest and financing expenses for the nine months ended September 30, 2022 includes the correction of an out of period error of \$17.5 million related to the overstatement of capitalized interest in prior periods. See Note 1, “Basis of Presentation,” for further details.
- (d) Included amounts for the nine months ended September 30, 2022 recorded in:
- Cost of goods sold - \$2.7 million of expense related to one-time retention payments for certain employees during the Catalysts strategic review and business unit realignment, and \$0.5 million related to the settlement of a legal matter resulting from a prior acquisition.
 - SG&A - \$3.2 million primarily related to facility closure expenses of offices in Germany, \$2.8 million of charges for environmental reserves at sites not part of our operations and \$1.9 million of expense primarily related to one-time retention payments for certain employees during the Catalysts strategic review, partially offset by \$4.3 million of gains from the sale of legacy properties not part of our operations.
 - Other income, net - \$10.6 million net gain related to the fair value adjustment of equity securities in a public company, a \$3.0 million gain from the reversal of a liability related to a previous divestiture, \$1.1 million of gain resulting from the adjustment of indemnification related to previously disposed businesses and a \$0.6 million gain related to a settlement received from a legal matter in a prior period.
- (e) In 2021, the Company recorded facility closure related to offices in Germany, and severance expenses in Germany and Belgium, in SG&A.
- (f) Gain resulting from the sale of the FCS business completed on June 1, 2021.
- (g) Loss recorded in Other expense, net in the three and nine months ended September 30, 2021 related to the settlement of an arbitration ruling for a prior legal matter. See Note 10, “Commitments and Contingencies,” for further details.
- (h) Included in SG&A is a charitable contribution, using a portion of the proceeds received from the FCS divestiture, to the Albemarle Foundation, a non-profit organization that sponsors grants, health and social projects, educational initiatives, disaster relief, matching gift programs, scholarships and other charitable initiatives in locations where the Company’s employees live and the Company operates. This contribution is in addition to the normal annual contribution made to the Albemarle Foundation by the Company, and is significant in size and nature in that it is intended to provide more long-term benefits in these communities.

(i) Included amounts for the nine months ended September 30, 2021 recorded in:

- SG&A - \$8.6 million of expenses primarily related to non-routine labor and compensation related costs that are outside normal compensation arrangements, a \$4.0 million loss resulting from the sale of property, plant and equipment and \$1.6 million of charges for an environmental reserve at a site not part of our operations.
- Other income, net - \$3.7 million of expenses primarily related to asset retirement obligation charges to update of an estimate at a site formerly owned by Albemarle.

Lithium

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Net sales	\$ 2,942,861	\$ 958,539	\$ 1,984,322	207 %
<ul style="list-style-type: none"> • \$1,818.4 million of favorable pricing impacts, reflecting tight market conditions, primarily in battery- and tech-grade carbonate and hydroxide, as well as greater volumes sold under index-referenced and variable-priced contracts, and mix • \$218.2 million of higher sales volume, primarily driven by increased tolling • \$52.1 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				
Adjusted EBITDA	\$ 1,915,066	\$ 341,293	\$ 1,573,773	461 %
<ul style="list-style-type: none"> • Favorable pricing impacts and higher sales volume • Higher equity in net income from the Talison joint venture, driven by increased pricing and sales volume • Savings from designed productivity improvements • Increased SG&A expenses from higher compensation and other administrative costs • Increased utility and freight costs • Increased spending for investments to support business growth • Increased commission expenses in Chile resulting from the higher pricing in Lithium • 2021 included a \$4.4 million out-of-period adjustment expense recorded in Cost of goods sold to correct inventory foreign exchange values relating to prior year periods • \$1.0 million of favorable currency translation resulting from a stronger Chilean Peso 				

Bromine

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Net sales	\$ 1,092,239	\$ 837,978	\$ 254,261	30 %
<ul style="list-style-type: none"> • \$223.4 million of favorable pricing impacts, primarily in the fire safety solutions division • \$46.6 million of higher sales volume related to increased demand across all products • \$15.7 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				
Adjusted EBITDA	\$ 371,875	\$ 273,298	\$ 98,577	36 %
<ul style="list-style-type: none"> • Favorable pricing impacts and higher sales volume as demand continues to be strong • Increased freight costs • Increased utility costs and raw material prices, primarily due to the higher cost of BPA • 2021 included higher production and utility costs of approximately \$6 million resulting from the U.S. Gulf Coast winter storm • \$14.3 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				

Catalysts

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Net sales	\$ 664,026	\$ 562,141	\$ 101,885	18 %
<ul style="list-style-type: none"> • \$84.7 million of higher sales volume, primarily from the timing of clean fuel technologies sales, which has lumpier demand • \$28.9 million of favorable pricing impacts, primarily in clean fuel technologies and PCS • \$11.7 million of unfavorable currency translation resulting from the stronger U.S. Dollar against various currencies 				
Adjusted EBITDA	\$ 31,337	\$ 79,694	\$ (48,357)	(61)%
<ul style="list-style-type: none"> • Increased utility costs, primarily natural gas in Europe • Increased raw material and freight costs • Higher sales volume and favorable pricing impacts • 2021 included higher production and utility costs of approximately \$16 million resulting from the U.S. Gulf Coast winter storm • 2021 also included a \$3.1 million out-of-period adjustment expense recorded in Cost of goods sold to correct inventory foreign exchange values relating to prior year periods 				

All Other

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Net sales	\$ —	\$ 75,095	\$ (75,095)	(100)%
▪ Decreased volume resulting from the sale of the FCS business in the second quarter of 2021				
Adjusted EBITDA	\$ —	\$ 29,858	\$ (29,858)	(100)%
▪ Decreased volume resulting from the sale of the FCS business in the second quarter of 2021				

Corporate

<i>In thousands</i>	YTD 2022	YTD 2021	\$ Change	% Change
Adjusted EBITDA	\$ (86,173)	\$ (81,892)	\$ (4,281)	(5)%
▪ Increase in incentive compensation costs				
▪ \$9.6 million of income in 2022 from accretion of discount in preferred equity of Grace subsidiary acquired as a portion of the proceeds of the FCS sale				

Financial Condition and Liquidity*Overview*

The principal uses of cash in our business generally have been capital investments and resource development costs, funding working capital, and service of debt. We also make contributions to our defined benefit pension plans, pay dividends to our shareholders and have the ability to repurchase shares of our common stock. Historically, cash to fund the needs of our business has been principally provided by cash from operations, debt financing and equity issuances.

We are continually focused on working capital efficiency particularly in the areas of accounts receivable, payables and inventory. We anticipate that cash on hand, cash provided by operating activities, proceeds from divestitures and borrowings will be sufficient to pay our operating expenses, satisfy debt service obligations, fund capital expenditures and other investing activities, fund pension contributions and pay dividends for the foreseeable future.

Cash Flow

During the first nine months of 2022, cash on hand, cash provided by operations and the proceeds of \$2.0 billion in long-term debt and credit agreements funded \$815.9 million of capital expenditures for plant, machinery and equipment, the repayment of long-term debt of \$455.0 million, the net repayment of \$391.1 million of commercial paper and dividends to shareholders of \$138.2 million. Our operations provided \$955.6 million of cash flows during the first nine months of 2022, as compared to \$490.6 million for the first nine months of 2021. The change compared to prior year was primarily due to increased earnings from the Lithium and Bromine segments and higher dividends received from unconsolidated investments, partially offset by an increase in working capital of \$1,460.6 million and lower earnings from the FCS business sold on June 1, 2021. The outflow from working capital in 2022 was primarily driven by increased inventory and accounts receivable balances from higher lithium pricing and increased sales, as well as the \$332.5 million payment to settle a prior legal matter. This was partially offset by increased accounts payable which includes the higher pricing on lithium spodumene purchases from our Talison joint venture. Overall, our cash and cash equivalents increased by \$943.5 million to \$1,382.8 million at September 30, 2022 from \$439.3 million at December 31, 2021.

Capital expenditures for the nine-month period ended September 30, 2022 of \$815.9 million were primarily associated with plant, machinery and equipment. We expect our capital expenditures to be between \$1.3 billion and \$1.4 billion in 2022, primarily for Lithium growth and capacity increases, primarily in Australia, China, Chile and Silver Peak, Nevada, as well as productivity and continuity of operations projects in all segments. Our La Negra, Chile plant has completed the qualification stage and is running as expected. Train I of our Kemerton, Western Australia plant is complete and ramping through the commissioning stage. Train II has achieved mechanical completion and transitioned to the commissioning stage, with commercial sales volume from Train II expected to begin in 2023. In addition, construction of our announced lithium conversion plant in Meishan, China is progressing on schedule, with estimated completion by the end of 2024.

On May 13, 2022, we issued a series of notes (collectively, the “2022 Notes”) as follows:

- \$650.0 million aggregate principal amount of senior notes, bearing interest at a rate of 4.65% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 4.84%. These senior notes mature on June 1, 2027.

- \$600.0 million aggregate principal amount of senior notes, bearing interest at a rate of 5.05% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 5.18%. These senior notes mature on June 1, 2032.
- \$450.0 million aggregate principal amount of senior notes, bearing interest at a rate of 5.65% payable semi-annually on June 1 and December 1 of each year, beginning on December 1, 2022. The effective interest rate on these senior notes is approximately 5.71%. These senior notes mature on June 1, 2052.

The net proceeds from the issuance of the 2022 Notes were used to repay the balance of the commercial paper notes, the remaining balance of \$425.0 million of the 2024 Notes and for general corporate purposes. The 2024 Notes were originally due to mature on December 15, 2024 and bore interest at a rate of 4.15%. During the three and six months ended September 30, 2022, we recorded a loss on early extinguishment of debt of \$19.2 million in Interest and financing expenses, representing the tender premiums, fees, unamortized discounts and unamortized deferred financing costs from the redemption of the 2024 Notes. In addition, the loss on early extinguishment of debt includes the accelerated amortization of the interest rate swap associated with the 2024 Notes from Accumulated other comprehensive income.

On October 25, 2022 the Company completed the acquisition of all of the outstanding equity of Guangxi Tianyuan New Energy Materials Co., Ltd. (“Tianyuan”), for approximately \$200 million in cash. Tianyuan's operations include a recently constructed lithium processing plant strategically positioned near the Port of Qinzhou in Guangxi, which began commercial production in the first half of 2022. The plant has designed annual conversion capacity of up to 25,000 metric tons of LCE and is capable of producing battery-grade lithium carbonate and lithium hydroxide.

Net current assets were \$1.8 billion and \$119.3 million at September 30, 2022 and December 31, 2021, respectively. The increase is primarily due to increases in cash and cash equivalents from the issuance of the 2022 Notes, as well as increased inventory and accounts receivable balances from higher lithium pricing. Additional changes in the components of net current assets are primarily due to the timing of the sale of goods and other ordinary transactions leading up to the balance sheet dates. The additional changes are not the result of any policy changes by the Company, and do not reflect any change in either the quality of our net current assets or our expectation of success in converting net working capital to cash in the ordinary course of business.

On February 24, 2022, we increased our quarterly dividend rate to \$0.395 per share, an increase from the quarterly rate of \$0.39 per share paid in 2021. On July 18, 2022, we declared a cash dividend of \$0.395, which was paid on October 3, 2022 to shareholders of record at the close of business as of September 16, 2022.

At September 30, 2022 and December 31, 2021, our cash and cash equivalents included \$598.5 million and \$374.0 million, respectively, held by our foreign subsidiaries. The majority of these foreign cash balances are associated with earnings that we have asserted are indefinitely reinvested and which we plan to use to support our continued growth plans outside the U.S. through funding of capital expenditures, acquisitions, research, operating expenses or other similar cash needs of our foreign operations. From time to time, we repatriate cash associated with earnings from our foreign subsidiaries to the U.S. for normal operating needs through intercompany dividends, but only from subsidiaries whose earnings we have not asserted to be indefinitely reinvested or whose earnings qualify as “previously taxed income” as defined by the Internal Revenue Code. During the first nine months of 2022 and 2021, we repatriated \$1.7 million and \$0.9 million, respectively, of cash as part of these foreign earnings cash repatriation activities.

While we continue to closely monitor our cash generation, working capital management and capital spending in light of continuing uncertainties in the global economy, we believe that we will continue to have the financial flexibility and capability to opportunistically fund future growth initiatives. Additionally, we anticipate that future capital spending, including business acquisitions, share repurchases and other cash outlays, should be financed primarily with cash flow provided by operations and cash on hand, with additional cash needed, if any, provided by borrowings. The amount and timing of any additional borrowings will depend on our specific cash requirements.

Long-Term Debt

We currently have the following notes outstanding:

Issue Month/Year	Principal (in millions)	Interest Rate	Interest Payment Dates	Maturity Date
November 2019	€371.7	1.125%	November 25	November 25, 2025
May 2022 ^(a)	\$650.0	4.65%	June 1 and December 1	June 1, 2027
November 2019	€500.0	1.625%	November 25	November 25, 2028
November 2019 ^(a)	\$171.6	3.45%	May 15 and November 15	November 15, 2029
May 2022 ^(a)	\$600.0	5.05%	June 1 and December 1	June 1, 2032
November 2014 ^(a)	\$350.0	5.45%	June 1 and December 1	December 1, 2044
May 2022 ^(a)	\$450.0	5.65%	June 1 and December 1	June 1, 2052

(a) Denotes senior notes.

Our senior notes are senior unsecured obligations and rank equally with all our other senior unsecured indebtedness from time to time outstanding. The notes are effectively subordinated to all of our existing or future secured indebtedness and to the existing and future indebtedness of our subsidiaries. As is customary for such long-term debt instruments, each series of notes outstanding has terms that allow us to redeem the notes before maturity, in whole at any time or in part from time to time, at a redemption price equal to the greater of (i) 100% of the principal amount of these notes to be redeemed, or (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon (exclusive of interest accrued to the date of redemption) discounted to the redemption date on a semi-annual basis using the comparable government rate (as defined in the indentures governing these notes) plus between 25 and 40 basis points, depending on the series of notes, plus, in each case, accrued interest thereon to the date of redemption. Holders may require us to purchase such notes at 101% upon a change of control triggering event, as defined in the indentures. These notes are subject to typical events of default, including bankruptcy and insolvency events, nonpayment and the acceleration of certain subsidiary indebtedness of \$40 million or more caused by a nonpayment default.

Our Euro notes issued in 2019 are unsecured and unsubordinated obligations and rank equally in right of payment to all our other unsecured senior obligations. The Euro notes are effectively subordinated to all of our existing or future secured indebtedness and to the existing and future indebtedness of our subsidiaries. As is customary for such long-term debt instruments, each series of notes outstanding has terms that allow us to redeem the notes before their maturity, in whole at any time or in part from time to time, at a redemption price equal to the greater of (i) 100% of the principal amount of the notes to be redeemed and (ii) the sum of the present values of the remaining scheduled payments of principal thereof and interest thereon (exclusive of interest accrued to, but excluding, the date of redemption) discounted to the redemption date on an annual basis using the bond rate (as defined in the indentures governing these notes) plus between 25 and 35 basis points, depending on the series of notes, plus, in each case, accrued and unpaid interest on the principal amount being redeemed to, but excluding, the date of redemption. Holders may require us to purchase such notes at 101% upon a change of control triggering event, as defined in the indentures. These notes are subject to typical events of default, including bankruptcy and insolvency events, nonpayment and the acceleration of certain subsidiary indebtedness exceeding \$100 million caused by a nonpayment default.

On October 28, 2022, we amended our revolving, unsecured credit agreement (the “2018 Credit Agreement”), which provides for borrowings of up to \$1.5 billion and matures on October 28, 2027. This credit agreement was originally dated as of June 21, 2018, and was previously amended on August 14, 2019, May 11, 2020 and December 10, 2021. Borrowings under the 2018 Credit Agreement bear interest at variable rates based on a benchmark rate depending on the currency in which the loans are denominated, plus an applicable margin which ranges from 0.91% to 1.375%, depending on the Company’s credit rating from Standard & Poor’s Ratings Services LLC (“S&P”), Moody’s Investors Services, Inc. (“Moody’s”) and Fitch Ratings, Inc. (“Fitch”). With respect to loans denominated in U.S. dollars, interest is calculated using the term Secured Overnight Financing Rate (“SOFR”) plus a term SOFR adjustment of 0.10%, plus the applicable margin. The applicable margin on the facility was 1.125% as of September 30, 2022. As of September 30, 2022 there were no borrowings outstanding under the 2018 Credit Agreement.

On August 14, 2019, the Company entered into a \$1.2 billion unsecured credit facility with several banks and other financial institutions, which was amended and restated on December 15, 2020 and again on December 10, 2021 (the “2019 Credit Facility”). As of September 30, 2022, there was \$250 million outstanding under the 2019 Credit Facility. On October 24, 2022, the 2019 Credit Facility was terminated, with the outstanding balance of \$250 million repaid using cash on hand.

Borrowings under the 2018 Credit Agreement are conditioned upon satisfaction of certain conditions precedent, including the absence of defaults. The Company is subject to one financial covenant, as well as customary affirmative and negative covenants. The financial covenant requires that the Company's consolidated net funded debt to consolidated EBITDA ratio (as such terms are defined in the 2018 Credit Agreement) be less than or equal to 3.50:1 for all fiscal quarters, subject to adjustments in accordance with the terms of the 2018 Credit Agreement relating to a consummation of an acquisition where the consideration includes cash proceeds from issuance of funded debt in excess of \$500 million. The 2018 Credit Agreement also contains customary default provisions, including defaults for non-payment, breach of representations and warranties, insolvency, non-performance of covenants and cross-defaults to other material indebtedness. The occurrence of an event of default under the 2018 Credit Agreement could result in all loans and other obligations becoming immediately due and payable and the 2018 Credit Agreement being terminated.

On May 29, 2013, we entered into agreements to initiate a commercial paper program on a private placement basis under which we may issue unsecured commercial paper notes (the "Commercial Paper Notes") from time-to-time up to a maximum aggregate principal amount outstanding at any time of \$750.0 million. The proceeds from the issuance of the Commercial Paper Notes are expected to be used for general corporate purposes, including the repayment of other debt of the Company. The 2018 Credit Agreement is available to repay the Commercial Paper Notes, if necessary. Aggregate borrowings outstanding under the 2018 Credit Agreement and the Commercial Paper Notes will not exceed the \$1.5 billion current maximum amount available under the 2018 Credit Agreement. The Commercial Paper Notes will be sold at a discount from par, or alternatively, will be sold at par and bear interest at rates that will vary based upon market conditions at the time of issuance. The maturities of the Commercial Paper Notes will vary but may not exceed 397 days from the date of issue. The definitive documents relating to the commercial paper program contain customary representations, warranties, default and indemnification provisions. There were no Commercial Paper Notes outstanding at September 30, 2022.

The non-current portion of our long-term debt amounted to \$3.1 billion at September 30, 2022, compared to \$2.0 billion at December 31, 2021. In addition, at September 30, 2022, we had availability to borrow \$1.5 billion under our commercial paper program and the 2018 Credit Agreement, and \$238.6 million under other existing lines of credit, subject to the financial covenant under the 2018 Credit Agreement. We have the ability and intent to refinance our borrowings under our other existing lines of credit with borrowings under the 2018 Credit Agreement, as applicable. Therefore, the amounts outstanding under those lines of credit, if any, are classified as long-term debt. We believe that at September 30, 2022 we were, and that we currently are, in compliance with all of our long-term debt covenants.

Off-Balance Sheet Arrangements

In the ordinary course of business with customers, vendors and others, we have entered into off-balance sheet arrangements, including bank guarantees and letters of credit, which totaled approximately \$130.0 million at September 30, 2022. None of these off-balance sheet arrangements has had, or is likely to have, a material effect on our current or future financial condition, results of operations, liquidity or capital resources.

Other Obligations

Our contractual obligations have not significantly changed, based on our ordinary business activities and projected capital expenditures noted above, from the information we provided in our Annual Report on Form 10-K for the year ended December 31, 2021, with the exception of the debt issued and repaid in the second quarter of 2022, as noted above. Following the debt issuance and repayments, our annual maturities of long-term debt at September 30, 2022 and our expected interest payment on those long-term debt obligations are as follows (in millions):

	Maturities of Long-term Debt		Expected Interest Payments
	\$		\$
Remainder of 2022		251.2	69.9
2023		—	124.5
2024		—	124.5
2025		361.8	124.1
2026		—	119.8
Thereafter		2,786.1	1,200.8

Total expected 2022 contributions to our domestic and foreign qualified and nonqualified pension plans, including the Albemarle Corporation Supplemental Executive Retirement Plan, are expected to approximate \$12 million. We may choose to make additional pension contributions in excess of this amount. We have made contributions of \$8.9 million to our domestic and foreign pension plans (both qualified and nonqualified) during the nine-month period ended September 30, 2022.

The liability related to uncertain tax positions, including interest and penalties, recorded in Other noncurrent liabilities totaled \$46.6 million at September 30, 2022 and \$27.7 million at December 31, 2021. Related assets for corresponding offsetting benefits recorded in Other assets totaled \$32.1 million at September 30, 2022 and \$32.9 million at December 31, 2021. We cannot estimate the amounts of any cash payments associated with these liabilities for the remainder of 2022 or the next twelve months, and we are unable to estimate the timing of any such cash payments in the future at this time.

We are subject to federal, state, local and foreign requirements regulating the handling, manufacture and use of materials (some of which may be classified as hazardous or toxic by one or more regulatory agencies), the discharge of materials into the environment and the protection of the environment. To our knowledge, we are currently complying, and expect to continue to comply, in all material respects with applicable environmental laws, regulations, statutes and ordinances. Compliance with existing federal, state, local and foreign environmental protection laws is not expected to have a material effect on capital expenditures, earnings or our competitive position, but the costs associated with increased legal or regulatory requirements could have an adverse effect on our operating results.

Among other environmental requirements, we are subject to the federal Superfund law, and similar state laws, under which we may be designated as a potentially responsible party (“PRP”), and may be liable for a share of the costs associated with cleaning up various hazardous waste sites. Management believes that in cases in which we may have liability as a PRP, our liability for our share of cleanup is de minimis. Further, almost all such sites represent environmental issues that are quite mature and have been investigated, studied and in many cases settled. In de minimis situations, our policy generally is to negotiate a consent decree and to pay any apportioned settlement, enabling us to be effectively relieved of any further liability as a PRP, except for remote contingencies. In other than de minimis PRP matters, our records indicate that unresolved PRP exposures should be immaterial. We accrue and expense our proportionate share of PRP costs. Because management has been actively involved in evaluating environmental matters, we are able to conclude that the outstanding environmental liabilities for unresolved PRP sites should not have a material adverse effect upon our results of operations or financial condition.

Liquidity Outlook

We anticipate that cash on hand and cash provided by operating activities, divestitures and borrowings will be sufficient to pay our operating expenses, satisfy debt service obligations, fund any capital expenditures and share repurchases, make acquisitions, make pension contributions and pay dividends for the foreseeable future. Our main focus during the continued uncertainty surrounding the global economy, including caused by the ongoing COVID-19 pandemic, is to continue to maintain financial flexibility by continuing our cost savings initiative, while still protecting our employees and customers, committing to shareholder returns and maintaining an investment grade rating. Over the next three years, in terms of uses of cash, we will continue to invest in growth of the businesses and return value to shareholders. Additionally, we will continue to evaluate the merits of any opportunities that may arise for acquisitions of businesses or assets, which may require additional liquidity.

Our growth investments include the recently completed acquisition all of the outstanding equity of Tianyuan for approximately \$200 million in cash. Tianyuan's operations include a recently constructed lithium processing plant that has designed annual conversion capacity of up to 25,000 metric tons of LCE and is capable of producing battery-grade lithium carbonate and lithium hydroxide. In addition, we announced agreements for strategic investments in China with plans to build two battery grade lithium conversion plants, Meishan and Zhangjiagang, each initially targeting 50,000 metric tons per year. At Meishan, construction is currently underway and is expected to be complete by the end of 2024. The Zhangjiagang plant is currently in engineering.

In October 2022, the Company announced it has been awarded a nearly \$150 million grant from the U.S. Department of Energy to expand domestic manufacturing of batteries for EVs and the electrical grid and for materials and components currently imported from other countries. The grant funding is intended to support a portion of the anticipated cost to construct a new, commercial-scale U.S.-based lithium concentrator facility at our Kings Mountain, North Carolina, location. We expect the concentrator facility to create hundreds of construction and full-time jobs, and to supply up to 350,000 metric tons per year of spodumene concentrate to the company's previously announced mega-flex lithium conversion facility.

Our cash flows from operations may be negatively affected by adverse consequences to our customers and the markets in which we compete as a result of moderating global economic conditions and reduced capital availability. The COVID-19 pandemic has not had a material impact on our liquidity to date; however, we cannot predict the overall impact in terms of cash flow generation as that will depend on the length and severity of the outbreak and its impact. As a result, we are planning for various economic scenarios and actively monitoring our balance sheet to maintain the financial flexibility needed.

Although we maintain business relationships with a diverse group of financial institutions as sources of financing, an adverse change in their credit standing could lead them to not honor their contractual credit commitments to us, decline funding under our existing but uncommitted lines of credit with them, not renew their extensions of credit or not provide new financing to us. While the global corporate bond and bank loan markets remain strong, periods of elevated uncertainty related to the

COVID-19 pandemic or global economic and/or geopolitical concerns may limit efficient access to such markets for extended periods of time. If such concerns heighten, we may incur increased borrowing costs and reduced credit capacity as our various credit facilities mature. If the U.S. Federal Reserve or similar national reserve banks in other countries decide to tighten the monetary supply in response, for example, to improving economic conditions, we may incur increased borrowing costs (as interest rates increase on our variable rate credit facilities, as our various credit facilities mature or as we refinance any maturing fixed rate debt obligations), although these cost increases would be partially offset by increased income rates on portions of our cash deposits.

On February 6, 2017, Huntsman, a subsidiary of Huntsman Corporation, filed a lawsuit in New York state court against Rockwood, Rockwood Specialties, Inc., certain former executives of Rockwood and its subsidiaries, Seifollah Ghasemi, Thomas Riordan, Andrew Ross, and Michael Valente, and Albemarle. The lawsuit arises out of Huntsman's acquisition of certain Rockwood subsidiaries in connection with a stock purchase agreement (the "SPA"), dated September 17, 2013. Before that transaction closed on October 1, 2014, Albemarle began discussions with Rockwood to purchase all outstanding equity of Rockwood and did so in a transaction that closed on January 12, 2015. Huntsman's complaint asserted that certain technology that Rockwood had developed for a production facility in Augusta, Georgia, and which was among the assets that Huntsman acquired pursuant to the SPA, did not work, and that Rockwood and the defendant executives had intentionally misled Huntsman about that technology in connection with the Huntsman-Rockwood transaction. The complaint asserted claims for, among other things, fraud, negligent misrepresentation, and breach of the SPA, and sought certain costs for completing construction of the production facility.

On March 10, 2017, Albemarle moved in New York state court to compel arbitration, which was granted on January 8, 2018 (although Huntsman unsuccessfully appealed that decision). Huntsman's arbitration demand asserted claims substantially similar to those asserted in its state court complaint, and sought various forms of legal remedies, including cost overruns, compensatory damages, expectation damages, punitive damages, and restitution. After a trial, the arbitration panel issued an award on October 28, 2021, awarding approximately \$600 million (including interest) to be paid by Albemarle to Huntsman, in addition to the possibility of attorney's fees, costs and expenses. Following the arbitration panel decision, Albemarle reached a settlement with Huntsman to pay \$665 million in two equal installments, with the first payment made in December 2021. The second and final payment was made in May 2022.

In addition, as first reported in 2018, following receipt of information regarding potential improper payments being made by third-party sales representatives of our Refining Solutions business, within our Catalysts segment, we promptly retained outside counsel and forensic accountants to investigate potential violations of our Code of Conduct, the Foreign Corrupt Practices Act, and other potentially applicable laws. Based on this internal investigation, we have voluntarily self-reported potential issues relating to the use of third-party sales representatives in our Refining Solutions business, within our Catalysts segment, to the DOJ, the SEC, and the DPP, and are cooperating with the DOJ, the SEC, and the DPP in their review of these matters. In connection with our internal investigation, we have implemented, and are continuing to implement, appropriate remedial measures. We have commenced discussions with the SEC, DOJ and DPP about a potential resolution of these matters.

At this time, we are unable to predict the duration, scope, result, or related costs associated with the investigations. We also are unable to predict what action may be taken by the DOJ, the SEC, or the DPP, or what penalties or remedial actions they may ultimately seek. Any determination that our operations or activities are not, or were not, in compliance with existing laws or regulations could result in the imposition of fines, penalties, disgorgement, equitable relief, or other losses. We do not believe, however, that any such fines, penalties, disgorgement, equitable relief, or other losses would have a material adverse effect on our financial condition or liquidity. However, an adverse resolution could have a material adverse effect on our results of operations in a particular period.

Overall, with generally strong cash-generative businesses and no significant long-term debt maturities before 2025, we believe we have, and will be able to maintain, a solid liquidity position.

We had cash and cash equivalents totaling \$1,382.8 million at September 30, 2022, of which \$598.5 million is held by our foreign subsidiaries. This cash represents an important source of our liquidity and is invested in bank accounts or money market investments with no limitations on access. The cash held by our foreign subsidiaries is intended for use outside of the U.S. We anticipate that any needs for liquidity within the U.S. in excess of our cash held in the U.S. can be readily satisfied with borrowings under our existing U.S. credit facilities or our commercial paper program.

Guarantor Financial Information

Albemarle Wodgina Pty Ltd Issued Notes

Albemarle Wodgina Pty Ltd (the "Issuer"), a wholly owned subsidiary of Albemarle Corporation, issued \$300.0 million aggregate principal amount of 3.45% Senior Notes due 2029 (the "3.45% Senior Notes") in November 2019. The 3.45% Senior

Notes are fully and unconditionally guaranteed (the “Guarantee”) on a senior unsecured basis by Albemarle Corporation (the “Parent Guarantor”). No direct or indirect subsidiaries of the Parent Guarantor guarantee the 3.45% Senior Notes (such subsidiaries are referred to as the “Non-Guarantors”).

In 2019, we completed the acquisition of a 60% interest in MRL’s Wodgina hard rock lithium mine project (“Wodgina Project”) in Western Australia and formed an unincorporated joint venture with MRL, named MARBL Lithium Joint Venture, for the exploration, development, mining, processing and production of lithium and other minerals (other than iron ore and tantalum) from the Wodgina spodumene mine and for the operation of the Kemerton assets in Western Australia. We participate in the Wodgina Project through our ownership interest in the Issuer.

The Parent Guarantor conducts its U.S. Bromine and Catalysts operations directly, and conducts its other operations (other than operations conducted through the Issuer) through the Non-Guarantors.

The 3.45% Senior Notes are the Issuer’s senior unsecured obligations and rank equally in right of payment to the senior indebtedness of the Issuer, effectively subordinated to all of the secured indebtedness of the Issuer, to the extent of the value of the assets securing that indebtedness, and structurally subordinated to all indebtedness and other liabilities of its subsidiaries. The Guarantee is the senior unsecured obligation of the Parent Guarantor and ranks equally in right of payment to the senior indebtedness of the Parent Guarantor, effectively subordinated to the secured debt of the Parent Guarantor to the extent of the value of the assets securing the indebtedness and structurally subordinated to all indebtedness and other liabilities of its subsidiaries.

For cash management purposes, the Parent Guarantor transfers cash among itself, the Issuer and the Non-Guarantors through intercompany financing arrangements, contributions or declaration of dividends between the respective parent and its subsidiaries. The transfer of cash under these activities facilitates the ability of the recipient to make specified third-party payments for principal and interest on the Issuer and/or the Parent Guarantor’s outstanding debt, common stock dividends and common stock repurchases. There are no significant restrictions on the ability of the Issuer or the Parent Guarantor to obtain funds from subsidiaries by dividend or loan.

The following tables present summarized financial information for the Parent Guarantor and the Issuer on a combined basis after elimination of (i) intercompany transactions and balances among the Issuer and the Parent Guarantor and (ii) equity in earnings from and investments in any subsidiary that is a Non-Guarantor. Each entity in the combined financial information follows the same accounting policies as described herein and in our Annual Report on Form 10-K for the year ended December 31, 2021.

Summarized Statement of Operations

<i>\$ in thousands</i>	Nine Months Ended September 30, 2022	Year Ended December 31, 2021
Net sales ^(a)	\$ 2,292,694	\$ 1,412,913
Gross profit	300,326	241,739
Loss before income taxes and equity in net income of unconsolidated investments ^{(b)(c)}	(148,197)	(607,995)
Net loss attributable to the Parent Guarantor and the Issuer	(295,874)	(558,342)

(a) Includes net sales to Non-Guarantors of \$1.7 billion and \$715.6 million for the nine months ended September 30, 2022 and year ended December 31, 2021, respectively.

(b) Includes intergroup expenses to Non-Guarantors of \$97.7 million and \$114.3 million for the nine months ended September 30, 2022 and year ended December 31, 2021, respectively.

(c) The year ended December 31, 2021 includes the Parent Guarantor’s portion of the gain on sale of the FCS business on June 1, 2021 and the loss for the settlement of an arbitration ruling for a prior legal matter. In addition, includes Issuer’s loss related to cost overruns for MRL’s 40% interest in lithium hydroxide conversion assets being built in Kemerton.

Summarized Balance Sheet

<i>\$ in thousands</i>	September 30, 2022	December 31, 2021
Current assets ^(a)	\$ 2,052,650	\$ 961,003
Net property, plant and equipment	3,288,723	2,979,034
Other noncurrent assets	568,011	534,695
Current liabilities ^(b)	\$ 2,560,868	\$ 2,329,212
Long-term debt	2,259,781	1,002,009
Other noncurrent liabilities ^(c)	7,293,820	7,008,857

(a) Includes receivables from Non-Guarantors of \$836.2 million and \$466.6 million at September 30, 2022 and December 31, 2021, respectively.

(b) Includes current payables to Non-Guarantors of \$1.3 billion and \$1.1 billion at September 30, 2022 and December 31, 2021, respectively.

(c) Includes noncurrent payables to Non-Guarantors of \$6.7 billion and \$6.5 billion at September 30, 2022 and December 31, 2021, respectively.

The 3.45% Senior Notes are structurally subordinated to the indebtedness and other liabilities of the Non-Guarantors. The Non-Guarantors are separate and distinct legal entities and have no obligation, contingent or otherwise, to pay any amounts due pursuant to the 3.45% Senior Notes or the Indenture under which the 3.45% Senior Notes were issued, or to make any funds available therefor, whether by dividends, loans, distributions or other payments. Any right that the Parent Guarantor has to receive any assets of any of the Non-Guarantors upon the liquidation or reorganization of any Non-Guarantor, and the consequent rights of holders of the 3.45% Senior Notes to realize proceeds from the sale of any of a Non-Guarantor's assets, would be effectively subordinated to the claims of such Non-Guarantor's creditors, including trade creditors and holders of preferred equity interests, if any, of such Non-Guarantor. Accordingly, in the event of a bankruptcy, liquidation or reorganization of any of the Non-Guarantors, the Non-Guarantors will pay the holders of their debts, holders of preferred equity interests, if any, and their trade creditors before they will be able to distribute any of their assets to the Parent Guarantor.

The 3.45% Senior Notes are obligations of the Issuer. The Issuer's cash flow and ability to make payments on the 3.45% Senior Notes could be dependent upon the earnings it derives from the production from MARBL for the Wodgina Project. Absent income received from sales of its share of production from MARBL, the Issuer's ability to service the 3.45% Senior Notes could be dependent upon the earnings of the Parent Guarantor's subsidiaries and other joint ventures and the payment of those earnings to the Issuer in the form of equity, loans or advances and through repayment of loans or advances from the Issuer.

The Issuer's obligations in respect of MARBL are guaranteed by the Parent Guarantor. Further, under MARBL pursuant to a deed of cross security between the Issuer, the joint venture partner and the manager of the project (the "Manager"), each of the Issuer, and the joint venture partner have granted security to each other and the Manager for the obligations each of the Issuer and the joint venture partner have to each other and to the Manager. The claims of the joint venture partner, the Manager and other secured creditors of the Issuer will have priority as to the assets of the Issuer over the claims of holders of the 3.45% Senior Notes.

Albemarle Corporation Issued Notes

In March 2021, Albemarle New Holding GmbH (the "Subsidiary Guarantor"), a wholly owned subsidiary of Albemarle Corporation, added a full and unconditional guarantee (the "Upstream Guarantee") to all securities of Albemarle Corporation (the "Parent Issuer") issued and outstanding as of such date and, subject to the terms of the applicable amendment or supplement, securities issuable by the Parent Issuer pursuant to the Indenture, dated as of January 20, 2005, as amended and supplemented from time to time (the "Indenture"). No other direct or indirect subsidiaries of the Parent Issuer guarantee these securities (such subsidiaries are referred to as the "Upstream Non-Guarantors"). See Long-term debt section above for a description of the securities issued by the Parent Issuer.

The current securities outstanding under the Indenture, with the exception of the 2022 Notes, are the Parent Issuer's unsecured and unsubordinated obligations and rank equally in right of payment with all other unsecured and unsubordinated indebtedness. The 2022 Notes are the Parent Issuer's general senior unsecured obligations, ranking equally in right of payment with all of the Parent Issuer's existing and future senior unsecured indebtedness and senior to the Parent Issuer's future subordinated indebtedness. The 2022 Notes are effectively subordinated to the Parent Issuer's existing and future secured indebtedness to the extent of the value of the assets securing that indebtedness and to the existing and future indebtedness and

other liabilities of the Parent Issuer's subsidiaries, including the Subsidiary Guarantor. With respect to any series of securities issued under the Indenture that is subject to the Upstream Guarantee (which series of securities does not include the 2022 Notes), the Upstream Guarantee is, and will be, an unsecured and unsubordinated obligation of the Subsidiary Guarantor, ranking pari passu with all other existing and future unsubordinated and unsecured indebtedness of the Subsidiary Guarantor.

For cash management purposes, the Parent Issuer transfers cash among itself, the Subsidiary Guarantor and the Upstream Non-Guarantors through intercompany financing arrangements, contributions or declaration of dividends between the respective parent and its subsidiaries. The transfer of cash under these activities facilitates the ability of the recipient to make specified third-party payments for principal and interest on the Parent Issuer and/or the Subsidiary Guarantor's outstanding debt, common stock dividends and common stock repurchases. There are no significant restrictions on the ability of the Parent Issuer or the Subsidiary Guarantor to obtain funds from subsidiaries by dividend or loan.

The following tables present summarized financial information for the Subsidiary Guarantor and the Parent Issuer on a combined basis after elimination of (i) intercompany transactions and balances among the Parent Issuer and the Subsidiary Guarantor and (ii) equity in earnings from and investments in any subsidiary that is an Upstream Non-Guarantor. Each entity in the combined financial information follows the same accounting policies as described herein and in the Company's Annual Report on Form 10-K for the year ended December 31, 2021.

Summarized Statement of Operations

<i>\$ in thousands</i>	Nine Months Ended September 30, 2022	Year Ended December 31, 2021
Net sales ^(a)	\$ 2,117,255	\$ 1,412,913
Gross profit	203,805	259,314
Loss before income taxes and equity in net income of unconsolidated investments ^(b)	(262,449)	(368,737)
Loss attributable to the Subsidiary Guarantor and the Parent Issuer ^(c)	(438,496)	(320,726)

- (a) Includes net sales to Non-Guarantors of \$1.5 billion and \$715.6 million for the nine months ended September 30, 2022 and year ended December 31, 2021, respectively.
- (b) Includes intergroup expenses to Non-Guarantors of \$67.6 million and \$17.8 million for the nine months ended September 30, 2022 and year ended December 31, 2021, respectively.
- (c) The year ended December 31, 2021 includes the Parent Issuer's portion of gain on sale of the FCS business on June 1, 2021 and the loss for the settlement of an arbitration ruling for a prior legal matter.

Summarized Balance Sheet

<i>\$ in thousands</i>	September 30, 2022	December 31, 2021
Current assets ^(a)	\$ 2,016,741	\$ 1,039,391
Net property, plant and equipment	832,494	754,818
Other non-current assets ^(b)	1,620,362	1,634,883
Current liabilities ^(c)	\$ 2,552,782	\$ 2,174,360
Long-term debt	2,863,774	1,755,026
Other noncurrent liabilities ^(d)	6,330,057	6,404,958

- (a) Includes receivables from Non-Guarantors of \$831.0 million and \$576.1 million at September 30, 2022 and December 31, 2021, respectively.
- (b) Includes noncurrent receivables from Non-Guarantors of \$1.1 billion and \$1.1 billion at September 30, 2022 and December 31, 2021, respectively.
- (c) Includes current payables to Non-Guarantors of \$1.4 billion and \$1.1 billion at September 30, 2022 and December 31, 2021, respectively.
- (d) Includes noncurrent payables to Non-Guarantors of \$5.8 billion and \$5.8 billion at September 30, 2022 and December 31, 2021, respectively.

These securities are structurally subordinated to the indebtedness and other liabilities of the Upstream Non-Guarantors. The Upstream Non-Guarantors are separate and distinct legal entities and have no obligation, contingent or otherwise, to pay any amounts due pursuant to these securities or the Indenture under which these securities were issued, or to make any funds available therefor, whether by dividends, loans, distributions or other payments. Any right that the Subsidiary Guarantor has to

receive any assets of any of the Upstream Non-Guarantors upon the liquidation or reorganization of any Upstream Non-Guarantors, and the consequent rights of holders of these securities to realize proceeds from the sale of any of an Upstream Non-Guarantor's assets, would be effectively subordinated to the claims of such Upstream Non-Guarantor's creditors, including trade creditors and holders of preferred equity interests, if any, of such Upstream Non-Guarantor. Accordingly, in the event of a bankruptcy, liquidation or reorganization of any of the Upstream Non-Guarantors, the Upstream Non-Guarantors will pay the holders of their debts, holders of preferred equity interests, if any, and their trade creditors before they will be able to distribute any of their assets to the Subsidiary Guarantor.

Summary of Critical Accounting Policies and Estimates

There have been no significant changes in our critical accounting policies and estimates from the information we provided in our Annual Report on Form 10-K for the year ended December 31, 2021.

Recent Accounting Pronouncements

For a description of recent accounting pronouncements, see Item 1 Financial Statements – Note 19, “Recently Issued Accounting Pronouncements” to the Notes to the Condensed Consolidated Financial Statements in this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

There have been no significant changes in our interest rate risk, foreign currency exchange rate exposure, marketable securities price risk or raw material price risk from the information we provided in our Annual Report on Form 10-K for the year ended December 31, 2021, except as noted below.

During the first quarter of 2021, we repaid the remaining principal balance of our 1.875% Euro-denominated senior notes. Prior to this repayment, the carrying value these notes was designated as an effective hedge of our net investment in certain foreign subsidiaries where the Euro serves as the functional currency, and gains or losses on the revaluation of these senior notes to our reporting currency were recorded in accumulated other comprehensive loss. Upon repayment of these notes, this net investment hedge was discontinued. The balance of foreign exchange revaluation gains and losses associated with this discontinued net investment hedge will remain within accumulated other comprehensive loss until the hedged net investment is sold or liquidated.

We had variable interest rate borrowings of \$264.0 million outstanding at September 30, 2022, bearing a weighted average interest rate of 3.97% and representing 8% of our total outstanding debt. A hypothetical 100 basis point increase in the interest rate applicable to these borrowings would change our annualized interest expense by approximately \$2.6 million as of September 30, 2022. We may enter into interest rate swaps, collars or similar instruments with the objective of reducing interest rate volatility relating to our borrowing costs.

Our financial instruments, which are subject to foreign currency exchange risk, consist of foreign currency forward contracts with an aggregate notional value of \$2,159.3 million and with a fair value representing a net asset position of \$4.3 million at September 30, 2022. Fluctuations in the value of these contracts are generally offset by the value of the underlying exposures being hedged. We conducted a sensitivity analysis on the fair value of our foreign currency hedge portfolio assuming an instantaneous 10% change in select foreign currency exchange rates from their levels as of September 30, 2022, with all other variables held constant. A 10% appreciation of the U.S. Dollar against foreign currencies that we hedge would result in a decrease of approximately \$0.7 million in the fair value of our foreign currency forward contracts. A 10% depreciation of the U.S. Dollar against these foreign currencies would result in a decrease of approximately \$17.1 million in the fair value of our foreign currency forward contracts. The sensitivity of the fair value of our foreign currency hedge portfolio represents changes in fair values estimated based on market conditions as of September 30, 2022, without reflecting the effects of underlying anticipated transactions. When those anticipated transactions are realized, actual effects of changing foreign currency exchange rates could have a material impact on our earnings and cash flows in future periods.

Item 4. Controls and Procedures.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), as of the end of the period covered by this report. Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of the end of the period covered by this report, our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and

forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

No change in our internal control over financial reporting (as such term is defined in Exchange Act Rule 13a-15(f)) occurred during the third quarter ended September 30, 2022 that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings.

We are involved from time to time in legal proceedings of types regarded as common in our business, including administrative or judicial proceedings seeking remediation under environmental laws, such as Superfund, products liability, breach of contract liability and premises liability litigation. Where appropriate, we may establish financial reserves for such proceedings. We also maintain insurance to mitigate certain of such risks. Additional information with respect to this Item 1 is contained in Note 10 to the Notes to the Condensed Consolidated Financial Statements in this Quarterly Report on Form 10-Q.

Item 1A. Risk Factors.

While we attempt to identify, manage and mitigate risks and uncertainties associated with our business to the extent practical under the circumstances, some level of risk and uncertainty will always be present. The risk factors set forth in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2021 describe some of the risks and uncertainties associated with our business. These risks and uncertainties have the potential to materially affect our results of operations and our financial condition. We do not believe that there have been any material changes to the risk factors previously disclosed in our Annual Report on Form 10-K for the year ended December 31, 2021.

Item 6. Exhibits.

(a) Exhibits

- [*10.1](#) [Amended and Restated Credit Agreement, dated as of October 28, 2022, among Albemarle Corporation, certain other subsidiaries of the Company, the Lenders Party thereto, and Bank of America, N.A., as Administrative Agent for the Lenders.](#)
- [*#10.2](#) [Form Notice of Special Retention Restricted Stock Unit Award under the Albemarle Corporation 2017 Incentive Plan](#)
- [*31.1](#) [Certification of Chief Executive Officer pursuant to Rule 13a-14\(a\).](#)
- [*31.2](#) [Certification of Chief Financial Officer pursuant to Rule 13a-14\(a\).](#)
- [*32.1](#) [Certification of Chief Executive Officer pursuant to Rule 13a-14\(b\) and 18 U.S.C. Section 1350.](#)
- [*32.2](#) [Certification of Chief Financial Officer pursuant to Rule 13a-14\(b\) and 18 U.S.C. Section 1350.](#)
- 101 Interactive Data File (Quarterly Report on Form 10-Q, for the quarterly period ended September 30, 2022, furnished in XBRL (eXtensible Business Reporting Language)).
- # Management contract or compensatory plan or arrangement.
- * Included with this filing.

Attached as Exhibit 101 to this report are the following documents formatted in XBRL: (i) the Consolidated Statements of Income for the nine months ended September 30, 2022 and 2021, (ii) the Consolidated Statements of Comprehensive Income for the nine months ended September 30, 2022 and 2021, (iii) the Consolidated Balance Sheets at September 30, 2022 and December 31, 2021, (iv) the Consolidated Statements of Changes in Equity for the nine months ended September 30, 2022 and 2021, (v) the Condensed Consolidated Statements of Cash Flows for the nine months ended September 30, 2022 and 2021 and (vi) the Notes to the Condensed Consolidated Financial Statements.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

ALBEMARLE CORPORATION
(Registrant)

Date: November 2, 2022

By: /s/ SCOTT A. TOZIER
Scott A. Tozier
Executive Vice President and Chief Financial Officer
(principal financial officer)

Execution Version

Published CUSIP: 01265LAR2

AMENDED AND RESTATED CREDIT AGREEMENT

Dated as of October 28, 2022

among

ALBEMARLE CORPORATION,
(the “Company”),

CERTAIN OTHER SUBSIDIARIES OF THE COMPANY,

THE LENDERS PARTY HERETO,

BANK OF AMERICA, N.A.,
as Administrative Agent and Swing Line Lender,

JPMORGAN CHASE BANK, N.A.,
as Syndication Agent

**GOLDMAN SACHS BANK USA,
MUFG BANK, LTD.,
BANCO SANTANDER, S.A., NEW YORK BRANCH,
SUMITOMO MITSUI BANKING CORPORATION,
TRUIST BANK**

and
U.S. BANK NATIONAL ASSOCIATION,
as Co-Documentation Agents

Arranged By:

**BOFA SECURITIES, INC.,
JPMORGAN CHASE BANK, N.A.,
HSBC SECURITIES (USA) INC.**
and
MIZUHO BANK, LTD.,
as Joint Lead Arrangers and Joint Bookrunners

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EXHIBITS

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- B Form of Swing Line Loan Notice
- C Form of Note
- D Form of Compliance Certificate
- E Form of Assignment and Assumption
- F Form of Administrative Questionnaire
- G Form of Designated Borrower Request and Assumption Agreement
- H Form of Designated Borrower Joinder Agreement
- I Form of Letter of Credit Report

AMENDED AND RESTATED CREDIT AGREEMENT

This AMENDED AND RESTATED CREDIT AGREEMENT is entered into as of October 28, 2022 among ALBEMARLE CORPORATION, a Virginia corporation (the “Company”), ALBEMARLE EUROPE SRL, a *société à responsabilité limitée* organized under the laws of Belgium (the “Belgian Borrower” and together with the Company and any other Subsidiary of the Company party hereto pursuant to Section 2.14, collectively, the “Borrowers”), the Lenders (defined herein), and BANK OF AMERICA, N.A., as Administrative Agent and Swing Line Lender.

RECITALS

The Company has requested that the Lenders provide a revolving credit facility, and the Lenders are willing to do so on the terms and conditions set forth herein.

The revolving credit facility and the transactions contemplated hereunder are in the corporate interests of the Borrowers.

In consideration of the mutual covenants and agreements herein contained, the parties hereto covenant and agree as follows:

ARTICLE I.

DEFINITIONS AND ACCOUNTING TERMS

1.01 Defined Terms.

As used in this Agreement, the following terms shall have the meanings set forth below:

“Acquisition” by any Person means the acquisition by such Person, in a single transaction or in a series of related transactions, of all or substantially all of the assets of, or of a business unit or division of, another Person or at least a majority of the securities having ordinary voting power for the election of directors, managing general partners or the equivalent of another Person, in each case whether or not involving a merger or consolidation with such other Person and whether for cash, property, services, assumption of Indebtedness, securities or otherwise.

“Additional Commitment Lender” has the meaning specified in Section 2.15.

“Administrative Agent” means Bank of America in its capacity as administrative agent under any of the Loan Documents, or any successor administrative agent.

“Administrative Agent Fee Letter” means the letter agreement, dated October 5, 2022 among the Company, the Administrative Agent and BAS.

“Administrative Agent’s Office” means, with respect to any currency, the Administrative Agent’s address and, as appropriate, account as set forth on Schedule 11.02 with respect to such currency or such other address or account with respect to such currency as the Administrative Agent may from time to time notify the Company and the Lenders.

“Administrative Questionnaire” means an Administrative Questionnaire substantially in the form of Exhibit F or any other form approved by the Administrative Agent.

“Affected Financial Institution” means (a) any EEA Financial Institution or (b) any UK Financial Institution.

“Affiliate” means, with respect to any Person, another Person that directly, or indirectly through one or more intermediaries, Controls or is Controlled by or is under common Control with the Person specified. “Control” means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a Person, whether through the ability to exercise voting power, by contract or otherwise. “Controlling” and “Controlled” have meanings correlative thereto. Without limiting the generality of the foregoing, for purposes of determining Affiliates of a member of the Consolidated Group, a Person shall be deemed to be Controlled by another Person if such other Person possesses, directly or indirectly, power to vote 35% or more of the securities having ordinary voting power for the election of directors, managing general partners or the equivalent.

“Agent Parties” has the meaning specified in Section 11.02.

“Aggregate Commitments” means the aggregate amount of Commitments of all the Lenders. The amount of the Aggregate Commitment in effect on the Closing Date is ONE BILLION FIVE HUNDRED MILLION DOLLARS (\$1,500,000,000).

“Agreement” means this Credit Agreement.

“Alternative Currency” means each of British Pounds Sterling, Euro, Japanese Yen, Australian Dollars and Canadian Dollars and each other lawful currency (other than Dollars) that is freely available and freely transferable and convertible into Dollars and that is approved in accordance with Section 1.09.

“Alternative Currency Daily Rate” means, for any day, with respect to any Credit Extension:

(a) denominated in British Pounds Sterling, the rate per annum equal to SONIA determined pursuant to the definition thereof; and

(b) denominated in any other Alternative Currency (to the extent such Loans denominated in such currency will bear interest at a daily rate), the daily rate per annum as designated with respect to such Alternative Currency at the time such Alternative Currency is approved by the Administrative Agent and the relevant Lenders pursuant to Section 1.09 plus the adjustment (if any) determined by the Administrative Agent and the relevant Lenders pursuant to Section 1.09;

provided, that, if any Alternative Currency Daily Rate shall be less than 0.0%, such rate shall be deemed 0.0% for purposes of this Agreement. Any change in an Alternative Currency Daily Rate shall be effective from and including the date of such change without further notice.

“Alternative Currency Daily Rate Loan” means a Loan that bears interest at a rate based on the definition of “Alternative Currency Daily Rate.” All Alternative Currency Daily Rate Loans must be denominated in an Alternative Currency.

“Alternative Currency Equivalent” means, at any time, with respect to any amount denominated in Dollars, the equivalent amount thereof in the applicable Alternative Currency as determined by the Administrative Agent or the L/C Issuer, as the case may be, by reference to Bloomberg (or such other publicly available service for displaying exchange rates), to be the exchange rate for the purchase of such Alternative Currency with Dollars at approximately 11:00 a.m. on the date two Business Days prior to the date as of which the foreign exchange computation is made; provided, however, that if no such rate is available, the “Alternative Currency Equivalent” shall be determined by the Administrative Agent or the

L/C Issuer, as the case may be, using any reasonable method of determination it deems appropriate in its sole discretion.

“Alternative Currency Loan” means an Alternative Currency Daily Rate Loan or an Alternative Currency Term Rate Loan, as applicable.

“Alternative Currency Term Rate” means, for any Interest Period, with respect to any Credit Extension:

(a) denominated in Euro, the rate per annum equal to the Euro Interbank Offered Rate (“EURIBOR”), as published on the applicable Reuters screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time) on the day that is two TARGET Days preceding the first day of such Interest Period with a term equivalent to such Interest Period;

(b) denominated in Japanese Yen, the rate per annum equal to the Tokyo Interbank Offer Rate (“TIBOR”), as published on the applicable Reuters screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time) on the Rate Determination Date with a term equivalent to such Interest Period;

(c) denominated in Australian Dollars, the rate per annum equal to the Bank Bill Swap Reference Bid Rate (“BBSY”), or a comparable or successor rate which rate is approved by the Administrative Agent, as published on the applicable Reuters screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time) at or about 10:30 a.m. (Melbourne, Australia time) on the Rate Determination Date with a term equivalent to such Interest Period;

(d) denominated in Canadian Dollars, the rate per annum equal to the Canadian Dealer Offered Rate (“CDOR”), or a comparable or successor rate which rate is approved by the Administrative Agent, as published on the applicable Reuters screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time) (in such case, the “CDOR Rate”) at or about 10:00a.m. (Toronto, Ontario time) on the Rate Determination Date with a term equivalent to such Interest Period; and

(e) denominated in any other Alternative Currency (to the extent such Loans denominated in such currency will bear interest at a term rate), the term rate per annum as designated with respect to such Alternative Currency at the time such Alternative Currency is approved by the Agent and the relevant Lenders pursuant to Section 1.09 plus the adjustment (if any) determined by the Agent and the relevant Lenders pursuant to Section 1.09;

provided, that, if any Alternative Currency Term Rate shall be less than 0.0%, such rate shall be deemed 0.0% for purposes of this Agreement.

“Alternative Currency Term Rate Loan” means a Loan that bears interest at a rate based on the definition of “Alternative Currency Term Rate.” All Alternative Currency Term Rate Loans must be denominated in an Alternative Currency.

“Applicable Authority” means with respect to any Alternative Currency, the applicable administrator for the Relevant Rate for such Alternative Currency or any Governmental Authority having jurisdiction over the Administrative Agent or such administrator.

“Applicable Currency” means Dollars or Alternative Currency, as applicable.

“Applicable Foreign Obligor Documents” has the meaning specified in Section 6.19.

“Applicable Rate” means, from time to time, the following percentages per annum, based upon the Debt Rating, as set forth below:

Pricing Level	Debt Rating S&P/Moody’s/ Fitch	Applicable Rate for Term SOFR Loans, Term SOFR Daily Floating Rate Loans, Alternative Currency Daily Rate Loans and Alternative Currency Term Rate Loans	Applicable Rate for Base Rate Loans	Applicable Rate for Letter of Credit Fee	Applicable Rate for Facility Fee
1	A-/A3/A- or better	0.910%	0.000%	0.910%	0.090%
2	BBB+/Baa1/BBB+	1.025%	0.025%	1.025%	0.100%
3	BBB/Baa2/BBB	1.125%	0.125%	1.125%	0.125%
4	BBB-/Baa3/BBB-	1.200%	0.200%	1.200%	0.175%
5	worse than or equal to BB+/Ba1/BB+ or unrated	1.375%	0.375%	1.375%	0.250%

For purposes of the foregoing, (a) if each of Moody’s, S&P and Fitch shall have a Debt Rating in effect and the Debt Ratings established by such rating agencies shall fall within different Levels in the foregoing table, the Applicable Rate shall be based on the Level in which two of such Ratings shall fall or, if there shall be no such Level, on the Level in which the second highest of the three Debt Ratings shall fall; (b) if only two of S&P, Moody’s and Fitch shall have Debt Ratings in effect, then the Applicable Rate shall be based on the Level in which the higher Debt Rating shall fall unless one of such Debt Ratings is two or more Levels lower than the other, in which case the Applicable Rate shall be based on the Level next above that of the lower of the two Debt Ratings; (c) if only one of S&P, Moody’s and Fitch shall have a Debt Rating in effect, then the Applicable Rate shall be based on the Level next below that in which such Debt Rating shall fall; and (d) if none of Moody’s, S&P and Fitch shall have a Debt Rating in effect, then the Applicable Rate shall be based on Level 5. If the rating system of S&P, Moody’s or Fitch shall change, the Company and the Lenders shall negotiate in good faith to amend this definition to reflect such changed rating system and, pending the effectiveness of any such amendment, the Applicable Rate shall be determined as provided above as if the affected rating agency did not have a Debt Rating in effect. For the avoidance of doubt, Level 1 in the table above is the “highest” Level and Level 5 is the “lowest” Level.

Initially, the Applicable Rate shall be determined based upon Pricing Level 3. Thereafter, each change in the Applicable Rate, if any, resulting from a publicly announced change in a Debt Rating shall

be effective, in the case of an upgrade, during the period commencing on the date of delivery by the Company to the Administrative Agent of notice thereof pursuant to Section 7.03(c) and ending on the date immediately preceding the effective date of the next such change and, in the case of a downgrade, during the period commencing on the date of the public announcement thereof and ending on the date immediately preceding the effective date of the next such change.

Determinations by the Administrative Agent of the appropriate Pricing Level shall be conclusive absent manifest error.

“Applicable Time” means, with respect to any borrowings and payments in Alternative Currencies, the local times in the place of settlement for such Alternative Currencies as may be determined by the Administrative Agent or the L/C Issuer, as the case may be, to be necessary for timely settlement on the relevant date in accordance with normal banking procedures in the place of payment.

“Applicant Borrower” has the meaning specified in Section 2.14.

“Approved Fund” means any Fund that is administered or managed by (a) a Lender, (b) an Affiliate of a Lender or (c) an entity or an Affiliate of an entity that administers or manages a Lender.

“Assignment and Assumption” means an assignment and assumption entered into by a Lender and an Eligible Assignee (with the consent of any party whose consent is required by Section 11.07(b)), and accepted by the Administrative Agent, in substantially the form of Exhibit E or any other form (including electronic documentation generated by use of an electronic platform) approved by the Administrative Agent.

“Attributable Principal Amount” means (a) in the case of capital leases, the amount of capital lease obligations determined in accordance with GAAP, (b) in the case of Synthetic Leases, an amount determined by capitalization of the remaining lease payments thereunder as if it were a capital lease determined in accordance with GAAP, (c) in the case of Securitization Transactions, the outstanding principal amount of such financing, after taking into account reserve accounts and making appropriate adjustments, as determined by the Administrative Agent in its reasonable judgment and (d) in the case of any Sale and Lease Back Transaction, the present value (discounted in accordance with GAAP at the debt rate implied in the applicable lease) of the obligations of the lessee for rental payments during the term of such lease.

“Australian Dollars” means the lawful currency of the Commonwealth of Australia.

“Auto-Extension Letter of Credit” has the meaning specified in Section 2.03(b).

“Availability Period” means the period from and including the Closing Date to the earliest of (a) the Maturity Date, (b) the date of termination of the Aggregate Commitments pursuant to Section 2.06, and (c) the date of termination of the commitment of each Lender to make Loans and of the obligation of the L/C Issuer to make L/C Credit Extensions pursuant to Section 9.02.

“Bail-In Action” means the exercise of any Write-Down and Conversion Powers by the applicable Resolution Authority in respect of any liability of an Affected Financial Institution.

“Bail-In Legislation” means (a) with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing Law for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule and (b) with respect to the United Kingdom, Part I of the United Kingdom Banking Act 2009 (as amended from time to time) and any other Law applicable in the United Kingdom

relating to the resolution of unsound or failing banks, investment firms or other financial institutions or their affiliates (other than through liquidation, administration or other insolvency proceedings).

“Bank of America” means Bank of America, N.A. and its successors.

“BAS” means BofA Securities, Inc., in its capacity as joint lead arranger and joint bookrunner, and its successors.

“Base Rate” means for any day a fluctuating rate of interest per annum equal to the highest of (a) the Federal Funds Rate plus 1/2 of 1%, (b) the rate of interest in effect for such day as publicly announced from time to time by Bank of America as its “prime rate” and (c) Term SOFR plus 1.0%; provided that if the Base Rate shall be less than zero, such rate shall be deemed to be zero for purposes of this Agreement. The “prime rate” is a rate set by Bank of America based upon various factors including Bank of America’s costs and desired return, general economic conditions and other factors, and is used as a reference point for pricing some loans, which may be priced at, above, or below such announced rate. Any change in such “prime rate” announced by Bank of America shall take effect at the opening of business on the day specified in the public announcement of such change. If the Base Rate is being used as an alternate rate of interest pursuant to Section 3.03 hereof, then the Base Rate shall be the greater of clauses (a) and (b) above and shall be determined without reference to clause (c) above.

“Base Rate Loan” means a Loan that bears interest based on the Base Rate. All Base Rate Loans shall be denominated in Dollars.

“Belgian Borrower” has the meaning specified in the introductory paragraph hereto.

“Beneficial Ownership Certification” means a certification regarding beneficial ownership required by the Beneficial Ownership Regulation.

“Beneficial Ownership Regulation” means 31 C.F.R. § 1010.230.

“Benefit Plan” means any of (a) an “employee benefit plan” (as defined in Section 3(3) of ERISA) that is subject to Title I of ERISA, (b) a “plan” as defined in Section 4975 of the Internal Revenue Code or (c) any Person whose assets include (for purposes of ERISA Section 3(42) or otherwise for purposes of Title I of ERISA or Section 4975 of the Internal Revenue Code) the assets of any such “employee benefit plan” or “plan”.

“Blocking Law” means:

(a) any provision of Council Regulation (EC) No 2271/1996 of 22 November 1996 (or any law or regulation implementing such Regulation in any member state of the European Union or the United Kingdom); and

(b) any similar blocking or anti-boycott law in the United Kingdom.

“Borrower Materials” has the meaning specified in Section 7.02.

“Borrowers” means the Company and the Belgian Borrower and, if the conditions of Section 2.14 are satisfied, any other Designated Borrower, and “Borrower” means any one of the Borrowers.

“Borrowing” means a Committed Borrowing or a Swing Line Borrowing, as the context may require.

“British Pounds Sterling” means the lawful currency of the United Kingdom.

“Business Day” means any day other than a Saturday, Sunday or other day on which commercial banks are authorized to close under the Laws of, or are in fact closed in, the state where the Administrative Agent’s Office is located; provided that:

(a) if such day relates to any interest rate settings as to an Alternative Currency Loan denominated in Euro, any fundings, disbursements, settlements and payments in Euro in respect of any such Alternative Currency Loan, or any other dealings in Euro to be carried out pursuant to this Agreement in respect of any such Alternative Currency Loan, means a Business Day that is also a TARGET Day;

(b) if such day relates to any interest rate settings as to an Alternative Currency Loan denominated in (i) British Pounds Sterling, means a day other than a day banks are closed for general business in London because such day is a Saturday, Sunday or a legal holiday under the laws of the United Kingdom, (ii) Japanese Yen, means a day other than when banks are closed for general business in Japan, (iii) Australian Dollars, means a day other than when banks are closed for settlement and payments of foreign exchange transactions in Melbourne because such day is a Saturday, Sunday or a legal holiday under the laws of Australia, and (iv) Canadian Dollars, means a day other than when banks are closed for settlement and payments of foreign exchange transactions in Toronto, Ontario because such day is a Saturday, Sunday or a legal holiday under the laws of Canada;

(c) if such day relates to any interest rate settings as to an Alternative Currency Loan denominated in a currency other than, Euro, British Pounds Sterling or Japanese Yen, means any such day on which dealings in deposits in the relevant currency are conducted by and between banks in the applicable offshore interbank market for such currency; and

(d) if such day relates to any fundings, disbursements, settlements and payments in a currency other than Euro in respect of an Alternative Currency Loan denominated in a currency other than Euro, or any other dealings in any currency other than Euro to be carried out pursuant to this Agreement in respect of any such Alternative Currency Loan (other than any interest rate settings), means any such day on which banks are open for foreign exchange business in the principal financial center of the country of such currency.

“Canadian Dollars” means the lawful currency of Canada.

“Cash Collateralize” means to pledge and deposit with or deliver to the Administrative Agent, for the benefit of one or more of the L/C Issuer or the Lenders, as collateral for L/C Obligations, or obligations of Lenders to fund participations in respect of L/C Obligations, cash or deposit account balances or, if the Administrative Agent and the L/C Issuer shall agree in their sole discretion, other credit support, in each case pursuant to documentation in form and substance reasonably satisfactory to the Administrative Agent and the L/C Issuer. “Cash Collateral” shall have a meaning correlative to the foregoing and shall include the proceeds of such cash collateral and other credit support.

“Change in Law” means the occurrence, after the Closing Date, of any of the following: (a) the adoption or taking effect of any Law, (b) any change in any Law or in the administration, interpretation, implementation or application thereof by any Governmental Authority or (c) the making or issuance of any request, rule, guideline or directive (whether or not having the force of law) by any Governmental Authority; provided that notwithstanding anything herein to the contrary, (x) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives thereunder or issued in connection therewith and (y) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar

authority) or the United States or foreign regulatory authorities, in each case pursuant to Basel III, shall in each case be deemed to be a “Change in Law”, regardless of the date enacted, adopted or issued.

“Change of Control” means an event or series of events by which: (a) any “person” or “group” (as such terms are used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934) acquires directly or indirectly, beneficially or of record, shares representing more than 35% of the aggregate ordinary voting power represented by the issued and outstanding capital stock of the Company or any Person directly or indirectly Controlling the Company; (b) a majority of the members of the board of directors or other equivalent governing body of the Company cease to be composed of individuals (i) who were members of that board of directors on the Closing Date, (ii) whose election or nomination to that board of directors or equivalent governing body was approved by individuals referred to in clause (i) above constituting at the time of such election or nomination at least two-thirds of that board of directors or equivalent governing body or (iii) whose election or nomination to that board of directors or other equivalent governing body was approved by individuals referred to in clauses (i) and (ii) above constituting at the time of such election or nomination at least two-thirds of that board of directors or equivalent governing body; or (c) the Company fails to directly or indirectly own and control all of the outstanding capital stock (or other equity securities) of each Designated Borrower.

“Closing Date” means October 28, 2022.

“CME” means CME Group Benchmark Administration Limited.

“Commitment” means, as to each Lender, the obligation of such Lender to (a) make Committed Loans, (b) purchase participations in L/C Obligations, and (c) purchase participations in Swing Line Loans in an aggregate principal amount at any one time outstanding not to exceed the amount set forth as such Lender’s “Commitment” as set forth on Schedule 2.01 or in the Assignment and Assumption or other documentation delivered pursuant to Section 2.01(b) pursuant to which such Lender becomes a party hereto, as applicable, as such amount may be adjusted from time to time in accordance with this Agreement.

“Committed Borrowing” means a borrowing consisting of simultaneous Committed Loans of the same Type, in the same currency and, in the case of Term SOFR Loans and Alternative Currency Term Rate Loans, having the same Interest Period made by each of the Lenders as provided herein.

“Committed Loan” has the meaning provided in Section 2.01(a).

“Committed Loan Notice” means a notice of (a) a Committed Borrowing, (b) a conversion of Committed Loans from one Type to the other, or (c) a continuation of Term SOFR Loans or Alternative Currency Term Rate Loans, in each case pursuant to Section 2.02(a), which shall be substantially in the form of Exhibit A or such other form as may be approved by the Administrative Agent (including any form on an electronic platform or electronic transmission system as shall be approved by the Administrative Agent), appropriately completed and signed by a Responsible Officer of the applicable Borrower.

“Communication” means this Agreement, any Loan Document and any document, any amendment, approval, consent, information, notice, certificate, request, statement, disclosure or authorization related to any Loan Document.

“Company” has the meaning specified in the introductory paragraph hereto.

“Compliance Certificate” means a certificate substantially in the form of Exhibit D.

“Conforming Changes” means, with respect to the use, administration of or any conventions associated with BBSY, CDOR, EURIBOR, SONIA, TIBOR, SOFR, Term SOFR or any proposed Successor Rate for an Applicable Currency, as applicable, any conforming changes to the definitions of “Base Rate”, “BBSY”, “CDOR”, “EURIBOR”, “SONIA”, “TIBOR”, “SOFR”, “Term SOFR”, “Term SOFR Daily Floating Rate”, “Interest Period”, the timing and frequency of determining rates and making payments of interest and other technical, administrative or operational matters (including, for the avoidance of doubt, the definitions of “Business Day” and “U.S. Government Securities Business Day”, timing of borrowing requests or prepayment, conversion or continuation notices and length of lookback periods) as may be appropriate, in the discretion of the Administrative Agent, to reflect the adoption and implementation of such applicable rate(s) and to permit the administration thereof by the Administrative Agent in a manner substantially consistent with market practice for such Applicable Currency (or, if the Administrative Agent determines that adoption of any portion of such market practice is not administratively feasible or that no market practice for the administration of such rate for such Applicable Currency exists, in such other manner of administration as the Administrative Agent determines is reasonably necessary in connection with the administration of this Agreement and any other Loan Document).

“Consolidated EBITDA” means, for any period, for the Consolidated Group, an amount equal to the sum of (a) Consolidated Net Income for such period plus (b) the following, in each case (other than in the case of clause (x) below) to the extent deducted in calculating such Consolidated Net Income, without duplication: (i) Consolidated Interest Charges for such period, (ii) the provision for federal, state, local and foreign income taxes payable by the Consolidated Group for such period, (iii) the amount of depreciation and amortization expense for such period, (iv) non-cash expenses for such period (excluding any non-cash expense to the extent that it represents an accrual of or reserve for cash payments in any future period), (v) non-cash goodwill impairment charges, (vi) any non-cash loss attributable to the mark-to-market adjustments in the valuation of pension liabilities (to the extent the cash impact resulting from such loss has not been realized) in accordance with Accounting Standards Codification 715 (ASC 715), (vii) any fees, expenses or charges (other than depreciation or amortization expense) related to any Acquisition, Disposition, issuance of equity interests, other transactions (excluding intercompany transactions) permitted by Section 8.02, or the incurrence of Indebtedness not prohibited by this Agreement (including any refinancing or amendment thereof) (in each case, whether or not consummated), including, but not limited to, such fees, expenses or charges related to this Agreement and the other Loan Documents and any amendment or other modification of this Agreement or the other Loan Documents, (viii) any expense to the extent that a corresponding amount is received during such period in cash by the Company or any of its Subsidiaries under any agreement providing for indemnification or reimbursement of such expenses, (ix) any expense with respect to liability or casualty events or business interruption to the extent reimbursed to the Company or any of its Subsidiaries during such period by third party insurance, and (x) the amount of dividends or distributions or other payments (including any ordinary course dividend, distribution or other payment) that are actually received in cash (or converted into cash) for such period by a member of the Consolidated Group from any Person that is not a member of the Consolidated Group or otherwise in respect of any unconsolidated investment, minus (c) to the extent included in calculating such Consolidated Net Income, (i) non-cash income during such period (excluding any non-cash income to the extent that it represents cash receipts in any future period) and (ii) any non-cash gains attributable to the mark-to-market adjustments in the valuation of pension liabilities in accordance with Accounting Standards Codification 715 (ASC 715), all as determined in accordance with GAAP.

“Consolidated Funded Debt” means Funded Debt of the Consolidated Group determined on a consolidated basis in accordance with GAAP.

“Consolidated Group” means the Company and its consolidated Subsidiaries as determined in accordance with GAAP.

“Consolidated Interest Charges” means, for any period, for the Consolidated Group, all interest expense, including the amortization of debt discount and premium, the interest component under capital leases and the implied interest component under Securitization Transactions, in each case on a consolidated basis determined in accordance with GAAP.

“Consolidated Leverage Ratio” means, as of any date of determination, the ratio of (a) the difference of (i) Consolidated Funded Debt as of such date minus (ii) Unrestricted Cash as of such date to (b) Consolidated EBITDA for the period of the four fiscal quarters ending on such date; provided, however, that, for purposes of calculating the Consolidated Leverage Ratio, with respect to any PILOT Transaction: (x) the Attributable Principal Amount of the PILOT-Related Capital Lease shall be deemed to be equal to zero, (y) the Consolidated Interest Charges on any such Attributable Principal Amount (described in clause (x)) shall be deemed to be equal to zero, and (z) the net income from any interest earned with respect to any related Member-Held LRBs shall be deemed to be equal to zero.

“Consolidated Net Income” means, for any period, for the Consolidated Group, the sum, without duplication, of (i) net income of the Consolidated Group (excluding items reported as nonrecurring or unusual in the consolidated financial statements of the Company and the Consolidated Group and related tax effects) for that period minus (ii) to the extent included in the amount determined pursuant to clause (i) above, the income of any Subsidiary to the extent the payment of such income in the form of a distribution or repayment of any Indebtedness to the Company or a Subsidiary is not permitted, whether on account of any Organization Document restriction, any agreement, instrument, deed or lease or any Law applicable to such Subsidiary, all as determined in accordance with GAAP.

“Consolidated Net Tangible Assets” means, as of any date of determination, the Consolidated Total Assets of the Consolidated Group less goodwill and intangibles (other than intangibles arising from, or relating to, intellectual property, licenses or permits (including, but not limited to, emissions rights) of the Consolidated Group), in each case calculated in accordance with GAAP, provided, that in the event that the Company or any of its Subsidiaries acquires any assets in connection with the Acquisition by the Company and its Subsidiaries of another Person subsequent to the date as of which the Consolidated Net Tangible Assets is being calculated (the “Balance Sheet Date”) but prior to the event for which the calculation of the Consolidated Net Tangible Assets is made, then the Consolidated Net Tangible Assets shall be calculated giving pro forma effect to such Acquisition of assets, as if the same had occurred on or prior to the Balance Sheet Date.

“Consolidated Total Assets” means, as of any date of determination, the total consolidated assets of the Consolidated Group, without giving effect to any amortization of the amount of intangible assets since the Closing Date, as shown on the most recent balance sheet required to be delivered pursuant to Section 7.01

“Contractual Obligation” means, as to any Person, any provision of any Security issued by such Person or of any agreement, instrument or other undertaking to which such Person is a party or by which it or any of its property is bound.

“Control” has the meaning specified in the definition of “Affiliate.”

“Covered Party” has the meaning specified in Section 11.25.

“Credit Extension” means each of the following: (a) a Borrowing and (b) an L/C Credit Extension.

“Daily Simple SOFR” with respect to any applicable determination date means the SOFR published on such date on the Federal Reserve Bank of New York’s website (or any successor source).

“Debt Rating” means, as of any date of determination, the rating as determined by any of S&P, Moody’s or Fitch of the Company’s non-credit-enhanced, senior unsecured long-term debt.

“Debtor Relief Laws” means the Bankruptcy Code of the United States, and all other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief Laws of the United States or other applicable jurisdictions from time to time in effect and affecting the rights of creditors generally.

“Default” means any event or condition that constitutes an Event of Default or that, with the giving of any notice, the passage of time, or both, would be an Event of Default.

“Default Rate” means (a) when used with respect to Obligations other than Letter of Credit Fees, an interest rate equal to (i) the Base Rate plus (ii) the Applicable Rate, if any, applicable to Base Rate Loans plus (iii) 2% per annum; provided, however, that with respect to a Term SOFR Loan, a Term SOFR Daily Floating Rate Loan or an Alternative Currency Loan, the Default Rate shall be an interest rate equal to the interest rate (including any Applicable Rate) otherwise applicable to such Loan plus 2% per annum, and (b) when used with respect to Letter of Credit Fees, a rate equal to the Applicable Rate plus 2% per annum.

“Defaulting Lender” means, subject to Section 2.17(b), any Lender that (a) has failed to (i) fund all or any portion of its Loans within two Business Days of the date such Loans were required to be funded hereunder unless such Lender notifies the Administrative Agent and the Company in writing that such failure is the result of such Lender’s determination that one or more conditions precedent to funding (each of which conditions precedent, together with any applicable default, shall be specifically identified in such writing) has not been satisfied, or (ii) pay to the Administrative Agent, the L/C Issuer, the Swing Line Lender or any other Lender any other amount required to be paid by it hereunder (including in respect of its participation in Letters of Credit or Swing Line Loans) within two Business Days of the date when due, (b) has notified the Company, the Administrative Agent, the L/C Issuer or the Swing Line Lender in writing that it does not intend to comply with its funding obligations hereunder, or has made a public statement to that effect (unless such writing or public statement relates to such Lender’s obligation to fund a Loan hereunder and states that such position is based on such Lender’s determination that a condition precedent to funding (which condition precedent, together with any applicable default, shall be specifically identified in such writing or public statement) cannot be satisfied), (c) has failed, within three Business Days after written request by the Administrative Agent or the Company, to confirm in writing to the Administrative Agent and the Company that it will comply with its prospective funding obligations hereunder (provided that such Lender shall cease to be a Defaulting Lender pursuant to this clause (c) upon receipt of such written confirmation by the Administrative Agent and the Company), or (d) has, or has a direct or indirect parent company that has, (i) become the subject of a proceeding under any Debtor Relief Law, (ii) had appointed for it a receiver, custodian, conservator, trustee, administrator, assignee for the benefit of creditors or similar Person charged with reorganization or liquidation of its business or assets, including the Federal Deposit Insurance Corporation or any other state or federal regulatory authority acting in such a capacity or (iii) become the subject of a Bail-In Action; provided that a Lender shall not be a Defaulting Lender solely by virtue of the ownership or acquisition of any equity interest in that Lender or any direct or indirect parent company thereof by a Governmental Authority so long as such ownership interest does not result in or provide such Lender with immunity from the jurisdiction of courts within the United States or from the enforcement of judgments or writs of attachment on its assets or permit such Lender (or such Governmental Authority) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender. Any determination by the Administrative Agent that a Lender is a Defaulting Lender under any one or more of clauses (a) through (d) above, and of the effective date of such status, shall be conclusive and binding absent manifest error, and such Lender shall

be deemed to be a Defaulting Lender (subject to Section 2.17(b)) as of the date established therefor by the Administrative Agent in a written notice of such determination, which shall be delivered by the Administrative Agent to the Company, the L/C Issuer, the Swing Line Lender and each Lender.

“Designated Borrower” means any Borrower designated in accordance with the terms of Section 2.14 and “Designated Borrowers” means any one of the Designated Borrowers

“Designated Borrower Joinder Agreement” has the meaning specified in Section 2.14.

“Designated Borrower Request and Assumption Agreement” has the meaning specified in Section 2.14.

“Designated Jurisdiction” means any country or territory to the extent that such country or territory itself is the subject of any Sanction.

“Disposition” means the sale, transfer, license, lease or other disposition (including any Sale and Leaseback Transaction) of any property by any Person, including any sale, assignment, transfer or other disposal, with or without recourse, of any notes or accounts receivable or any rights and claims associated therewith.

“Dollar” and “\$” mean lawful money of the United States.

“Dollar Equivalent” means, for any amount, at the time of determination thereof, (a) if such amount is expressed in Dollars, such amount, (b) if such amount is expressed in an Alternative Currency, the equivalent of such amount in Dollars determined by using the rate of exchange for the purchase of Dollars with the Alternative Currency last provided (either by publication or otherwise provided to the Administrative Agent or the L/C Issuer, as applicable) by the applicable Bloomberg source (or such other publicly available source for displaying exchange rates) on the date that is two Business Days immediately preceding the date of determination (or if such service ceases to be available or ceases to provide such rate of exchange, the equivalent of such amount in Dollars as determined by the Administrative Agent or the L/C Issuer, as applicable, using any method of determination it deems appropriate in its sole discretion) and (c) if such amount is denominated in any other currency, the equivalent of such amount in Dollars as determined by the Administrative Agent or the L/C Issuer, as applicable, using any method of determination it deems appropriate in its sole discretion. Any determination by the Administrative Agent or the L/C Issuer pursuant to clauses (b) or (c) above shall be conclusive absent manifest error.

“Domestic Borrower” means any Borrower that is organized under the laws of any political subdivision of the United States.

“Domestic Subsidiary” means any Subsidiary that is organized under the laws of any political subdivision of the United States.

“EEA Financial Institution” means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition, or (c) any financial institution established in an EEA Member Country which is a Subsidiary of an institution described in clauses (a) or (b) of this definition and is subject to consolidated supervision with its parent.

“EEA Member Country” means any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

“EEA Resolution Authority” means any public administrative authority or any Person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

“Electronic Copy” has the meaning specified in Section 11.22.

“Electronic Record” and “Electronic Signature” shall have the meanings specified in Section 11.22.

“Eligible Assignee” means any Person that meets the requirements to be an assignee under Sections 11.07(b)(iii) and (v) (subject to such consents, if any, as may be required under Section 11.07(b)(iii)).

“Environmental Laws” means any legally binding and applicable statute, law, regulation, ordinance, rule, judgment, order, decree, permit, concession, grant, franchise, license, agreement or restriction imposed by any federal, state, local, and foreign Governmental Authority relating to human health and the natural environment.

“Environmental Liability” means any liability, contingent or otherwise (including any liability for damages, costs of environmental remediation, fines, penalties or indemnities), of the Company or any of its Subsidiaries resulting from or caused by (a) violation of any Environmental Law, (b) the generation, use, handling, transportation, storage, treatment or disposal of any Hazardous Materials, (c) the release or threatened release of any Hazardous Materials into the natural environment or (d) any contract, agreement or other consensual arrangement pursuant to which environmental liability is assumed or imposed with respect to any of the foregoing.

“ERISA” means the Employee Retirement Income Security Act of 1974.

“ERISA Affiliate” means any trade or business (whether or not incorporated) under common control with the Company within the meaning of Section 414(b) or (c) of the Internal Revenue Code (and Sections 414(m) and (o) of the Internal Revenue Code for purposes of provisions relating to Section 412 of the Internal Revenue Code).

“ERISA Event” means (a) a Reportable Event with respect to a Pension Plan; (b) a withdrawal by the Company or any ERISA Affiliate from a Pension Plan subject to Section 4063 of ERISA during a plan year in which it was a substantial employer (as defined in Section 4001(a) (2) of ERISA) or a cessation of operations that is treated as such a withdrawal under Section 4062(e) of ERISA; (c) a complete or partial withdrawal by the Company or any ERISA Affiliate from a Multiemployer Plan or notification that a Multiemployer Plan is in reorganization; (d) the filing of a notice of intent to terminate, the treatment of a Plan amendment as a termination under Section 4041 or 4041A of ERISA, or the commencement of proceedings by the PBGC to terminate a Pension Plan or Multiemployer Plan; (e) an event or condition that constitutes grounds under Section 4042 of ERISA for the termination of, or the appointment of a trustee to administer, any Pension Plan or Multiemployer Plan; or (f) the imposition of any liability under Title IV of ERISA, other than for PBGC premiums due but not delinquent under Section 4007 of ERISA, upon the Company or any ERISA Affiliate.

“EU Bail-In Legislation Schedule” means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor person), as in effect from time to time.

“Euro” and “EUR” mean the single currency of the Participating Member States.

“Event of Default” has the meaning specified in Section 9.01.

“Excluded Taxes” means (i) in the case of the Administrative Agent and each Lender, Taxes imposed on or measured by its income or gross receipts, branch profits Taxes, and franchise Taxes imposed on it, by any jurisdiction (A) as a result of the Administrative Agent or such Lender, as the case may be, being organized under the Laws of or maintaining a lending office in such jurisdiction, (B) that are Other Connection Taxes or (C) as a result of the Administrative Agent or such Lender, as the case may be, booking Loans made by it in such jurisdiction, (ii) in the case of a Lender, any withholding Taxes, that are (A) imposed by the United States with respect to the Committed Loans, the Swing Line Loan and the L/C Obligations on amounts payable to or for the account of such Lender at the time such Lender becomes a party to this Agreement (or designates a new lending office) or (B) attributable to such Lender’s failure or inability (other than as a result of a Change in Law) to comply with Section 11.15, except to the extent that such Lender (or its assignor, if any) was entitled, at the time of designation of a new lending office (or assignment), to receive additional amounts from the Borrowers with respect to such Taxes pursuant to this Section 3.01 and (iii) any withholding taxes imposed under FATCA.

“Existing Maturity Date” has the meaning specified in Section 2.15.

“Extending Lender” has the meaning specified in Section 2.15.

“Facility Office” means, with respect to any Lender, the office through which such Lender will perform its obligations under this Agreement.

“FASB ASC” means the Accounting Standards Codification of the Financial Accounting Standards Board.

“FATCA” means Sections 1471 through 1474 of the Internal Revenue Code, as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with), any current or future regulations or official interpretations thereof, any agreements entered into pursuant to Section 1471(b)(1) of the Internal Revenue Code and any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement, treaty or convention among Governmental Authorities and implementing such Sections of the Internal Revenue Code.

“Federal Funds Rate” means, for any day, the rate per annum calculated by the Federal Reserve Bank of New York based on such day’s federal funds transactions by depository institutions (as determined in such manner as the Federal Reserve Bank of New York shall set forth on its public website from time to time) and published on the next succeeding Business Day by the Federal Reserve Bank of New York as the federal funds effective rate; provided that if the Federal Funds Rate as so determined would be less than zero, such rate shall be deemed to be zero for the purposes of this Agreement.

“Fitch” means Fitch Ratings, Inc., or any successor or assignee of the business of such company in the business of rating securities.

“Foreign Lender” means, with respect to any Borrower, any Lender that is resident or organized under the Laws of a jurisdiction other than that in which such Borrower is resident for tax purposes (including such a Lender when acting in the capacity of the L/C Issuer). For purposes of this definition,

the United States, each State thereof and the District of Columbia shall be deemed to constitute a single jurisdiction, and a similar rule shall apply with respect to Belgium.

“FRB” means the Board of Governors of the Federal Reserve System of the United States.

“Fronting Exposure” means, at any time there is a Defaulting Lender, (a) with respect to any L/C Issuer, such Defaulting Lender’s Pro Rata Share of the Outstanding Amount of all L/C Obligations in respect of Letters of Credit issued by such L/C Issuer other than L/C Obligations as to which such Defaulting Lender’s participation obligation has been reallocated to other Lenders or Cash Collateralized in accordance with the terms hereof, and (b) with respect to the Swing Line Lender, such Defaulting Lender’s Pro Rata Share of Swing Line Loans other than Swing Line Loans as to which such Defaulting Lender’s participation obligation has been reallocated to other Lenders in accordance with the terms hereof.

“Fund” means any Person (other than a natural person) that is (or will be) engaged in making, purchasing, holding or otherwise investing in commercial loans and similar extensions of credit in the ordinary course of its activities.

“Funded Debt” means, as to any Person at a particular time, without duplication, all of the following, whether or not included as indebtedness or liabilities in accordance with GAAP:

- (a) all obligations for borrowed money, whether current or long-term (including the Obligations hereunder), and all obligations evidenced by bonds, debentures, notes, loan agreements or other similar instruments, including convertible debt instruments;
- (b) all purchase money indebtedness (including indebtedness and obligations in respect of conditional sales and title retention arrangements, except for customary conditional sales and title retention arrangements with suppliers that are entered into in the ordinary course of business) and all indebtedness and obligations in respect of the deferred purchase price of property or services (other than trade accounts payable incurred in the ordinary course of business and payable on customary trade terms);
- (c) all contingent obligations and unreimbursed drawings under letters of credit (including standby and commercial), bankers’ acceptances, bank guaranties, surety bonds and similar instruments;
- (d) the Attributable Principal Amount of capital leases and Synthetic Leases;
- (e) the Attributable Principal Amount of Securitization Transactions;
- (f) all preferred stock and comparable equity interests providing for mandatory redemption, sinking fund or other like payments within 91 days following the Maturity Date then in effect;
- (g) Guarantees in respect of Funded Debt of another Person; and
- (h) Funded Debt of any partnership or joint venture or other similar entity in which such Person is a general partner or joint venturer, and, as such, has personal liability for such obligations, but only to the extent there is recourse to such Person for payment thereof.

For purposes hereof, the amount of Funded Debt shall be determined based on the outstanding principal amount in the case of borrowed money indebtedness under clause (a) and purchase money

indebtedness and the deferred purchase obligations under clause (b), based on the maximum amount available to be drawn in the case of letter of credit obligations and the other obligations under clause (c), and based on the outstanding principal amount of Funded Debt that is the subject of the Guarantees in the case of Guarantees under clause (g) or, if less, the amount expressly guaranteed.

“GAAP” means generally accepted accounting principles in the United States set forth in the opinions and pronouncements of the Financial Accounting Standards Board Accounting Standards Codification, consistently applied and as in effect from time to time.

“Governmental Authority” means any nation or government, any state or other political subdivision thereof, any agency, authority, instrumentality, regulatory body, court, administrative tribunal, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any supra-national bodies such as the European Union or the European Central Bank).

“Guarantee” means, as to any Person, any (a) any obligation, contingent or otherwise, of such Person guaranteeing or having the economic effect of guaranteeing any Indebtedness or other obligation payable or performable by another Person (the “primary obligor”) in any manner, whether directly or indirectly, and including any obligation of such Person, direct or indirect, (i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness or other obligation, (ii) to purchase or lease property, securities or services for the purpose of assuring the obligee in respect of such Indebtedness or other obligation of the payment or performance of such Indebtedness or other obligation, (iii) to maintain working capital, equity capital or any other financial statement condition or liquidity or level of income or cash flow of the primary obligor so as to enable the primary obligor to pay such Indebtedness or other obligation, or (iv) entered into for the purpose of assuring in any other manner the obligee in respect of such Indebtedness or other obligation of the payment or performance thereof or to protect such obligee against loss in respect thereof (in whole or in part), or (b) any Lien on any assets of such Person securing any Indebtedness or other obligation of any other Person, whether or not such Indebtedness or other obligation is assumed by such Person. The amount of any Guarantee shall be deemed to be an amount equal to the stated or determinable amount of the related primary obligation, or portion thereof, in respect of which such Guarantee is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof as determined by the guaranteeing Person in good faith. The term “Guarantee” as a verb has a corresponding meaning.

“Guaranty” means the Guarantee of the Obligations provided by the Company pursuant to Article IV.

“Hazardous Materials” means all explosive or radioactive substances or wastes and all hazardous or toxic substances, wastes or other pollutants, including petroleum or petroleum distillates, asbestos or asbestos-containing materials, polychlorinated biphenyls, radon gas, infectious or medical wastes regulated pursuant to any Environmental Law.

“Honor Date” has the meaning specified in Section 2.03(c).

“HSBC” means HSBC Bank USA, National Association, and its successors.

“Immaterial Subsidiary” means any Subsidiary of the Company that neither (a) owns assets with an aggregate book value in excess of \$25,000,000 nor (b) has annual revenues in excess of \$25,000,000.

“Incremental Facility Amendment” has the meaning specified in Section 2.01(b).

“Incremental Term Facility” has the meaning specified in Section 2.01(b).

“Indebtedness” means, as to any Person at a particular time, without duplication, all of the following, whether or not included as indebtedness or liabilities in accordance with GAAP:

- (a) all Funded Debt;
- (b) net obligations under any Swap Contract;
- (c) Guarantees in respect of Indebtedness of another Person; and
- (d) Indebtedness of any partnership or joint venture or other similar entity in which such Person is a general partner or joint venturer, and, as such, has personal liability for such obligations, but only to the extent there is recourse to such Person for payment thereof.

For purposes hereof, the amount of Indebtedness shall be determined based on Swap Termination Value in the case of net obligations under Swap Contracts under clause (c) and based on the outstanding principal amount of Indebtedness that is the subject of the Guarantees in the case of Guarantees under clause (d) or, if less, the amount expressly guaranteed.

“Indemnified Taxes” means Taxes other than Excluded Taxes.

“Indemnitees” has the meaning specified in Section 11.04(b).

“Information” has the meaning specified in Section 11.08.

“Interest Payment Date” means (a) as to any Term SOFR Loan, the last day of each Interest Period applicable to such Loan and the Maturity Date; provided, however, that if any Interest Period for a Term SOFR Loan exceeds three (3) months, the respective dates that fall every three (3) months after the beginning of such Interest Period shall also be Interest Payment Dates; (b) as to any Term SOFR Daily Floating Rate Loan, the last Business Day of each March, June, September and December and the Maturity Date; (c) as to any Alternative Currency Daily Rate Loan (other than any Alternative Currency Daily Rate Loans denominated in British Pounds Sterling), the last Business Day of each March, June, September and December and the Maturity Date; (d) as to any Alternative Currency Daily Rate Loan denominated in British Pounds Sterling, the last Business Day of each calendar month and the Maturity Date; (e) as to any Alternative Currency Term Rate Loan, the last day of each Interest Period applicable to such Loan and the Maturity Date; provided, however, that if any Interest Period for an Alternative Currency Term Rate Loan exceeds three months, the respective dates that fall every three months after the beginning of such Interest Period shall be Interest Payment Dates; and (f) as to any Base Rate Loan, the last Business Day of each March, June, September and December and the Maturity Date.

“Interest Period” means, (i) as to each Term SOFR Loan, the period commencing on the date such Term SOFR Loan is disbursed or converted to or continued as a Term SOFR Loan and ending on the date one, three or six months thereafter (in each case, subject to availability), as selected by the Company in its Committed Loan Notice and (ii) as to each Alternative Currency Term Rate Loan, the period commencing on the date such Alternative Currency Term Rate Loan is disbursed or converted to or continued as an Alternative Currency Term Rate Loan and ending on the date one, three or six months thereafter (in each case, subject to availability for the interest rate applicable to the relevant currency, or, solely with respect to Alternative Currency Term Rate Loans denominated in Canadian Dollars, one, two or three months), as selected by the Company in its Committed Loan Notice; provided that:

(a) any Interest Period that would otherwise end on a day that is not a Business Day shall be extended to the next succeeding Business Day unless such Business Day falls in another calendar month, in which case such Interest Period shall end on the next preceding Business Day;

(b) any Interest Period that begins on the last Business Day of a calendar month (or on a day for which there is no numerically corresponding day in the calendar month at the end of such Interest Period) shall end on the last Business Day of the calendar month at the end of such Interest Period; and

(c) no Interest Period for any Loan shall extend beyond the Maturity Date of such Loan.

“Internal Revenue Code” means the United States Internal Revenue Code of 1986.

“IRS” means the United States Internal Revenue Service.

“ISP” means the International Standby Practices, International Chamber of Commerce Publication No. 590 (or such later version thereof as may be in effect at the applicable time).

“Issuer Documents” means, with respect to any Letter of Credit, the Letter of Credit Application and any other document, agreement and instrument entered into by the L/C Issuer and the Company (or any Subsidiary) or in favor of the L/C Issuer and relating to any such Letter of Credit.

“Japanese Yen” means the lawful currency of Japan.

“JPMorgan” means JPMorgan Chase Bank, N.A., and its successors.

“Laws” means, collectively, all international, foreign, federal, state and local statutes, treaties, rules, guidelines, regulations, ordinances, codes and administrative or judicial precedents or authorities, including the interpretation or administration thereof by any Governmental Authority charged with the enforcement, interpretation or administration thereof, and all applicable administrative orders, directed duties, requests, licenses, authorizations and permits of, and agreements with, any Governmental Authority, in each case whether or not having the force of law.

“L/C Advance” means, with respect to each Lender, such Lender’s funding of its participation in a L/C Borrowing. All L/C Advances shall be denominated in Dollars.

“L/C Borrowing” means an extension of credit resulting from a drawing under any Letter of Credit that has not been reimbursed on the date when made or refinanced as a Committed Borrowing. All L/C Borrowings shall be denominated in Dollars.

“L/C Credit Extension” means, with respect to any Letter of Credit, the issuance thereof or extension of the expiry date thereof, or the renewal or increase of the amount thereof.

“L/C Issuer” means (a) Bank of America, through itself or through one of its designated Affiliates or branch offices, (b) JPMorgan, through itself or through one of its designated Affiliates or branch offices, (c) HSBC, through itself or through one of its designated Affiliates or branch offices and/or (d) Mizuho, through itself or through one of its designated Affiliates or branch offices, in each case, in its capacity as issuer of Letters of Credit hereunder, with each of their respective successors in such capacity. In the event there is more than one L/C Issuer at any time, references herein and in the other Loan Documents to the L/C Issuer shall be deemed to refer to the L/C Issuer in respect of the applicable Letter of Credit or to all L/C Issuers, as the context requires.

“L/C Obligations” means as of any date of determination, the aggregate undrawn amount of all outstanding Letters of Credit, plus the aggregate amount of all Unreimbursed Amounts in respect of Letters of Credit, including L/C Borrowings. For purposes of computing the undrawn amount under any Letter of Credit, the amount of such Letter of Credit shall be determined in accordance with Section 1.07. For all purposes of this Agreement, if on any date of determination a Letter of Credit has expired by its terms but any amount may still be drawn thereunder by reason of the operation of Rule 3.14 of the ISP, such Letter of Credit shall be deemed to be “outstanding” in the amount so remaining available to be drawn.

“Lender” means each of the Persons identified as a “Lender” on the signature pages hereto, any other Person that becomes a Lender in accordance with this Agreement and their successors and assigns and, unless the context requires otherwise, includes the Swing Line Lender.

“Lender Parties” means, collectively, the Lenders, the Swing Line Lender and the L/C Issuer.

“Lending Office” means, as to any Lender, the office or offices of such Lender described as such in such Lender’s Administrative Questionnaire, or such other office or offices as a Lender may from time to time notify the Company and the Administrative Agent which office may include any Affiliate of such Lender or any domestic or foreign branch of such Lender or such Affiliate. Unless the context otherwise requires each reference to a Lender shall include its applicable Lending Office.

“Letter of Credit” means any letter of credit issued hereunder. A Letter of Credit may be a commercial letter of credit or a standby letter of credit; provided, however, that any commercial letter of credit issued hereunder shall provide solely for cash payment upon presentation of a sight draft. Notwithstanding anything to the contrary contained herein, a letter of credit issued by an L/C Issuer other than Bank of America (or a designated Affiliate thereof) shall not be a “Letter of Credit” for purposes of the Loan Documents until such time as the Administrative Agent has been notified of the issuance thereof by the applicable L/C Issuer and has confirmed availability under the Aggregate Commitments and the Letter of Credit Sublimit with the applicable L/C Issuer.

“Letter of Credit Application” means an application and agreement for the issuance or amendment of a Letter of Credit in the form from time to time in use by the L/C Issuer.

“Letter of Credit Expiration Date” means the day that is seven days prior to the Maturity Date then in effect (or, if such day is not a Business Day, the next preceding Business Day).

“Letter of Credit Fee” means any of the fees described in clause (i) of Section 2.09(b).

“Letter of Credit Report” means a certificate substantially the form of Exhibit I or any other form approved by the Administrative Agent.

“Letter of Credit Sublimit” means the lesser of (a) ONE HUNDRED MILLION DOLLARS (\$100,000,000) and (b) the Aggregate Commitments; provided that, with respect to each of Bank of America, JPMorgan, HSBC and Mizuho, in its capacity as an L/C Issuer, such L/C Issuer shall not be obligated to issue Letters of Credit in an amount greater than the amount set forth as its “Letter of Credit Commitment” on Schedule 2.01. The Letter of Credit Sublimit is part of, and not in addition to, the Aggregate Commitments.

“Lien” means any mortgage, pledge, hypothecation, assignment, deposit arrangement, encumbrance, lien (statutory or other), charge, or preference, priority or other security interest or preferential arrangement of any kind or nature whatsoever (including any conditional sale or other title retention agreement, and any financing lease having substantially the same economic effect as any of the foregoing).

“Loan” means an extension of credit by a Lender to a Borrower under Article II in the form of a Committed Loan or a Swing Line Loan.

“Loan Documents” means this Agreement, each Note, each Designated Borrower Request and Assumption Agreement, each Issuer Document, each Designated Borrower Joinder Agreement, the Administrative Agent Fee Letter, any Incremental Facility Amendment and any agreement creating or perfecting rights in Cash Collateral pursuant to the provisions of Section 2.16.

“Loan Obligations” means Committed Loans, L/C Obligations and Swing Line Loans.

“Material Adverse Effect” means a material adverse change in, or a material adverse effect upon, (a) the operations, business, properties, liabilities (actual or contingent) or financial condition of the Consolidated Group taken as a whole; (b) the ability of any Borrower to perform its material obligations under any Loan Document to which it is a party; or (c) the legality, validity, binding effect or enforceability against any Borrower of any Loan Document to which it is a party.

“Maturity Date” means the later of (a) October 28, 2027 and (b) if maturity is extended pursuant to Section 2.15, such extended maturity date as determined pursuant to such Section; provided, however that, in each case, if such date is not a Business Day, the Maturity Date shall be the next preceding Business Day.

“Maximum Rate” has the meaning specified in Section 11.10.

“Minimum Collateral Amount” means, at any time, (a) with respect to Cash Collateral consisting of cash or deposit account balances provided to reduce or eliminate Fronting Exposure during the existence of a Defaulting Lender, an amount equal to 100% of the Fronting Exposure of the L/C Issuer with respect to Letters of Credit issued and outstanding at such time, (b) with respect to Cash Collateral consisting of cash or deposit account balances provided in accordance with the provisions of Section 2.16(a)(i), (a)(ii) or (a)(iii), an amount equal to 100% of the Outstanding Amount of all L/C Obligations, and (c) otherwise, an amount determined by the Administrative Agent and the L/C Issuer in their sole discretion.

“Mizuho” means Mizuho Bank, Ltd., and its successors.

“Moody’s” means Moody’s Investors Service, Inc. and any successor thereto.

“Multiemployer Plan” means any employee benefit plan of the type described in Section 4001(a)(3) of ERISA, to which the Company or any ERISA Affiliate makes or is obligated to make contributions, or during the preceding five plan years, has made or been obligated to make contributions.

“Non-Domestic Borrowers” means the Belgian Borrower and each Designated Borrower that is not a Domestic Borrower, and “Non-Domestic Borrower” means any one of the Non-Domestic Borrowers.

“Non-Extending Lender” has the meaning specified in Section 2.15.

“Non-Extension Notice Date” has the meaning specified in Section 2.03(b).

“Note” means a promissory note made by a Borrower in favor of a Lender evidencing Loans made by such Lender, substantially in the form of Exhibit C.

“Notice Date” has the meaning specified in Section 2.15.

“Obligations” means, without duplication, (i) the Loan Obligations and (ii) all advances to, and debts, liabilities, obligations, covenants and duties of, any Borrower arising under any Loan Document or otherwise with respect to any Loan or Letter of Credit, whether direct or indirect (including those acquired by assumption), absolute or contingent, due or to become due, now existing or hereafter arising and including interest and fees that accrue after the commencement by or against any Borrower or any Affiliate thereof of any proceeding under any Debtor Relief Laws naming a member of the Consolidated Group as the debtor in such proceeding, regardless of whether such interest and fees are allowed claims in such proceeding.

“OFAC” means the Office of Foreign Assets Control of the United States Department of the Treasury.

“Organization Documents” means, (a) with respect to any corporation, the certificate or articles of incorporation and the bylaws (or equivalent or comparable constitutive documents with respect to any non-U.S. jurisdiction); (b) with respect to any limited liability company, the certificate or articles of formation or organization and operating agreement; and (c) with respect to any partnership, joint venture, trust or other form of business entity, the partnership, joint venture or other applicable agreement of formation or organization and any agreement, instrument, filing or notice with respect thereto filed in connection with its formation or organization with the applicable Governmental Authority in the jurisdiction of its formation or organization and, if applicable, any certificate or articles of formation or organization of such entity.

“Other Connection Taxes” means, with respect to any Lender or Administrative Agent, Taxes imposed as a result of a present or former connection between such Lender or Administrative Agent and the jurisdiction imposing such Tax (other than connections arising from such Lender or Administrative Agent having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan or Loan Document).

“Other Taxes” has the meaning specified in Section 3.01(b).

“Outstanding Amount” means (i) with respect to Committed Loans and Swing Line Loans on any date, the aggregate outstanding principal Dollar Equivalent thereof after giving effect to any borrowings and prepayments or repayments of Committed Loans and Swing Line Loans, as the case may be, occurring on such date; and (ii) with respect to any L/C Obligations on any date, the Dollar Equivalent of such L/C Obligations on such date after giving effect to any L/C Credit Extension occurring on such date and any other changes in the aggregate amount of the L/C Obligations as of such date, including as a result of any reimbursements of outstanding unpaid drawings under any Letters of Credit or any reductions in the maximum amount available for drawing under Letters of Credit taking effect on such date.

“Overnight Rate” means, for any day, (a) with respect to any amount denominated in Dollars, the greater of (i) the Federal Funds Rate and (ii) an overnight rate determined by the Administrative Agent, the L/C Issuer, or the Swing Line Lender, as the case may be, in accordance with banking industry rules on interbank compensation, and (b) with respect to any amount denominated in an Alternative Currency,

an overnight rate determined by the Administrative Agent or L/C Issuer, as the case may be, in accordance with banking industry rules on interbank compensation.

“Participant” has the meaning specified in Section 11.07(d).

“Participant Register” has the meaning specified in Section 11.07(d).

“Participating Member State” means any member state of the European Union that has the Euro as its lawful currency in accordance with the legislation of the European Union relating to Economic and Monetary Union.

“PBGC” means the Pension Benefit Guaranty Corporation.

“Pension Plan” means any “employee pension benefit plan” (as such term is defined in Section 3(2) of ERISA), other than a Multiemployer Plan, that is subject to Title IV of ERISA and is sponsored or maintained by the Company or any ERISA Affiliate or to which the Company or any ERISA Affiliate contributes or has an obligation to contribute, or in the case of a multiple employer or other plan described in Section 4064(a) of ERISA, has made contributions at any time during the immediately preceding five plan years.

“Person” means any natural person, corporation, limited liability company, trust, joint venture, association, company, partnership, Governmental Authority or other entity.

“PILOT Transaction” means a transaction or series of related transactions involving members of the Consolidated Group and any Governmental Authority in which:

(a) the Governmental Authority has or acquires fee title to, or a ground lease, base lease or similar interest in, property and leases or subleases such property to any member of the Consolidated Group under a capital lease (or a Synthetic Lease treated as if it were a capital lease) (herein a “PILOT-Related Capital Lease”);

(b) the Governmental Authority finances or funds its costs associated with the acquisition, construction, equipping, furnishing, installation, renovation, rehabilitation or other improvement of the property so held through funds provided by any member of the Consolidated Group, whether through: (i) the issuance of one or more lease revenue bonds registered in the name of such member of the Consolidated Group (“Member-Held LRBs”) and payable from lease rental payments to be made by that or any other member of the Consolidated Group under a PILOT-Related Capital Lease or (ii) any other form of funding agreement executed between the Governmental Authority and any member of the Consolidated Group;

(c) the lease rental payments under the PILOT-Related Capital Lease are either nominal or are pledged to and used to pay, or constitute the payment of, either or both: (i) principal of and interest on any Member-Held LRBs, and (ii) any ground rent or similar payments by the Governmental Authority required under any applicable ground lease, base lease or similar instrument;

(d) the PILOT-Related Capital Lease, or a separate option agreement in any form or instrument, grants to any member of the Consolidated Group the option to acquire fee title to such property for a nominal sum; and

(e) the Governmental Authority provides or facilitates a tax or other financial benefit to any member of the Consolidated Group including, without limitation, a property tax, sales tax or income tax benefit to any such member of the Consolidated Group (whether or not any

member of the Consolidated Group, or a tenant of any such member, is required to make any payments whatsoever in lieu of all or a portion of such tax or other financial benefit).

“Plan” means any “employee benefit plan” (as such term is defined in Section 3(3) of ERISA) established by the Company or, with respect to any such plan that is subject to Section 412 of the Internal Revenue Code or Title IV of ERISA, any ERISA Affiliate.

“Platform” has the meaning specified in Section 7.02.

“Pro Forma Basis” means, for purposes of determining compliance with the financial covenant hereunder, that the subject Acquisition or Disposition and any related incurrence or discharge of Indebtedness shall be deemed to have occurred as of the first day of the period of four consecutive fiscal quarters ending as of the end of the most recent fiscal quarter for which annual or quarterly financial statements shall have been delivered in accordance with the provisions hereof. Further, for purposes of making calculations on a “Pro Forma Basis” hereunder, (a) income statement items (whether positive or negative) attributable to the property, entities or business units that are the subject of the subject Acquisition or Disposition shall be included (or in the case of Dispositions, excluded) to the extent relating to any period prior to the date of subject transaction, and (b) Indebtedness incurred or, in the case of a Disposition, discharged in connection with the subject Acquisition or Disposition shall be deemed to have been incurred or, in the case of a Disposition, discharged as of the first day of the applicable period (and interest expense shall be imputed for the applicable period assuming prevailing interest rates hereunder or excluded based on actual interest accrued in accordance with GAAP).

“Pro Rata Share” means with respect to each Lender, a fraction (expressed as percentage, carried out to the ninth decimal place), the numerator of which is the amount of the Commitment of such Lender at such time and the denominator of which is the amount of the Aggregate Commitments at such time; provided that if the Commitments shall have expired or shall have been terminated pursuant to Section 9.02, then the Pro Rata Share of each Lender shall be determined based on the Pro Rata Share of such Lender immediately prior to such expiration or termination and after giving effect to any subsequent assignments made pursuant to the terms hereof. The initial Pro Rata Shares of each Lender is set forth as such on Schedule 2.01. The Pro Rata Shares shall be subject to adjustment as provided in Section 2.17.

“PTE” means a prohibited transaction class exemption issued by the U.S. Department of Labor, as any such exemption may be amended from time to time.

“Public Lender” has the meaning specified in Section 7.02.

“Rate Determination Date” means, with respect to an Interest Period, two Business Days prior to the commencement of such Interest Period (or such other day as is generally treated as the rate fixing day by market practice in such interbank market, as determined by the Administrative Agent; provided that to the extent such market practice is not administratively feasible for the Administrative Agent, such other day as otherwise reasonably determined by the Administrative Agent).

“Register” has the meaning specified in Section 11.07(c).

“Related Indemnitee” of an Indemnitee means (i) any controlling Person or controlled affiliate of such Indemnitee, (ii) the respective directors, officers or employees of such Indemnitee or any of its controlling Persons or controlled affiliates and (iii) the respective agents of such Indemnitee or any of its controlling Persons or controlled affiliates, in the case of this clause (iii), acting on behalf of, or at the express instructions of, such Indemnitee, controlling Person or such controlled affiliate; provided that each reference to a controlling Person, controlled affiliate, director, officer or employee in this definition pertains solely to a controlling Person, controlled affiliate, director, officer or employee involved in the negotiation or syndication of this Agreement.

“Related Parties” means, with respect to any Person, such Person’s Affiliates and the partners, directors, officers, employees, agents, trustees, administrators, managers, representatives and advisors of such Person and of such Person’s Affiliates.

“Relevant Rate” means with respect to any Credit Extension denominated in (a) Dollars, Term SOFR or the Term SOFR Daily Floating Rate, (b) British Pounds Sterling, SONIA, (c) Euro, EURIBOR, (d) Canadian Dollars, the CDOR Rate, (e) Japanese Yen, TIBOR, and (f) Australian Dollars, BBSY, as applicable.

“Reportable Event” means any of the events set forth in Section 4043(c) of ERISA, other than events for which the thirty-day notice period has been waived.

“Request for Credit Extension” means (a) with respect to a Borrowing, conversion or continuation of Committed Loans, a Committed Loan Notice, (b) with respect to an L/C Credit Extension, a Letter of Credit Application, and (c) with respect to a Swing Line Loan, a Swing Line Loan Notice.

“Required Lenders” means, as of any date of determination, Lenders holding in the aggregate more than fifty percent (50%) of (a) the Aggregate Commitments or (b) if the commitment of each Lender to make Loans and the obligation of the L/C Issuer to make L/C Credit Extensions have been terminated pursuant to Section 9.02, Lenders holding in the aggregate more than 50% of the Obligations (including, in each case, the aggregate amount of each Lender’s risk participation and funded participation in L/C Obligations and Swing Line Loans). The Commitment of, and the portion of the Obligations held or deemed held by, any Defaulting Lender shall be excluded for purposes of making a determination of Required Lenders; provided that, the amount of any participation in any Swing Line Loan and Unreimbursed Amounts that such Defaulting Lender has failed to fund that have not been reallocated to and funded by another Lender shall be deemed to be held by the Lender that is the Swing Line Lender or L/C Issuer, as the case may be, in making such determination.

“Rescindable Amount” has the meaning specified in Section 2.12(b)(ii).

“Resolution Authority” means an EEA Resolution Authority or, with respect to any UK Financial Institution, a UK Resolution Authority.

“Responsible Officer” means the chief executive officer, president, chief financial officer, treasurer or assistant treasurer of a Borrower and, solely for purposes of the delivery of incumbency certificates pursuant to Section 5.01, the secretary or any assistant secretary of a Borrower and, solely for purposes of notices given pursuant to Article II, any of the foregoing officers and any other officer of the applicable Borrower so designated by any of the foregoing officers in a notice to the Administrative Agent or any other officer or employee of the applicable Borrower designated in or pursuant to an agreement between the applicable Borrower and the Administrative Agent. Any document delivered hereunder that is signed by a Responsible Officer of a Borrower shall be conclusively presumed to have been authorized by all necessary corporate, partnership and/or other action on the part of such Borrower and such Responsible Officer shall be conclusively presumed to have acted on behalf of such Borrower.

“Revaluation Date” means each of the following: (a) with respect to any Loan, each of the following (i) each date of a Borrowing of an Alternative Currency Loan, (ii) each date of a continuation of an Alternative Currency Term Rate Loan pursuant to Section 2.02, (iii) with respect to an Alternative Currency Daily Rate Loan, each Interest Payment Date, and (iv) such additional dates as the Administrative Agent shall reasonably determine or the Required Lenders shall reasonably require; and (b) with respect to any Letter of Credit, each of the following: (i) each date of issuance of a Letter of Credit denominated in an Alternative Currency, (ii) each date of an amendment of any such Letter of Credit having the effect of increasing the amount thereof (solely with respect to the increased amount), (iii) each date of any payment by the L/C Issuer under any Letter of Credit denominated in an Alternative

Currency, and (iv) such additional dates as the Administrative Agent or the L/C Issuer shall reasonably determine or the Required Lenders shall reasonably require.

“S&P” means Standard & Poor’s Financial Services LLC, a subsidiary of S&P Global Inc., and any successor thereto.

“Sale and Leaseback Transaction” means, with respect to the Company or any Subsidiary, any arrangement, directly or indirectly, with any Person whereby the Company or such Subsidiary shall sell or transfer any property, real or personal, used or useful in its business, whether now owned or hereafter acquired, and thereafter rent or lease such property or other property that it intends to use for substantially the same purpose or purposes as the property being sold or transferred.

“Same Day Funds” means (a) with respect to disbursements and payments in Dollars, immediately available funds, and (b) with respect to disbursements and payments in an Alternative Currency, same day or other funds as may be determined by the Administrative Agent or the L/C Issuer, as the case may be, to be customary in the place of disbursement or payment for the settlement of international banking transactions in the relevant Alternative Currency.

“Sanction(s)” means any international economic sanction administered or enforced by the United States Government (including without limitation, OFAC), the United Nations Security Council, the European Union, His Majesty’s Treasury or other relevant sanctions authority.

“Scheduled Relevant Rate Unavailability Date” has the meaning specified in Section 3.03(c).

“Scheduled Term SOFR Unavailability Date” has the meaning specified in Section 3.03(b).

“SEC” means the Securities and Exchange Commission, or any Governmental Authority succeeding to any of its principal functions.

“Securitization Transaction” means any financing or factoring transaction (or series of such transactions) that has been or may be entered into by a member of the Consolidated Group pursuant to which such member of the Consolidated Group may sell, convey or otherwise transfer, or may grant a security interest in, any accounts receivable, payment intangibles, notes receivable, rights to future lease payments or residuals or other similar rights to payment to a special purpose Subsidiary or Affiliate of such Person.

“Security” means all capital stock, voting trust certificates, bonds, debentures, instruments and other evidence of Indebtedness, whether or not secured, convertible or subordinated, all certificates of interest, share or participation in, all certificates for the acquisition of, and all warrants, options and other rights to acquire, any Security.

“SOFR” means the Secured Overnight Financing Rate as administered by the Federal Reserve Bank of New York (or a successor administrator).

“SOFR Adjustment” means 0.10% (10 basis points).

“Solvent” means, with respect to any Person as of a particular date, after giving full effect to rights of contribution against or reimbursement from other Persons under applicable Law or any Contractual Obligation, that on such date (a) such Person is able to pay its debts and other liabilities, contingent obligations and other commitments as they mature in the normal course of business, (b) such Person does not intend to, and does not believe that it will, incur debts or liabilities beyond such Person’s ability to pay as such debts and liabilities mature in their ordinary course, (c) such Person is not engaged in a business or a transaction, and is not about to engage in a business or a transaction, for which such Person’s assets would constitute unreasonably small capital after giving due consideration to the prevailing practice in the industry in which such Person is engaged or is to engage, (d) the fair value of the assets of such Person is greater than the total amount of liabilities, including, without limitation, contingent liabilities, of such Person, which for this purpose shall include rights of contribution in respect of obligations for which such Person has provided a guarantee and (e) the present fair saleable value of the assets of such Person is not less than the amount that will be required to pay the probable liability of such Person on its debts as they become absolute and matured, which for this purpose shall include rights of contribution in respect of obligations for which such Person has provided a guarantee. In computing the amount of contingent liabilities at any time, it is intended that such liabilities will be computed at the amount which, in light of all the facts and circumstances existing at such time, represents the amount that can reasonably be expected to become an actual or matured liability reduced by the amount of any contribution or indemnity that can reasonably be expected to be received.

“SONIA” means, with respect to any applicable determination date, the Sterling Overnight Index Average Reference Rate published on the fifth (5th) Business Day preceding such date on the applicable Reuters screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time); provided however that if such determination date is not a Business Day, SONIA means such rate that applied on the first Business Day immediately prior thereto.

“Special Notice Currency” means at any time an Alternative Currency, other than the currency of a country that is a member of the Organization for Economic Cooperation and Development at such time located in North America or Europe.

“Subsidiary” of a Person means a corporation, partnership, joint venture, limited liability company or other business entity of which a majority of the shares or other interests having ordinary voting power for the election of directors or other governing body (other than shares or interests having such power only by reason of the happening of a contingency) are at the time beneficially owned, or the management of which is otherwise controlled, directly, or indirectly through one or more intermediaries, or both, by such Person. Unless otherwise specified, all references herein to a “Subsidiary” or to “Subsidiaries” shall refer to a Subsidiary or Subsidiaries of the Company.

“Successor Rate” means a Successor Term SOFR Rate or Successor Relevant Rate, as the context may require.

“Successor Relevant Rate” has the meaning specified in Section 3.03(c).

“Successor Term SOFR Rate” has the meaning specified in Section 3.03(b).

“Supported QFC” has the meaning specified in Section 11.25.

“Swap Contract” means (a) any and all rate swap transactions, basis swaps, credit derivative transactions, forward rate transactions, commodity swaps, commodity options, forward commodity contracts, equity or equity index swaps or options, bond or bond price or bond index swaps, options or forward bond or forward bond price or forward bond index transactions, interest rate options, forward foreign exchange transactions, cap transactions, floor transactions, collar transactions, currency swap

transactions, cross-currency rate swap transactions, currency options, spot contracts or any other similar transactions or any combination of any of the foregoing (including any options to enter into any of the foregoing), whether or not any such transaction is governed by or subject to any master agreement, and (b) any and all transactions of any kind, and the related confirmations, that are subject to the terms and conditions of, or governed by, any form of master agreement published by the International Swaps and Derivatives Association, Inc., any International Foreign Exchange Master Agreement, or any other master agreement (any such master agreement, together with any related schedules, a “Master Agreement”), including any such obligations or liabilities under any Master Agreement.

“Swap Termination Value” means, in respect of any one or more Swap Contracts, after taking into account the effect of any legally enforceable netting agreement relating to such Swap Contracts, (a) for any date on or after the date such Swap Contracts have been closed out and termination value(s) determined in accordance therewith, such termination value(s), and (b) for any date prior to the date referenced in clause (a), the amount(s) determined as the mark-to-market value(s) for such Swap Contracts, as determined based upon one or more mid-market or other readily available quotations provided by any recognized dealer in such Swap Contracts (which may include a Lender or any Affiliate of a Lender).

“Swing Line Borrowing” means a borrowing of a Swing Line Loan pursuant to Section 2.04.

“Swing Line Lender” means Bank of America in its capacity as provider of Swing Line Loans, or any successor swing line lender hereunder.

“Swing Line Loan” has the meaning specified in Section 2.04(a).

“Swing Line Loan Notice” means a notice of a Swing Line Borrowing pursuant to Section 2.04(b), which shall be substantially in the form of Exhibit B or such other form as approved by the Administrative Agent (including any form on an electronic platform or electronic transmission system as shall be approved by the Administrative Agent pursuant), appropriately completed and signed by a Responsible Officer of the applicable Domestic Borrower.

“Swing Line Sublimit” means the lesser of (a) ONE HUNDRED FIFTY MILLION DOLLARS (\$150,000,000) and (b) the Aggregate Commitments. The Swing Line Sublimit is a part of, and not in addition to, the Aggregate Commitments.

“Synthetic Lease” means any synthetic, tax retention operating lease, off-balance sheet loan or similar off-balance sheet financing product where such transaction is considered borrowed money indebtedness for tax purposes but is classified as an operating lease under GAAP.

“TARGET2” means the Trans-European Automated Real-time Gross Settlement Express Transfer payment system which utilizes a single shared platform and which was launched on November 19, 2007.

“TARGET Day” means any day on which TARGET2 (or, if such payment system ceases to be operative, such other payment system, if any, determined by the Administrative Agent to be a suitable replacement) is open for the settlement of payments in Euro.

“Taxes” means all present or future taxes, duties, levies, imposts, deductions, assessments, fees, withholdings (including backup withholding) or similar charges imposed by any Governmental Authority, including any interest, penalties, and liabilities with respect thereto.

“Term SOFR” means:

(f) for any Interest Period with respect to a Term SOFR Loan, the rate per annum equal to the Term SOFR Screen Rate two U.S. Government Securities Business Days prior to the commencement of such Interest Period with a term equivalent to such Interest Period; provided that if the rate is not published prior to 11:00 a.m. on such determination date then Term SOFR means the Term SOFR Screen Rate on the first U.S. Government Securities Business Day immediately prior thereto, in each case, plus the SOFR Adjustment for such Interest Period; and

(g) for any interest calculation with respect to a Base Rate Loan on any date, the rate per annum equal to the Term SOFR Screen Rate with a term of one month commencing that day;

provided that if the Term SOFR determined in accordance with either of the foregoing provisions (a) or (b) of this definition would otherwise be less than zero, the Term SOFR shall be deemed to be zero for purposes of this Agreement.

“Term SOFR Daily Floating Rate” means for any interest calculation with respect to a Term SOFR Daily Floating Rate Loan on any date, a fluctuating rate of interest, which can change on each Business Day, equal to the Term SOFR Screen Rate, two U.S. Government Securities Business Days prior to such day, with a term equivalent to one month beginning on that date; provided, that if the rate is not published prior to 11:00 A.M. on such determination date then the Term SOFR Daily Floating Rate means the Term SOFR Screen Rate on the first U.S. Government Securities Business Day immediately prior thereto, in each case, plus the SOFR Adjustment; provided, further, that, if the Term SOFR Daily Floating Rate shall be less than zero, such rate shall be deemed zero for purposes of this Agreement.

“Term SOFR Daily Floating Rate Loans” means a Loan that bears interest based on the Term SOFR Daily Floating Rate. All Term SOFR Daily Floating Rate Loans shall be denominated in Dollars.

“Term SOFR Loan” means a Loan that bears interest at a rate based on clause (a) of the definition of Term SOFR. All Term SOFR Loans shall be denominated in Dollars.

“Term SOFR Screen Rate” means the forward-looking SOFR term rate administered by CME (or any successor administrator satisfactory to the Agent) and published on the applicable Reuters screen page (or such other commercially available source providing such quotations as may be designated by the Agent from time to time).

“Threshold Amount” means ONE HUNDRED MILLION DOLLARS (\$100,000,000).

“Type” means, with respect to a Committed Loan, its character as a Base Rate Loan, a Term SOFR Loan, a Term SOFR Daily Floating Rate Loan, an Alternative Currency Daily Rate Loan or an Alternative Currency Term Rate Loan.

“UCP” means, with respect to any Letter of Credit, the Uniform Customs and Practice for Documentary Credits, International Chamber of Commerce (“ICC”) Publication No. 600 (or such later version thereof as may be in effect at the time of issuance).

“UK Financial Institution” means any BRRD Undertaking (as such term is defined under the PRA Rulebook (as amended from time to time) promulgated by the United Kingdom Prudential Regulation Authority) or any person subject to IFPRU 11.6 of the FCA Handbook (as amended from time to time) promulgated by the United Kingdom Financial Conduct Authority, which includes certain credit institutions and investment firms, and certain affiliates of such credit institutions or investment firms.

“UK Resolution Authority” means the Bank of England or any other public administrative authority having responsibility for the resolution of any UK Financial Institution.

“Unfunded Pension Liability” means, the excess of a Pension Plan’s benefit liabilities under Section 4001(a)(16) of ERISA, over the current value of that Pension Plan’s assets, determined as of the date of the most recently completed actuarial valuation report for that Pension Plan in accordance with the assumptions used for funding the Pension Plan pursuant to Section 412 of the Internal Revenue Code.

“United States” and “U.S.” mean the United States of America.

“Unreimbursed Amount” has the meaning specified in Section 2.03(c)(i).

“Unrestricted Cash” means, at any time, cash and cash equivalents owned at such time by any member of the Consolidated Group, determined on a consolidated basis in accordance with GAAP; provided that such cash and cash equivalents do not appear (and in accordance with GAAP would not be required to appear) as “restricted” on the consolidated balance sheet of the Consolidated Group prepared as of such time in accordance with GAAP.

“U.S. Government Securities Business Day” means any Business Day, except any Business Day on which any of the Securities Industry and Financial Markets Association, the New York Stock Exchange or the Federal Reserve Bank of New York is not open for business because such day is a legal holiday under the federal laws of the United States or the laws of the State of New York, as applicable.

“U.S. Person” has the meaning specified in Section 11.15(a).

“U.S. Special Resolution Regimes” has the meaning specified in Section 11.25.

“Write-Down and Conversion Powers” means (a) with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule and (b) with respect to the United Kingdom, any powers of the applicable Resolution Authority under the Bail-In Legislation to cancel, reduce, modify or change the form of a liability of any UK Financial Institution or any contract or instrument under which that liability arises, to convert all or part of that liability into shares, securities or obligations of that person or any other person, to provide that any such contract or instrument is to have effect as if a right had been exercised under it or to suspend any obligation in respect of that liability or any of the powers under that Bail-In Legislation that are related to or ancillary to any of those powers.

1.02 Other Interpretive Provisions.

With reference to this Agreement and each other Loan Document, unless otherwise specified herein or in such other Loan Document:

(a) The meanings of defined terms are equally applicable to the singular and plural forms of the defined terms.

(b) (i) The words “herein,” “hereto,” “hereof” and “hereunder” and words of similar import when used in any Loan Document shall refer to such Loan Document as a whole and not to any particular provision thereof.

(ii) Article, Section, Exhibit and Schedule references are to the Loan Document in which such reference appears unless otherwise expressly referenced.

(iii) The term “including” is by way of example and not limitation.

(iv) The term “documents” includes any and all instruments, documents, agreements, certificates, notices, reports, financial statements and other writings, however evidenced, whether in physical or electronic form.

(c) In the computation of periods of time from a specified date to a later specified date, the word “from” means “from and including”; the words “to” and “until” each mean “to but excluding”; and the word “through” means “to and including.”

(d) Section headings herein and in the other Loan Documents are included for convenience of reference only and shall not affect the interpretation of this Agreement or any other Loan Document.

(e) Any reference herein to a merger, transfer, consolidation, amalgamation, assignment, sale, disposition or transfer, or similar term, shall be deemed to apply to a division of or by a limited liability company or other entity, or an allocation of assets to a series of a limited liability company or other entity (or the unwinding of such a division or allocation), as if it were a merger, transfer, consolidation, amalgamation, assignment, sale, disposition or transfer, or similar term, as applicable, to, of or with a separate Person. Any division of a limited liability company or other entity shall constitute a separate Person hereunder (and each division of any limited liability company or other entity that is a Subsidiary, joint venture or any other like term shall also constitute such a Person or entity).

1.03 Accounting Terms.

(a) All accounting terms not specifically or completely defined herein shall be construed in conformity with, and all financial data (including financial ratios and other financial calculations) required to be submitted pursuant to this Agreement shall be prepared in conformity with, GAAP applied on a consistent basis, except as otherwise specifically prescribed herein. Notwithstanding the foregoing, for purposes of determining compliance with any covenant (including the computation of any financial covenant) contained herein, (i) Funded Debt of the Company and its Subsidiaries shall be deemed to be carried at 100% of the outstanding principal amount thereof, and the effects of FASB ASC 825 on financial liabilities shall be disregarded and (ii) any lease that is characterized as an operating lease in accordance with GAAP after the Company’s adoption of ASC 842 (regardless of the date on which such lease has been entered into) shall not be a capital or finance lease, and any such lease shall be, for all purposes of this Agreement, treated as though it were reflected on the Company’s consolidated financial statements in the same manner as an operating lease would have been reflected prior to Company’s adoption of ASC 842.

(b) At the Company’s election, determinations of compliance with the financial covenant hereunder may be made on a Pro Forma Basis with respect to one or more Acquisitions, Dispositions of all of the equity interests of, or all or substantially all of the assets of, a Subsidiary or any Disposition of a line of business or a division of a Borrower or a Subsidiary, in each case, consummated after the Closing Date; provided that with respect to any such Acquisition or Disposition (i) the Company must elect to treat such Acquisition or Disposition on a Pro Forma Basis on or before the delivery of the Compliance Certificate relating to the first fiscal quarter period ending after the date of such Acquisition or Disposition, (ii) the Company must indicate such election on such Compliance Certificate and (iii) such election shall be irrevocable. Absent

the Company's election to treat an Acquisition or Disposition on a Pro Forma Basis in accordance with this subsection (b), determinations of compliance with the financial covenant hereunder shall not be made on a Pro Forma Basis with respect to such Acquisition or Disposition.

(c) The Company will provide a written summary of material changes in GAAP affecting the financial reporting of the Company or in the consistent application thereof by the Company with each annual and quarterly Compliance Certificate delivered in accordance with Section 7.02(b). If at any time any change in GAAP would affect the computation of any financial ratio or requirement set forth in any Loan Document, and either the Company or the Required Lenders shall so request, the Administrative Agent, the Lenders and the Company shall negotiate in good faith to amend such ratio or requirement to preserve the original intent thereof in light of such change in GAAP (subject to the approval of the Required Lenders); provided that, until so amended, (i) such ratio or requirement shall continue to be computed in accordance with GAAP prior to such change therein and (ii) the Company shall provide to the Administrative Agent and the Lenders financial statements and other documents required under this Agreement or as reasonably requested hereunder setting forth a reconciliation between calculations of such ratio or requirement made before and after giving effect to such change in GAAP.

1.04 Rounding.

Any financial ratios required to be maintained by the Company pursuant to this Agreement shall be calculated by dividing the appropriate component by the other component, carrying the result to one place more than the number of places by which such ratio is expressed herein and rounding the result up or down to the nearest number (with a rounding-up if there is no nearest number).

1.05 References to Agreements and Laws.

Unless otherwise expressly provided herein, (a) references to Organization Documents, agreements (including the Loan Documents) and other contractual instruments shall be deemed to include all subsequent amendments, restatements, extensions, supplements and other modifications thereto, but only to the extent that such amendments, restatements, extensions, supplements and other modifications are not prohibited by any Loan Document; and (b) references to any Law shall include all statutory and regulatory provisions consolidating, amending, replacing, supplementing or interpreting such Law.

1.06 Times of Day; Rates.

Unless otherwise specified, all references herein to times of day shall be references to New York time (Eastern daylight or standard, as applicable). The Administrative Agent does not warrant, nor accept responsibility, nor shall the Administrative Agent have any liability with respect to the administration, submission or any other matter related to any reference rate referred to herein or with respect to any rate (including, for the avoidance of doubt, the selection of such rate and any related spread or other adjustment) that is an alternative or replacement for or successor to any such rate (including, without limitation, any Successor Rate) (or any component of any of the foregoing) or the effect of any of the foregoing, or of any Conforming Changes. The Administrative Agent and its affiliates or other related entities may engage in transactions or other activities that affect any reference rate referred to herein, or any alternative, successor or replacement rate (including, without limitation, any Successor Rate) (or any component of any of the foregoing) or any related spread or other adjustments thereto, in each case, in a manner adverse to the Borrowers. The Administrative Agent may select information sources or services in its reasonable discretion to ascertain any reference rate referred to herein or any alternative, successor or replacement rate (including, without limitation, any Successor Rate) (or any component of any of the foregoing), in each case pursuant to the terms of this Agreement, and shall have no liability to the Borrowers, any Lender or any other person or entity for damages of any kind, including direct or indirect, special, punitive, incidental or consequential damages, costs, losses or expenses (whether in tort, contract

or otherwise and whether at law or in equity), for any error or other action or omission related to or affecting the selection, determination, or calculation of any rate (or component thereof) provided by any such information source or service.

1.07 Letter of Credit Amounts.

Unless otherwise specified herein, the amount of a Letter of Credit at any time shall be deemed to be the Dollar Equivalent of the stated amount of such Letter of Credit in effect at such time; provided, however, that with respect to any Letter of Credit that, by its terms or the terms of any Issuer Document related thereto, provides for one or more automatic increases in the stated amount thereof, the amount of such Letter of Credit shall be deemed to be the Dollar Equivalent of the maximum stated amount of such Letter of Credit after giving effect to all such increases, whether or not such maximum stated amount is in effect at such time.

1.08 Exchange Rates; Currency Equivalents.

(a) The Administrative Agent or the L/C Issuer, as applicable, shall determine the Dollar Equivalent amounts of Credit Extensions and Outstanding Amounts denominated in Alternative Currencies. Such Dollar Equivalent shall become effective as of such Revaluation Date and shall be the Dollar Equivalent amounts until the next Revaluation Date to occur. Except for purposes of financial statements delivered by the Company hereunder or calculating the financial covenant hereunder or except as otherwise provided herein, the applicable amount of any currency (other than Dollars) for purposes of the Loan Documents shall be such Dollar Equivalent amount as so determined by the Administrative Agent or the L/C Issuer, as applicable.

(b) Wherever in this Agreement in connection with a Borrowing, the conversion, continuation or prepayment of an Alternative Currency Loan or the issuance, amendment or extension of a Letter of Credit, an amount, such as a required minimum or multiple amount, is expressed in Dollars, but such Borrowing, Alternative Currency Loan or Letter of Credit is denominated in an Alternative Currency, such amount shall be the relevant Alternative Currency Equivalent of such Dollar amount (rounded to the nearest unit of such Alternative Currency, with 0.5 of a unit being rounded upward), as determined by the Administrative Agent or the L/C Issuer, as the case may be.

1.09 Additional Alternative Currencies.

(a) The Company may from time to time request that Alternative Currency Loans be made and/or Letters of Credit be issued in a currency other than those specifically listed in the definition of "Alternative Currency"; provided that such requested currency is lawful currency (other than Dollars) that is readily available and freely transferable and convertible into Dollars. In the case of any such request with respect to the making of Alternative Currency Loans, such request shall be subject to the approval of the Administrative Agent and the Lenders obligated to make Credit Extensions in such currency; and in the case of any such request with respect to the issuance of Letters of Credit, such request shall be subject to the approval of the Administrative Agent and the L/C Issuer.

(b) Any such request shall be made to the Administrative Agent not later than 12:00 noon twelve Business Days prior to the date of the desired Credit Extension (or such other time or date as may be agreed by the Administrative Agent, and in the case of any such request pertaining to Letters of Credit, the L/C Issuer, in its or their sole discretion). In the case of any such request pertaining to Alternative Currency Loans, the Administrative Agent shall promptly notify each Lender thereof; and in the case of any such request pertaining to Letters of Credit, the Administrative Agent shall promptly notify the L/C Issuer thereof. Each Lender (in the case of any such request pertaining to Alternative Currency Loans) or the L/C Issuer in the case of a request pertaining to Letters of Credit shall notify the Administrative Agent, not later than 12:00 noon ten Business Days after receipt of such request whether it consents, in its sole discretion, to the making of Alternative Currency Loans or the issuance of Letters of Credit, as the case may be, in such requested currency.

(c) Any failure by a Lender or the L/C Issuer, as the case may be, to respond to such request within the time period specified in the preceding sentence shall be deemed to be a refusal by such Lender or the L/C Issuer, as the case may be, to permit Alternative Currency Loans to be made or Letters of Credit to be issued in such requested currency. If the Administrative Agent and all the Lenders consent to making Alternative Currency Loans in such requested currency and the Administrative Agent and such Lenders reasonably determine that an appropriate interest rate is available to be used for such requested currency, the Administrative Agent shall so notify the Company and (i) the Administrative Agent and the Lenders may amend the definition Alternative Currency Daily Rate or Alternative Currency Term Rate to the extent necessary to add the applicable rate for such currency and any applicable adjustment for such rate and (ii) to the extent the definition of Alternative Currency Daily Rate or Alternative Currency Term Rate, as applicable, reflects the appropriate interest rate for such currency or has been amended to reflect the appropriate rate for such currency, such currency shall thereupon be deemed for all purposes to be an Alternative Currency for purposes of any Committed Borrowings of Alternative Currency Loans. If the Administrative Agent and the L/C Issuer consent to the issuance of Letters of Credit in such requested currency, the Administrative Agent shall so notify the Company and (x) the Administrative Agent and the L/C Issuer may amend the definition of Alternative Currency Daily Rate or Alternative Currency Term Rate, as applicable, to the extent necessary to add the applicable rate for such currency and any applicable adjustment for such rate and (y) to the extent the definition of Alternative Currency Daily Rate or Alternative Currency Term Rate, as applicable, has been amended to reflect the appropriate rate for such currency, such currency shall thereupon be deemed for all purposes to be an Alternative Currency for purposes of any Letter of Credit issuances. If the Administrative Agent shall fail to obtain consent to any request for an additional currency under this Section 1.09, the Administrative Agent shall promptly so notify the Company. Upon any Lender's refusal to make Committed Loans in the additional requested currency, the Company may replace such Lender in accordance with Section 11.16.

2.105 Redenomination of Certain Alternative Currencies; Change of Currency.

(a) Each obligation of the Borrowers to make a payment denominated in the national currency unit of any member state of the European Union that adopts the Euro as its lawful currency after the date hereof shall be redenominated into Euro at the time of such adoption. If, in relation to the currency of any such member state, the basis of accrual of interest expressed in this Agreement in respect of that currency shall be inconsistent with any convention or practice in the interbank market for the basis of accrual of interest in respect of the Euro, such expressed basis shall be replaced by such convention or practice with effect from the date on which such member state adopts the Euro as its lawful currency; provided that, if any Committed Borrowing in the currency of such member state is outstanding immediately prior to such date, such

replacement shall take effect, with respect to such Committed Borrowing, at the end of the then current Interest Period.

(b) Each provision of this Agreement shall be subject to such reasonable changes of construction as the Administrative Agent may from time to time specify to be appropriate to reflect the adoption of the Euro by any member state of the European Union and any relevant market conventions or practices relating to the Euro.

(c) Each provision of this Agreement also shall be subject to such reasonable changes of construction as the Administrative Agent may from time to time specify to be appropriate to reflect a change in currency of any other country and any relevant market conventions or practices relating to the change in currency.

2.16 Belgian Terms.

In this Agreement, where it relates to the Belgian Borrower, a reference to:

(a) a **liquidator, trustee in bankruptcy, receiver, administrative receiver, administrator, compulsory manager** or similar officer includes any *insolventiefunctionaris/praticien d'insolvabilité, curator/curateur, vereffenaar/liquidateur, gedelegeerd rechter/juge délégué, gerechtsmandataris/mandataire de justice, voorlopig bewindvoerder/administrateur provisoire, mandataris ad hoc/mandataire ad hoc, ondernemingsbemiddelaar/médiateur d'entreprise*, as applicable;

(b) a Person being **unable to pay its debts** is that Person being in a state of cessation of payments (*staking van betaling / cessation de paiements*);

(c) an **insolvency** shall be deemed to include a *gerechtelijke reorganisatie / réorganisation judiciaire, faillissement / faillite* and any other concurrence between creditors (*samenloop van schuldeisers / concours des créanciers*);

(d) a **moratorium or composition** shall be deemed to include any *gerechtelijke reorganisatie / réorganisation judiciaire*;

(e) **winding up, administration, liquidation or dissolution** includes any *vereffening / liquidation, ontbinding / dissolution, faillissement / faillite* and *sluiting van een onderneming / fermeture d'entreprise*;

(f) an **assignment or similar arrangement with any creditor** shall be deemed to include a *minnelijk akkoord met alle schuldeisers / accord amiable avec tous les créanciers*;

(g) an **attachment, sequestration, distress, execution** or analogous events shall be deemed to include any *uitvoerend beslag / saisie exécutoire* and *bewarend beslag / saisie conservatoire*;

(h) a **security interest or security** shall be deemed to include any mortgage (*hypotheek / hypothèque*), pledge (*pand / gage*), any mandate to grant a mortgage, a pledge or any other real security (*mandaat/mandat*), privilege (*voorrecht / privilège*), retention right (*eigendomsvoorbehoud / réserve de propriété*), any security *in rem* (*zakelijke zekerheid / sûreté réelle*) and any transfer by way of security (*overdracht ten titel van zekerheid / transfert à titre de garantie*) and, in general, any right *in rem* created for the purpose of granting security and any promise or mandate to create any of the security interest mentioned above;

(i) the **Belgian Companies and Associations Code** means the Belgian *Wetboek van vennootschappen en verenigingen/Code des sociétés et des associations* dated 23 March 2019, as amended from time to time;

(j) a company **organized under the laws of Belgium** or being **incorporated** in Belgium or of which its **jurisdiction of incorporation** is Belgium, means that such party has its statutory seat in Belgium; and

(k) a **subsidiary** shall be deemed to include a *dochtervennootschap / filiale* as defined in Article 1:15 of the Belgian Companies and Association Code.

2.15 Dutch Terms.

In this Agreement, where it relates to a Designated Borrower organized in the Netherlands (if any), (i) a “winding-up” includes a Dutch entity being dissolved (*ontbonden*), (ii) a “trustee in bankruptcy” includes a *curator*, (iii) an “administrator” includes a *bewindvoerder*, (iv) a “Lien” includes any mortgage (*hypothek*), pledge (*pandrecht*), right of retention (*recht van retentie*) and in general, any right in rem (*beperkt recht*), created for the purpose of granting security (*goederenrechtelijk zekerheidsrecht*), (v) a “bankers’ lien” includes any security of account holding banks arising under their general terms and conditions, and (vi) board of directors shall refer to the management board (*bestuur*) and a director shall refer to a member of the management board (*bestuurder*).

ARTICLE II.

THE COMMITMENTS AND CREDIT EXTENSIONS

11.01 Committed Loans.

(a) Committed Loans. Subject to the terms and conditions set forth herein, each Lender severally agrees to make loans (each such loan a “Committed Loan”) to the Borrowers in Dollars or Alternative Currencies from time to time on any Business Day during the Availability Period; provided that after giving effect to any such Committed Loan, (i) with regard to the Lenders collectively, the aggregate principal amount of Loan Obligations shall not exceed the Aggregate Commitments and (ii) with regard to each Lender individually, such Lender’s Pro Rata Share of the Loan Obligations plus, without duplication and if applicable, the aggregate Outstanding Amount of all Swing Line Loans advanced by such Lender in its capacity as Swing Line Lender, shall not exceed its Commitment. Committed Loans may consist of Base Rate Loans, Term SOFR Loans, Term SOFR Daily Floating Rate Loans, Alternative Currency Daily Rate Loans or Alternative Currency Term Rate Loans, or a combination thereof, as the applicable Borrower may request, and may be repaid and reborrowed in accordance with the provisions hereof.

(b) Increases of the Aggregate Commitments and Incremental Term Facilities. The Company shall have the right, upon at least fifteen Business Days’ prior written notice to the Administrative Agent but without the consent of the Required Lenders, to (i) add one or more tranches of term loans (any credit facility providing for any such term loans being referred to as an “Incremental Term Facility”) and/or (ii) increase the Aggregate Commitments, in an aggregate amount for such increases and requested term loans not to exceed \$500,000,000 in up to five (5) increases or term loans, at any time and from time to time after the Closing Date, subject, however, in any such case, to satisfaction of the following conditions precedent:

(i) the Aggregate Commitments plus the amount of any Incremental Term Facilities shall not exceed \$2,000,000,000 without the consent of the Required Lenders;

(ii) no Default shall have occurred and be continuing on the date on which such increase or requested term loan is to become effective;

(iii) the representations and warranties set forth in Article VI shall be true and correct in all material respects on and as of the date on which such increase or requested term loan is to become effective, except to the extent that such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct in all material respects as of such earlier date, and except that for purposes of this Section 2.01(b), the representations and warranties contained in subsections (a) and (b) of Section 6.05 shall be deemed to refer to the most recent statements furnished pursuant to clauses (a) and (b), respectively, of Section 7.01;

(iv) such increase or requested term loan shall be in a minimum amount of \$10,000,000 (or such lesser amount as agreed upon by the Company and the Administrative Agent) and in integral multiples of \$1,000,000 in excess thereof;

(v) the Administrative Agent shall have received (A) additional commitments in a corresponding amount of such requested increase or term loan from either existing Lenders and/or one or more other institutions that qualify as an Eligible Assignee (it being understood and agreed that no existing Lender shall be required to provide an additional commitment unless it agrees to do so in its sole discretion) and (B) documentation from each institution providing an additional commitment evidencing their commitment and their obligations under this Agreement in form and substance reasonably acceptable to the Administrative Agent;

(vi) the Administrative Agent shall have received all documents (including resolutions of the board of directors of the Borrowers) it may reasonably request relating to the corporate or other necessary authority for and the validity of such increase in the Aggregate Commitments or requested term loans, and any other matters relevant thereto, all in form and substance reasonably satisfactory to the Administrative Agent;

(vii) upon the reasonable request of any Lender providing an additional commitment made at least ten days prior to the effective date thereof, the Company shall have provided to such Lender the documentation and other information so requested in connection with applicable “know your customer” and anti-money-laundering rules and regulations, including the PATRIOT Act, in each case at least five days prior to the effective date for such increase or requested term loan;

(viii) at least five days prior to the effective date for such increase or requested term loan, if a Borrower qualifies as a “legal entity customer” under the Beneficial Ownership Regulation, such Borrower shall deliver a Beneficial Ownership Certification in relation to such Borrower;

(ix) such requested increase or term loan shall become effective on a date agreed by the Company and the Administrative Agent, and the Administrative Agent shall promptly notify the Lenders of such effective date;

(x) any Incremental Term Facility that constitutes additional term loans under a then existing tranche of term loans shall be made on the same terms and provisions (other than upfront fees) as apply to such outstanding term loans, including with respect to maturity date, interest rate and prepayment provisions, and shall not constitute a credit facility separate and apart from such term loans;

(xi) any Incremental Term Facility shall (A) have a maturity date that is no earlier than the Maturity Date for the Aggregate Commitments or the maturity date for any previously incurred Incremental Term Facility and (B) have a weighted average life to maturity that is no shorter than the weighted average life to maturity of any previously incurred Incremental Term Facility;

(xii) after giving effect to the incurrence of any Incremental Term Facility and any related transactions, on a Pro Forma Basis, the Borrowers shall be in compliance with the financial covenant set forth in Section 8.06; and

(xiii) if any Committed Loans are outstanding at the time of the requested increase in the Aggregate Commitments, each Borrower shall, if applicable, prepay one or more of such Borrower's existing Committed Loans (such prepayment to be subject to Section 3.05) in an amount necessary such that after giving effect to the increase in the Aggregate Commitments, each Lender will hold its pro rata share (based on its Pro Rata Share of the increased Aggregate Commitments) of outstanding Committed Loans.

Notwithstanding any provision in Section 11.01 to the contrary, each Incremental Term Facility shall be evidenced by an amendment (an "Incremental Facility Amendment") to this Agreement, giving effect to the modifications permitted by this Section 2.01(b), executed by the Borrowers, the Administrative Agent and each Lender providing a portion of the Incremental Term Facility which such amendment, when so executed, shall amend this Agreement as provided therein. Each Incremental Facility Amendment shall also require such amendments to the Loan Documents, and such other new Loan Documents, as the Administrative Agent reasonably deems necessary or appropriate to effect the modifications and credit extensions permitted by this Section 2.01(b) and, in each case, as agreed by the Company. Neither any Incremental Facility Amendment, nor any such amendments to the other Loan Documents or such other new Loan Documents, shall be required to be executed or approved by any Lender, other than the Lenders providing such Incremental Term Facility and the Borrowers and the Administrative Agent, in order to be effective. The effectiveness of any Incremental Facility Amendment shall be subject to the satisfaction on the date thereof of each of the conditions set forth above and such other conditions as requested by the Lenders under the Incremental Term Facility established in connection therewith.

3.02 Borrowings, Conversions and Continuations of Committed Loans.

(a) Each Committed Borrowing, each conversion of Committed Loans from one Type to the other, and each continuation of Term SOFR Loans or Alternative Currency Term Rate Loans shall be made upon the applicable Borrower's irrevocable notice to the Administrative Agent, which may be given by: (A) telephone or (B) a Committed Loan Notice; provided that any telephonic notice must be confirmed immediately by delivery to the Administrative Agent of a Committed Loan Notice. Each such Committed Loan Notice must be received by the Administrative Agent not later than 12:00 noon (i) in the case of Term SOFR

Loans, two Business Days prior to the requested date of any Committed Borrowing of, conversion to or continuation of Term SOFR Loans or of any conversion of Term SOFR Loans to Base Rate Loans or Term SOFR Daily Floating Rate Loans, (ii) in the case of Alternative Currency Loans, four Business Days (or five Business Days in the case of Special Notice Currency) prior to the requested date of any Committed Borrowing or, in the case of Alternative Currency Term Rate Loans, continuation and (iii) on the requested Business Day of any Committed Borrowing of Base Rate Loans or Term SOFR Daily Floating Rate Loans. Each Committed Borrowing of, conversion to or continuation of Term SOFR Loans, Term SOFR Daily Floating Rate Loans or Alternative Currency Loans, as applicable, shall be in a principal amount of \$5,000,000 or a whole multiple of \$1,000,000 in excess thereof. Except as provided in Sections 2.03(c) and 2.04(c), each Committed Borrowing of or conversion to Base Rate Loans shall be in a principal amount of \$1,000,000 or a whole multiple of \$500,000 in excess thereof. Each Committed Loan Notice shall specify (i) whether a Committed Borrowing, a conversion of Committed Loans from one Type to the other, or a continuation of Committed Loans is being requested, (ii) the requested date of the Committed Borrowing, conversion or continuation, as the case may be (which shall be a Business Day), (iii) the principal amount of Committed Loans to be borrowed, converted or continued, (iv) the Type of Committed Loans to be borrowed or to which existing Committed Loans are to be converted, (v) if applicable, the duration of the Interest Period with respect thereto, (vi) if applicable, the Alternative Currency requested with respect thereto and (vii) the applicable Borrower. If a Borrower fails to specify a currency in a Committed Loan Notice requesting a Borrowing, then the Committed Loans so requested shall be made in Dollars. If a Borrower fails to specify a Type of Committed Loan in a Committed Loan Notice or if a Borrower fails to give a timely notice requesting a conversion or continuation, then the applicable Committed Loans shall be made as, or converted to, Base Rate Loans on the last day of the Interest Period applicable thereto; provided, however, that in the case of a failure to timely request a continuation of Alternative Currency Term Rate Loans, such Loans shall be continued as Alternative Currency Term Rate Loans in their original currency with an Interest Period of one month. If a Borrower requests a Borrowing of, conversion to, or continuation of Term SOFR Loans or Alternative Currency Term Rate Loans in any such Committed Loan Notice, but fails to specify an Interest Period, it will be deemed to have specified an Interest Period of one month. No Committed Loan may be converted into or continued as a Committed Loan denominated in a different currency, but instead must be prepaid in the original currency of such Loan and reborrowed in the other currency.

(b) Following receipt of a Committed Loan Notice, the Administrative Agent shall promptly notify each Lender of the amount (and currency) of its Pro Rata Share of the applicable Committed Loans, and if no timely notice of a conversion or continuation is provided by a Borrower, the Administrative Agent shall notify each Lender of the details of any automatic conversion to Base Rate Loans or continuation of Term SOFR Loans or Alternative Currency Term Rate Loans, in each case as described in the preceding subsection. In the case of a Committed Borrowing, each Lender shall make the amount of its Committed Loan available to the Administrative Agent in Same Day Funds at the Administrative Agent's Office for the Applicable Currency not later than 1:00 p.m., in the case of any Committed Loan denominated in Dollars, and not later than the Applicable Time specified by the Administrative Agent in the case of any Committed Loan denominated in an Alternative Currency, in each case on the Business Day specified in the applicable Committed Loan Notice. Upon satisfaction of the applicable conditions set forth in Section 5.02 (and, if such Borrowing is the initial Credit Extension, Section 5.01), the Administrative Agent shall make all funds so received available to the applicable Borrower in like funds as received by the Administrative Agent either by (i) crediting the account of such Borrower on the books of Bank of America with the amount of such funds or (ii) wire transfer of such funds, in each case in accordance with instructions provided to (and reasonably acceptable to) the Administrative Agent by the applicable Borrower; provided, however, that, if, on the date any Committed Loan Notice with respect to a Committed Borrowing denominated in Dollars is given by any Domestic Borrower there are Swing Line Loans outstanding, such

Committed Borrowing shall be in an amount at least equal to the Outstanding Amount of all Swing Line Loans, and the proceeds of such Committed Borrowing shall be applied first to the payment in full of all outstanding Swing Line Loans, and second, shall be made available to the applicable Borrower as provided above; provided, further, that, if on such date there are also L/C Borrowings outstanding, then the proceeds of such Committed Borrowing (to the extent not otherwise applied to the payment of Swing Line Loans pursuant to the foregoing) shall next be applied to the payment in full of any such L/C Borrowings, and then shall be made available to the applicable Borrower as provided above.

(c) Except as otherwise provided herein, a Term SOFR Loan or an Alternative Currency Term Rate Loan may be continued or converted only on the last day of the Interest Period for such Loan. During the existence of a Default or Event of Default, (i) no Loans may be requested as or converted to Term SOFR Loans or Term SOFR Daily Floating Rate Loans, or continued as Term SOFR Loans and (ii) no Loans may be requested as, or converted to Alternative Currency Daily Rate Loans or converted to or continued as Alternative Currency Term Rate Loans, as applicable, in each case, without the consent of the Required Lenders, and the Required Lenders may demand that (A) any or all of the then outstanding Term SOFR Loans be converted to Base Rate Loans on the last day of the then applicable Interest Period, (B) any or all of the then outstanding Term SOFR Daily Floating Rate Loans be immediately converted to Base Rate Loans and (C) any or all of the then outstanding Alternative Currency Loans be prepaid, or redenominated into Dollars in the amount of the Dollar Equivalent thereof (and with respect to Alternative Currency Term Rate Loans, on the last day of the then current Interest Period with respect thereto).

(d) With respect to any Alternative Currency Daily Rate, any Alternative Currency Term Rate, SOFR, Term SOFR or the Term SOFR Daily Floating Rate, the Administrative Agent will have the right to make Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan Document, any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement or any other Loan Document; provided, that, with respect to any such amendment effected, the Administrative Agent shall post each such amendment implementing such Conforming Changes to the Company and the Lenders reasonably promptly after such amendment becomes effective.

(e) After giving effect to all Committed Borrowings, all conversions of Committed Loans from one Type to the other, and all continuations of Committed Loans as the same Type, there shall not be more than ten Interest Periods in effect with respect to Committed Loans.

(f) This Section 2.02 shall not apply to Swing Line Loans.

3.03 Letters of Credit.

(a) The Letter of Credit Commitment.

(i) Letter of Credit Commitment. Subject to the terms and conditions set forth herein,

(A) the L/C Issuer agrees, in reliance upon the agreements of the other Lenders set forth herein, (1) on any Business Day during the period from the Closing Date until the Letter of Credit Expiration Date, to issue Letters of Credit in Dollars or Alternative Currencies for the account of a Borrower or any of its Subsidiaries, and to amend or renew Letters of Credit previously issued by it, in accordance with the provisions hereof, and (2) to honor drafts under Letters of Credit, and

(B) the Lenders severally agree to participate in the Letters of Credit as provided herein;

provided that (x) the aggregate principal amount of L/C Obligations shall not exceed the Letter of Credit Sublimit, (x) with regard to the Lenders collectively, the aggregate principal amount of Loan Obligations shall not exceed the Aggregate Commitments and (y) with regard to each Lender individually, such Lender's Pro Rata Share of the Loan Obligations plus, without duplication and if applicable, the aggregate Outstanding Amount of all Swing Line Loans advanced by such Lender in its capacity as Swing Line Lender shall not exceed its Commitment. Subject to the terms and conditions hereof, the Borrowers' ability to obtain Letters of Credit shall be fully revolving and accordingly a Borrower may obtain Letters of Credit to replace Letters of Credit that have expired or that have been drawn upon and reimbursed.

(ii) The L/C Issuer shall be under no obligation to issue any Letter of Credit if:

(A) any order, judgment or decree of any Governmental Authority or arbitrator shall by its terms purport to enjoin or restrain the L/C Issuer from issuing such Letter of Credit, or any Law applicable to the L/C Issuer or any request or directive (whether or not having the force of law) from any Governmental Authority with jurisdiction over the L/C Issuer shall prohibit, or request that the L/C Issuer refrain from, the issuance of letters of credit generally or such Letter of Credit in particular or shall impose upon the L/C Issuer with respect to such Letter of Credit any restriction, reserve or capital requirement (for which the L/C Issuer is not otherwise compensated hereunder) not in effect on the Closing Date, or shall impose upon the L/C Issuer any unreimbursed loss, cost or expense that was not applicable on the Closing Date and that the L/C Issuer in good faith deems material to it;

(B) the issuance of such Letter of Credit would violate one or more policies of the L/C Issuer applicable to letters of credit generally;

(C) such Letter of Credit is in an initial amount less than \$25,000, in the case of a commercial Letter of Credit, or \$100,000, in the case of a standby Letter of Credit;

(D) except as otherwise agreed by the Administrative Agent and the L/C Issuer, such Letter of Credit is to be denominated in a currency other than Dollars or an Alternative Currency;

(E) the L/C Issuer does not as of the issuance date of such requested Letter of Credit issue Letters of Credit in the requested currency;

(F) any Lender is at that time a Defaulting Lender, unless the L/C Issuer has entered into arrangements, including the delivery of Cash Collateral, satisfactory to the L/C Issuer (in its sole discretion) with the Company (or the applicable Borrower) or such Lender to eliminate the L/C Issuer's actual or potential Fronting Exposure (after giving effect to Section 2.17(a)(iv)) with respect to the Defaulting Lender arising from either the Letter of Credit then proposed to be issued or that Letter of Credit and all other L/C Obligations as to which the L/C Issuer has actual or potential Fronting Exposure, as it may elect in its sole discretion; or

(G) the Letter of Credit contains any provisions for automatic reinstatement of the stated amount after any drawing thereunder.

(iii) The L/C Issuer shall not issue any Letter of Credit if:

(A) subject to Section 2.03(b)(iii), the expiry date of such requested Letter of Credit would occur more than twelve months after the date of issuance or last renewal, unless the Required Lenders have approved such expiry date; or

(B) the expiry date of such requested Letter of Credit would occur after the Letter of Credit Expiration Date, unless all of the Lenders have approved such expiry date.

(iv) The L/C Issuer shall be under no obligation to amend any Letter of Credit if (A) the L/C Issuer would have no obligation at such time to issue such Letter of Credit in its amended form under the terms hereof, or (B) the beneficiary of such Letter of Credit does not accept the proposed amendment to such Letter of Credit.

(v) The L/C Issuer shall not issue or amend any Letter of Credit if (A) one or more applicable conditions contained in Article V shall not then be satisfied and the L/C Issuer shall have received written notice thereof from any Lender, the Administrative Agent or any Borrower on or prior to the Business Day prior to the requested date of issuance or amendment of such Letter of Credit, or (B) the Commitments have been terminated pursuant to Section 9.02.

(vi) The L/C Issuer shall act on behalf of the Lenders with respect to any Letters of Credit issued by it and the documents associated therewith, and the L/C Issuer shall have all of the benefits and immunities (A) provided to the Administrative Agent in Article X with respect to any acts taken or omissions suffered by the L/C Issuer in connection with Letters of Credit issued by it or proposed to be issued by it and Issuer Documents pertaining to such Letters of Credit as fully as if the term "Administrative Agent" as used in Article X included the L/C Issuer with respect to such acts or omissions, and (B) as additionally provided herein with respect to the L/C Issuer.

(b) Procedures for Issuance and Amendment of Letters of Credit; Auto-Renewal Letters of Credit.

(i) Each Letter of Credit shall be issued or amended, as the case may be, upon the request of the Company or the applicable Borrower delivered to the L/C Issuer (with a copy to the Administrative Agent) in the form of a Letter of Credit Application, appropriately completed and signed by a Responsible Officer of the Company or such Borrower. Such Letter of Credit Application may be sent by facsimile, by United States mail, by overnight courier, by electronic transmission using the system provided by the

L/C Issuer, by personal delivery or by any other means reasonably acceptable to the L/C Issuer. Such Letter of Credit Application must be received by the L/C Issuer and the Administrative Agent not later than 12:00 noon at least two Business Days (or such later date and time as the Administrative Agent and the L/C Issuer may agree in a particular instance in their sole discretion) prior to the proposed issuance date or date of amendment, as the case may be. In the case of a request for an initial issuance of a Letter of Credit, such Letter of Credit Application shall specify in form and detail reasonably satisfactory to the L/C Issuer: (A) the proposed issuance date of the requested Letter of Credit (which shall be a Business Day); (B) the amount and currency thereof; (C) the expiry date thereof; (D) the name and address of the beneficiary thereof; (E) the documents to be presented by such beneficiary in case of any drawing thereunder; (F) the full text of any certificate to be presented by such beneficiary in case of any drawing thereunder; (G) the purpose and nature of the requested Letter of Credit; and (H) such other matters as the L/C Issuer may reasonably require. In the case of a request for an amendment of any outstanding Letter of Credit, such Letter of Credit Application shall specify in form and detail reasonably satisfactory to the L/C Issuer: (A) the Letter of Credit to be amended; (B) the proposed date of amendment thereof (which shall be a Business Day); (C) the nature of the proposed amendment; and (D) such other matters as the L/C Issuer may reasonably require. Additionally, the Company or the applicable Borrower shall furnish to the L/C Issuer and the Administrative Agent such other documents and information pertaining to such requested Letter of Credit issuance or amendment, including any Issuer Documents, as the L/C Issuer or the Administrative Agent may reasonably require.

(ii) Promptly after receipt of any Letter of Credit Application, the L/C Issuer will confirm with the Administrative Agent (by telephone or in writing) that the Administrative Agent has received a copy of such Letter of Credit Application from the Company or the applicable Borrower and, if not, the L/C Issuer will provide the Administrative Agent with a copy thereof. Unless the L/C Issuer has received written notice from any Lender, the Administrative Agent or any Borrower, at least one Business Day prior to the requested date of issuance or amendment of the applicable Letter of Credit, that one or more applicable conditions contained in Article V shall not then be satisfied, then, subject to the terms and conditions hereof, the L/C Issuer shall, on the requested date, issue a Letter of Credit for the account of the applicable Borrower or enter into the applicable amendment, as the case may be, in each case in accordance with the L/C Issuer's usual and customary business practices. Immediately upon the issuance of each Letter of Credit, each Lender shall be deemed to, and hereby irrevocably and unconditionally agrees to, purchase from the L/C Issuer a risk participation in such Letter of Credit in an amount equal to the product of such Lender's Pro Rata Share times the amount of such Letter of Credit.

(iii) If the Company or the applicable Borrower so requests in any applicable Letter of Credit Application, the L/C Issuer may, in its sole and absolute discretion, agree to issue a Letter of Credit that has automatic extension provisions (each, an "Auto-Extension Letter of Credit"); provided that any such Auto-Extension Letter of Credit must permit the L/C Issuer to prevent any such extension at least once in each twelve-month period (commencing with the date of issuance of such Letter of Credit) by giving prior notice to the beneficiary thereof not later than a day (the "Non-Extension Notice Date") in each such twelve-month period to be agreed upon at the time such Letter of Credit is issued. Unless otherwise directed by the L/C Issuer, the Company or the applicable Borrower shall not be required to make a specific request to the L/C Issuer for any such extension. Once an Auto-Extension Letter of Credit has been issued, the Lenders shall be deemed to have authorized (but may not require) the L/C Issuer to

permit the extension of such Letter of Credit at any time to an expiry date not later than the Letter of Credit Expiration Date; provided, however, that the L/C Issuer shall not permit any such extension if (A) the L/C Issuer has determined that it would not be permitted, or would not otherwise have an obligation, at such time to issue such Letter of Credit in its revised form (as extended) under the terms hereof (by reason of the provisions of Section 2.03(a) or otherwise), or (B) it has received notice (which may be by telephone or in writing) on or before the day that is seven Business Days before the Non-Extension Notice Date (1) from the Administrative Agent that the Required Lenders have elected not to permit such extension or (2) from the Administrative Agent, any Lender or the Company that one or more of the applicable conditions specified in Section 5.02 is not then satisfied, and in each such case directing the L/C Issuer not to permit such extension.

(iv) Promptly after its delivery of any Letter of Credit or any amendment to a Letter of Credit to an advising bank with respect thereto or to the beneficiary thereof, the L/C Issuer will also deliver to the Company, the applicable Borrower and the Administrative Agent a true and complete copy of such Letter of Credit or amendment.

(c) Drawings and Reimbursements; Funding of Participations.

(i) Upon receipt from the beneficiary of any Letter of Credit of any notice of a drawing under such Letter of Credit, the L/C Issuer shall notify the Company, the applicable Borrower and the Administrative Agent thereof. In the case of a Letter of Credit denominated in an Alternative Currency, the applicable Borrower shall reimburse the L/C Issuer in such Alternative Currency, unless (A) the L/C Issuer (at its option) shall have specified in such notice that it will require reimbursement in Dollars, or (B) in the absence of any such requirement for reimbursement in Dollars, the Company or the applicable Borrower shall have notified the L/C Issuer promptly following receipt of the notice of drawing that the applicable Borrower will reimburse the L/C Issuer in Dollars. In the case of any such reimbursement in Dollars of a drawing under a Letter of Credit denominated in an Alternative Currency, the L/C Issuer shall notify the Company and the applicable Borrower of the Dollar Equivalent of the amount of the drawing promptly following the determination thereof. If the Company and the applicable Borrower are notified prior to 11:00 a.m. on the date of any payment by the L/C Issuer under a Letter of Credit to be reimbursed in Dollars, then no later than 1:00 p.m. on such Business Day, or the Applicable Time on the date of any payment by the L/C Issuer under a Letter of Credit to be reimbursed in an Alternative Currency (or if notified after such time, then no later than 11:00 a.m. on the next succeeding Business Day or the Applicable Time on the date of any payment by the L/C Issuer under a Letter of Credit to be reimbursed in an Alternative Currency) (each such date, an “Honor Date”), the applicable Borrower shall reimburse the L/C Issuer in an amount equal to the amount of such drawing and in the applicable currency; provided that if such reimbursement is not made on the date of drawing, the applicable Borrower shall pay interest to the L/C Issuer on such amount at the rate applicable to Base Rate Loans (without duplication of interest payable on L/C Borrowings). In the event that (A) a drawing denominated in an Alternative Currency is to be reimbursed in Dollars pursuant to the second sentence in this Section 2.03(c)(i) and (B) the Dollar amount paid by a Borrower, whether on or after the Honor Date, shall not be adequate on the date of that payment to purchase in accordance with normal banking procedures a sum denominated in the Alternative Currency equal to the drawing, such Borrower agrees, as a separate and independent obligation, to indemnify the L/C Issuer for the loss resulting from its inability on that date to purchase the Alternative Currency in the full amount of the drawing. If a Borrower fails to so reimburse the L/C Issuer by the Honor Date, the L/C Issuer shall notify the Administrative Agent (and the

Administrative Agent shall promptly notify each Lender of) the Honor Date, the amount of the unreimbursed drawing (expressed in Dollars in the amount of the Dollar Equivalent thereof in the case of a Letter of Credit denominated in an Alternative Currency) (the “Unreimbursed Amount”), and the amount of such Lender’s Pro Rata Share thereof. In such event, the applicable Borrower shall be deemed to have requested a Committed Borrowing of Base Rate Loans to be disbursed on the Honor Date in an amount equal to the Unreimbursed Amount, without regard to the minimum and multiples specified in Section 2.02 for the principal amount of Base Rate Loans, but subject to the amount of the unutilized portion of the Aggregate Commitments and the conditions set forth in Section 5.02 (other than the delivery of a Committed Loan Notice). Any notice given by the L/C Issuer or the Administrative Agent pursuant to this Section 2.03(c)(i) may be given by telephone if immediately confirmed in writing; provided that the lack of such an immediate confirmation shall not affect the conclusiveness or binding effect of such notice.

(ii) Each Lender shall upon any notice pursuant to Section 2.03(c)(i) make funds available (and the Administrative Agent may apply Cash Collateral provided for this purpose) for the account of the L/C Issuer, in Dollars, at the Administrative Agent’s Office for Dollar denominated payments in an amount equal to its Pro Rata Share of the Unreimbursed Amount not later than 1:00 p.m. on the Business Day specified in such notice by the Administrative Agent, whereupon, subject to the provisions of Section 2.03(c)(iii), each Lender that so makes funds available shall be deemed to have made a Committed Loan that is a Base Rate Loan to the applicable Borrower in such amount. The Administrative Agent shall remit the funds so received to the L/C Issuer in Dollars.

(iii) With respect to any Unreimbursed Amount that is not fully refinanced by a Committed Borrowing of Base Rate Loans for any reason, the applicable Borrower shall be deemed to have incurred from the L/C Issuer an L/C Borrowing in the amount of the Unreimbursed Amount that is not so refinanced, which L/C Borrowing shall be due and payable on demand (together with interest) and shall bear interest at the Default Rate. In such event, each Lender’s payment to the Administrative Agent for the account of the L/C Issuer pursuant to Section 2.03(c)(ii) shall be deemed payment in respect of its participation in such L/C Borrowing and shall constitute an L/C Advance from such Lender in satisfaction of its participation obligation under this Section 2.03.

(iv) Until each Lender funds its Committed Loan or L/C Advance pursuant to this Section 2.03(c) to reimburse the L/C Issuer for any amount drawn under any Letter of Credit, interest in respect of such Lender’s Pro Rata Share of such amount shall be solely for the account of the L/C Issuer.

(v) Each Lender’s obligation to make Committed Loans or L/C Advances to reimburse the L/C Issuer for amounts drawn under Letters of Credit, as contemplated by this Section 2.03(c), shall be absolute and unconditional and shall not be affected by any circumstance, including (A) any set-off, counterclaim, recoupment, defense or other right that such Lender may have against the L/C Issuer, the Company, any Subsidiary or any other Person for any reason whatsoever; (B) the occurrence or continuance of a Default or Event of Default; or (C) any other occurrence, event or condition, whether or not similar to any of the foregoing; provided, however, that each Lender’s obligation to make Committed Loans pursuant to this Section 2.03(c) is subject to the conditions set forth in Section 5.02 (other than delivery by the Company of a Committed Loan Notice). No such making of an L/C Advance shall relieve or otherwise impair the obligation of a Borrower to reimburse the L/C Issuer for the amount of any payment made by the L/C Issuer under any Letter of Credit, together with interest as provided herein.

(vi) If any Lender fails to make available to the Administrative Agent for the account of the L/C Issuer any amount required to be paid by such Lender pursuant to the foregoing provisions of this Section 2.03(c) by the time specified in Section 2.03(c)(ii), then, without limiting the other provisions of this Agreement, the L/C Issuer shall be entitled to recover from such Lender (acting through the Administrative Agent), on demand, such amount with interest thereon for the period from the date such payment is required to the date on which such payment is immediately available to the L/C Issuer at a rate per annum equal to the applicable Overnight Rate from time to time in effect, plus any administrative, processing or similar fees customarily charged by the L/C Issuer in connection with the foregoing. If such Lender pays such amount (with interest and fees as aforesaid), the amount so paid shall constitute such Lender's Committed Loan included in the relevant Committed Borrowing or L/C Advance in respect of the relevant L/C Borrowing, as the case may be. A certificate of the L/C Issuer submitted to any Lender (through the Administrative Agent) with respect to any amounts owing under this clause (vi) shall be conclusive absent manifest error.

(d) Repayment of Participations.

(i) At any time after the L/C Issuer has made a payment under any Letter of Credit and has received from any Lender such Lender's L/C Advance in respect of such payment in accordance with Section 2.03(c), if the Administrative Agent receives for the account of the L/C Issuer any payment in respect of the related Unreimbursed Amount or interest thereon (whether directly from the Company or otherwise, including proceeds of Cash Collateral applied thereto by the Administrative Agent), the Administrative Agent will promptly distribute to such Lender its Pro Rata Share thereof (appropriately adjusted, in the case of interest payments, to reflect the period of time during which such Lender's L/C Advance was outstanding) in Dollars and in the same funds as those received by the Administrative Agent.

(ii) If any payment received by the Administrative Agent for the account of the L/C Issuer pursuant to Section 2.03(c)(i) is required to be returned under any of the circumstances described in Section 11.06 (including pursuant to any settlement entered into by the L/C Issuer in its discretion), each Lender shall pay to the Administrative Agent for the account of the L/C Issuer its Pro Rata Share thereof on demand of the Administrative Agent, plus interest thereon from the date of such demand to the date such amount is returned by such Lender, at a rate per annum equal to the applicable Overnight Rate from time to time in effect. The obligations of the Lenders under this clause shall survive the payment in full of the Obligations and the termination of this Agreement.

(e) Obligations Absolute. The obligation of each Borrower to reimburse the L/C Issuer for each drawing under each Letter of Credit and to repay each L/C Borrowing shall be absolute, unconditional and irrevocable, and shall be paid strictly in accordance with the terms of this Agreement under all circumstances, including the following:

(i) any lack of validity or enforceability of such Letter of Credit, this Agreement, any other Loan Document or any other agreement or instrument relating thereto;

(ii) the existence of any claim, counterclaim, set-off, defense or other right that the Company or any Subsidiary may have at any time against any beneficiary or any transferee of such Letter of Credit (or any Person for whom any such beneficiary or any such transferee may be acting), the L/C Issuer or any other Person, whether in connection with this Agreement, the transactions contemplated hereby or by such Letter of Credit or any agreement or instrument relating thereto, or any unrelated transaction;

(iii) any draft, demand, certificate or other document presented under such Letter of Credit proving to be forged, fraudulent, invalid or insufficient in any respect or any statement therein being untrue or inaccurate in any respect; or any loss or delay in the transmission or otherwise of any document required in order to make a drawing under such Letter of Credit;

(iv) waiver by the L/C Issuer of any requirement that exists for the L/C Issuer's protection and not the protection of such Borrower or any waiver by the L/C Issuer which does not in fact materially prejudice such Borrower;

(v) honor of a demand for payment presented electronically even if such Letter of Credit requires that demand be in the form of a draft;

(vi) any payment made by the L/C Issuer in respect of an otherwise complying item presented after the date specified as the expiration date of, or the date by which documents must be received under such Letter of Credit if presentation after such date is authorized by the UCC, the ISP or the UCP, as applicable;

(vii) any payment by the L/C Issuer under such Letter of Credit against presentation of a draft or certificate that does not comply with the terms of such Letter of Credit; or any payment made by the L/C Issuer under such Letter of Credit to any Person purporting to be a trustee in bankruptcy, debtor-in-possession, assignee for the benefit of creditors, liquidator, receiver or other representative of or successor to any beneficiary or any transferee of such Letter of Credit, including any arising in connection with any proceeding under any Debtor Relief Law;

(viii) any adverse change in the relevant exchange rates or in the availability of the relevant Alternative Currency to the Company or any Subsidiary or in the relevant currency markets generally; or

(ix) any other circumstance or happening whatsoever, whether or not similar to any of the foregoing, including any other circumstance that might otherwise constitute a defense available to, or a discharge of, a Borrower.

The Company shall promptly examine a copy of each Letter of Credit and each amendment thereto that is delivered to it and, in the event of any claim of noncompliance with the Company's instructions or other irregularity, the Company will immediately notify the L/C Issuer. The Company and the applicable Borrower shall be conclusively deemed to have waived any such claim against the L/C Issuer and its correspondents unless such notice is given as aforesaid.

(f) Role of L/C Issuer. Each Lender and each Borrower agree that, in paying any drawing under a Letter of Credit, the L/C Issuer shall not have any responsibility to obtain any document (other than any sight draft, certificates and documents expressly required by the Letter of Credit) or to ascertain or inquire as to the validity or accuracy of any such document or the authority of the Person executing or delivering any such document. None of the L/C Issuer, the Administrative Agent, any of their respective Related Parties nor any of the respective correspondents, participants or assignees of the L/C Issuer shall be liable to any Lender for (i) any action taken or omitted in connection herewith at the request or with the approval of the Lenders or the Required Lenders, as applicable; (ii) any action taken or omitted in the absence of gross negligence or willful misconduct; or (iii) the due execution, effectiveness, validity or enforceability of any document or instrument related to any Letter of Credit or Issuer Document. The Company and the applicable Borrower hereby assume all risks of the acts or omissions of any beneficiary or transferee with respect to its use of any Letter of Credit; provided, however, that this assumption is not intended to, and shall not, preclude the applicable Borrower's pursuing such rights and remedies as it may have against the beneficiary or transferee at law or under any other agreement. None of the L/C Issuer, the Administrative Agent, any of their respective Related Parties nor any of the respective correspondents, participants or assignees of the L/C Issuer, shall be liable or responsible for any of the matters described in clauses (i) through (ix) of Section 2.03(e); provided, however, that anything in such clauses to the contrary notwithstanding, the Borrowers may have a claim against the L/C Issuer, and the L/C Issuer may be liable to the Borrowers, to the extent, but only to the extent, of any direct, as opposed to special, indirect, punitive, consequential or exemplary, damages suffered by the applicable Borrower that such Borrower proves were caused by the L/C Issuer's willful misconduct or gross negligence. In furtherance and not in limitation of the foregoing, the L/C Issuer may accept documents that appear on their face to be in order, without responsibility for further investigation, regardless of any notice or information to the contrary, and the L/C Issuer shall not be responsible for the validity or sufficiency of any instrument transferring or assigning or purporting to transfer or assign a Letter of Credit or the rights or benefits thereunder or proceeds thereof, in whole or in part, that may prove to be invalid or ineffective for any reason. The L/C Issuer may send a Letter of Credit or conduct any communication to or from the beneficiary via the Society for Worldwide Interbank Financial Telecommunication ("SWIFT") message or overnight courier, or any other commercially reasonable means of communicating with a beneficiary.

(g) Applicability of ISP and UCP. Unless otherwise expressly agreed by the L/C Issuer and the Company or the applicable Borrower when a Letter of Credit is issued, (i) the rules of the ISP shall apply to each standby Letter of Credit, and (ii) the rules of the UCP shall apply to each commercial Letter of Credit. Notwithstanding the foregoing, the L/C Issuer shall not be responsible to any Borrower for, and the L/C Issuer's rights and remedies against any Borrower shall not be impaired by, any action or inaction of the L/C Issuer required or permitted under any Law, order, or practice that is required or permitted to be applied to any Letter of Credit or this Agreement, including the Law or any order of a jurisdiction where the L/C Issuer or the beneficiary is located, the practice stated in the ISP or UCP, as applicable, or in the decisions, opinions, practice statements, or official commentary of the ICC Banking Commission, the Bankers Association for Finance and Trade - International Financial Services Association (BAFT-IFSA), or the Institute of International Banking Law & Practice, whether or not any Letter of Credit chooses such Law or practice.

(h) Letter of Credit Fees. The Borrowers shall pay Letter of Credit fees as set forth in Section 2.09.

(i) Conflict with Issuer Documents. In the event of any conflict between the terms hereof and the terms of any Issuer Document, the terms hereof shall control.

(j) Letters of Credit Issued for Subsidiaries. Notwithstanding that a Letter of Credit issued or outstanding hereunder is in support of any obligations of, or is for the account of, a Subsidiary, the applicable Borrower shall be obligated to reimburse the L/C Issuer hereunder for any and all drawings under such Letter of Credit. Each Borrower hereby acknowledges that the issuance of Letters of Credit for the account of Subsidiaries inures to the benefit of such Borrower, and that such Borrowers' business derives substantial benefits from the businesses of such Subsidiaries.

(k) L/C Issuer Reports to the Administrative Agent. Unless otherwise agreed by the Administrative Agent, each L/C Issuer shall, in addition to its notification obligations set forth elsewhere in this Section 2.03, provide the Administrative Agent a Letter of Credit Report, as set forth below:

(i) reasonably prior to the time that such L/C Issuer issues, amends, renews, increases or extends a Letter of Credit, the date of such issuance, amendment, renewal, increase or extension and the stated amount of the applicable Letters of Credit after giving effect to such issuance, amendment, renewal or extension (and whether the amounts thereof shall have changed);

(ii) not later than one (1) Business Day following the date on which such L/C Issuer makes a payment pursuant to a Letter of Credit, the date and amount of such payment;

(iii) on any Business Day on which the Borrowers fail to reimburse a payment made pursuant to a Letter of Credit required to be reimbursed to such L/C Issuer on such day, the date of such failure and the amount of such payment;

(iv) on any other Business Day, such other information as the Administrative Agent shall reasonably request as to the Letters of Credit issued by such L/C Issuer; and

(v) for so long as any Letter of Credit issued by an L/C Issuer is outstanding, such L/C Issuer shall deliver to the Administrative Agent (A) on the last Business Day of each calendar month, (B) at all other times a Letter of Credit Report is required to be delivered pursuant to this Agreement, and (C) on each date that (1) an L/C Credit Extension occurs or (2) there is any expiration, cancellation and/or disbursement, in each case, with respect to any such Letter of Credit, a Letter of Credit Report appropriately completed with the information for every outstanding Letter of Credit issued by such L/C Issuer.

11.04 Swing Line Loans

(a) Swing Line Loans. Subject to the terms and conditions set forth herein, the Swing Line Lender agrees, in reliance upon the agreements of the other Lenders set forth in this Section 2.04, to make revolving loans (the "Swing Line Loans") to the Domestic Borrowers in Dollars on any Business Day during the Availability Period; provided that (i) the aggregate principal amount of Swing Line Loans shall not exceed the Swing Line Sublimit, (ii) with regard to the Lenders collectively, the aggregate principal amount of Loan Obligations shall not exceed the Aggregate Commitments, (iii) with regard to each Lender individually, such Lender's Pro Rata Share of the Loan Obligations plus, without duplication and if applicable, the aggregate Outstanding Amount of all Swing Line Loans advanced by such Lender in its capacity as Swing

Line Lender, shall not exceed its Commitment and (iv) the Swing Line Lender shall not be under any obligation to make any Swing Line Loan if it shall determine (which determination shall be conclusive and binding absent manifest error) that it has, or by such Credit Extension may have, Fronting Exposure. Swing Line Loans shall bear interest based on the Term SOFR Daily Floating Rate, and may be repaid and reborrowed in accordance with the provisions hereof. Immediately upon the making of a Swing Line Loan, each Lender shall be deemed to, and hereby irrevocably and unconditionally agrees to, purchase from the Swing Line Lender a participation interest in such Swing Line Loan in an amount equal to its Pro Rata Share thereof.

(b) Borrowing Procedures. Each Swing Line Borrowing shall be made upon the Company's or the applicable Domestic Borrower's irrevocable notice to the Swing Line Lender and the Administrative Agent, which may be given by: (A) telephone or (B) a Swing Line Loan Notice; provided that any telephonic notice must be confirmed immediately by delivery to the Swing Line Lender and the Administrative Agent of a Swing Line Loan Notice. Each such Swing Line Loan Notice must be received by the Swing Line Lender and the Administrative Agent not later than 2:00 p.m. on the requested borrowing date, and shall specify (i) the amount to be borrowed, which shall be a minimum of \$100,000, and a multiple of \$100,000 in excess thereof, (ii) the requested borrowing date, which shall be a Business Day and (iii) the applicable Domestic Borrower. Promptly after receipt by the Swing Line Lender of any telephonic Swing Line Loan Notice, the Swing Line Lender will confirm with the Administrative Agent that the Administrative Agent has also received such Swing Line Loan Notice and, if not, the Swing Line Lender will notify the Administrative Agent (by telephone or in writing) of the contents thereof. Unless the Swing Line Lender has received notice (by telephone or in writing) from the Administrative Agent (including at the request of any Lender) prior to 12:00 noon on the date of the proposed Swing Line Borrowing (A) directing the Swing Line Lender not to make such Swing Line Loan as a result of the limitations set forth in the first proviso to the first sentence of Section 2.04(a), or (B) that one or more of the applicable conditions specified in Article V is not then satisfied, then, subject to the terms and conditions hereof, the Swing Line Lender will, not later than 3:00 p.m. on the borrowing date specified in such Swing Line Loan Notice, make the amount of its Swing Line Loan available to the applicable Domestic Borrower.

(c) Refinancing of Swing Line Loans.

(i) The Swing Line Lender at any time in its sole and absolute discretion may request, on behalf of the applicable Borrower (which hereby irrevocably requests and authorizes the Swing Line Lender to so request on its behalf), that each Lender make a Committed Loan that is a Base Rate Loan in an amount equal to such Lender's Pro Rata Share of the amount of Swing Line Loans then outstanding. Such request shall be made in writing (which written request shall be deemed to be a Committed Loan Notice for purposes hereof) and in accordance with the requirements of Section 2.02, without regard to the minimum and multiples specified therein for the principal amount of Base Rate Loans, and without regard to the unutilized portion of the Aggregate Commitments or the conditions set forth in Section 5.02. The Swing Line Lender shall furnish the Company and the applicable Borrower with a copy of the applicable Committed Loan Notice promptly after delivering such notice to the Administrative Agent. Each Lender shall make an amount equal to its Pro Rata Share of the amount specified in such Committed Loan Notice available to the Administrative Agent in immediately available funds (and the Administrative Agent may apply Cash Collateral available with respect to the applicable Swing Line Loan) for the account of the Swing Line Lender at the Administrative Agent's Office for Dollar-denominated payments not later than 2:00 p.m. on the day specified in such Committed Loan Notice, whereupon, subject to Section 2.04(c)(ii), each Lender that so makes funds available shall be deemed to have made a Committed Loan that is a Base Rate Loan to the applicable Domestic Borrower in such

amount. The Administrative Agent shall remit the funds so received to the Swing Line Lender.

(ii) If for any reason any Swing Line Loan cannot be refinanced by such a Committed Borrowing in accordance with Section 2.04(c)(i), the request for Committed Loans that are Base Rate Loans submitted by the Swing Line Lender as set forth herein shall be deemed to be a request by the Swing Line Lender that each of the Lenders fund its risk participation in the relevant Swing Line Loan and each Lender's payment to the Administrative Agent for the account of the Swing Line Lender pursuant to Section 2.04(c)(i) shall be deemed payment in respect of such participation.

(iii) If any Lender fails to make available to the Administrative Agent for the account of the Swing Line Lender any amount required to be paid by such Lender pursuant to the foregoing provisions of this Section 2.04(c) by the time specified in Section 2.04(c)(i), the Swing Line Lender shall be entitled to recover from such Lender (acting through the Administrative Agent), on demand, such amount with interest thereon for the period from the date such payment is required to the date on which such payment is immediately available to the Swing Line Lender at a rate per annum equal to the applicable Overnight Rate from time to time in effect, plus any administrative, processing or similar fees customarily charged by the Swing Line Lender in connection with the foregoing. A certificate of the Swing Line Lender submitted to any Lender (through the Administrative Agent) with respect to any amounts owing under this clause (iii) shall be conclusive absent manifest error.

(iv) Each Lender's obligation to make Committed Loans or to purchase and fund risk participations in Swing Line Loans, in each case, pursuant to this Section 2.04(c) shall be absolute and unconditional and shall not be affected by any circumstance, including (A) any set-off, counterclaim, recoupment, defense or other right that such Lender may have against the Swing Line Lender, the Company or any other Person for any reason whatsoever, (B) the occurrence or continuance of a Default or Event of Default, (C) the conditions set forth in Section 5.02, or (D) any other occurrence, event or condition, whether or not similar to any of the foregoing. No such purchase or funding of risk participations shall relieve or otherwise impair the obligation of the applicable Domestic Borrower to repay Swing Line Loans, together with interest as provided herein.

(d) Repayment of Participations.

(i) At any time after any Lender has purchased and funded a risk participation in a Swing Line Loan, if the Swing Line Lender receives any payment on account of such Swing Line Loan, the Swing Line Lender will distribute to such Lender its Pro Rata Share of such payment (appropriately adjusted, in the case of interest payments, to reflect the period of time during which such Lender's risk participation was funded) in the same funds as those received by the Swing Line Lender.

(ii) If any payment received by the Swing Line Lender in respect of principal or interest on any Swing Line Loan is required to be returned by the Swing Line Lender under any of the circumstances described in Section 11.06 (including pursuant to any settlement entered into by the Swing Line Lender in its discretion), each Lender shall pay to the Swing Line Lender its Pro Rata Share thereof on demand of the Administrative Agent, plus interest thereon from the date of such demand to the date such amount is returned, at a rate per annum equal to the applicable Overnight Rate. The Administrative Agent will make such demand upon the request of the Swing Line Lender. The

obligations of the Lenders under this clause shall survive the payment in full of the Obligations and the termination of this Agreement.

(e) Interest for Account of Swing Line Lender. The Swing Line Lender shall be responsible for invoicing the applicable Domestic Borrower for interest on the Swing Line Loans. Until each Lender funds its Committed Loan or risk participation pursuant to this Section 2.04 to refinance such Lender's Pro Rata Share of any Swing Line Loan, interest in respect of such Pro Rata Share shall be solely for the account of the Swing Line Lender.

(f) Payments Directly to Swing Line Lender. The applicable Domestic Borrower shall make all payments of principal and interest in respect of the Swing Line Loans made to it directly to the Swing Line Lender.

11.05 Prepayments.

(a) Each Borrower may, upon notice from the Company or such Borrower to the Administrative Agent, at any time or from time to time voluntarily prepay Committed Loans in whole or in part without premium or penalty; provided that (i) such notice must be in a form reasonably acceptable to the Administrative Agent and be received by the Administrative Agent not later than 12:00 noon (A) two Business Days prior to any date of prepayment of Term SOFR Loans, (B) four Business Days (or five Business Days in the case of prepayment of Loans denominated in Special Notice Currencies) prior to any date of prepayment of Alternative Currency Loans, and (C) on the date of prepayment of Base Rate Loans or Term SOFR Daily Floating Rate Loans; (ii) any prepayment of Term SOFR Loans or Term SOFR Daily Floating Rate Loans shall be in a principal amount of \$5,000,000 or a whole multiple of \$1,000,000 in excess thereof; (iii) any prepayment of Alternative Currency Loans shall be in a minimum principal amount of the Alternative Currency Equivalent of \$5,000,000 or a whole multiple of the Alternative Currency Equivalent of \$1,000,000 in excess thereof and (iv) any prepayment of Base Rate Loans shall be in a principal amount of \$500,000 or a whole multiple of \$100,000 in excess thereof or, in each case, if less, the entire principal amount thereof then outstanding. Each such notice shall specify the date and amount of such prepayment, and the Type(s) of Committed Loans to be prepaid (provided that (y) if the Company or such Borrower does not specify the Committed Loans to which such prepayment is to be applied, such prepayment shall be applied pro rata to all Committed Loans outstanding on the date thereof and (z) if Term SOFR Loans or Alternative Currency Term Rate Loans are to be prepaid, the Company or such Borrower shall specify the Interest Period(s) of such Loans). The Administrative Agent will promptly notify each applicable Lender of its receipt of each such notice, and of the amount of such Lender's Pro Rata Share of such prepayment. If such notice is given by the Company or a Borrower, the applicable Borrower shall make such prepayment and the payment amount specified in such notice shall be due and payable on the date specified therein. Any prepayment of a Term SOFR Loan or Alternative Currency Term Rate Loan shall be accompanied by all accrued interest thereon, together with any additional amounts required pursuant to Section 3.05. Subject to Section 2.17, each such prepayment shall be applied to the applicable Committed Loans of the Lenders in accordance with their respective Pro Rata Shares thereof.

(b) Each Domestic Borrower may, upon notice from the Company or such Domestic Borrower to the Swing Line Lender (with a copy to the Administrative Agent), at any time or from time to time, voluntarily prepay Swing Line Loans in whole or in part without premium or penalty; provided that (i) such notice must be received by the Swing Line Lender and the Administrative Agent not later than 2:00 p.m. on the date of the prepayment, and (ii) any such prepayment shall be in a minimum principal amount of \$100,000 or, if less, the entire principal amount thereof then outstanding. Each such notice shall specify the date and amount of such prepayment. If such notice is given by the Company or a Domestic Borrower, the applicable

Domestic Borrower shall make such prepayment and the payment amount specified in such notice shall be due and payable on the date specified therein.

(c) If the Administrative Agent notifies the Company that the Dollar Equivalent of the outstanding principal amount of Loan Obligations shall be in excess of the Aggregate Commitments, each applicable Borrower shall, within two Business Days, make prepayment on or provide Cash Collateral in respect of such Borrower's Loan Obligations in an amount sufficient to eliminate the difference. The Administrative Agent may, at any time and from time to time after the initial deposit of such Cash Collateral, request additional Cash Collateral be provided in order to protect against the results of further exchange rate fluctuations.

11.06 Termination or Reduction of Commitments.

The Company may, upon notice from the Company to the Administrative Agent, terminate the Aggregate Commitments or permanently reduce the Aggregate Commitments to an amount not less than the Outstanding Amount of the Loan Obligations; provided that (i) any such notice shall be received by the Administrative Agent not later than 12:00 noon five Business Days prior to the date of termination or reduction and (ii) any such partial reduction shall be in an aggregate amount of \$10,000,000 or any whole multiple of \$1,000,000 in excess thereof. The Administrative Agent will promptly notify the Lenders of any such notice of termination or reduction of the Aggregate Commitments. Any reduction of the Aggregate Commitments shall be applied to the Commitment of each Lender according to its Pro Rata Share thereof. All facility fees accrued until the effective date of any termination of the Aggregate Commitments shall be paid on the effective date of such termination.

11.07 Repayment of Loans.

(a) Each Borrower shall repay to each Lender on the Maturity Date applicable to such Lender the aggregate principal amount of Committed Loans made by such Lender to such Borrower outstanding on such date.

(b) Each Domestic Borrower shall repay each Swing Line Loan made to such Domestic Borrower on the applicable Maturity Date.

11.08 Interest.

(a) Subject to the provisions of subsection (b) below, (i) each Term SOFR Loan shall bear interest on the outstanding principal amount thereof for each Interest Period at a rate per annum equal to the sum of (A) Term SOFR for such Interest Period plus (B) the Applicable Rate; (ii) each Base Rate Loan shall bear interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the sum of (A) the Base Rate plus (B) the Applicable Rate; (iii) each Alternative Currency Daily Rate Loan shall bear interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the sum of (A) the Alternative Currency Daily Rate plus (B) the Applicable Rate; (iv) each Alternative Currency Term Rate Loan shall bear interest on the outstanding principal amount thereof for each Interest Period at a rate per annum equal to the sum of (A) the Alternative Currency Term Rate for such Interest Period plus (B) the Applicable Rate and (v) each Term SOFR Daily Floating Rate Loan (including any Swing Line Loan) shall bear interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the sum of (A) the Term SOFR Daily Floating Rate plus (B) the Applicable Rate.

(b) (i) If any amount of principal of any Loan is not paid when due (without regard to any applicable grace periods), whether at stated maturity, by acceleration or otherwise, such amount shall thereafter bear interest at a fluctuating interest rate per annum at all times equal to the Default Rate to the fullest extent permitted by applicable Laws.

(ii) If any amount (other than principal of any Loan) payable by any Borrower under any Loan Document is not paid when due (without regard to any applicable grace periods), whether at stated maturity, by acceleration or otherwise, then upon request of the Required Lenders, such amount shall thereafter bear interest at a fluctuating interest rate per annum at all times equal to the Default Rate to the fullest extent permitted by applicable Laws.

(iii) Without duplication of clauses (i) and (ii) above, if any Event of Default under Section 9.01(f) or Section 9.01(g) arises, the outstanding Obligations shall thereafter bear interest at a fluctuating interest rate per annum at all times equal to the Default Rate to the fullest extent permitted by applicable Laws.

(iv) Accrued and unpaid interest on past due amounts (including interest on past due interest) shall be due and payable upon demand.

(c) Interest on each Loan shall be due and payable in arrears on each Interest Payment Date applicable thereto by the applicable Borrower and at such other times as may be specified herein. Interest hereunder shall be due and payable by the applicable Borrower in accordance with the terms hereof before and after judgment, and before and after the commencement of any proceeding under any Debtor Relief Law.

11.09 Fees.

(a) Facility Fees. The Company shall pay to the Administrative Agent for the account of each Lender in accordance with its Pro Rata Share, a facility fee in Dollars equal to the Applicable Rate times the actual daily amount of the Aggregate Commitments (or, if the Aggregate Commitments have terminated, on the Outstanding Amount of all Loan Obligations), regardless of usage, subject to adjustment as provided in Section 2.17. Such facility fee shall accrue at all times during the Availability Period (and thereafter so long as any Loan Obligations remain outstanding), including at any time during which one or more of the conditions in Article V is not met.

The facility fees set forth in this Section 2.09(a) shall be due and payable quarterly in arrears on the last Business Day of each March, June, September and December, commencing with the first such date to occur after the Closing Date, and on the Maturity Date (and, if applicable, thereafter on demand). The facility fees shall be calculated quarterly in arrears, and if there is any change in the Applicable Rate during any quarter, the actual daily amount shall be computed and multiplied by the Applicable Rate separately for each period during such quarter that such Applicable Rate was in effect.

(b) Letter of Credit Fees.

(i) Each Borrower shall pay to the Administrative Agent for the account of each Lender, in Dollars, in accordance with its Pro Rata Share a Letter of Credit fee (the "Letter of Credit Fee") for each Letter of Credit issued on behalf of such Borrower, equal to the Applicable Rate times the Dollar Equivalent of the daily maximum amount available to be drawn under such Letter of Credit, subject to adjustment as provided in Section 2.17. For purposes of computing the daily amount available to be drawn under any Letter of Credit, the amount of such Letter of Credit shall be determined in accordance with Section 1.07. Letter of Credit Fees shall be computed on a quarterly basis in arrears and shall be due and payable on the last Business Day of each March, June, September and December (commencing with the first such date to occur after the issuance of such Letter of Credit) and on the Letter of Credit Expiration Date. If there is any change in the Applicable Rate during any quarter, the daily maximum amount of each Letter of Credit shall be computed and multiplied by the Applicable Rate separately for each period during such quarter that such Applicable Rate was in effect.

(ii) Each Borrower shall pay directly to the L/C Issuer for its own account, in Dollars, a fronting fee (A) with respect to each commercial Letter of Credit issued on behalf of such Borrower, at the rate per annum agreed in writing between the Company and the applicable L/C Issuer, computed on the Dollar Equivalent of the amount of such Letter of Credit, and payable upon the issuance thereof, (B) with respect to any amendment of a commercial Letter of Credit increasing the amount of such Letter of Credit, at the rate per annum agreed in writing between the Company and the applicable L/C Issuer, computed on the Dollar Equivalent of the amount of such increase, and payable upon the effectiveness of such amendment, and (C) with respect to each standby Letter of Credit, at the rate per annum agreed in writing between the Company and the applicable L/C Issuer, computed on the Dollar Equivalent of the daily amount available to be drawn under such Letter of Credit and on a quarterly basis in arrears. Such fronting fee shall be due and payable on the tenth Business Day after the end of each March, June, September and December in respect of the most recently-ended quarterly period (or portion thereof, in the case of the first payment), commencing with the first such date to occur after the issuance of such Letter of Credit, on the Letter of Credit Expiration Date and thereafter on demand. For purposes of computing the daily amount available to be drawn under any Letter of Credit, the amount of such Letter of Credit shall be determined in accordance with Section 1.07. In addition, the Company shall pay directly to the L/C Issuer for its own account, in Dollars, the customary issuance, presentation, amendment and other processing fees, and other standard costs and charges, of the L/C Issuer relating to letters of credit as from time to time in effect. Such customary fees and standard costs and charges are due and payable on demand and are nonrefundable.

(c) Other Fees.

(i) The Company shall pay to the Administrative Agent for its own account an annual administrative fee in an amount and at the times set forth in the Administrative Agent Fee Letter. Such fee shall be fully earned when paid and shall not be refundable for any reason whatsoever.

(ii) The Company shall pay to the Lenders such fees as shall have been separately agreed upon in writing in the amounts and at the times so specified. Such fees shall be fully earned when paid and shall not be refundable for any reason whatsoever.

2.15 Computation of Interest and Fees.

All computations of interest for Base Rate Loans (including Base Rate Loans determined by reference to Term SOFR) and for Loans denominated in Alternative Currencies (other than Alternative Currency Loans with respect to EURIBOR) shall be made on the basis of a year of 365 or 366 days, as the case may be, and actual days elapsed, or, in the case of interest in respect of Loans denominated in Alternative Currencies as to which market practice differs from the foregoing, in accordance with such market practice. All other computations of fees and interest, including those with respect to Alternative Currency Loans shall be made on the basis of a 360-day year and actual days elapsed (which results in more fees or interest, as applicable, being paid than if computed on the basis of a 365-day year). Interest shall accrue on each Loan for the day on which the Loan is made, and shall not accrue on a Loan, or any portion thereof, for the day on which the Loan or such portion is paid; provided that any Loan that is repaid on the same day on which it is made shall, subject to Section 2.12(a), bear interest for one day. Each determination by the Administrative Agent of an interest rate or fee hereunder shall be conclusive and binding for all purposes, absent manifest error.

2.15 Evidence of Debt.

(a) The Credit Extensions made by each Lender shall be evidenced by one or more accounts or records maintained by such Lender and by the Administrative Agent in the ordinary course of business. The accounts or records maintained by the Administrative Agent and each Lender shall be conclusive absent manifest error of the amount of the Credit Extensions made by the Lenders to the Borrowers and the interest and payments thereon. Any failure to so record or any error in doing so shall not, however, limit or otherwise affect the obligation of any Borrower hereunder to pay any amount owing with respect to the Obligations. In the event of any conflict between the accounts and records maintained by any Lender and the accounts and records of the Administrative Agent in respect of such matters, the accounts and records of the Administrative Agent shall control in the absence of manifest error. Upon the request of any Lender made through the Administrative Agent, the Borrowers shall execute and deliver to such Lender (through the Administrative Agent) a Note, which shall evidence such Lender's Loans in addition to such accounts or records. Each Lender may attach schedules to its Note and endorse thereon the date, Type (if applicable), amount, currency and maturity of its Loans and payments with respect thereto.

(b) In addition to the accounts and records referred to in subsection (a) above, each Lender and the Administrative Agent shall maintain in accordance with its usual practice accounts or records evidencing the purchases and sales by such Lender of participations in Letters of Credit and Swing Line Loans. In the event of any conflict between the accounts and records maintained by the Administrative Agent and the accounts and records of any Lender in respect of such matters, the accounts and records of the Administrative Agent shall control in the absence of manifest error.

2.16 Payments Generally; Administrative Agent's Clawback.

(a) General. All payments to be made by the Borrowers shall be made free and clear of and without condition or deduction for any counterclaim, defense, recoupment or setoff. Except as otherwise expressly provided herein and except with respect to principal of and interest on Loans denominated in an Alternative Currency, all payments by the Borrowers hereunder shall be made to the Administrative Agent, for the account of the respective Lenders to which such payment is owed, at the applicable Administrative Agent's Office in Dollars and in Same Day Funds not later than 2:00 p.m. on the date specified herein. Except as otherwise expressly provided herein, all payments by the Borrowers hereunder with respect to principal and interest on Loans denominated in an Alternative Currency shall be made to the Administrative Agent, for

the account of the respective Lenders to which such payment is owed, at the applicable Administrative Agent's Office in such Alternative Currency and in Same Day Funds not later than the Applicable Time specified by the Administrative Agent on the dates specified herein. Without limiting the generality of the foregoing, the Administrative Agent may require that any payments due under this Agreement be made in the United States. If, for any reason, any Borrower is prohibited by any Law from making any required payment hereunder in an Alternative Currency, such Borrower shall make such payment in Dollars in the Dollar Equivalent of the Alternative Currency payment amount. The Administrative Agent will promptly distribute to each Lender its Pro Rata Share (or other applicable share as provided herein) of such payment in like funds as received by wire transfer to such Lender's Lending Office. All payments received by the Administrative Agent (i) after 2:00 p.m., in the case of payments in Dollars, or (ii) after the Applicable Time specified by the Administrative Agent in the case of payments in an Alternative Currency, shall in each case be deemed received on the next succeeding Business Day and any applicable interest or fee shall continue to accrue. If any payment to be made by any Borrower shall come due on a day other than a Business Day, payment shall be made on the next following Business Day, and such extension of time shall be reflected in computing interest or fees, as the case may be.

(b) (i) Funding by Lenders; Presumption by Administrative Agent. Unless the Administrative Agent shall have received notice from a Lender prior to the proposed date of any Committed Borrowing of Term SOFR Loans or Alternative Currency Loans (or, in the case of any Committed Borrowing of Base Rate Loans or Term SOFR Daily Floating Rate Loans, prior to 12:00 noon on the date of such Committed Borrowing) that such Lender will not make available to the Administrative Agent such Lender's share of such Committed Borrowing, the Administrative Agent may assume that such Lender has made such share available on such date in accordance with Section 2.02 (or, in the case of a Committed Borrowing of Base Rate Loans or Term SOFR Daily Floating Rate Loans, that such Lender has made such share available in accordance with and at the time required by Section 2.02) and may, in reliance upon such assumption, make available to the applicable Borrower a corresponding amount. In such event, if a Lender has not in fact made its share of the applicable Committed Borrowing available to the Administrative Agent, then the applicable Lender and the applicable Borrower severally agree to pay to the Administrative Agent forthwith on demand such corresponding amount in Same Day Funds with interest thereon, for each day from and including the date such amount is made available to such Borrower to but excluding the date of payment to the Administrative Agent, at (A) in the case of a payment to be made by such Lender, the Overnight Rate, plus any administrative, processing or similar fees customarily charged by the Administrative Agent in connection with the foregoing, and (B) in the case of a payment to be made by such Borrower, the interest rate applicable to Base Rate Loans, or in the case of Alternative Currencies, in accordance with such market practice, in each case, as applicable. If such Borrower and such Lender shall pay such interest to the Administrative Agent for the same or an overlapping period, the Administrative Agent shall promptly remit to such Borrower the amount of such interest paid by such Borrower for such period. If such Lender pays its share of the applicable Committed Borrowing to the Administrative Agent, then the amount so paid shall constitute such Lender's Committed Loan included in such Committed Borrowing. Any payment by such Borrower shall be without prejudice to any claim such Borrower may have against a Lender that shall have failed to make such payment to the Administrative Agent.

(ii) Payments by Borrowers; Presumptions by Administrative Agent. Unless the Administrative Agent shall have received notice from a Borrower prior to the date on which any payment is due to the Administrative Agent for the account of the Lenders or the L/C Issuer hereunder that such Borrower will not make such payment, the Administrative Agent may assume that such Borrower has made such payment on such date in accordance herewith and may, in reliance upon such assumption, distribute to the

Lenders or the L/C Issuer, as the case may be, the amount due. With respect to any payment that the Administrative Agent makes for the account of the Lenders or the L/C Issuer hereunder as to which the Administrative Agent determines (which determination shall be conclusive absent manifest error) that any of the following applies (such payment referred to as the “Rescindable Amount”): (1) such Borrower has not in fact made such payment; (2) the Administrative Agent has made a payment in excess of the amount so paid by such Borrower (whether or not then owed); or (3) the Administrative Agent has for any reason otherwise erroneously made such payment; then each of the Lenders or the L/C Issuer, as the case may be, severally agrees to repay to the Administrative Agent forthwith on demand the Rescindable Amount so distributed to such Lender or the L/C Issuer, in Same Day Funds with interest thereon, for each day from and including the date such amount is distributed to it to but excluding the date of payment to the Administrative Agent, at the Overnight Rate.

A notice of the Administrative Agent to any Lender or Borrower with respect to any amount owing under this subsection (b) shall be conclusive, absent manifest error.

(c) Failure to Satisfy Conditions Precedent. If any Lender makes available to the Administrative Agent funds for any Loan to be made by such Lender to any Borrower as provided in the foregoing provisions of this Article II, and such funds are not made available to such Borrower by the Administrative Agent because the conditions to the applicable Credit Extension set forth in Article V are not satisfied or waived in accordance with the terms hereof, the Administrative Agent shall return such funds (in like funds as received from such Lender) to such Lender, without interest.

(d) Obligations of Lenders Several. The obligations of the Lenders hereunder to make Committed Loans, to fund participations in Letters of Credit and Swing Line Loans and to make payments pursuant to Section 11.04(c) are several and not joint. The failure of any Lender to make any Committed Loan, to fund any such participation or to make any payment under Section 11.04(c) on any date required hereunder shall not relieve any other Lender of its corresponding obligation to do so on such date, and no Lender shall be responsible for the failure of any other Lender to so make its Committed Loan, to purchase its participation or to make its payment under Section 11.04(c).

(e) Funding Source. Nothing herein shall be deemed to obligate any Lender to obtain the funds for any Loan in any particular place or manner or to constitute a representation by any Lender that it has obtained or will obtain the funds for any Loan in any particular place or manner.

11.1 Sharing of Payments.

If any Lender shall, by exercising any right of setoff or counterclaim or otherwise, obtain payment in respect of any principal of or interest on any of the Committed Loans made by it, or the participations in L/C Obligations or in Swing Line Loans held by it resulting in such Lender’s receiving payment of a proportion of the aggregate amount of such Committed Loans or participations and accrued interest thereon greater than its pro rata share thereof as provided herein, then the Lender receiving such greater proportion shall (a) notify the Administrative Agent of such fact, and (b) purchase (for cash at face value) participations in the Committed Loans and subparticipations in L/C Obligations and Swing Line Loans of the other Lenders, or make such other adjustments as shall be equitable, so that the benefit of all such payments shall be shared by the Lenders ratably in accordance with the aggregate amount of principal of and accrued interest on their respective Committed Loans and other amounts owing them; provided that:

(i) if any such participations or subparticipations are purchased and all or any portion of the payment giving rise thereto is recovered, such participations or subparticipations shall be rescinded and the purchase price restored to the extent of such recovery, without interest; and

(ii) the provisions of this Section shall not be construed to apply to (A) any payment made by or on behalf of the Borrowers pursuant to and in accordance with the express terms of this Agreement (including the application of funds arising from the existence of a Defaulting Lender), (B) the application of Cash Collateral provided for in Section 2.16, or (C) any payment obtained by a Lender as consideration for the assignment of or sale of a participation in any of its Committed Loans or subparticipations in L/C Obligations or Swing Line Loans to any assignee or participant, other than an assignment to any Borrower or any Subsidiary thereof (as to which the provisions of this Section shall apply).

Each Borrower consents to the foregoing and agrees, to the extent it may effectively do so under applicable law, that any Lender acquiring a participation pursuant to the foregoing arrangements may exercise against such Borrower rights of setoff and counterclaim with respect to such participation as fully as if such Lender were a direct creditor of such Borrower in the amount of such participation.

2.16 Designated Borrowers.

(a) As of the Closing Date, the only Designated Borrower is the Belgian Borrower. Thereafter the Company may at any time, upon not less than 10 Business Days' notice from the Company to the Administrative Agent (or such shorter period as may be agreed by the Administrative Agent in its sole discretion), designate any one or more wholly-owned Subsidiaries (other than an Immaterial Subsidiary) of the Company (an "Applicant Borrower") as a Designated Borrower to receive Loans and request Letters of Credit hereunder by delivering to the Administrative Agent (which shall promptly deliver counterparts thereof to each Lender) a duly executed notice and agreement in substantially the form of Exhibit G (a "Designated Borrower Request and Assumption Agreement"). If the Administrative Agent, the L/C Issuer and each of the Lenders obligated to make Loans to such Applicant Borrower, agree in writing that such Applicant Borrower shall be entitled to receive Loans and request Letters of Credit hereunder, then the Administrative Agent shall send an agreement in substantially the form of Exhibit H (a "Designated Borrower Joinder Agreement") to the Company specifying (x) the additional terms and conditions applicable to Loans to such Applicant Borrower due to applicable Laws and/or operational requirements with respect to the jurisdiction of organization for such Applicant Borrower and (y) the effective date upon which the Applicant Borrower shall constitute a Designated Borrower for purposes hereof. The parties hereto acknowledge and agree that prior to any Applicant Borrower becoming entitled to utilize the credit facilities provided for herein the Administrative Agent and the Lenders shall have received such supporting resolutions, incumbency certificates, opinions of counsel and other documents or information, in form, content and scope reasonably satisfactory to the Administrative Agent, as may be required by the Administrative Agent, the L/C Issuer, or the Lenders in their sole discretion, information necessary for each Lender to comply with "know your customer" regulations and Notes signed by such new Borrowers to the extent any Lenders so require. If the Administrative Agent agrees that such Applicant Borrower shall have satisfied all of the requirements of this Section 2.14 (including the requirement that each Lender obligated to make Loans to such Applicant Borrower shall have approved such Applicant Borrower) such Applicant Borrower shall constitute a Designated Borrower for purposes hereof, and each of the Lenders agrees to permit such Designated Borrower to receive Loans or request Letters of Credit hereunder, on the terms and conditions set forth herein, and each of the parties agrees that such Designated Borrower otherwise shall be a Borrower for all purposes of this Agreement; provided that no Request for

Credit Extension may be submitted by or on behalf of such Designated Borrower until the date three Business Days after such effective date.

(b) The Obligations of the Domestic Borrowers shall be joint and several in nature as more specifically addressed in Section 11.05. The Obligations of the Designated Borrowers that are not Domestic Subsidiaries shall be several in nature.

(c) Each Designated Borrower hereby irrevocably appoints the Company as its agent for all purposes relevant to this Agreement and each of the other Loan Documents, including (i) the giving and receipt of notices, (ii) the execution and delivery of all documents, instruments and certificates contemplated herein and all modifications hereto, and (iii) in the case of the Domestic Borrowers only, the receipt of the proceeds of any Loans made by the Lenders, to any such Borrower hereunder. Any acknowledgment, consent, direction, certification or other action which might otherwise be valid or effective only if given or taken by all Borrowers, or by each Borrower acting singly, shall be valid and effective if given or taken only by the Company, whether or not any such other Borrower joins therein. Any notice, demand, consent, acknowledgement, direction, certification or other communication delivered to the Company in accordance with the terms of this Agreement shall be deemed to have been delivered to each Borrower. The Belgian Borrower agrees, and hereby undertakes, to ratify and to confirm each decision taken or action performed by the Company on its behalf as its agent in the exercise or purported exercise of the powers granted pursuant to this Section 2.14(c), to the extent such ratification and confirmation is necessary under Belgian law to ensure the validity and the binding character vis-à-vis the Belgian Borrower of the decision or action concerned.

(d) The Company may from time to time, upon not less than 10 Business Days' notice from the Company to the Administrative Agent (or such shorter period as may be agreed by the Administrative Agent in its sole discretion), terminate (i) any Designated Borrower's status as a Designated Borrower or (ii) the Belgian Borrower's status as the Belgian Borrower; provided that there are no outstanding Loans or L/C Obligations payable by such Designated Borrower or Belgian Borrower, as applicable, or other amounts payable by such Designated Borrower or Belgian Borrower, as applicable, on account of any Credit Extensions made to it, as of the effective date of such termination (unless such Loans and other Obligations have been assumed by another Borrower). The Administrative Agent will promptly notify the Lenders of any such termination of a Designated Borrower's or the Belgian Borrower's status.

(e) Notwithstanding anything to the contrary herein, (i) as of the Closing Date, the only Borrowers are the Company and the Belgian Borrower, (ii) no other Persons may become a Borrower except in accordance with this Section 2.14 and (iii) only wholly-owned Subsidiaries of the Company may hereafter become Designated Borrowers.

2.15 Extension of Maturity Date.

(a) Requests for Extension. Not more than two times after the Closing Date, the Company may, by notice to the Administrative Agent (who shall promptly notify the Lenders) request that each Lender extend such Lender's Maturity Date for an additional year from the Maturity Date then in effect hereunder (the "Existing Maturity Date").

(b) Lender Elections to Extend. Each Lender, acting in its sole and individual discretion, shall, by notice to the Administrative Agent given not later than 15 days after receipt of the Company's request pursuant to subsection (a) above (the "Notice Date"), advise the Administrative Agent whether or not such Lender agrees to such extension (and each Lender that determines not to so extend its Maturity Date (a "Non-Extending Lender") shall notify the Administrative Agent of such fact promptly after such determination (but in any event no later

than the Notice Date) and any Lender that does not so advise the Administrative Agent on or before the Notice Date shall be deemed to be a Non-Extending Lender. The election of any Lender to agree to such extension shall not obligate any other Lender to so agree.

(c) Notification by Administrative Agent. The Administrative Agent shall notify the Company of each Lender's determination under this Section no later than the date 10 days after the Notice Date (or, if such date is not a Business Day, on the next preceding Business Day).

(d) Additional Commitment Lenders. The Company shall have the right to replace each Non-Extending Lender with, and add as "Lenders" under this Agreement in place thereof, one or more Eligible Assignees (each, an "Additional Commitment Lender") as provided in Section 11.16; provided that each of such Additional Commitment Lenders shall enter into an Assignment and Assumption (or other agreement satisfactory to the Company and the Administrative Agent) pursuant to which such Additional Commitment Lender shall undertake a Commitment (and, if any such Additional Commitment Lender is already a Lender, its Commitment shall be in addition to such Lender's Commitment hereunder on such date).

(e) Minimum Extension Requirement. If (and only if) the total of the Commitments of the Lenders that have agreed so to extend their Maturity Date (each, an "Extending Lender") and the additional Commitments of the Additional Commitment Lenders shall be more than 50% of the aggregate principal amount of the Commitments in effect immediately prior to the Existing Maturity Date, then the Maturity Date of each Extending Lender and of each Additional Commitment Lender shall be extended to the date falling one year after the Existing Maturity Date (except that, if such date is not a Business Day, such Maturity Date as so extended shall be the next preceding Business Day) and each Additional Commitment Lender shall thereupon become a "Lender" for all purposes of this Agreement.

(f) Conditions to Effectiveness of Extensions. As a condition precedent to such extension, the Company shall deliver to the Administrative Agent a certificate of each Borrower dated as of the date of such extension (in sufficient copies for each Extending Lender and each Additional Commitment Lender) signed by a Responsible Officer of such Borrower (i) certifying and attaching the resolutions adopted by such Borrower approving or consenting to such extension and (ii) in the case of the Company, certifying that, before and after giving effect to such extension, (A) the representations and warranties contained in Article VI and the other Loan Documents are true and correct in all material respects on and as of the date of such extension, except to the extent that such representations and warranties specifically refer to an earlier date, in which case they are true and correct in all material respects as of such earlier date, and except that for purposes of this Section 2.15, the representations and warranties contained in subsections (a) and (b) of Section 6.05 shall be deemed to refer to the most recent statements furnished pursuant to subsections (a) and (b), respectively, of Section 7.01, and (B) no Default exists. In addition, on the Maturity Date of each Non-Extending Lender, each applicable Borrower shall prepay such Borrower's outstanding Obligations owing to the Non-Extending Lenders on such date in full (and pay any additional amounts required pursuant to Section 3.05) and shall make such other payments to the other Lenders to the extent necessary to keep outstanding Committed Loans and other appropriate Obligations ratable with any revised Pro Rata Shares of the respective Lenders effective as of such date

(g) Conflicting Provisions. This Section shall supersede any provisions in Section 2.13 or 11.01 to the contrary.

2.16 Cash Collateral

(a) Certain Credit Support Events. If (i) the L/C Issuer has honored any full or partial drawing request under any Letter of Credit and such drawing has resulted in an L/C Borrowing, (ii) as of the Letter of Credit Expiration Date, any L/C Obligation for any reason remains outstanding, (iii) the applicable Borrower shall be required to provide Cash Collateral pursuant to Section 9.02(c) or (iv) there shall exist a Defaulting Lender, the applicable Borrower shall immediately (in the case of clause (iii) above) or within one Business Day (in all other cases) following any request by the Administrative Agent or the L/C Issuer provide Cash Collateral in an amount not less than the applicable Minimum Collateral Amount (determined in the case of Cash Collateral provided pursuant to clause (iv) above, after giving effect to Section 2.17(a)(iv) and any Cash Collateral provided by the Defaulting Lender). Additionally, if the Administrative Agent notifies the Company at any time that the Outstanding Amount of all L/C Obligations at such time exceeds 105% of the Letter of Credit Sublimit then in effect, then, within two Business Days after receipt of such notice, the applicable Borrower shall provide Cash Collateral for the Outstanding Amount of the L/C Obligations in an amount not less than the amount by which the Outstanding Amount of all L/C Obligations exceeds the Letter of Credit Sublimit.

(b) Grant of Security Interest. All Cash Collateral (other than credit support not constituting funds subject to deposit) shall be maintained in blocked, non-interest bearing deposit accounts at Bank of America. Each Borrower, and to the extent provided by any Defaulting Lender, such Defaulting Lender, hereby grants to (and subjects to the control of) the Administrative Agent, for the benefit of the Administrative Agent, the L/C Issuer and the Lenders, and agrees to maintain, a first priority security interest in all such cash, deposit accounts and all balances therein, and all other property so provided as collateral pursuant hereto, and in all proceeds of the foregoing, all as security for the obligations to which such Cash Collateral may be applied pursuant to Section 2.16(c). If at any time the Administrative Agent determines that Cash Collateral is subject to any right or claim of any Person other than the Administrative Agent or the L/C Issuer as herein provided, or that the total amount of such Cash Collateral is less than the Minimum Collateral Amount, the applicable Borrower will, promptly upon demand by the Administrative Agent, pay or provide to the Administrative Agent additional Cash Collateral in an amount sufficient to eliminate such deficiency.

(c) Application. Notwithstanding anything to the contrary contained in this Agreement, Cash Collateral provided under any of this Section 2.16 or Sections 2.03, 2.04, 2.05, 2.17 or 9.02 in respect of Letters of Credit shall be held and applied to the satisfaction of the specific L/C Obligations, obligations to fund participations therein (including, as to Cash Collateral provided by a Defaulting Lender, any interest accrued on such obligation) and other obligations for which the Cash Collateral was so provided, prior to any other application of such property as may be provided for herein.

(d) Release. Cash Collateral (or the appropriate portion thereof) provided to reduce Fronting Exposure or to secure other obligations shall be released promptly following (i) the elimination of the applicable Fronting Exposure or other obligations giving rise thereto (including by the termination of Defaulting Lender status of the applicable Lender (or, as appropriate, its assignee following compliance with Section 11.07(b)(vi))) or (ii) the good faith determination of the Administrative Agent and the L/C Issuer that there exists excess Cash Collateral; provided, however, (x) any such release shall be without prejudice to, and any disbursement or other transfer of Cash Collateral shall be and remain subject to, any other Lien conferred under the

Loan Documents and the other applicable provisions of the Loan Documents, and (y) the Person providing Cash Collateral and the L/C Issuer may mutually agree that Cash Collateral shall not be released but instead held to support future anticipated Fronting Exposure or other obligations.

11.1 Defaulting Lenders.

(a) Adjustments. Notwithstanding anything to the contrary contained in this Agreement, if any Lender becomes a Defaulting Lender, then, until such time as that Lender is no longer a Defaulting Lender, to the extent permitted by applicable Law:

(i) Waivers and Amendments. That Defaulting Lender's right to approve or disapprove any amendment, waiver or consent with respect to this Agreement shall be restricted as set forth in the definition of "Required Lenders" and Section 11.01.

(ii) Reallocation of Payments. Any payment of principal, interest, fees (to the extent required to be paid by the Borrowers under Section 2.17(a)(iii)) or other amounts received by the Administrative Agent for the account of that Defaulting Lender (whether voluntary or mandatory, at maturity, pursuant to Article IX or otherwise or received by the Administrative Agent from a Defaulting Lender pursuant to Section 11.09), shall be applied at such time or times as may be determined by the Administrative Agent as follows: first, to the payment of any amounts owing by that Defaulting Lender to the Administrative Agent hereunder; second, to the payment on a pro rata basis of any amounts owing by that Defaulting Lender to the L/C Issuer or Swing Line Lender hereunder; third, to Cash Collateralize the L/C Issuer's Fronting Exposure with respect to such Defaulting Lender in accordance with Section 2.16; fourth, as the Company may request (so long as no Default exists), to the funding of any Loan in respect of which that Defaulting Lender has failed to fund its portion thereof as required by this Agreement, as determined by the Administrative Agent; fifth, if so determined by the Administrative Agent and the Company, to be held in a deposit account and released pro rata in order to (x) satisfy such Defaulting Lender's potential future funding obligations with respect to Loans under this Agreement and (y) Cash Collateralize the L/C Issuer's future Fronting Exposure with respect to such Defaulting Lender with respect to future Letters of Credit issued under this Agreement, in accordance with Section 2.16; sixth, to the payment of any amounts owing to the Lenders, the L/C Issuer or Swing Line Lender as a result of any judgment of a court of competent jurisdiction obtained by any Lender, the L/C Issuer or Swing Line Lender against that Defaulting Lender as a result of that Defaulting Lender's breach of its obligations under this Agreement; seventh, so long as no Default exists, to the payment of any amounts owing to the Borrowers as a result of any judgment of a court of competent jurisdiction obtained by the Borrowers against that Defaulting Lender as a result of that Defaulting Lender's breach of its obligations under this Agreement; and eighth, to that Defaulting Lender or as otherwise directed by a court of competent jurisdiction; provided that if (x) such payment is a payment of the principal amount of any Loans or L/C Borrowings in respect of which that Defaulting Lender has not fully funded its appropriate share and (y) such Loans were made or the related Letters of Credit were issued at a time when the conditions set forth in Section 5.02 were satisfied or waived, such payment shall be applied solely to pay the Loans of, and L/C Obligations owed to, all non-Defaulting Lenders on a pro rata basis prior to being applied to the payment of any Loans of, or L/C Obligations owed to, such Defaulting Lender until such time as all Loans and funded and unfunded participations in L/C Obligations and Swing Line Loans are held by the Lenders pro rata in accordance with the Commitments hereunder without giving effect to Section 2.17(a)(iv). Any payments, prepayments or other amounts paid or payable to a Defaulting Lender that are applied (or held) to pay amounts owed by a Defaulting Lender or to post Cash Collateral pursuant to

this Section 2.17(a)(ii) shall be deemed paid to and redirected by that Defaulting Lender, and each Lender irrevocably consents hereto.

(iii) Certain Fees.

(A) Each Defaulting Lender shall be entitled to receive fees payable under Sections 2.09(a) for any period during which that Lender is a Defaulting Lender only to extent allocable to the sum of (1) the outstanding principal amount of the Committed Loans funded by it, and (2) its Pro Rata Share of the stated amount of Letters of Credit for which it has provided Cash Collateral pursuant to Section 2.16.

(B) Each Defaulting Lender shall be entitled to receive Letter of Credit Fees for any period during which that Lender is a Defaulting Lender only to the extent allocable to its Pro Rata Share of the stated amount of Letters of Credit for which it has provided Cash Collateral pursuant to Section 2.16.

(C) With respect to any fee payable under Section 2.09(a) or any Letter of Credit Fee not required to be paid to any Defaulting Lender pursuant to clause (A) or (B) above, the Borrowers shall (x) pay to each non-Defaulting Lender that portion of any such fee otherwise payable to such Defaulting Lender with respect to such Defaulting Lender's participation in L/C Obligations or Swing Line Loans that has been reallocated to such non-Defaulting Lender pursuant to clause (a)(iv) below, (y) pay to the L/C Issuer and Swing Line Lender, as applicable, the amount of any such fee otherwise payable to such Defaulting Lender to the extent allocable to such L/C Issuer's or Swing Line Lender's Fronting Exposure to such Defaulting Lender, and (z) not be required to pay the remaining amount of any such fee.

(iv) Reallocation of Pro Rata Shares to Reduce Fronting Exposure. All or any part of such Defaulting Lender's participation in L/C Obligations and Swing Line Loans shall be reallocated among the non-Defaulting Lenders in accordance with their respective Pro Rata Shares (calculated without regard to such Defaulting Lender's Commitment) but only to the extent that such reallocation does not cause the aggregate Outstanding Amount of such non-Defaulting Lender's Committed Loans and such non-Defaulting Lender's participation in L/C Obligations and Swing Line Loans at such time to exceed such non-Defaulting Lender's Commitment. Subject to Section 11.24, no reallocation hereunder shall constitute a waiver or release of any claim of any party hereunder against a Defaulting Lender arising from that Lender having become a Defaulting Lender, including any claim of a non-Defaulting Lender as a result of such non-Defaulting Lender's increased exposure following such reallocation.

(v) Cash Collateral, Repayment of Swing Line Loans. If the reallocation described in clause (a)(iv) above cannot, or can only partially, be effected, the Borrowers shall, without prejudice to any right or remedy available to it hereunder or under applicable Law, (x) first, prepay Swing Line Loans in an amount equal to the Swing Line Lenders' Fronting Exposure and (y) second, Cash Collateralize the L/C Issuers' Fronting Exposure in accordance with the procedures set forth in Section 2.16.

(b) **Defaulting Lender Cure.** If the Company, the Administrative Agent, the Swing Line Lender and the L/C Issuer agree in writing in their sole discretion that a Defaulting Lender should no longer be deemed to be a Defaulting Lender, the Administrative Agent will so notify the parties hereto, whereupon as of the effective date specified in such notice and subject to any conditions set forth therein (which may include arrangements with respect to any Cash Collateral), that Lender will, to the extent applicable, purchase at par that portion of outstanding Committed Loans of the other Lenders or take such other actions as the Administrative Agent may determine to be necessary to cause the Committed Loans and funded and unfunded participations in Letters of Credit and Swing Line Loans to be held on a pro rata basis by the Lenders in accordance with their Pro Rata Shares (without giving effect to Section 2.17(a)(iv)), whereupon that Lender will cease to be a Defaulting Lender; provided that no adjustments will be made retroactively with respect to fees accrued or payments made by or on behalf of the Borrowers while that Lender was a Defaulting Lender; and provided, further, that except to the extent otherwise expressly agreed by the affected parties, no change hereunder from Defaulting Lender to Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender's having been a Defaulting Lender.

ARTICLE III.

TAXES, YIELD PROTECTION AND ILLEGALITY

3.01 Taxes.

(a) Except as required by Laws, any and all payments by or on behalf of the respective Borrowers to or for the account of the Administrative Agent or any Lender under any Loan Document shall be made free and clear of and without deduction for Taxes. If any Borrower or the Administrative Agent shall be required by the Internal Revenue Code to deduct any Taxes from or in respect of any sum payable under any Loan Document to the Administrative Agent or any Lender, (i) to the extent that the deduction is made on account of Indemnified Taxes, the sum payable shall be increased as necessary so that after making all required deductions (including deductions applicable to additional sums payable under this Section), the Administrative Agent or such Lender receives an amount equal to the sum it would have received had no such deductions for Indemnified Taxes been made, (ii) the Administrative Agent shall make such deductions, and (iii) the Administrative Agent shall pay the full amount deducted to the relevant Governmental Authority in accordance with applicable Laws. If any Borrower or the Administrative Agent shall be required by any applicable Laws other than the Internal Revenue Code to deduct any Taxes from or in respect of any sum payable under any Loan Document to the Administrative Agent or any Lender, then (i) such Borrower or the Administrative Agent, as required by such Laws, shall withhold or make such deductions, (ii) such Borrower or the Administrative Agent, to the extent required by such Laws, shall timely pay the full amount withheld or deducted to the relevant Governmental Authority in accordance with such Laws, and (iii) to the extent that the withholding or deduction is made on account of Indemnified Taxes, the sum payable by the applicable Borrower shall be increased as necessary so that after any required withholding or the making of all required deductions (including deductions applicable to additional sums payable under this Section) the Administrative Agent or such Lender receives an amount equal to the sum it would have received had no such withholding or deduction of Indemnified Taxes been made.

(b) In addition, each Borrower agrees to pay any and all present or future stamp or documentary Taxes and any other excise or property Taxes or similar levies that arise from the execution, delivery, performance (other than payment of amounts owing under the Loan Documents), enforcement or registration of from the receipt or perfection of a security interest under, or otherwise similarly with respect to, any Loan Document, except any such Taxes that are

Other Connection Taxes imposed with respect to an assignment (other than an assignment made pursuant to Section 11.16) (hereinafter referred to as “Other Taxes”).

(c) (i) Each Borrower agrees to indemnify the Administrative Agent and each Lender for (x) the full amount of Indemnified Taxes (including any Indemnified Taxes imposed or asserted on or attributable to amounts payable under this Section) paid by the Administrative Agent and such Lender and (y) any reasonable expenses arising therefrom or with respect thereto, in each case whether or not such Indemnified Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. Payment under this subsection (c) shall be made within sixty (60) days after the date the Lender or the Administrative Agent makes a written demand therefor; provided, however, that notwithstanding any other provision of this Section 3.01, if the Administrative Agent or any Lender requests indemnification or reimbursement for Indemnified Taxes pursuant to this Section 3.01 more than 120 days after the earlier of (i) the date on which the Administrative Agent or such Lender, as the case may be, makes payment of such Indemnified Taxes, and (ii) the date on which the appropriate Governmental Authority makes written demand on the Administrative Agent or such Lender, as the case may be, for payment of such Indemnified Taxes, then the applicable Borrower shall not be obligated to indemnify or reimburse the Administrative Agent or such Lender, as the case may be, for such Indemnified Taxes. Each Borrower shall, and does hereby indemnify the Administrative Agent, and shall make payment in respect thereof within 10 days after demand therefor, for any amount which a Lender for any reason fails to pay indefeasibly to the Administrative Agent as required pursuant to Section 3.01(c)(ii) below; provided, however, that no Borrower shall have any obligation to indemnify any party hereunder for Indemnified Taxes, Other Taxes or any other liability that arises from such party’s own gross negligence or willful misconduct. To the extent that a Borrower pays an amount to the Administrative Agent pursuant to the preceding sentence (a “Back-Up Indemnity Payment”), then upon request of the Company, the Administrative Agent shall use commercially reasonable efforts to exercise its set-off rights described in the last sentence of clause (c)(ii) below (on behalf of itself or the Borrowers) to collect the applicable Back-Up Indemnity Payment amount from the applicable Lender or L/C Issuer and shall pay the amount so collected to the Company net of any reasonable expenses incurred by the Administrative Agent in its efforts to collect (through set-off or otherwise) from such Lender or L/C Issuer with respect to clause (c)(ii), below.

(ii) Each Lender shall, and does hereby, severally indemnify, and shall make payment in respect thereof within 10 days after demand therefor, (x) the Administrative Agent against any Indemnified Taxes attributable to such Lender (but only to the extent that any Borrower has not already indemnified the Administrative Agent for such Indemnified Taxes and without limiting the obligation of the Borrowers to do so) and (y) the Administrative Agent and the Borrowers, as applicable, against any Excluded Taxes attributable to such Lender, in each case, that are payable or paid by the Administrative Agent or a Borrower in connection with any Loan Document, and any reasonable expenses arising therefrom or with respect thereto, whether or not such Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to any Lender by the Administrative Agent shall be conclusive absent manifest error. Each Lender hereby authorizes the Administrative Agent to set off and apply any and all amounts at any time owing to such Lender, as the case may be, under this Agreement or any other Loan Document against any amount due to the Administrative Agent under this clause (ii).

(d) Upon request by a Borrower or the Administrative Agent, as the case may be, after any payment of Taxes by such Borrower or by the Administrative Agent to a Governmental Authority as provided in this Section 3.01, the Company shall deliver to the Administrative Agent or the Administrative Agent shall deliver to the Company, as the case may be, the original or a

certified copy of a receipt issued by such Governmental Authority evidencing such payment, a copy of any return required by Laws to report such payment or other evidence of such payment reasonably satisfactory to the Company or the Administrative Agent, as the case may be.

(e) Unless required by applicable Laws, at no time shall the Administrative Agent have any obligation to file for or otherwise pursue on behalf of a Lender, or have any obligation to pay to any Lender any refund of Taxes withheld or deducted from funds paid for the account of such Lender, as the case may be. If the Administrative Agent or a Lender determines, in good faith, that it has received a refund of any Taxes as to which it has been indemnified by a Borrower or with respect to which a Borrower has paid additional amounts pursuant to this Section 3.01, it shall pay an amount equal to such refund to such Borrower (but only to the extent of indemnity payments made, or additional amounts paid, by such Borrower under this Section 3.01 with respect to the Taxes giving rise to such refund), net of all out-of-pocket expenses of the Administrative Agent or such Lender and without interest (other than any interest paid by the relevant Governmental Authority with respect to such refund); provided that the applicable Borrower, upon the request of the Administrative Agent or such Lender, agrees to repay the amount paid over to such Borrower (plus any penalties, interest or other charges imposed by the relevant Governmental Authority) to the Administrative Agent, such Lender or the L/C Issuer in the event the Administrative Agent or such Lender is required to repay such refund to such Governmental Authority. Notwithstanding anything to the contrary in this subsection, in no event will the Administrative Agent or any Lender be required to pay any amount to the applicable Borrower pursuant to this subsection the payment of which would place the Administrative Agent or such Lender in a less favorable net after-Tax position than such party would have been in if the Indemnified Tax subject to indemnification and giving rise to such refund had not been deducted, withheld or otherwise imposed and the indemnification payments or additional amounts with respect to such Tax had never been paid. This paragraph shall not be construed to require the Administrative Agent or any Lender to make available its tax returns (or any other information relating to its Taxes that it deems confidential) to any Borrower or any other Person.

(f) Each party's obligations under this Section 3.01 and under Section 11.15 shall survive the resignation or replacement of the Administrative Agent or any assignment of rights by, or the replacement of, a Lender or the L/C Issuer, the termination of the Commitments and the repayment, satisfaction or discharge of all other Obligations.

(g) For purposes of this Section and Section 11.15, the term "Lender" includes the L/C Issuer.

3.02 Illegality.

If any Lender in good faith determines that any Change in Law has made it unlawful, or that any Governmental Authority has asserted that it is unlawful, for any Lender or its applicable Lending Office to perform any of its obligations hereunder or make, maintain or fund or charge interest with respect to any Credit Extension or to determine or charge interest rates based upon a Relevant Rate, or any Governmental Authority has imposed material restrictions on the authority of such Lender to purchase or sell, or to take deposits of, any Applicable Currency in the applicable interbank market, then, on notice thereof by such Lender to the Company (through the Administrative Agent), (i) any obligation of such Lender to issue, make maintain, fund or charge interest with respect to any such Credit Extension or to make or continue Term SOFR Loans, Term SOFR Daily Floating Rate Loans or Alternative Currency Loans, as applicable, or to convert Base Rate Loans to Term SOFR Loans or Term SOFR Daily Floating Rate Loans, as applicable, shall be suspended and (ii) if such notice asserts the illegality of such Lender making or maintaining Base Rate Loans the interest rate on which is determined by reference to the Term SOFR component of the Base Rate, the interest rate on which Base Rate Loans of such Lender, shall, if necessary to avoid such illegality, be determined by the Administrative Agent without reference to the

Term SOFR component of the Base Rate, in each case, until such Lender notifies the Administrative Agent and the Company that the circumstances giving rise to such determination no longer exist. Upon receipt of such notice by the Company, (x) the Borrowers shall, upon demand from such Lender (with a copy to the Administrative Agent), prepay all Term SOFR Loans, Term SOFR Daily Floating Rate Loans or Alternative Currency Loans, as applicable in the affected currency or currencies or, if applicable, in the case of Term SOFR Loans or Term SOFR Daily Floating Rate Loans, convert all such Term SOFR Loans or Term SOFR Daily Floating Rate Loans, as applicable, of such Lender to Base Rate Loans (the interest rate on which Base Rate Loans of such Lender shall, if necessary to avoid such illegality, be determined by the Administrative Agent without utilization of the Term SOFR component of the Base Rate), either (1) in the case of Term SOFR Loans, on the last day of the Interest Period therefor, if such Lender may lawfully continue to maintain such Loans to such day, or immediately, if such Lender may not lawfully continue to maintain such Loans or (2) immediately, in the case of Term SOFR Daily Floating Rate Loans and (y) if such notice asserts the illegality of such Lender determining or charging interest rates based upon SOFR, the Administrative Agent shall during the period of such suspension compute the Base Rate applicable to such Lender without reference to the Term SOFR component thereof until the Administrative Agent is advised in writing by such Lender that it is no longer illegal for such Lender to determine or charge interest rates based upon SOFR. Upon any such prepayment or conversion, the applicable Borrowers shall also pay accrued interest on the amount so prepaid or converted. Each Lender agrees to designate a different Lending Office if such designation will avoid the need for such notice and will not, in the good faith judgment of such Lender, otherwise be materially disadvantageous to such Lender. If such Lender does not designate a different Lending Office to avoid the need for such notice, the Company may replace such Lender in accordance with Section 11.16.

Each Lender at its option may make any Credit Extension to any Borrower by causing any domestic or foreign branch or Affiliate of such Lender to make such Credit Extension; provided that any exercise of such option shall not affect the obligation of such Borrower to repay such Credit Extension in accordance with the terms of this Agreement; provided, however, if any Lender determines that any Change in Law has made it unlawful, or that any Governmental Authority has asserted that it is unlawful, in each case, after the Closing Date for any Lender or its applicable Lending Office to issue, make, maintain, fund or any interest rate with respect to any Credit Extension to any Borrower who is organized under the laws of a jurisdiction other than the United States, a State thereof or the District of Columbia then, on notice thereof by such Lender to the Company through the Administrative Agent, and until such notice by such Lender is revoked, any obligation of such Lender to issue, make, maintain, fund or charge interest with respect to any such Credit Extension shall be suspended. Upon receipt of such notice, the Borrowers shall, take all reasonable actions requested by such Lender to mitigate or avoid such illegality.

3.03 Inability to Determine Rates.

(a) If in connection with any request for a Term SOFR Loan, a Term SOFR Daily Floating Rate Loan or an Alternative Currency Loan or a conversion of Base Rate Loans to Term SOFR Loans or Term SOFR Daily Floating Rate Loans or a continuation of any such Loans, as applicable, (i) the Administrative Agent in good faith determines that (A) no Successor Rate for the Relevant Rate for the Applicable Currency has been determined in accordance with (x) in the case of Term SOFR Loans or Term SOFR Daily Floating Rate Loans, Section 3.03(b) and the circumstances under clause (i) of Section 3.03(b) or the Scheduled Term SOFR Unavailability Date has occurred (as applicable) or (y) in the case of Alternative Currency Loans, Section 3.03(c), and the circumstances under clause (i) of Section 3.03(c) or the Scheduled Relevant Rate Unavailability Date has occurred with respect to such Relevant Rate (as applicable) or (B) adequate and reasonable means do not otherwise exist for determining the Relevant Rate for the Applicable Currency for any determination date(s) or requested Interest Period, as applicable, with respect to a proposed Term SOFR Loan, Term SOFR Daily Floating Rate Loan or Alternative Currency Loan or in connection with an existing or proposed Base Rate Loan, or (ii) the Administrative Agent or the Required Lenders in good faith determine that for any reason that

the Relevant Rate with respect to a proposed Loan denominated in an Applicable Currency for any requested Interest Period or determination date(s) does not adequately and fairly reflect the cost to such Lenders of funding such Loan, the Administrative Agent will promptly notify the Company and each Lender.

Thereafter, (x) the obligation of the Lenders to make or maintain Loans in the affected currency or currencies, as applicable, or to convert Base Rate Loans to Term SOFR Loans or Term SOFR Daily Floating Rate Loans, shall be suspended in each case to the extent of the affected Loans or Interest Periods or determination date(s), as applicable, and (y) in the event of a determination described in the preceding sentence with respect to the Term SOFR component of the Base Rate, the utilization of the Term SOFR component in determining the Base Rate shall be suspended, in each case until the Administrative Agent (or, in the case of a determination by the Required Lenders described in clause (ii) of this Section 3.03(a), until the Administrative Agent upon instruction of the Required Lenders) revokes such notice. Upon receipt of such notice, (1) the Company (or the applicable Borrower) may revoke any pending request for a Borrowing of, conversion to Term SOFR Loans or Term SOFR Daily Floating Rate Loans or continuation of Term SOFR Loans, or Borrowing of, or a continuation of Alternative Currency Loans to the extent of the affected Loans or Interest Period or determination date(s), as applicable or, failing that, will be deemed to have converted such request into a request for a Committed Borrowing of Base Rate Loans denominated in Dollars in the Dollar Equivalent of the amount specified therein and (2) (A) any outstanding Term SOFR Loans or Term SOFR Daily Floating Rate Loans shall be deemed to have been converted to Base Rate Loans immediately, in the case of Term SOFR Daily Floating Rate Loans or at the end of their respective applicable Interest Period, in the case of Term SOFR Loans and (B) any outstanding affected Alternative Currency Loans, at the Company's election, shall either (I) be converted into a Committed Borrowing of Base Rate Loans in the Dollar Equivalent of the amount of such outstanding Alternative Currency Loan immediately, in the case of an Alternative Currency Daily Rate Loan or at the end of the applicable Interest Period, in the case of an Alternative Currency Term Rate Loan, or (II) be prepaid in full immediately, in the case of an Alternative Currency Daily Rate Loan or at the end of the applicable Interest Period, in the case of an Alternative Currency Term Rate Loan; provided that if no election is made by the Company (x) in the case of an Alternative Currency Daily Rate Loan, by the date that is three (3) Business Days after receipt by the Company of such notice or (y) in the case of an Alternative Currency Term Rate Loan, by the last day of the current Interest Period for the applicable Alternative Currency Term Rate Loan, the Company shall be deemed to have elected clause (I) above.

(b) Replacement of Successor of Term SOFR. Notwithstanding anything to the contrary in this Agreement or any other Loan Documents, if the Administrative Agent determines (which determination shall be conclusive absent manifest error), or the Company or Required Lenders notify the Administrative Agent (with, in the case of the Required Lenders, a copy to the Company) that the Company or Required Lenders (as applicable) have determined, that:

(i) adequate and reasonable means do not exist for ascertaining one month, three month and six month interest periods of Term SOFR, or for ascertaining the Term SOFR Daily Floating Rate, including, without limitation, because the Term SOFR Screen Rate is not available or published on a current basis and such circumstances are unlikely to be temporary; or

(ii) CME or any successor administrator of the Term SOFR Screen Rate or a Governmental Authority having jurisdiction over the Administrative Agent or such administrator with respect to its publication of Term SOFR, in each case acting in such capacity, has made a public statement identifying a specific date after which one month, three month and six month interest periods of Term SOFR or the Term SOFR Screen Rate shall or will no longer be made available, or permitted to be used for determining the interest rate of Dollar denominated syndicated loans, or shall or will otherwise cease, provided that, at the time of such statement, there is no successor administrator that is satisfactory to the Administrative Agent, that will continue to provide such interest periods of Term SOFR after such specific date (the latest date on which one month, three month and six month interest periods of Term SOFR or the Term SOFR Screen Rate are no longer available permanently or indefinitely, the “Scheduled Term SOFR Unavailability Date”);

then, on a date and time determined by the Administrative Agent (any such date, the “Term SOFR Replacement Date”), which date shall be at the end of an Interest Period or on the relevant interest payment date, as applicable, for interest calculated and, solely with respect to clause (ii) above, no later than the Scheduled Term SOFR Unavailability Date, Term SOFR or the Term SOFR Daily Floating Rate, as applicable, will be replaced hereunder and under any Loan Document with Daily Simple SOFR plus the SOFR Adjustment for any payment period for interest calculated that can be determined by the Administrative Agent, in each case, without any amendment to, or further action or consent of any other party to, this Agreement or any other Loan Document (the “Successor Term SOFR Rate”).

If the Successor Term SOFR Rate is Daily Simple SOFR plus the SOFR Adjustment, all interest payments will be payable on a quarterly basis.

Notwithstanding anything to the contrary herein, (i) if the Administrative Agent determines that Daily Simple SOFR is not available on or prior to the Term SOFR Replacement Date, or (ii) if the events or circumstances of the type described in Section 3.03(b)(i) or (ii) have occurred with respect to the Successor Term SOFR Rate then in effect, then in each case, the Administrative Agent and the Company may amend this Agreement solely for the purpose of replacing Term SOFR, the Term SOFR Daily Floating Rate or any then current Successor Term SOFR Rate in accordance with this Section 3.03 at the end of any Interest Period, relevant interest payment date or payment period for interest calculated, as applicable, with an alternative benchmark rate giving due consideration to any evolving or then existing convention for similar Dollar denominated credit facilities syndicated and agented in the United States for such alternative benchmark. and, in each case, including any mathematical or other adjustments to such benchmark giving due consideration to any evolving or then existing convention for similar Dollar denominated credit facilities syndicated and agented in the United States for such benchmark, which adjustment or method for calculating such adjustment shall be published on an information service as selected by the Administrative Agent from time to time in its reasonable discretion and may be periodically updated. For the avoidance of doubt, any such proposed rate and adjustments, shall constitute a “Successor Term SOFR Rate”. Any such amendment shall become effective at 5:00 p.m. on the fifth Business Day after the Administrative Agent shall have posted such proposed amendment to all Lenders and the Company unless, prior to such time, Lenders comprising the Required Lenders have delivered to the Administrative Agent written notice that such Required Lenders object to such amendment.

For purposes of this Section 3.03(b), those Lenders that either have not made, or do not have an obligation under this Agreement to make, the relevant Loans in Dollars shall be excluded from any determination of Required Lenders.

(c) Replacement or Successor of Other Relevant Rate. Notwithstanding anything to the contrary in this Agreement or any other Loan Documents, if the Administrative Agent determines (which determination shall be conclusive absent manifest error), or the Company or Required Lenders notify the Administrative Agent (with, in the case of the Required Lenders, a copy to the Company) that the Company or Required Lenders (as applicable) have determined (which determination likewise shall be conclusive absent manifest error), that:

(i) adequate and reasonable means do not exist for ascertaining the Relevant Rate for an Alternative Currency because none of the tenors of such Relevant Rate (including any forward-looking term rate thereof) is available or published on a current basis and such circumstances are unlikely to be temporary; or

(ii) the Applicable Authority has made a public statement identifying a specific date after which all tenors of the Relevant Rate for an Alternative Currency (including any forward-looking term rate thereof) shall or will no longer be representative or made available, or used for determining the interest rate of loans denominated in such Alternative Currency, or shall or will otherwise cease, provided that, in each case, at the time of such statement, there is no successor administrator that is satisfactory to the Administrative Agent that will continue to provide such representative tenor(s) of the Relevant Rate for such Alternative Currency (the latest date on which all tenors of the Relevant Rate for such Alternative Currency (including any forward-looking term rate thereof) are no longer representative or available permanently or indefinitely, the “Scheduled Relevant Rate Unavailability Date”), or

(iii) syndicated loans currently being executed and agented in the United States are being executed or amended (as applicable) to incorporate or adopt a new benchmark interest rate to replace the Relevant Rate for an Alternative Currency,

or if the events or circumstances of the type described in Section 3.03(c)(i), (ii) or (iii) have occurred with respect to the Successor Relevant Rate then in effect, then, the Administrative Agent and the Company may amend this Agreement solely for the purpose of replacing the Relevant Rate for an Alternative Currency or any then current Successor Relevant Rate for an Alternative Currency in accordance with this Section 3.03 with an alternative benchmark rate giving due consideration to any evolving or then existing convention for similar credit facilities syndicated and agented in the United States and denominated in such Alternative Currency for such alternative benchmarks, and, in each case, including any mathematical or other adjustments to such benchmark giving due consideration to any evolving or then existing convention for similar credit facilities syndicated and agented in the United States and denominated in such Alternative Currency for such benchmarks, which adjustment or method for calculating such adjustment shall be published on an information service as selected by the Administrative Agent from time to time in its reasonable discretion and may be periodically updated (and any such proposed rate, including for the avoidance of doubt, any adjustment thereto, a “Successor Relevant Rate”), and any such amendment shall become effective at 5:00 p.m. on the fifth Business Day after the Administrative Agent shall have posted such proposed amendment to all Lenders and the Company unless, prior to such time, Lenders comprising the Required Lenders have delivered to the Administrative Agent written notice that such Required Lenders object to such amendment.

(d) Successor Rates Generally.

The Administrative Agent will promptly (in one or more notices) notify the Company and each Lender of the implementation of any Successor Rate.

Any Successor Rate shall be applied in a manner consistent with market practice; provided that to the extent such market practice is not administratively feasible for the Administrative Agent, such Successor Rate shall be applied in a manner as otherwise reasonably determined by the Administrative Agent.

Notwithstanding anything else herein, if at any time any Successor Rate as so determined would otherwise be less than zero percent (0.0%), the Successor Rate will be deemed to be zero percent (0.0%) for the purposes of this Agreement and the other Loan Documents.

In connection with the implementation of a Successor Rate, the Administrative Agent will have the right to make Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan Document, any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement; provided that, with respect to any such amendment effected, the Administrative Agent shall post each such amendment implementing such Conforming Changes to the Company and the Lenders reasonably promptly after such amendment becomes effective.

3.04 Increased Cost and Reduced Return; Capital Adequacy.

(a) If any Lender or the L/C Issuer determines that as a result of any Change in Law, there shall be any increase in the cost to such Lender or the L/C Issuer of agreeing to make or making, funding or maintaining Loans the interest on which is determined by reference to SOFR, Alternative Currency Loans or (as the case may be) issuing or participating in Letters of Credit, or a reduction in the amount received or receivable by such Lender or the L/C Issuer in connection with any of the foregoing, in an amount deemed by such Lender or the L/C Issuer to be material (excluding for purposes of this subsection (a) any such increased costs or reduction in amount resulting from (i) Taxes (as to which Section 3.01 shall govern), (ii) changes in the basis of taxation of overall net income or overall gross income by the United States or any foreign jurisdiction or any political subdivision of either thereof under the Laws of which such Lender or the L/C Issuer is organized or has its Lending Office, and (iii) reserve requirements utilized, as to Alternative Currency Loans, as contemplated by Section 3.04(e)), then from time to time within ten Business Days after the Borrowers' receipt of the certificate contemplated by Section 3.06(a) from such Lender or the L/C Issuer (with a copy of such certificate to the Administrative Agent), the Borrowers shall pay to such Lender or the L/C Issuer such additional amounts as will compensate such Lender or the L/C Issuer for such increased cost or reduction; provided that the Borrowers shall not be required to compensate a Lender or the L/C Issuer pursuant to this Section 3.04 for any additional amounts incurred more than 90 days prior to the date that such Lender or the L/C Issuer notifies the Borrowers of the Change in Law giving rise to such additional amounts and of such Lender's or the L/C Issuer's intention to claim compensation therefor; provided that, if the Change in Law giving rise to such additional amounts is retroactive, then such 90-day period referred to above shall be extended to include the period of retroactive effect thereof.

(b) If any Lender or the L/C Issuer determines that any Change in Law has the effect of reducing the rate of return on the capital of such Lender or the L/C Issuer or any corporation controlling such Lender or the L/C Issuer as a consequence of such Lender's or the L/C Issuer's obligations hereunder (taking into consideration its policies with respect to capital adequacy and liquidity and such Lender's or the L/C Issuer's desired return on capital), in an amount deemed by such Lender or the L/C Issuer to be material, then from time to time within ten Business Days

after the Borrowers' receipt of the certificate contemplated by Section 3.06(a) from such Lender or the L/C Issuer (with a copy of such certificate to the Administrative Agent), the Borrowers shall pay to such Lender or the L/C Issuer such additional amounts as will compensate such Lender or the L/C Issuer for such reduction; provided that each such Lender or the L/C Issuer shall make demand for compensation hereunder no later than ninety days after becoming aware of such effect.

(c) [Reserved].

(d) Notwithstanding anything to the contrary in this Section 3.04, no Borrower shall be required to pay to any Lender or the L/C Issuer additional amounts under this Section 3.04 for Taxes (Section 3.01 shall govern the obligation of the Borrowers to pay additional amounts for Taxes).

(e) The Company shall pay (or cause the applicable Designated Borrower to pay) to each Lender, as long as such Lender shall be required to comply with any reserve ratio requirement or analogous requirement of any other central banking or financial regulatory authority imposed in respect of the maintenance of the Commitments or the funding of Alternative Currency Loans, such additional costs (expressed as a percentage per annum and rounded upwards, if necessary, to the nearest five decimal places) equal to the actual costs allocated to such Commitment or Loan by such Lender (as determined by such Lender in good faith, which determination shall be conclusive absent manifest error), which in each case shall be due and payable on each date on which interest is payable on such Loan, provided the Company shall have received at least 10 days' prior notice (with a copy to the Administrative Agent) of such additional interest or costs from such Lender. If a Lender fails to give notice ten Business Days prior to the relevant Interest Payment Date, such additional interest or costs shall be due and payable ten Business Days from receipt of such notice.

3.05 Funding Losses.

The Company shall compensate (or cause the applicable Borrower to compensate) such Lender for and hold such Lender harmless from any loss, cost or expense (excluding the loss of the Applicable Rate) incurred by it as a result of:

(a) any continuation, conversion, payment or prepayment of any Term SOFR Loan or Alternative Currency Term Rate Loan on a day other than the last day of the Interest Period for such Loan (whether voluntary, mandatory, automatic, by reason of acceleration, or otherwise);

(b) any failure by any Borrower (for a reason other than the failure of such Lender to make a Loan) to prepay, borrow, continue or convert any Term SOFR Loan or Alternative Currency Loan on the date or in the amount notified by the Company or the applicable Borrower;

(c) any failure by any Borrower to make payment of any Loan or drawing under any Letter of Credit (or interest due thereon) denominated in an Alternative Currency on its scheduled due date or any payment thereof in a different currency; or

(d) any assignment of a Term SOFR Loan or an Alternative Currency Term Rate Loan on a day other than the last day of the Interest Period therefor as a result of a request by the Company pursuant to Section 11.16;

including any foreign exchange losses and any loss or expense arising from the liquidation or reemployment of funds obtained by it to maintain such Loan or from fees payable to terminate the deposits from which such funds were obtained or from the performance of any foreign exchange contract. The Company shall also pay (or shall cause the applicable Borrower to pay) any reasonable customary administrative fees charged by such Lender in connection with the foregoing. The Company (or the applicable Borrower) will, within ten Business Days after the Company's (or the applicable Borrower's) receipt of the certificate contemplated by Section 3.06(a), pay such Lender such additional amounts as will compensate such Lender for such losses, costs or expenses.

For purposes of calculating amounts payable by the Borrowers to the Lenders under this Section 3.05, each Lender shall be deemed to have funded each Alternative Currency Term Rate Loan made by it at the Alternative Currency Term Rate for such Loan by a matching deposit or other borrowing in the interbank market for such currency for a comparable amount and for a comparable period, whether or not such Alternative Currency Term Rate Loan was in fact so funded.

3.06 Matters Applicable to all Requests for Compensation.

(a) Any Lender or L/C Issuer claiming compensation under this Article III shall be required to deliver a certificate (i) setting forth in reasonable detail the additional amount or amounts to be paid to it hereunder, and (ii) setting forth in reasonable detail the manner in which such amount was determined, which certificate shall be conclusive in the absence of manifest error. In determining such amount, the Administrative Agent or such Lender may use any reasonable averaging and attribution methods.

(b) Upon any Lender's making a claim for compensation under Section 3.01 or 3.04, the Company may replace such Lender in accordance with Section 11.16.

(c) Notwithstanding anything contained herein to the contrary, a Lender shall not be entitled to any compensation pursuant to Section 3.04 or to exercise the rights under Section 3.02 to the extent such Lender is not generally imposing such charges or requesting such compensation from, or is not generally exercising such rights against, as applicable, other similarly situated borrowers under similar circumstances.

3.07 Survival.

The obligations of each Borrower under this Article III shall survive termination of the Aggregate Commitments, repayment of all other Obligations hereunder and resignation of the Administrative Agent.

ARTICLE IV.

GUARANTY

4.01 The Guaranty.

The Company hereby guarantees to each Lender, the L/C Issuer and the Administrative Agent as hereinafter provided, as primary obligor and not as surety, the prompt payment of the Obligations in full when due (whether at stated maturity, as a mandatory prepayment, by acceleration, as a mandatory cash collateralization or otherwise) strictly in accordance with the terms thereof. The Company hereby further agrees that if any of the Obligations are not paid in full when due (whether at stated maturity, as a mandatory prepayment, by acceleration, as a mandatory cash collateralization or otherwise), the Company will promptly pay the same, without any demand or notice whatsoever, and that in the case of any extension of time of payment or renewal of any of the Obligations, the same will be promptly paid in full

when due (whether at extended maturity, as a mandatory prepayment, by acceleration, as a mandatory cash collateralization or otherwise) in accordance with the terms of such extension or renewal.

4.02 Obligations Unconditional.

The obligations of the Company under Section 4.01 are absolute and unconditional, irrespective of the value, genuineness, validity, regularity or enforceability of any of the Loan Documents or other documents relating to the Obligations, or any substitution, release, impairment or exchange of any other guarantee of or security for any of the Obligations, and, to the fullest extent permitted by applicable law, irrespective of any other circumstance whatsoever that might otherwise constitute a legal or equitable discharge or defense of a surety or guarantor (other than payment in full of all Obligations (other than contingent indemnification obligations for which no claim has yet been made)), it being the intent of this Section 4.02 that the obligations of the Company hereunder shall be absolute and unconditional under any and all circumstances until payment in full of all Obligations (other than contingent indemnification Obligations for which no claim has yet been made). The Company agrees that it shall have no right of subrogation, indemnity, reimbursement or contribution against any Borrower for amounts paid under this Article IV until such time as the Obligations have been paid in full (other than contingent indemnification Obligations on which no claim has yet been made) and the Commitments have expired or terminated. Without limiting the generality of the foregoing, it is agreed that, to the fullest extent permitted by law, the occurrence of any one or more of the following shall not alter or impair the liability of the Company hereunder, which shall remain absolute and unconditional as described above:

- (a) at any time or from time to time, without notice to the Company, the time for any performance of or compliance with any of the Obligations shall be extended, or such performance or compliance shall be waived;
- (b) any of the acts mentioned in any of the provisions of any of the Loan Documents or any other agreement or instrument referred to in the Loan Documents shall be done or omitted;
- (c) the maturity of any of the Obligations shall be accelerated, or any of the Obligations shall be modified, supplemented or amended in any respect, or any right under any of the Loan Documents or any other agreement or instrument referred to in the Loan Documents shall be waived or any other guarantee of any of the Obligations or any security therefor shall be released, impaired or exchanged in whole or in part or otherwise dealt with;
- (d) any Lien granted to, or in favor of, the Administrative Agent, the L/C Issuer or any Lender or Lenders as security for any of the Obligations shall fail to attach or be perfected; or
- (e) any of the Obligations shall be determined to be void or voidable (including, without limitation, for the benefit of any creditor of the Company) or shall be subordinated to the claims of any Person (including, without limitation, any creditor of the Company).

With respect to its obligations hereunder, the Company hereby expressly waives diligence, presentment, demand of payment, protest and all notices whatsoever, and any requirement that the Administrative Agent, the L/C Issuer or any Lender exhaust any right, power or remedy or proceed against any Person under any of the Loan Documents or any other agreement or instrument referred to in the Loan Documents or against any other Person under any other guarantee of, or security for, any of the Obligations.

4.03 Reinstatement.

The obligations of the Company under this Article IV shall be automatically reinstated if and to the extent that for any reason any payment by or on behalf of any Person in respect of the Obligations is rescinded or must be otherwise restored by any holder of any of the Obligations, whether as a result of any Debtor Relief Law or otherwise, and the Company agrees that it will indemnify the Administrative Agent, the L/C Issuer and each Lender on demand for all reasonable costs and expenses (including, without limitation, fees and expenses of counsel) incurred by the Administrative Agent, the L/C Issuer or such Lender in connection with such rescission or restoration, including any such costs and expenses incurred in defending against any claim alleging that such payment constituted a preference, fraudulent transfer or similar payment under any Debtor Relief Law.

4.04 Certain Additional Waivers.

The Company agrees that it shall have no right of recourse to security for the Obligations, except through the exercise of rights of subrogation pursuant to Section 4.02.

4.05 Remedies.

The Company agrees that, to the fullest extent permitted by law, as between the Company, on the one hand, and the Administrative Agent, the L/C Issuer and the Lenders, on the other hand, the Obligations may be declared to be forthwith due and payable as provided in Section 9.02 (and shall be deemed to have become automatically due and payable in the circumstances provided in said Section 9.02) for purposes of Section 4.01 notwithstanding any stay, injunction or other prohibition preventing such declaration (or preventing the Obligations from becoming automatically due and payable) as against any other Person and that, in the event of such declaration (or the Obligations being deemed to have become automatically due and payable), the Obligations (whether or not due and payable by any other Person) shall forthwith become due and payable by the Company for purposes of Section 4.01.

4.06 Guarantee of Payment; Continuing Guarantee.

The guarantee in this Article IV is a guaranty of payment and not of collection, is a continuing guarantee, and shall apply to all Obligations whenever arising.

ARTICLE V.

CONDITIONS PRECEDENT TO CREDIT EXTENSIONS

5.01 Conditions of Initial Credit Extension.

The obligation of each Lender and the L/C Issuer to make its initial Credit Extension hereunder is subject to satisfaction of the following conditions precedent:

(a) The Administrative Agent's receipt of the following, each properly executed by a Responsible Officer of the signing Borrower, each dated the Closing Date (or, in the case of certificates of governmental officials, a recent date before the Closing Date) and each in form and substance reasonably satisfactory to the Administrative Agent and its legal counsel:

- (i) executed counterparts of this Agreement by the Administrative Agent, each Lender and each Borrower;

(ii) Notes executed by the Borrowers in favor of each Lender requesting a Note;

(iii) copies of the Organization Documents of each Borrower certified to be true and complete as of a recent date by the appropriate Governmental Authority of the state or other jurisdiction of its incorporation or organization, where applicable or unless otherwise approved by the Administrative Agent, and certified by a secretary or assistant secretary of such Borrower to be true and correct as of the Closing Date; in respect of the Belgian Borrower, (A) copy of the deed of incorporation (*oprichtingsakte/acte de constitution*), (B) copy of the latest consolidated articles of association (*gecoördineerde statuten/statuts coordonnés*), (C) copy of the share register, (D) an online search on the website of the Central Solvency Register (*Centraal Register Solvabiliteit/Registre Central de la Solvabilité*), www.regsol.be relating to it and stating that the Belgian Borrower has not been declared bankrupt and no judicial reorganisation proceedings have been opened with respect to the Belgian Borrower, dated no earlier than one Business Day prior to the Closing Date or, if relevant, the date of accession and (E) an extract from the Crossroad Bank for Enterprises dated not earlier than 3 days prior to the Closing Date or, if relevant, the date of accession.

(iv) such certificates of resolutions or other action, incumbency certificates and/or other certificates of Responsible Officers of each Borrower as the Administrative Agent may reasonably require evidencing the identity, authority and capacity of each Responsible Officer thereof authorized to act as a Responsible Officer in connection with this Agreement and the other Loan Documents to which such Borrower is a party; in respect of the Belgian Borrower, resolutions of the board of directors or, as the case may be, the board of managers, (A) approving the terms of, and the transactions contemplated by the Loan Documents and resolving that it will enter into, execute and perform the Loan Documents to which it is a party, (B) authorising a specific person or persons to execute the Loan Documents to which it is a party on its behalf, (C) authorising a specific person or persons, on its behalf, to sign and/or despatch all documents and notices to be signed and/or despatched by it under or in connection with the Loan Documents to which it is a party, (D) appointing and/or confirming the appointment of the Company as its agent and any process agents required pursuant to the terms of the Loan Documents, and (E) stating that the entering into and execution of the Loan Documents is in its corporate benefit and in conformity with its corporate purpose;

(v) such documents and certifications as the Administrative Agent may reasonably require to evidence that each Borrower is duly organized or formed, and that each of the Borrowers is validly existing, in good standing and qualified to engage in business in its state of organization or formation;

(vi) opinions of Squire Patton Boggs (US) LLP and Hunton Andrews Kurth LLP, counsel to the Borrowers, addressed to the Administrative Agent and each Lender, dated as of the Closing Date, and in form and substance reasonably satisfactory to the Administrative Agent;

(vii) a certificate signed by a Responsible Officer of the Company certifying (A) that the conditions specified in Sections 5.01(c) and 5.02(a) and (b) have been satisfied and (B) the current Debt Ratings; and

(viii) evidence that the Company's existing Syndicated Facility Agreement dated as of August 14, 2019, as amended and restated as of December 15, 2020 and as further amended and restated as of December 10, 2021, with JPMorgan, as administrative agent has been, or concurrently with the Closing Date is being, terminated and all obligations has been, or concurrently with the Closing Date is being, repaid in full.

(b) Any fees required to be paid on or before the Closing Date shall have been paid.

(c) Since December 31, 2021, there shall not have occurred a material adverse change in the operations, business, properties, liabilities (actual or contingent) or financial condition of the Company or the Consolidated Group taken as a whole.

(d) KYC Information.

(i) Upon the reasonable request of any Lender made at least 10 days prior to the Closing Date, the Borrowers shall have provided to such Lender the documentation and other information so requested in connection with applicable "know your customer" and anti-money-laundering rules and regulations, including the PATRIOT Act, in each case at least five days prior to the Closing Date.

(ii) At least five days prior to the Closing Date, if any Borrower qualifies as a "legal entity customer" under the Beneficial Ownership Regulation, such Borrower shall deliver a Beneficial Ownership Certification in relation to such Borrower.

(e) The Company shall have paid all reasonable attorney's fees of the Administrative Agent to the extent invoiced at least two Business Days prior to the Closing Date, plus such additional amounts of fees as shall constitute its reasonable estimate of attorney's fees incurred or to be incurred by it through the closing proceedings and as shall be identified in the invoice provided at least two Business Days prior to the Closing Date (provided that such estimate shall not thereafter preclude a final settling of accounts between the Company and the Administrative Agent).

Without limiting the generality of the provisions of the last paragraph of Section 10.03, for purposes of determining compliance with the conditions specified in this Section 5.01, each Lender that has signed this Agreement shall be deemed to have consented to, approved or accepted or to be satisfied with, each document or other matter required thereunder to be consented to or approved by or acceptable or satisfactory to a Lender unless the Administrative Agent shall have received notice from such Lender prior to the proposed Closing Date specifying its objection thereto.

5.02 Conditions to all Credit Extensions.

The obligation of each Lender to honor any Request for Credit Extension (other than a Committed Loan Notice requesting only a conversion of Committed Loans to the other Type, or a continuation of Committed Loans as the same Type) is subject to the following conditions precedent:

(a) The representations and warranties of the Company and each other Borrower contained in Article VI (excluding the representation and warranty contained in subsection (c) of Section 6.05) or any other Loan Document, or that are contained in any document furnished at any time under or in connection herewith or therewith, shall be true and correct in all material respects on and as of the date of such Credit Extension, except to the extent that such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct in all material respects as of such earlier date, and except that for purposes of this Section 5.02, the representations and warranties contained in subsections (a) and (b) of Section

6.05 shall be deemed to refer to the most recent financial statements furnished pursuant to clauses (a) and (b), respectively, of Section 7.01.

(b) No Default shall exist, or would result from such proposed Credit Extension.

(c) The Administrative Agent and, if applicable, the L/C Issuer or the Swing Line Lender shall have received a Request for Credit Extension in accordance with the requirements hereof.

(d) If the applicable Borrower is a Designated Borrower, then the conditions of Section 2.14 to the designation of such Borrower as a Designated Borrower shall have been met to the satisfaction of the Administrative Agent.

(e) In the case of a Credit Extension to be denominated in an Alternative Currency, there shall not have occurred any change in national or international financial, political or economic conditions or currency exchange rates or exchange controls which in the reasonable opinion of the Administrative Agent, the Required Lenders (in the case of any Loans to be denominated in an Alternative Currency) or the L/C Issuer (in the case of any Letter of Credit to be denominated in an Alternative Currency) would make it impracticable for such Credit Extension to be denominated in the relevant Alternative Currency.

Each Request for Credit Extension (other than a Committed Loan Notice requesting only a conversion of Committed Loans to the other Type or a continuation of Term SOFR Loans or Alternative Currency Term Rate Loans) submitted by the Company shall be deemed to be a representation and warranty that the conditions specified in Sections 5.02(a) and (b) have been satisfied on and as of the date of the applicable Credit Extension.

ARTICLE VI.

REPRESENTATIONS AND WARRANTIES

The Borrowers represent and warrant to the Administrative Agent and the Lenders that:

11.01 Existence, Qualification and Power.

Each Borrower (a) is a corporation, partnership, limited liability company, limited liability company organized under the laws of Belgium (“*société à responsabilité limitée*”), or other business entity duly organized or formed, validly existing and in good standing under the Laws of the jurisdiction of its incorporation or organization, (b) has all requisite power and authority and all requisite governmental licenses, authorizations, consents and approvals to (i) own its assets and carry on its business and (ii) execute, deliver and perform its obligations under the Loan Documents to which it is a party and (c) is duly qualified and is licensed and in good standing under the Laws of each jurisdiction where its ownership, lease or operation of properties or the conduct of its business requires such qualification or license; except in each case referred to in clause (b)(i) or (c), to the extent that failure to do so would not reasonably be expected to have a Material Adverse Effect.

11.02 Authorization; No Contravention.

The execution, delivery and performance by each Borrower of each Loan Document to which such Person is party have been duly authorized by all necessary corporate or other organizational action and do not (a) contravene the terms of any of such Person's Organization Documents; (b) conflict with or result in any breach or contravention of, or the creation of any Lien under, (i) any Contractual Obligation to which such Person is a party or (ii) any order, injunction, writ or decree of any Governmental Authority or any arbitral award to which such Person or its property is subject; or (c) violate any Law, except in each case referred to in clause (b) or (c), to the extent that it would not reasonably be expected to have a Material Adverse Effect.

11.03 Governmental Authorization; Other Consents.

No approval, consent, exemption, authorization, or other action by, or notice to, or filing with, any Governmental Authority or any other Person is necessary or required in connection with the execution, delivery or performance by, or enforcement against, any Borrower of this Agreement or any other Loan Document, except for those the failure to obtain, occur or make would not reasonably be expected to have a Material Adverse Effect.

11.04 Binding Effect.

This Agreement and each other Loan Document has been duly executed and delivered by each Borrower that is party thereto. This Agreement and each other Loan Document constitutes a legal, valid and binding obligation of each Borrower that is party thereto, enforceable against each such Borrower in accordance with its terms, subject to applicable bankruptcy, insolvency, fraudulent transfer or conveyance, reorganization, moratorium or other laws affecting creditors' rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law.

11.05 Financial Statements; No Material Adverse Change.

(a) The audited consolidated balance sheet of the Consolidated Group for the fiscal year ended December 31, 2021, and the related consolidated statements of income or operations, shareholders' equity and cash flows for such fiscal year, including the notes thereto (i) were prepared in accordance with GAAP consistently applied throughout the period covered thereby, except as otherwise expressly noted therein; (ii) fairly present the financial condition of the Consolidated Group in all material respects as of the date thereof and their results of operations for the period covered thereby in accordance with GAAP consistently applied throughout the period covered thereby, except as otherwise expressly noted therein; and (iii) show all material indebtedness and other liabilities, direct or contingent, of the Consolidated Group as of the date thereof, including liabilities for taxes, material commitments and Indebtedness, which are required to be shown thereon in accordance with GAAP.

(b) The unaudited consolidated financial statements of the Consolidated Group for the fiscal quarter ended June 30, 2022, and the related consolidated statements of income or operations and cash flows for such fiscal quarter (i) were prepared in accordance with GAAP consistently applied throughout the period covered thereby, except as otherwise expressly noted therein; (ii) fairly present the financial condition of the Consolidated Group in all material respects as of the date thereof and their results of operations for the period covered thereby, subject, in the case of clauses (i) and (ii), to the absence of footnotes and to normal year-end audit adjustments; and (iii) show all material indebtedness and other liabilities, direct or contingent, of the Consolidated Group as of the date thereof, including liabilities for taxes, material commitments and Indebtedness, which are required to be shown thereon in accordance with GAAP.

(c) Since December 31, 2021, there has been no event or circumstance, either individually or in the aggregate, that has had or would be reasonably be expected to have a Material Adverse Effect.

11.06 Litigation.

There are not any actions, suits or proceedings at law or in equity or by or before any Governmental Authority now pending or, to the knowledge of the Borrowers, threatened (and reasonably likely to be commenced) in writing against or affecting any member of the Consolidated Group or any property or rights of the Consolidated Group as to which there is a reasonable likelihood of an adverse determination and which, if adversely determined, would individually or in the aggregate result in a Material Adverse Effect.

11.07 No Default.

(a) Neither the Company nor any Subsidiary is in default under or with respect to any Contractual Obligation that would reasonably be expected to have a Material Adverse Effect.

(b) No Default or Event of Default has occurred and is continuing or would result from the consummation of the transactions contemplated by this Agreement or any other Loan Document.

11.08 Ownership of Property; Liens.

Each member of the Consolidated Group has good record and marketable title in fee simple (or similar concept under any applicable jurisdiction) to, or valid leasehold interests in, all real property necessary in the ordinary conduct of its business, except for such defects in title as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The property of the Consolidated Group is subject to no Liens, other than Liens permitted by Section 8.01.

11.09 Environmental Compliance.

Except as set forth in Schedule 6.09, (a) the Consolidated Group is in compliance in all material respects with all applicable Environmental Laws, except where the failure to do so would not be reasonably likely, individually or in the aggregate, to result in a Material Adverse Effect; (b) no member of the Consolidated Group has received written notice of any failure to comply with applicable Environmental Laws, which non-compliance neither has been or is being remedied, nor is being contested in good faith by such member of the Consolidated Group, nor is the subject of such member's good faith efforts to achieve compliance, except notices for which non-compliance would not be reasonably likely, individually or in the aggregate, to result in a Material Adverse Effect; (c) the Consolidated Group's facilities do not manage any Hazardous Materials in violation in any applicable Environmental Law, except where such violation would not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect; and (d) the Company is aware of no events, conditions or circumstances involving environmental pollution or contamination or employee health or safety that would be reasonably likely to result in a Material Adverse Effect.

6.10 Insurance.

The properties of the Consolidated Group are insured with financially sound and reputable insurance companies not Affiliates of the Company, in such amounts (after giving effect to any self-insurance compatible with the following standards), with such deductibles and covering such risks as are customarily carried by companies engaged in similar businesses and owning similar properties in localities where the Company or its Subsidiaries operate.

6.11 Taxes.

Each member of the Consolidated Group has filed all federal, state and other Tax returns and reports required to be filed by such member, and has paid all federal, state and other Taxes levied or imposed upon such member or its properties, income or assets otherwise due and payable, except (a) those that are being contested in good faith by appropriate proceedings and for which adequate reserves have been provided in accordance with GAAP or (b) those that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. There is no proposed Tax assessment against the Company or any Subsidiary that would, if made, have a Material Adverse Effect.

6.12 ERISA Compliance.

(a) Each Plan is in compliance in all material respects with the applicable provisions of ERISA, the Internal Revenue Code and other federal or state Laws. Each Plan that is intended to qualify under Section 401(a) of the Internal Revenue Code has received a favorable determination letter from the IRS or an application for such a letter is currently being processed by the IRS with respect thereto and, to the knowledge of the Company, nothing has occurred that would prevent, or cause the loss of, such qualification. The Company and each ERISA Affiliate have made all required contributions to each Plan subject to Section 412 of the Internal Revenue Code, and no application for a funding waiver or an extension of any amortization period pursuant to Section 412 of the Internal Revenue Code has been made with respect to any Plan.

(b) There are no pending or, to the best knowledge of the Company, threatened claims, actions or lawsuits, or action by any Governmental Authority, with respect to any Plan that would reasonably be expected to have a Material Adverse Effect. There has been no prohibited transaction or violation of the fiduciary responsibility rules with respect to any Plan that has resulted or would reasonably be expected to result in a Material Adverse Effect.

(c) Other than as would not reasonably be expected to result in a Material Adverse Effect, (i) no ERISA Event has occurred or is reasonably expected to occur, (ii) neither the Company nor any ERISA Affiliate has incurred, or reasonably expects to incur, any liability under Title IV of ERISA with respect to any Pension Plan (other than premiums due and not delinquent under Section 4007 of ERISA and other contributions payable in accordance with the terms of such Pension Plan or applicable law), and (iii) neither the Company nor any ERISA Affiliate has incurred, or reasonably expects to incur, any liability (and no event has occurred that, with the giving of notice under Section 4219 of ERISA, would result in such liability) under Sections 4201 or 4243 of ERISA with respect to a Multiemployer Plan.

(d) The Pension Plans, on a consolidated basis, do not have any Unfunded Pension Liability that would reasonably be expected to result in a Material Adverse Effect.

(e) To the knowledge of the Borrowers, neither the Company nor any ERISA Affiliate has engaged in a transaction that is subject to Sections 4069 or 4212(c) of ERISA.

(f) Each Borrower represents and warrants as of the Closing Date that such Borrower is not and will not be using “plan assets” (within the meaning of 29 CFR § 2510.3-101, as modified by Section 3(42) of ERISA) of one or more Benefit Plans in connection with the Loans, the Letters of Credit or the Commitments.

6.13 Margin Regulations; Investment Company Act.

(a) No Borrower is engaged or will engage, principally or as one of its important activities, in the business of purchasing or carrying “margin stock” within the meaning of Regulation U issued by the FRB, as in effect from time to time, or extending credit for the purpose of purchasing or carrying “margin stock,” and the Credit Extensions hereunder will not be used to purchase or carry “margin stock” in violation of Regulation U or to extend credit to others for the purpose of purchasing or carrying “margin stock,” or for any purpose that would violate the provisions of Regulation X issued by the FRB, as in effect from time to time.

(b) None of the Company or any Subsidiary is or is required to be registered as an “investment company” under the Investment Company Act of 1940.

6.14 Disclosure.

No report, financial statement, certificate or other written information furnished by any Borrower or by any of the Borrower’s representatives (on the Borrower’s behalf) to the Administrative Agent or any Lender in connection with the transactions contemplated hereby and the negotiation of this Agreement or delivered hereunder (as modified or supplemented by other information so furnished), taken as a whole, contains any material misstatement of fact or omits to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that, with respect to projected financial information, the Company represents only that such projections were prepared in good faith based upon reasonable assumptions and estimates as of the date of preparation (it being understood and agreed that projections are as to future events and are not to be viewed as facts and are subject to significant uncertainties and contingencies, many of which are beyond the control of the Company and its Subsidiaries, that no assurance can be given that any particular projection will be realized, that actual results during the period or periods covered by any such projections may differ significantly from the projected results and such differences may be material, and that projections are not representations by the Company or its Subsidiaries that such projections will be achieved). As of the Closing Date, the information included in the Beneficial Ownership Certification is true and correct in all respects.

6.15 Compliance with Laws.

Each of the Company and each Subsidiary is in compliance in all material respects with the requirements of all Laws and all orders, writs, injunctions and decrees applicable to it or to its properties, except in such instances in which (a) such requirement of Law or order, writ, injunction or decree is being contested in good faith by appropriate proceedings or (b) the failure to comply therewith would not reasonably be expected to have a Material Adverse Effect.

6.16 Intellectual Property; Licenses, Etc.

To the knowledge of the Borrowers, the Consolidated Group owns, or possesses the right to use, all of the trademarks, service marks, trade names, copyrights, patents, patent rights, franchises, licenses and other intellectual property rights that are reasonably necessary for the operation of its businesses, without conflict with the rights of any other Person that would reasonably be expected to have a Material Adverse Effect. To the knowledge of the Borrowers, no slogan or other advertising device, product, process, method, substance, part or other material now employed, or now contemplated to be employed,

by the Company or any Subsidiary infringes upon any rights held by any other Person that would reasonably be expected to have a Material Adverse Effect. No claim or litigation regarding any of the foregoing is pending or, to the knowledge of the Borrowers, threatened (and reasonably likely to be commenced), that would in either case reasonably be expected to have a Material Adverse Effect.

6.17 Subsidiaries.

Set forth on Schedule 6.17 is a complete and accurate list as of the Closing Date of each Subsidiary of the Company, together with (i) the jurisdiction of formation, (ii) an indication of whether such Subsidiary is an Immaterial Subsidiary, and (iii) the ownership percentage of the Company or any Subsidiary therein.

6.18 Solvency.

The Company and its Subsidiaries, on a consolidated basis, are Solvent.

6.19 Non-Domestic Borrowers.

Each Non-Domestic Borrower represents and warrants to the Administrative Agent and the Lenders that:

(a) Such Non-Domestic Borrower is subject to civil and commercial Laws with respect to its obligations under this Agreement and the other Loan Documents to which it is a party (collectively as to such Non-Domestic Borrower, the “Applicable Foreign Obligor Documents”), and the execution, delivery and performance by such Non-Domestic Borrower of the Applicable Foreign Obligor Documents constitute and will constitute private and commercial acts and not public or governmental acts. No such Non-Domestic Borrower nor any of its property has any immunity from jurisdiction of any court or from any legal process (whether through service or notice, attachment prior to judgment, attachment in aid of execution, execution or otherwise) under the laws of the jurisdiction in which such Non-Domestic Borrower is organized and existing in respect of its obligations under the Applicable Foreign Obligor Documents.

(b) The Applicable Foreign Obligor Documents are in proper legal form under the Laws of the jurisdiction in which such Non-Domestic Borrower is organized and existing for the enforcement thereof against such Non-Domestic Borrower under the Laws of such jurisdiction, and to ensure the legality, validity, enforceability, priority or admissibility in evidence of the Applicable Foreign Obligor Documents. It is not necessary to ensure the legality, validity, enforceability, priority or admissibility in evidence of the Applicable Foreign Obligor Documents that the Applicable Foreign Obligor Documents be filed, registered or recorded with, or executed or notarized before, any court or other authority in the jurisdiction in which such Non-Domestic Borrower is organized and existing or that any registration charge or stamp or similar tax be paid on or in respect of the Applicable Foreign Obligor Documents or any other document, except for (i) any such filing, registration, recording, execution or notarization as has been made or is not required to be made until the Applicable Foreign Obligor Document or any other document is sought to be enforced and (ii) any charge or tax as has been timely paid.

(c) There is no tax, levy, impost, duty, fee, assessment or other governmental charge, or any deduction or withholding, imposed by any Governmental Authority in or of the jurisdiction in which such Non-Domestic Borrower is organized and existing either (i) on or by virtue of the execution or delivery of the Applicable Foreign Obligor Documents or (ii) on any payment to be made by such Non-Domestic Borrower pursuant to the Applicable Foreign Obligor Documents, except as has been disclosed to the Lenders, through the Administrative Agent.

(d) The execution, delivery and performance of the Applicable Foreign Obligor Documents executed by such Non-Domestic Borrower are, under applicable foreign exchange control regulations of the jurisdiction in which such Non-Domestic Borrower is organized and existing, not subject to any notification or authorization except (i) such as have been made or obtained or (ii) such as cannot be made or obtained until a later date (provided that any notification or authorization described in clause (ii) shall be made or obtained as soon as is reasonably practicable).

6.20 OFAC; Anti-Corruption Laws.

(a) The Company has implemented and maintains in effect policies and procedures designed to ensure compliance by the Borrowers, their Subsidiaries and their respective directors, officers, employees, agents, affiliates and representatives with applicable Sanctions, and the Borrowers and their Subsidiaries and, to the knowledge of the Borrowers and their Subsidiaries, their respective directors, officers, employees, agents, affiliates and representatives, are in compliance with applicable Sanctions in all material respects and are not knowingly engaged in any activity that would reasonably be expected to result in any Borrower being included on OFAC's List of Specially Designated Nationals, HMT's Consolidated List of Financial Sanctions Targets and the Investment Ban List, or any similar list enforced by any other relevant sanctions authority. None of the Borrowers, nor any of their Subsidiaries, nor, to the knowledge of the Borrowers and their Subsidiaries, any director, officer, employee, agent, affiliate or representative thereof, is an individual or entity currently the subject of any Sanctions, nor is any Borrower or any Subsidiary located, organized or resident in a Designated Jurisdiction.

(b) The Borrowers and their Subsidiaries are in compliance in all material respects with applicable anti-corruption Laws (it being understood and agreed that the foregoing representation and warranty shall not be deemed to be inaccurate on account of conduct described in Schedule 6.20 solely to the extent such conduct has occurred prior to June 21, 2018 (and, for the avoidance of doubt, is not continuing on the date on which such representation and warranty is made or deemed to be made hereunder)) and have instituted and maintain in effect policies and procedures reasonably designed to promote and achieve compliance with such Laws.

6.21 Affected Financial Institutions.

No Borrower is an Affected Financial Institution.

ARTICLE VII.

AFFIRMATIVE COVENANTS

So long as any Lender shall have any Commitment hereunder, any Loan or other Obligation hereunder shall remain unpaid or unsatisfied (other than contingent indemnification obligations for which no claim or demand has been made), or any Letter of Credit shall remain outstanding (other than any Letter of Credit that has been Cash Collateralized or with respect to which other arrangements satisfactory to the L/C Issuer have been made), the Borrowers shall and shall cause each of their respective Subsidiaries to:

11.01 Financial Statements.

Furnish to the Administrative Agent (who will make such documents available to each Lender), in form and detail reasonably satisfactory to the Administrative Agent and the Required Lenders:

(a) as soon as available, but in any event within ninety days after the end of each fiscal year of the Company, a consolidated balance sheet of the Consolidated Group as of the end of such fiscal year, and the related consolidated statements of income or operations, changes in equity and cash flows for such fiscal year, setting forth in each case in comparative form the figures for the previous fiscal year, all in reasonable detail and prepared in accordance with GAAP, audited and accompanied by a report and opinion of an independent certified public accountant of nationally recognized standing reasonably acceptable to the Required Lenders, which report and opinion shall be prepared in accordance with generally accepted auditing standards and shall not be subject to any “going concern” or like qualification or exception (other than any qualification or exception in the last year of this Agreement and due solely to the impending maturity of the Loans and Commitments hereunder) or any qualification or exception as to the scope of such audit; and

(b) as soon as available, but in any event within fifty days after the end of each of the first three fiscal quarters of each fiscal year of the Company, a consolidated balance sheet of the Consolidated Group as of the end of such fiscal quarter, and the related consolidated statements of income or operations and cash flows for such fiscal quarter and for the portion of the Company’s fiscal year then ended, setting forth in each case in comparative form the figures for the corresponding fiscal quarter of the previous fiscal year and the corresponding portion of the previous fiscal year, all in reasonable detail and certified by a Responsible Officer of the Company as fairly presenting the financial condition, results of operations and cash flows of the Consolidated Group in all material respects, in accordance with GAAP, subject only to normal year-end audit adjustments and the absence of footnotes.

As to any information contained in materials furnished pursuant to Section 7.02(d), the Company shall not be separately required to furnish such information under clause (a) or (b) above, but the foregoing shall not be in derogation of the obligation of the Company to furnish the information and materials described in subsections (a) and (b) above at the times specified therein.

11.02 Certificates; Other Information.

Deliver to the Administrative Agent (who will make such documents available to each Lender), in form and detail reasonably satisfactory to the Administrative Agent and the Required Lenders:

(a) concurrently with the delivery of the financial statements referred to in Section 7.01(a), a certificate of its independent certified public accountants certifying such financial statements and stating that in making the examination necessary therefor no knowledge was obtained of any Default or Event of Default under the financial covenant set forth herein or, if any such Default or Event of Default shall exist, stating the nature and status of such event (which certificate, when furnished by such accountants, may be limited to accounting matters and disclaim responsibility for legal interpretations);

(b) concurrently with the delivery of the financial statements referred to in Sections 7.01(a) and (b), a duly completed Compliance Certificate signed by a Responsible Officer of the Company, (i) setting forth computations in reasonable detail satisfactory to the Administrative Agent demonstrating compliance with the financial covenant contained in Section 8.06, (ii) certifying that no Default or Event of Default exists as of the date thereof (or, to the extent a Default or Event of Default exists, the nature and extent thereof and the proposed actions

of the Borrowers with respect thereto) and (iii) including a summary of all material changes in GAAP affecting the Company and in the consistent application thereof by the Company, the effect on the financial covenant resulting therefrom, and a reconciliation between calculation of the financial covenant before and after giving effect to such changes (which certificate may be delivered by electronic mail or by facsimile);

(c) promptly after requested in writing by the Administrative Agent on behalf of any Lender, copies of any detailed audit reports, management letters or recommendations submitted to the board of directors (or the audit committee of the board of directors) of the Company by independent accountants in connection with the accounts or books of the Company or any Subsidiary, or any audit of any of them;

(d) promptly after the same are available, copies of each annual report, proxy or financial statement or other report or communication sent to the stockholders of the Company, and copies of all annual, regular, periodic and special reports and registration statements that the Company may file or be required to file with the SEC under Section 13 or 15(d) of the Securities Exchange Act of 1934, and not otherwise required to be delivered to the Administrative Agent pursuant hereto;

(e) promptly following any request in writing therefor, information and documentation reasonably requested by the Administrative Agent or any Lender for purposes of compliance with applicable “know your customer” requirements under the PATRIOT Act, the Beneficial Ownership Regulation or other applicable anti-money laundering laws; and

(f) promptly, such additional information regarding the business, financial or corporate affairs of the Company or any Subsidiary, or compliance with the terms of the Loan Documents, as the Administrative Agent, on behalf of any Lender, may from time to time reasonably request in writing.

Documents required to be delivered pursuant to Section 7.01(a) or (b) or Section 7.02(d) (to the extent any such documents are included in materials otherwise filed with the SEC) may be delivered electronically and if so delivered, shall be deemed to have been delivered on the date (i) on which the Company posts such documents, or provides a link thereto on the Company’s website on the Internet at the website address listed on Schedule 11.02; or (ii) on which such documents (A) are available on the website of the SEC at <http://www.sec.gov> or (B) are posted on the Company’s behalf on another Internet or intranet website, if any, to which each Lender and the Administrative Agent have access (whether a commercial, third-party website or whether sponsored by the Administrative Agent); provided that in the case of documents that are not available on <http://www.sec.gov>, (i) the Company shall deliver paper copies of such documents to the Administrative Agent or any Lender upon its request to the Company to deliver such paper copies until a written request to cease delivering paper copies (which may include .pdf files) is given by the Administrative Agent or such Lender and (ii) the Company shall notify (which may be by facsimile or electronic mail) the Administrative Agent and each Lender (by facsimile or electronic mail) of the posting of any such documents and provide to the Administrative Agent by electronic mail electronic versions (i.e., soft copies) of such documents. The Administrative Agent shall have no obligation to request the delivery of or to maintain paper copies of the documents referred to above, and in any event shall have no responsibility to monitor compliance by the Company with any such request by a Lender for delivery, and each Lender shall be solely responsible for requesting delivery to it or maintaining its copies of such documents.

Each Borrower hereby acknowledges that (a) the Administrative Agent and/or BAS may, but shall not be obligated to, make available to the Lenders and the L/C Issuer materials and/or information provided by or on behalf of the Borrowers hereunder (collectively, "Borrower Materials") by posting the Borrower Materials on Debt Domain, IntraLinks, SyndTrak or another similar electronic system (the "Platform") subject to procedures and confidentiality undertakings of the Platform and (b) certain of the Lenders (each a "Public Lender") may have personnel who do not wish to receive material non-public information with respect to any of the Borrowers or their respective Affiliates, or the respective securities of any of the foregoing, and who may be engaged in investment and other market-related activities with respect to such Persons' securities. Each Borrower hereby agrees that (w) all Borrower Materials that are to be made available to Public Lenders shall be clearly and conspicuously marked "PUBLIC" which, at a minimum, shall mean that the word "PUBLIC" shall appear prominently on the first page thereof; (x) by marking Borrower Materials "PUBLIC," the Borrowers shall be deemed to have authorized the Administrative Agent, BAS, the L/C Issuer and the Lenders to treat such Borrower Materials as not containing any material non-public information with respect to the Borrowers or their respective securities for purposes of United States federal and state securities laws (provided, however, that to the extent such Borrower Materials constitute Information, they shall be treated as set forth in Section 11.08); (y) all Borrower Materials marked "PUBLIC" are permitted to be made available through a portion of the Platform designated as "Public Side Information;" and (z) the Administrative Agent and BAS shall be entitled to treat any Borrower Materials that are not marked "PUBLIC" as being suitable only for posting on a portion of the Platform not designated as "Public Side Information." Notwithstanding the foregoing, no Borrower shall be under any obligation to mark any Borrower Materials "PUBLIC."

11.03 Notices.

Promptly notify the Administrative Agent (who will make such notice available to each Lender):

- (a) of the occurrence of any Default;
- (b) of any matter that has resulted or would reasonably be expected to result in a Material Adverse Effect; and
- (c) if unrated, any announcement by Moody's, S&P or Fitch of any Debt Rating, or if rated, any announcement by Moody's, S&P or Fitch of any change or possible change in a Debt Rating.

Each notice pursuant to this Section shall be accompanied by a statement of a Responsible Officer of the Company setting forth details of the occurrence referred to therein and, in the case of any notice pursuant to clause (a) or (b) of this Section, stating what action the Company has taken and proposes to take with respect thereto. Each notice pursuant to Section 7.03(a) shall describe with particularity any and all provisions of this Agreement and any other Loan Document that have been breached.

11.04 Payment of Obligations.

Pay and discharge as the same shall become due and payable, (a) all material Taxes imposed upon it or its properties or assets, unless the same are being contested in good faith by appropriate proceedings and adequate reserves in accordance with GAAP are being maintained by the Company or such Subsidiary, (b) all lawful claims that, if unpaid, would by law become a Lien upon its property (other than a Lien permitted by Section 8.01) and (c) except where the failure to so pay or discharge would not reasonably be expected to have a Material Adverse Effect, all other obligations and liabilities.

11.05 Preservation of Existence, Etc.

(d) Preserve, renew and maintain in full force and effect its legal existence and good standing under the Laws of the jurisdiction of its organization except in a transaction permitted by Section 8.02; (b) take all reasonable action to maintain all rights, privileges, permits, licenses and franchises necessary or desirable in the normal conduct of its business, except to the extent that failure to do so would not reasonably be expected to have a Material Adverse Effect; and (c) preserve or renew all of its registered patents, trademarks, trade names and service marks, the non-preservation of which would reasonably be expected to have a Material Adverse Effect.

11.06 Maintenance of Properties.

Maintain, preserve and protect all of its material properties and material equipment necessary in the operation of its business in good working order and condition, ordinary wear and tear and damage by casualty or condemnation excepted.

11.07 Maintenance of Insurance.

Maintain with financially sound and reputable insurance companies not Affiliates of the Company, insurance with respect to its properties and business against loss or damage of the kinds customarily insured against by Persons engaged in the same or similar business, of such types and in such amounts (after giving effect to any self-insurance compatible with the following standards) as are customarily carried under similar circumstances by such other Persons.

11.08 Compliance with Laws.

(a) Comply in all material respects with the requirements of all Laws and all orders, writs, injunctions and decrees applicable to it or to its business or property, except in such instances in which (i) such requirement of Law or order, writ, injunction or decree is being contested in good faith by appropriate proceedings; or (ii) the failure to comply therewith would not reasonably be expected to have a Material Adverse Effect and (b) maintain in effect and enforce policies and procedures designed to ensure compliance by the Borrowers, their Subsidiaries and their respective directors, officers, employees, agents, affiliates and representatives with applicable anti-corruption laws and applicable Sanctions.

11.09 Books and Records.

(a) Maintain proper books of record and account, in which full, true and correct entries in conformity with GAAP consistently applied shall be made of all financial transactions and matters involving the assets and business of the Company or such Subsidiary, as the case may be, in each case as required by GAAP; and (b) maintain such books of record and account in material conformity with all applicable requirements of any Governmental Authority having regulatory jurisdiction over the Company or such Subsidiary, as the case may be.

7.10 Inspection Rights.

Upon the request of the Administrative Agent on behalf of any Lender, permit representatives and independent contractors of the Administrative Agent and each Lender to visit and inspect any of its properties, to examine its corporate, financial and operating records, and make copies thereof or abstracts therefrom, and to discuss its affairs, finances and accounts with its directors, officers, and independent public accountants (provided, that a representative of any of the Borrowers or any Subsidiary shall be entitled to attend any such meetings with such independent public accountants), all at the expense of the Lenders when no Event of Default exists, and at such reasonable times during normal business hours,

upon reasonable advance notice to the Company and no more than once per year; provided, however, that when an Event of Default exists the Administrative Agent or any Lender (or any of their respective representatives or independent contractors) may do any of the foregoing at the expense of the Company at any time during normal business hours and without advance notice; provided, further that notwithstanding anything to the contrary herein, none of the Borrowers or any Subsidiary shall be required to disclose, permit the inspection, examination or making of copies of or taking abstracts from, or discuss any document, information, or other matter (A) that constitutes non-financial trade secrets or non-financial proprietary information of the Company and its Subsidiaries and/or any of its customers and/or suppliers, (B) in respect of which disclosure to the Administrative Agent or any Lender (or any of their respective representatives or agents) is prohibited by applicable Law, (C) that is subject to attorney-client or similar privilege or (D) in respect of which any Borrower or any Subsidiary owes confidentiality obligations to any third party (it being understood that the Company or any of the Subsidiaries shall inform the Administrative Agent of the existence and nature of the confidential records, documents or other information not being provided and, following a reasonable request from the Administrative Agent, use commercially reasonable efforts to request consent from an applicable contractual counterparty to disclose such information (but shall not be required to incur any cost or expense or pay any consideration of any type to such party in order to obtain such consent)).

7.11 Use of Proceeds.

Use the proceeds of the Credit Extensions (a) for general corporate purposes, (b) to refinance existing Indebtedness, (c) to finance acquisitions, (d) to repurchase common stock of the Company, (e) for working capital and (f) for capital expenditures, in each case, of the Company and its Subsidiaries provided that in no event shall the proceeds of the Credit Extensions be used in contravention of any Law or of any Loan Document.

ARTICLE VIII.

NEGATIVE COVENANTS

So long as any Lender shall have any Commitment hereunder, any Loan or other Obligation hereunder shall remain unpaid or unsatisfied (other than contingent indemnification obligations for which no claim or demand has been made), or any Letter of Credit shall remain outstanding (other than any Letter of Credit that has been Cash Collateralized or with respect to which other arrangements satisfactory to the L/C Issuer have been made), no Borrower shall nor shall it permit any of its Subsidiaries to, directly or indirectly:

11.01 Liens.

Create, incur, assume or suffer to exist any Lien upon any of its property, assets or revenues, whether now owned or hereafter acquired, other than the following:

- (a) Liens pursuant to any Loan Document;
- (b) Liens existing on the Closing Date and listed on Schedule 8.01 and any renewals or extensions thereof, provided that the scope of the property covered thereby is not increased;

(c) Liens for Taxes that are (i) not delinquent or (ii) being contested in good faith and by appropriate proceedings, if adequate reserves with respect thereto are maintained on the books of the applicable Person in accordance with GAAP;

(d) carriers,' warehousemen's, mechanics,' materialmen's, repairmen's or other like Liens arising in the ordinary course of business that are not overdue for a period of more than thirty days or that are being contested in good faith and by appropriate proceedings, if adequate reserves with respect thereto are maintained on the books of the applicable Person;

(e) pledges or deposits in the ordinary course of business in connection with workers' compensation, unemployment insurance and other social security legislation, other than any Lien imposed by ERISA;

(f) deposits to secure the performance of bids, trade contracts and leases (other than Indebtedness), statutory obligations, surety bonds (other than bonds related to judgments or litigation, which are covered in subsection (h) below), performance bonds and other obligations of a like nature incurred in the ordinary course of business;

(g) easements, rights-of-way, restrictions and other similar encumbrances affecting real property that, in the aggregate, are not substantial in amount, and that do not in any case materially detract from the value of the property subject thereto or materially interfere with the ordinary conduct of the business of the applicable Person;

(h) Liens securing judgments for the payment of money which do not constitute Events of Default hereunder;

(i) Liens securing, or in respect of, Indebtedness in respect of capital leases, Synthetic Leases and purchase money obligations for fixed or capital assets (including, but not limited to, any such Lien granted within 180 days of the acquisition of such fixed or capital asset); provided that (i) such Liens do not at any time encumber any property other than the property financed by such Indebtedness and (ii) the Indebtedness secured thereby does not exceed the cost or fair market value, whichever is lower, of the property being acquired on the date of acquisition;

(j) Liens on property or assets of the Company or any Subsidiary granted in connection with Sale and Leaseback Transactions; provided that the aggregate Attributable Principal Amount in connection with such Sale and Leaseback Transactions shall not at any time be in excess of \$100,000,000;

(k) Liens on property or assets of the Company or any Subsidiary granted in connection with Securitization Transactions;

(l) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods;

(m) licenses of intellectual property rights in the ordinary course of business;

(n) Liens on the property and assets of any Person to the extent such Liens are existing at the time such Person becomes a member of the Consolidated Group, and any renewals, extensions or replacements thereof so long as the scope of the property covered thereby is not increased; provided such Liens are not created in contemplation thereof and do not extend to any property or assets of any other member of the Consolidated Group;

(o) Liens on property or assets of the Company and any Subsidiary granted in connection with environmental remediation or similar obligations with respect to such property or assets not to exceed \$100,000,000 in the aggregate;

(p) Liens in favor of the United States or any state thereof, or any agency, instrumentality or political subdivision of any of the foregoing, to secure partial, progress, advance or other payments or performance pursuant to the provisions of any contract or statute, to the extent not constituting Indebtedness;

(q) precautionary filings of Uniform Commercial Code financing statements (or any applicable local law equivalent) in respect of operating leases or consignment of goods;

(r) with respect to any real property occupied, owned or leased by any Borrower or any of their Subsidiaries, (i) leases, subleases, tenancies, options, concession agreements, rental agreements occupancy agreements, franchise agreements, access agreements and any other agreements, whether or not of record and whether now in existence or hereafter entered into, of the real properties of any Borrower or any Subsidiary granted by such Person to third parties, in each case entered into in the ordinary course of such Person's business and so long as, to the extent such real properties are subject to Liens, such Liens do not materially interfere with the ordinary conduct of business of the Borrowers or their Subsidiaries, taken as a whole, and do not materially impair the use of such property for its intended purposes;

(s) Liens arising by operation of law under Article 4 of the Uniform Commercial Code (or any applicable local law equivalent) in connection with collection of items provided for therein or under Article 2 of the Uniform Commercial Code (or such applicable local law equivalent) in favor of a reclaiming seller of goods or buyer of goods;

(t) rights of setoff or bankers' liens of banks or other financial institutions where Company or any of its Subsidiaries maintain deposits in the ordinary course of business and which are within the general parameters customary in the banking industry;

(u) Liens attaching solely to (i) cash earnest money deposits in connection with any letter of intent or purchase agreement and (ii) proceeds of an asset disposition permitted hereunder that are held in escrow to secure obligations under the sale documentation relating to such disposition;

(v) any leases, subleases, licenses or sublicenses granted to others in the ordinary course of business of the Company and its Subsidiaries which do not materially interfere with the ordinary conduct of business of the Company and its Subsidiaries;

(w) any laws, regulations or ordinances now or hereafter in effect (including, but not limited to, zoning, building and environmental protection) as to the use, occupancy, subdivision or improvement of real property occupied, owned or leased the Company or any of its Subsidiaries adopted or imposed by any Governmental Authority;

(x) Liens of landlords under leases where the Company or any of its Subsidiaries is the tenant, securing performance by the tenant under the lease arising by statute or under any lease or related contractual obligation entered into in the ordinary course of business;

(y) (i) Liens that are customary contractual rights of setoff or netting relating to (A) the establishment of depository relations with banks not granted in connection with the issuance of Indebtedness, (B) pooled deposit or sweep accounts of the Company or any Subsidiary to permit satisfaction of overdraft or similar obligations or to secure negative cash balances in local

accounts of foreign Subsidiaries incurred in the ordinary course of business of the Company or any Subsidiary, (C) purchase orders and other agreements entered into with customers of the Company or any Subsidiary in the ordinary course of business and (D) commodity trading or other brokerage accounts incurred in the ordinary course of business, and (ii) Liens on the proceeds of any Indebtedness incurred in connection with any transaction permitted hereunder, which proceeds have been deposited into an escrow account on customary terms to secure such Indebtedness pending the application of proceeds to finance such transaction;

(z) Liens securing insurance premium financing arrangements; provided, that such Liens only encumber the insurance premiums, policies or dividends with respect to the policies that were financed with the funds advanced under such arrangements;

(aa) Liens on cash or cash equivalents arising in connection with the defeasance, discharge or redemption of Indebtedness;

(bb) Liens arising out of conditional sale, title retention, consignment, bailment or similar arrangements for the purchase, sale or shipment of goods entered into in the ordinary course of business;

(cc) Liens (i) on cash advances or escrow deposits in favor of the seller of any property to be acquired by the Company or any Subsidiary to be applied against the purchase price therefor or otherwise in connection with any escrow arrangements with respect thereto or in connection with any disposition permitted under Section 8.02 and (ii) consisting of an agreement to dispose of any property in a disposition permitted under Section 8.02 solely to the extent such disposition, as the case may be, would have been permitted on the date of the creation of such Lien; and

(dd) Liens other than those referred to in subparagraphs (a) through (cc) above, provided, however, that the aggregate principal amount of obligations secured by such Liens plus the aggregate principal amount of unsecured Indebtedness of Subsidiaries of the Company outstanding pursuant to Section 8.07(g) does not exceed 30% of Consolidated Net Tangible Assets as appearing in the latest balance sheet delivered pursuant to Section 7.01.

10.02 Mergers, Dispositions, etc.

Merge into or consolidate with any other Person, or permit any other Person to merge into or consolidate with it, or sell, transfer, lease or otherwise dispose of (in one transaction or in a series of transactions) all or substantially all of its assets (whether now owned or hereafter acquired) or any capital stock of any Subsidiary, except that:

(a) any member of the Consolidated Group may purchase and sell inventory in the ordinary course of business;

(b) if at the time thereof and immediately after giving effect thereto no Default or Event of Default shall have occurred and be continuing: (i) any Subsidiary or any other Person may merge into, consolidate with or liquidate or dissolve into the Company or any of its Subsidiaries provided that, (A) if the Company is a party to such transaction, the Company is the surviving corporation and (B) if a Borrower is a party to such transaction and is not concurrently terminated as a Borrower pursuant to Section 2.14(d), a Borrower shall be the surviving entity, and (ii) any Subsidiary may merge into, consolidate with or liquidate or dissolve into any other Subsidiary in a transaction in which the surviving entity is a Subsidiary and no Person other than the Company or a Subsidiary receives any consideration therefor (except in the case of a non-wholly-owned Subsidiary, minority equity holders may receive their ratable share of

consideration); provided that, if either Subsidiary is a Domestic Subsidiary, the surviving entity is a Domestic Subsidiary and if either Subsidiary is a Borrower that is not concurrently terminated as a Borrower pursuant to Section 2.14(d), the surviving entity is a Borrower;

(c) the Company may sell all or any portion of the capital stock of any Subsidiary for fair market value, as determined in good faith by the Company's board of directors; provided (i) such sale does not constitute a sale of all or substantially all of the Company's assets, and (ii) if such sale involves the capital stock of a Borrower, the Company or another Borrower shall agree in writing to assume the obligations of such Borrower under this Agreement; and

(d) the Company may (i) transfer, or cause to be transferred, all or any portion of the capital stock of any wholly owned Subsidiary to another wholly owned Subsidiary; provided, after giving effect thereto, no Domestic Borrower is a direct Subsidiary of a foreign Subsidiary, and (ii) sell any portion of the capital stock of any Subsidiary (other than a Borrower) in connection with the establishment of a joint venture for the purpose of developing or continuing a product or business related to any of the Company's existing lines of business as of the date of this Agreement.

11.03 Change in Nature of Business.

Engage in any material line of business substantially different from those lines of business conducted by the Consolidated Group on the date hereof or any business similar, complementary, ancillary, reasonably related or incidental thereto.

11.04 Transactions with Affiliates.

Enter into any transaction of any kind with any Affiliate of the Company, whether or not in the ordinary course of business, other than on fair and reasonable terms substantially as favorable to the Company or such Subsidiary as would be obtainable by the Company or such Subsidiary at the time in a comparable arm's length transaction with a Person other than an Affiliate; provided that the foregoing restriction (a) shall not apply to transactions between or among Borrowers, (b) shall not restrict dividends or distributions on account of shares of equity interests issued by Subsidiaries of the Company ratably to the holders thereof, (c) shall not apply to transactions between or among the members of the Consolidated Group and their Affiliates that are necessary or required under applicable Law or by any Governmental Authority and (d) shall not apply to other transactions between or among any members of the Consolidated Group that are not prohibited by this Agreement (other than this Section 8.04).

11.05 Use of Proceeds.

Use the proceeds of any Credit Extension, whether directly or indirectly, and whether immediately, incidentally or ultimately, to purchase or carry margin stock (within the meaning of Regulation U of the FRB) or to extend credit to others for the purpose of purchasing or carrying margin stock or to refund indebtedness originally incurred for such purpose, in each case in violation of, or for a purpose that violates Regulation T, U or X of the FRB.

11.06 Financial Covenant.

Permit the Consolidated Leverage Ratio as of the end of any fiscal quarter of the Company to be greater than 3.50 to 1.0; provided, that, upon consummation of an Acquisition where the consideration includes cash proceeds from the issuance of Funded Debt in excess of \$500,000,000, the otherwise applicable maximum Consolidated Leverage Ratio, at the election of the Company (with prior written notice to the Administrative Agent), shall increase by 0.50:1.00 for four consecutive fiscal quarters beginning with the fiscal quarter in which such Acquisition occurs (the "Adjustment Period"). After any

such Acquisition that results in an Adjustment Period, there must be at least two fiscal quarters subsequent to the end of the Adjustment Period before the Company shall be permitted to elect another Adjustment Period. The Company shall be permitted to request no more than two Adjustment Periods during the term of this Agreement; provided, however, in connection with each extension of the Maturity Date pursuant to Section 2.15, the Company shall have the right to request an additional Adjustment Period.

11.07 Subsidiary Indebtedness.

Permit any Subsidiary to create, incur, assume or suffer to exist any Indebtedness, except:

- (a) Indebtedness under the Loan Documents;
- (b) intercompany Indebtedness among the Company and its Subsidiaries or among Subsidiaries;
- (c) Indebtedness of any Person to the extent such Indebtedness is existing at the time such Person becomes a member of the Consolidated Group and, any refinancings, replacements or extensions thereof so long as the amount of such Indebtedness, plus any accrued and unpaid interest, plus any reasonable penalty, premium or defeasance costs and reasonable fees and expenses incurred in connection with such refinancings, replacements or extensions, is not increased at the time of such refinancing, replacement or extension; provided such (i) Indebtedness is not created in contemplation thereof and (ii) the scope of obligors liable for such Indebtedness is not increased;
- (d) obligations (contingent or otherwise) existing or arising under any Swap Contract; provided that such obligations are (or were) entered into by such Subsidiary for the purpose of directly mitigating risks associated with liabilities, commitments, investments, assets, or property held or reasonably anticipated by such Subsidiary, or changes in the value of securities issued by such Person, and not for purposes of speculation or taking a “market view;”
- (e) Indebtedness in respect of capital leases, Synthetic Leases and purchase money obligations for fixed or capital assets;
- (f) to the extent constituting Indebtedness, obligations in respect of workers’ compensation claims, self-insurance obligations, performance bonds, surety, appeal or similar bonds and completion guarantees provided in the ordinary course of business;
- (g) other Indebtedness, provided that the aggregate outstanding principal amount of such Indebtedness shall not exceed the difference between (i) 30% of Consolidated Net Tangible Assets as appearing in the latest balance sheet delivered pursuant to Section 7.01 minus (ii) the aggregate outstanding principal amount of Indebtedness of the Company secured by Liens permitted by Section 8.01(dd);
- (h) any guarantee given pursuant to section 8a of the German Act on Partial Retirement (*Altersteilzeitgesetz*) or section 7e of the Fourth Book of the German Social Code (*Sozialgesetzbuch IV*); and

- (i) to the extent constituting Indebtedness, lease obligations incurred in connection with any PILOT-Related Capital Lease.

11.08 Sanctions.

Directly, or knowingly indirectly, use any Credit Extension or the proceeds of any Credit Extension, or lend, contribute or otherwise make available such Credit Extension or the proceeds of any Credit Extension to any Person, to fund any activities of or business with any Person, or in any Designated Jurisdiction, that, at the time of such funding, is the subject of Sanctions, or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as Lender, lead arranger, Administrative Agent, L/C Issuer, Swing Line Lender, or otherwise) of Sanctions. Any provision of this Section 8.08 or Section 6.20 shall not apply to any Person if and to the extent that it would result in a breach, by or in respect of that Person, of any applicable Blocking Law.

11.09 Anti-Corruption Laws.

Directly, or knowingly indirectly, use any Credit Extension or the proceeds of any Credit Extension for any purpose which would breach the United States Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010 or other similar legislation in other jurisdictions that are applicable to the Company or its Subsidiaries.

ARTICLE IX.

EVENTS OF DEFAULT AND REMEDIES

11.01 Events of Default.

Any of the following shall constitute an Event of Default:

(a) Non-Payment. Any Borrower fails to pay (i) when and as required to be paid herein, in the currency required hereunder, any amount of principal of any Loan or any L/C Obligation, or (ii) within five Business Days after the same becomes due, any interest on any Loan or on any L/C Obligation, or any facility fee or other fee due hereunder, or (iii) within five Business Days after the same becomes due, any other amount payable hereunder or under any other Loan Document; or

(b) Specific Covenants. Any Borrower fails to perform or observe any term, covenant or agreement contained in any of Section 7.03, 7.05 or 7.11 or Article VIII; or

(c) Other Defaults. Any Borrower fails to perform or observe any other covenant or agreement (not specified in subsection (a) or (b) above) contained in any Loan Document on its part to be performed or observed and such failure continues for thirty days after the earlier to occur of notice thereof from the Administrative Agent or any Responsible Officer of a Borrower having actual knowledge of such failure; or

(d) Representations and Warranties. Any representation, warranty, certification or statement of fact made or deemed made by or on behalf of the Company or any other Borrower herein, in any other Loan Document, or in any document delivered in connection herewith or therewith shall be incorrect or misleading in any material respect when made or deemed made; or

(e) Cross-Default. (i) The Company or any Subsidiary (A) fails to make any payment when due (whether by scheduled maturity, required prepayment, acceleration, demand, or otherwise) in respect of any Indebtedness or Guarantee (other than Indebtedness hereunder and Indebtedness under Swap Contracts) having an aggregate principal amount (including amounts owing to all creditors under any combined or syndicated credit arrangement) of more than the Threshold Amount and the continuation of such failure beyond any applicable grace or cure period, or (B) after giving effect to any applicable grace or cure period, fails to observe or perform any other agreement or condition relating to any such Indebtedness or Guarantee or contained in any instrument or agreement evidencing, securing or relating thereto, or any other event occurs, the effect of which default or other event is to cause, or to permit the holder or holders of such Indebtedness or the beneficiary or beneficiaries of such Guarantee (or a trustee or agent on behalf of such holder or holders or beneficiary or beneficiaries) to cause, with the giving of notice if required, such Indebtedness to be demanded or to become due or to be repurchased, prepaid, defeased or redeemed (automatically or otherwise), or an offer to repurchase, prepay, defease or redeem such Indebtedness to be made, prior to its stated maturity, or such Guarantee to become payable or cash collateral in respect thereof to be demanded; or (ii) there occurs under any Swap Contract an Early Termination Date (as defined in such Swap Contract) resulting from (A) any event of default under such Swap Contract as to which the Company or any Subsidiary is the Defaulting Party (as defined in such Swap Contract) or (B) any Termination Event (as so defined) under such Swap Contract as to which the Company or any Subsidiary is an Affected Party (as so defined) and, in either event, the Swap Termination Value owed by the Company or such Subsidiary as a result thereof is greater than the Threshold Amount and, in the case of any Termination Event not arising out of a default by the Company or any Subsidiary, such Swap Termination Value has not been paid by the Company or such Subsidiary when due; or

(f) Insolvency Proceedings, Etc. Any Borrower or any of its Subsidiaries (other than an Immaterial Subsidiary) institutes or consents to the institution of any proceeding under any Debtor Relief Law, or makes an assignment for the benefit of creditors; or applies for or consents to the appointment of any receiver, trustee, custodian, conservator, liquidator, rehabilitator or similar officer for it or for all or any material part of its property; or any receiver, trustee, custodian, conservator, liquidator, rehabilitator or similar officer is appointed without the application or consent of such Person and the appointment continues undismissed for sixty consecutive calendar days or an order or decree approving or ordering such appointment shall continue unstayed for thirty consecutive calendar days; or any proceeding under any Debtor Relief Law in respect of any such Person or to all or any material part of its property is instituted without the consent of such Person and continues undismissed for sixty consecutive calendar days, or an order or decree approving or ordering such proceeding shall have been entered; or

(g) Inability to Pay Debts; Attachment.

(i) The Company or any Subsidiary (other than an Immaterial Subsidiary) becomes unable or admits in writing its inability or fails generally to pay its debts as they become due; or

(ii) Any writ or warrant of attachment or execution or similar process is issued or levied against all or any material part of the property of any such Person and such process, if not fully bonded, continues undismissed for sixty consecutive calendar days, or an order or decree approving or ordering such process shall continue unstayed for thirty calendar days; or

(h) Judgments. There is entered against the Company or any Subsidiary (i) a final judgment or order for the payment of money in an aggregate amount exceeding the Threshold Amount (to the extent not covered by independent third-party insurance as to which the insurer does not dispute coverage), or (ii) any one or more non-monetary final judgments that have, or would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect and, in either case, (A) enforcement proceedings are commenced by any creditor upon such judgment or order, or (B) there is a period of forty-five consecutive days during which a stay of enforcement of such judgment, by reason of a pending appeal or otherwise, is not in effect; or

(i) ERISA. (i) An ERISA Event occurs with respect to a Pension Plan or Multiemployer Plan that has resulted or would reasonably be expected to result in liability of the Company under Title IV of ERISA to the Pension Plan, Multiemployer Plan or the PBGC in an aggregate amount in excess of the Threshold Amount, or (ii) the Company or any ERISA Affiliate fails to pay when due, after the expiration of any applicable grace period, any installment payment with respect to its withdrawal liability under Section 4201 of ERISA under a Multiemployer Plan in an aggregate amount in excess of the Threshold Amount; or

(j) Invalidity of Loan Documents. Any Loan Document, at any time after its execution and delivery and for any reason other than as expressly permitted hereunder or as a result of the satisfaction in full of all the Obligations (other than contingent indemnification obligations for which no claim or demand has been made, ceases to be in full force and effect; or any Borrower or any Subsidiary contests in any manner the validity or enforceability of any Loan Document; or any Borrower denies that it has any or further liability or obligation under any Loan Document, or purports to revoke, terminate or rescind any Loan Document; or

(k) Change of Control. There occurs any Change of Control.

11.02 Remedies Upon Event of Default.

If any Event of Default occurs and is continuing, the Administrative Agent shall, at the request of, or may, with the consent of, the Required Lenders, take any or all of the following actions:

(a) declare the Commitment of each Lender to make Loans and any obligation of the L/C Issuer to make L/C Credit Extensions to be terminated, whereupon such commitments and obligation shall be terminated;

(b) declare the unpaid principal amount of all outstanding Loans, all interest accrued and unpaid thereon, and all other amounts owing or payable hereunder or under any other Loan Document to be immediately due and payable, without presentment, demand, protest or other notice of any kind, all of which are hereby expressly waived by the Borrowers;

(c) require that the Borrowers Cash Collateralize the L/C Obligations (in an amount equal to the Minimum Collateral Amount with respect thereto); and

(d) exercise on behalf of itself, the L/C Issuer and the Lenders all rights and remedies available to it, the L/C Issuer and the Lenders under the Loan Documents or applicable law or equity;

provided, however, that upon the occurrence of an actual or deemed entry of an order for relief with respect to any Borrower under the Bankruptcy Code of the United States (or any other applicable Debtor Relief Laws), the obligation of each Lender to make Loans and any obligation of the L/C Issuer to make L/C Credit Extensions shall automatically terminate, the unpaid principal amount of all outstanding Loans and all interest and other amounts as aforesaid shall automatically become due and payable, and the

obligation of the Company to Cash Collateralize the L/C Obligations as aforesaid shall automatically become effective, in each case without further act of the Administrative Agent or any Lender.

11.03 Application of Funds.

After the exercise of remedies provided for in Section 9.02 (or after the Loans have automatically become immediately due and payable and the L/C Obligations have automatically been required to be Cash Collateralized as set forth in the proviso to Section 9.02), any amounts received on account of the Obligations shall, subject to the provisions of Sections 2.16 and 2.17, be applied by the Administrative Agent in the following order:

First, to payment of that portion of the Obligations constituting fees, indemnities, expenses and other amounts (including fees, charges and disbursements of counsel to the Administrative Agent and amounts payable under Article III) payable to the Administrative Agent in its capacity as such;

Second, to payment of that portion of the Obligations constituting fees, indemnities and other amounts (other than principal, interest and Letter of Credit Fees) payable to the Lenders and the L/C Issuer (including fees, charges and disbursements of counsel to the respective Lenders and the L/C Issuer and amounts payable under Article III), ratably among them in proportion to the respective amounts described in this clause Second payable to them;

Third, to payment of that portion of the Obligations constituting accrued and unpaid Letter of Credit Fees and interest on the Loans and L/C Borrowings, ratably among the Lenders and the L/C Issuer in proportion to the respective amounts described in this clause Third held by them;

Fourth, to (a) payment of that portion of the Obligations constituting unpaid principal of the Loans and L/C Borrowings and (b) Cash Collateralize that portion of L/C Obligations comprised of the aggregate undrawn amount of Letters of Credit, ratably among the Lenders and the L/C Issuer in proportion to the respective amounts described in this clause Fourth held by them; and

Last, the balance, if any, after all of the Obligations have been indefeasibly paid in full (other than contingent indemnification obligations for which no claim or demand has been made), to the Company or as otherwise required by Law.

Subject to Sections 2.03(c) and 2.16, amounts used to Cash Collateralize the aggregate undrawn amount of Letters of Credit pursuant to clause Fourth above shall be applied to satisfy drawings under such Letters of Credit as they occur. If any amount remains on deposit as Cash Collateral after all Letters of Credit have either been fully drawn or expired, such remaining amount shall be applied to the other Obligations, if any, in the order set forth above.

ARTICLE X.

ADMINISTRATIVE AGENT

11.01 Appointment and Authority.

Each of the Lenders and the L/C Issuer hereby irrevocably appoints Bank of America to act on its behalf as the Administrative Agent hereunder and under the other Loan Documents and authorizes the Administrative Agent to take such actions on its behalf and to exercise such powers as are delegated to the Administrative Agent by the terms hereof or thereof, together with such actions and powers as are reasonably incidental thereto. The provisions of this Article are solely for the benefit of the Administrative Agent, the Lenders and the L/C Issuer, and no Borrower shall have rights as a third party beneficiary of any of such provisions. It is understood and agreed that the use of the term “agent” herein or in any other Loan Documents (or any other similar term) with reference to the Administrative Agent is not intended to connote any fiduciary or other implied (or express) obligations arising under agency doctrine of any applicable Law. Instead such term is used as a matter of market custom, and is intended to create or reflect only an administrative relationship between contracting parties.

11.02 Rights as a Lender.

The Person serving as the Administrative Agent hereunder shall have the same rights and powers in its capacity as a Lender as any other Lender and may exercise the same as though it were not the Administrative Agent and the term “Lender” or “Lenders” shall, unless otherwise expressly indicated or unless the context otherwise requires, include the Person serving as the Administrative Agent hereunder in its individual capacity. Such Person and its Affiliates may accept deposits from, lend money to, own securities of, act as the financial advisor or in any other advisory capacity for and generally engage in any kind of business with the Borrowers or any Subsidiary or other Affiliate thereof as if such Person were not the Administrative Agent hereunder and without any duty to account therefor to the Lenders.

11.03 Exculpatory Provisions.

The Administrative Agent shall not have any duties or obligations except those expressly set forth herein and in the other Loan Documents, and its duties hereunder shall be administrative in nature. Without limiting the generality of the foregoing, the Administrative Agent:

(a) shall not be subject to any fiduciary or other implied duties, regardless of whether a Default has occurred and is continuing;

(b) shall not have any duty to take any discretionary action or exercise any discretionary powers, except discretionary rights and powers expressly contemplated hereby or by the other Loan Documents that the Administrative Agent is required to exercise as directed in writing by the Required Lenders (or such other number or percentage of the Lenders as shall be expressly provided for herein or in the other Loan Documents); provided that the Administrative Agent shall not be required to take any action that, in its opinion or the opinion of its counsel, may expose the Administrative Agent to liability or that is contrary to any Loan Document or applicable law, including for the avoidance of doubt any action that may be in violation of the automatic stay under any Debtor Relief Law or that may effect a forfeiture, modification or termination of property of a Defaulting Lender in violation of any Debtor Relief Law; and

(c) shall not, except as expressly set forth herein and in the other Loan Documents, have any duty to disclose, and shall not be liable for the failure to disclose, any information

relating to any of the Borrowers or any of their respective Affiliates that is communicated to or obtained by the Person serving as the Administrative Agent or any of its Affiliates in any capacity.

The Administrative Agent shall not be liable for any action taken or not taken by it (i) with the consent or at the request of the Required Lenders (or such other number or percentage of the Lenders as shall be necessary, or as the Administrative Agent shall believe in good faith shall be necessary, under the circumstances as provided in Sections 11.01 and 9.02) or (ii) in the absence of its own gross negligence or willful misconduct as determined by a court of competent jurisdiction by final and nonappealable judgment. The Administrative Agent shall be deemed not to have knowledge of any Default unless and until notice describing such Default is given in writing to the Administrative Agent by the Company, a Lender or the L/C Issuer.

The Administrative Agent shall not be responsible for or have any duty to ascertain or inquire into (i) any statement, warranty or representation made in or in connection with this Agreement or any other Loan Document, (ii) the contents of any certificate, report or other document delivered hereunder or thereunder or in connection herewith or therewith, (iii) the performance or observance of any of the covenants, agreements or other terms or conditions set forth herein or therein or the occurrence of any Default, (iv) the validity, enforceability, effectiveness or genuineness of this Agreement, any other Loan Document or any other agreement, instrument or document or (v) the satisfaction of any condition set forth in Article V or elsewhere herein, other than to confirm receipt of items expressly required to be delivered to the Administrative Agent.

11.04 Reliance by Administrative Agent.

The Administrative Agent shall be entitled to rely upon, and shall not incur any liability for relying upon, any notice, request, certificate, consent, statement, instrument, document or other writing (including any electronic message, Internet or intranet website posting or other distribution) believed by it to be genuine and to have been signed, sent or otherwise authenticated by the proper Person. The Administrative Agent also may rely upon any statement made to it orally or by telephone and believed by it to have been made by the proper Person, and shall not incur any liability for relying thereon. In determining compliance with any condition hereunder to the making of a Loan, or the issuance, extension, renewal or increase of a Letter of Credit, that by its terms must be fulfilled to the satisfaction of a Lender or the L/C Issuer, the Administrative Agent may presume that such condition is satisfactory to such Lender or the L/C Issuer unless the Administrative Agent shall have received notice to the contrary from such Lender or the L/C Issuer prior to the making of such Loan or the issuance, extension, renewal or increase of such Letter of Credit. The Administrative Agent may consult with legal counsel (who may be counsel for the Company), independent accountants and other experts selected by it, and shall not be liable for any action taken or not taken by it in accordance with the advice of any such counsel, accountants or experts.

11.05 Delegation of Duties.

The Administrative Agent may perform any and all of its duties and exercise its rights and powers hereunder or under any other Loan Document by or through any one or more sub-agents appointed by the Administrative Agent. The Administrative Agent and any such sub-agent may perform any and all of its duties and exercise its rights and powers by or through their respective Related Parties. The exculpatory provisions of this Article shall apply to any such sub-agent and to the Related Parties of the Administrative Agent and any such sub-agent, and shall apply to their respective activities in connection with the syndication of the credit facility provided for herein as well as activities as Administrative Agent. The Administrative Agent shall not be responsible for the negligence or misconduct of any sub-agents except to the extent that a court of competent jurisdiction determines in a final and non-appealable

judgment that the Administrative Agent acted with gross negligence or willful misconduct in the selection of such sub-agents.

11.06 Resignation of Administrative Agent.

(a) The Administrative Agent may at any time give notice of its resignation to the Lenders, the L/C Issuer and the Company. Upon receipt of any such notice of resignation, the Required Lenders shall have the right, in consultation with the Company, and, at all times other than during the existence of an Event of Default, with the Company's consent (such consent not to be unreasonably withheld), to appoint a successor, which shall be a bank with an office in the United States, or an Affiliate of any such bank with an office in the United States. If no such successor shall have been so appointed by the Required Lenders and shall have accepted such appointment within thirty days after the retiring Administrative Agent gives notice of its resignation (or such earlier day as shall be agreed by the Required Lenders) (the "Resignation Effective Date"), then the retiring Administrative Agent may (but shall not be obligated to) on behalf of the Lenders and the L/C Issuer, appoint a successor Administrative Agent meeting the qualifications set forth above; provided that in no event shall any such successor Administrative Agent be a Defaulting Lender. Whether or not a successor has been appointed, such resignation shall become effective in accordance with such notice on the Resignation Effective Date.

(b) If the Person serving as Administrative Agent is a Defaulting Lender pursuant to clause (d) of the definition thereof, the Required Lenders may, to the extent permitted by applicable Law, by notice in writing to the Company and such Person remove such Person as Administrative Agent and, in consultation with the Company and, at all times other than during the existence of an Event of Default, with the Company's consent (such consent not to be unreasonably withheld), appoint a successor. If no such successor shall have been so appointed by the Required Lenders and shall have accepted such appointment within thirty days (or such earlier day as shall be agreed by the Required Lenders) (the "Removal Effective Date"), then such removal shall nonetheless become effective in accordance with such notice on the Removal Effective Date.

(c) With effect from the Resignation Effective Date or the Removal Effective Date (as applicable) (i) the retiring or removed Administrative Agent shall be discharged from its duties and obligations hereunder and under the other Loan Documents (except that in the case of any collateral security held by the Administrative Agent on behalf of the Lenders or the L/C Issuer under any of the Loan Documents, the retiring or removed Administrative Agent shall continue to hold such collateral security until such time as a successor Administrative Agent is appointed) and (ii) except for any indemnity payments or other amounts then owed to the retiring or removed Administrative Agent, all payments, communications and determinations provided to be made by, to or through the Administrative Agent shall instead be made by or to each Lender and the L/C Issuer directly, until such time, if any, as the Required Lenders appoint a successor Administrative Agent as provided for above in this Section. Upon the acceptance of a successor's appointment as Administrative Agent hereunder, such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring (or removed) Administrative Agent (other than as provided in Section 3.01(f) and other than any rights to indemnity payments or other amounts owed to the retiring or removed Administrative Agent as of the Resignation Effective Date or the Removal Effective Date, as applicable), and the retiring or removed Administrative Agent shall be discharged from all of its duties and obligations hereunder or under the other Loan Documents (if not already discharged therefrom as provided above in this Section). The fees payable by the Company to a successor Administrative Agent shall be the same as those payable to its predecessor unless otherwise agreed between the Company and such successor. After the retiring or removed Administrative Agent's resignation or removal hereunder and under the other Loan Documents, the provisions of this Article and

Section 11.04 shall continue in effect for the benefit of such retiring or removed Administrative Agent, its sub-agents and their respective Related Parties in respect of any actions taken or omitted to be taken by any of them (i) while the retiring or removed Administrative Agent was acting as Administrative Agent and (ii) after such resignation or removal for as long as any of them continues to act in any capacity hereunder or under the other Loan Documents, including (a) holding any collateral security on behalf of any of the Lenders and (b) in respect of any actions taken in connection with transferring the agency to any successor Administrative Agent.

(d) Any resignation or removal by Bank of America as Administrative Agent pursuant to this Section shall also constitute its resignation and removal as an L/C Issuer and Swing Line Lender. If Bank of America resigns or is removed as an L/C Issuer, it shall retain all the rights, powers, privileges and duties of an L/C Issuer hereunder with respect to all Letters of Credit issued by it outstanding as of the effective date of its resignation or removal as L/C Issuer and all L/C Obligations with respect thereto, including the right to require the Lenders to make Base Rate Loans or fund risk participations in Unreimbursed Amounts pursuant to Section 2.03(c). If Bank of America resigns or is removed as Swing Line Lender, it shall retain all the rights of the Swing Line Lender provided for hereunder with respect to Swing Line Loans made by it and outstanding as of the effective date of such resignation or removal, including the right to require the Lenders to make Base Rate Loans or fund risk participations in outstanding Swing Line Loans pursuant to Section 2.04(c). Upon the appointment by the Company of a successor L/C Issuer or Swing Line Lender hereunder (which successor shall in all cases be a Lender other than a Defaulting Lender), and upon the acceptance of appointment by such successor, (i) such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring or removed L/C Issuer or Swing Line Lender, as applicable, (ii) the retiring or removed L/C Issuer and Swing Line Lender shall be discharged from all of their respective duties and obligations hereunder or under the other Loan Documents and (iii) the successor L/C Issuer shall issue letters of credit in substitution for the Letters of Credit issued by the retiring or removed L/C Issuer, if any, outstanding at the time of such succession or make other arrangements reasonably satisfactory to the retiring or removed L/C Issuer to effectively assume the obligations of the retiring or removed L/C Issuer with respect to such Letters of Credit.

10.07 Non-Reliance on Administrative Agent and Other Lenders.

Each Lender and the L/C Issuer expressly acknowledges that neither the Administrative Agent nor BAS has made any representation or warranty to it, and that no act by the Administrative Agent or BAS hereafter taken, including any consent to, and acceptance of any assignment or review of the affairs of the Company or any Affiliate thereof, shall be deemed to constitute any representation or warranty by the Administrative Agent or BAS to any Lender or the L/C Issuer as to any matter, including whether the Administrative Agent or BAS has disclosed material information in their (or their Related Parties') possession. Each Lender and the L/C Issuer represents to the Administrative Agent and BAS that it has, independently and without reliance upon the Administrative Agent, BAS, any other Lender or any of their Related Parties and based on such documents and information as it has deemed appropriate, made its own credit analysis of, appraisal of, and investigation into, the business, prospects, operations, property, financial and other condition and creditworthiness of the Company and its Subsidiaries, and all applicable bank or other regulatory Laws relating to the transactions contemplated hereby, and made its own decision to enter into this Agreement and to extend credit to the Borrowers hereunder. Each Lender and the L/C Issuer also acknowledges that it will, independently and without reliance upon the Administrative Agent, BAS, any other Lender or any of their Related Parties and based on such documents and information as it shall from time to time deem appropriate, continue to make its own credit analysis, appraisals and decisions in taking or not taking action under or based upon this Agreement, any other Loan Document or any related agreement or any document furnished hereunder or thereunder, and to make such investigations as it deems necessary to inform itself as to the business, prospects, operations, property, financial and other condition and creditworthiness of the Borrowers. Each Lender and the L/C

Issuer represents and warrants that (i) the Loan Documents set forth the terms of a commercial lending facility and (ii) it is engaged in making, acquiring or holding commercial loans in the ordinary course and is entering into this Agreement as a Lender or L/C Issuer for the purpose of making, acquiring or holding commercial loans and providing other facilities set forth herein as may be applicable to such Lender or L/C Issuer, and not for the purpose of purchasing, acquiring or holding any other type of financial instrument, and each Lender and the L/C Issuer agrees not to assert a claim in contravention of the foregoing. Each Lender and the L/C Issuer represents and warrants that it is sophisticated with respect to decisions to make, acquire and/or hold commercial loans and to provide other facilities set forth herein, as may be applicable to such Lender or the L/C Issuer, and either it, or the Person exercising discretion in making its decision to make, acquire and/or hold such commercial loans or to provide such other facilities, is experienced in making, acquiring or holding such commercial loans or providing such other facilities.

10.08 No Other Duties, Etc.

Anything herein to the contrary notwithstanding, none of the bookrunners, arrangers, syndication agents, documentation agents, co-agents, or book managers listed on the cover page hereof shall have any powers, duties or responsibilities under this Agreement or any of the other Loan Documents, except in its capacity, as applicable, as the Administrative Agent, a Lender or the L/C Issuer hereunder.

No bookrunner, arranger, syndication agent, documentation agent, co-agent or book manager shall have or deemed to have any fiduciary relationship with any Lender.

10.09 Administrative Agent May File Proofs of Claim.

In case of the pendency of any receivership, insolvency, liquidation, bankruptcy, reorganization, arrangement, adjustment, composition or other judicial proceeding relative to any Borrower, the Administrative Agent (irrespective of whether the principal of any Loan or L/C Obligation shall then be due and payable as herein expressed or by declaration or otherwise and irrespective of whether the Administrative Agent shall have made any demand on any Borrower) shall be entitled and empowered, by intervention in such proceeding or otherwise:

(a) to file and prove a claim for the whole amount of the principal and interest owing and unpaid in respect of the Loans, L/C Obligations and all other Obligations that are owing and unpaid and to file such other documents as may be necessary or advisable in order to have the claims of the Lenders, the L/C Issuer and the Administrative Agent (including any claim for the reasonable compensation, expenses, disbursements and advances of the Lenders, the L/C Issuer and the Administrative Agent and their respective agents and counsel and all other amounts due the Lenders, the L/C Issuer and the Administrative Agent under Sections 2.03(h), 2.09 and 11.04) allowed in such judicial proceeding; and

(b) to collect and receive any monies or other property payable or deliverable on any such claims and to distribute the same;

and any custodian, receiver, assignee, trustee, liquidator, sequestrator or other similar official in any such judicial proceeding is hereby authorized by each Lender and the L/C Issuer to make such payments to the Administrative Agent and, in the event that the Administrative Agent shall consent to the making of such payments directly to the Lenders and the L/C Issuer, to pay to the Administrative Agent any amount due for the reasonable compensation, expenses, disbursements and advances of the Administrative Agent and its agents and counsel, and any other amounts due the Administrative Agent under Sections 2.09 and 11.04.

Nothing contained herein shall be deemed to authorize the Administrative Agent to authorize or consent to or accept or adopt on behalf of any Lender or the L/C Issuer any plan of reorganization, arrangement, adjustment or composition affecting the Obligations or the rights of any Lender or the L/C Issuer to authorize the Administrative Agent to vote in respect of the claim of any Lender or the L/C Issuer in any such proceeding.

10.10 ERISA Matters.

(a) Each Lender (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent, BAS and each other lead arranger and their respective Affiliates, and not, for the avoidance of doubt, to or for the benefit of any Borrower, that at least one of the following is and will be true:

(i) such Lender is not using “plan assets” (within the meaning of Section 3(42) of ERISA or otherwise) of one or more Benefit Plans with respect to such Lender’s entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments, or this Agreement,

(ii) the transaction exemption set forth in one or more PTEs, such as PTE 84–14 (a class exemption for certain transactions determined by independent qualified professional asset managers), PTE 95–60 (a class exemption for certain transactions involving insurance company general accounts), PTE 90–1 (a class exemption for certain transactions involving insurance company pooled separate accounts), PTE 91–38 (a class exemption for certain transactions involving bank collective investment funds) or PTE 96–23 (a class exemption for certain transactions determined by in-house asset managers), is applicable with respect to such Lender’s entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement,

(iii) (A) such Lender is an investment fund managed by a “Qualified Professional Asset Manager” (within the meaning of Part VI of PTE 84–14), (B) such Qualified Professional Asset Manager made the investment decision on behalf of such Lender to enter into, participate in, administer and perform the Loans, the Letters of Credit, the Commitments and this Agreement, (C) the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement satisfies the requirements of sub-sections (b) through (g) of Part I of PTE 84–14 and (D) to the best knowledge of such Lender, the requirements of subsection (a) of Part I of PTE 84–14 are satisfied with respect to such Lender’s entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement, or

(iv) such other representation, warranty and covenant as may be agreed in writing between the Administrative Agent, in its sole discretion, and such Lender.

(b) In addition, unless either (1) clause (i) in the immediately preceding clause (a) is true with respect to a Lender or (2) a Lender has provided another representation, warranty and covenant in accordance with clause (iv) in the immediately preceding clause (a), such Lender further (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent and not, for the avoidance of doubt, to or for the benefit of the Borrowers, that the Administrative Agent is

not a fiduciary with respect to the assets of such Lender involved in such Lender's entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement (including in connection with the reservation or exercise of any rights by the Administrative Agent under this Agreement, any Loan Document or any documents related hereto or thereto).

10.11 Recovery of Erroneous Payments.

Without limitation of any other provision in this Agreement, if at any time the Administrative Agent makes a payment hereunder in error to any Lender Party, whether or not in respect of an Obligation due and owing by a Borrower at such time, where such payment is a Rescindable Amount, then in any such event, each Lender Party receiving a Rescindable Amount severally agrees to repay to the Administrative Agent forthwith on demand the Rescindable Amount received by such Lender Party in Same Day Funds in the currency so received, with interest thereon, for each day from and including the date such Rescindable Amount is received by it to but excluding the date of payment to the Administrative Agent, at the applicable Overnight Rate from time to time in effect in the Applicable Currency. Each Lender Party irrevocably waives any and all defenses, including any "discharge for value" (under which a creditor might otherwise claim a right to retain funds mistakenly paid by a third party in respect of a debt owed by another) or similar defense to its obligation to return any Rescindable Amount. The Administrative Agent shall inform each Lender Party promptly upon determining that any payment made to such Lender Party comprised, in whole or in part, a Rescindable Amount.

ARTICLE XI.

MISCELLANEOUS

11.01 Amendments, Etc.

No amendment or waiver of any provision of this Agreement or any other Loan Document, and no consent to any departure by the Company or any other Borrower therefrom, shall be effective unless in writing signed by the Required Lenders and the Borrowers, and acknowledged by the Administrative Agent, and each such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given; provided, however, that no such amendment, waiver or consent shall:

(a) extend or increase the Commitment of any Lender (or reinstate any Commitment terminated pursuant to Section 9.02) without the written consent of such Lender whose Commitment is being extended or increased (or reinstated), it being understood that a waiver of any condition precedent set forth in Section 5.02 or of an Event of Default or a mandatory reduction in Commitments is not considered an increase in Commitments;

(b) postpone any date fixed by this Agreement or any other Loan Document for any payment of principal, interest, fees or other amounts due to any Lender hereunder or under any other Loan Document without the written consent of each Lender entitled to receive such payment;

(c) reduce the principal of, or the rate of interest specified herein on, any Loan or L/C Borrowing, or any fees or other amounts payable hereunder or under any other Loan Document without the written consent of each Lender entitled to receive such amount; provided, however, that only the consent of the Required Lenders shall be necessary to (i) amend the definition of "Default Rate" or to waive any obligation of any Borrower to pay interest at the Default Rate or (ii) to amend any financial covenant hereunder (or any defined term used therein) even if the effect of such amendment would be to reduce the rate of interest on any Loan or L/C Borrowing or to reduce any fee payable hereunder;

- (d) change Section 2.13 or 9.03 in a manner that would alter the pro rata sharing of payments required thereby or the order of application of funds required thereby, in each case, without the written consent of each Lender directly affected thereby;
- (e) change any provision of this Section or the definition of “Required Lenders” without the written consent of each Lender;
- (f) amend Section 1.09 or the definition of “Alternative Currency” to add additional currencies without the consent of each Lender obligated to make Credit Extensions in such currency;
- (g) change Section 2.14 in a manner that would alter the requirement that each of the Lenders obligated to make Credit Extensions to an Applicant Borrower approve the addition thereof as a Designated Borrower, without the written consent of each such Lender; or
- (h) release the Company (subject to Section 8.02) from its obligations hereunder or consent to the assignment (subject to Sections 2.14(d) and 8.02) of any Borrower’s rights and obligations hereunder without the written consent of each Lender;

and; provided further, that (i) no amendment, waiver or consent shall, unless in writing and signed by the L/C Issuer in addition to the Lenders required above, affect the rights or duties of the L/C Issuer under this Agreement or any Issuer Document relating to any Letter of Credit issued or to be issued by it; (ii) no amendment, waiver or consent shall, unless in writing and signed by the Swing Line Lender in addition to the Lenders required above, affect the rights or duties of the Swing Line Lender under this Agreement; (iii) no amendment, waiver or consent shall, unless in writing and signed by the Administrative Agent in addition to the Lenders required above, affect the rights or duties of the Administrative Agent under this Agreement or any other Loan Document; (iv) each Lender is entitled to vote as such Lender sees fit on any bankruptcy reorganization plan that affects the Loans, and each Lender acknowledges that the provisions of Section 1126(c) of the Bankruptcy Code of the United States supersedes the unanimous consent provisions set forth herein; and (v) the Required Lenders shall determine whether or not to allow a Borrower to use cash collateral in the context of a bankruptcy or insolvency proceeding and such determination shall be binding on all of the Lenders.

Notwithstanding anything to the contrary herein: (i) the Administrative Agent Fee Letter may be amended, or rights or privileges thereunder waived, in a writing executed only by the parties thereto; (ii) the Administrative Agent and the Company may make amendments contemplated by Sections 3.03(b) and 3.03(c); (iii) this Agreement may be amended with the written consent of the Administrative Agent, the L/C Issuer, the Company and the Lenders obligated to make Credit Extensions in Alternative Currencies to amend the definition of “Alternative Currency”, “Alternative Currency Daily Rate” or “Alternative Currency Term Rate” solely to add additional currency options and the applicable interest rate with respect thereto, in each case solely to the extent permitted pursuant to Section 1.09; (iv) no Defaulting Lender shall have any right to approve or disapprove any amendment, waiver or consent hereunder (and any amendment, waiver or consent which by its terms requires the consent of all Lenders or each affected Lender may be effected with the consent of the applicable Lenders other than Defaulting Lenders), except that (A) the Commitment of such Defaulting Lender may not be increased or extended without the consent of such Lender and (B) any waiver, amendment or modification requiring the consent of all Lenders or each affected Lender that by its terms affects such Defaulting Lender disproportionately adversely relative to other affected Lenders shall require the consent of such Defaulting Lender; (v) the Administrative Agent and the Company may amend, modify or supplement this Agreement or any other Loan Document to cure or correct administrative errors or omissions, any ambiguity, omission, defect or inconsistency or to effect administrative changes, and such amendment shall become effective without any further consent of any other party to such Loan Document so long as (A) such amendment, modification or supplement does not adversely affect the rights of any Lender or other holder of

Obligations in any material respect and (B) the Lenders shall have received at least five Business Days' prior written notice thereof and the Administrative Agent shall not have received, within five Business Days of the date of such notice to the Lenders, a written notice from the Required Lenders stating that the Required Lenders object to such amendment; (vi) this Agreement may be amended with the written consent of the Borrowers, the Administrative Agent and the Lenders increasing their Commitments solely to effectuate any increase in the Aggregate Commitments pursuant to Section 2.01(b), (vii) in order to implement any Incremental Term Facility in accordance with Section 2.01(b), this Agreement may be amended for such purpose (but solely to the extent necessary to implement such Incremental Term Facility and otherwise in accordance with Section 2.01(b)) by the Borrowers, the Administrative Agent and each Lender providing a portion of such Incremental Term Facility and (viii) this Agreement may be amended and restated without the consent of any Lender (but with the consent of the Company and the Administrative Agent) if, upon giving effect to such amendment and restatement, such Lender shall no longer be a party to this Agreement (as so amended and restated), the Commitments of such Lender shall have terminated, such Lender shall have no other commitment or other obligation hereunder and shall have been paid in full all principal, interest and other amounts owing to it or accrued for its account under this Agreement.

11.02 Notices; Effectiveness; Electronic Communication.

(a) Notices Generally. Except in the case of notices and other communications expressly permitted to be given by telephone (and except as provided in subsection (b) below), all notices and other communications provided for herein shall be in writing and shall be delivered by hand or overnight courier service, mailed by certified or registered mail or sent by facsimile as follows, and all notices and other communications expressly permitted hereunder to be given by telephone shall be made to the applicable telephone number, as follows:

(i) if to the Borrowers, the Administrative Agent, the L/C Issuer or the Swing Line Lender, to the address, facsimile number, electronic mail address or telephone number specified for such Person on Schedule 11.02; and

(ii) if to any other Lender, to the address, facsimile number, electronic mail address or telephone number specified in its Administrative Questionnaire (including, as appropriate, notices delivered solely to the Person designated by a Lender on its Administrative Questionnaire then in effect for the delivery of notices that may contain material non-public information relating to the Borrower).

Notices and other communications sent by hand or overnight courier service, or mailed by certified or registered mail, shall be deemed to have been given when received; notices and other communications sent by facsimile shall be deemed to have been given when sent (except that, if not given during normal business hours for the recipient, shall be deemed to have been given at the opening of business on the next business day for the recipient). Notices and other communications delivered through electronic communications to the extent provided in subsection (b) below, shall be effective as provided in such subsection (b).

(b) Electronic Communications. Notices and other communications to the Lenders and the L/C Issuer hereunder may be delivered or furnished by electronic communication (including e-mail, FpML messaging and Internet or intranet websites) pursuant to procedures approved by the Administrative Agent; provided that the foregoing shall not apply to notices to any Lender or the L/C Issuer pursuant to Article II if such Lender or the L/C Issuer, as applicable, has notified the Administrative Agent that it is incapable of receiving notices under such Article by electronic communication. The Administrative Agent, the Swing Line Lender, the L/C Issuer or the Company each may, in its discretion, agree to accept notices and other communications to it hereunder by electronic communications pursuant to procedures approved by it; provided that approval of such procedures may be limited to particular notices or communications.

Unless the Administrative Agent otherwise prescribes, (i) notices and other communications sent to an e-mail address shall be deemed received upon the sender's receipt of an acknowledgement from the intended recipient (such as by the "return receipt requested" function, as available, return e-mail or other written acknowledgement) and (ii) notices or communications posted to an Internet or intranet website shall be deemed received upon the deemed receipt by the intended recipient at its e-mail address as described in the foregoing clause (i) of notification that such notice or communication is available and identifying the website address therefor; provided that, for both clauses (i) and (ii), if such notice, email or other communication is not sent during the normal business hours of the recipient, such notice, email or communication shall be deemed to have been sent at the opening of business on the next Business Day for the recipient.

(c) The Platform. THE PLATFORM IS PROVIDED "AS IS" AND "AS AVAILABLE." THE AGENT PARTIES (AS DEFINED BELOW) DO NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE BORROWER MATERIALS OR THE ADEQUACY OF THE PLATFORM, AND EXPRESSLY DISCLAIM LIABILITY FOR ERRORS IN OR OMISSIONS FROM THE BORROWER MATERIALS. NO WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF THIRD PARTY RIGHTS OR FREEDOM FROM VIRUSES OR OTHER CODE DEFECTS, IS MADE BY ANY AGENT PARTY IN CONNECTION WITH THE BORROWER MATERIALS OR THE PLATFORM. In no event shall the Administrative Agent or any of its Related Parties (collectively, the "Agent Parties") have any liability to any Borrower, the L/C Issuer, any Lender or any other Person for losses, claims, damages, liabilities or expenses of any kind (whether in tort, contract or otherwise) arising out of any Borrower's or the Administrative Agent's transmission of Borrower Materials or notices through the Platform, any other electronic platform or electronic messaging service, or through the Internet, except to the extent that such losses, claims, damages, liabilities or expenses are determined by a court of competent jurisdiction by a judgment to have resulted from the gross negligence or willful misconduct of such Agent Party; provided, however, that in no event shall any Agent Party have any liability to any Borrower, any Lender or any other Person for indirect, special, incidental, consequential or punitive damages (as opposed to direct or actual damages).

(d) Change of Address, Etc. Each of the Borrowers, the Administrative Agent, the L/C Issuer and the Swing Line Lender may change its address, facsimile, electronic mail address or telephone number for notices and other communications hereunder by notice to the other parties hereto. Each other Lender may change its address, facsimile, electronic mail address or telephone number for notices and other communications hereunder by notice to the Company, the Administrative Agent, the L/C Issuer and the Swing Line Lender. In addition, each Lender agrees to notify the Administrative Agent from time to time to ensure that the Administrative Agent has on record (i) an effective address, contact name, telephone number, facsimile number and electronic mail address to which notices and other communications may be sent and (ii)

accurate wire instructions for such Lender. Furthermore, each Public Lender agrees to cause at least one individual at or on behalf of such Public Lender to at all times have selected the “Private Side Information” or similar designation on the content declaration screen of the Platform in order to enable such Public Lender or its delegate, in accordance with such Public Lender’s compliance procedures and applicable Law, including United States Federal and state securities Laws, to make reference to Borrower Materials that are not made available through the “Public Side Information” portion of the Platform and that may contain material non-public information with respect to any Borrower or its securities for purposes of United States Federal or state securities laws.

(e) Reliance by Administrative Agent, L/C Issuer and Lenders. The Administrative Agent, the L/C Issuer and the Lenders shall be entitled to rely and act upon any notices (including telephonic notices, Committed Loan Notices, Letter of Credit Applications and Swing Line Loan Notices) purportedly given by or on behalf of any Borrower even if (i) such notices were not made in a manner specified herein, were incomplete or were not preceded or followed by any other form of notice specified herein, or (ii) the terms thereof, as understood by the recipient, varied from any confirmation thereof. The Company shall indemnify the Administrative Agent, the L/C Issuer, each Lender and the Related Parties of each of them from all losses, costs, expenses and liabilities resulting from the reliance by such Person on each notice purportedly given by or on behalf of any Borrower, except to the extent that such losses, costs, expenses or liabilities are determined by a court of competent jurisdiction by a final and nonappealable judgment to have resulted from the bad faith, gross negligence or willful misconduct of, or material breach of this Agreement or any other Loan Document by, the Administrative Agent, the L/C Issuer, such Lender or such Related Party. All telephonic notices to and other telephonic communications with the Administrative Agent may be recorded by the Administrative Agent, and each of the parties hereto hereby consents to such recording.

11.03 No Waiver; Cumulative Remedies; Enforcement.

No failure by any Lender, the L/C Issuer or the Administrative Agent to exercise, and no delay by any such Person in exercising, any right, remedy, power or privilege hereunder or under any other Loan Document shall operate as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder or under any other Loan Document (including the imposition of the Default Rate) preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege. The rights, remedies, powers and privileges herein provided, and provided under each other Loan Document, are cumulative and not exclusive of any rights, remedies, powers and privileges provided by law.

Notwithstanding anything to the contrary contained herein or in any other Loan Document, the authority to enforce rights and remedies hereunder and under the other Loan Documents against the Borrowers or any of them shall be vested exclusively in, and all actions and proceedings at law in connection with such enforcement shall be instituted and maintained exclusively by, the Administrative Agent in accordance with Section 9.02 for the benefit of all the Lenders and the L/C Issuer; provided, however, that the foregoing shall not prohibit (a) the Administrative Agent from exercising on its own behalf the rights and remedies that inure to its benefit (solely in its capacity as Administrative Agent) hereunder and under the other Loan Documents, (b) the L/C Issuer or the Swing Line Lender from exercising the rights and remedies that inure to its benefit (solely in its capacity as L/C Issuer or Swing Line Lender, as the case may be) hereunder and under the other Loan Documents, (c) any Lender from exercising setoff rights in accordance with Section 11.09 (subject to the terms of Section 2.13), or (d) any Lender from filing proofs of claim or appearing and filing pleadings on its own behalf during the pendency of a proceeding relative to any Borrower under any Debtor Relief Law; and provided, further, that if at any time there is no Person acting as Administrative Agent hereunder and under the other Loan Documents, then (i) the Required Lenders shall have the rights otherwise ascribed to the Administrative

Agent pursuant to Section 9.02 and (ii) in addition to the matters set forth in clauses (b), (c) and (d) of the preceding proviso and subject to Section 2.13, any Lender may, with the consent of the Required Lenders, enforce any rights and remedies available to it and as authorized by the Required Lenders.

11.04 Expenses; Indemnity; Damage Waiver.

(a) Costs and Expenses. The Company shall pay (i) all reasonable out-of-pocket expenses incurred by the Administrative Agent and its Affiliates (including the reasonable fees, charges and disbursements of counsel for the Administrative Agent), in connection with the syndication of the credit facility provided for herein, the preparation, negotiation, execution, delivery and administration of this Agreement and the other Loan Documents or any amendments, modifications or waivers of the provisions hereof or thereof (whether or not the transactions contemplated hereby or thereby shall be consummated), (ii) all reasonable out-of-pocket expenses incurred by the L/C Issuer in connection with the issuance, amendment, renewal or extension of any Letter of Credit or any demand for payment thereunder and (iii) all out-of-pocket expenses incurred by the Administrative Agent, any Lender or the L/C Issuer (including the fees, charges and disbursements of any counsel for the Administrative Agent, any Lender or the L/C Issuer), in connection with the enforcement or protection of its rights (A) in connection with this Agreement and the other Loan Documents, including its rights under this Section, or (B) in connection with the Loans made or Letters of Credit issued hereunder, including all such out-of-pocket expenses incurred during any workout, restructuring or negotiations in respect of such Loans or Letters of Credit; provided that pursuant to this clause (iii), the Company shall not be required to reimburse such fees, charges and disbursements of more than one counsel to the Administrative Agent, the L/C Issuer and all the Lenders, taken as a whole, and if necessary, one local domestic or foreign counsel in any relevant domestic or foreign jurisdiction, to the Administrative Agent, the L/C Issuer and the Lenders, taken as a whole, unless the representation of one or more Lenders by such counsel would be inappropriate due to the existence of an actual or potential conflict of interest, in which case, upon prior written notice to the Company, the Company shall also be required to reimburse the reasonable fees, charges and disbursements of one additional counsel to such affected Lenders in each relevant jurisdiction.

(b) Indemnification by the Borrowers. The Company shall indemnify the Administrative Agent (and any sub-agent thereof), each Lender and the L/C Issuer, and each Related Party of any of the foregoing Persons (each such Person being called an "Indemnitee") against, and hold each Indemnitee harmless from, any and all losses, claims, damages, liabilities and related expenses (including the reasonable fees, charges and disbursements of one counsel to the Indemnitees, taken as a whole, and if necessary, one local domestic or foreign counsel in any relevant domestic or foreign jurisdiction, to the Indemnitees, taken as a whole, unless the representation of one or more Indemnitees by such counsel would be inappropriate due to the existence of an actual or potential conflict of interest, in which case, upon prior written notice to the Company, the Company shall also be required to reimburse the reasonable fees, charges and disbursements of one additional counsel to such affected Indemnitees in each relevant jurisdiction), actually incurred by any Indemnitee or asserted against any Indemnitee by any Person (including any Borrower) arising out of, in connection with, or as a result of (i) the execution or delivery of this Agreement, any other Loan Document or any agreement or instrument contemplated hereby or thereby, the performance by the parties hereto of their respective obligations hereunder or thereunder or the consummation of the transactions contemplated hereby or thereby, or, in the case of the Administrative Agent (and any sub-agent thereof) and its Related Parties only, the administration of this Agreement and the other Loan Documents, (ii) any Loan or Letter of Credit or the use or proposed use of the proceeds therefrom (including any refusal by the L/C Issuer to honor a demand for payment under a Letter of Credit if the documents presented in connection with such demand do not strictly comply with the terms of such Letter of Credit), (iii) any actual or alleged presence or release of Hazardous Materials on

or from any property owned or operated by the Company or any of its Subsidiaries, or any Environmental Liability related in any way to the Company or any of its Subsidiaries, or (iv) any actual or prospective claim, litigation, investigation or proceeding relating to any of the foregoing, whether based on contract, tort or any other theory, whether brought by a third party or by the Company or any other Borrower, and regardless of whether any Indemnitee is a party thereto; provided that such indemnity shall not, as to any Indemnitee, be available to the extent that such losses, claims, damages, liabilities or related expenses (x) are determined by a court of competent jurisdiction by a final and nonappealable judgment to have resulted from the gross negligence, bad faith or willful misconduct of such Indemnitee or any of its Related Indemnitees, (y) result from a claim brought by the Company or any other Borrower against an Indemnitee for material breach of such Indemnitee's (or any of its Related Indemnitee's) obligations hereunder or under any other Loan Document, if the Company or such other Borrower has obtained a final and nonappealable judgment in its favor on such claim as determined by a court of competent jurisdiction or (z) arise solely from a dispute among the Indemnitees (except when and to the extent that one of the Indemnitees party to such dispute was acting in its capacity or in fulfilling its role as Administrative Agent, lead arranger, L/C Issuer, Swing Line Lender or any similar role under this Agreement or any other Loan Document) that does not involve any act or omission of the Company or any of its Affiliates. The Company shall not be liable for any settlement entered into by an Indemnitee without its written consent (such consent shall not be unreasonably withheld, delayed or conditioned), but if settled with the Company's written consent, or if there is a final and nonappealable judgment by a court of competent jurisdiction in any such claim, litigation, investigation or proceeding, the Company agrees to indemnify and hold harmless each Indemnitee in the manner and to the extent set forth above; provided that the Company shall be deemed to have consented to any such settlement unless the Company shall object thereto by written notice to the applicable Indemnitee within ten Business Days after having received written notice thereof. Without limiting the provisions of Section 3.01(c), this Section 11.04(b) shall not apply with respect to Taxes other than any Taxes that represent losses, claims, damages, etc. arising from any non-Tax claim.

(c) Reimbursement by Lenders. To the extent that the Company for any reason fails to indefeasibly pay any amount required under subsection (a) or (b) of this Section to be paid by it to the Administrative Agent (or any sub-agent thereof), the L/C Issuer, the Swing Line Lender or any Related Party of any of the foregoing, but without affecting the Company's obligations to make such payments, each Lender severally agrees to pay to the Administrative Agent (or any such sub-agent), the L/C Issuer, the Swing Line Lender or such Related Party, as the case may be, such Lender's Pro Rata Share (determined as of the time that the applicable unreimbursed expense or indemnity payment is sought based on each Lender's share of the outstanding Loans, unfunded Commitments and participation interests in Swing Line Loans and L/C Obligations of all Lenders at such time) of such unpaid amount (including any such unpaid amount in respect of a claim asserted by such Lender), such payment to be made severally among them based on such Lenders' Pro Rata Share (determined as of the time that the applicable unreimbursed expense or indemnity payment is sought); provided that the unreimbursed expense or indemnified loss, claim, damage, liability or related expense, as the case may be, was incurred by or asserted against the Administrative Agent (or any such sub-agent), the Swing Line Lender or the L/C Issuer in its capacity as such, or against any Related Party of any of the foregoing acting for the Administrative Agent (or any such sub-agent), the Swing Line Lender or L/C Issuer in connection with such capacity. The obligations of the Lenders under this subsection (c) are subject to the provisions of Section 2.12(d).

(d) Waiver of Consequential Damages, Etc. Without limiting the Company's indemnification obligations above, to the fullest extent permitted by applicable Law, no party hereto shall assert, and each other party hereto hereby waives, any claim against any other party hereto (or any Indemnitee or any Related Party), on any theory of liability, for special, indirect, consequential or punitive damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of, this Agreement, any other Loan Document or any agreement or instrument contemplated hereby, the transactions contemplated hereby or thereby, any Loan or Letter of Credit or the use of the proceeds thereof (other than in respect of any such damages incurred or paid by an Indemnitee to a third party and to which such Indemnitee is otherwise entitled to indemnification as provided above). No Indemnitee shall be liable for any damages arising from the use by unintended recipients of any information or other materials distributed to such unintended recipients by such Indemnitee through telecommunications, electronic or other information transmission systems in connection with this Agreement or the other Loan Documents or the transactions contemplated hereby or thereby other than for direct or actual damages resulting from the gross negligence, bad faith or willful misconduct of such Indemnitee (or its Related Indemnitees) as determined by a final and nonappealable judgment of a court of competent jurisdiction.

(e) Payments. All amounts due under this Section shall be payable not later than ten Business Days after written demand therefor.

(f) Survival. The agreements in this Section and the indemnity provisions of Section 11.02(e) shall survive the resignation of the Administrative Agent, the L/C Issuer and the Swing Line Lender, the replacement of any Lender, the termination of the Aggregate Commitments and the repayment, satisfaction or discharge of all the other Obligations.

11.05 Concerning Joint and Several Liability of the Domestic Borrowers.

(a) Each Domestic Borrower is accepting joint and several liability under this Section 11.05 in consideration of the financial accommodation to be provided by the Lenders and the L/C Issuer under this Agreement, for the mutual benefit, directly and indirectly, of each Domestic Borrower and in consideration of the undertakings of each Domestic Borrower to accept joint and several liability for the Obligations of each of the other Domestic Borrowers.

(b) Each Domestic Borrower jointly and severally hereby irrevocably and unconditionally accepts, not merely as a surety but also as a co-debtor, joint and several liability with the other Domestic Borrowers with respect to the payment and performance of all of the Obligations of the Domestic Borrowers arising under this Agreement and the other Loan Documents, it being the intention of the parties hereto that all the Obligations of the Domestic Borrowers shall be the joint and several obligations of each of the Domestic Borrowers without preferences or distinction among them.

(c) If and to the extent that a Domestic Borrower shall fail to make any payment with respect to any of the Obligations of the Domestic Borrowers hereunder as and when due or to perform any of such Obligations in accordance with the terms thereof, then in each such event, the other Domestic Borrowers will make such payment with respect to, or perform, such Obligation.

(d) The obligations of each Domestic Borrower under the provisions of this Section 11.05 constitute full recourse obligations of such Domestic Borrower, enforceable against it to the full extent of its properties and assets, irrespective of the validity, regularity or enforceability of this Agreement or any other circumstances whatsoever.

(e) Except as otherwise expressly provided herein, each Domestic Borrower hereby waives notice of acceptance of its joint and several liability, notice of occurrence of any Default or Event of Default (except to the extent notice is expressly required to be given pursuant to the terms of this Agreement), or of any demand for any payment under this Agreement, notice of any action at any time taken or omitted by the Administrative Agent, the L/C Issuer or the Lenders under or in respect of any of the Obligations hereunder, any requirement of diligence and, generally, all demands, notices and other formalities of every kind in connection with this Agreement. Each Domestic Borrower hereby assents to, and waives notice of, any extension or postponement of the time for the payment of any of the Obligations hereunder, the acceptance of any partial payment thereon, any waiver, consent or other action or acquiescence by the Administrative Agent, the Lenders or the L/C Issuer at any time or times in respect of any default by any Domestic Borrower in the performance or satisfaction of any term, covenant, condition or provision of this Agreement, any and all other indulgences whatsoever by the Administrative Agent, the Lenders or the L/C Issuer in respect of any of the Obligations hereunder, and the taking, addition, substitution or release, in whole or in part, at any time or times, of any security for any of such Obligations or the addition, substitution or release, in whole or in part, of any Domestic Borrower. Without limiting the generality of the foregoing, each Domestic Borrower assents to any other action or delay in acting or any failure to act on the part of the Administrative Agent, the L/C Issuer or the Lenders, including, without limitation, any failure strictly or diligently to assert any right or to pursue any remedy or to comply fully with applicable laws or regulations thereunder which might, but for the provisions of this Section 11.05, afford grounds for terminating, discharging or relieving such Domestic Borrower, in whole or in part, from any of its obligations under this Section 11.05, it being the intention of each Domestic Borrower that, so long as any of the Obligations hereunder remain unsatisfied (other than contingent indemnification obligations for which no claim or demand has been made), the obligations of such Domestic Borrower under this Section 11.05 shall not be discharged except by performance and then only to the extent of such performance. The obligations of each Domestic Borrower under this Section 11.05 shall not be diminished or rendered unenforceable by any winding up, reorganization, arrangement, liquidation, reconstruction or similar proceeding with respect to any reconstruction or similar proceeding with respect to any Domestic Borrower, the Administrative Agent, the L/C Issuer or the Lenders. The joint and several liability of the Domestic Borrowers under this Section 11.05 shall continue in full force and effect notwithstanding any absorption, merger, amalgamation or any other change whatsoever in the name, membership, constitution or place of formation of any Domestic Borrower, the Administrative Agent, the L/C Issuer or the Lenders.

(f) The provisions of this Section 11.05 are made for the benefit of the Administrative Agent, the L/C Issuer and the Lenders and their respective successors and permitted assigns, and may be enforced by any such Person from time to time against any of the Domestic Borrowers as often as occasion therefore may arise and without requirement on the part of the Administrative Agent, the L/C Issuer any Lender first to marshal any of its claims or to exercise any of its rights against any other Domestic Borrower or to exhaust any remedies available to it against any other Domestic Borrower or to resort to any other source or means of obtaining payment of any of the Obligations or to elect any other remedy. The provisions of this Section 11.05 shall remain in effect until all the Obligations hereunder shall have been paid in full or otherwise fully satisfied. If at any time, any payment, or any part thereof, made in respect of any of the Obligations, is rescinded or must otherwise be restored or returned by the Administrative Agent, the L/C Issuer the Lenders upon the insolvency, bankruptcy or reorganization of any of the Domestic Borrowers, or otherwise, the provisions of this Section 11.05 will forthwith be reinstated and in effect as though such payment had not been made.

(g) Notwithstanding any provision to the contrary contained herein or in any other of the Loan Documents, the obligations of each Domestic Borrower under this Section 11.05 shall be limited to an aggregate amount equal to the largest amount that would not render its obligations hereunder subject to avoidance under Section 548 of the Bankruptcy Code of the United States or any comparable provisions of any applicable Debtor Relief Law.

(h) Notwithstanding any provision to the contrary contained herein or in any other of the Loan Documents, the Obligations of the Non-Domestic Borrowers are several and not joint, and no Non-Domestic Borrower shall be deemed a guarantor or surety of any Obligation of any Domestic Borrower or the Company.

11.06 Payments Set Aside.

To the extent that any payment by or on behalf of any Borrower is made to the Administrative Agent, the L/C Issuer or any Lender, or the Administrative Agent, the L/C Issuer or any Lender exercises its right of set-off, and such payment or the proceeds of such set-off or any part thereof (or the Dollar Equivalent amount thereof) is subsequently invalidated, declared to be fraudulent or preferential, set aside or required (including pursuant to any settlement entered into by the Administrative Agent, the L/C Issuer or such Lender in its discretion) to be repaid to a trustee, receiver or any other party, in connection with any proceeding under any Debtor Relief Law or otherwise, then (a) to the extent of such recovery, the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such set-off had not occurred, and (b) each Lender and the L/C Issuer severally agrees to pay to the Administrative Agent upon demand its applicable share (without duplication) of any amount so recovered from or paid by the Administrative Agent, plus interest thereon from the date of such demand to the date such payment is made at a rate per annum equal to the applicable Overnight Rate from time to time in effect, in the Applicable Currency of such recovery or payment. The obligations of the Lenders and the L/C Issuer under clause (b) of the preceding sentence shall survive the payment in full of the Obligations and the termination of this Agreement.

11.07 Successors and Assigns.

(a) Successors and Assigns Generally. The provisions of this Agreement and the other Loan Documents shall be binding upon and inure to the benefit of the parties hereto and thereto and their respective successors and assigns permitted hereby, except that, subject to Section 2.14(d) and 8.02, no Borrower may assign or otherwise transfer any of its rights or obligations hereunder or thereunder without the prior written consent of the Administrative Agent and each Lender and no Lender may assign or otherwise transfer any of its rights or obligations hereunder except (i) to an assignee in accordance with the provisions of subsection (b) of this Section, (ii) by way of participation in accordance with the provisions of subsection (d) of this Section or (iii) by way of pledge or assignment of a security interest subject to the restrictions of subsection (f) of this Section (and any other attempted assignment or transfer by any party hereto shall be null and void). Nothing in this Agreement, expressed or implied, shall be construed to confer upon any Person (other than the parties hereto, their respective successors and assigns permitted hereby, Participants to the extent provided in subsection (d) of this Section and, to the extent expressly contemplated hereby, the Related Parties of each of the Administrative Agent, the L/C Issuer and the Lenders) any legal or equitable right, remedy or claim under or by reason of this Agreement.

(b) Assignments by Lenders. Any Lender may at any time assign to one or more assignees all or a portion of its rights and obligations under this Agreement and the other Loan Documents (including all or a portion of its Commitment and the Loans (including for purposes of this subsection (b), participations in L/C Obligations and in Swing Line Loans) at the time owing to it); provided that any such assignment shall be subject to the following conditions:

(i) Minimum Amounts.

(A) in the case of an assignment of the entire remaining amount of the assigning Lender's Commitment and the related Loans at the time owing to it or contemporaneous assignments to related Approved Funds that equal at least the amount specified in subsection (b)(i)(B) of this Section in the aggregate or in the case of an assignment to a Lender, an Affiliate of a Lender or an Approved Fund, no minimum amount need be assigned; and

(B) in any case not described in subsection (b)(i)(A) of this Section, the aggregate amount of the Commitment (which for this purpose includes Loans outstanding thereunder) or, if the Commitment is not then in effect, the principal outstanding balance of the Loans of the assigning Lender subject to each such assignment, determined as of the date the Assignment and Assumption with respect to such assignment is delivered to the Administrative Agent or, if "Trade Date" is specified in the Assignment and Assumption, as of the Trade Date, shall not be less than \$5,000,000 unless each of the Administrative Agent and, so long as no Event of Default has occurred and is continuing, the Company otherwise consents (each such consent not to be unreasonably withheld or delayed).

(ii) Proportionate Amounts. Each partial assignment shall be made as an assignment of a proportionate part of all the assigning Lender's Loans and Commitments, and rights and obligations with respect thereto, assigned, except that this clause (ii) shall not apply to the Swing Line Lender's rights and obligations in respect of Swing Line Loans;

(iii) Required Consents. No consent shall be required for any assignment except to the extent required by subsection (b)(i)(B) of this Section and, in addition:

(A) the consent of the Company (such consent not to be unreasonably withheld or delayed provided that it shall be reasonable for the Company to withhold consent if such Person does not provide to the Company the information required under Section 11.15) shall be required unless (1) an Event of Default has occurred and is continuing at the time of such assignment or (2) such assignment is to a Lender, and Affiliate of a Lender or an Approved Fund;

(B) the consent of the Administrative Agent (such consent not to be unreasonably withheld or delayed) shall be required if such assignment is to a Person that is not a Lender, an Affiliate of such Lender or an Approved Fund with respect to such Lender;

(C) the consent of the L/C Issuer (such consent not to be unreasonably withheld or delayed) shall be required for any assignment that increases the obligation of the assignee to participate in exposure under one or more Letters of Credit (whether or not then outstanding); and

(D) the consent of the Swing Line Lender (such consent not to be unreasonably withheld or delayed) shall be required for any assignment.

(iv) Assignment and Assumption. The parties to each assignment shall execute and deliver to the Administrative Agent an Assignment and Assumption, together with a processing and recordation fee in the amount of \$3,500; provided, however, that the Administrative Agent may, in its sole discretion, elect to waive such processing and recordation fee in the case of any assignment. The assignee, if it is not a Lender, shall deliver to the Administrative Agent an Administrative Questionnaire.

(v) No Assignment to Certain Persons. No such assignment shall be made to (A) the Company or any of the Company's Affiliates or Subsidiaries, (B) any Defaulting Lender or any of its Subsidiaries, or any Person who, upon becoming a Lender hereunder, would constitute any of the foregoing Persons described in this clause (B), or (C) a natural person (or a holding company, investment vehicle or trust for, or owned and operated for the primary benefit of a natural person).

(vi) No Assignment Resulting in Additional Indemnified Taxes, etc. Without the written consent of the Company, no such assignment shall be made to any Person that, on the effective date of such assignment, through its Lending Offices, (A) is not capable of lending to the Borrowers without the imposition of any additional Taxes or Mandatory Costs that would require indemnification payments by any of the Borrowers under this Agreement or (B) is not capable of lending in the Alternative Currencies or at the applicable interest rates.

(vii) Certain Additional Payments. In connection with any assignment of rights and obligations of any Defaulting Lender hereunder, no such assignment shall be effective unless and until, in addition to the other conditions thereto set forth herein, the parties to the assignment shall make such additional payments to the Administrative Agent in an aggregate amount sufficient, upon distribution thereof as appropriate (which may be outright payment, purchases by the assignee of participations or subparticipations, or other compensating actions, including funding, with the consent of the Company and the Administrative Agent, the applicable pro rata share of Committed Loans previously requested but not funded by the Defaulting Lender, to each of which the applicable assignee and assignor hereby irrevocably consent), to (x) pay and satisfy in full all payment liabilities then owed by such Defaulting Lender to the Administrative Agent, the L/C Issuer or any Lender hereunder (and interest accrued thereon) and (y) acquire (and fund as appropriate) its full pro rata share of all Committed Loans and participations in Letters of Credit and Swing Line Loans in accordance with its Pro Rata Share. Notwithstanding the foregoing, in the event that any assignment of rights and obligations of any Defaulting Lender hereunder shall become effective under applicable Law without compliance with the provisions of this paragraph, then the assignee of such interest shall be deemed to be a Defaulting Lender for all purposes of this Agreement until such compliance occurs.

Subject to acceptance and recording thereof by the Administrative Agent pursuant to subsection (c) of this Section, from and after the effective date specified in each Assignment and Assumption, the assignee thereunder shall be a party to this Agreement and, to the extent of the interest assigned by such Assignment and Assumption, have the rights and obligations of a Lender under this Agreement, and the assigning Lender thereunder shall, to the extent of the interest assigned by such Assignment and Assumption, be released from its obligations under this Agreement (and, in the case of an Assignment and Assumption covering all of the assigning Lender's rights and obligations under this Agreement, such Lender shall cease to be a party hereto) but shall continue to be entitled to the benefits of Sections 3.01, 3.04, 3.05, and 11.04 with respect to facts and circumstances occurring prior to the effective date of such assignment; provided, that except to the extent otherwise expressly agreed by the affected parties, no

assignment by a Defaulting Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender's having been a Defaulting Lender. Upon request, each Borrower (at its expense) shall execute and deliver a Note to the assignee Lender. Any assignment or transfer by a Lender of rights or obligations under this Agreement that does not comply with this subsection shall be treated for purposes of this Agreement as a sale by such Lender of a participation in such rights and obligations in accordance with subsection (d) of this Section.

(c) Register. The Administrative Agent, acting solely for this purpose as an agent of the Borrowers (and such agency being solely for tax purposes), shall maintain at the Administrative Agent's Office located in the United States a copy of each Assignment and Assumption delivered to it (or the equivalent thereof in electronic form) and a register for the recordation of the names and addresses of the Lenders, and the Commitments of, and principal amounts (and stated interest) of the Loans and L/C Obligations owing to, each Lender pursuant to the terms hereof from time to time (the "Register"). The entries in the Register shall be conclusive absent manifest error, and the Borrowers, the Administrative Agent and the Lenders shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement, notwithstanding notice to the contrary. The Register shall be available for inspection by each of the Borrowers and any Lender, at any reasonable time and from time to time upon reasonable prior notice.

(d) Participations. Any Lender may at any time, without the consent of, or notice to, any Borrower or the Administrative Agent, sell participations to any Person (other than a natural person (or a holding company, investment vehicle or trust for, or owned and operated for the primary benefit of a natural person) or the Company or any of the Company's Affiliates or Subsidiaries or a Defaulting Lender) (each, a "Participant") in all or a portion of such Lender's rights and/or obligations under this Agreement (including all or a portion of its Commitment and/or the Loans (including such Lender's participations in L/C Obligations and/or Swing Line Loans) owing to it); provided that (i) such Lender's obligations under this Agreement shall remain unchanged, (ii) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations and (iii) the Borrowers, the Administrative Agent, the L/C Issuer and the Lenders shall continue to deal solely and directly with such Lender in connection with such Lender's rights and obligations under this Agreement. For the avoidance of doubt, each Lender shall be responsible for the indemnity under Section 11.04(c) without regard to the existence of any participation.

Any agreement or instrument pursuant to which a Lender sells such a participation shall provide that such Lender shall retain the sole right to enforce this Agreement and to approve any amendment, modification or waiver of any provision of this Agreement; provided that such agreement or instrument may provide that such Lender will not, without the consent of the Participant, agree to any amendment, waiver or other modification described in the first proviso to Section 11.01 that affects such Participant. Each Borrower agrees that each Participant shall be entitled to the benefits of Sections 3.01, 3.04 and 3.05 to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to subsection (b) of this Section (it being understood that the documentation required under Section 11.15 shall be delivered to the Lender who sells the participation) to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to subsection (b) of this Section; provided that such Participant (A) agrees to be subject to the provisions of Sections 3.06 and 11.16 as if it were an assignee under subsection (b) of this Section and (B) shall not be entitled to receive any greater payment under Sections 3.01 or 3.04, with respect to any participation, than the Lender from whom it acquired the applicable participation would have been entitled to receive, unless the Company consented to the applicable participation. Each Lender that sells a participation agrees, at the Company's request and expense, to use reasonable efforts to cooperate with the Company to effectuate the

provisions of Section 3.06 with respect to any Participant. To the extent permitted by law, each Participant also shall be entitled to the benefits of Section 11.09 as though it were a Lender; provided such Participant agrees to be subject to Section 2.13 as though it were a Lender. Each Lender that sells a participation shall, acting solely for this purpose as a non-fiduciary agent of the Company, maintain a register on which it enters the name and address of each Participant and the principal amounts (and stated interest) of each Participant's interest in the Loans or other obligations under the Loan Documents (the "Participant Register"); provided that no Lender shall have any obligation to disclose all or any portion of the Participant Register (including the identity of any Participant or any information relating to a Participant's interest in any commitments, loans, letters of credit or its other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103-1(c) of the Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each Person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary. For the avoidance of doubt, the Administrative Agent (in its capacity as Administrative Agent) shall have no responsibility for maintaining a Participant Register.

(e) Certain Pledges. Any Lender may at any time pledge or assign a security interest in all or any portion of its rights under this Agreement (including under its Note, if any) to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank or other central banking authority in other applicable jurisdictions; provided that no such pledge or assignment shall release such Lender from any of its obligations hereunder or substitute any such pledgee or assignee for such Lender as a party hereto.

(f) Assignments to Foreign Lenders. At the time of each assignment pursuant to Section 11.07(b) to a Foreign Lender that is not already a Lender hereunder, the assignee shall provide to the Administrative Agent and to the Company certification as to exemption (or reduction) for deduction or withholding of Taxes in accordance with Section 11.15 and shall be subject to the provisions thereof.

(g) Resignation as L/C Issuer or Swing Line Lender after Assignment. Notwithstanding anything to the contrary contained herein, if at any time a Lender assigns all of its Commitment and Loans pursuant to subsection (b) above, such Lender may, (i) upon thirty days' notice to the Company and the Lenders, resign as L/C Issuer and/or (ii) upon thirty days' notice to the Company, resign as Swing Line Lender. In the event of any such resignation as L/C Issuer or Swing Line Lender, the Company shall be entitled to appoint from among the Lenders a successor L/C Issuer or Swing Line Lender hereunder; provided, however, that no failure by the Company to appoint any such successor shall affect the resignation of such Lender as L/C Issuer or Swing Line Lender, as the case may be. If a Lender resigns as L/C Issuer, it shall retain all the rights, powers, privileges and duties of the L/C Issuer hereunder with respect to all Letters of Credit outstanding as of the effective date of its resignation as L/C Issuer and all L/C Obligations with respect thereto (including the right to require the Lenders to make Base Rate Loans or fund risk participations in Unreimbursed Amounts pursuant to Section 2.03(c)). If Bank of America resigns as Swing Line Lender, it shall retain all the rights of the Swing Line Lender provided for hereunder with respect to Swing Line Loans made by it and outstanding as of the effective date of such resignation, including the right to require the Lenders to make Base Rate Loans or fund risk participations in outstanding Swing Line Loans pursuant to Section 2.04(c). Upon the appointment of a successor L/C Issuer and/or Swing Line Lender, (a) such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring L/C Issuer or Swing Line Lender, as the case may be, and (b) the successor L/C Issuer shall issue letters of credit in substitution for the Letters of Credit, if any, outstanding at the time of such

succession or make other arrangements satisfactory to the resigning L/C Issuer to effectively assume the obligations of such resigning L/C Issuer with respect to such Letters of Credit.

11.08 Confidentiality.

Each of the Administrative Agent, the L/C Issuer and the Lenders agrees to maintain the confidentiality of the Information (as defined below), except that Information may be disclosed (a) to its Affiliates, its auditors and its and its Affiliates' respective Related Parties (it being understood that the Persons to whom such disclosure is made will be informed of the confidential nature of such Information and instructed to keep such Information confidential); (b) to the extent required or requested by any regulatory authority; (c) to the extent required by applicable laws or regulations or by any subpoena or similar legal process; (d) to any other party to this Agreement; (e) in connection with the exercise of any remedies hereunder or any suit, action or proceeding relating to this Agreement or any other Loan Document or the enforcement of rights hereunder or thereunder; (f) subject to an agreement containing provisions substantially the same as those of this Section, to (i) any assignee of or Participant in, or any prospective assignee of or Participant in, any of its rights or obligations under this Agreement or to any Eligible Assignee invited to become a Lender pursuant to Section 2.01(b), (ii) any direct or indirect contractual counterparty or prospective party (or its Related Parties) to any swap, derivative or other transaction relating to obligations of the Borrowers or (iii) any credit insurance provider relating to the Borrowers and their obligations; (g) with the consent of the Company; (h) to the extent such Information (i) becomes publicly available other than as a result of a breach of this Section or (ii) becomes available to the Administrative Agent, the L/C Issuer or any Lender or any of their respective Affiliates on a nonconfidential basis from a source other than the Company; (i) to the National Association of Insurance Commissioners or any other similar organization or any nationally recognized rating agency that requires access to information about a Lender's or its Affiliates' investment portfolio in connection with ratings issued with respect to such Lender or its Affiliates; or (j) on a confidential basis to (i) any rating agency in connection with rating any Borrower or its Subsidiaries or the credit facilities provided hereunder or (ii) the CUSIP Service Bureau or any similar agency in connection with the issuance and monitoring of CUSIP numbers or other market identifiers with respect to the credit facilities provided hereunder. In addition, the Administrative Agent, the L/C Issuer and the Lenders may disclose the existence of this Agreement and information about this Agreement to market data collectors, similar service providers to the lending industry, and service providers to the Administrative Agent, the L/C Issuer and the Lenders in connection with the administration and management of this Agreement, the other Loan Documents, the Commitments, and the Credit Extensions. For the purposes of this Agreement, "Information" means all information received from any Borrower or any Subsidiary relating to any Borrower, any Subsidiary or its business, other than any such information that is available to the Administrative Agent, the L/C Issuer or any Lender on a nonconfidential basis prior to disclosure by any Borrower or any Subsidiary; provided that, in the case of information received from a Borrower or a Subsidiary after the date hereof, such information is clearly identified in writing at the time of delivery as confidential. Any Person required to maintain the confidentiality of Information as provided in this Section shall be considered to have complied with its obligation to do so if such Person has exercised the same degree of care to maintain the confidentiality of such Information as such Person would accord to its own confidential information.

Each of the Administrative Agent, the L/C Issuer and the Lenders acknowledges that (a) the Information may include material non-public information concerning the Company or a Subsidiary, as the case may be, (b) it has developed compliance procedures regarding the use of material non-public information and (c) it will handle such material non-public information in accordance with applicable Law, including United States Federal and state securities Laws.

11.09 Set-off.

In addition to any rights and remedies of the Lenders and the L/C Issuer provided by law, upon the occurrence and during the continuance of any Event of Default, each Lender, the L/C Issuer and any Affiliate of any Lender or the L/C Issuer is authorized at any time and from time to time, without prior notice to the Company or any other Borrower, any such notice being waived by the Company (on its own behalf and on behalf of each Borrower) to the fullest extent permitted by law, to set off and apply any and all deposits (general or special, time or demand, provisional or final) at any time held by, and other Indebtedness at any time owing by, such Lender, the L/C Issuer or such Affiliate to or for the credit or the account of the respective Borrowers against any and all Obligations owing to such Lender, the L/C Issuer or such Affiliate hereunder or under any other Loan Document, now or hereafter existing, irrespective of whether or not the Administrative Agent or such Lender shall have made demand under this Agreement or any other Loan Document and although such Obligations may be contingent or unmatured or owed to a branch or office or Affiliate of such Lender or the L/C Issuer or denominated in a currency different from the branch or office or Affiliate holding such deposit or obligated on such indebtedness; provided, that in the event that any Defaulting Lender shall exercise any such right of setoff, (x) all amounts so set off shall be paid over immediately to the Administrative Agent for further application in accordance with the provisions of Section 2.17 and, pending such payment, shall be segregated by such Defaulting Lender from its other funds and deemed held in trust for the benefit of the Administrative Agent, the L/C Issuer and the Lenders, and (y) the Defaulting Lender shall provide promptly to the Administrative Agent a statement describing in reasonable detail the Obligations owing to such Defaulting Lender as to which it exercised such right of setoff. Each Lender and the L/C Issuer agrees promptly to notify the Company and the Administrative Agent after any such set-off and application made by such Lender; provided, however, that the failure to give such notice shall not affect the validity of such set-off and application.

11.10 Interest Rate Limitation.

Notwithstanding anything to the contrary contained in any Loan Document, the interest paid or agreed to be paid under the Loan Documents shall not exceed the maximum rate of non-usurious interest permitted by applicable Law (the "Maximum Rate"). If the Administrative Agent or any Lender shall receive interest in an amount that exceeds the Maximum Rate, the excess interest shall be applied to the principal of the Loans or, if it exceeds such unpaid principal, refunded to the Company. In determining whether the interest contracted for, charged, or received by the Administrative Agent or a Lender exceeds the Maximum Rate, such Person may, to the extent permitted by applicable Law, (a) characterize any payment that is not principal as an expense, fee, or premium rather than interest, (b) exclude voluntary prepayments and the effects thereof, and (c) amortize, prorate, allocate, and spread in equal or unequal parts the total amount of interest throughout the contemplated term of the Obligations hereunder.

11.11 Reserved.

11.12 Integration; Effectiveness.

This Agreement, together with the other Loan Documents, comprises the complete and integrated agreement of the parties on the subject matter hereof and thereof and supersedes all prior agreements, written or oral, on such subject matter. In the event of any conflict between the provisions of this Agreement and those of any other Loan Document, the provisions of this Agreement shall control; provided that the inclusion of supplemental rights or remedies in favor of the Administrative Agent, the L/C Issuer or the Lenders in any other Loan Document shall not be deemed a conflict with this Agreement. Each Loan Document was drafted with the joint participation of the respective parties thereto and shall be construed neither against nor in favor of any party, but rather in accordance with the fair meaning thereof. Except as provided in Section 5.01, this Agreement shall become effective when it shall have been executed by the Administrative Agent and when the Administrative Agent shall have received counterparts hereof that, when taken together, bear the signatures of each of the other parties hereto.

11.13 Survival of Representations and Warranties.

All representations and warranties made hereunder and in any other Loan Document or other document delivered pursuant hereto or thereto or in connection herewith or therewith shall survive the execution and delivery hereof and thereof. Such representations and warranties have been or will be relied upon by the Administrative Agent and each Lender, regardless of any investigation made by the Administrative Agent or any Lender or on their behalf and notwithstanding that the Administrative Agent or any Lender may have had notice or knowledge of any Default at the time of any Credit Extension, and shall continue in full force and effect as long as any Loan or any other Obligation hereunder shall remain unpaid or unsatisfied (other than contingent indemnification obligations for which no claim or demand has been made) or any Letter of Credit shall remain outstanding.

11.14 Severability.

If any provision of this Agreement or the other Loan Documents is held to be illegal, invalid or unenforceable, (a) the legality, validity and enforceability of the remaining provisions of this Agreement and the other Loan Documents shall not be affected or impaired thereby and (b) the parties shall endeavor in good faith negotiations to replace the illegal, invalid or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the illegal, invalid or unenforceable provisions. The invalidity of a provision in a particular jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction. Without limiting the foregoing provisions of this Section 11.14, if and to the extent that the enforceability of any provisions in this Agreement relating to Defaulting Lenders shall be limited by Debtor Relief Laws, as determined in good faith by the Administrative Agent, the L/C Issuer or the Swing Line Lender, as applicable, then such provisions shall be deemed to be in effect only to the extent not so limited.

11.15 Tax Forms.

(a) Any Lender that is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document shall deliver to the Administrative Agent and the applicable Borrower, at the time or times reasonably requested by the Administrative Agent or the applicable Borrower and at the time or times required by applicable Law, such properly completed and executed documentation reasonably requested by the Administrative Agent or the applicable Borrower or required by applicable Law as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, any Lender, if reasonably requested by the Administrative Agent or the applicable Borrower, shall deliver such other documentation prescribed by applicable Law or reasonably requested by the Administrative Agent or the applicable Borrower as will enable the Administrative Agent or the applicable Borrower to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Notwithstanding anything to the contrary in the preceding two sentences, the completion, execution and submission of such documentation (other than such documentation set forth in Sections 11.15(a)(i) through (iv) below) shall not be required if in the Lender's reasonable judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender. Without limiting the generality of the foregoing, in the event that the applicable Borrower is a "United States person" within the meaning of Section 7701(a)(30) of the Internal Revenue Code ("U.S. Person"), or is the Belgian Borrower, as the case may be:

(i) Each Lender that is a U.S. Person shall deliver to the Administrative Agent and the Company on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon reasonable request of the Administrative Agent or the Company) two duly signed completed copies of IRS Form W-9 certifying that such Lender is exempt from U.S. federal backup withholding tax.

(ii) With respect to the Loan Obligations, each Foreign Lender (with respect to an applicable Domestic Borrower) shall, to the extent it is legally entitled to do so, deliver to the Administrative Agent and to the Company (in such number of copies as shall be requested by the Administrative Agent or the Company), on or prior to the date of its execution and delivery of this Agreement (or upon accepting an assignment of an interest herein) and from time to time thereafter upon the reasonable request of the Administrative Agent or the Company, duly signed completed copies of either IRS Form W-8BEN-E (or W-8BEN, as applicable) or any successor thereto (relating to such Foreign Lender and entitling it to an exemption from, or reduction of, withholding tax on all payments to be made to such Foreign Lender by any Domestic Borrower pursuant to this Agreement) or IRS Form W-8ECI or any successor thereto (relating to all payments to be made to such Foreign Lender by any Domestic Borrower pursuant to this Agreement) or such other evidence that such Foreign Lender is entitled to an exemption from, or reduction of, U.S. withholding tax pursuant to Sections 871(h) and 881(c) of the Internal Revenue Code. Thereafter and from time to time, each such Foreign Lender shall (A) promptly submit to the Administrative Agent and to the Company such additional duly completed and signed copies of one of such forms (or such successor forms as shall be adopted from time to time by the relevant United States taxing authorities) as may then be available under then current United States laws and regulations to avoid, or such evidence as is satisfactory to the Company and the Administrative Agent of any available exemption from, United States withholding taxes in respect of all payments to be made to such Foreign Lender by any Domestic Borrower pursuant to this Agreement, (B) promptly notify the Administrative Agent and the Company of any change in circumstances that would modify or render invalid any claimed exemption, and (C) take such steps as shall not be materially disadvantageous to it, in the good faith judgment of such Lender, and as may be reasonably requested in writing by the Company (including filing any certificate or document or the re-designation of its Lending Office) to avoid any requirement of applicable Laws that the applicable Domestic Borrower make any deduction or withholding for Taxes from amounts payable to such Foreign Lender or to reduce the amount of any such deduction or withholding to the greatest extent possible. To the extent such Foreign Lender is not the beneficial owner of any portion of any sums paid or payable to such Lender under any of the Loan Documents, such Lender shall, to the extent it is legally entitled to do so, deliver to the Administrative Agent and to the Company on the date when such Foreign Lender ceases to act for its own account with respect to any portion of any such sums paid or payable, and at such other times as may be necessary in the determination of the Administrative Agent or the Company (in the reasonable exercise of their respective discretion) (in such number of copies as shall be requested by the Administrative Agent or the Company), (A) duly signed completed copies of the forms or statements required to be provided by such Lender as set forth above, to establish the portion of any such sums paid or payable with respect to which such Lender is the beneficial owner that is not subject to, or subject to a reduced rate of, U.S. withholding tax, and (B) duly signed completed copies of IRS Form W-8IMY (or any successor thereto), together with IRS Form W-8 ECI, IRS Form W-8BEN-E (or W-8BEN, as applicable), IRS Form W-9, evidence that the beneficial owner is entitled to an exemption from U.S. withholding tax under Sections 871(h) and 881(c) of the Internal Revenue Code, other certification documents from each beneficial owner, as applicable, and any other certificate or statement of exemption required under the Internal Revenue Code.

(iii) With respect to the Credit Extensions to the Belgian Borrower, each Foreign Lender (with respect to the Belgian Borrower) shall, as reasonably requested by the Administrative Agent or the Belgian Borrower, deliver to the Administrative Agent and to the Belgian Borrower (in such number of copies as shall be requested by the Administrative Agent or the Belgian Borrower) on or prior to the date of its making such Loan (or upon accepting an assignment of an interest therein), such forms and other documentation which are required by any relevant taxing authorities under the Laws of Belgium duly executed and completed by such Lender, as are required under such Laws to confirm such Lender's entitlement to any available exemption from, or reduction of, applicable withholding taxes in respect of payments to be made to such Lender by the Belgian Borrower, pursuant to this Agreement or otherwise to establish such Lender's status for withholding tax purposes in Belgium. Thereafter and from time to time, each such Foreign Lender shall (A) upon request of the Administrative Agent or the Belgian Borrower, submit to the Administrative Agent or the Belgian Borrower such additional duly completed and signed copies of such forms or other documentation as may then be available under then current Laws and regulations of Belgium to avoid or reduce applicable withholding taxes in respect of all payments to be made to such Foreign Lender by the Belgian Borrower pursuant to this Agreement, (B) promptly notify the Administrative Agent and the Belgian Borrower of any change in circumstances that would modify or render invalid any claimed exemption and (C) take such steps as shall not be materially disadvantageous to it, in the good faith judgment of such Lender, and as may be reasonably requested in writing by the Company or the Belgian Borrower (including filing any certificate or document or the re-designation of its Lending Office) to avoid any requirement of applicable Laws that the Belgian Borrower make any deduction or withholding for taxes from amounts payable to such Foreign Lender or to reduce the amount of any such deduction or withholding to the greatest extent possible.

(iv) If a payment made to a Lender under any Loan Document would be subject to U.S. federal withholding tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Internal Revenue Code, as applicable), such Lender shall deliver to the Company and the Administrative Agent at the time or times prescribed by Law and at such time or times reasonably requested by the Company or the Administrative Agent such documentation prescribed by applicable Law (including as prescribed by Section 1471(b)(3)(C)(i) of the Internal Revenue Code) and such additional documentation reasonably requested by the Company or the Administrative Agent as may be necessary for the Company and the Administrative Agent to comply with their obligations under FATCA and to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount to deduct and withhold from such payment. Solely for purposes of this paragraph, "FATCA" shall include any amendments made to FATCA after the date of this Agreement.

(b) If any Lender fails to deliver such forms, then the Administrative Agent or the Borrowers shall withhold amounts required to be withheld by applicable Laws from payments under any Loan Document at the applicable statutory rate, without reduction. No Borrower shall have any liability under Section 3.01 or otherwise with respect to amounts withheld by the Administrative Agent pursuant to this Section 11.15(b).

11.16 Replacement of Lenders.

If (i) any Lender is a Non-Extending Lender under Section 2.15, (ii) any Lender requests compensation under Section 3.04, (iii) any Borrower is required to pay any additional amount to any Lender or any Governmental Authority for the account of any Lender pursuant to Section 3.01, (iv) if any Lender is a Defaulting Lender, (v) a Lender (a “Non-Consenting Lender”) does not consent to a proposed change, waiver, discharge or termination with respect to any Loan Document that has been approved by the Required Lenders as provided in Section 11.01 but requires unanimous consent of all Lenders or all Lenders directly affected thereby (as applicable) or (vi) under any other circumstances set forth herein providing that the Company shall have the right to replace a Lender as a party to this Agreement, then the Company may, at its sole expense and effort, upon notice to such Lender and the Administrative Agent, require such Lender to assign and delegate, without recourse (in accordance with and subject to the restrictions contained in, and consents required by, Section 11.07), all of its interests, rights (other than its existing rights to payments pursuant to Sections 3.01 and 3.04) and obligations under this Agreement and the related Loan Documents to an Eligible Assignee that shall assume such obligations (which assignee may be another Lender, if a Lender accepts such assignment); provided that:

(a) the Company shall have paid (or caused the applicable Borrower to pay) to the Administrative Agent the assignment fee specified in Section 11.07(b);

(b) such Lender shall have received payment of an amount equal to the outstanding principal of its Loans and L/C Advances, accrued interest thereon, accrued fees and all other amounts payable to it hereunder and under the other Loan Documents (including any amounts under Section 3.05) from the assignee (to the extent of such outstanding principal and accrued interest and fees) or the Company or applicable Borrower (in the case of all other amounts);

(c) in the case of any such assignment resulting from a claim for compensation under Section 3.04 or payments required to be made pursuant to Section 3.01, such assignment will result in a reduction in such compensation or payments thereafter;

(d) such assignment does not conflict with applicable Laws; and

(e) in the case of any such assignment resulting from a Non-Consenting Lender’s failure to consent to a proposed change, waiver, discharge or termination with respect to any Loan Document, the applicable assignee consents to the proposed change, waiver, discharge or termination;

provided, further, so long as Sections 11.16(a) through 11.16(e) have been satisfied, the failure by such Lender to execute and deliver an Assignment and Assumption shall not impair the validity of the removal of such Lender and the mandatory assignment of such Lender’s Commitments and outstanding Loans and participations in L/C Obligations and Swing Line Loans pursuant to this Section 11.16 shall nevertheless be effective without the execution by such Lender of an Assignment and Assumption.

A Lender shall not be required to make any such assignment or delegation if, prior thereto, as a result of a waiver by such Lender or otherwise, the circumstances entitling the Company to require such assignment and delegation cease to apply.

11.17 USA PATRIOT Act Notice.

Each Lender that is subject to the Act (as hereinafter defined) and the Administrative Agent (for itself and not on behalf of any Lender) hereby notifies the Borrowers that pursuant to the requirements of the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)) (the “Act”), it is required to obtain, verify and record information that identifies the Borrowers, which information

includes the name and address of each Borrower and other information that will allow such Lender or the Administrative Agent, as applicable, to identify such Borrower in accordance with the Act. The Borrowers shall, promptly following a request by the Administrative Agent or any Lender, provide all documentation and other information that the Administrative Agent or such Lender requests in order to comply with its ongoing obligations under applicable “know your customer” and anti-money laundering rules and regulations, including the Act.

11.18 Governing Law; Jurisdiction; Etc.

(a) GOVERNING LAW. THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK (OTHER THAN THOSE CONFLICT OF LAW RULES THAT WOULD DEFER TO THE SUBSTANTIVE LAWS OF ANOTHER JURISDICTION).

(b) SUBMISSION TO JURISDICTION. EACH BORROWER IRREVOCABLY AND UNCONDITIONALLY AGREES THAT IT WILL NOT COMMENCE ANY ACTION, LITIGATION OR PROCEEDING OF ANY KIND OR DESCRIPTION, WHETHER IN LAW OR EQUITY, WHETHER IN CONTRACT OR IN TORT OR OTHERWISE, AGAINST THE ADMINISTRATIVE AGENT, ANY LENDER, THE L/C ISSUER, OR ANY RELATED PARTY OF THE FOREGOING IN ANY WAY RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT OR THE TRANSACTIONS RELATING HERETO OR THERETO, IN ANY FORUM OTHER THAN THE COURTS OF THE STATE OF NEW YORK SITTING IN NEW YORK COUNTY AND OF THE UNITED STATES DISTRICT COURT OF THE SOUTHERN DISTRICT OF NEW YORK, AND ANY APPELLATE COURT FROM ANY THEREOF AND EACH OF THE PARTIES HERETO IRREVOCABLY AND UNCONDITIONALLY SUBMITS TO THE JURISDICTION OF SUCH COURTS AND AGREES THAT ALL CLAIMS IN RESPECT OF ANY SUCH ACTION OR PROCEEDING MAY BE HEARD AND DETERMINED IN SUCH NEW YORK STATE COURT OR, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN SUCH FEDERAL COURT. EACH OF THE PARTIES HERETO AGREES THAT A FINAL JUDGMENT IN ANY SUCH ACTION OR PROCEEDING SHALL BE CONCLUSIVE AND MAY BE ENFORCED IN OTHER JURISDICTIONS BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY LAW. NOTHING IN THIS AGREEMENT OR IN ANY OTHER LOAN DOCUMENT SHALL AFFECT ANY RIGHT THAT THE ADMINISTRATIVE AGENT, ANY LENDER OR THE L/C ISSUER MAY OTHERWISE HAVE TO BRING ANY ACTION OR PROCEEDING RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT AGAINST ANY BORROWER OR ITS PROPERTIES IN THE COURTS OF ANY JURISDICTION.

(c) WAIVER OF VENUE. EACH BORROWER IRREVOCABLY AND UNCONDITIONALLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT IN ANY COURT REFERRED TO IN PARAGRAPH (B) OF THIS SECTION. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE DEFENSE OF AN INCONVENIENT FORUM TO THE MAINTENANCE OF SUCH ACTION OR PROCEEDING IN ANY SUCH COURT.

(d) SERVICE OF PROCESS. EACH PARTY HERETO IRREVOCABLY CONSENTS TO SERVICE OF PROCESS IN THE MANNER PROVIDED FOR NOTICES IN SECTION 11.02. NOTHING IN THIS AGREEMENT WILL AFFECT THE RIGHT OF ANY PARTY HERETO TO SERVE PROCESS IN ANY OTHER MANNER PERMITTED BY APPLICABLE LAW.

11.19 Waiver of Right to Trial by Jury.

EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PERSON HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PERSON WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.

11.20 Judgment Currency.

If, for the purposes of obtaining judgment in any court, it is necessary to convert a sum due hereunder or any other Loan Document in one currency into another currency, the rate of exchange used shall be that at which in accordance with normal banking procedures the Administrative Agent could purchase the first currency with such other currency on the Business Day preceding that on which final judgment is given. The obligation of each Borrower in respect of any such sum due from it to the Administrative Agent or any Lender hereunder or under the other Loan Documents shall, notwithstanding any judgment in a currency (the "Judgment Currency") other than that in which such sum is denominated in accordance with the applicable provisions of this Agreement (the "Agreement Currency"), be discharged only to the extent that on the Business Day following receipt by the Administrative Agent or such Lender, as the case may be, of any sum adjudged to be so due in the Judgment Currency, the Administrative Agent or such Lender, as the case may be, may in accordance with normal banking procedures purchase the Agreement Currency with the Judgment Currency. If the amount of the Agreement Currency so purchased is less than the sum originally due to the Administrative Agent or any Lender from such Borrower in the Agreement Currency, such Borrower agrees, as a separate obligation and notwithstanding any such judgment, to indemnify the Administrative Agent or such Lender, as the case may be, against such loss. If the amount of the Agreement Currency so purchased is greater than the sum originally due to the Administrative Agent or any Lender in such currency, the Administrative Agent or such Lender, as the case may be, agrees to return the amount of any excess to such Borrower (or to any other Person who may be entitled thereto under applicable law).

11.21 No Advisory or Fiduciary Responsibility.

In connection with all aspects of each transaction contemplated hereby (including in connection with any amendment, waiver or other modification hereof or of any other Loan Document), each Borrower acknowledges and agrees, and acknowledges its Affiliates' understanding, that: (i) (A) the arranging and other services regarding this Agreement provided by the Administrative Agent, BAS, and the other lead arranger(s) are arm's-length commercial transactions between such Borrower and its Affiliates, on the one hand, and the Administrative Agent, BAS, and the other lead arranger(s), on the other hand, (B) each Borrower has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate, and (C) such Borrower is capable of evaluating, and understands and

accepts, the terms, risks and conditions of the transactions contemplated hereby and by the other Loan Documents; (ii) (A) the Administrative Agent, BAS, and each other lead arranger each is and has been acting solely as a principal and, except as expressly agreed in writing by the relevant parties, has not been, is not, and will not be acting as an advisor, agent or fiduciary for such Borrower or any of its Affiliates, or any other Person and (B) neither the Administrative Agent, BAS nor any other lead arranger has any obligation to such Borrower or any of its Affiliates with respect to the transactions contemplated hereby except those obligations expressly set forth herein and in the other Loan Documents; and (iii) the Administrative Agent, BAS and the other lead arranger(s) and their respective Affiliates may be engaged in a broad range of transactions that involve interests that differ from those of such Borrower and its Affiliates, and neither the Administrative Agent, BAS nor any other lead arranger has any obligation to disclose any of such interests to the Company or any of its Affiliates. To the fullest extent permitted by law, each of the Borrowers hereby waives and releases any claims that it may have against the Administrative Agent, BAS and the other lead arranger(s) with respect to any breach or alleged breach of agency or fiduciary duty in connection with any aspect of any transaction contemplated hereby.

11.22 Electronic Execution; Electronic Records; Counterparts.

This Agreement, any Loan Document and any other Communication, including Communications required to be in writing, may be in the form of an Electronic Record and may be executed using Electronic Signatures. Each of the Borrowers and each of the Administrative Agent and each Lender Party agrees that any Electronic Signature on or associated with any Communication shall be valid and binding on such Person to the same extent as a manual, original signature, and that any Communication entered into by Electronic Signature, will constitute the legal, valid and binding obligation of such Person enforceable against such Person in accordance with the terms thereof to the same extent as if a manually executed original signature was delivered. Any Communication may be executed in as many counterparts as necessary or convenient, including both paper and electronic counterparts, but all such counterparts are one and the same Communication. For the avoidance of doubt, the authorization under this paragraph may include, without limitation, use or acceptance of a manually signed paper Communication which has been converted into electronic form (such as scanned into PDF format), or an electronically signed Communication converted into another format, for transmission, delivery and/or retention. The Administrative Agent and each of the Lender Parties may, at its option, create one or more copies of any Communication in the form of an imaged Electronic Record ("Electronic Copy"), which shall be deemed created in the ordinary course of such Person's business, and destroy the original paper document. All Communications in the form of an Electronic Record, including an Electronic Copy, shall be considered an original for all purposes, and shall have the same legal effect, validity and enforceability as a paper record. Notwithstanding anything contained herein to the contrary, neither the Administrative Agent, L/C Issuer nor Swing Line Lender is under any obligation to accept an Electronic Signature in any form or in any format unless expressly agreed to by such Person pursuant to procedures approved by it; provided, further, without limiting the foregoing, (a) to the extent the Administrative Agent, L/C Issuer and/or Swing Line Lender has agreed to accept such Electronic Signature, the Administrative Agent and each of the Lender Parties shall be entitled to rely on any such Electronic Signature purportedly given by or on behalf of any Borrower and/or any Lender Party without further verification and (b) upon the request of the Administrative Agent or any Lender Party, any Electronic Signature shall be promptly followed by such manually executed counterpart. For purposes hereof, "Electronic Record" and "Electronic Signature" shall have the meanings assigned to them, respectively, by 15 USC §7006, as it may be amended from time to time.

Neither the Administrative Agent, L/C Issuer nor Swing Line Lender shall be responsible for or have any duty to ascertain or inquire into the sufficiency, validity, enforceability, effectiveness or genuineness of any Loan Document or any other agreement, instrument or document (including, for the avoidance of doubt, in connection with the Administrative Agent's, L/C Issuer's or Swing Line Lender's reliance on any Electronic Signature transmitted by telecopy, emailed .pdf or any other electronic means). The Administrative Agent, L/C Issuer and Swing Line Lender shall be entitled to rely on, and shall incur

no liability under or in respect of this Agreement or any other Loan Document by acting upon, any Communication (which writing may be a fax, any electronic message, Internet or intranet website posting or other distribution or signed using an Electronic Signature) or any statement made to it orally or by telephone and believed by it to be genuine and signed or sent or otherwise authenticated (whether or not such Person in fact meets the requirements set forth in the Loan Documents for being the maker thereof).

Each of the Borrowers and each Lender Party hereby waives (i) any argument, defense or right to contest the legal effect, validity or enforceability of this Agreement, any other Loan Document based solely on the lack of paper original copies of this Agreement, such other Loan Document, and (ii) waives any claim against the Administrative Agent and each Lender Party for any liabilities arising solely from the Administrative Agent's and/or any Lender Party's reliance on or use of Electronic Signatures, including any liabilities arising as a result of the failure of the Borrowers to use any available security measures in connection with the execution, delivery or transmission of any Electronic Signature.

11.23 Appointment of Company.

Each of the Borrowers hereby appoints the Company to act as its agent for all purposes of this Agreement, the other Loan Documents and all other documents and electronic platforms entered into in connection herewith and agrees that (a) the Company may execute such documents and provide such authorizations on behalf of such Borrowers as the Company deems appropriate in its sole discretion and each Borrower shall be obligated by all of the terms of any such document and/or authorization executed on its behalf, (b) any notice or communication delivered by the Administrative Agent, L/C Issuer or a Lender to the Company shall be deemed delivered to each Borrower and (c) the Administrative Agent, L/C Issuer or the Lenders may accept, and be permitted to rely on, any document, authorization, instrument or agreement executed by the Company on behalf of each of the Borrowers.

11.24 Acknowledgement and Consent to Bail-In of Affected Financial Institutions.

Solely to the extent any Lender or L/C Issuer that is an Affected Financial Institution is a party to this Agreement and notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any Lender or L/C Issuer that is an Affected Financial Institution arising under any Loan Document, to the extent such liability is unsecured, may be subject to the Write-Down and Conversion Powers of the applicable Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

- (a) the application of any Write-Down and Conversion Powers by the applicable Resolution Authority to any such liabilities arising hereunder which may be payable to it by any Lender or L/C Issuer that is an Affected Financial Institution; and
- (b) the effects of any Bail-In Action on any such liability, including, if applicable:
 - (i) a reduction in full or in part or cancellation of any such liability;
 - (ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such Affected Financial Institution, its parent entity, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Loan Document; or

(iii) the variation of the terms of such liability in connection with the exercise of the Write-Down and Conversion Powers of the applicable Resolution Authority.

11.25 Acknowledgement Regarding any Supported QFCs.

To the extent that the Loan Documents provide support, through a guarantee or otherwise, for any Swap Contract or any other agreement or instrument that is a QFC (such support, “QFC Credit Support”, and each such QFC, a “Supported QFC”), the parties acknowledge and agree as follows with respect to the resolution power of the Federal Deposit Insurance Corporation under the Federal Deposit Insurance Act and Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act (together with the regulations promulgated thereunder, the “U.S. Special Resolution Regimes”) in respect of such Supported QFC and QFC Credit Support (with the provisions below applicable notwithstanding that the Loan Documents and any Supported QFC may in fact be stated to be governed by the laws of the State of New York and/or of the United States or any other state of the United States):

(a) In the event a Covered Entity that is party to a Supported QFC (each, a “Covered Party”) becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer of such Supported QFC and the benefit of such QFC Credit Support (and any interest and obligation in or under such Supported QFC and such QFC Credit Support, and any rights in property securing such Supported QFC or such QFC Credit Support) from such Covered Party will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if the Supported QFC and such QFC Credit Support (and any such interest, obligation and rights in property) were governed by the laws of the United States or a state of the United States. In the event a Covered Party or a BHC Act Affiliate of a Covered Party becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under the Loan Documents that might otherwise apply to such Supported QFC or any QFC Credit Support that may be exercised against such Covered Party are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if the Supported QFC and the Loan Documents were governed by the laws of the United States or a state of the United States. Without limitation of the foregoing, it is understood and agreed that rights and remedies of the parties with respect to a Defaulting Lender shall in no event affect the rights of any Covered Party with respect to a Supported QFC or any QFC Credit Support.

(b) As used in this Section 11.25, the following terms have the following meanings:

“BHC Act Affiliate” of a party means an “affiliate” (as such term is defined under, and interpreted in accordance with, 12 U.S.C. 1841(k)) of such party.

“Covered Entity” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

“Default Right” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

“QFC” has the meaning assigned to the term “qualified financial contract” in, and shall be interpreted in accordance with, 12 U.S.C. 5390(c)(8)(D).

11.26 Amendment and Restatement.

The parties hereto agree that, on the Closing Date, the following transactions shall be deemed to occur automatically, without further action by any party hereto: (a) that certain Credit Agreement dated as of June 21, 2018 (as amended by that certain First Amendment to Credit Agreement, dated as of August 14, 2019, that certain Second Amendment to Credit Agreement dated as of May 11, 2020 and that certain Third Amendment to Credit Agreement dated as of December 10, 2021), among the Borrowers party thereto, the lenders identified therein and Bank of America, as administrative agent, swing line lender and l/c issuer (the “Existing Credit Agreement”) shall be deemed to be, and shall be, amended and restated in its entirety pursuant to this Agreement (and this Agreement is not executed in novation of the Existing Credit Agreement); (b) all Obligations under the Existing Credit Agreement outstanding on the Closing Date shall in all respects be continuing and shall be deemed to be Obligations outstanding hereunder and (c) all references in the other Loan Documents to the Existing Credit Agreement shall be deemed to refer without further amendment to this Agreement.

[SIGNATURE PAGES FOLLOW]

Each of the parties hereto has caused a counterpart of this Agreement to be duly executed and delivered as of the date first above written.

BORROWERS: ALBEMARLE CORPORATION,
a Virginia corporation

By: /s/ Scott A. Tozier
Name: Scott A. Tozier
Title: Executive Vice President and Chief Financial Officer

ALBEMARLE EUROPE SRL,
a société à responsabilité limitée organized under the laws of Belgium

By: /s/ Theo Moons
Name: Theo Moons
Title: Director

ALBEMARLE CORPORATION
AMENDED AND RESTATED CREDIT AGREEMENT

ADMINISTRATIVE
AGENT: BANK OF AMERICA, N.A.,

as Administrative Agent

By: /s/ Ronaldo Naval
Name: Ronaldo Naval
Title: Vice President

ALBEMARLE CORPORATION
AMENDED AND RESTATED CREDIT AGREEMENT

LENDERS: BANK OF AMERICA, N.A.,

as a Lender, Swing Line Lender and L/C Issuer

By: /s/ Pace Doherty
Name: Pace Doherty
Title: Director

ALBEMARLE CORPORATION
AMENDED AND RESTATED CREDIT AGREEMENT

HSBC BANK USA, NATIONAL ASSOCIATION,
as a Lender and L/C Issuer

By: /s/ Peggy Yip
Name: Peggy Yip
Title: Director

JPMORGAN CHASE BANK, N.A.,
as a Lender and L/C Issuer

By: /s/ Peter S. Predun
Name: Peter S. Predun
Title: Executive Director

MIZUHO BANK, LTD.,
as a Lender and L/C Issuer

By: /s/ Donna DeMagistris
Name: Donna DeMagistris
Title: Executive Director

BANCO SANTANDER, S.A., NEW YORK BRANCH
as a Lender

By: /s/ Pablo Urgoiti
Name: Pablo Urgoiti
Title: Managing Director

By: /s/ Andres Barbosa
Name: Andres Barbosa
Title: Managing Director

GOLDMAN SACHS BANK USA,
as a Lender

By: /s/ Andrew B. Vernon
Name: Andrew B. Vernon
Title: Authorized Signatory

MUFG BANK, LTD.
as a Lender

By: /s/ Jorge Georgalos
Name: Jorge Georgalos
Title: Director

SUMITOMO MITSUI BANKING CORPORATION,
as a Lender

By: /s/ Jun Ashley
Name: Jun Ashley
Title: Director

TRUIST BANK,
as a Lender

By: /s/ Troy Weaver
Name: Troy Weaver
Title: Managing Director

U.S. BANK NATIONAL ASSOCIATION,
as a Lender

By: /s/ Sawyer Johnson
Name: Sawyer Johnson
Title: Assistant Vice President

BANK OF CHINA, NEW YORK BRANCH.
as a Lender

By: /s/ Raymond Qiao
Name: Raymond Qiao
Title: Executive Vice President

THE NORTHERN TRUST COMPANY,
as a Lender

By: /s/ Peter J. Hallan
Name: Peter J. Hallan
Title: Senior Vice President

Schedule 2.01

COMMITMENTS AND PRO RATA SHARES

Lender	Commitment	Pro Rata Share¹
Bank of America, N.A.	\$170,000,000.00	11.333333333%
JPMorgan Chase Bank, N.A.	\$170,000,000.00	11.333333333%
HSBC Bank USA, National Association	\$170,000,000.00	11.333333333%
Mizuho Bank, Ltd.	\$170,000,000.00	11.333333333%
Banco Santander, S.A., New York Branch	\$120,000,000.00	8.000000000%
Goldman Sachs Bank USA	\$120,000,000.00	8.000000000%
MUFG Bank, Ltd.	\$120,000,000.00	8.000000000%
Sumitomo Mitsui Banking Corporation	\$120,000,000.00	8.000000000%
Truist Bank	\$120,000,000.00	8.000000000%
U.S. Bank National Association	\$120,000,000.00	8.000000000%
Bank of China, New York Branch	\$50,000,000.00	3.333333333%
The Northern Trust Company	\$50,000,000.00	3.333333333%
<u>Total</u>	<u>\$1,500,000,000.00</u>	<u>100.000000000%</u>

¹ Percentages rounded to the ninth decimal place.

Schedule 2.01
(continued)

L/C Issuer	Letter of Credit Commitment
Bank of America, N.A.	\$25,000,000.00
JPMorgan Chase Bank, N.A.	\$25,000,000.00
HSBC Bank USA, National Association	\$25,000,000.00
Mizuho Bank, Ltd.	\$25,000,000.00
Total	\$100,000,000.00

Swing Line Lender	Swing Line Sublimit
Bank of America, N.A.	\$150,000,000.00
Total	\$150,000,000.00

Schedule 6.09

ENVIRONMENTAL MATTERS

None.

Schedule 6.17
SUBSIDIARIES

	Entity Name	% Ownership	Immaterial Subsidiary	Jurisdiction
1.	ACI Cyprus, L.L.C.	100%	YES	United States
2.	Albemarle Amendments, LLC	100%	YES	United States
3.	Albemarle Argentina S.R.L.	100%	NO	Argentina
4.	Albemarle Brazil Holdings Ltda.	100%	NO	Brazil
5.	Albemarle Care Fund	100%	YES	United States
6.	Albemarle Catalysts Company B.V.	100%	NO	Netherlands
7.	Albemarle Chemical Canada Ltd.	100%	NO	Canada
8.	Albemarle Chemicals (Shanghai) Co., Ltd.	100%	NO	China
9.	Albemarle Chemicals Ltd.	100%	NO	Cyprus
10.	Albemarle Chemicals SAS	100%	YES	France
11.	Albemarle Chemicals South Africa (Proprietary) Limited	100%	YES	South Africa
12.	Albemarle de Venezuela C.A.	100%	YES	Venezuela
13.	Albemarle Delaware Holdings 1 LLC	100%	NO	United States
14.	Albemarle Delaware Holdings 2 LLC	100%	YES	United States
15.	Albemarle Dutch Holdings B.V.	100%	YES	Netherlands
16.	Albemarle Dutch Holdings 2 B.V.	100%	YES	Netherlands
17.	Albemarle Europe SRL	100%	NO	Belgium
18.	Albemarle Finance Company B.V.	100%	NO	Netherlands
19.	Albemarle Foundation	100%	YES	United States
20.	Albemarle Germany GmbH	100%	NO	Germany

	Entity Name	% Ownership	Immaterial Subsidiary	Jurisdiction
21.	Albemarle Hilfe GmbH Unterstützungskasse	100%	YES	Germany
22.	Albemarle Holdings Company Limited	100%	NO	Turks and Caicos Islands
23.	Albemarle Holdings Limited	100%	YES	Hong Kong
24.	Albemarle Hungary Ltd.	100%	YES	Hungary
25.	Albemarle Italy S.R.L.	100%	YES	Italy
26.	Albemarle Japan Corporation	100%	NO	Japan
27.	Albemarle Japan Holdings B.V.	100%	NO	Netherlands
28.	Albemarle Knight Lux 1 Holdings Corporation	100%	NO	United States
29.	Albemarle Korea Corporation	100%	NO	South Korea
30.	Albemarle Limitada	100%	NO	Chile
31.	Albemarle Lithium Holding Corporation	100%	YES	United States
32.	Albemarle Lithium Holding GmbH	100%	NO	Germany
33.	Albemarle Lithium Pty Ltd	100%	NO	Australia
34.	Albemarle Lithium (Jiangsu) Co., Ltd.	100%	YES	China
35.	Albemarle Lithium UK Limited	100%	YES	United Kingdom
36.	Albemarle Malaysia Sdn. Bhd.	100%	YES	Malaysia
37.	Albemarle Management (Shanghai) Co., Ltd.	100%	NO	China
38.	Albemarle Middle East FZE	100%	YES	United Arab Emirates (Free Zone Establishment)
39.	Albemarle Middle East Trading Company L.L.C.	49%	YES	United Arab Emirates (Abu Dhabi)
40.	Albemarle Netherlands B.V.	100%	NO	Netherlands
41.	Albemarle New Holding GmbH	100%	NO	Germany

	Entity Name	% Ownership	Immaterial Subsidiary	Jurisdiction
42.	Albemarle Overseas Employment Corporation	100%	YES	United States
43.	Albemarle Quimica Ltda.	100%	YES	Brazil
44.	Albemarle Saudi Trading Company	75%	YES	Saudi Arabia
45.	Albemarle Sichuan New Materials Co., Ltd.	100%	NO	China
46.	Albemarle Singapore Pte. Ltd.	100%	NO	Singapore
47.	Albemarle Spain S.L	100%	YES	Spain
48.	Albemarle Taiwan Limited	100%	NO	Taiwan
49.	Albemarle (Thailand) Co., Ltd.	100%	YES	Thailand
50.	Albemarle U.S., Inc.	100%	NO	United States
51.	Albemarle Vietnam Limited Liability Company	100%	YES	Vietnam
52.	Albemarle Wodgina Pty Ltd	100%	NO	Australia
53.	Dynamit Nobel GmbH	100%	NO	Germany
54.	Dynamit Nobel Unterstutzungsfonds GmbH	100%	YES	Germany
55.	Excalibur II Realty Company	100%	YES	United States
56.	Excalibur Realty Company	100%	YES	United States
57.	Foote Chile Holding Company	100%	YES	United States
58.	Foote Minera e Inversiones Limitada	100%	YES	Chile
59.	Guangxi Tianyuan New Energy Materials Co., Ltd.	100%	NO	China
60.	Jiangxi Albemarle Lithium Co., Ltd	100%	NO	China
61.	Jordan Bromine Company Limited	50%	NO	Jordan
62.	Knight Lux 1 S.a.r.l	100%	NO	Luxembourg
63.	Knight Lux 2 S.a.r.l.	100%	NO	Luxembourg
64.	MARBL Lithium Operations Pty Ltd	60%	NO	Australia

	Entity Name	% Ownership	Immaterial Subsidiary	Jurisdiction
65.	Metalon Environmental Management & Solutions GmbH	100%	YES	Germany
66.	PT Albemarle Chemicals Indonesia	100%	YES	Indonesia
67.	Rockwood Holdings, Inc.	100%	NO	United States
68.	Rockwood Lithium (Shanghai) Co., Ltd.	100%	NO	China
69.	Rockwood Lithium India Private Limited	100%	YES	India
70.	Rockwood Lithium Japan K.K.	100%	NO	Japan
71.	Rockwood Lithium Korea LLC	100%	YES	Korea
72.	Rockwood Lithium Taiwan Co., Ltd.	100%	NO	Taiwan
73.	Rockwood Specialties GmbH	100%	NO	Germany
74.	Rockwood Specialties Group, LLC	100%	YES	United States
75.	Rockwood Specialties Limited	100%	YES	United Kingdom
76.	Rockwood Specialties LLC	100%	NO	United States
77.	RSG Immobilien GmbH	100%	YES	Germany
78.	RT Lithium Limited	100%	NO	United Kingdom
79.	Sales de Magnesio Limitada	100%	YES	Chile
80.	Shandong Sinobrom Albemarle Bromine Chemicals Company Limited	100%	YES	China
81.	Sichuan Guorun New Material Co., Ltd.	100%	NO	China

Schedule 6.20

CERTAIN ANTI-CORRUPTION LAWS MATTERS

As previously reported in its filings with the SEC, the Company received information regarding potential improper payments being made by third party sales representatives of the Company's Refining Solutions business, within its Catalysts segment.

Schedule 8.01

EXISTING LIENS

Liens described by the following UCC financing statements:

LOUISIANA SECRETARY OF STATE:

Debtor: Albemarle Corporation
Secured Party: Key Equipment Finance Inc.
File Number: 09-1182130
File Date: 06/08/2012
Continuation Date: 03/15/2017
Collateral: Goods and Property described in the above referenced UCC financing statement, and certain collateral related thereto as specified in such financing statement and the applicable underlying agreement(s); 5-2012 Club Car Carryall 232 Electric

Debtor: Albemarle Corporation
Secured Party: Caterpillar Financial Services Corporation
File Number: 26-411113
File Date: 11/19/2021
Collateral: Leased equipment and related property

Debtor: Albemarle Corporation
Secured Party: Konica Minolta Premier Finance
File Number: 09-1499875
File Date: 05/27/2022
Collateral: Collateral includes several specific model numbers or serial numbers for items of equipment, including all currently existing and future attachments, parts, accessories and add-ons for such listed equipment, and all products and proceeds thereof

VIRGINIA STATE CORPORATION COMMISSION:

Debtor: Albemarle Corporation
Secured Party: Vallen Distribution, Inc.
File Number: 09-06-17-7194-1
File Date: 06/17/2009
Continuation Date: 02/27/2014
Amendment Date: 01/16/2017
Continuation Date: 05/20/2019

Collateral: All parts, items and products held by the Debtor on consignment from the Secured Party, and certain collateral related thereto as specified in such financing statement and the applicable underlying agreement(s)

Debtor: Albemarle Corporation
Secured Party: Wells Fargo Bank, N.A.
File Number: 15-07-29-3832-1
File Date: 07/29/2015
Continuation Date: 06/05/2020

Collateral: 1 Used 2013 Rail King RK320 Rail Car Mover S/N RCM-988-5 and certain collateral related thereto as specified in such financing statement and the applicable underlying agreement(s)

Debtor: Albemarle Corporation
Secured Party: Caterpillar Financial Services Corporation
File Number: 16-12-14-3897-9
File Date: 12/14/2016
Continuation Date: 06/22/2021
Collateral: 1 Caterpillar 420F2ST Backhoe Loader S/N: HWC01120, 1.4 cubic yard GP Bucket, 24" HD Bucket, Thumb, and certain collateral related thereto as specified in such financing statement and the applicable underlying agreement(s)

Debtor: Albemarle Corporation
Secured Party: Konica Minolta Premier Finance
File Number: 17-05-18-3882-3
File Date: 05/18/2017
Continuation Date: 05/01/2022
Collateral: 3 – Bizhub C3350, 19 – Bizhub C458, and certain collateral related thereto as specified in such financing statement and the applicable underlying agreement(s)

Debtor: Albemarle Corporation
Secured Party: De Lage Landen Financial Services, Inc.
File Number: 17-06-08-3830-5
File Date: 06/08/2017
Continuation Date: 04/21/2022
Collateral: 12 Caterpillar GP25N5-GLE forklifts with battery and charger as more particularly described in the financing statement and certain collateral related thereto as specified in such financing statement and the applicable underlying agreement(s)

Debtor: Albemarle Corporation
Secured Party: Konica Minolta Premier Finance
File Number: 18-07-12-3932-4
File Date: 07/12/2018
Collateral: 8 BIZHUB C258, 6 BIZHUB C368 and all currently existing and future attachments, parts, accessories and add-ons for all of the foregoing equipment, and all products and proceeds thereof

Debtor: Albemarle Corporation
Secured Party: Konica Minolta Premier Finance
File Number: 18-07-31-3903-3
File Date: 07/31/2018
Collateral: 1-BIZHUB C368, 15-BIZHUB C258, RIGHTFAX Software and all currently existing and future attachments, parts, accessories and add-ons for all of the foregoing equipment, and all products and proceeds thereof

Debtor: Albemarle Corporation
Secured Party: Konica Minolta Premier Finance
File Number: 19-04-25-3932-7
File Date: 04/25/2019
Collateral: 4 BIZHUB C659 and all currently existing and future attachments, parts, accessories and add-ons for all of the foregoing equipment, and all products and proceeds thereof

Debtor: Albemarle Corporation
Secured Party: Motion Industries, Inc.
File Number: 20-20-01-1402-1948-8
File Date: 12/13/2019
Collateral: Maintenance, repair, operational assets, materials, parts, equipment, supplies, inventory, products and other tangible personal property and all other assets, including goods and merchandise, now or hereafter held for resale, use or consumption in Debtor's (Consignee's) business and supplied by Secured Party (Consignor) under consignment or other agreement

Debtor: Albemarle Corporation
Secured Party: Wells Fargo Equipment Finance, Inc.
File Number: 20-20-09-2200-8894-8
File Date: 09/22/2020

Collateral: 1 John Deere Model 670GP Moter Grader, S/N: 1DW670GPF677538 together with all replacements, substitutions, parts, improvements, repairs and accessories and all additions incorporated therein or affixed thereto

Debtor: Albemarle Corporation

Secured Party: Konica Minolta Premier Finance

File Number: 20-21-07-3000-4935-6

File Date: 07/30/2021

Collateral: Collateral includes several specific model numbers or serial numbers for items of equipment, including all currently existing and future attachments, parts, accessories and add- ons for such listed equipment, and all products and proceeds thereof

Schedule 11.02

LENDING OFFICES; NOTICE ADDRESSES

Loan Parties

ALBEMARLE CORPORATION
Attention: Chief Financial Officer
4250 Congress Street, Ste. 900
Charlotte, North Carolina 28209
Telephone: 980-299-5700
Email: scott.tozier@albemarle.com

With copy to:

ALBEMARLE CORPORATION
Attention: General Counsel
4250 Congress Street, Ste. 900
Charlotte, North Carolina 28209
Telephone: 980-299-5700
Email: karen.narwold@albemarle.com

With copy to:

ALBEMARLE CORPORATION
Attention: Treasurer
4250 Congress Street, Ste. 900
Charlotte, North Carolina 28209
Telephone: 980-299-5700
Email: amy.dunbar@albemarle.com

Administrative Agent

For operational notices (borrowings, payments, etc.)

Zachary Vestal
900 W Trade St.
Mail Code: NC1-026-06-04
Charlotte, NC 28255
Phone: (980) 386-0720
Facsimile: (704) 208-3198
Email: zachary.vestal@bofa.com

For other purposes:

Ronaldo Naval
2380 Performance Dr.,
Building C
Mail Code: TX2-984-03-26
Richardson, TX 75082
Phone: (214) 209-1162
Facsimile: (877) 511-6124
Email: ronaldo.naval@bofa.com

Bank of America, N.A., as Swing Line Lender

Zachary Vestal
900 W Trade St.
Mail Code: NC1-026-06-04
Charlotte, NC 28255
Phone: (980) 386-0720
Facsimile: (704) 208-3198
Email: zachary.vestal@bofa.com

Bank of America, N.A., as L/C Issuer

Bank of America, N.A.
Trade Operations
1 Fleet Way
Mail Code: PA6-580-02-30
Scranton, PA 18507
Phone: (570) 496-9619
Fax: (800) 755-8740
Email: tradeclientserviceteam@bofa.com

Exhibit A

FORM OF COMMITTED LOAN NOTICE

TO: Bank of America, N.A., as Administrative Agent

RE: Amended and Restated Credit Agreement dated as of October 28, 2022 (as amended, restated, extended, supplemented or otherwise modified in writing from time to time, the "Credit Agreement") among Albemarle Corporation, a Virginia corporation (the "Company"), Albemarle Europe SRL, a private limited liability company organized under the laws of Belgium ("*société à responsabilité limitée*"), the Lenders from time to time party thereto, and Bank of America, N.A., as Administrative Agent and Swing Line Lender. Capitalized terms used but not otherwise defined herein have the meanings provided in the Credit Agreement.

DATE: [Date]

EFFECTIVE DATE: [Date²]

—
The undersigned hereby requests (select one)³:

<u>Indicate:</u> Borrowing, Conversion or Continuation	<u>Indicate:</u> Applicable Borrower Name	<u>Indicate:</u> Requested Amount	<u>Indicate:</u> Currency	<u>Indicate:</u> Base Rate Loan, Term SOFR Daily Floating Rate Loan, Alternative Currency Daily Rate Loan or Alternative Currency Term Rate Loan	<u>For Alternative Currency Term Rate Loans Indicate:</u> Interest Period (e.g., 1, 3 or 6 month interest period)⁴

With respect to any Borrowing requested herein, the undersigned hereby represents and warrants that (i) such request complies with the requirements of Section 2.02(a) of the Credit Agreement and (ii) each of the conditions set forth in Section 5.02 of the Credit Agreement has been satisfied on and as of the date of such Borrowing.

²All requests submitted under a single Committed Loan Notice must be effective on the same date. If multiple effective dates are needed, multiple Committed Loan Notices will need to be prepared and signed.

³ For multiple borrowings, conversions and/or continuations for a particular facility, fill out a new row for each borrowing/conversion and/or continuation.

⁴ Outside counsel to include all applicable interest periods available.

Delivery of an executed counterpart of a signature page of this notice by fax transmission or other electronic mail transmission (e.g. "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this notice.

[APPLICABLE BORROWER]

By: _____
Name:
Title:

Exhibit B

FORM OF SWING LINE LOAN NOTICE

Date: _____, 20__

To: Bank of America, N.A., as Swing Line Lender
Bank of America, N.A., as Administrative Agent

Re: Amended and Restated Credit Agreement dated as of October 28, 2022 (as amended, restated, extended, supplemented or otherwise modified in writing from time to time, the "Credit Agreement") among Albemarle Corporation, a Virginia corporation (the "Company"), Albemarle Europe SRL, a private limited liability company organized under the laws of Belgium ("*société à responsabilité limitée*"), the Lenders from time to time party thereto, and Bank of America, N.A., as Administrative Agent and Swing Line Lender. Capitalized terms used but not otherwise defined herein have the meanings provided in the Credit Agreement.

Ladies and Gentlemen:

The undersigned hereby requests a Swing Line Loan:

On _____, __ (a Business Day).

In the amount of \$_____.⁵

Applicable Domestic Borrower: _____

With respect to such Swing Line Borrowing, the undersigned hereby represents and warrants that (i) such request complies with the requirements of Section 2.04(b) of the Credit Agreement and (ii) each of the conditions set forth in Section 5.02 of the Credit Agreement has been satisfied on and as of the date of such Swing Line Borrowing.

Delivery of an executed counterpart of a signature page of this notice by fax transmission or other electronic mail transmission (e.g. "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this notice.

[APPLICABLE DOMESTIC BORROWER]

By: _____
Name:
Title:

⁵ Shall be a minimum of \$100,000, and a multiple of \$100,000 in excess thereof.

Exhibit C
FORM OF NOTE

_____, 20__

FOR VALUE RECEIVED, the undersigned hereby promises to pay to _____ or registered assigns (the “Lender”), in accordance with the provisions of the Credit Agreement (as hereinafter defined), the principal amount of each Loan from time to time made by the Lender to such Borrower (and, in the case of any Domestic Borrower, each Loan from time to time made by the Lender to any Domestic Borrower) under that certain Amended and Restated Credit Agreement dated as of October 28, 2022 (as amended, restated, extended, supplemented or otherwise modified in writing from time to time, the “Credit Agreement”) among Albemarle Corporation, a Virginia corporation (the “Company”), Albemarle Europe SRL, a private limited liability company organized under the laws of Belgium (“*société à responsabilité limitée*”) (the “Belgian Borrower” and together with the Company and any other Subsidiary of the Company party to the Credit Agreement pursuant to Section 2.14 thereof, collectively, the “Borrowers”), the Lenders from time to time party thereto, and Bank of America, N.A., as Administrative Agent and Swing Line Lender. Capitalized terms used but not otherwise defined herein have the meanings provided in the Credit Agreement.

The undersigned promises to pay interest on the unpaid principal amount of each Loan made by the Lender to such Borrower (and, in the case of any Domestic Borrower, each Loan made by the Lender to any Domestic Borrower) from the date of such Loan until such principal amount is paid in full, at such interest rates and at such times as provided in the Credit Agreement. Except as otherwise provided in Section 2.04(f) of the Credit Agreement with respect to Swing Line Loans, all payments of principal and interest shall be made to the Administrative Agent for the account of the Lender in the Applicable Currency and in Same Day Funds at the Administrative Agent’s Office for such currency. If any amount is not paid in full when due hereunder, such unpaid amount shall bear interest, to be paid upon demand, from the due date thereof until the date of actual payment (and before as well as after judgment) computed at the per annum rate set forth in the Credit Agreement.

This Note is one of the Notes referred to in the Credit Agreement, is entitled to the benefits thereof and may be prepaid in whole or in part subject to the terms and conditions provided therein. Upon the occurrence and continuation of one or more of the Events of Default specified in the Credit Agreement, all amounts then remaining unpaid on this Note shall become, or may be declared to be, immediately due and payable all as provided in the Credit Agreement. Loans made by the Lender shall be evidenced by one or more loan accounts or records maintained by the Lender in the ordinary course of business. The Lender may also attach schedules to this Note and endorse thereon the date, amount, currency and maturity of its Loans and payments with respect thereto.

The undersigned, for itself, its successors and assigns, hereby waives diligence, presentment, protest and demand and notice of protest, demand, dishonor and non-payment of this Note.

Delivery of an executed counterpart of a signature page of this Note by fax transmission or other electronic mail transmission (e.g. “pdf” or “tif”) shall be effective as delivery of a manually executed counterpart of this Note.

THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

[APPLICABLE BORROWER]

By: _____
Name:
Title:

Exhibit D

FORM OF COMPLIANCE CERTIFICATE

Check for distribution to public and private side Lenders⁶

Financial Statement Date: , 20__

To: Bank of America, N.A., as Administrative Agent

Re: Amended and Restated Credit Agreement dated as of October 28, 2022 (as amended, restated, extended, supplemented or otherwise modified in writing from time to time, the "Credit Agreement") among Albemarle Corporation, a Virginia corporation (the "Company"), Albemarle Europe SRL, a private limited liability company organized under the laws of Belgium ("*société à responsabilité limitée*") (the "Belgian Borrower") and together with the Company and any other Subsidiary of the Company party to the Credit Agreement pursuant to Section 2.14 thereof, collectively, the "Borrowers"), the Lenders from time to time party thereto, and Bank of America, N.A., as Administrative Agent and Swing Line Lender. Capitalized terms used but not otherwise defined herein have the meanings provided in the Credit Agreement.

Ladies and Gentlemen:

The undersigned Responsible Officer hereby certifies as of the date hereof that [he/she] is the _____ of the Company, and that, in [his/her] capacity as such, [he/she] is authorized to execute and deliver this Certificate to the Administrative Agent on the behalf of the Company, and that:

[Use following paragraph 1 for fiscal year-end financial statements:]

[1. Attached hereto as Schedule 1 are the audited financial statements required by Section 7.01(a) of the Credit Agreement for the fiscal year of the Company ended as of the above date, together with the report and opinion of an independent certified public accountant required by such section.]

[Use following paragraph 1 for fiscal quarter-end financial statements:]

[1. Attached hereto as Schedule 1 are the unaudited financial statements required by Section 7.01(b) of the Credit Agreement for the fiscal quarter of the Company ended as of the above date. Such financial statements fairly present the financial condition, results of operations and cash flows of the Consolidated Group in all material respects in accordance with GAAP as of the above date and for such period, subject only to normal year-end audit adjustments and the absence of footnotes.]

[select one:]

[2. To the best knowledge of the undersigned during such fiscal period, no Default or Event of Default exists as of the date hereof.]

[or:]

[the following is a list of each existing Default or Event of Default, the nature and extent thereof, and the proposed actions of the Borrowers with respect thereto:]

3. The representations and warranties of the Borrowers contained in Article VI of the Credit Agreement, or which are contained in any document furnished at any time under or in connection with the Loan Documents, are true and correct in all material respects on and as of the date hereof, except to the

⁶ If this box is not checked, this certificate will only be posted to private side Lenders.

extent that such representations and warranties specifically refer to an earlier date, in which case they are true and correct in all material respects as of such earlier date, and except that for purposes of this Compliance Certificate, the representations and warranties contained in subsections (a) and (b) of Section 6.05 of the Credit Agreement shall be deemed to refer to the most recent financial statements furnished pursuant to clauses (a) and (b), respectively, of Section 7.01 of the Credit Agreement, including the statements in connection with which this Compliance Certificate is delivered.

4. The financial covenant analyses and information set forth on Schedule 2 attached hereto (i) are true and accurate on and as of the date of this Certificate and (ii) demonstrate compliance with Section 8.06 of the Credit Agreement.

5. Set forth below is a summary of all material changes in GAAP affecting the Company and in the consistent application thereof by the Company occurring during the most recent fiscal quarter ending prior to the date hereof, the effect on the financial covenants resulting therefrom, and a reconciliation between calculation of the financial covenants before and after giving effect to such changes:

Delivery of an executed counterpart of a signature page of this Certificate by fax transmission or other electronic mail transmission (e.g. "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this Certificate.

[signature page follows]

IN WITNESS WHEREOF, the undersigned has executed this Certificate as of _____, _____.

ALBEMARLE CORPORATION,
a Virginia corporation

By: _____

Name:

Title:

Schedule 1
to Compliance Certificate

Financial statements for the fiscal [year][quarter] of the Company ended as of _____, 20__

[see attached]

Schedule 2
to Compliance Certificate

Computation of Financial Covenants⁷

1. Consolidated Leverage Ratio⁸

- (a) Consolidated Funded Debt as of such date:
- (i) all obligations for borrowed money, whether current or long-term (including the Obligations under the Credit Agreement), and all obligations evidenced by bonds, debentures, notes, loan agreements or other similar instruments, including convertible debt instruments \$____
 - (ii) all purchase money indebtedness (including indebtedness and obligations in respect of conditional sales and title retention arrangements, except for customary conditional sales and title retention arrangements with suppliers that are entered into in the ordinary course of business) and all indebtedness and obligations in respect of the deferred purchase price of property or services (other than trade accounts payable incurred in the ordinary course of business and payable on customary trade terms) \$____
 - (iii) all contingent obligations under letters of credit (including standby and commercial), bankers' acceptances, bank guaranties, surety bonds and similar instruments \$____
 - (iv) the Attributable Principal Amount of capital leases and Synthetic Leases \$____
 - (v) the Attributable Principal Amount of Securitization Transactions \$____
 - (vi) all preferred stock and comparable equity interests providing for mandatory redemption, sinking fund or other like payments within 91 days following the Maturity Date currently in effect \$____
 - (vii) Guarantees in respect of Funded Debt of another Person \$____
 - (viii) Funded Debt of any partnership or joint venture or other similar entity in which such Person is a general partner or joint venturer, and, as such, has personal liability for such obligations, but only to the extent there is recourse to such Person for payment thereof \$____

⁷ In the event of any conflict between the formulas set forth herein and the formulas provided in the Credit Agreement, the Credit Agreement shall govern.

⁸ With respect to any PILOT Transaction: (a) the Attributable Principal Amount of the PILOT-Related Capital Lease shall be deemed to be equal to zero, (b) the Consolidated Interest Charges on any such Attributable Principal Amount (described in the prior clause (a)) shall be deemed to be equal to zero, and (c) the net income from any interest earned with respect to any related Member-Held LRBs shall be deemed to be equal to zero.

(ix) Consolidated Funded Debt⁹
[(a)(i) + (a)(ii) + (a)(iii) + (a)(iv) + (a)(v) + (a)(vi) + (a)(vii)
+ (a)(viii)] \$_____

(b) Unrestricted Cash \$_____

(c) Consolidated EBITDA for the period of the four fiscal quarters ending on such date:

(i) Consolidated Net Income for such period \$_____

To the extent deducted in calculating such Consolidated Net Income (other than clause (c)(xi) below), without duplication:

(ii) Consolidated Interest Charges for such period \$_____

(iii) the provision for federal, state, local and foreign income taxes payable by the Consolidated Group for such period \$_____

(iv) the amount of depreciation and amortization expense for such period \$_____

(v) non-cash expenses for such period (excluding any non-cash expense to the extent that it represents an accrual of or reserve for cash payments in any future period) \$_____

(vi) non-cash goodwill impairment charges \$_____

(vii) any non-cash loss attributable to the mark-to-market adjustments in the valuation of pension liabilities (to the extent the cash impact resulting from such loss has not been realized) in accordance with Accounting Standards Codification 715 (ASC 715) \$_____

(viii) any fees, expenses or charges (other than depreciation or amortization expense) related to any Acquisition, Disposition, issuance of equity interests, other transactions (excluding intercompany transactions) permitted by Section 8.02 of the Credit Agreement, or the incurrence of Indebtedness not prohibited by the Credit Agreement (including any refinancing or amendment thereof) (in each case, whether or not consummated), including, but not limited to, such fees, expenses or charges related to the Credit Agreement and the other Loan Documents and any amendment or other modification of the Credit Agreement or the other Loan Documents \$_____

(ix) any expense to the extent that a corresponding amount is received during such period in cash by the Company or any of its Subsidiaries under any agreement providing for indemnification or reimbursement of such expenses \$_____

(x) any expense with respect to liability or casualty events or business interruption to the extent reimbursed to the Company or any of its

⁹ The amount of Funded Debt shall be determined based on the outstanding principal amount in the case of borrowed money indebtedness under clause (a) and purchase money indebtedness and the deferred purchase obligations under clause (b), based on the maximum amount available to be drawn in the case of letter of credit obligations and the other obligations under clause (c), and based on the outstanding principal amount of Funded Debt that is the subject of the Guarantees in the case of Guarantees under clause (g) or, if less, the amount expressly guaranteed.

Subsidiaries during such period by third party insurance \$_____

- (xi) the amount of dividends or distributions or other payments (including any ordinary course dividend, distribution or other payment) that are actually received in cash (or converted into cash) for such period by a member of the Consolidated Group from any Person that is not a member of the Consolidated Group or otherwise in respect of any unconsolidated investment \$_____

To the extent included in calculating such Consolidated Net Income:

- (xii) non-cash income during such period (excluding any non-cash income to the extent that it represents cash receipts in any future period) \$_____
- (xiii) any non-cash gains attributable to the mark-to-market adjustments in the valuation of pension liabilities in accordance with Accounting Standards Codification 715 (ASC 715) \$_____
- (xiv) Consolidated EBITDA
[(c)(i) + (c)(ii) + (c)(iii) + (c)(iv) + (c)(v) + (c)(vi) + (c)(vii)
+ (c)(viii) + (c)(ix) + (c)(x) + (c)(xi) - (c)(xii) - (c)(xiii)] \$_____

- (c) Consolidated Leverage Ratio
[(a)(ix) - (b)] / (c)(xiv) _____:1.0
-

Exhibit E

FORM OF ASSIGNMENT AND ASSUMPTION

This Assignment and Assumption (this “Assignment and Assumption”) is dated as of the Effective Date set forth below and is entered into by and between [*Insert name of Assignor*] (the “Assignor”) and [*Insert name of Assignee*] (the “Assignee”). Capitalized terms used but not defined herein shall have the meanings given to them in the Credit Agreement identified below (as amended, the “Credit Agreement”), receipt of a copy of which is hereby acknowledged by the Assignee. The Standard Terms and Conditions set forth in Annex 1 attached hereto are hereby agreed to and incorporated herein by reference and made a part of this Assignment and Assumption as if set forth herein in full.

For an agreed consideration, the Assignor hereby irrevocably sells and assigns to the Assignee, and the Assignee hereby irrevocably purchases and assumes from the Assignor, subject to and in accordance with the Standard Terms and Conditions and the Credit Agreement, as of the Effective Date inserted by the Administrative Agent as contemplated below (i) all of the Assignor’s rights and obligations as a Lender under the Credit Agreement and any other documents or instruments delivered pursuant thereto to the extent related to the amount[s] and equal to the percentage interest[s] identified below of all of such outstanding rights and obligations of the Assignor under the respective facilities identified below (including, without limitation, the Letters of Credit and the Swing Line Loans included in such facilities) and (ii) to the extent permitted to be assigned under applicable law, all claims, suits, causes of action and any other right of the Assignor (in its capacity as a Lender) against any Person, whether known or unknown, arising under or in connection with the Credit Agreement, any other documents or instruments delivered pursuant thereto or the loan transactions governed thereby or in any way based on or related to any of the foregoing, including, but not limited to, contract claims, tort claims, malpractice claims, statutory claims and all other claims at law or in equity related to the rights and obligations sold and assigned pursuant to clause (i) above (the rights and obligations sold and assigned pursuant to clauses (i) and (ii) above being referred to herein collectively as, the “Assigned Interest”). Such sale and assignment is without recourse to the Assignor and, except as expressly provided in this Assignment and Assumption, without representation or warranty by the Assignor.

1. Assignor: _____
[Assignor [is][is not] a Defaulting Lender.]
2. Assignee: _____
[and is an Affiliate/Approved Fund of [*identify Lender*]¹⁰]
3. Borrower(s): _____
4. Administrative Agent: Bank of America, N.A., as the administrative agent under the Credit Agreement
5. Credit Agreement: Amended and Restated Credit Agreement dated as of October 28, 2022 (as amended, restated, extended, supplemented or otherwise modified in writing from time to time, the “Credit Agreement”) among Albemarle Corporation, a Virginia corporation (the “Company”), Albemarle Europe SRL, a private limited liability company organized under the laws of Belgium (“*société à responsabilité limitée*”) (the “Belgian Borrower” and together with the Company and any other Subsidiary of the Company party to the Credit Agreement pursuant to Section 2.14 thereof, collectively, the “Borrowers”), the Lenders from time to time party thereto, and Bank of America, N.A., as Administrative Agent and Swing Line Lender.
6. Assigned Interest: _____

¹⁰ Select as applicable.

<u>Facility Assigned</u> ¹¹	<u>Aggregate Amount of Commitment/Loans for all Lenders*</u>	<u>Amount of Commitment/Loans Assigned*</u>	<u>Percentage Assigned of Commitment/Loans</u> ¹²	<u>CUSIP Number</u>
	\$ _____	\$ _____	_____ %	
	\$ _____	\$ _____	_____ %	
	\$ _____	\$ _____	_____ %	

[7. Trade Date: _____]¹³

Effective Date: _____, 20__ [TO BE INSERTED BY ADMINISTRATIVE AGENT AND WHICH SHALL BE THE EFFECTIVE DATE OF RECORDATION OF TRANSFER IN THE REGISTER THEREFOR.]

Delivery of an executed counterpart of a signature page of this notice by fax transmission or other electronic mail transmission (e.g. "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this notice.

¹¹ Fill in the appropriate terminology for the types of facilities under the Credit Agreement that are being assigned under this Assignment (e.g. "Committed Loans").

¹² Set forth, to at least 9 decimals, as a percentage of the Commitment/Loans of all Lenders thereunder.

¹³ To be completed if the Assignor and the Assignee intend that the minimum assignment amount is to be determined as of the Trade Date.

The terms set forth in this Assignment and Assumption are hereby agreed to:

ASSIGNOR

[NAME OF ASSIGNOR]

By: _____
Name:
Title:

ASSIGNEE

[NAME OF ASSIGNEE]

By: _____
Name:
Title:

[Consented to and]¹⁴ Accepted:

BANK OF AMERICA, N.A., as Administrative Agent

By: _____
Name:
Title:

Consented to:

BANK OF AMERICA, N.A., as [an L/C Issuer and]¹⁵ Swing Line Lender

By: _____
Name:
Title:

[Consented to ¹⁶

JPMorgan Chase Bank, N.A., as an L/C Issuer

By: _____
Name:
Title:]

¹⁴ To be added only if the consent of the Administrative Agent is required by the terms of the Credit Agreement.

¹⁵ To be added only if the consent of the L/C Issuer is required by the terms of the Credit Agreement.

¹⁶ To be added only if the consent of the L/C Issuer is required by the terms of the Credit Agreement.

[Consented to:]¹⁷

ALBEMARLE CORPORATION,
a Virginia corporation

By: _____
Name:
Title:

¹⁷ To be added only if the consent of the Company is required by the terms of the Credit Agreement.

ANNEX 1 TO ASSIGNMENT AND ASSUMPTION

STANDARD TERMS AND CONDITIONS FOR ASSIGNMENT AND ASSUMPTION

1. Representations and Warranties.

1.1. Assignor. The Assignor (a) represents and warrants that (i) it is the legal and beneficial owner of the Assigned Interest, (ii) the Assigned Interest is free and clear of any lien, encumbrance or other adverse claim, (iii) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby and (iv) it is [not] a Defaulting Lender; and (b) assumes no responsibility with respect to (i) any statements, warranties or representations made in or in connection with the Credit Agreement or any other Loan Document, (ii) the execution, legality, validity, enforceability, genuineness, sufficiency or value of the Loan Documents or any collateral thereunder, (iii) the financial condition of the Company, any of its Subsidiaries or Affiliates or any other Person obligated in respect of any Loan Document or (iv) the performance or observance by the Company, any of its Subsidiaries or Affiliates or any other Person of any of their respective obligations under any Loan Document.

1.2. Assignee. The Assignee (a) represents and warrants that (i) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby and to become a Lender under the Credit Agreement, (ii) it meets all requirements of an assignee under Section 11.07(b)(iii) and (v) of the Credit Agreement (subject to such consents, if any, as may be required under Section 11.07(b)(iii) of the Credit Agreement), (iii) from and after the Effective Date, it shall be bound by the provisions of the Credit Agreement as a Lender thereunder and, to the extent of the Assigned Interest, shall have the obligations of a Lender thereunder, (iv) it is sophisticated with respect to decisions to acquire assets of the type represented by the Assigned Interest and either it, or the Person exercising discretion in making its decision to acquire the Assigned Interest, is experienced in acquiring assets of such type, and has received or has been accorded the opportunity to receive copies of the most recent financial statements delivered pursuant to Section 7.01 thereof, as applicable, and such other documents and information as it deems appropriate to make its own credit analysis and decision to enter into this Assignment and Assumption and to purchase the Assigned Interest, (vi) it has, independently and without reliance upon the Administrative Agent or any other Lender and based on such documents and information as it has deemed appropriate, made its own credit analysis and decision to enter into this Assignment and Assumption and to purchase the Assigned Interest, and (vii) if it is a Foreign Lender, attached hereto is any documentation required to be delivered by it pursuant to the terms of the Credit Agreement, duly completed and executed by the Assignee; and (b) agrees that (i) it will, independently and without reliance upon the Administrative Agent, the Assignor or any other Lender, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under the Loan Documents, and (ii) it will perform in accordance with their terms all of the obligations which by the terms of the Loan Documents are required to be performed by it as a Lender.

2. Payments. From and after the Effective Date, the Administrative Agent shall make all payments in respect of the Assigned Interest (including payments of principal, interest, fees and other amounts) to the Assignor for amounts which have accrued to but excluding the Effective Date and to the Assignee for amounts which have accrued from and after the Effective Date. Notwithstanding the foregoing, the Administrative Agent shall make all payments of interest, fees or other amounts paid or payable in kind from and after the Effective Date to the Assignee.

3. General Provisions. This Assignment and Assumption shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and assigns. This Assignment and Assumption may be executed in any number of counterparts, which together shall constitute one instrument. Delivery of an executed counterpart of a signature page of this Assignment and Assumption by telecopy shall be effective as delivery of a manually executed counterpart of this Assignment and Assumption. This Assignment and Assumption shall be governed by, and construed in accordance with, the law of the State of New York.

Exhibit F

FORM OF ADMINISTRATIVE QUESTIONNAIRE

[see attached]



LSTA/LMA Standard Administrative Details Form

The Loan Market Association ("LMA") and Loan Syndications & Trading Association ("LSTA") consent to the use and reproduction of this document for the preparation and documentation of agreements relating to transactions or potential transactions in the loan markets.

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LSTA/LMA Standard Administrative Details Form

Borrower Name
ALBEMARLE CORPORATION

ENTITY DETAILS

Name

Lender's name as it appears on tax/registration documentation.

MEI

Markit Entity ID

GIIN

FATCA Global Intermediary Identification Number (Optional)

CRN

UK Company Registration Number (Optional)

LEI

Legal Entity ID (Optional)

Entity Type

Type of lender. If lender/entity type does not appear in list, you may provide your own value.

Address (of Lending Office):

Registered address of lending office, including country of domicile.

Signature Block:

Signature Block as it would appear on settlement documentation. E.g. (for separately managed account):

ABC Fund

by 123 Asset Management as Advisor

Fund Manager

Name of fund/asset manager, as would be referenced in the sig. block.

MEI

Markit Entity ID

Lender Parent

Name of legal parent if different from lender entity. (Optional)

MEI

Markit Entity ID

Firm

Name of Company

Fax

Fax Number

Email

Email Address

Email Pfd.

Firm

Name of Company

Fax

Fax Number

Email

Email Address

Email Pfd.

Currency
Applicable Currency.

Account With Institution
Name of Beneficiary's Bank (usually custodian/trustee)

SWIFT BIC
8/11-Character BIC of Beneficiary's Bank
ABA #
Routing # or UK Sort Code of Beneficiary's Bank (optional)

Beneficiary Customer
Name of Ultimate Beneficiary (Lender)

Beneficiary Account #
Account # of Ult. Beneficiary
IBAN
IBAN of Ultimate Beneficiary (opt)

Payment Reference
(Remittance Info)
Use Standard Wire Reference Format*:
[Borrower Name]
[Facility Name/Abbr.] [Facility/Deal CUSIP/ISIN]
[Payment Purpose(s)] [Transaction Reference ID]

Special Instructions

Template above can be used for wire instructions where receiving bank is custodian/trustee, and lender has dedicated account.
Additional templates provided at Appendix A.

SERVICE PROVIDERS & THIRD-PARTY DATA ACCESS

Doc. Delivery
Recon & Inventory

Role
Custodian/Trustee
Name
Name of Company
MEI
Markit Entity ID

Role
Relationship to lender.
Name
Name of Company
MEI
Markit Entity ID

CREDIT CONTACTS (LEGAL DOCUMENTATION, AMENDMENTS & WAIVERS)

Name
Name of group or individual.
Select group or Individual
Firm
Firm with which contact is affiliated.

Address: Registered address of contact's office (if different than the lender's office), including country of domicile.

Phone
Fax
Email

Data Room Access
Pfd. Contact Method
Preferred contact method for inquiries.

Copy and paste section above to add any additional contacts. It is recommended that at least one of the contacts be a group.

Name

Name of group or individual.

Select group or Individual

Firm

Firm with which contact is affiliated.

Address: Registered address of contact's office (if different than the lender's office), including country of domicile.

Phone

Fax

Email

Settlements Servicing SSI Verification KYC

Pfd. Contact Method

Preferred contact method for inquiries.

Copy and paste section above to add any additional contacts. It is recommended that at least one of the contacts be a group.

Name

Name of group or individual.

Select group or Individual

Firm

Firm with which contact is affiliated.

Address: Registered address of contact's office (if different than the lender's office), including country of domicile.

Phone

Fax

Email

Settlements Servicing SSI Verification KYC

Pfd. Contact Method

Preferred contact method for inquiries.

Copy and paste section above to add any additional contacts. It is recommended that at least one of the contacts be a group.

Name
Name of group or individual.
Select group or Individual
Firm
Firm with which contact is affiliated.

Address: Registered address of contact's office (if different than the lender's office), including country of domicile.

Phone
Phone Number (opt. for groups)
Fax
Fax Number
Email
Email Address

Pfd. Contact Method
Preferred contact method for inquiries.

Copy and paste section above to add any additional contacts. It is recommended that at least one of the contacts be a group.

Country of Incorporation
Country of Incorporation of lender
Country of Tax Residence
Country of Residence of lender for tax purposes

EIN
US Employee ID Number
UK Treaty Passport #
UK Treaty Passport #

US Tax Form
Type of tax form used/attached
UK Treaty Passport Expiry Date
UK Treaty Passport Expiry Date

Entity Referenced As
Primary Entity

CURRENCIES AND JURISDICTIONS FOR MULTICURRENCY TRANSACTIONS INFORMATION

PLEASE CHECK BOX OF THE CURRENCIES YOUR INSTITUTION CAN FUND UNDER THIS TRANSACTION:

<input type="checkbox"/> British Pound Sterling	<input type="checkbox"/> Euro	<input type="checkbox"/> Japanese Yen
<input type="checkbox"/> Australian Dollars	<input type="checkbox"/> Canadian Dollars	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PLEASE CHECK BOX IF YOUR INSTITUTION IS LICENSED TO FUND TO BORROWERS LOCATED IN THE FOLLOWING COUNTRIES:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix A: Additional Wire Instruction Templates and Bank of America USD / FX Wire Instructions:

Template below can be used for wire instructions where recipient is intermediary bank with nostro account for custodian and the Lender does not have a dedicated account. **Lender may copy and paste the template below as many times as necessary to capture various currency remittance instructions.**

Currency	<i>Applicable Currency.</i>		
Correspondent Bank	<i>Name of Receiver's Correspondent Bank (SWIFT 54a)</i>		
SWIFT BIC	<i>8/11-Character SWIFT BIC of Correspondent Bank</i>		
Intermediary Bank	<i>Name of Intermediary Bank (SWIFT 56a)</i>		
SWIFT BIC	<i>8/11-Character SWIFT BIC of Intermediary Bank</i>	ABA #	<i>ABA/Routing # or UK Sort Code of Intermediary Bank (optional)</i>
Account With Institution	<i>Name of Beneficiary's Bank – usually custodian (SWIFT 57a)</i>		
SWIFT BIC	<i>8/11-Character SWIFT BIC of Beneficiary's Bank</i>	IBAN	<i>IBAN of Beneficiary's Bank at Intermediary</i>
Beneficiary Customer	<i>Name of Ultimate Beneficiary (Lender) (SWIFT 59a)</i>		
Beneficiary Account #	<i>Account #/Code of Ult. Beneficiary</i>		
	Use Standard Wire Reference Format*:		
Payment Reference (Remittance Info)	[Borrower Name] [Facility Name/Abbr.] [Facility/Deal CUSIP/ISIN] [Payment Purpose(s)] [Transaction Reference ID]		
Special Instructions			

Lender's Payment Instructions:

Please input payment instructions for each respective currency referenced in **CURRENCIES AND JURISDICTIONS FOR MULTICURRENCY TRANSACTIONS INFORMATION** section above. If your respective institution is unable to fund any of the currencies noted, please notify Administrative Agent immediately.

Bank of America's Payment Instructions:

USD Payment Instructions:

Pay to: Bank of America, N.A.
 ABA # 026009593
 New York, NY
 Account #: 1366072250600
 Attention: Wire Clearing Acct for Syn Loans- LIQ
 Ref: ALBEMARLE CORPORATION

Mult-Currency Payment Instructions:



Appendix B: Lender’s Organizational Structure and Tax Status:

Please refer to the enclosed withholding tax instructions below and then complete this section accordingly.

Lender Taxpayer Identification Number (TIN):

Tax Withholding Form Delivered to Bank of America (circle applicable one):

W-9 W-8BEN W-8BEN-E W-8ECI W-8EXP W-8IMY

Tax Contact:

First: MI: Last:

Title:

Street Address:

Suite/ Mail Code:

City: State:

Postal Code: Country:

Telephone: Facsimile:

E-Mail Address:

SyndTrak E-Mail Address:

NON-U.S. LENDER INSTITUTIONS

ARTICLE I. Corporations:

If your institution is organized outside of the United States, is classified as a Corporation or other non-flow through entity for U.S. federal income tax purposes, and is the beneficial owner of the interest and other income it receives, you must complete one of the following three tax forms, as applicable to your institution: a.) Form W-8BEN (Certificate of Foreign Status of Beneficial Owner for United States Tax Withholding and Reporting (and a U.S. Tax Compliance Certificate if applicable)) or Form W-8BEN-E, b.) Form W-8ECI (Certificate of Foreign Person’s Claim that Income is Effectively Connected with the Conduct of a Trade or Business in the United States), or c.) Form W-8EXP (Certificate of Foreign Government or Other Foreign Organization for United States Tax Withholding and Reporting).

A U.S. taxpayer identification number is required for any institution submitting a Form W-8 ECI. It is also required on Form W-8BEN or Form W-8BEN-E for certain institutions claiming the benefits of a tax treaty with the U.S. Please refer to the instructions when completing the form applicable to your institution.

ARTICLE II. Flow-Through Entities

If your institution is organized outside the U.S., and is classified for U.S. federal income tax purposes as either a Partnership, Trust, Qualified or Non-Qualified Intermediary, or other non-U.S. flow-through entity, an original Form W-8IMY (Certificate of Foreign Intermediary, Foreign Flow-Through Entity, or Certain U.S. branches for United States Tax Withholding and Reporting) must be completed by the intermediary together with a withholding statement. Flow-through entities other than Qualified Intermediaries are required to include tax forms for each of the underlying beneficial owners.

Please refer to the instructions when completing this form

U.S. LENDER INSTITUTIONS:

If your institution is incorporated or organized within the United States, you must complete and return Form W-9 (Request for Taxpayer Identification Number and Certification).

Pursuant to the language contained in the tax section of the Credit Agreement, the applicable tax form for your institution must be completed and returned on or prior to the date on which your institution becomes a lender under this Credit Agreement. Failure to provide the proper tax form when requested will subject your institution to U.S. tax withholding.

*Additional guidance and instructions as to where to submit this documentation can be found at this link:



Exhibit G

**FORM OF DESIGNATED BORROWER
REQUEST AND ASSUMPTION AGREEMENT**

Date: _____, 20____
To: Bank of America, N.A., as Administrative Agent

Ladies and Gentlemen:

This Designated Borrower Request and Assumption Agreement is made and delivered pursuant to Section 2.14(a) of that certain Amended and Restated Credit Agreement dated as of October 28, 2022 (as amended, restated, extended, supplemented or otherwise modified in writing from time to time, the "Credit Agreement") among Albemarle Corporation, a Virginia corporation (the "Company"), Albemarle Europe SRL, a private limited liability company organized under the laws of Belgium ("*société à responsabilité limitée*") (the "Belgian Borrower") and together with the Company and any other Subsidiary of the Company party to the Credit Agreement pursuant to Section 2.14 thereof, collectively, the "Borrowers"), the Lenders from time to time party thereto, and Bank of America, N.A., as Administrative Agent and Swing Line Lender. Capitalized terms used but not otherwise defined herein have the meanings provided in the Credit Agreement.

Each of _____ (the "Designated Borrower") and the Company hereby confirms, represents and warrants to the Administrative Agent and the Lenders that the Designated Borrower is a wholly-owned Subsidiary of the Company and is not an Immaterial Subsidiary.

The documents required to be delivered to the Administrative Agent under Section 2.14 of the Credit Agreement will be furnished to the Administrative Agent in accordance with the requirements of the Credit Agreement.

The parties hereto hereby request that the Designated Borrower be entitled to receive Loans and to have Letters of Credit issued for its account under the Credit Agreement, and understand, acknowledge and agree that neither the Designated Borrower nor the Company on its behalf shall have any right to request any Loans or Letters of Credit for its account unless and until the date three (3) Business Days after the effective date designated by the Administrative Agent in a Designated Borrower Joinder Agreement delivered to the Company and the Lenders pursuant to Section 2.14 of the Credit Agreement.

This Designated Borrower Request and Assumption Agreement shall constitute a Loan Document under the Credit Agreement.

THIS DESIGNATED BORROWER REQUEST AND ASSUMPTION AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK APPLICABLE TO AGREEMENTS MADE AND TO BE PERFORMED ENTIRELY WITHIN SUCH STATE; PROVIDED THAT THE ADMINISTRATIVE AGENT AND EACH LENDER SHALL RETAIN ALL RIGHTS ARISING UNDER FEDERAL LAW.

This Designated Borrower Request and Assumption Agreement may be executed in any number of counterparts, which together shall constitute one instrument. Delivery of an executed counterpart of a signature page of this Agreement by fax transmission or other electronic mail transmission (e.g. "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Designated Borrower Request and Assumption Agreement to be duly executed and delivered by their proper and duly authorized officers as of the day and year first above written.

[DESIGNATED BORROWER]

By: _____
Name:
Title:

ALBEMARLE CORPORATION,
a Virginia corporation

By: _____
Name:
Title:

Exhibit H

FORM OF DESIGNATED BORROWER JOINDER AGREEMENT

Date: _____, 20__

To: Albemarle Corporation, a Virginia corporation

The Lenders party to the Credit Agreement referred to below

Ladies and Gentlemen:

This Designated Borrower Joinder Agreement is executed and delivered pursuant to Section 2.14(a) of that certain Amended and Restated Credit Agreement dated as of October 28, 2022 (as amended, restated, extended, supplemented or otherwise modified in writing from time to time, the "Credit Agreement") among Albemarle Corporation, a Virginia corporation (the "Company"), Albemarle Europe SRL, a private limited liability company organized under the laws of Belgium ("*société à responsabilité limitée*"), the Lenders from time to time party thereto, and Bank of America, N.A., as Administrative Agent and Swing Line Lender. Capitalized terms used but not otherwise defined herein have the meanings provided in the Credit Agreement.

The Administrative Agent hereby notifies the Company and the Lenders that effective as of [the date hereof][_____, ____] [_____] shall be a Designated Borrower and may receive Loans and request Letters of Credit for its account on the terms and conditions set forth in the Credit Agreement and shall otherwise be a Borrower for all purposes of the Credit Agreement.

The parties hereto hereby confirm that with effect from [the date hereof][_____, ____], the Designated Borrower shall have obligations, duties and liabilities toward each of the other parties to the Credit Agreement identical to those which the Designated Borrower would have had if the Designated Borrower had been an original party to the Credit Agreement as a Borrower. The Designated Borrower confirms its acceptance of, and consents to, all representations and warranties, covenants, and other terms and provisions of the Credit Agreement, including, without limitation, Section 11.05 of the Credit Agreement.

The additional terms and conditions applicable to extensions of credit to the Designated Borrower shall be:

[Insert applicable terms and conditions or modifications to the Credit Agreement.]

This Designated Borrower Joinder Agreement shall constitute a Loan Document under the Credit Agreement.

This Designated Borrower Joinder Agreement may be executed in any number of counterparts, which together shall constitute one instrument. Delivery of an executed counterpart of a signature page of this Agreement by fax transmission or other electronic mail transmission (e.g. "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this Agreement.

[signature page follows]

IN WITNESS WHEREOF, the parties hereto have caused this Designated Borrower Joinder Agreement to be duly executed and delivered as of the day and year first above written.

BANK OF AMERICA, N.A.,
as Administrative Agent

By: _____
Name:
Title:

[DESIGNATED BORROWER]

By: _____
Name:
Title:

ALBEMARLE CORPORATION,
a Virginia corporation

By: _____
Name:
Title:

Exhibit I

FORM OF LETTER OF CREDIT REPORT

TO: Bank of America, N.A., as Administrative Agent

RE: Amended and Restated Credit Agreement dated as of October 28, 2022 (as amended, restated, extended, supplemented or otherwise modified in writing from time to time, the "Credit Agreement") among Albemarle Corporation, a Virginia corporation (the "Company"), Albemarle Europe SRL, a private limited liability company organized under the laws of Belgium ("*société à responsabilité limitée*") (the "Belgian Borrower") and together with the Company and any other Subsidiary of the Company party to the Credit Agreement pursuant to Section 2.14 thereof, collectively, the "Borrowers"), the Lenders from time to time party thereto, and Bank of America, N.A., as Administrative Agent and Swing Line Lender. Capitalized terms used but not otherwise defined herein have the meanings provided in the Credit Agreement

DATE: **[Date]**

The undersigned, **[insert name of L/C Issuer]** (the "L/C Issuer") hereby delivers this report to the Administrative Agent, pursuant to the terms of Section 2.03(k) of the Credit Agreement.

The L/C Issuer plans to issue, amend, renew, increase or extend the follow Letter(s) of Credit on **[insert date]**.

L/C No.	Maximum Face Amount	Current Face Amount	Currency	Financials or Performance SBLC	Beneficiary Name	Issuance Date	Expiry Date	Auto Renewal	Date of Amendment	Amount of Amendment

[The L/C Issuer made a payment, with respect to L/C No. [____], on [insert date] in the amount of [\$]_____.]

[The Borrowers failed to reimburse the L/C Issuer for a payment made in the amount of [\$][insert amount of such payment] pursuant to L/C No. [_____] on [insert date of such failure], with respect to L/C No. [_____.]

Set forth in the table below is a description of each Letter of Credit issued by the undersigned and outstanding on the date hereof.

L/C No.	Maximum Face Amount	Current Face Amount	Currency	Financials or Performance SBLC	Beneficiary Name	Issuance Date	Expiry Date	Auto Renewal	Date of Amendment	Amount of Amendment

Delivery of an executed counterpart of a signature page of this notice by fax transmission or other electronic mail transmission (e.g. “pdf” or “tif”) shall be effective as delivery of a manually executed counterpart of this notice.

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[L/C ISSUER],
as **[an]** L/C Issuer

By: _____
Name: _____
Title: _____

RESTRICTED STOCK UNIT AWARD AGREEMENT

under the

ALBEMARLE CORPORATION 2017 INCENTIVE PLAN

As of the _____ day of _____, 20____, Albemarle Corporation, a Virginia corporation (the "Company"), and «Name» ("Participant"), hereby agree to the terms of this "**Award Agreement**" which reflects the terms and provisions of the Award (as defined below) made pursuant to and subject to the provisions of the Company's 2017 Incentive Plan (the "Plan"). All terms that are used herein that are defined in the Plan shall have the same meanings given them in the Plan.

Contingent Restricted Stock Unit

1. **Grant Date.** Pursuant to the Plan, the Company, on the _____ day of _____, 20____ (the "Grant Date"), granted Participant an incentive award ("Award") in the form of «# of Units» **Restricted Stock Units**, subject to the terms and conditions of the Plan and subject to the terms and conditions set forth herein.
2. **Value.** The value of each Restricted Stock Unit on any date shall be equal to the value of one share of the Company's Common Stock on such date; and the value of the Company's Common Stock is the Fair Market Value of the Stock (as defined in the Plan) on the relevant date.

Vesting of Restricted Stock Units

3. **Restrictions.** Except as otherwise provided herein, the Restricted Stock Units shall remain nonvested, nontransferable and subject to a substantial risk of forfeiture as provided in paragraph 7.
 4. **Vesting.** Subject to Participant's continued employment with the Company (except as otherwise provided herein), Participant's interest in the Restricted Stock Units shall become vested and non-forfeitable on the third anniversary of the Grant Date.
 5. **Vesting Upon a Qualifying Termination Event or an Early Termination Event.** Notwithstanding anything in this Notice of Award to the contrary, if, prior to the forfeiture of the Restricted Stock Units under paragraph 7, Participant experiences a Qualifying Termination Event or an Early Termination Event (as such terms are defined in paragraph 8), Restricted Stock Units that are forfeitable shall become vested in accordance with this paragraph 5.
 - (a) In the event of a Qualifying Termination Event, the Restricted Stock Units shall become vested as to a pro-rata portion of the Award, as determined in accordance with the following sentence. The pro-rata portion of the Award that shall vest pursuant to the preceding sentence shall be equal to 1/36th of the Restricted Stock Units subject to the Award, for each full month of service performed by Participant after the Grant Date and prior to the Qualifying Termination Event, up to 36 months. The non-vested portion of the Award shall be forfeited.
 - (b) In the event of an Early Termination Event, the Restricted Stock Units shall become fully vested.
 6. **Effects of a Change in Control.** In the event of a Change in Control (as defined in the Plan) prior to the forfeiture of the Restricted Stock Units under paragraph 7, the provisions of
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this paragraph 6 shall apply in addition to the provisions of Article 17 (and related provisions) of the Plan.

- (a) If, upon a Change in Control, a Participant receives a new award which qualifies as a Replacement Award (as defined below), the Replacement Award shall replace this Award and continue subject to the Replacement Award's terms.
 - (i) A "Replacement Award" is an award that substitutes for this Award and meets the following requirements: (i) it has a value at least equal to the value of this Award as determined under applicable law and by the Committee in its sole discretion; (ii) it relates to publicly traded equity securities of the Company or its successor in the Change in Control or another entity that is affiliated with the Company or its successor following the Change in Control; and (iii) its other terms and conditions are not less favorable to Participant than the terms and conditions of this Award (including the provisions that would apply in the event of a subsequent Change in Control). Without limiting the generality of the foregoing, the Replacement Award may take the form of a continuation of this Award if the requirements of the preceding sentence are satisfied. The determination of whether the conditions of a Replacement Award are satisfied shall be made by the Committee, as constituted immediately before the Change in Control, in its sole discretion. With respect to this Award, any Replacement Award made to Participant must provide that if Participant is either (1) terminated by the Company other than for Cause or (2) voluntarily resigns for Good Reason (as defined in paragraph 8) concurrent with or within two (2) years after the date of the Change in Control, the unvested Replacement Award shall become immediately vested and payable at the time of the termination or resignation. For purposes of paragraphs 6 and 8, references to the Company or an Affiliate shall also include any successor entity.
 - (b) If, following a Change in Control, the Company's shares continue to be traded on the New York Stock Exchange or another established securities market, this Award shall continue in effect and be treated as a Replacement Award, *provided, however*, that if Participant is either (1) terminated by the Company other than for Cause or (2) voluntarily resigns for Good Reason, in either case, concurrent with or within two (2) years after the date of the Change in Control, the unvested Award shall become immediately vested and payable at the time of the termination or resignation.
 - (c) If, upon a Change in Control that results in the Company's shares no longer being traded on the New York Stock Exchange or another established securities market and no Replacement Award is granted to Participant, the unvested portion of this Award shall become vested immediately prior to the consummation of the Change in Control.
 - (d) Notwithstanding the foregoing, upon a Change in Control, the Committee may determine that this Award shall be canceled and terminated for consideration in accordance with Article 17 of the Plan.
- 7. **Forfeiture of Unvested Restricted Stock Units.** Except as provided in paragraph 6 with respect to terminations of employment occurring within two (2) years after the date of a Change in Control, all Restricted Stock Units that are forfeitable shall be forfeited if Participant's employment with the Company or an Affiliate terminates for any reason except a Qualifying Termination Event or an Early Termination Event.

8. **Definitions.**

- (a) For purposes of this Award, "Qualifying Termination Event" shall mean a Participant's death or Disability.
 - (i) "Disability" shall mean a Participant's permanent and total disability within the meaning of Section 22(e)(3) of the Code.
- (b) An "Early Termination Event" for purposes of this Award shall mean a termination of Participant's employment by the Company or an Affiliate other than for Cause.
- (c) "Good Reason" for purposes of paragraph 6 shall mean:
 - (i) a change in Participant's position which in Participant's reasonable judgment does not represent a promotion of Participant's status or position immediately prior to the Change in Control or the assignment to Participant of any duties or responsibilities, or diminution of duties or responsibilities, which in Participant's reasonable judgment are inconsistent with Participant's position in effect immediately prior to the Change in Control;
 - (ii) a reduction by the Company in the annual rate of Participant's base salary as in effect immediately prior to the date of a Change in Control;
 - (iii) the Company's requiring Participant's office nearest to Participant's principal residence to be located at a different place which is more than thirty-five (35) miles from where such office is located immediately prior to a Change in Control;
 - (iv) the failure by the Company to continue in effect compensation or benefit plans in which Participant participates, which in the aggregate provide Participant compensation and benefits substantially equivalent to those prior to a Change in Control; or
 - (v) the failure of the Company to obtain a satisfactory agreement from any applicable successor entity to assume and agree to perform under any Severance Compensation Agreement.

In order for one of the foregoing events to constitute Good Reason, (i) Participant must notify the Company in writing no later than 90 days after the relevant event stating which Good Reason event has occurred, and (ii) the Company shall not have corrected the Good Reason event within thirty (30) days after Participant's notice.

- (d) If the events described in paragraph 6 or a Qualifying Termination Event or an Early Termination Event occur after the date that Participant is advised that their employment is being, or will be, terminated for Cause, on account of performance or in circumstances that prevent them from being in good standing with the Company, accelerated vesting shall not occur and all rights under this Award shall terminate, and this Award shall expire on the date of Participant's termination of employment. The Committee shall have the authority to determine whether Participant's termination from employment is for Cause or for any reason other than Cause.

Payment of Awards

9. **Time of Payment.** Payment of Participant's Restricted Stock Units shall be made as soon as practicable after the Units have vested, but in no event later than March 15th of the calendar year after the year in which the Units vest.
10. **Form of Payment.** The vested Restricted Stock Units shall be paid in whole shares of the Company's Common Stock.
11. **Death of Participant.** If Participant dies prior to the payment of their non-forfeitable Restricted Stock Units, such Units shall be paid to their Beneficiary. Participant shall have the right to designate a Beneficiary in accordance with procedures established under the Plan for such purpose. If Participant fails to designate a Beneficiary, or if at the time of Participant's death there is no surviving Beneficiary, any amounts payable will be paid to Participant's estate.
12. **Taxes.** The Company will withhold from the Award the number of shares of Common Stock necessary to satisfy Federal tax-withholding requirements and state and local tax-withholding requirements with respect to the state and locality designated by Participant as their place of residence in the Company's system of record at the time the Award becomes taxable, except to the extent otherwise determined to be required by the Company, subject, however, to any special rules or provisions that may apply to Participants who are non-US employees (working inside or outside of the United States) or US employees working outside of the United States. It is Participant's responsibility to properly report all income and remit all Federal, state, and local taxes that may be due to the relevant taxing authorities as the result of receiving this Award.

General Provisions

13. **Accounts.** Restricted Stock Units granted to Participant shall be credited to an account (the "Account") established and maintained for Participant. A Participant's Account shall be the record of Restricted Stock Units granted to Participant under the Plan, is solely for accounting purposes and shall not require a segregation of any Company assets.
14. **No Right to Continued Employment.** Neither this Award nor the granting or vesting of Restricted Stock Units shall confer upon Participant any right with respect to continuance of employment by the Company or an Affiliate, nor shall it interfere in any way with the right of the Company or an Affiliate to terminate Participant's employment at any time.
15. **Change in Capital Structure.** In accordance with the terms of the Plan, the terms of this Award shall be adjusted as the Committee determines is equitable in the event the Company effects one or more stock dividends, stock split-ups, subdivisions or consolidations of shares or other similar changes in capitalization.
16. **Governing Law.** This Award shall be governed by the laws of the Commonwealth of Virginia and applicable Federal law. All disputes arising under this Award shall be adjudicated solely within the state or Federal courts located within the Commonwealth of Virginia.
17. **Participant Bound by Non-Compete Agreement.** Participant acknowledges that they have signed the separate **EMPLOYEE NON-SOLICITATION, NON-COMPETE AND CONFIDENTIALITY AGREEMENT** (the "Non-Compete Agreement") entered between them and the Company concurrently with entering into this Award Agreement. Participant further acknowledges and agrees that in the event of a breach of any of the terms of the Non-Compete Agreement on their part, before or after the vesting and/or payment of this Award, in addition to any and all consequences otherwise set forth in the Non-Compete Agreement,

Participant shall immediately forfeit any and all rights under this Award, and to the extent any portion of the Award shall have already been paid to Participant, the Company shall have the right to recoup such Award in full.

18. **Conflicts.**

- (a) In the event of any conflict between the provisions of the Plan as in effect on the Grant Date and the provisions of this Award, the provisions of the Plan shall govern. All references herein to the Plan shall mean the Plan as in effect on the Grant Date.
- (b) In the event of any conflict between the provisions of this Award and the provisions of any separate Agreement between the Company and Participant, including, but not limited to, any Severance Compensation Agreement entered between Participant and the Company, the provisions of this Award shall govern.

19. **Binding Effect.** Subject to the limitations stated above and in the Plan, this Award shall be binding upon and inure to the benefit of the legatees, distributees, and personal representatives of Participant and the successors of the Company.

20. **Recoupment.** In addition to any other applicable provision of the Plan, this Award is subject to the terms of the separate Albemarle Corporation Recoupment Policy, as such Policy may be amended from time to time.

IN WITNESS WHEREOF, the Company and Participant have each caused this Award to be signed on their behalf, effective as of the date noted in the first paragraph of this Award Agreement.

ALBEMARLE CORPORATION

By: _____

PARTICIPANT:

«Name» _____

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, J. Kent Masters, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Albemarle Corporation for the period ended September 30, 2022;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 2, 2022

/s/ J. KENT MASTERS

J. Kent Masters

Chairman, President and Chief Executive Officer

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Scott A. Tozier, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Albemarle Corporation for the period ended September 30, 2022;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 2, 2022

/s/ SCOTT A. TOZIER

Scott A. Tozier

Executive Vice President and Chief Financial Officer

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Albemarle Corporation (the “Company”) for the period ended September 30, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, J. Kent Masters, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ J. KENT MASTERS

J. Kent Masters
Chairman, President and Chief Executive Officer
November 2, 2022

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Albemarle Corporation (the "Company") for the period ended September 30, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Scott A. Tozier, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ SCOTT A. TOZIER

Scott A. Tozier
Executive Vice President and Chief Financial Officer
November 2, 2022