



Domtar Inc.
395, boul. de Maisonneuve Ouest
Montréal QC H3A 1L6 Canada
T 514-848-5555
www.domtar.com

Domtar Inc.
395 de Maisonneuve Blvd. West
Montreal, QC H3A 1L6 Canada
T 514-848-5555
www.domtar.com

March 12, 2018

Mr. Don Labossiere
Director Environmental Operations
Manitoba Sustainable Development
Red River Region
1007 Century Street
Winnipeg, Manitoba R3H 0W4

Subject: **Director's Order D01-019**
2017 Annual Environmental Activities
Domtar Transcona Former Creosote Site
Winnipeg, Manitoba

Dear Mr. Labossiere:

In compliance with the above-mentioned Control Order, please find enclosed two (2) paper copies as well as (1) one electronic copy of the 2017 Annual Environmental Activities Report prepared by KGS Group Consulting Engineers.

If you require further information, please feel free to contact the undersigned.

Sincerely,

Stéphane Digonnet
Senior Manager – Soil Rehabilitation
Tel.: (514) 848-5555, ext.86209
Fax: (514) 848-0104
Email: stephane.digonnet@domtar.com

CC: Warren Rospad
Mike Smith, KGS Group Inc.

Encls.

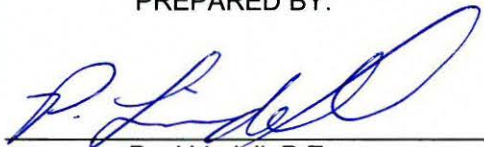
DOMTAR INC.

**2017 ANNUAL SITE SUMMARY REPORT
DOMTAR TRANSCONA FORMER CREOSOTE SITE
WINNIPEG, MANITOBA**

FINAL

KGS Group 17-0953-001
March 2018

PREPARED BY:



Paul Lindell, P.Eng.
Environmental Engineer

REVIEWED BY:



Michael P. Smith, M.Sc. P.Geo.
Senior Hydrogeologist

APPROVED BY:



J. Bert Smith, P.Eng., FEC
Principal



March 15, 2018

File No. 17-0953-001

3rd Floor
865 Waverley Street
Winnipeg,
Manitoba
R3T 5P4
204.896.1209
fax: 204.896.0754
www.ksgroup.com

Domtar Inc.
12th Floor - 395, boul. De. Maisonneuve Ouest
Montréal, Québec
H3A 1L6

ATTENTION: Mr. Stéphane Digonnet
Senior Manager – Soil Rehabilitation

RE: 2017 Annual Site Summary Report
Domtar Transcona Former Creosote Site
Winnipeg, Manitoba – Final Report

Dear Mr. Digonnet:

In accordance with Director's Order D1-109 Domtar Transcona Site Post Remediation Performance Monitoring Plan and updated 2014 Long Term Remediation Plan, please find attached two (2) paper copies plus one (1) electronic copy of the 2017 Annual Site Summary Report for the Domtar Transcona Site, located in Winnipeg, Manitoba. We have forwarded two (2) paper copies plus one (1) electronic copy of this report to Manitoba Sustainable Development on your behalf.

KGS Group sincerely appreciates the opportunity to have been of service. If you have any questions, please contact Mr. Michael Smith, P.Geo., or the undersigned.

Yours truly,

A handwritten signature in blue ink, appearing to read 'J. Bert Smith'.

J. Bert Smith, P.Eng.
Principal

PJL/jr
Enclosure

EXECUTIVE SUMMARY

Kontzamanis Graumann Smith MacMillan Inc. (KGS Group), was retained by Domtar Inc. to prepare the 2017 Annual Site Summary Report for the Domtar Transcona Site, located in Winnipeg, Manitoba. In 2014, Manitoba Conservation approved a revised long term remediation plan for the site. This revised plan was followed for 2017.

KGS Group Annual Well Inspection and Well Security Program – KGS Group conducted an Annual Monitoring Well Inspection in November 2017. The KGS Group inspection confirmed that all bedrock and overburden well casings were in good condition and that well casing lids were either secured with a lock (wells included in the long term groundwater sampling program) or both a tack weld and a lock (wells no longer included in the long term program). No evidence of broken locks or other vandalism was observed.

Fort Whyte Soil, Vegetation, and Drainage Site Inspections – Fort Whyte conducted two inspections in 2017. The first was conducted in May, and the second was conducted in October. No concerns were noted in the cell cover, engineered cap, or site drainage systems at the site. As of the last inspection in October 2017, no recommendations for work were outstanding.

KGS Group Containment Cell Inspections – KGS Group conducted two inspections of the containment cell in 2017. The first was conducted in June, and the second was conducted in November. Water levels in the Leakage Detection System (LDS), Leachate Collection System (LCS) and four surrounding cell overburden wells were recorded during each inspection. No concerns were noted during the KGS Group containment cell site inspections in 2017.

The water level within the LCS remained relatively steady through 2017. Only a gradual increase of 0.06 m/year has been observed in the LCS since the last dewatering event in 2013. In contrast, the water level within the LDS showed a distinct increase between September 2013 and November 2017 of 2.3 m vertically (average of 0.57 m/y). The water level in the LDS is now above the level observed in the LCS. As of November 2017, the water levels within the LCS and LDS were generally below the surrounding overburden water levels measured in 2017 and prior to the previous dewatering event in 2013, with the exception of overburden well 2003-B2.

Future monitoring will confirm whether the water level in the LDS stabilizes, or continues to increase towards the level observed prior to the last dewatering event in 2013. Overall, water levels in the surrounding overburden and LDS were greater than the LCS, creating a hydraulic inward barrier to any outward flow from the LCS.

Cell Dewatering Program – No Cell Dewatering Program was conducted in 2017. The last dewatering program was conducted in late 2013. Future dewatering would be recommended if the water level within the LCS reaches a similar level to what was observed in 2013, prior to the last dewatering event.

KGS Group Site Groundwater Sampling Program – A revised groundwater and surface water sampling program has been approved for the site. No groundwater sampling program was required in 2017. The last program was conducted in 2013, which was summarized in the 2013 Environmental Activities Report prepared by KGS Group and issued February 2014. The next groundwater sampling program is scheduled for 2018, to be conducted in late summer, consistent with the most recent sampling events.

2018 Work Program - Based on the reduced long term remediation plan approved by Manitoba Conservation in 2014, the following work is required for the site for 2018.

- **Annual Well Inspection** – An annual visual inspection of all onsite and offsite bedrock and overburden monitoring wells, with any noted repairs completed on an as needed basis.
- **Containment Cell Water Level Inspections** – Inspections are to be conducted in late spring and early fall. Water levels within the LCS and LDS and the four surrounding overburden wells are to be recorded. A dewatering program should be scheduled if water elevations in the cell increase above the level of the surrounding overburden water table, similar to 2013 prior to the most recent 2013 dewatering program.
- **Soil, Vegetation and Drainage Inspections** – Inspections to be conducted in late spring and early fall, with any noted repairs completed on an as needed basis.
- **Site Groundwater Sampling Program** – A full round of groundwater monitoring and sampling is scheduled once every 5 years with the next event scheduled this year in 2018. Included in the 2018 groundwater sampling program are 4 wells and the LCS and LDS at the containment cell area, 9 wells at the bioreserve, and 2 offsite wells.
- **Reporting** – An Annual Summary Report is to be submitted to Manitoba Conservation after the completion of all required 2018 site activity requirements. The report is to include a summary of containment cell operation inspections, soil, vegetation and drainage inspections and site monitoring well inspections and sampling. Any repairs conducted in 2018 are to be documented.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
1.0 INTRODUCTION.....	1
1.1 TERMS OF REFERENCE	1
1.2 BACKGROUND INFORMATION	1
1.3 2017 SCOPE OF WORK	4
2.0 2017 FIELD ACTIVITY SUMMARY	5
2.1 ANNUAL KGS GROUP WELL SECURITY INSPECTION.....	5
2.2 KGS GROUP CONTAINMENT CELL SITE INSPECTIONS.....	5
2.3 FORT WHYTE SOIL, VEGETATION AND DRAINAGE SITE INSPECTIONS.....	6
2.3.1 Secure Containment Cell Cover and Engineered Cap Cover Inspections.....	6
2.3.2 Site Drainage System Inspections.....	7
2.4 GROUNDWATER SAMPLING.....	7
2.5 CELL DEWATERING.....	8
3.0 SUMMARY AND CONCLUSIONS.....	9
4.0 STATEMENT OF LIMITATIONS AND CONDITIONS.....	11
4.1 THIRD PARTY USE.....	11
4.2 GEO-ENVIRONMENTAL STATEMENT OF LIMITATIONS.....	11
TABLES	
FIGURES	
APPENDICES	

LIST OF TABLES

1. Long Term Water Monitoring Program Schedule

LIST OF FIGURES

1. Location Plan
2. Detailed Site Plan
3. Water Levels – LCS and LDS (South Side)

LIST OF APPENDICES

- A. Annual Site Inspection Photos
- B. KGS Group Inspection Reports
- C. Fort Whyte Inspection Reports

1.0 INTRODUCTION

1.1 TERMS OF REFERENCE

Kontzamanis Graumann Smith MacMillan Inc. (KGS Group) was retained by Domtar Inc. to prepare the 2017 Annual Site Summary Report for the Domtar Transcona Site, located in Winnipeg, Manitoba. This report is in accordance with the Domtar Transcona Site Post Remediation Performance Monitoring Plan (PRPMP) (UMA Engineering Ltd. May, 1998. Report No. 6138-011-06) and updated 2014 Remediation Plan (KGS Group 2014 Annual Report 14-0953-001 and Manitoba Conservation and Water Stewardship letter dated September 30, 2014). The area of study (Figures 1 and 2) is a location that previously contained a wood preservative treatment facility, operated by Domtar Inc. The site is now a public park (Transcona Community Bioreserve) and is managed by Fort Whyte Alive (Formerly the Fort Whyte Centre).

In April 2014, a meeting was held between Manitoba Conservation, Domtar Inc. and KGS Group to provide Manitoba Conservation with an updated summary of the site so as to commence transition to a long term site management plan, with reduced field and reporting requirements. Following this meeting, KGS Group prepared a Site Status Summary Report for submission to Manitoba Conservation. The report provided an outline of site work done to date, and proposed a revised management/monitoring plan for future work. Based on this report, Manitoba Conservation approved an updated, long term remediation plan in September 2014. A summary of the approved plan is included in Section 1.2.

1.2 BACKGROUND INFORMATION

The Domtar Transcona site is located in Winnipeg, Manitoba and is bordered on the north by Gunn Road and on the south by the CNR Victoria Beach Right-of-Way (Figure 1). The current site is a rectangular parcel of land approximately 47 ha in size (Figure 2).

Domtar Inc. operated a wood preservative plant at the west centre of the site between 1911 and 1976. For the first 40 years, creosote and petroleum based creosote solutions were used as preservative on site. Starting in the 1950s, both creosote and pentachlorophenol were used. Process water from the plant was treated in settling tanks. Prior to 1969, the wastewater from

the tanks was discharged to a ditch along the western boundary of the site, which drained north to a ditch routed west along Gunn Road. After 1969, the wastewater was directed to ponds on site. In the 1930s, two bedrock drainage wells (50 and 78 m deep) were installed to drain storm water from the site, as the clay overburden prevented rapid infiltration. It is possible that the drainage wells also received treated process wastewater. The drainage wells were decommissioned in 1986. In 1995, a thermal desorption system, owned by TriWaste Reduction Services Inc. was installed for site remediation. The system was discontinued, as it could not treat the clay soils to the necessary treatment levels. In 1996 a proposed remedial plan was submitted to Manitoba Environment for remediation of the site. On April 27, 1998, Manitoba Environment issued Director's Order D1-019 to Domtar to initiate site remedial activities. Site remedial activities included:

- excavation of impacted soil with PCP concentrations greater than 100 ppm from the site and placement of this soil in a secure containment cell, constructed at the northeast corner of the site.
- construction of an engineered cap to be placed over the remaining impacted soils with concentrations of PCP below 100 ppm.
- re-vegetation of all excavated areas.
- installation of groundwater monitoring wells to monitor bedrock and overburden PCP and PAH impacts.

The monitoring well sampling program was based upon the program outlined in the May 1998 Domtar Transcona Site PRPMP, which was prepared by UMA Engineering Ltd. (Job No. 41 01 6138 011 06). Currently, the site is governed by the Director's Amending Order D1-019-05, issued on March 10, 2004. Between 2004 and 2008, three amendment requests were approved by Manitoba Conservation. The first amendment was to remove the requirement to collect groundwater samples from overburden wells that had visible DNAPL creosote present, as the presence of the creosote created extremely high groundwater PAH concentrations, which were not representative of the groundwater in the area. This request was approved by Manitoba Conservation on March 11, 2004. The second amendment request was to reduce the sampling frequency of non or low impacted on-site bedrock monitoring wells from twice to once per year. This request was approved by Manitoba Conservation on September 27, 2004. The Director's Amending Order D1-019-05 and first two amendment requests are included in the 2004 KGS Group Annual Environmental Activities Report (04-953-01), issued March 22, 2005. The third

amendment request in 2007 was to: reduce the sampling frequency of non-impacted, on-site bedrock monitoring wells from once per year to once every four years; reduce the sampling frequency of low impacted on-site bedrock monitoring wells from once per year to once every two years; reduce the sampling frequency of highly impacted on-site bedrock monitoring wells from twice per year to once per year; reduce the sampling frequency of onsite nested overburden monitoring wells from twice per year to once per year. This request was approved by Manitoba Conservation on July 9, 2007. The 2007 amendment is included in the 2007 KGS Group Annual Environmental Activities Report (07-953-01), issued March 12, 2008.

A long term management plan was approved by Manitoba Conservation on September 30, 2014. The approved plan included the following items:

- Securing of all overburden and bedrock monitoring wells excluded from the regular monitoring program by tack welding the casing and lid together to minimize the chance of vandalism;
- Incorporation of an annual visual inspection of each secured well casing;
- Discontinuation of sampling for Nested Monitoring wells 99-1S/1D, 99-2S/2D and 99-3S/3D;
- Reduction in sampling frequency for containment cells wells 99-Cell-1, 2003-Cell-2, 99-Cell-3, and 99-Cell-4 to once every five years;
- Reduction in sampling frequency for off-site wells to once every five years (99-B1 and 99-B2);
- Reduction in sampling frequency for down gradient perimeter wells to once every five years (MW-3, MW-4, MW-6, MW-10, MW-11, MW-12, MW-13, 2000-B1 and 2000-B2);
- Discontinuation of sampling for remaining wells (MW-1, MW-2, MW-7, MW-8 (damaged), MW-9, MW-14, 2000-B3 (damaged), 2000-B4 and 2002-B5);
- Reduction in annual inspection program by Fort Whyte. Site inspections of this nature are to be conducted twice a year (spring and fall), with any noted repairs completed on an as needed basis;
- Reduction in site inspections and measurements of water levels within the cells from monthly to twice per year (spring and fall). During each inspection, the water levels within the four overburden wells surrounding the cell would be recorded; and
- Scheduled dewatering as required to ensure that water elevations within the cell do not rise above the surrounding groundwater elevation. Dewatering on this schedule would maintain an inward hydraulic pressure on the cell, providing further protection to outward migration of impacts into the surrounding environment.

1.3 2017 SCOPE OF WORK

The 2017 Scope of Work for the Transcona site included the following items:

- KGS Group Annual Well Inspection;
- Fort Whyte Soil, Vegetation, and Drainage Site Inspections; and
- KGS Group Containment Cell Leachate Collection System and Leakage Detection System Inspections.
- Preparation of the annual Site Summary Report.

Note that Groundwater Sampling and Cell Dewatering programs were not required in 2017.

2.0 2017 FIELD ACTIVITY SUMMARY

2.1 ANNUAL KGS GROUP WELL SECURITY INSPECTION

KGS Group conducted an Annual Monitoring Well Inspection on November 15, 2017. Inspection photos are provided in Appendix A (Photos 1 to 31).

The KGS Group inspection confirmed that all bedrock and overburden well casings were in good condition and that each casing lid was secured with a lock. All casing lid tack welds were competent on wells not included in the long term groundwater monitoring program (9 bedrock and 6 overburden wells).

2.2 KGS GROUP CONTAINMENT CELL SITE INSPECTIONS

KGS Group personnel monitored the water levels in the Leachate Collection System (LCS) and Leakage Detection System (LDS) of the secure containment cell on June 23 and November 15, 2017.

The KGS Group LCS and LDS inspection reports for 2017 are included in Appendix B. For each inspection, the measured distance down the sloped LCS and LDS riser pipes to water was recorded during each visit. Water levels were recorded as the depth to water, from the outer collar, down each LCS/LDS inclined slope pipe on both the north and south sides of the containment cell. The inclined pipes are designed at approximately a 1V:4H decline. The water levels as of November 15, 2017 in the LCS and LDS systems as (measured from the south side pipes) and within the surrounding overburden are displayed on Figure 3.

Since dewatering in 2013, the water level within the LCS has shown a very gradual increase through 2017. The water level within the LCS has increased at approximately 0.06 m/year since dewatering, consistent with the 0.1 m/year rate of increase observed historically. In contrast, the water level in the underlying LDS has shown a greater change. The water level within the LDS showed a distinct increase between September 2013 and November 2017 of 2.3 m vertically (average of 0.57 m/yr). Rapid rises have occurred in the LDS after dewatering in the

past. Future monitoring will be required to confirm whether the current rate of increase continues, or whether the rate decreases, as historically observed.

The increase in LDS water level observed, which is above the LCS level, demonstrates an inward hydraulic pressure on the cell, protecting against outward migration of leachate. Future monitoring in 2018 will confirm whether the increase observed in the LCS continues at this rate, or whether the water level stabilizes.

As of November 2017, the water levels within the LCS and LDS were generally below the surrounding overburden well water levels measured since 2013 (prior to the previous dewatering event), with the exception the LDS exceeding the level measured at overburden monitoring well 2003-Cell-2. As the LCS water level is still well below surrounding overall groundwater elevations, and the previous level observed in 2013 prior to dewatering of the LCS and LDS, no dewatering is recommended at this time.

2.3 FORT WHYTE SOIL, VEGETATION AND DRAINAGE SITE INSPECTIONS

Inspections of the site vegetation and soil cover for the containment cell, engineered cap, and drainage system were conducted by Fort Whyte personnel in May and October 2017. Their inspection reports are provided in Appendix C.

2.3.1 Secure Containment Cell Cover and Engineered Cap Cover Inspections

For both the Containment Cell and Engineered Cap, the ground cover was examined by Fort Whyte personnel for:

- Dry vegetation;
- Dead vegetation;
- Growth of deep rooted vegetation;
- Growth of deep rooted vegetation in the first 10 m of the 30 m buffer zone (containment cell only);
- Cracked soil or gulleying due to erosion;

- Damage to survey benchmarks;
- Settlement of grass cover;
- Animal infestation; and
- Human damage.

No concerns were noted in 2017. As of the last inspection on October 1, 2017, no recommendations for additional work were outstanding.

2.3.2 Site Drainage System Inspections

Each inspection event by Fort Whyte personnel consisted of inspection of the drainage system for the following:

- Collection of debris in the site drainage system;
- Growth of excess vegetation and woody plant species in the drainage swales or site drains;
- Animal inhabitation within the site drainage system;
- Ponding on the secure containment cell;
- Poor or inadequate drainage around the secure containment cell; and
- Poor or inadequate drainage around the engineered cap.

No concerns were noted in 2017. As of the last inspection on October 1, 2017, no recommendations for additional work were outstanding.

2.4 GROUNDWATER SAMPLING

A revised groundwater sampling program has been approved by Manitoba Conservation. The program is outlined in Table 1. No groundwater sampling was required in 2017. The next groundwater sampling event is scheduled for 2018.

2.5 CELL DEWATERING

No Cell Dewatering Program was conducted in 2017. The last dewatering program was conducted in late 2013. Future dewatering would be recommended if the water level within the LCS reaches a similar level to observed in 2013, prior to the last dewatering event. Currently the water level in the LCS is well below the 2013 and current surrounding overburden levels and thus no dewatering program is recommended at this time.

3.0 SUMMARY AND CONCLUSIONS

Based on the work conducted in 2017, the following summary and conclusions are provided:

Revised Long Term Remediation Plan – Manitoba Conservation previously approved a revised long term remediation plan outlining a reduction in inspections and groundwater monitoring and sampling at the site in 2014. This revised plan was followed for 2017.

KGS Group Annual Well Inspection and Well Security Program – KGS Group conducted an Annual Monitoring Well Inspection in November 2017. The KGS Group inspection confirmed that all bedrock and overburden wells were in good condition and that each casing lid was secured with a lock. All casing lid tack welds previously installed on wells no longer included in the long term groundwater monitoring program were secure.

KGS Group Containment Cell Inspections – KGS Group conducted inspections of the containment cell in June and November, 2017. No major concerns were noted. The water level within the LCS remained steady through 2017, with only a gradual increase of 0.06 m/year observed since the last dewatering event. The water level within the LDS has shown a distinct increase between September 2013 and November 2017 of 2.3 m vertically (0.57 m/yr) to a level now above the level observed in the LCS. Future monitoring in 2018 will confirm whether the increase continues or whether the water level stabilizes, as observed in historical data. As of November 2018, the water levels within the LCS and LDS were generally below the surrounding overburden water level measured in 2013, prior to the previous dewatering event, however the LDS water level was now above the groundwater level observed in the adjacent overburden well 2003-B2. Future monitoring will confirm whether the water level in the LDS gradually stabilizes or continues to increase towards the level observed prior to the last dewatering event. Overall, water levels in the surrounding overburden and LDS were greater than the LCS, creating a hydraulic inward barrier to any outward flow from the LCS.

Fort Whyte Soil, Vegetation, and Drainage Site Inspections – Fort Whyte conducted inspections in May and October 2017. No concerns were noted in the cell cover, engineered cap, or site drainage systems at the site. As of the last inspection in October 2017, no recommendations for work were outstanding.

KGS Group Site Groundwater Sampling Program – A revised groundwater and surface water program was approved for the site in 2014. Based on the schedule outlined in this revised program, no groundwater monitoring program was required in 2017. The last program was conducted in 2013, which was summarized in the 2013 Environmental Activities Report prepared by KGS Group, issued February 2014. The next groundwater sampling program is scheduled for this year in 2018. The program is outlined in Table 1.

Cell Dewatering Program – No Cell Dewatering Program occurred in 2017. The last dewatering program was conducted in late 2013. Future dewatering would be recommended if the water level within the LCS reaches a similar level to observed in 2013, prior to the last dewatering event.

2018 Work Program – Based on the reduced long term remediation plan approved by Manitoba Conservation in 2014, the following work should be scheduled for the site for 2018:

- **Annual Well Inspection** – An annual visual inspection of all onsite and offsite bedrock and overburden monitoring wells should be conducted, with any noted repairs completed on an as needed basis;
- **Containment Cell Water Level Inspections** – Inspections should be conducted in late spring and early fall. Water levels within the LCS and LDS and the four surrounding overburden wells should be recorded. A dewatering program would be scheduled if water elevations in the cell, in particular the LCS, increase above the level of the surrounding overburden water table, as observed in 2013 prior to the most recent 2013 dewatering program.
- **Soil, Vegetation and Drainage Inspections** – Inspections should be conducted in late spring and early fall, with any noted repairs completed on an as needed basis;
- **KGS Group Groundwater Monitoring Program** - A full round of groundwater monitoring and sampling is scheduled once every 5 years, with the next event to be scheduled for 2018. Included in the 2018 groundwater sampling program are 4 wells and the LCS and LDS at the containment cell area, 9 wells at the bioreserve, and 2 offsite wells. The long term water monitoring program schedule is included as Table 1. , It is recommended that the sampling program is conducted in late summer, to be consistent with the most recent groundwater sampling events for the site; and
- **Reporting** – A Summary Report should be submitted to Manitoba Conservation after the completion of all required 2018 site activity requirements. The report should include a summary of containment cell operation inspections, soil vegetation and drainage inspections and site monitoring well inspections, and groundwater monitoring program results. Any repairs conducted in 2018 should be documented.

4.0 STATEMENT OF LIMITATIONS AND CONDITIONS

4.1 THIRD PARTY USE

This report has been prepared for Domtar Inc., and any use by a third party of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. KGS Group accepts no responsibility for damages, if any, suffered by an third party as a result of decisions made or actions undertaken based on this report.

4.2 GEO-ENVIRONMENTAL STATEMENT OF LIMITATIONS

KGS Group prepared this report in a professional manner using the degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. The information contained in this report, including its conclusions, is based on the information that was made available to KGS Group during the investigation and upon the services described, which were performed within the time and budgetary requirements of the Domtar Inc. As the report is based on the available information, some of its conclusions could be different if the information upon which it is based is determined to be false, inaccurate or contradicted by additional information. KGS Group makes no representation concerning the legal significance of its findings or the value of the property investigated.

TABLES

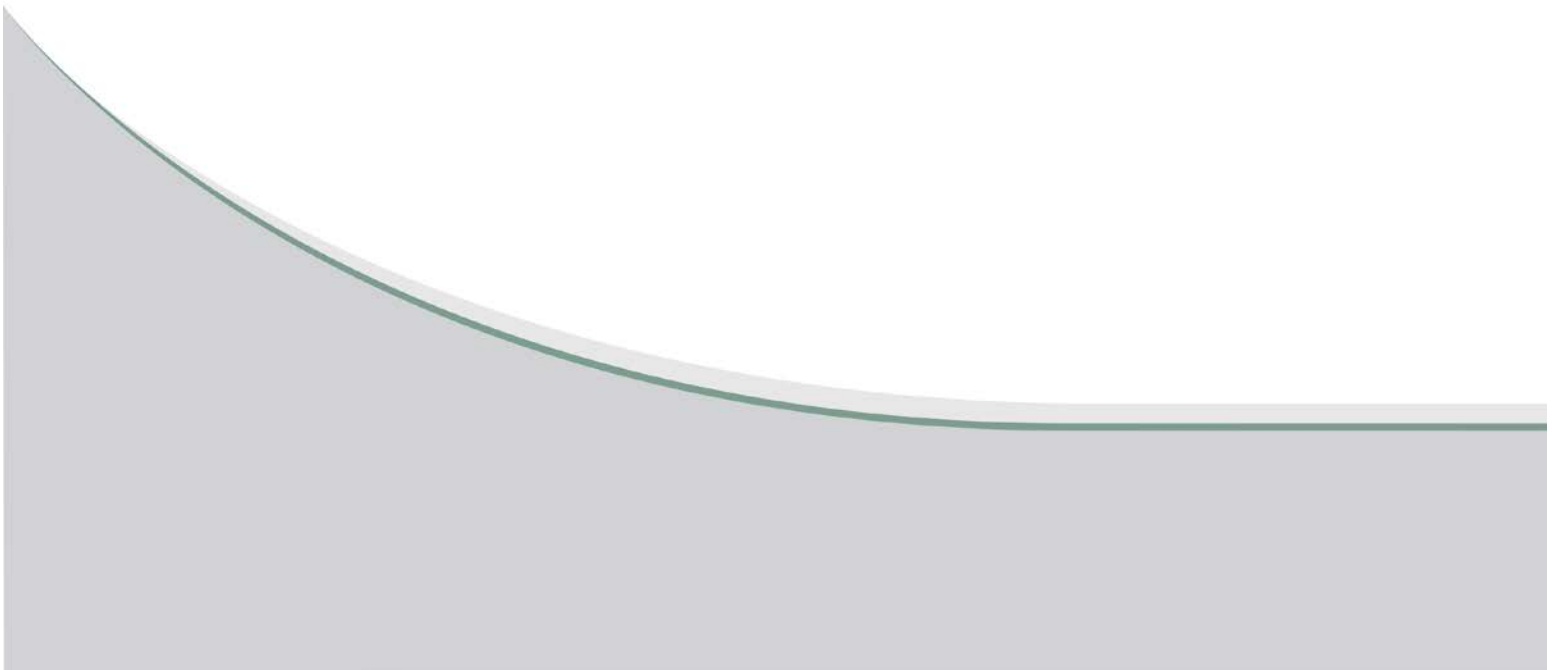
**TABLE 1
LONG TERM WATER MONITORING PROGRAM SCHEDULE**

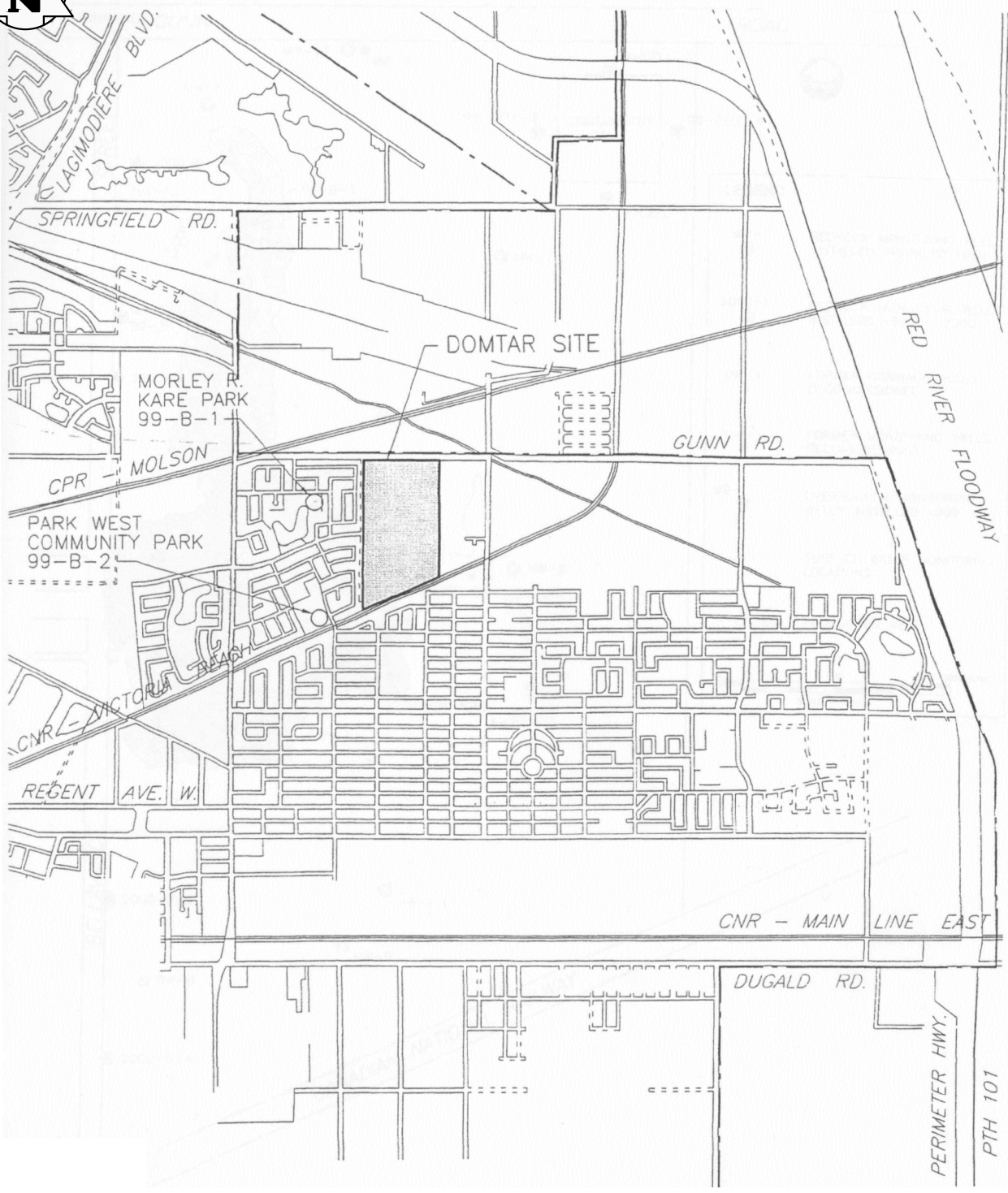
LOCATION	WATER LEVEL MONITORING	SAMPLING FREQUENCY
Bioreserve		
MW3, MW4, MW6, MW10, MW11, MW12, MW13, 2000-B1, 2000-B2	Once every 5 years Next Event 2018	Once every 5 years Next Event 2018
Offsite		
99-B1, 99-B2	Once every 5 years Next Event 2018	Once every 5 years Next Event 2018
Containment Cell Area		
LCS / LDS	2 x per year Spring and Fall	Prior to Next Dewatering Event When Required
99-Cell-1, 2003-Cell-2, 99-Cell-3, 99-Cell-4	2X per year Spring and Fall	Once every 5 years Next Event 2018

Notes

1. Monitoring Wells No Longer Monitored or Sampled:
 - MW1, MW2, MW7, MW8, MW9, MW14, 2000-B3, 2000-B4, 2002-B5
 - 99-1S/99-1D, 99-2S/99-2D, 99-3S/99-3D
2. An annual visual inspection of all secured well casings should be conducted, including wells no longer included in the Sampling Program.

FIGURES



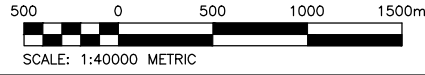


LEGEND:

- OFF-SITE MONITORING WELLS

NOTES:

- DRAWING IS BASED ON DILLON ACAD DRAWING FILE:
G:\AD\018745\LOCATION 2.DWG 02/20/02



0	18/03/14	ISSUED WITH FINAL REPORT	PJL	JBS
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				
KGS GROUP CONSULTING ENGINEERS		DOMTAR INC.		
		2017 SITE SUMMARY REPORT TRANSCONA, WINNIPEG, MB		
LOCATION PLAN				
MARCH 2018		FIGURE 1		REV: 0

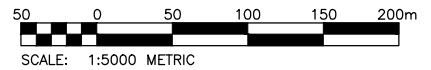


LEGEND:

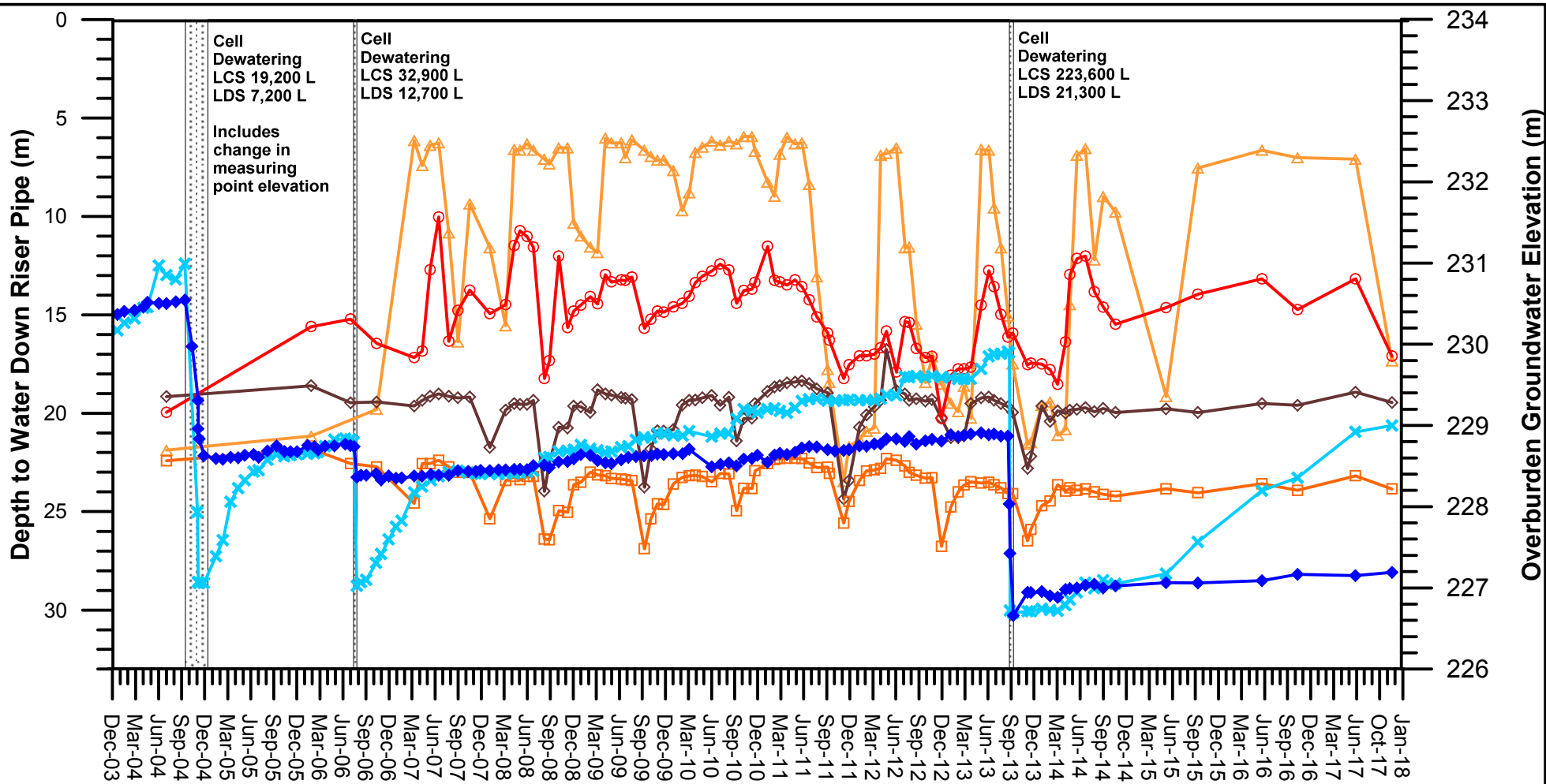
- MW1 ● BEDROCK MONITORING WELL
- 99-CELL-1 ◈ OVERBURDEN MONITORING WELL
- MW5 ● FORMER MONITORING WELL
- DW-A ■ FORMER DRAINAGE WELL
- P1 ⊗ PIEZOMETER NEST
- (DES) WELL DESTROYED
- (DEC) WELL DECOMMISSIONED

NOTES:

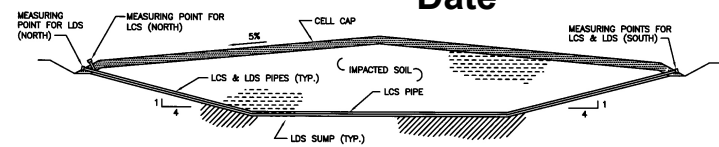
1. DRAWING IS BASED ON DILLON ACAD DRAWING FILE: G:\AD\018745EDROCK_1.DWG 02/13/02



NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
0	18/03/14	ISSUED WITH FINAL REPORT	PJL	JBS
REVISIONS / ISSUE				
KGS GROUP CONSULTING ENGINEERS		DOMTAR INC.		
2017 SITE SUMMARY REPORT TRANSCONA, WINNIPEG, MB				
DETAILED SITE PLAN FORMER CREOSOTE SITE				
MARCH 2018		FIGURE 2		REV: 0



- ◆ LCS (within cell)
- × LDS (within cell)
- 99-Cell-1 (overburden)
- 2003-Cell-2 (overburden)
- ◇ 99-Cell-3 (overburden)
- △ 99-Cell-4 (overburden)



Secure Containment Cell Cross Section (Typ.)

Notes:

1. The water levels readings were taken from the LCS and LDS riser pipes on the south side of the containment cell.
2. Measurements are referenced to the top end of each of the LCS and LDS riser pipes, which are at similar elevations.
3. An assumption has been made that the slope of both riser pipes are similar, at a designed slope of 1V:4H.
4. The depth to water down riser pipe measurements are currently aligned to correspond with overburden water elevations at the site (0 m depth to water = elev 234.0 m and 33 m depth to water = elev 226.0 m) with a 1 m change in elevation equal to a 4.123 m change in water level measurement (1V:4H slope).

0	18/03/13	ISSUED WITH FINAL REPORT	PJL	MPS
NO:	YYMMDD	DESCRIPTION	ISSUED	CHECKED
REVISIONS / ISSUE				
KGS GROUP		DOMTAR INC.		
CONSULTING ENGINEERS				
2017 SITE SUMMARY REPORT				
CONTAINMENT CELL AND OVERBURDEN WATER LEVELS 2004 to 2017 FORMER CREOSOTE SITE - TRANSCONA, WINNIPEG				
March 2018	FIGURE 3		REV	0

APPENDIX A
ANNUAL SITE INSPECTION PHOTOS

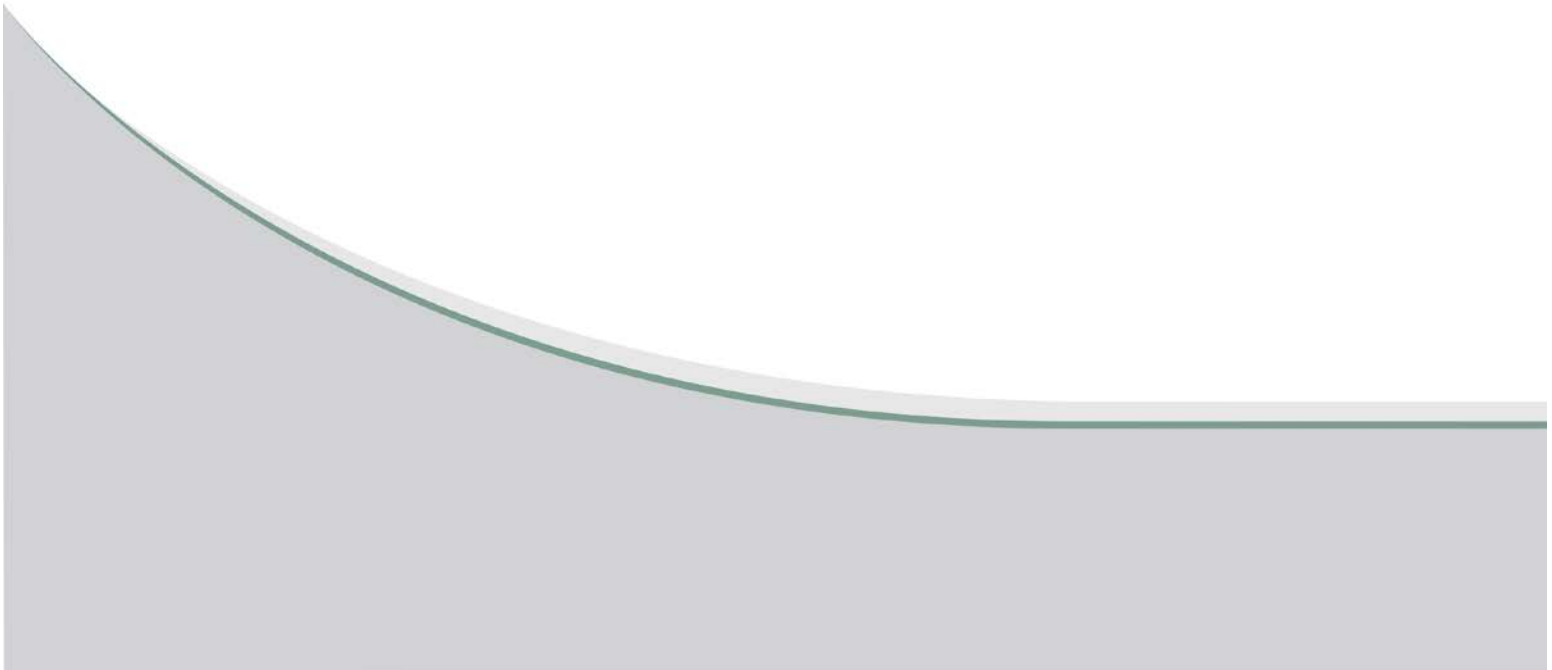




Photo 1 – Gunn Road Access Gate at Entrance to Bioreserve – Locked Upon Arrival



Photo 2 – Well MW1 – Casing Locked and Welded



Photo 3 – Well MW2 – Casing Locked and Welded



Photo 4 – Well MW3 – Casing Locked



Photo 5 – Well MW4 – Casing Locked



Photo 6 – Well MW6 – Casing Locked



Photo 7 – Well MW7 – Casing Locked and Welded



Photo 8 – Well MW8 – Casing Locked and Welded



Photo 9 - Well MW9 – Casing Locked and Welded



Photo 10 - Well MW10 – Casing Locked



Photo 11 - Well MW11 – Casing Locked



Photo 12 - Well MW12 – Casing Locked



Photo 13 - Well MW13 – Casing Locked



Photo 14 - Well MW14 – Casing Locked and Welded



Photo 15 - Well 2000-B1 – Casing Locked



Photo 16 - Well 2000-B2 – Casing Locked



Photo 17 - Well 2000-B3 – Casing Locked and Welded



Photo 18 - Well 2000-B4 – Casing Locked and Welded



Photo 19 - Well 2002-B5 – Casing Locked and Welded



Photo 20 - Well 99-B1 – Casing Locked



Photo 21 – Well 99-B2 – Casing Locked



Photo 22 - Wells 99-1S and 99-1D – Casings Locked and Welded



Photo 23 - Wells 99-2S and 99-2D – Casings Locked and Welded



Photo 24 - Wells 99-3S and 99-3D – Casings Locked and Welded



Photo 25 - Well 99-Cell-1 – Casing Locked



Photo 26 - Well 2003-Cell-2 – Casing Locked



Photo 27 – Well 99-Cell-3 – Casing Locked



Photo 28 – Well 99-Cell-4 – Casing Locked



Photo 29 – Leachate Collection and Leakage Detection System (LCS and LDS) Access Pipes North Side – Locked and Secure



Photo 30 – Leachate Collection and Leakage Detection System (LCS and LDS) Access Pipes South Side – Locked and Secure



Photo 31 – Containment Cell Area Entrance Gate – Locked at Completion of Cell Inspection

APPENDIX B
KGS GROUP INSPECTION REPORTS

DOMTAR TRANSCONA SITE
INSPECTION AND MAINTENANCE REPORT

REPORT NUMBER: 01/17	DATE: June 23, 2017
REFERENCE NUMBER:	INSPECTOR: A. Melvin

LEACHATE COLLECTION SYSTEM

Measured Leachate Levels – June 23, 2017

Riser Pipe No.1 = 24.97 metres below top of leachate collection riser pipe.
(north side)

Riser Pipe No.2 = 28.28 metres below top of leachate collection riser pipe.
(south side)

Leachate Sampling and Analysis YES NO

Riser Pipe No.1 Sample Date _____

Riser Pipe No.2 Sample Date _____

Receiving Laboratory _____

Sample Submission Date _____

Laboratory Analytical Results: Attached YES NO

Leachate Removal YES NO

Volume of Leachate Removed = _____

Method of Removal: _____

Method of Disposal/Treatment: _____

DOMTAR TRANSCONA SITE
INSPECTION AND MAINTENANCE REPORT

REPORT NUMBER: 01/17	DATE: June 23, 2017
REFERENCE NUMBER:	INSPECTOR: A. Melvin

LEAKAGE DETECTION SYSTEM:

Measured Leachate Levels – June 17, 2016

Riser Pipe No.1 = 20.14 metres below top of leakage detection riser pipe.
(north side)

Riser Pipe No.2 = 21.07 metres below top of leakage detection riser pipe.
(south side)

Leachate Sampling and Analysis YES NO

Riser Pipe No.1 Sample Date _____

Riser Pipe No.2 Sample Date _____

Receiving Laboratory _____

Sample Submission Date _____

Leachate Removal YES NO

Volume of Leachate Removed = _____

Method of Removal: _____

Method of Disposal/Treatment: _____

DOMTAR TRANSCONA SITE
INSPECTION AND MAINTENANCE REPORT

REPORT NUMBER: 02/17	DATE: November 15, 2017
REFERENCE NUMBER:	INSPECTOR: P. Lindell

LEACHATE COLLECTION SYSTEM

Measured Leachate Levels – November 15, 2017

Riser Pipe No.1 = 23.86 metres below top of leachate collection riser pipe.
(north side)

Riser Pipe No.2 = 28.12 metres below top of leachate collection riser pipe.
(south side)

Leachate Sampling and Analysis YES NO

Riser Pipe No.1 Sample Date _____

Riser Pipe No.2 Sample Date _____

Receiving Laboratory _____

Sample Submission Date _____

Laboratory Analytical Results: Attached YES NO

Leachate Removal YES NO

Volume of Leachate Removed = _____

Method of Removal: _____

Method of Disposal/Treatment: _____

DOMTAR TRANSCONA SITE
INSPECTION AND MAINTENANCE REPORT

REPORT NUMBER: 02/17	DATE: November 15, 2017
REFERENCE NUMBER:	INSPECTOR: P. Lindell

LEAKAGE DETECTION SYSTEM:

Measured Leachate Levels – November 15, 2017

Riser Pipe No.1 = 19.52 metres below top of leakage detection riser pipe.
(north side)

Riser Pipe No.2 = 20.74 metres below top of leakage detection riser pipe.
(south side)

Leachate Sampling and Analysis YES NO

Riser Pipe No.1 Sample Date _____

Riser Pipe No.2 Sample Date _____

Receiving Laboratory _____

Sample Submission Date _____

Leachate Removal YES NO

Volume of Leachate Removed = _____

Method of Removal: _____

Method of Disposal/Treatment: _____

APPENDIX C
FORT WHYTE INSPECTION REPORTS

KGS
GROUP
CONSULTING
ENGINEERS

