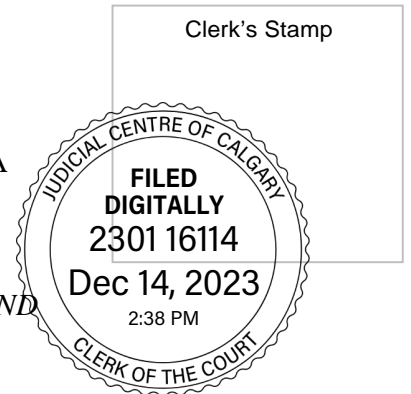


COURT FILE NUMBER B201 965662, 2301 10358 & 2301 16114
COURT COURT OF KING'S BENCH OF ALBERTA
JUDICIAL CENTRE CALGARY



IN THE MATTER OF THE *BANKRUPTCY AND
INSOLVENCY ACT*, RSC 1985, C-8, AS
AMENDED

APPLICANT MANTLE MATERIALS GROUPS, LTD.

DOCUMENT **AFFIDAVIT**

ADDRESS FOR SERVICE AND CONTACT INFORMATION OF PARTY FILING THIS DOCUMENT
Field LLP
Barristers and Solicitors
400, 444 – 7th Avenue SW
Calgary, AB T2P 0X8
Attention: Doug Nishimura
Ph: (403) 260-8500 Fax: (403) 264-7084
Our File No. 79346-1

AFFIDAVIT OF HEATHER DENT
SWORN ON DECEMBER 14, 2023

I, Heather Dent, of the City of Edmonton, in the Province of Alberta, MAKE OATH AND SWEAR THAT:

1. I am Compliance Manager with the Government of Alberta, Department of Environment and Parks (“AEPA”). I have personal knowledge of the facts and matters in this Affidavit, except those made on information and belief, in which case I believe them to be true.

BACKGROUND

2. In the BIA Application, I swore an Affidavit on August 11, 2023. This Affidavit was sworn in respect the interim relief sought by Mantle within the Application for an extension of the stay under the BIA and for approval of interim financing to assist Mantle on performing reclamation work. I adopt the facts and statements set forth in my August 11, 2023, Affidavit. This Affidavit and Exhibits may be found on the website of the Monitor at <http://cfcanada.fticonsulting.com/jmb/motions.htm>.

PRESENT APPLICATION

3. In this affidavit, I provide a report on the progress of Mantle to satisfy its environmental obligations on public land and private land from AEPA’s perspective.
4. I also prepared this affidavit to assist the Court to understand the nature and extent of Mantle’s reclamation obligations on private land and public land.
5. On April 28, 2023, AEPA advised Mantle that it had closed environmental protection order No.EPO-EPEA-35659-04 as amended, associated with the Havener pit on private land. (Exhibit A).
6. AEPEA closed this order because Mantle had submitted an Updated Activities Plan for the Havener pit as required by the *Environmental Protection and Enhancement Act*, which AEPEA approved, and submitted a security deposit to secure its reclamation obligations for the pit. Mantle further advised AEPA that it intended to extract gravel from the Havener pit.
7. In the same letter, AEPA advised that any future violation of a similar nature may result in the initiation of a new investigation.
8. Four and a half months ago on July 14, 2023, Mantle advised that it had commenced restructuring proceedings by filing a Notice of Intention to Make a Proposal pursuant to section 50.4 of the *Bankruptcy and Insolvency Act*.
9. As of the date of this affidavit, Mantle has the following outstanding reclamation obligations required by the orders issued by AEPA in 2021 to Mantle’s amalgamation predecessors JMB and 216 (“2021 EPOs”).

Order #	Name	Update on Reclamation Work
EPO-EPEA-35659-01	MacDonald Pit	<p>The following activities required by the written reclamation and remedial plan dated March 27, 2021, referred to in clause 5 of EPO-EPEA-35659-01 are outstanding (Exhibit B):</p> <ol style="list-style-type: none"> 1) Complete the remaining recontouring activities, place topsoil, and seed topsoil with pasture mix. Due June 15, 2022. 2) Assess soil stability, revegetation success, and for the presence of weeds. Due September 15, 2022. 3) Address any shortfalls discovered from assessment. Due September 20, 2022. 4) Begin six month monitoring as per EPO. September 20, 2022. 5) Assess soil stability after spring thaw. Due May 15, 2023. 6) Assess revegetation success and survey for the presence of weeds. July 1, 2023 7) Apply for reclamation certificate that will go towards terminating the registration. Due Nov 1, 2023.
EPO-EPEA-35659-02	Megley Pit	<p>The following activities required by the written reclamation and remedial plan dated June 11, 2021, referred to in clause 5 of EPO-EPEA-35659-02 are outstanding (Exhibit C):</p> <ol style="list-style-type: none"> 1) Fill in open excavations that have intercepted the groundwater. Due December 1, 2021 2) Complete the major recontouring. Due December 15, 2021 3) Remove all remaining marketable material. Complete all remaining recontouring activities

Order #	Name	Update on Reclamation Work
		<p>and replace topsoil. Due July 15, 2022</p> <ol style="list-style-type: none"> 4) Assess soil stability. Due September 15, 2022 5) Address any shortfalls discovered from assessment. Due September 20, 2022 6) Begin six-month monitoring requirement as per the EPO. Due October 29th, 2022. 7) Assess soil stability after spring thaw. Due May 15, 2023 8) Apply for a reclamation certificate that will go towards terminating the registration. Due November 1, 2023.
EPO-EPEA-35659-03	Kucy Pit	<p>The following activities required by the written reclamation and remedial plan dated June 11, 2021 referred to in clause 5 of EPO-EPEA-35659-03 are outstanding (Exhibit D):</p> <ol style="list-style-type: none"> 1) Complete the remaining recontouring, topsoil placement, and seeding of topsoil Due July 15, 2022. 2) Begin six month monitoring requirement as per the EPO. Due July 15, 2022 or earlier if final reclamation completed earlier 3) Assess soil stability, revegetation success, and for the presence of weeds. Due September 15, 2022. 4) Assess the soil stability after spring thaw. Due May 15, 2023. 5) Address any shortfalls discovered from the assessment. Due June 15, 2023 6) Assess vegetation success and survey for the presence of weeds. Due July 1, 2023 7) Apply for reclamation certificate that will go towards terminating the registration. Due November 1, 2023.
EPO-EPEA-35659-05	Buksa Pit	<p>The following activities required by the written reclamation and remedial plan dated June 11, 2021, referred to in clause 5 of EPO-EPEA-35659-05 are outstanding (Exhibit E):</p> <ol style="list-style-type: none"> 1) Begin six-month monitoring requirement as per the EPO. Due October 20, 2022 or earlier if final reclamation completed earlier. 2) Assess soil stability. September 15, 2022 3) Address any shortfalls discovered from assessment. Due September 20, 2022 4) Assess soil stability after spring thaw. May 15, 2023 5) Apply for a reclamation certificate that will go towards terminating the registration. Due November 1, 2023.
EPO-EPEA-35659-07 EO-WA-35659-01	SML 060060	<p>The following activities required by the written reclamation and remedial plan dated January 27, 2023, referred to in clause 5 of EPO-EPEA-35659-07 and clause 6 of EO-WA-35659-01 are outstanding (Exhibit F):</p> <ol style="list-style-type: none"> 1) Dewatering of waterbody. Due July 31, 2023 Ongoing as of October 16, 2023. 2) Construction of waterbody. Due September 30, 2023. Ongoing

Order #	Name	Update on Reclamation Work
		3) Remediation of south / southwest boundary. Recontouring, final topsoil placement, seeding. Due September 30, 2023. Ongoing 4) Complete all remaining reclamation activities; Final fill, final recontouring, final topsoil placement, seeding. Due September 30, 2023. Ongoing 5) Begin six-month EPO/EO monitoring program. Due March 31, 2024. 6) Assess completed reclamation for soil stability, vegetation success, weeds. Due August 15, 2024. 7) Assess completed reclamation for soil stability, vegetation success, weeds. Due August 15, 2025. 8) Reclamation certificate application. Due September 15, 2025.
EPO-EPEA-35659-08	SML 930040	The following activities required by the written reclamation and remedial plan dated May 31, 2021, referred to in clause 5 of EPO-EPEA-35659-10 are outstanding (Exhibit G): <ol style="list-style-type: none"> 1) Assess soil stability after spring thaw. Due May 15, 2023. 2) Apply for reclamation certificate that will go towards cancellation of the Surface Materials Lease. Due Nov 1, 2023.
EPO-EPEA-35659-09	SML 980116	The following activities required by the written reclamation and remedial plan dated May 31, 2021, referred to in clause 5 of EPO-EPEA-35659-09 are outstanding (Exhibit H): <ol style="list-style-type: none"> 1) Assess soil stability after spring thaw. Due May 15, 2023. 2) Apply for reclamation certificate that will go towards cancellation of the Surface Materials Lease. Due Nov 1, 2023.
EPO-EPEA-35659-10	SML 120027	The following activities required by the written reclamation and remedial plan dated May 31, 2021, referred to in clause 4 of EPO-EPEA-35659-10 are outstanding (Exhibit I): <ol style="list-style-type: none"> 1) Assess soil stability after spring thaw. Due May 15, 2023. 2) Apply for reclamation certificate that will go towards cancellation of the Surface Materials Lease. Due Nov 1, 2023.

10. On September 1, 2023 AEPA inspected the Havener pit on private land and saw no evidence that Mantle had progressively reclaimed the pit during extraction, stockpiling or removal operations at the pit or carried out any reclamation in 2022 or 2023 (Exhibit J).

11. On September 1, 2023, AEPA inspected the Shankowski pit on private land and saw no evidence that Mantle had progressively reclaimed the pit during excavation, stockpiling or removal operations at the pit or carried out any reclamation in 2022 or 2023 (Exhibit K).

12. On September 8, 2023, Alberta Forestry and Parks (“FP”) requested an update from Mantle (Exhibit L) on their intentions for the following 17 gravel pits on public land contained in dispositions issued under the *Public Lands Act* to Mantle (or one of its predecessors by amalgamation) for the exploration/extraction of gravel:

1. SML 120005

10. SML 110026

- | | |
|---------------|----------------|
| 2. SML 120100 | 11. SML110045 |
| 3. SML 120006 | 12. SML 110046 |
| 4. DLO170011 | 13. SML 110047 |
| 5. DML120032 | 14. SML 120027 |
| 6. SML 060060 | 15. SML 930040 |
| 7. SML 080085 | 16. SML 980116 |
| 8. SML 100085 | 17. SML 200056 |
| 9. SML 110025 | |

13. More specifically, for 9 of the gravel pits listed above, FP asked Mantle to advise by when it would complete reclamation of each pit as required by the disposition, the *Public Lands Act* and the *Public Lands Administration Regulation*. Further in relation to the same gravel pits, FP asked Mantle to advise by when it would submit an application for a reclamation certificate as required under the *Environmental Enhancement and Protection Act*.
14. On September 12, 2023, AEPA issued two additional environmental protection orders under the *Environmental Protection and Enhancement Act* (EPEA) to Mantle, Byron Levkulich, and Aaron Patsch requiring the reclamation of two gravel pits on private land by October 31, 2023. The statutory-decision maker was of the opinion that Mantle’s financial resources and intention to reclaim the Pits were in question given that Mantle is the successor corporation of JMB and 216 that were restructured in 2021 and more recently in July 2023, Mantle commenced restructuring proceedings:
- EPO- EPEA-35659-11 (“Havener Pit”) (Exhibit M)
 - EPO-EPEA-35659-12 (“Shankowski Pit”) (Exhibit N)
15. The EPEA orders described in paragraph 1414 protect the interests of the Province and the private landowners on whose land Mantle has operated these pits and has environmental obligations to reclaim them.
16. I am advised by FP that on September 15, 2023, Mantle responded to FP’s September 8, 2023, letter (Exhibit O) that for a number of pits, it was “looking to transfer the pit registration”. Mantle did not respond to FP’s direct questions about completing reclamation at any of the gravel pits or applying for a reclamation certificate. Further, Mantle was silent on any interim (or progressive) reclamation that may have been completed at any of the gravel pits. .
17. On September 20, 2023, Mantle advised AEPA that it had launched a sale and solicitation process (Exhibit P) to solicit interest in, and make opportunities for, a sale of, its pit registrations and “mining lease rights” with a bid deadline of October 25, 2023. This process includes the following dispositions and registrations:

Dispositions (Public Land)	Landowner and Registration No. (Private Land) s
SML 110025	Shankowki Pit – 308161-00-00
SML 110026	Havener Pit – 17395-01-00
SML 110045	
SML 110046	
SML110047	
SML120005	
SML 120006	
SML 121000	
SML 100085	

18. On September 21, 2023, Mantle submitted notices of appeal objecting to the issuance of EPO-

EPEA-35659-11 (Havener pit) and EPO-EPEA-35659-12 (Shankowski pit) to the Environmental Appeals Board (“EAB”).

19. On September 22, 2023, AEPA inspected the public land pit covered by SML 110025 and observed:
 - a) that no recent work-related activity had taken place,
 - b) shrub, grass and weed growth throughout the pit,
 - c) the western half of the site had not been disturbed for aggregate mining,
 - d) deep erosion channels at faces of each of the excavated areas,
 - e) an abandoned truck tire on site along with wildlife/cattle activity around the tire, and
 - f) one big stockpile of unprocessed materials and a few smaller stockpiles of similar material with weed growth on them (Exhibit Q).
20. On September 22, 2023, AEPA inspected the public land pit covered by SML 110026 and observed:
 - a) that no recent work-related activity had taken place,
 - b) no efforts had been made to progressively reclaim the disturbed areas in the pit, and
 - c) stockpiles of marketable and reject material (Exhibit R).
21. On September 22, 2023, AEPA inspected the public land pit covered by SML 110045 and observed:
 - a) a deep pit of 7 metres to 8 metres in depth in the northeast corner of the pit that was collecting water with wildlife or cattle trails,
 - b) metal waste (chain link fence), multiple tires, signage and drainpipe on the ground,
 - c) multiple stockpiles of coarse sand and gravel,
 - d) swallow nests on the stockpile at the southeast corner of the pit, and
 - e) no disturbance in the north half of the lease except for seismic lines (Exhibit S).
22. On September 22, 2023, AEPA inspected the public land pit covered by SML 110047 and observed:
 - a) that the north half of the pit was undisturbed by pit operations,
 - b) that the south half of the pit was disturbed by pit operations,
 - c) a topsoil stockpile and slash pile along the north boundary of the disturbed area in the pit,
 - d) no efforts had been made to progressively reclaim the disturbed areas in the pit,
 - e) natural regrowth including thistle, aspen and willows, and
 - f) swallow nests in a bank of undisturbed material in the southwest of the pit (Exhibit T).
23. On September 22, 2023, AEPA inspected the public land pit covered by SML 120005 and observed:
 - a) a stockpile of pea gravel topsoil and woody debris piled in a berm in the west central part of the pit,
 - b) a berm of topsoil in the northwest corner of the pit and the excavated area refilled with coarse sand,
 - c) a large excavation in the southeast part of the pit,
 - d) a large stockpile of approximately 6 metres at the west side of the excavation (Exhibit U)

24. On September 25, 2023, I met with Mantle along with AEPA Compliance Manager Maxwell Harrison. Mantle provided an update on reclamation work conducted in response to the 2021 EPOs referenced in paragraph 9. AEPA's primary focus was to ensure that Mantle satisfies all of its reclamation obligations (including obtaining reclamation certification).
25. In the September 25, 2023, meeting Mantle:
 - a) indicated they intended to pursue a sales and solicitation process to solicit interest in, and opportunities for, a sale of, its pit registration and dispositions.
 - b) raised concerns about what impact the 2021 EPOs and other potential orders might have on the sales and solicitation process.
 - c) requested a letter outlining under what circumstances AEPA would lift the 2021 EPOs.
 - d) suggested a possible long-term outcome of the Mantle's bankruptcy and insolvency proceeding might be the creation of a trust designed to satisfy the long-term requirements of the orders. Activities to be funded by the trust would include the monitoring, reporting and application for reclamation certification.
26. We concluded the meeting by agreeing that Mantle would continue to engage with me for pits on public land and with Compliance Manager Harrison for pits on private land.
27. In response to Mantle's request for the letter described above, Compliance Manager Harrison agreed to make himself available to a prospective buyer for one or more of the pits on private land included in the sales and solicitation process to discuss EPA's requirements that need to be met for AEPA to consider lifting or closing the EPO for a pit.
28. On September 26, 2023, AEPA transferred the registration for the O'Kane pit on private land subject to EPO-EPEA-35659-06 from Mantle to a third party.
29. On October 2, 2023, I provided Mantle with a summary of what we discussed at the September 25, 2023, meeting and described above in paragraphs 24 and 25(Exhibit V).
30. On October 11, 2023, FP responded to Mantle's September 15, 2023, letter (Exhibit W) advising of their intention to cancel the following dispositions due to failure to develop:
 - SML 120100
 - SML 120006
 - SML 10085
 - SML 110046
31. In the October 11, 2023 letter, FP also advised Mantle that in addition to the pits from which material had been extracted noted in its September 8, 2023 letter, material had been extracted from the pit covered by SML 110045. Because Mantle failed in its September 15, 2023 response to indicate if any interim (or progressive) reclamation had been conducted at any of the pits where extraction had taken place and failed to advise of its intentions to reclaim any of these pits to satisfy its environmental obligations, FP referred the following 5 pits AEPA for inspection and determination of what, if any, enforcement of Mantle's obligations is required.
 - SML 110025
 - SML 110026
 - SML 110045
 - SML 110047
 - SML 120005
32. Following these referrals, AEPA inspected each of these pits and another pit covered by SML 110046 also held by Mantle.
33. I am advised that FP holds letters of credit on the account of 2161889 Alberta Ltd, one of Mantle's amalgamation predecessors, provided by Canadian Western Bank ("CWB") as

security for each of the gravel pits on public land as listed below and for the amounts and with the expiry dates indicated (Exhibit X):

	Disposition No	Amount of Security	Expiry Date
1.	SML 110025	\$79,690	January 14, 2024
2.	SML 110026	\$77,540	January 14, 2024
3.	SML 110045	\$57,030	January 14, 2024
4.	SML 110047	\$46, 110	January 14, 2024
5.	SML 120005	\$78,110	January 14, 2024
6.	SML 120100	\$29,650	January 14, 2024
7.	SML060060	\$41,440	January 14, 2024
8.	SML110046	\$44,380	January 14, 2024
9.	SML120006	\$25,690	January 14, 2024
10.	SML 100085	\$42,010	January 23, 2024
11.	SML 080085	\$19,540	January 23, 2024

34. I am advised that on October 13, 2023, FP received a letter from Counsel for CWB providing notice that CWB “had elected to not extend the Irrevocable Letters of Credit for any further period”.

35. The October 13, 2023 letter also notified FP that the Letters of Credit “shall” expire on January 14, 2024 or January 23, 2024 as applicable.

36. I am advised that as of the date of this affidavit, Mantle has not put replacement security in place for any of these gravel pits or contacted FP to discuss their plans to correct the situation.

37. On October 16, 2023, Mantle provided AEPA with an EPO Status Update Report (Exhibit Y). Updates were provided for the pits subject to the 2021 EPOs:

- EPO-EPEA-35659-01(MacDonald)
- EPO-EPEA-35659-02 (Megley)
- EPO-EPEA-35659-03 (Hoye/Kucy)
- EPO-EPEA-35659-04 (Havener)
- EPO-EPEA-35659-05 (Buksa)
- EPO-EPEA-35659-06 (O’Kane)
- EPO-EPEA-35659-07/ EO-WA-35659-01 (SML 060060)
- EPO-EPEA-35659-08 (SML 930040)
- EPO-EPEA-35659-09 (SML 980116)
- EPO-EPEA-35659-10 (SML 120027)

38. AEPA reviewed the EPO Status Update Report and incorporated the updates into the table at paragraph 9 above that summarizes the outstanding reclamation obligations required by the orders issued by AEPA in 2021 to Mantle’s predecessor JMB.

39. On October 18, 2023, AEPA issued 5 environmental protection orders under EPEA to Mantle, Byron Levkulich, and Aaron Patsch relating to gravel pits on public land covered by the following 5 dispositions:

- 1) SML 110025
- 2) SML 110026
- 3) SML 110045

- 4) SML 110047
 - 5) SML 120005
40. For the gravel pit covered by SML 110025, FP also advised in its September 8, 2023 letter that 40% of the surface materials from this pit had been extracted to date. In its September 15, 2023, response, Mantle did not respond to FP's direct questions about completing reclamation at this pit or applying for a reclamation certificate. Further, Mantle was silent on any interim (or progressive) reclamation that had been completed at this pit.
 41. For the gravel pit covered by SML 110026, FP also advised in its September 8, 2023 letter that 66% of the surface materials from this pit had been extracted to date. In its September 15, 2023 response, Mantle did not respond to FP's direct questions about completing reclamation at this pit or applying for a reclamation certificate. Further, Mantle was silent on any interim (or progressive) reclamation that had been completed at this pit.
 42. For the gravel pit covered by SML 110047, FP also advised in its September 8, 2023, letter that the pit had been partially excavated. In its September 15, 2023 response, Mantle did not respond to FP's direct questions about completing reclamation at this pit or applying for a reclamation certificate. Further, Mantle was silent on any interim (or progressive) reclamation that had been completed at this pit.
 43. For the gravel pit covered by SML 120005, FP also advised in its September 8, 2023, letter that the pit had been partially excavated and had not followed the sequencing plan outlined in the Conversation and Reclamation Business Plan. In its September 15, 2023 response, Mantle did not respond to FP's direct questions about completing reclamation at this pit or applying for a reclamation certificate. Further, Mantle was silent on any interim (or progressive) reclamation that had been completed at this pit.
 44. I issued these 5 orders because I was of the opinion that Mantle's financial resources, lack of interim (or progressive) reclamation or any stated intention related to its regulatory obligation to reclaim and conserve the pits covered by SML 110025, SML 110026, SML 110045, SML 120005 and SML 110047 warrants enforcement of its obligations given that Mantle is the successor corporation of JMB and 216 that were restructured in 2021 and more recently in 2023, Mantle commenced restructuring proceedings.
 45. Mantle's regulatory reclamation obligations for each pit it holds under a disposition or registration exist independent of the issuance of an environmental protection order.
 46. The purpose of issuing an environmental protection order to Mantle, Mr. Levkulich and Mr. Patsch is to enforce their regulatory reclamation obligations for each pit for the reasons set out in the environmental protection order for each pit.
 47. For each of the 5 pits on public land subject to an environmental protection order issued by AEPA in 2023, the annual report of aggregate production submitted by Mantle indicates that Mantle has not operated any of these pits since it amalgamated in May 2021 (Exhibit Z).
 48. On October 23, 2023, Mantle submitted notices of appeal objecting to the issuance of EPO-EPEA-35659-12 (SML 110026) and EPO-EPEA-35659-15 (SML 110047) to the EAB.
 49. On October 25, 2023, Mantle requested an extension to:
 - a) EPO-EPEA-35659-07 and EO-WA-35659-01 associated with the pit covered by SML 060060 from October 31, 2023 to May 15, 2024,
 - b) EPO-EPEA-35659-01 associated with the MacDonald pit from October 31, 2023 to May 15, 2024, and
 - c) EPO-EPEA-35659-03 associated with the Kucy pit from October 31, 2023 to May 15, 2024.

50. On October 27, 2023, AEPA responded to Mantle's EPO Status Update Report (Exhibit AA).
51. On October 31, 2023, Mantle responded to FP's letter of October 11, 2023, referred to in paragraph 3130 objecting to the cancelation of 4 dispositions (Exhibit BB).
52. On November 2, 2023, AEPA inspected the Havener pit on private land and observed:
- a) no additional landscape disturbances since the September 1, 2023 inspection as vegetation had established on piles of reject material and adjacent lands did not appear to be disturbed,
 - b) no increase in the footprint of the pit since the September 1, 2023 inspection,
 - c) no significant changes in the volume of aggregate stockpiles,
 - d) no equipment other than two loaders used to fill the trucks hauling aggregate out of the pit,
 - e) no additional re-contouring activities or placement of reclamation material since the September 1, 2023 inspection,
 - f) the 1 acre (0.41 ha), which is 1.5% of the area of the pit covered by the registration, contoured parcel on the west side of the pit by the pit's entrance remained unchanged from my September 1, 2023 inspection, and
 - g) the topsoil material located on the southwest of the Havener property appeared untouched (Exhibit CC).
53. On November 2, 2023, AEPA inspected the Shankowski pit on private land and observed:
- a) no additional landscape disturbances since the September 1, 2023 inspection. The vegetation that had established on piles of reject material and adjacent lands did not appear to be disturbed,
 - b) no increase in the footprint of the pit since the September 1, 2023 inspection,
 - c) no significant changes in the volume of aggregate stockpiles on site from my visual observation only,
 - d) no equipment at the pit, and
 - e) no re-contouring activities or placement of reclamation material. The pit appeared to be unchanged from the September 1, 2023 site inspection (Exhibit DD).
54. On November 9, 2023, I responded to Mantle's requests for an extension to complete reclamation at the pit covered by SML 060060, the MacDonald pit and the Kucy pit. I asked Mantle:
- a) to provide some explanation of what legal entity that will assume responsibility for fulfilling the reclamation obligations on both the private and public lands pits after the bankruptcy process concludes,
 - b) what mechanism or financial safeguards will Mantle put in place to ensure that sufficient funds are available to satisfy its reclamation obligations on private and public land after the bankruptcy has concluded,
 - c) where will the money to carry out the remaining reclamation work on these lands and other lands including public land in 2024, 2025 and beyond come from, and
 - d) to provide an operational overview of how this mechanism or trust will function over the next few years (Exhibit EE).
55. As of the date of this affidavit, I have not received a response from Mantle to my November 9, 2023 email.
56. On November 17, 2023 Mantle submitted a notice of appeal objecting to the issuance of EPO-EPEA-35659-14 (SML 110025) to the EAB.
57. As of the date of this affidavit, Mantle has not appealed the issuance of EPO-EPEA-35659-13 (SML 110045) or EPO-EPEA-35659-16 (SML 120005).

58. On November 28, 2023, AEPA inspected the pit on public land covered by SML 110026 (EPO- EPEA-35659-12) and observed:
- no recent works at the pit,
 - no evidence of progressive reclamation at the site, and
 - that conditions had not changed since the September 22, 2023 inspection (Exhibit FF).
59. On November 28, 2023, AEPA inspected the pit on public land covered by SML 110047 (EPO-EPEA-35659-15) and observed:
- no recent works,
 - no evidence of progressive reclamation of the pit,
 - a topsoil stockpile and slash pile along the north boundary of the disturbed area in the pit, and
 - that conditions had not changed since the September 22, 2023 inspection (Exhibit GG).
60. On December 4, 2023, AEPA inspected the pit on public land covered by SML 110025 (EPO-EPEA-35659-14) and observed:
- levelled gravel, stockpiles of aggregate material and excavated areas. I saw no evidence of woody debris being rolled back at any location in the pit,
 - no recent earthworks at the pit,
 - no evidence of any attempt to revegetate or plant in the pit,
 - regrowth on areas of the pit that were stripped of vegetation but not disturbed,
 - rilling from the surface down the slopes of the excavations and the slope of the built-up area in the northwest of the pit caused by erosion from the last rain event in the summer or fall,
 - erosion from the surface down the slopes of the excavated area at the south of the pit as well as from developed surface down to the undisturbed areas in the northwest of the pit, and
 - no evidence that reclamation, progressive or otherwise, has been conducted in any portion of the pit since its first production in 2015 (Exhibit HH).
61. I have been advised by FP that as of the date of this affidavit, none of the dispositions held by Mantle for gravel pits on public land referred to in paragraph 17 17 have been assigned to a third party and that FP has not received an application from Mantle requesting that any of these dispositions be assigned to a third party.
62. As of the date of this affidavit, the registration for the Havener pit has not been transferred to a third party and AEPA has not received an application from Mantle requesting that the registration be transferred to a third party.
63. As of the date of this affidavit, the registration for the Shankowski pit has not been transferred to a third party and AEPA has not received an application from Mantle requesting that the registration be transferred to a third party.
64. Based on AEPA's experience, reclamation activities can only be carried during the operating season between break up in the spring and when the ground freezes up in late fall, which in the location of Mantle's gravel pits is around November 15 in any year. With the mild weather in November, the operating season has already extended past the deadlines in the environmental protection orders listed in paragraph 39 and will continue until the ground freezes.
65. Mantle has not indicated to AEPA how it intends to satisfy its environmental obligations enforced by any of the 2021 EPOs or enforced by the environmental protection orders issued in 2023 after end of the 2023 operating season.
66. Given Mantle's impending restructuring, AEPA is concerned that Mantle will be unable to satisfy its reclamation obligations to AEPA's satisfaction with respect to the pits.

67. AEPA's expectation is that Mantle will either satisfy its reclamation obligations before the 2023 operating season ends and failing which, it will dedicate funds in the proposal to satisfy its reclamation obligations as described in this affidavit.
68. I make this Affidavit in response to Mantle's application to continue the BIA proceeding under the *Companies' Creditors Arrangement Act*.

SWORN BEFORE ME at Edmonton, Alberta
 This 14th day of December, 2023

Murray Francis Kangaloo
 A Commissioner for Oaths
 In and for Alberta
 My Commission Expires April 28, 2025



Commissioner for Oaths in and for the Province of Alberta

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Heather Dent

This is **Exhibit "A"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14th day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
in and for Alberta
My Commission Expires April 28, 2026



A Commissioner of Oaths
In and for the Province of Alberta

ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT

BEING RSA 2000, c. E-12 (the "Act")

ENVIRONMENTAL PROTECTION ORDER EPO-EPEA-35659-04

JMB Crushing Systems Inc.
Suite 2300, Bentall 5 550, Burrard Street
Vancouver BC
V6C 2B5,
Canada

Byron Levkulich, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Jeffrey Buck, former Director
JMB Crushing Systems Inc.
3439 Keswick Boulevard SW
Edmonton, AB
T6W 3B2

Collectively referred to as the "Parties"

WHEREAS JMB Crushing Systems Inc. ("JMB") operates a pit under Registration No. 17395-01-00 located at NW 16-056-07-W4M (Havener Pit) in the County of St. Paul No. 19 (the "Havener Pit");

WHEREAS Byron Levkulich and Aaron Patsch are Directors of JMB and Jeffrey Buck is a former Director of JMB ("Parties");

WHEREAS Lynne Havener and Gail Havener own the land on which Havener Pit is located'

WHEREAS section 2.1.1 of the *Code of Practice for Pits* states any person who carries out an activity at a pit must do so in accordance with this Code of Practice;

WHEREAS an "activity at a pit" is defined in the *Code of Practice for Pits* to mean the construction, operation or reclamation of a pit;

WHEREAS on January 20, 2020 Alberta Environment and Parks ("AEP") sent an email to JMB stating that Havener Pit security Bond No. BND0015361 in the amount of \$41,872.00 is expiring March 9, 2020.

WHEREAS on May 1, 2020 JMB indicated to AEP that they were entering The Companies Creditors Arrangement Act proceedings;

WHEREAS on May 1, 2020, JMB obtained an initial order from the Court under the *Companies Creditors Arrangement Act*, R.S.C. 1985, c. C-36, as amended;

WHEREAS on November 18, 2020, AEP sent a letter to JMB indicating they failed to replace financial security instruments on 7 pits that were registered to JMB and located on private land, including the Havener Pit;

WHEREAS on January 26, 2021, April Franks, an Environmental Protection Officer ("EPO") and a designated Inspector under the *Environmental Protection and Enhancement Act* RSA 2000, c E-12 (the "Inspector"), conducted a review of the Havener Pit Activities Plan and 2019 satellite imagery of the area and determined that JMB contravened the *Code of Practice for Pits* by:

- failing to restore the required financial security as required under section 3.2.2 of the *Code of Practice for Pits*;
- failing to follow the Activities Plan mining sequence including not conducting reclamation as required under section 4.1.1 of the *Code of Practice for Pits*;
- failing to comply to the boundary approved in the Registration as required under section 4.1.1 of the *Code of Practice for Pits*;
- failing to report non-compliance issues to the Director as required under section 6.1.1 of the *Code of Practice for Pits*;

WHEREAS reclamation of the disturbed land on Havener Pit has not occurred to date;

WHEREAS section 3.2.2 of the *Code of Practice for Pits* states "unless exempted by the Act or the *Conservation and Reclamation Regulation*, as amended from time to time, no person shall commence or continue an activity at a pit unless the full amount of security for that pit has been provided to the Director, as authorized in writing by the Director."

WHEREAS section 4.1.1 of the *Code of Practice for Pits* states "no person shall conduct any activity at a pit except in accordance with the most recent Activities Plan.";

WHEREAS section 6.1.1 of the *Code of Practice for Pits* states "in addition to any other reporting required pursuant to this Code of Practice, the Act or the regulations under the Act, any person carrying out an activity at a pit shall immediately report any contravention of this Code of Practice to: (a) the registration holder; and (b) the Director: (i) by telephone at (780) 422-4505, or (ii) by a method:(A) in compliance with the release reporting provisions of the Act and the regulations; or(B) authorized in writing by the Director.";

WHEREAS on February 12, 2021, AEP issued a Notice of Non Compliance (“NONC”) to JMB stating that AEP had identified non-compliances under the *Code of Practice for Pits* on pits registered to JMB located on private land, including the Havener Pit;

WHEREAS the NONC also stated that, by February 18, 2021, JMB was to provide:

- an assessment of the pits against the terms and conditions of the Registration and the *Code of Practice for Pits*, and
- a plan to bring each pit into compliance with the Registration and the *Code of Practice for Pits*;

WHEREAS JMB requested two extensions to the deadline to provide the information requested in the NONC, which AEP granted;

WHEREAS on February 24, 2021, JMB provided AEP with its response to the NONC, which stated that JMB’s intentions with respect to the Havener Pit were as follows:

- to submit an updated Activities Plan by May 31, 2021;
- to post a security bond as a part of the closing of the CCAA court proceedings upon acceptance of the updated activities plan; and
- implement reclamation within three years of the updated activities plan approval;

WHEREAS on February 22, 2021 the EPO had a conversation with the landowner, Lynn Havener, who indicated that:

- JMB last operated the Havener Pit on or about summer 2018; and
- JMB breached a contract with Lynn Havener regarding Havener Pit in 2017 and 2018 and still owe payment of royalties to her;

WHEREAS section 137 of the *Environmental Protection and Enhancement Act* states that an operator must conserve and reclaim specified land and unless exempted by the regulation, obtain a reclamation certificate in respect of the conservation and reclamation;

WHEREAS JMB is an ‘operator’ under section 134(b)(ii) of the *Environmental Protection and Enhancement Act*;

WHEREAS the Havener Pit is a “pit” as defined in the *Activities Designation Regulation* section 3(3)(d), for the purposes of Division 3 of Schedule 2;

WHEREAS the surface land disturbance in the Havener Pit is “specified lands” as defined by the *Conservation and Reclamation Regulation* section 1(t)(v);

WHEREAS the Parties are operators as defined in section 134(b)(i) of *EPEA*, i.e. an approval or registration holder who carries on or has carried on an activity on or in respect of specified land pursuant to an approval or registration, and section 34(b) vii), i.e. a person who acts as principal or agent of a person referred to in any of subclauses (i) to (vi);

WHEREAS section 3.1 of the *Conservation and Reclamation Regulation* states that the *Code of Practice for Pits*, as published by AEP, is adopted and forms part of that regulation and

requires that a person carrying on an activity referred to in Column A of the Schedule must comply with the corresponding Code of Practice in Column B of the Schedule in carrying on that activity;

WHEREAS the Schedule of the *Conservation and Reclamation Regulation* states that the construction, operation or reclamation of a pit that is listed in Schedule 2, Division 3 of the *Activities Designation Regulation* must comply with the *Code of Practice for Pits*;

WHEREAS April Franks, EPO North Region (the "Inspector") has been designated as an Inspector for the purposes of issuing environmental protection orders under section 140 the *Environmental Protection and Enhancement Act*;

WHEREAS the Inspector is of the opinion that the suspension of the operation in the Havener Pit and directing the performance of work is necessary in order to conserve and reclaim the Havener Pit;

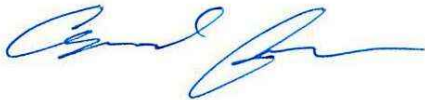
WHEREAS the Inspector is of the opinion that the surface land disturbance meets the criteria of "specified lands" defined by the *Conservation and Reclamation Regulation* section 1(t)(v);

THEREFORE, I April Franks, Inspector, North Region, pursuant to section 140 of the *Environmental Protection and Enhancement Act*, DO HEREBY ORDER:

1. The Parties shall immediately suspend any and all work at the Havener Pit, and shall not remove any stockpiled materials.
2. By April 13, 2021, the Parties shall submit to the Inspector for the Inspector's approval, the name and qualifications of a consultant who carries a professional designation authorized to practice reclamation on private land, which the Parties will retain to prepare and sign the below noted reclamation and remedial plan.
3. By May 20, 2021, the Parties shall submit to the Inspector for the Inspector's review and approval a written reclamation and remedial plan ("Plan").
4. The Parties shall include at minimum include all of the following in the Plan:
 - a. Particulars of the characteristics and properties of the land including topography, drainage, soils, vegetation and land capability.
 - b. A historical synopsis of the surface, subsurface and groundwater disturbance.
 - c. A description of the adjacent land uses.
 - d. An accounting of what volume of marketable aggregate is left within the Havener pit and its value.
 - e. A description of the reclamation work including the type of equipment, methods and materials that will be used in implementing the Plan.

- f. A description of the proposed reclaimed land use that includes elevations, soil replacement and re-vegetation.
 - g. A description of how ground water infiltrating open excavations will be addressed and justification for any surface and water related improvements to be left in place.
 - h. A proposed Schedule of Implementation that shall have October 29, 2022 as the completion date.
 - i. A 6 month monitoring and maintenance program commencing October 29, 2022.
5. Upon approval of the Plan by the Inspector, the Parties shall conduct the work described in the approved Plan, according to the approved schedule of implementation, unless otherwise authorized in writing by the Inspector.
6. The Parties shall submit progress updates to the Inspector on July 30, 2021, November 30, 2021, March 31, 2022, and July 29, 2022 that include a detailed summary of all reclamation activities undertaken at Havener Pit;
7. Within 14 days of the completion of the requirements of this Order, the Parties shall submit to the Inspector a final written report prepared and signed by the consultant describing the work undertaken to comply with this Order.

DATED at the City of Spruce Grove in the Province of Alberta, this Thursday on the 11th day of March, 2021.



April Franks,
Inspector,
Environmental Protection Officer,
North Region

Section 91 of the *Environmental Protection and Enhancement Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 91 is enclosed. For further information, please contact the Board Secretary at #306 Peace Hills Trust Tower, 10011 - 109 Street, Edmonton, Alberta, T5J 3S8; telephone (780) 427-6207; fax (780) 427-4693.

Notwithstanding the above requirements, the Party shall obtain all necessary approvals in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation.

Further, contravention of the Environmental Protection Order may lead to additional enforcement proceedings, up to and including prosecution.

ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT

BEING RSA 2000, c. E-12 (the "Act")

Amendment No.1

to

ENVIRONMENTAL PROTECTION ORDER NO. EPO-EPEA-35659-04

JMB Crushing Systems Inc.
Suite 2300, Bentall 5 550, Burrard Street
Vancouver BC V6C 2B5

Byron Levkulich, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Jeffrey Buck, former Director
JMB Crushing Systems Inc.
3439 Keswick Boulevard SW
Edmonton, AB T6W 3B2

Collectively referred to as the "Parties"

WHEREAS Environmental Protection Order No EPO-EPEA-35659-04 (the "EPO") was issued to the Parties on March 11, 2021;

WHEREAS on April 14, 2021 JMB Crushing Inc. requested an extension to Clause 3 of the EPO, requesting to change the date of the Plan's submission date from May 20, 2021 to June 11, 2021:

WHEREAS section 243 (1) (a) of the Environmental Protection and Enhancement Act states The Director may amend a term or condition of an environmental protection order;

THEREFORE, I Maxwell Harrison, pursuant to section 243 of the *Environmental Protection and Enhancement Act*, DO HEREBY ORDER:

1. In Clause 3 of the EPO, the date of "May 20, 2021" to the EPO be deleted and replaced by "**June 11, 2021**".

DATED at the City of Edmonton in the Province of Alberta, this Monday on the 3rd day of May 2021.



Maxwell Harrison,
Compliance Manager,
Regulatory Assurance Division-North

Section 91 of the *Environmental Protection and Enhancement Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 91 is enclosed. For further information, please contact the Board Secretary at #306 Peace Hills Trust Tower, 10011 - 109 Street, Edmonton, Alberta, T5J 3S8; telephone (780) 427-6207; fax (780) 427-4693.

Notwithstanding the above requirements, the Party shall obtain all necessary approvals in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation.

Further, contravention of the Environmental Protection Order may lead to additional enforcement proceedings, up to and including prosecution.

ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT

BEING RSA 2000, c. E-12 (the "Act")

Amendment No.2

to

ENVIRONMENTAL PROTECTION ORDER NO. EPO-EPEA-35659-04

JMB Crushing Systems Inc.
Suite 2300, Bentall 5 550, Burrard Street
Vancouver BC V6C 2B5

Byron Levkulich, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Jeffrey Buck, former Director
JMB Crushing Systems Inc.
3439 Keswick Boulevard SW
Edmonton, AB T6W 3B2

Collectively referred to as the "Parties"

WHEREAS Environmental Protection Order No EPO-EPEA-35659-04 (the "EPO") was issued to the Parties on March 11, 2021;

WHEREAS on May 3, 2021 AEP granted an extension to Clause 3 of the EPO, to change the Plan's submission date from May 20, 2021 to June 11, 2021


WHEREAS on June 11, 2021 AEP received an Updated Activities Plan application from Mantle Materials Group, Ltd. for Havener Pit Registration 17395-01-00.

WHEREAS section 243 (1) (a) of the *Environmental Protection and Enhancement Act* states that the Director may amend a term or condition of an environmental protection order;

THEREFORE, I Maxwell Harrison, pursuant to section 243 of the *Environmental Protection and Enhancement Act*, DO HEREBY ORDER:

1. In Clause 3 of the EPO, the date of "June 11, 2021" to the EPO be deleted and replaced by "**April 30, 2022**".

DATED at the City of Spruce Grove in the Province of Alberta, this Friday on the 20th day of August 2021.



Maxwell Harrison,
Compliance Manager,
Regulatory Assurance Division-North

Section 91 of the *Environmental Protection and Enhancement Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 91 is enclosed. For further information, please contact the Board Secretary at #306 Peace Hills Trust Tower, 10011 - 109 Street, Edmonton, Alberta, T5J 3S8; telephone (780) 427-6207; fax (780) 427-4693.

Notwithstanding the above requirements, the Party shall obtain all necessary approvals in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation.

Further, contravention of the Environmental Protection Order may lead to additional enforcement proceedings, up to and including prosecution.

Environmental Protection Order No.EPO-EPEA-35659-04

April 28, 2023

To: Cory Pichota
Mantle Material Group, Ltd.
PO Box 6977
Bonnyville, Alberta T9N 2H4

Byron Levkulich, Director
Mantle Material Group, Ltd.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, Director
Mantle Material Group, Ltd.
1400 16th Street, Suite 320
Denver CO 80202
United States

Jeffrey Buck, former Director
JMB Crushing Systems Inc.
3439 Keswick Boulevard SW
Edmonton, Alberta T6W 3B2

ORDER CLOSURE

This letter is to advise you that by undertaking the necessary requirements to restore the Havener gravel pit held under registration no.17395 to put you in good standing with the applicable authorization requirements, I am hereby closing Environmental Protected Order No.EPO-EPEA-35659-04 as amended.

Please be advised that any future violations of a similar nature may result in the initiation of a new investigation.


We appreciate your cooperation and effort in this matter. If you have any questions, please contact me at 780-913-6605 or maxwell.harrison@gov.ab.ca.

Respectfully,

Maxwell Harrison, Compliance Manager
Regulatory Assurance Division-North, Capital District

cc: Colette Strap, Environmental Protection Officer
Stephen Abioye, Approvals Team Lead
Tricia Kirkpatrick, Environmental Investigations Liaison

This is **Exhibit "B"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025 

A Commissioner of Oaths
In and for the Province of Alberta

EPO-EPEA-35659-01 Plan

MacDonald Pit

Registration No. 293051-00-00

(SE-34-056-07-W4M)

JMB Crushing Systems Inc.

March 27, 2021

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APPENDIX A - Current Conditions Map

APPENDIX B - Cross Section Map

APPENDIX C - Conceptual Reclamation Map

APPENDIX D - Cross Sections

1. Introduction

This Plan is in response to EPO-EPEA-35659-01 on MacDonald pit EPEA registration 293051-00-00 and covers requirements in the order under #4 Plan requirements.

Information from the current approved Activities Plan for the pit registration was used in the development of the Plan. Unless otherwise directed by Alberta Environment & Parks the current Activities Plan under the EPEA registration will cover regulatory requirements after the EPO requirements are met.

April Franks, Environmental Protection Officer with Alberta Environment & Parks was consulted in the development of the Plan.

2. Topography

The pit is located on generally flat ground that is 650 meters upslope from Dog Rump Creek. The pre-disturbance slopes were upwards of the 6%.

3. Drainage

The site and adjacent lands have a general north-east aspect and are well drained. There have been no detected water impoundment issues during the life of the pit and all surface runoff has drained away into the parent material.

A 0.5 hectare wetland to the south-west of the excavation was avoided and buffered during operations. It is undetermined if it is native wetlands or was disturbed as part of the original clearing for pasture land.

4. Soils

The soils are classified as a Orthic Black Chernozem and typical to the Ferintosh series. The loam topsoil overlays a gravelly substrate.

The pre-disturbance topsoil layer thickness averaged 16 cm.

5. Vegetation

Prior to disturbances by the gravel pit operations the land was used as pasture land. The vegetation was consistent with supporting typical pasture land needs. Species include alfalfa, Kentucky bluegrass, smooth brome, slender wheatgrass, yarrow, field pussytoes, and dandelion.

6. Land Capability

The Canadian Land Inventory classification for the pit is a Class 3, subclass S.

Soils in Class 3 have moderately severe limitations that restrict the range of crops or require special conservation practices.

The subclass indicates a combination of subclasses.

7. History of surface, subsurface, groundwater disturbance

Typical disturbance of surface and subsurface has occurred as part of the excavation of insitu aggregate.

The total historic disturbance of JMB operations is 11.8 hectares. Of that 6.1 hectares has already been reclaimed and 5.7 hectares is considered active.

The current reclaimed area meets the 20:1 sloping requirement, is revegetated, and has been used by the landowner for pasturing livestock.

The subsurface insitu aggregate pit was excavated to a depth of up to five meters.

No evidence has been found that shows groundwater disturbance.

A small livestock dugout has been constructed at the request of the landowner. The rough dimensions are 50 meters x 18 meters x 2 m deep. The volume of the dugout has been calculated to be 1,276 m³ which is under the 2,500 m³ Water Act approval threshold and meets the other criteria for not requiring Water Act approval based on WATER (MINISTERIAL) REGULATION Schedule 1 section 2(l).

8. Adjacent Land Use

The adjacent land use consists of other pasture lands, hay lands, and a gravel pit to the north-west.

9. Marketable Aggregate

The marketable material piles are labeled on the current conditions map as "PR#". The volume and value are presented in the table below.

Marketed Pile #	Volume m ³	Value \$ FOB
PR1	2,220	70,584
PR2	1,015	26,967
PR3	73	
PR4	6,096	154,141
Total	9,404	251,692

The Value \$ FOB total does not take into account the royalty payment that would have to be paid to the landowner for sale of the marketable material.

10. End Land Use

The end land use will be pasture. Reclaimed areas south of the active area have already been used by the landowner for pasturing livestock.

11. Reclamation Objective

The reclamation objective is to satisfy the EPO requirements and works towards receiving a reclamation certificate and termination of the EPEA registration.

12. Reclamation Activities

Once the inventoried marketable material is removed final reclamation activities will begin.

12.1. Equipment Types

Typical heavy equipment will be used to complete the earthworks portion of the reclamation activities. This includes a tracked excavator, rock truck, and dozer.

Typical farm equipment or an equivalent ATV setup will be used to complete the revegetation portion of the reclamation activities. This includes a rubber-tired tractor or equivalent ATV with seeding attachment.

12.2. Recontouring

Recontouring will be completed using crushing elimination and any other material not used for production purposes. Any piled material of this type is described as general reclamation material and labeled on the current conditions map as "RM#". The total volume of reclamation material is 21,223 m³.

The active area of the pit will be recontoured to sloping no greater than 20:1 for the majority of the pit to meet Class 3 CLI capability. A general north aspect will be maintained as part of the recontouring. Slopes located along the property boundaries will be recontoured to sloping no greater than 3:1.

The pit floor will be ripped where compacted prior to replacing topsoil.

12.3. Topsoil Placement

Topsoil placement will target, at a minimum, 80% of the pre-disturbance thickness. This is based on the industry norm of expected soil losses during soil handling activities.

The topsoil piles are labeled on the current conditions map as "TS#". The total volume of topsoil is 6,824 m³.

The disturbed area requiring topsoil is 5.8 hectares.

Based on the area requiring topsoil and the volume of topsoil available, the calculated topsoil thickness would be 12 cm. This is 1 cm less than the targeted replacement depth of 13 cm stated in the current Activities Plan. A site assessment of the area will be completed in May 2021 to determine possible increases in topsoil volumes that could go towards meeting the original targeted depth of 13 cm. If no increase in volume is found the targeted depth of 12 cm will be used. Personnel involved in topsoil placement activities will be made aware of the topsoil volume limits and the extra care needed when handling and placing the salvaged topsoil. Topsoil placement activities will be supervised and monitored by a competent individual with experience in earthworks operations.

12.4. Revegetation

An appropriate pasture mix and fertilizer for establishing pasture land along with the application rates will be discussed and finalized with the landowner.

The replaced topsoil will be seeded using typical farm equipment or an equivalent ATV setup.

13. Monitoring and Maintenance Program – Six Months

As per the EPO requirements a six-month monitoring and maintenance program will be implemented after final reclamation is completed.

The program scope will cover the completed reclamation activities under the EPO and will monitor the success of the implemented activities and identify the need for any maintenance to meet the objectives of the Plan.

Monitoring of the following will occur:

- Soil stability and signs of erosion
- Surface drainage compared to plan
- Seed germination success
- Weed occurrences

Maintenance activities required to address any issues found in the monitoring portion of the program will be implemented in the applicable season. They could include, but not limited to:

- Corrective earthworks (summer, fall)
- Additional seeding (spring, summer)
- Spraying for weeds (summer)

If the reclamation activities are completed shortly before winter conditions, the monitoring and maintenance will continue in the spring and summer of the following year as part of the EPO requirements or as part of the EPEA registration process in preparation of applying for a reclamation certificate and eventual termination of the registration.

14. Schedule

Year	Activities covered under EPO or EPEA Registration	Description	Completion Date
2021	EPO	Remove marketable material as markets allow.	Variable
2021	EPO	Site assessment to finalize topsoil volume availability.	May 15
2021	EPO	Complete the major recontouring by October 31 st if all marketable material is removed by September 1 st . If not defer all reclamation activities to 2022.	Oct 31 *Depending on removal of marketable materials
2022	EPO	Remove any remaining marketable material.	June 15
2022	EPO	Complete all remaining recontouring activities, place topsoil, and seed topsoil with pasture mix.	July 15
2022	EPO	Assess soil stability, revegetation success, and for the presence of weeds.	Sept 15
2022	EPO	Address any shortfalls discovered from assessment.	Sept 20
2022	EPO	Begin six month monitoring requirement as per the EPO.	Sept 20 or earlier if final reclamation completed earlier
2023	EPEA	Assess soil stability after spring thaw.	May 15
2023	EPEA	Assess revegetation success and survey for the presence of weeds.	July 1
2023	EPEA	Apply for reclamation certificate that will go towards terminating the registration.	Nov 1

15. Closure

This EPO Plan has been prepared by Tyler Pell RPFT, Aggregate Resource Manager, JMB Crushing Systems Inc.



Tyler Pell, RPFT



APPENDIX A – Current Conditions Map

NE 34
56-7-W4M

TS2

TS3

PR1

RM14

PR2

PR3

PR4

RM11

RM12

RM13

RM15

RM10

RM9

SE 34
56-7-W4M

RM1

RM2

RM3

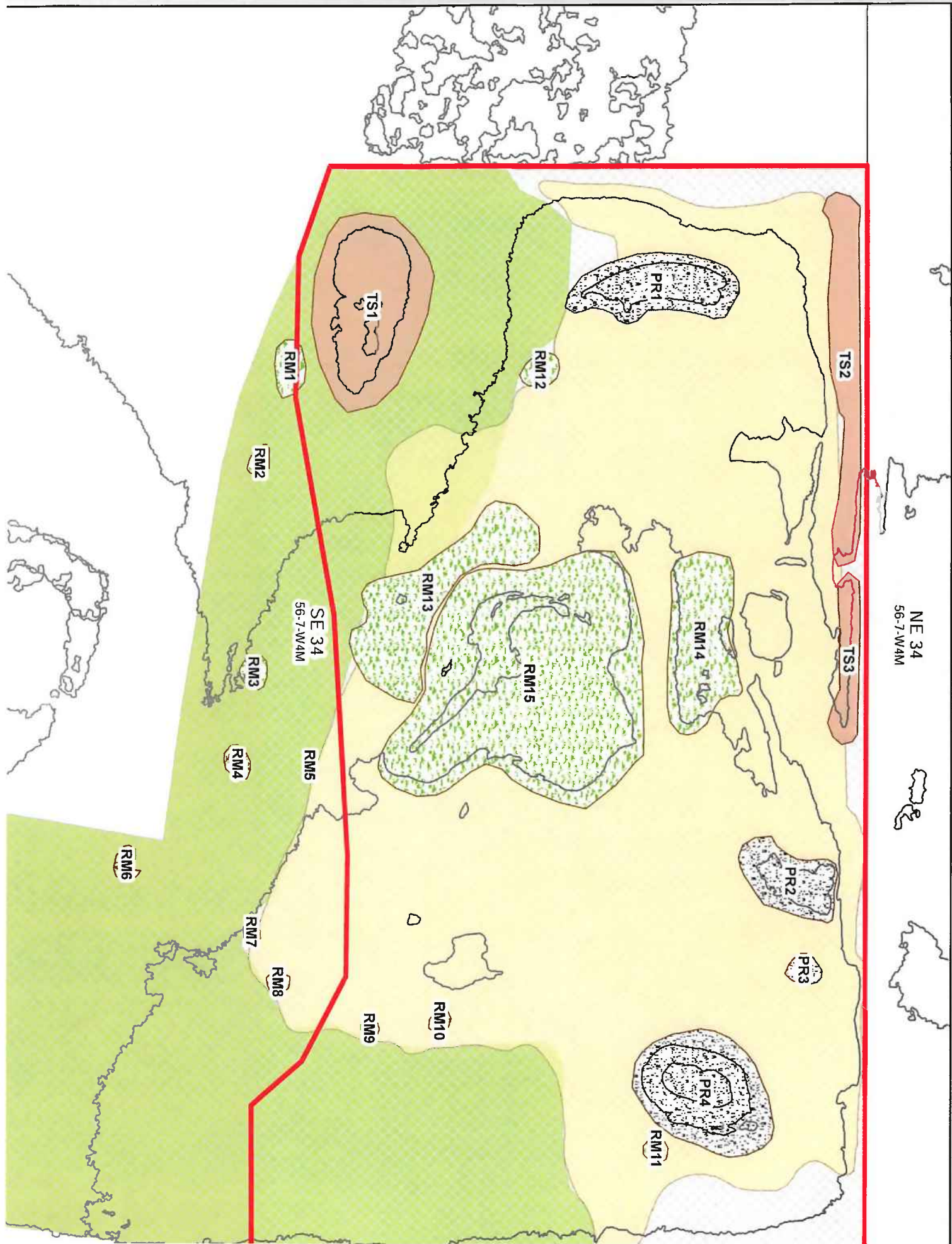
RM4

RM5

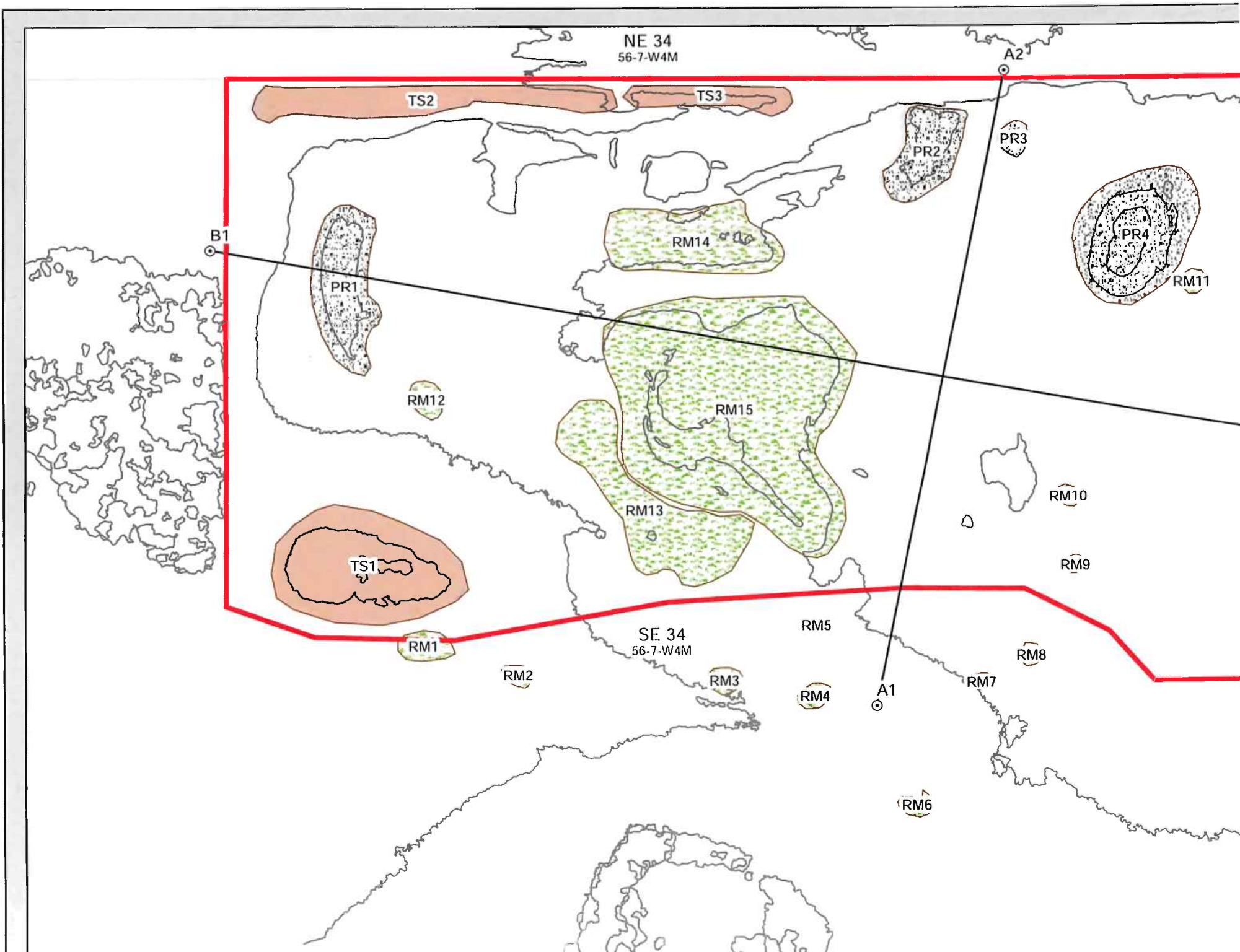
RM7

RM8

RM6



APPENDIX B – Cross Section Map

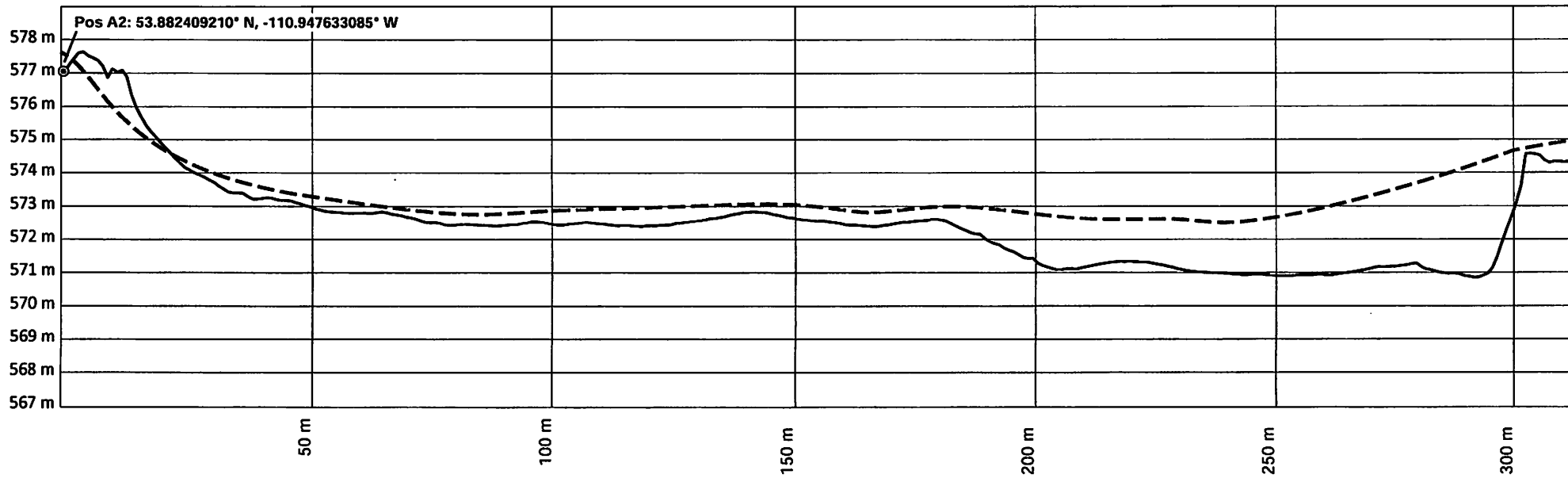


APPENDIX C – Conceptual Reclamation Map

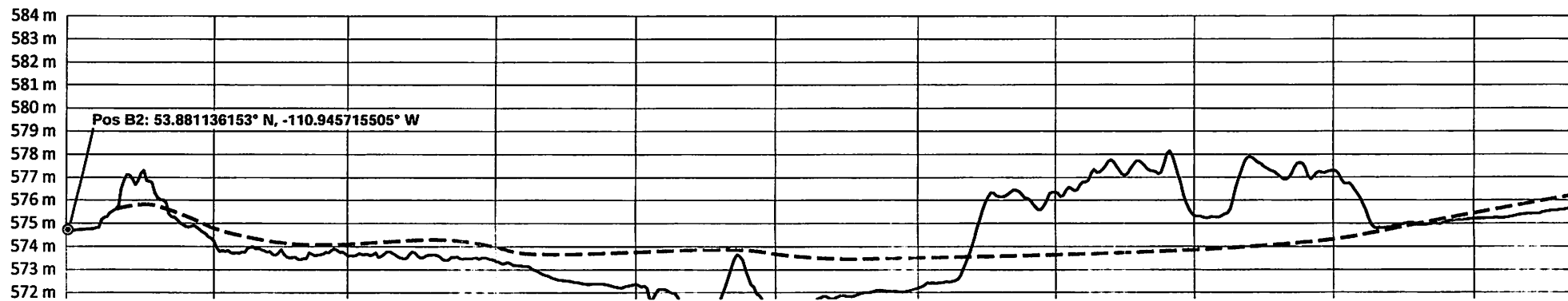


APPENDIX D – Cross Sections

Cross Section A



Cross Section B



This is **Exhibit "C"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

Megley Pit

EPO-EPEA-35659-02 Reclamation and Remedial Plan

Registration No. 149949-00-01

SW 35, NW, SW and SE 36-058-16-W4M

June 11, 2021

Prepared for

Mantle Materials Group Ltd.



11213 Winterburn Rd NW
Edmonton, AB T5S 2B2

Office (780) 809 8191
Fax (780) 809 8190
Site aspenlandgroup.com

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1.0 Introduction

Aspen Land Group Inc. (Aspen) was retained by Mantle Materials Group Ltd. (Mantle) to prepare a reclamation and remedial plan as required under Environmental Protection Order (EPO) No. EPO-EPEA-35659-02 for the Megley Pit registered under EPEA Registration No. 149949-00-01.

Alberta Environment and Parks (AEP) issued the Order to JMB Crushing Systems Inc. on March 11, 2021. Note JMB has since been amalgamated into Mantle and Mantle will be responsible for fulfilling the requirements of the Order. Essentially the Order requires Mantle to suspend all work within the pit, to prepare and implement a reclamation and remedial plan committing to complete reclamation by October 29, 2022, implement a monitoring and maintenance program following reclamation, and submit progress reports to the AEP inspector. This report fulfills the requirement to prepare a reclamation and remedial plan prepared by a professional authorized to practice reclamation on private land. Drawings that illustrate current and reclaimed conditions are included in Appendix A.

2.0 Scope of Work

The objective of this project was to prepare a reclamation and remedial plan submitted to AEP by June 11, 2021. The plan includes all information outlined in Section 4 of the EPO. More specifically the goals of the project were to:

- Complete on-site assessment including a UAV flight to determine current operational and environmental conditions.
- Complete a volumetric assessment of stockpiled reclamation materials left in place, excluding marketable aggregate which was completed by Mantle.
- Complete analysis of surface, subsurface and groundwater disturbance using aerial imagery.
- Prepare a reclamation plan that meets the requirements of the EPO
- Prepare a monitoring and maintenance program to be implemented following reclamation commencing October 29, 2022 at the latest.

3.0 Results

3.1 Location and Current Site Conditions

The pit includes two operational pits along the southern side of the North Saskatchewan River in Smoky Lake County. Megley #1 is located within SE 35, and Megley #2 within NW, SW and SE 36-58-16-W4M (the Site). A site assessment was completed on May 12, 2021 by Jeanette McGlynn and Michele Corry, P.Ag. Currently, there are 49.45 ha of land disturbed by the mining operation which exceeds the registered boundary area of 34.54 ha by 14.91 ha. Megley #1 has been reclaimed with a 4.33 ha low area that is



beginning to exhibit wetland properties. Megley #2 is an open pit with topsoil and subsoil stockpiled along the perimeter of the pit. Water is collecting in two open excavations within the southwest and east portions of the pit.

3.2 Topography

The Site is located on a fluvial landform along the upper terrace of the North Saskatchewan River. The landscape slopes gently to the north with slopes averaging 2-5 % and elevations that range from 583 m to 595 m as shown on Drawing No. 3-11. The pit boundary is 285 m from the North Saskatchewan River at its closest point.

3.3 Drainage

The Site has a general north aspect and is typically well drained. A swale conveys seasonal flow through SE 35-58-16-W4M into NW 36-58-16-W4M by a culvert placed within the road allowance towards the North Saskatchewan River. This swale appears to have existed within SW 36 prior to any pit activity but is not visible within SE 35-58-16-W4M in 2006 (Drawing No. 4-11).

Two open excavations in SW 36-58-16-W4M have accumulated water and, if water is still present during the seasonal low, will require pumping out prior to being filled in. There is a wetland immediately adjacent stockpile # 17 that will be incorporated into the reclamation plan.

A reclaimed low area in SE 35-58-16-W4M is beginning to exhibit wetland properties and is being used by wildlife and waterfowl. North of this wetland and located next to a previously reclaimed gas well, soils showed evidence of being over-saturated. Pre-disturbance conditions are shown on the 2006 air photo, which displays some shading that may indicate a difference in soil moisture conditions prior to mining disturbance in these areas. This would explain the oversaturated soil and accumulation of water within a reclaimed low area following mining activities.

3.4 Soils

The soils are classified as an Orthic Black Chernozem on moderately coarse textured (SL) sediments. The co-dominant series are Peace River and Ponoka.

Soil depths within the pit are highly variable. The pre-disturbance topsoil depth ranged from 10 cm to 28 cm as included in the 2007 Megley Amendment Application prepared by Millennium EMS Solutions Ltd. In 2017, six locations were assessed offsite by Aspen Land Group and topsoil depths were found to range from 12 cm to 29 cm with a sandy loam to loam texture. A further five locations were assessed offsite on May 12, 2021 for the purpose of this report, with topsoil depths ranging from 16 cm to 39 cm. Nine



locations in the reclaimed area within SE 35-58-16-W4M were also assessed with topsoil depths ranging from 9 cm to 53 cm with a sandy loam texture.

Topsoil and subsoil have been stripped and stockpiled throughout SW 36-58-16-W4M. In total there is 32,870 cubic metres in stockpile. In the southern portion of SW 36-58-16-W4M topsoil and subsoil appear to have been stripped separately for the most part, but two stockpiles appeared to be a mixture of topsoil and subsoil. This may have been a result of thinner subsoil depths in some locations throughout the pit. In the northern portion of SW 36-58-16-W4M, it appears that only topsoil was stripped and stockpiled, and subsoil remains in situ throughout the 4.6 ha disturbed area aside from the small, excavated areas in the northwest corner. Table 1 outlines the volume of soil currently in stockpile and locations are shown on Drawing No. 2-11.

Table 1. Volume and Composition of Reclamation Stockpiles		
Stockpile	Composition	Volume (m ³)
1	Topsoil	405
2	Topsoil	153
3	Topsoil	116
4	Topsoil	743
5	Topsoil	107
6	Topsoil	50
7	Topsoil	2,025
8	Topsoil	2,056
9	Topsoil	3,517
10	Topsoil	2,023
11	Subsoil	783
12	Subsoil	173
13	Mixed	1,504
14	Subsoil	393
15	Topsoil	5,985
16	Topsoil	972
17	Topsoil	892
18	Topsoil	1,556
19	Topsoil	610
20	Topsoil	368
21	Topsoil	872
22	Topsoil	1,823
23	Topsoil	2,894
24	Topsoil	123
25	Subsoil	52
26	Subsoil	310



Table 1. Volume and Composition of Reclamation Stockpiles		
Stockpile	Composition	Volume (m ³)
27	Mixed	570
28	Subsoil	823
29	Topsoil	972
Total		32,870

3.5 Vegetation

The Site is located within the Dry Mixedwood subregion, which is characterized by aspen forests and cultivated landscapes, with fens commonly occurring in low-lying areas. Typically, the land is cultivated with annual crops. No vegetation was present at the time of the site assessment but the SE 35-58-16-W4M is intended to be seeded to a cereal crop this year.

3.6 Land Capability

The Canadian Land Inventory classification for the pit in SW 35-58-16-W4M and the southwestern section of SW 36-58-16-W4M is a Class 2, subclass C. In the northeastern section of SW 36-58-16-W4M, the Canadian Land Inventory classification is 90% Class 4, subclass C and 10% Class O.

Soils in Class 2 have moderate limitations that restrict the range of crops or require special conservation practices and soils in Class 4 have severe limitations that restrict the range of crops or require special conservation practices. Subclass C indicates an adverse climate.

4.0 History of Surface, Subsurface, and Groundwater Disturbance

Typical disturbance of the surface and subsurface has occurred as part of the excavation of in-situ aggregate. The total historic disturbance of JMB operations is 49.45 ha. Of that, 15.15 ha within Megley 1 has already been reclaimed and 34.3 ha is considered active within Megley 2. An aerial photo review was completed to determine the historical disturbance and is outlined in Table 2 and shown on Drawings No. 4-11 to 5-11.

Other historical events related to the landscape include:

- A reclamation certificate was received for a gas well located at 8-35-58-16-W4M on June 18, 1998. An aerial photo from 2006 shows evidence of a change in moisture conditions following the original layout of the well pad and access road. A site visit in 2021 found evidence of poor drainage within this section, eastwards of the old wellsite.



- A reclamation certificate was received for a gas well located at 7-36-58-18-W4M on December 15th, 2004. There is no evidence of a change in drainage before and after pit activity.
- A wetland has developed in SE-35-58-16-W4M where pit activity occurred in 2008. There is no clear evidence that a wetland was developing prior to 2007 but air photos from 1978 suggest that the landscape is subject to saturated conditions and a soil assessment completed in May 2021 found evidence of gleying and mottling within the sandy soils.
- A swale running from Range Road 61 through 5-36-58-16-W4M towards the North Saskatchewan River was evident in 1978, prior to any activity beyond agriculture.

Table 2. Aerial Photo Review of Historical Disturbance	
Year	Summary of Activities
2006	<ul style="list-style-type: none"> • Cultivated land prior to pit construction. • Evidence of drainage issues following contours of well pad and access road. • Gas pipeline RoW (7720664) in SE 36-58-16-W4M received a reclamation certificate on December 15th, 2004.
2008	<ul style="list-style-type: none"> • Pit activity evident in SE 35-58-16-W4M, SW 36-58-16-W4M, and SE 36-58-16-W4M. • Potential pooling of water within the pit located in SE 35-58-16-W4M. • Swale in SW 36-58-16-W4M undisturbed.
2009	<ul style="list-style-type: none"> • Disturbance extended in SE 35-58-16-W4M with vegetation becoming established in inactive areas. Evidence of water pooling within the area. Evidence of swale extending past RR61 into SE 35-58-16-W4M. No change in SW 36-58-16-W4M.
2010	<ul style="list-style-type: none"> • Wetland potentially becoming established in SE 35-58-16-W4M. One bare patch remains. • No change in SW 36-58-16-W4M.
2011	<ul style="list-style-type: none"> • No further changes evident.
2014	<ul style="list-style-type: none"> • Landowner has cultivated portions of SE 35-58-16-W4M previously untouched since 2006. Two areas in the disturbed zone were left untouched; where the wetland was showing signs of developing and where evidence of bare ground remained. • Disturbance in SW 36-58-16-W4M extended in centre of pit.
2015	<ul style="list-style-type: none"> • No further changes evident
2016	<ul style="list-style-type: none"> • Disturbance in SW 36-58-16-W4M extended north.
2021 (Drawing No. 2-11)	<ul style="list-style-type: none"> • Wetland has developed three distinct zones; shallow open water, emergent, and wet meadow and spread towards eastern boundary of SE 35-58-16-W4M. Land has been cultivated. Saturated soils are present to the north of the developing wetland. • Vegetation in northern portion of SW 36-58-16-W4M is regenerating.



5.0 Adjacent Land Use

Overall land use in the general area consists of agricultural use with some oil and gas development. More specifically, the land to the north is used for cultivation, land to the east is owned by Alberta Transportation for aggregate extraction but is currently used for agriculture or remains undisturbed, and land to the south is used for agriculture as is land the west.

The North Saskatchewan River runs north of the pit and an old farmstead lies on the southern boundary of Megley 1. While oil and gas activity is common within the area, there are no active wells within or adjacent to the Site. A gas well operated by Alberta Ltd. located in 8-35-58-16-W4M was drilled in 1981, abandoned in 1996, and reclaimed June 18, 1998 (Rec Cert 36602). A gas well operated by Devon Canada Corporation located in 7-36-58-16-W4M was drilled in 1976, abandoned in 1993, and reclaimed December 15, 2004 (Rec Cert 00213129-00-00).

6.0 Marketable Aggregate

Marketable aggregate was delineated and calculated by Mantle using the UAV flight data. Three piles were identified as marketable aggregate and determined to be 1,878 m³ in total and worth \$49,038.00.

7.0 End Land Use

The end land use will be cultivated agricultural land used for annual cereal crops.

8.0 Reclamation Objective

The reclamation objective is to reclaim the pit to agriculture end land use that meets equivalent land capability so that a reclamation certificate can be issued and the EPEA registration can be cancelled. More specifically, the goals of reclamation are:

1. To restore the land to an agricultural landscape without any water features left in place within SW 36-58-16-W4M.
2. Ensure positive surface water flow towards the North Saskatchewan River
3. Replace an even depth of topsoil suitable for agricultural practices

8.1. Key Reclamation Issues

Three areas of concern have been flagged that may require extra attention during the reclamation process. Methods to reclaim each area are discussed below:



i. Northern Portion of SW-36-58-16-W4M

Excavations in this area need to be filled to grade to maintain positive drainage to the north toward the North Saskatchewan River. Internal slopes need to be constructed at a gradient of 20:1 and covered with an even layer of topsoil.

ii. SE 35-58-16-W4M (Megley #1)

A layer of reject was found covering a layer of topsoil in a wet area east of the tree patch. This reject will be removed, and a swale created if required to create positive drainage towards the North Saskatchewan River.

More patches of reject gravel were found on the surface north of the farmstead. A preliminary search indicates that there is an excess of topsoil between the tree patch and developing wetland and if necessary, further assessments can be done to determine if the Site should be disturbed to redistribute the topsoil more evenly and supplement the areas with reject patches.

An open water wetland is developing in the southern portion of the pit area. While this was not evident prior to pit construction, air photo reviews and soil assessments indicate saturated soil conditions including gleying and mottling.

iii. SW 36-58-16-W4M

Two low lying areas have accumulated surface water. AEP has requested that a *Water Act* approval is obtained to pump out this water so the Site can be recontoured to prevent the accumulation of water. It is recommended that water levels are assessed in the fall when they are typically at their lowest. If no water is evident, then pits should be filled in. If water is present, it shall be pumped into temporary recharge ponds that have not intercepted the groundwater, allowing for the low-lying areas to be recontoured to fit in with the 20:1 and 10:1 slope required.

8.2 Equipment Type

Typical heavy equipment will be used to complete the earthworks portion of the reclamation activities. This includes a tracked excavator, rock truck, and dozer.

Seeding will be left to the discretion of the landowner as the land is returned into his annual crop rotation.

8.3 Recontouring

Recontouring of the landscape will be completed to establish slopes that naturally integrate with the surrounding landscape. Any low areas observed to be collecting surface water will be filled with reject gravel materials and incorporated into the surrounding landscape. Slopes along the property boundary will be constructed at 3:1 or gentler and internal slopes will be constructed to 20:1 or 10:1 as shown on



Drawings No. 6-11 to 10-11 or gentler. Positive drainage towards the North Saskatchewan River to the north will be maintained.

As previously mentioned, the low-lying areas in SW 36-58-16-W4M will need to be assessed during the seasonal low period to ascertain whether water remains present or not. If no water is present, the low-lying areas can be recontoured with reject material to fit in with the 20:1 and 10:1 slope required. If water is still present, this shall be pumped into temporary recharge ponds that have not intercepted the groundwater, prior to being recontoured.

Just north of the developing wetland, reject material lies on the surface over the top of topsoil in a low-lying wet area. While this area has been reclaimed and disturbances should be kept at a minimum, it is recommended that this reject material is removed to reveal the topsoil below and if necessary, a swale created to create positive drainage towards the North Saskatchewan River.

8.4 Topsoil Placement

Topsoil placement will target at a minimum, 80% of the pre-disturbance thickness as based on the industry norm of expected soil losses during soil handling activities; however, it should be noted that pre-disturbance soil assessments showed soil depths to be widely variable ranging from 10 cm to 39 cm.

Approximately 34 ha remains in a disturbed state within the NW, SW and SE 36-58-16-W4M; 4.6 ha in the northern portion and 29.4 ha in the main pit area. There are 20 topsoil piles with a total volume of 29,679 m³. Based on the area requiring topsoil and the volume of topsoil available, the calculated topsoil thickness would be 8.7 cm. Considering the variable soil depths found within the area, 10.0 cm would with careful handling achieve 80% of the minimum value of 10 cm found pre-disturbance; however, two mixed soil piles and six subsoil piles were classified during the onsite visit in May 2021 which could be suitable as a cover soil in this situation. The soil volume for these piles totaled 4,608 m³ and would add an additional 1.4 cm of soil cover bringing the total depth of soil available to 10.1 cm.

Topsoil (including subsoil and mixed piles) will be replaced over reject or overburden once final contouring is complete. Any areas exhibiting compaction will be alleviated prior to the replacement of the topsoil layer. Topsoil will be replaced as evenly as possible and disked to break up the soil and improve soil granulation before seeding.

Personnel involved in topsoil placement activities will be made aware of the topsoil volume limits and extra care needed when handling and placing the salvaged topsoil. Topsoil placement activities will be supervised and monitored by a competent individual with experience in earthworks operations.



8.5 Wetland Development

The developing wetland in SW 35-58-16-W4M is not an original feature of the landscape but has since become well established. While the wetland was not present prior to the pit construction, gleying and mottling in the soils and historical air photo reviews indicate that water has always been present at or just below the surface.

Water appears to have been accumulating water since 2009 within the low area and is beginning to develop three wetland zones. The shallow open water plant zone is 1.25 ha and located in the western portion of the wetland with an estimated depth of 0.6 to 1.5 m. The emergent plant zone is 1.02 ha with a maximum depth of 0.6 m and is dominated by cattails and other wetland species. The wet meadow plant zone is 2.05 ha and transitions into the agricultural land and may be incorporated into cultivation in drier years. It is anticipated that with time this waterbody could development into a valuable, functional wetland habitat.

8.6 Revegetation

The Site will be incorporated back into the landowners' crop rotation after soils have been replaced.

9.0 Monitoring and Maintenance Program

As per the EPO requirements, a six-month monitoring and maintenance program will be implemented commencing October 29, 2022 once reclamation is complete. The program scope will be to monitor the success of the implemented activities and identify the need for any maintenance to meet the reclamation objectives.

The landscape will be inspected for erosion, subsidence, and positive drainage. Revegetation efforts will be monitored for plant emergence, health, and viability, while weedy species will be monitored and controlled when required outside of the farmer's practice.

Maintenance activities required to address any issues found in the monitoring portion of the program will be implemented in the applicable season. Maintenance work will be dependent upon the reclamation issue identified but may include corrective earthworks, decompaction, weed control measures, or soil amendments.

Further maintenance will be up to the discretion of the landowner as he will incorporate his own weed management and fertilization program to the land.



10.0 Schedule

The schedule of reclamation activities over the next two years is outlined below in Table 3.

Table 3. Schedule of Activities for Reclamation			
Year	Activities covered under EPO or EPEA Registration	Description	Completion Date
2021	EPO	Complete the major recontouring	December 15 th
2021	EPO	Fill in open excavations that have intercepted the groundwater	December 1 st
2022	EPO	Remove all remaining marketable material. Complete all remaining recontouring activities and replace topsoil.	July 15 th
2022	EPO	Assess soil stability	September 15 th
2022	EPO	Address any shortfalls discovered from assessment.	September 20 th
2022	EPO	Begin six-month monitoring requirement as per the EPO.	October 29 th or earlier if final reclamation completed earlier
2023	EPEA	Assess soil stability after spring thaw.	May 15 th
2023	EPEA	Apply for a reclamation certificate that will go towards terminating the registration.	November 1 st



11.0 Closure

This reclamation and remedial plan has been prepared by Aspen Land Group for the sole benefit of Mantle Materials Group Ltd. This document may not be used by any other person or entity, with the exception of Alberta Environment and Parks, without the express written consent of Aspen Land Group Inc. and Mantle Materials Group Ltd. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgment of Aspen Land Group Inc. based on the data obtained. Due to the nature of the data available, Aspen Land Group Inc. cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

Prepared by:

Aspen Land Group Inc.
11213 Winterburn Road NW
Edmonton, AB T5S 2B2

Written by:



Jeanette McGlynn

Reviewed by:

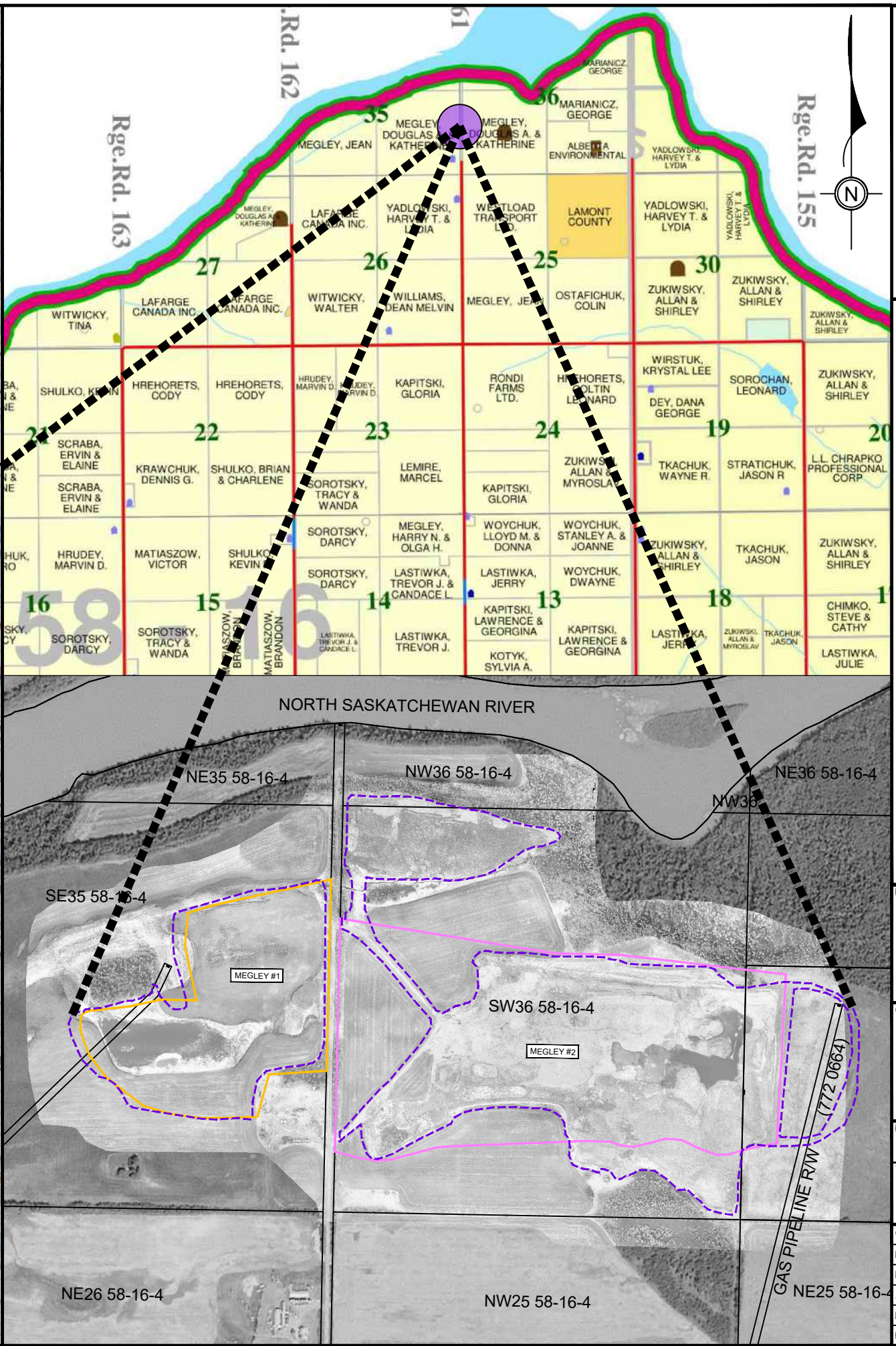
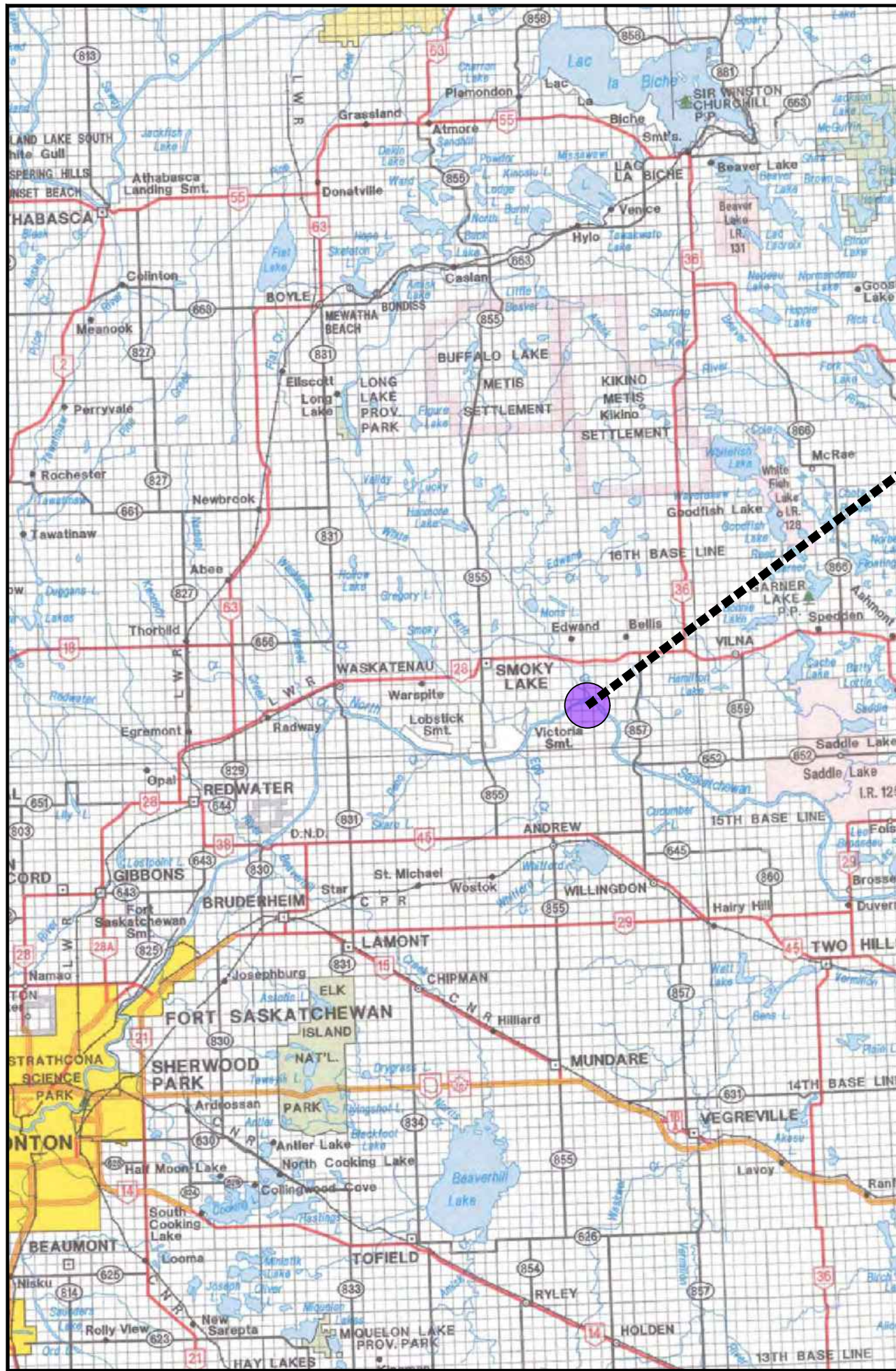


Michele Corry, P.Ag.





Appendix A: Drawings



LEGAL LAND DESCRIPTION
 NW, SW & SE 36-58-16 W4M & SE 35-58-16 W4M

1	6
35	13 14 15 16 12 11 10 9 5 6 7 8 4 3 2 1

LEGAL SUBDIVISION - LSD
 1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- CURRENT DISTURBANCE AREA/PIT BOUNDARY (49.45 ha)
- MEGLEY #1 REGISTRATION BOUNDARY (13.52 ha)
- MEGLEY #2 REGISTRATION BOUNDARY (21.02 ha)

Prepared By
Aspen
 LAND GROUP

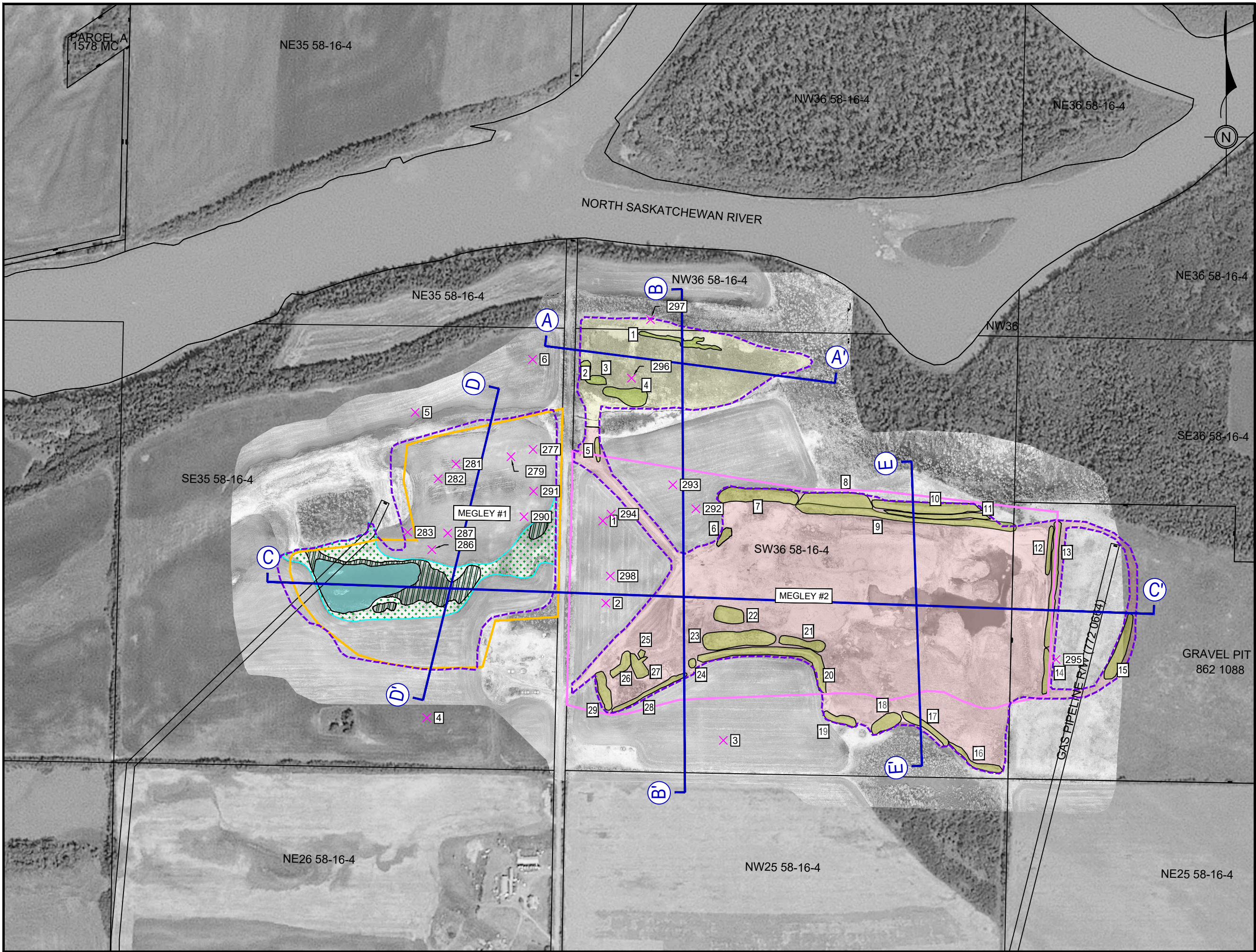
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MANTLE MATERIALS GROUP LTD.

Project
MEGLEY PIT

Title
LOCATION PLAN

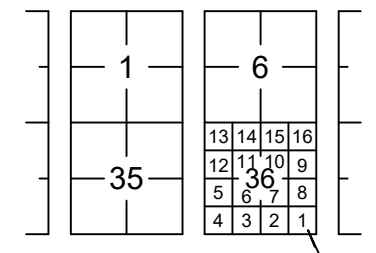
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 Drawn By: T. FOY
 Air Photo: 2016/2021
 Date: JUNE 2, 2021
 PO #: 21-014

1 - 11



LEGAL LAND DESCRIPTION

NW, SW & SE 36-58-16 W4M & SE 35-58-16 W4M



LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- - - CURRENT DISTURBANCE AREA/PIT BOUNDARY (49.45 ha)
- MEGLEY #1 REGISTRATION BOUNDARY (13.52 ha)
- MEGLEY #2 REGISTRATION BOUNDARY (21.02 ha)
- - - DEVELOPING WETLAND BOUNDARY
- TOPSOIL/SUBSOIL STOCKPILES
- SHALLOW OPEN WATER ZONE (1.26 ha)
- WET MEADOW ZONE (2.05 ha)
- EMERGENT PLANT ZONE (1.02 ha)
- NORTHERN DISTURBANCE (5.23 ha)
- SOUTHERN DISTURBANCE (29.07 ha)
- × ASSESSMENT POINT LOCATIONS

Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

MEGLEY PIT

Title

EXISTING CONDITIONS

Checked By: M. CORRY & J. MCGLYNN

Scale: 1: 6500

Designed By: M. CORRY & J. MCGLYNN

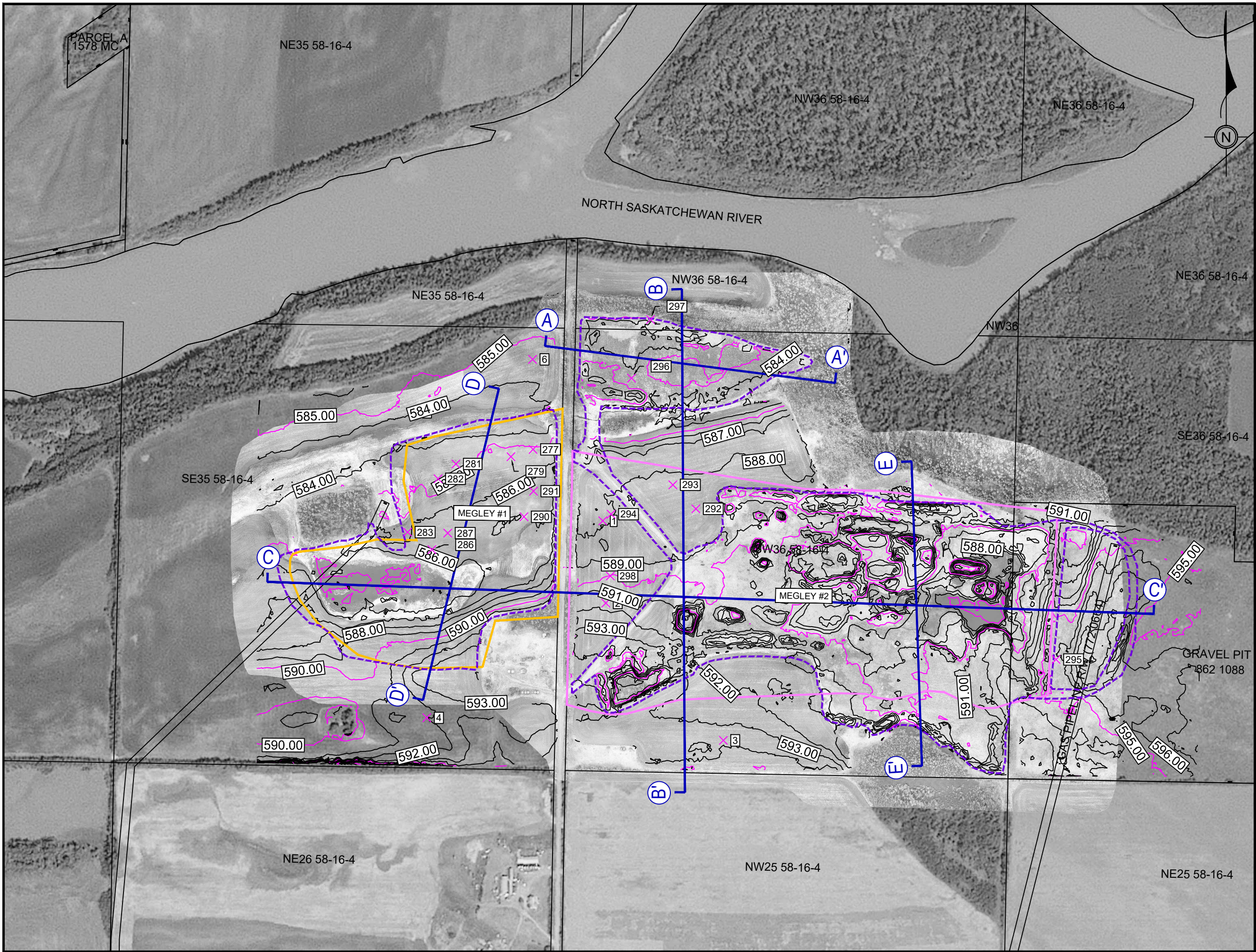
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Air Photo: 2016/2021

Date: JUNE 2, 2021

PO #: 21-014



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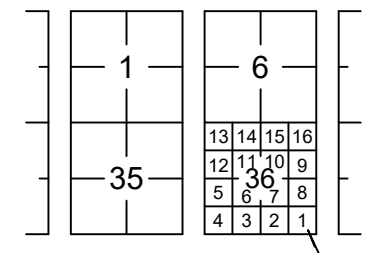
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NORTH SASKATCHEWAN RIVER



LEGAL LAND DESCRIPTION

NW, SW & SE 36-58-16 W4M & SE 35-58-16 W4M



LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- CURRENT DISTURBANCE AREA/PIT BOUNDARY (49.45 ha)
- MEGLEY #1 REGISTRATION BOUNDARY (13.52 ha)
- MEGLEY #2 REGISTRATION BOUNDARY (21.02 ha)

Prepared By



Client

**MANTLE MATERIALS
GROUP LTD.**

Project

MEGLEY PIT

Title

CONTOUR PLAN

Checked By: M. CORRY & J. MCGLYNN

Scale: 1: 6500

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

Drawn By: T. FOY

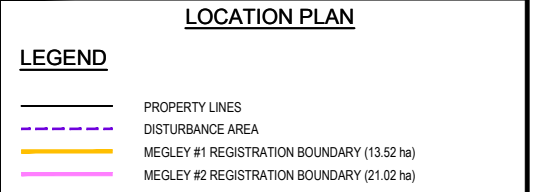
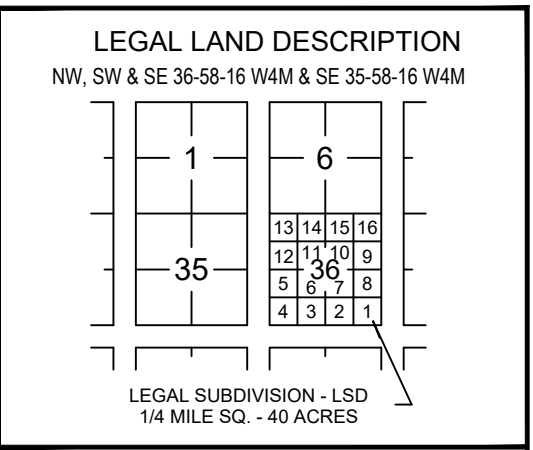
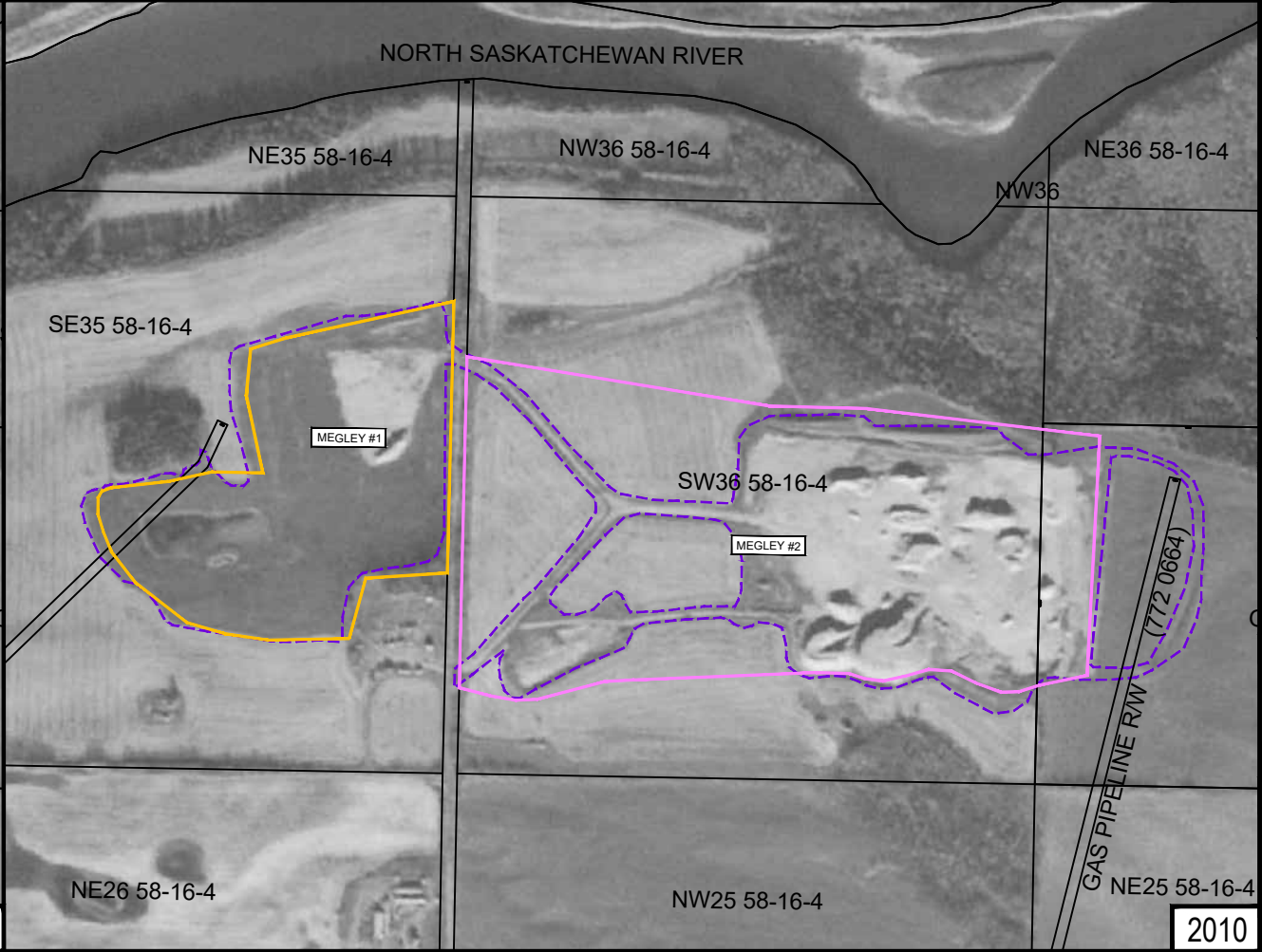
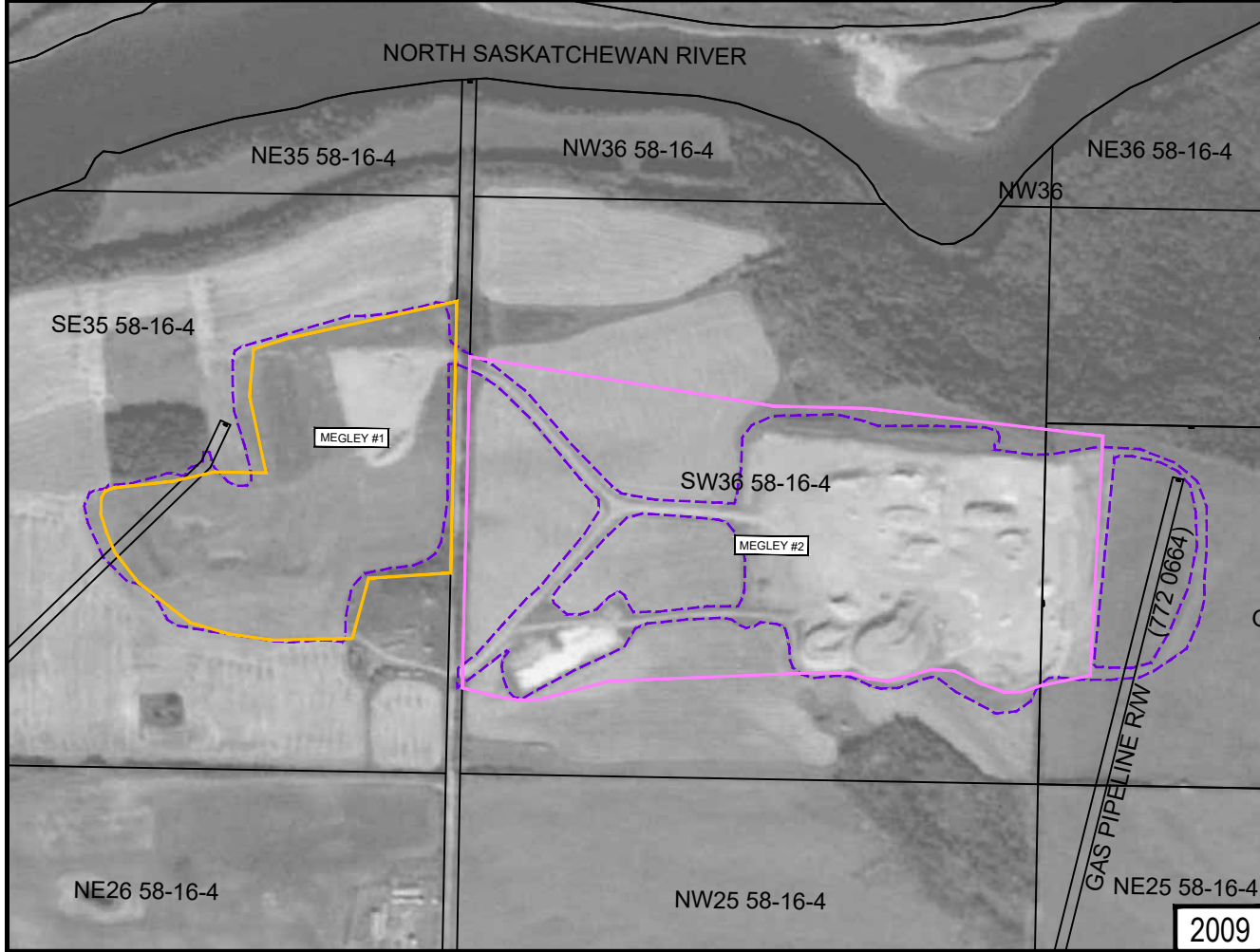
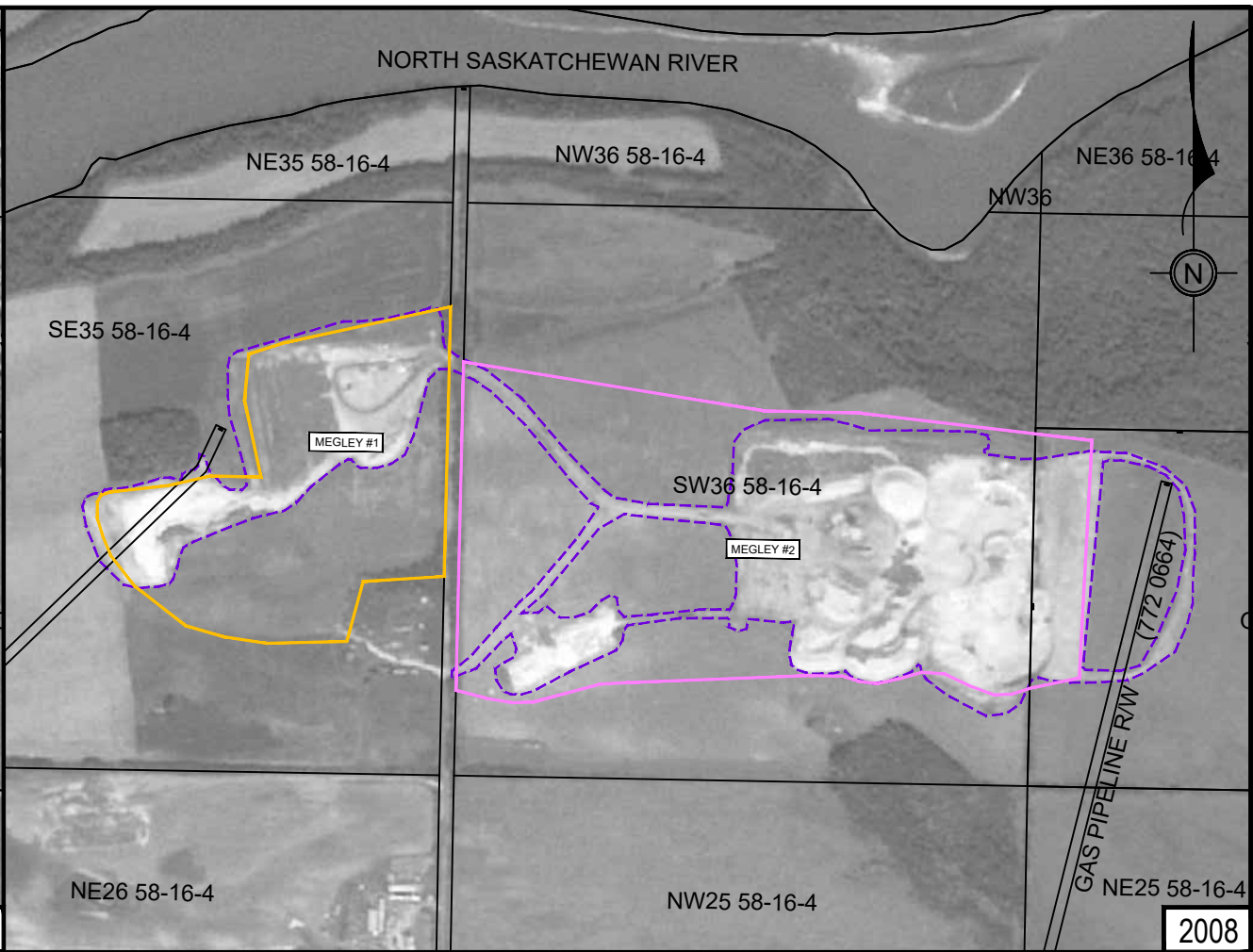
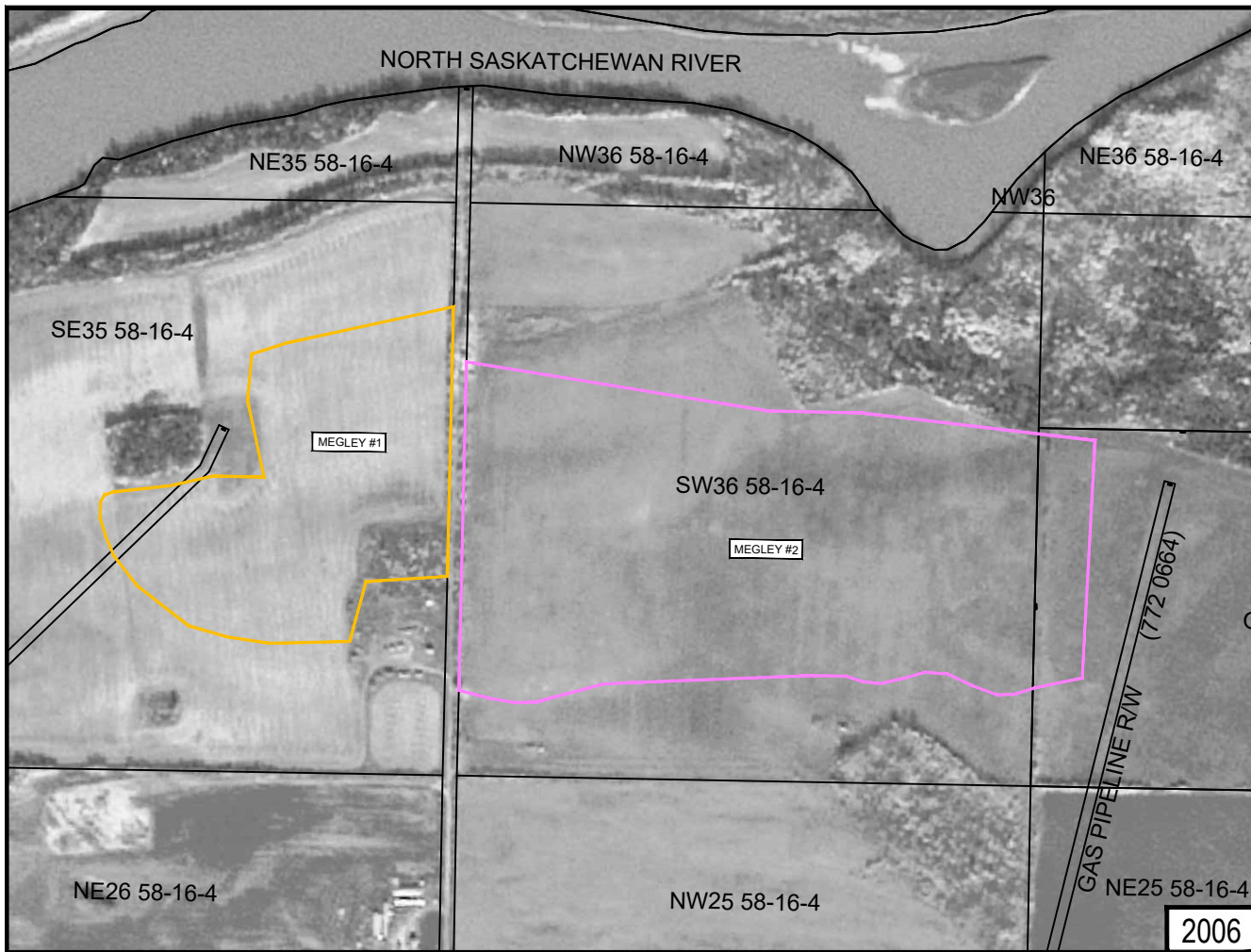
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3 - 11



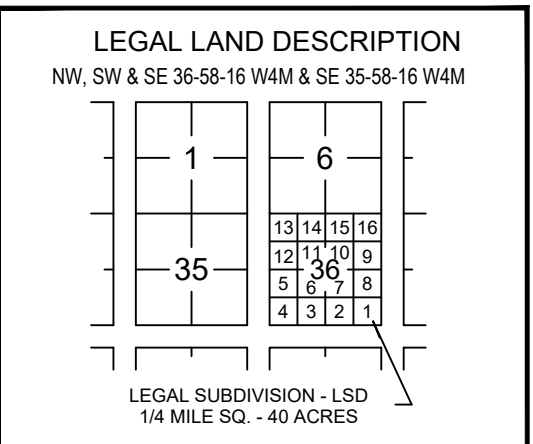
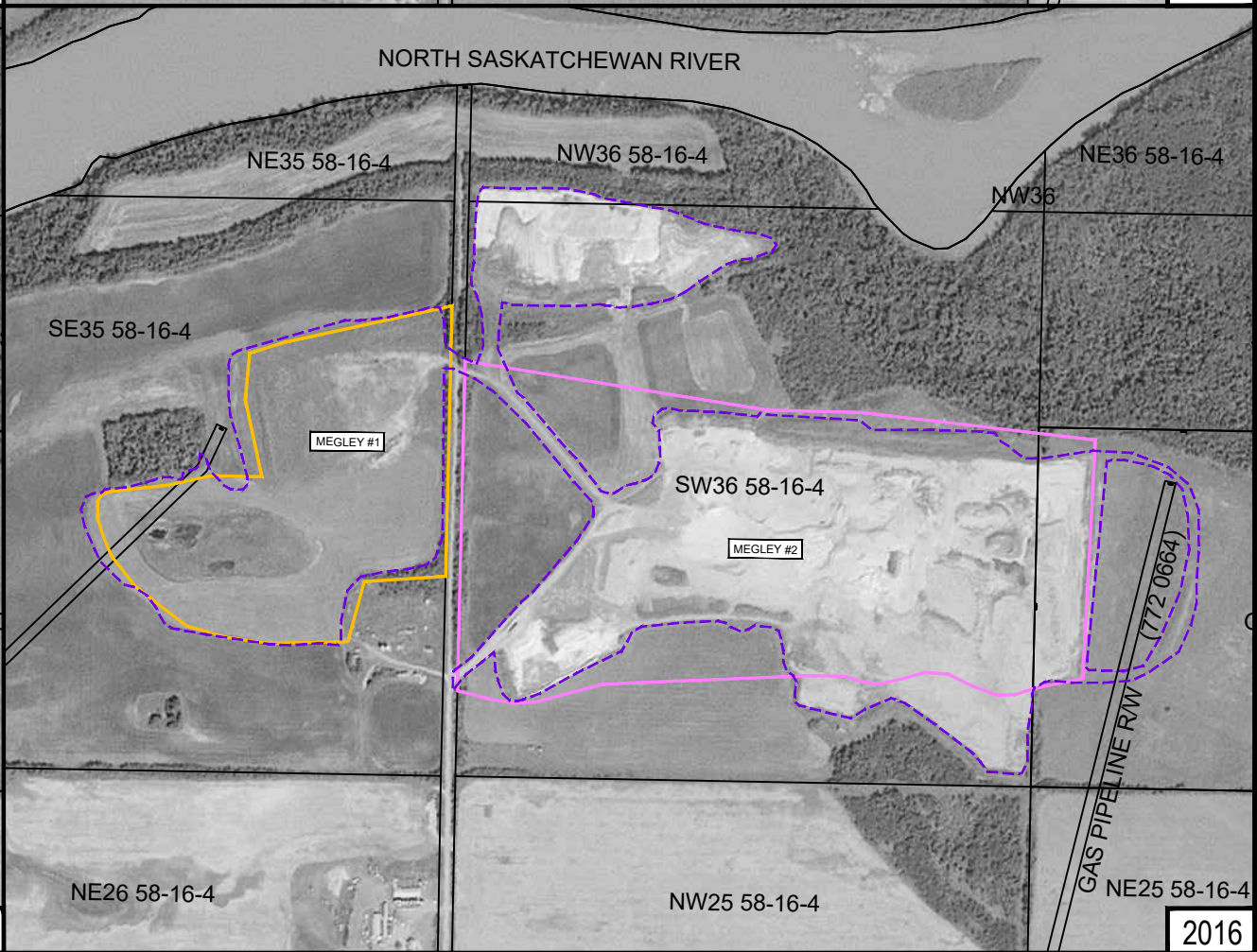
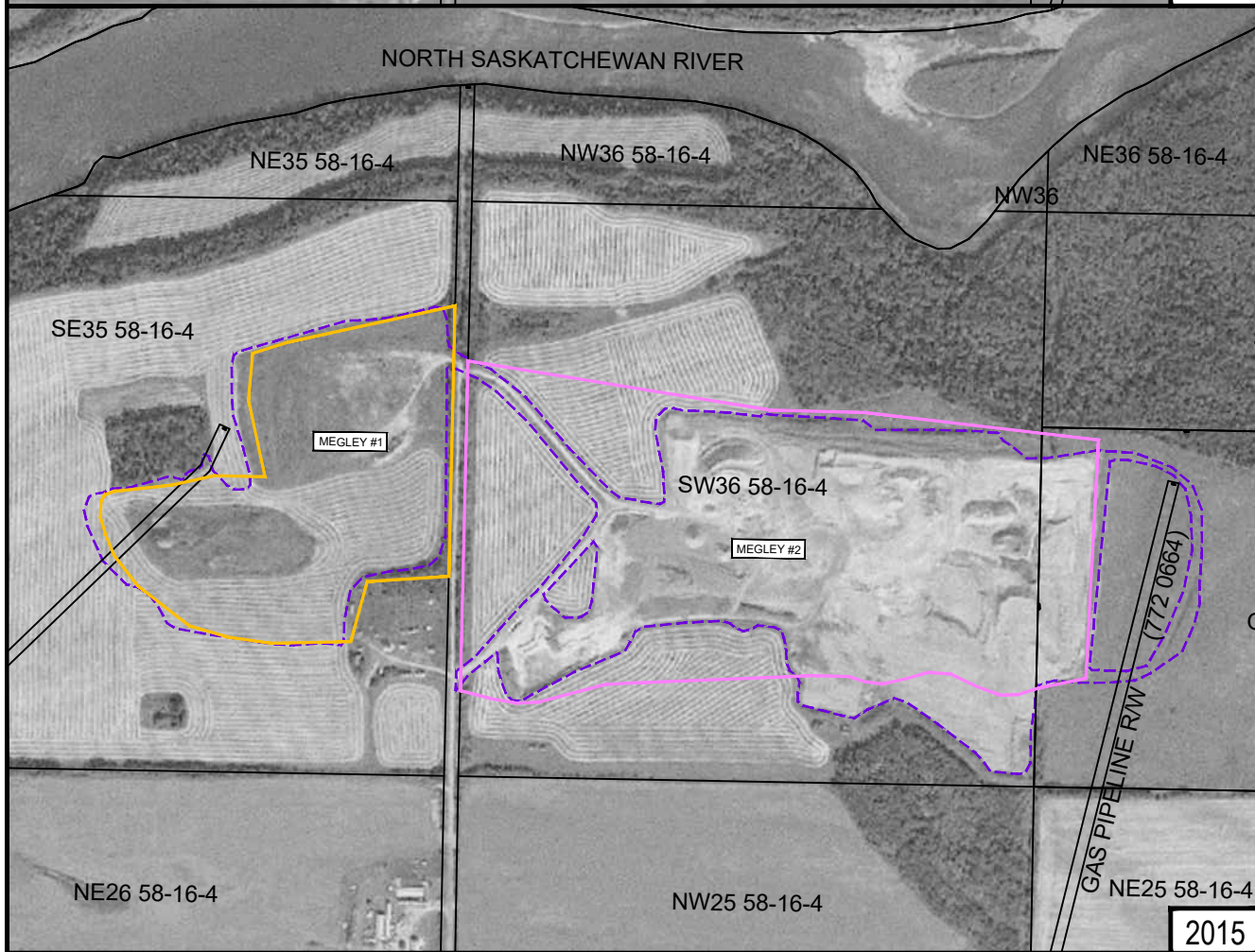
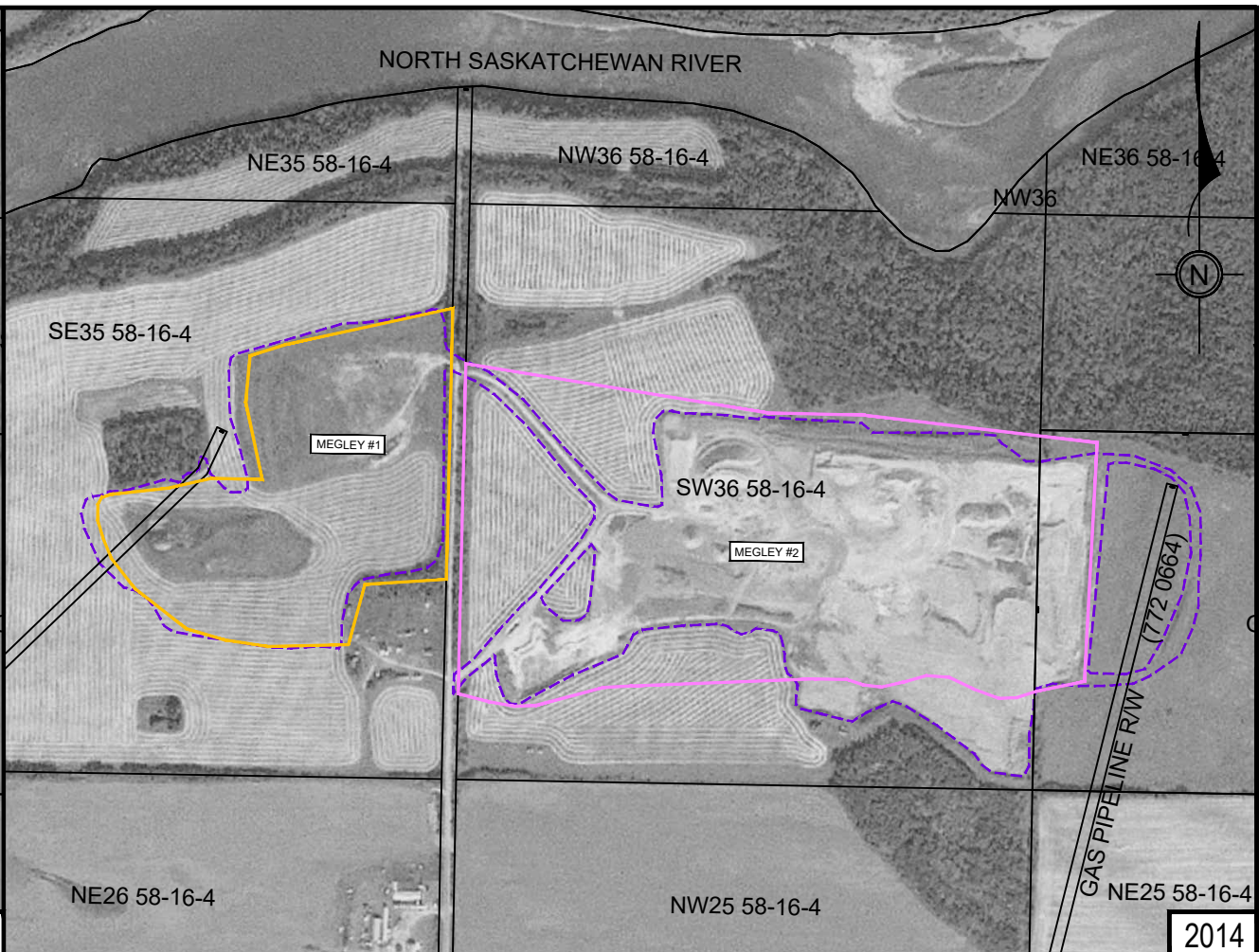
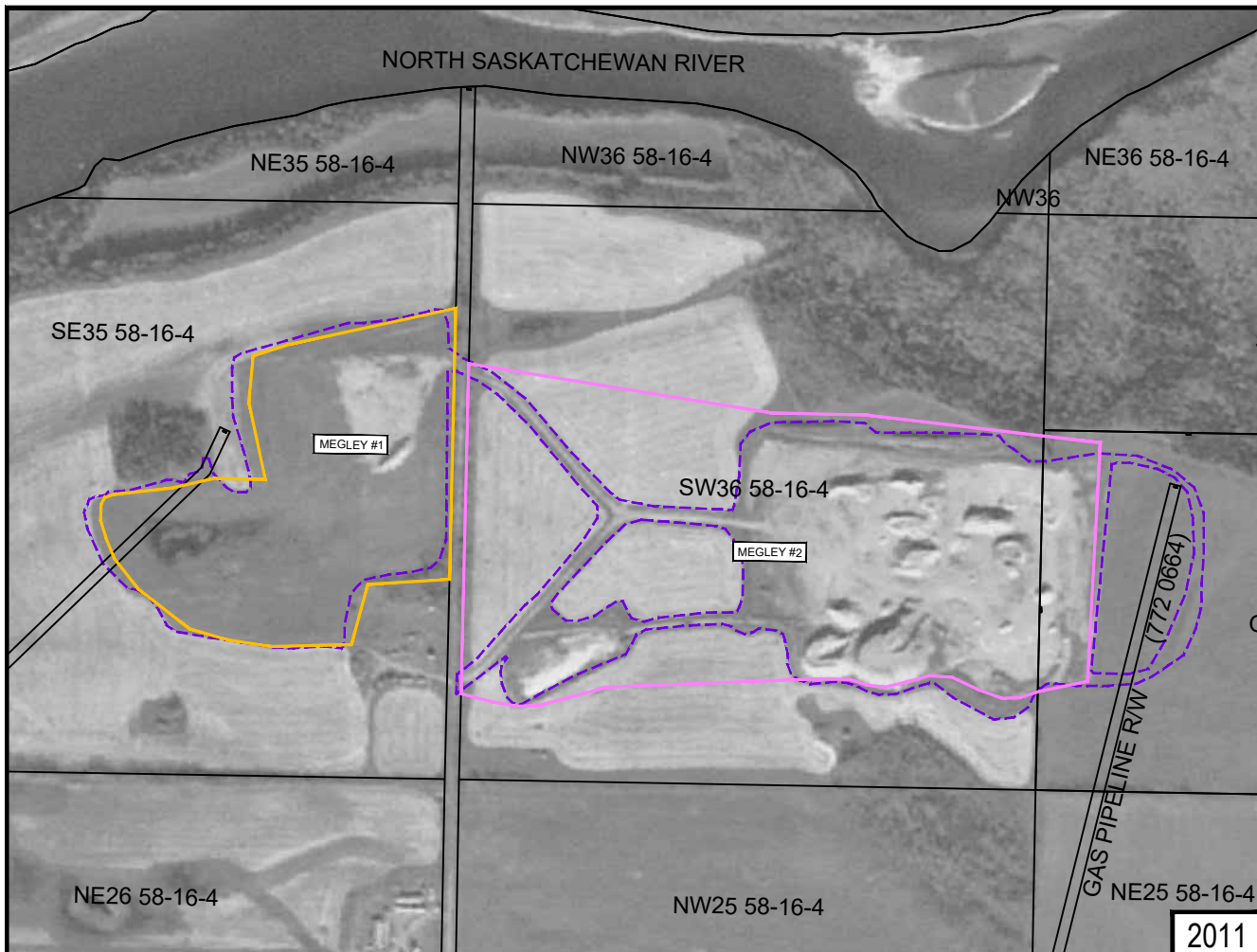
Prepared By
Aspen
LAND GROUP

Client
MANTLE MATERIALS GROUP LTD.

Project
MEGLEY PIT

Title
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Checked By: M. CORRY & J. MCGLYNN	Scale: 1:10000
Designed By: M. CORRY & J. MCGLYNN	Drawing No.
Drawn By: T. FOY	4 - 11
Air Photo: AS SHOWN	
Date: JUNE 2, 2021	
PO #: 21-014	



LOCATION PLAN

LEGEND

- PROPERTY LINES
- DISTURBANCE AREA
- MEGLEY #1 REGISTRATION BOUNDARY (13.52 ha)
- MEGLEY #2 REGISTRATION BOUNDARY (21.02 ha)

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Client

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Project

MEGLEY PIT

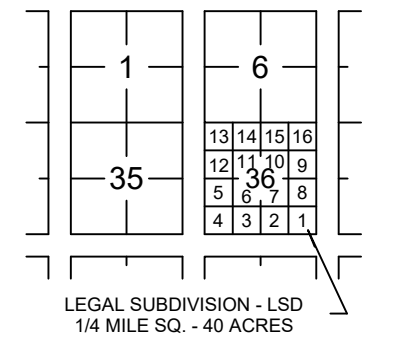
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Designed By: M. CORRY & J. MCGLYNN	Drawing No.
Drawn By: T. FOY	5 - 11
Air Photo: AS SHOWN	
Date: JUNE 2, 2021	
PO #: 21-014	

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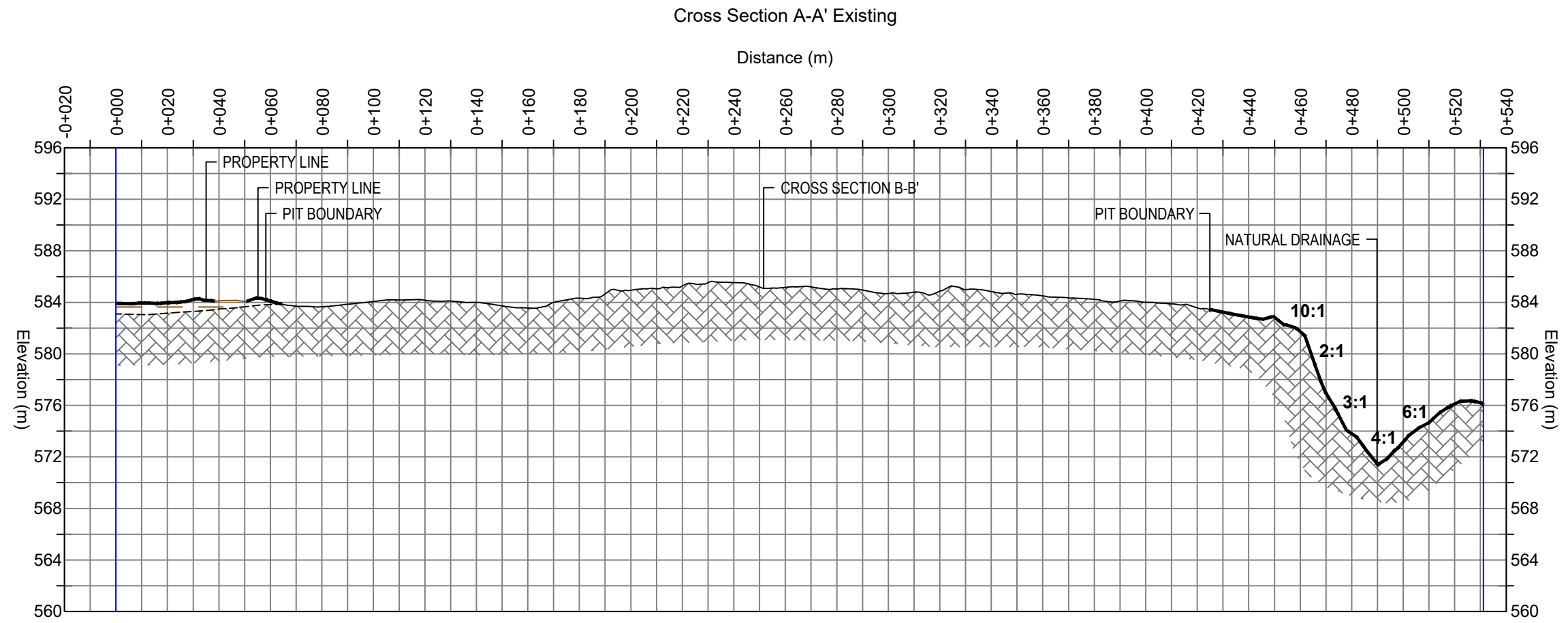
LEGAL LAND DESCRIPTION
NW, SW & SE 36-58-16 W4M & SE 35-58-16 W4M



LOCATION PLAN

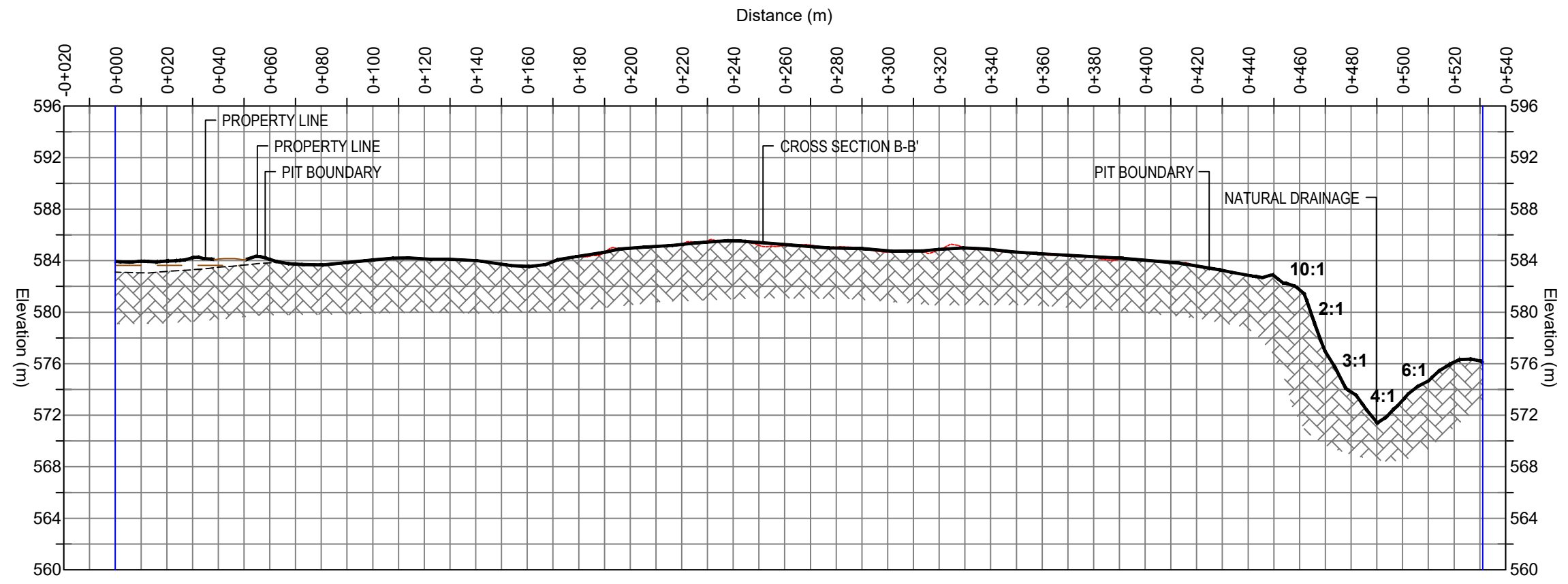
LEGEND

- TOPSOIL/SUBSOIL
- ORIGINAL SURFACE
- UNKNOWN MATERIAL



SCALE:
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H=1:2000

Cross Section A-A' Reclaimed



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Project

MEGLEY PIT

Title

**CROSS SECTION A-A'
EXISTING & RECLAIMED CONDITIONS**

Checked By: M. CORRY & J. MCGLYNN

Scale: AS SHOWN

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

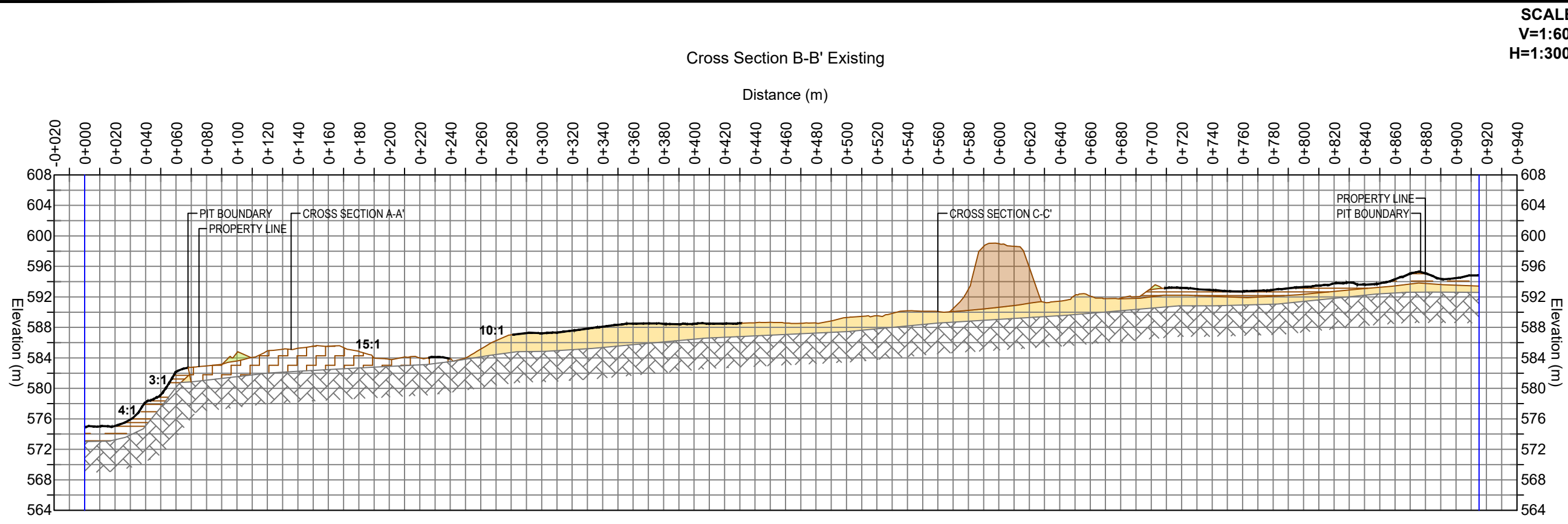
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Air Photo: NA

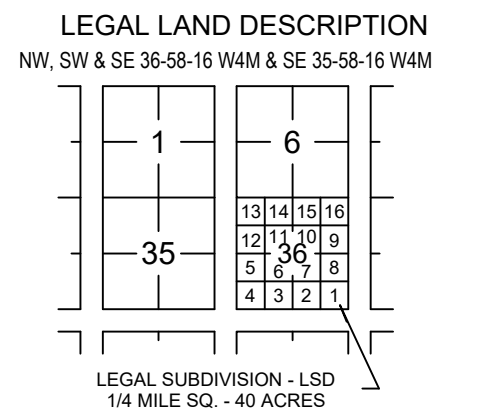
Date: JUNE 2, 2021

PO #: 21-014

6 - 11



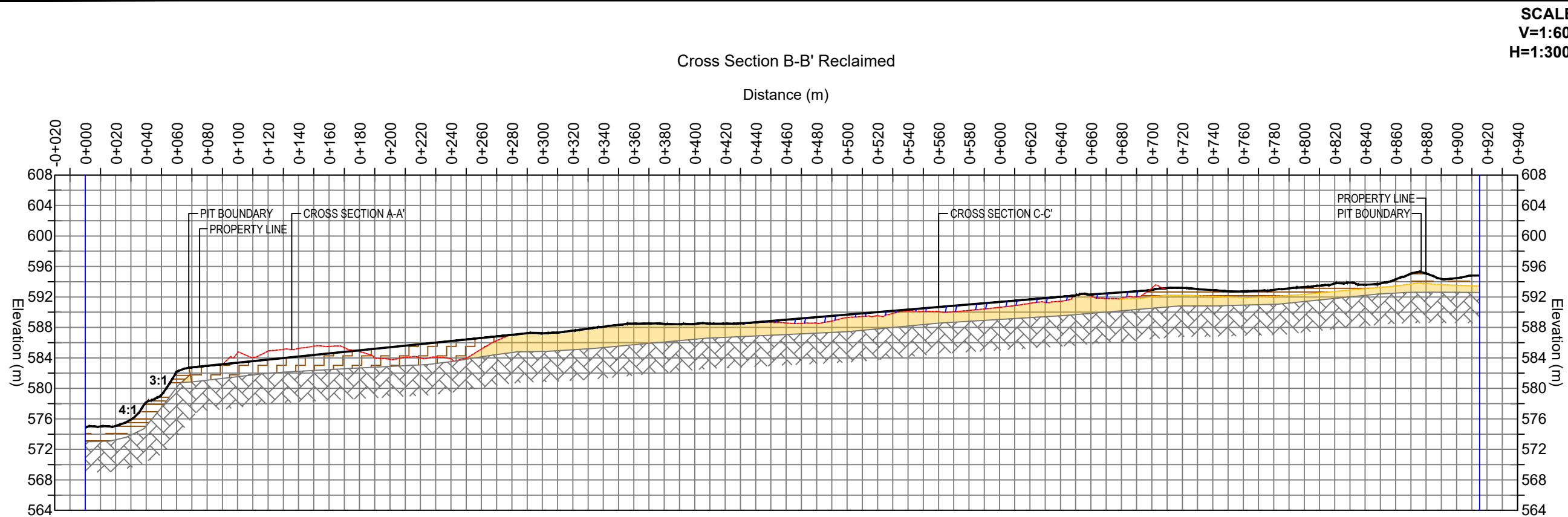
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LOCATION PLAN

LEGEND

- TOPSOIL/SUBSOIL
- ORIGINAL SURFACE
- UNDISTURBED OVERBURDEN
- SAND AND GRAVEL
- UNKNOWN MATERIAL
- REPLACED MATERIAL (REJECT SAND, OVERBURDEN, AND/OR AGGREGATE)
- TOPSOIL/SUBSOIL STOCKPILE
- PRODUCT PILE



SCALE:
V=1:600
H=1:3000

Prepared By

Client

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Project

MEGLEY PIT

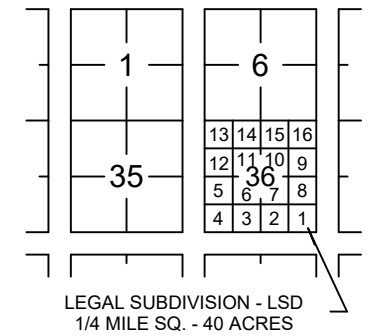
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CROSS SECTION B-B' EXISTING & RECLAIMED CONDITIONS

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Designed By: M. CORRY & J. MCGLYNN	Drawing No.
Drawn By: T. FOY	7 - 11
Air Photo: NA	
Date: JUNE 2, 2021	
PO #: 21-014	

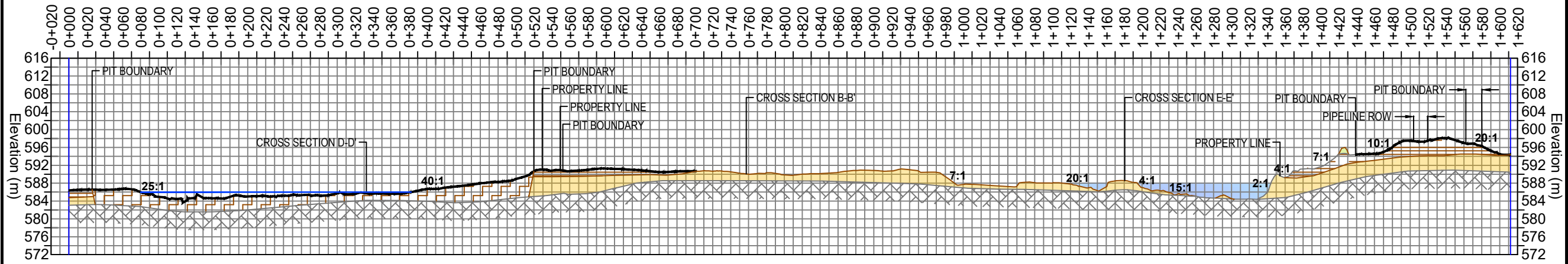
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LEGAL LAND DESCRIPTION
NW, SW & SE 36-58-16 W4M & SE 35-58-16 W4M



Cross Section C-C' Existing

Distance (m)



LOCATION PLAN

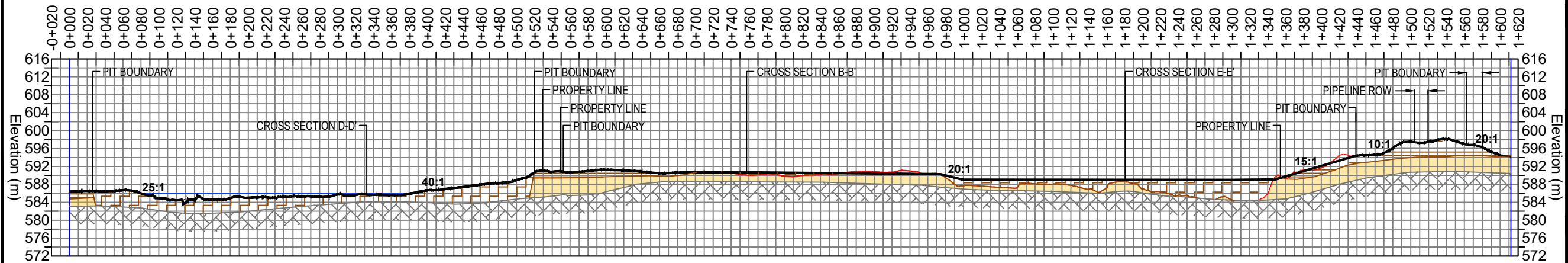
LEGEND

- TOPSOIL/SUBSOIL
- ORIGINAL SURFACE
- DEVELOPING WETLAND BOUNDARY
- UNDISTURBED OVERBURDEN
- SAND AND GRAVEL
- UNKNOWN MATERIAL
- REPLACED MATERIAL (REJECT SAND, OVERBURDEN, AND/OR AGGREGATE)
- TOPSOIL/SUBSOIL STOCKPILE
- STANDING WATER

SCALE:
V=1:1000
H=1:5000

Cross Section C-C' Reclaimed

Distance (m)



Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

MEGLEY PIT

Title

**CROSS SECTION C-C'
EXISTING & RECLAIMED CONDITIONS**

Checked By: M. CORRY & J. MCGLYNN

Scale: AS SHOWN

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

Drawn By: T. FOY

Air Photo: NA

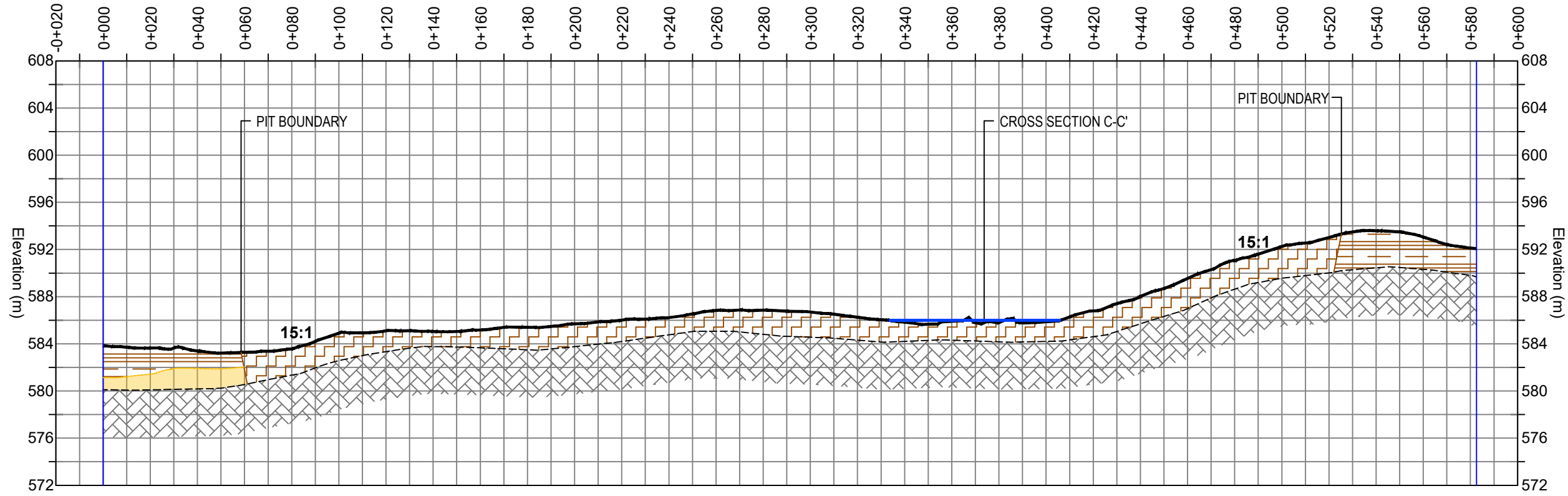
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PO #: 21-014

8 - 11

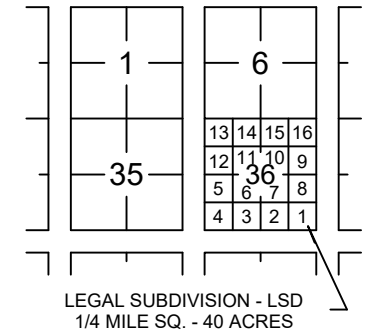
Cross Section D-D' Existing

Distance (m)



SCALE:
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LEGAL LAND DESCRIPTION
NW, SW & SE 36-58-16 W4M & SE 35-58-16 W4M



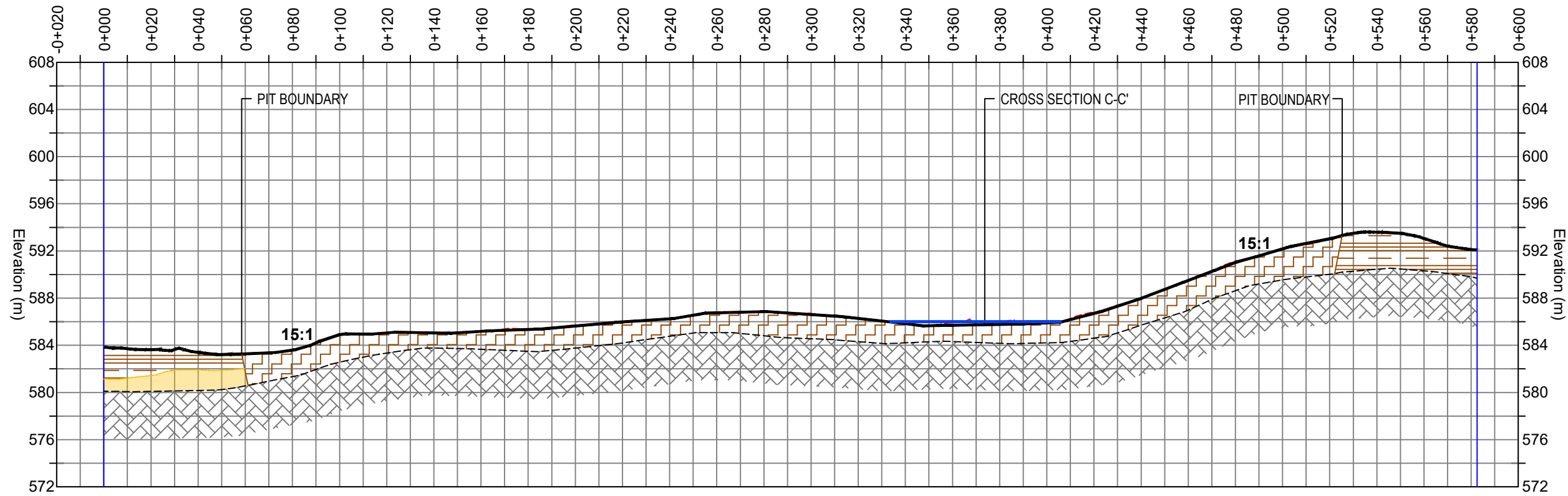
LOCATION PLAN

LEGEND

- TOPSOIL/SUBSOIL
- ORIGINAL SURFACE
- DEVELOPING WETLAND BOUNDARY
- UNDISTURBED OVERBURDEN
- SAND AND GRAVEL
- UNKNOWN MATERIAL
- REPLACED MATERIAL (REJECT SAND, OVERBURDEN, AND/OR AGGREGATE)

Cross Section D-D' Reclaimed

Distance (m)



SCALE:
V=1:400
H=1:2000

Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

MEGLEY PIT

Title

CROSS SECTION D-D' EXISTING & RECLAIMED CONDITIONS

Checked By: M. CORRY & J. MCGLYNN

Scale: AS SHOWN

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

Drawn By: T. FOY

Air Photo: NA

Date: JUNE 2, 2021

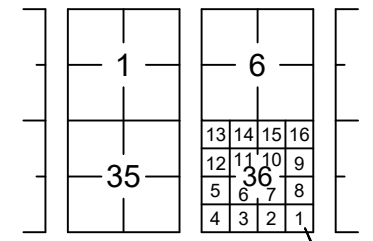
PO #: 21-014

9 - 11

Cross Section E-E' Existing

SCALE:
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H=1:2000








LEGAL LAND DESCRIPTION
NW, SW & SE 36-58-16 W4M & SE 35-58-16 W4M

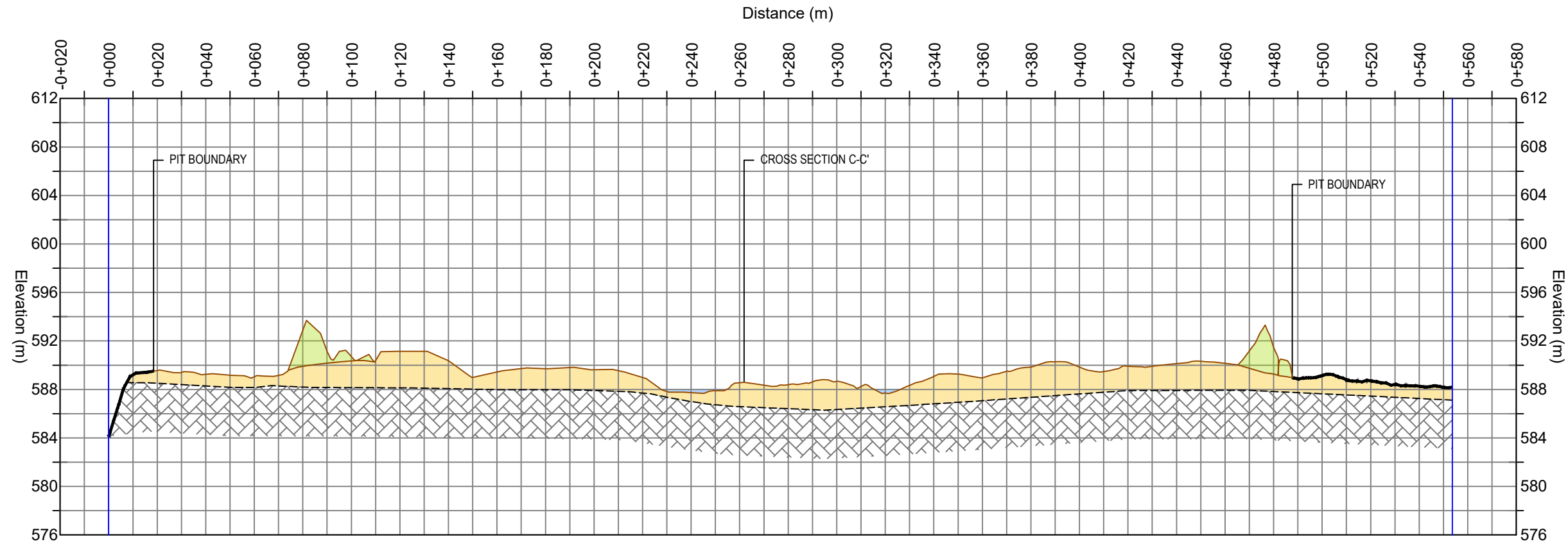


LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

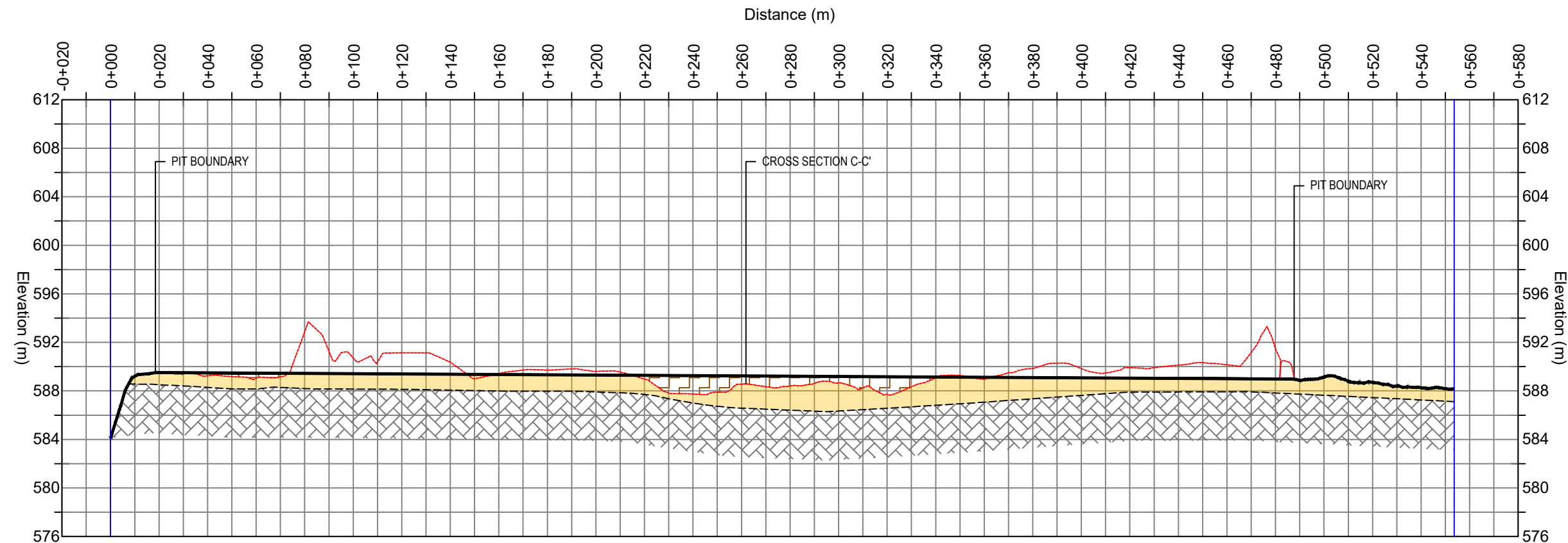
LEGEND

-  TOPSOIL/SUBSOIL
-  ORIGINAL SURFACE
-  SAND AND GRAVEL
-  UNKNOWN MATERIAL
-  REPLACED MATERIAL (REJECT SAND, OVERBURDEN, AND/OR AGGREGATE)
-  PRODUCT PILE
-  TOPSOIL/SUBSOIL STOCKPILE



Cross Section E-E' Reclaimed

SCALE:
V=1:400
H=1:2000



Prepared By



Client

**MANTLE MATERIALS
GROUP LTD.**

Project

MEGLEY PIT

Title

**CROSS SECTION E-E'
EXISTING & RECLAIMED CONDITIONS**

Checked By: M. CORRY & J. MCGLYNN

Scale: AS SHOWN

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

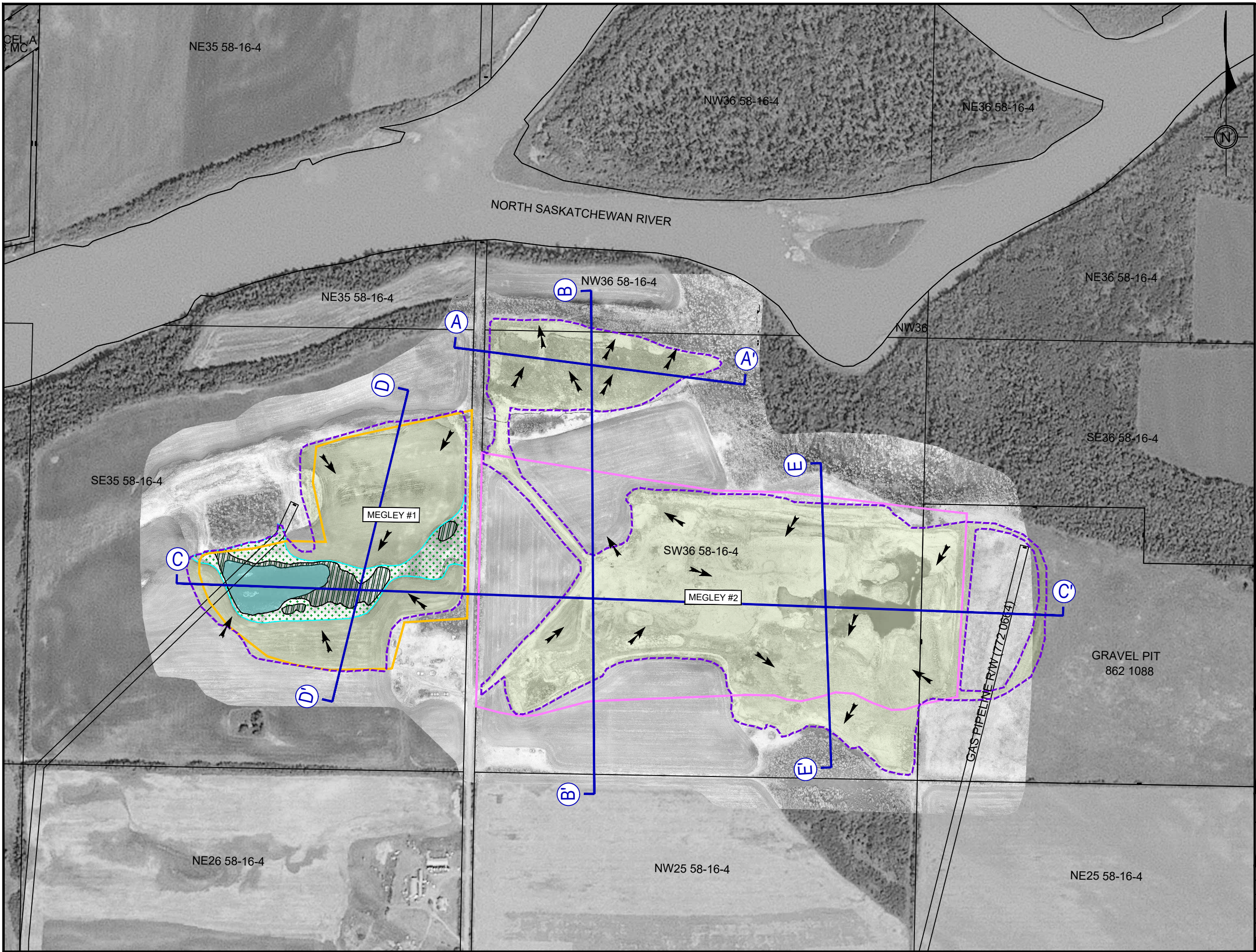
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Date: JUNE 2, 2021

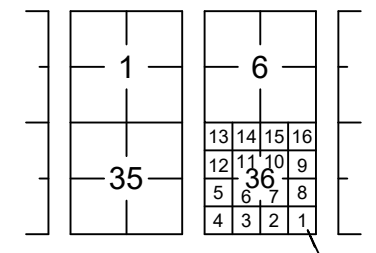
PO #: 21-014

10 - 11



LEGAL LAND DESCRIPTION

NW, SW & SE 36-58-16 W4M & SE 35-58-16 W4M



LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- CURRENT DISTURBANCE AREA/PIT BOUNDARY (49.45 ha)
- MEGLEY #1 REGISTRATION BOUNDARY (13.52 ha)
- MEGLEY #2 REGISTRATION BOUNDARY (21.02 ha)
- DEVELOPING WETLAND BOUNDARY
- RECLAIMED AREA (45.12 ha)
- SHALLOW OPEN WATER ZONE (1.26 ha)
- WET MEADOW ZONE (2.05 ha)
- EMERGENT PLANT ZONE (1.02 ha)

Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

MEGLEY PIT

Title

RECLAMATION PLAN

Checked By: M. CORRY & J. MCGLYNN

Scale: 1: 6500

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

Drawn By: T. FOY

11 - 11


Air Photo: 2016/2021

Date: JUNE 2, 2021

PO #

21-014

This is **Exhibit "D"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 20²⁵ 

A Commissioner of Oaths
In and for the Province of Alberta

EPO-EPEA-35659-03 PLAN

Kucy Pit

Registration No. 306490-00-00

(NW 17, NE 18, SE 19-063-09-W4M)

Mantle Materials Group, Ltd.

June 11, 2021

Contents

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APPENDIX A: Current Conditions Map

APPENDIX B: Cross-Sections Map

APPENDIX C: Conceptual Reclamation Map

APPENDIX D: Cross-Sections

1 Introduction

This Plan is in response to EPO-EPEA-35659-03 on Kucy pit EPEA registration No. 306490-00-00 and covers requirements in the order under number four Plan requirements.

Information from the current approved Activities Plan for the pit registration and recent site assessments were used in the development of this Plan. Unless otherwise directed by the Alberta Environment & Parks the current Activities Plan under the EPEA registration will cover regulatory requirements after the EPO requirements are met.

2 Topography

The pit slopes towards the north, northwest into the Beaver River valley. Starting in the south there is a plateau followed by some very steep pitches, due to the natural topography and operations within the pit. A break is observed after the steep valley slope, mid-point within NE 18-63-9-W4M, from this point north the area is very gently sloped and situated on a lower terrace of the Beaver River.

3 Drainage

The pit and adjacent lands have a north-northwest aspect and are well-drained. Most of the pit has been disturbed, including some areas outside of the registration boundary. Two issues of erosion on some of the steeper pit faces were observed during the May 2021 site assessment. No pooling of water was observed in the flat area north of the valley break.

Near the boundary between the NE-18-63-9-W4M and SE-19-63-9-W4M an natural seeping spring was discovered. A small area of pooling was observed, where the seepage comes to the surface, but then returns underground running towards the Beaver River.

Operations within SE 19-63-9-W4M extended into the water table creating a waterbody approximately 1.4 hectares (3.5 acres) in size. An undisturbed setback of 30 m is located between the river and the edge of the pit.

4 Soils

The soils are classified in the SE 19-63-9-W4M and the western portions of NE 18-63-9-W4M as miscellaneous undifferentiated mineral soils of the Chernozemic. In the central portion of NE 18-63-9-W4M consists of Eluviated Butric Brunisols developed on very coarse textured (S, LS) sediments deposited by wind or water. Dark Gray Luvisols developed on medium textured (L, CL) till were classified in the eastern portion of NE 18-63-9-W4M.

Based on soil conditions in 2011, the following soil conditions were determined:

Table 1: 2011 Soil Conditions

Material	Depth (m)
Topsoil	0.11
Subsoil	0.09
Overburden	0

5 Vegetation

Most of the pit has been cleared of vegetation apart from small areas in the western portion of the pit. This area is partially forested. Trees within this area consists primarily of Jack Pine, with some White Spruce, Balsam Poplar, White Poplar, and Birch.

6 Land Capability

The Canadian Land Inventory (CLI) classification for agriculture has classed the pit is a Class 6, Subclass T for 70% and Class 5, Subclass M for 30%. Soils in Class 6 are capable of only producing perennial forage crops, and improvement practices are not feasible and has severe limitations due topography. Class 5 has severe limitations that restrict its capability in producing perennial forage crops, and improvement practices are feasible. Class 5 has moisture limitations where the soils usually have low water-holding capacity.

7 History of Surface, Subsurface, Groundwater Disturbance

Typical disturbance of surface and subsurface has occurred as part of the excavation of insitu aggregate. The total historic disturbance of this pit due to JMB operations is 14.9 hectares, including the Registered Plan of Survey for roadway 1810 EU (14.3 hectares excluding this Registered Plan of Survey for roadway 1810 EU). The disturbed area includes stockpiles, processing sites, pit access, and an operationally created waterbody.

Operations in the south of the pit took place below the water table, thus creating a waterbody. The rough dimensions of the waterbody are 14,000 m² x 4 m deep. The calculated volume is 45,800 m³.

A natural seeping spring was discovered near the NE-18-63-9-W4M and SE-19-63-9-W4M boundary. A small area of pooling was observed, where the seepage rises to the surface and then returns underground running towards the Beaver River.

Overall drainage of the pit is still inline with the surrounding area; no water is being captured/held in any of the low lying, flat areas of the pit.

8 Adjacent Land Use

The adjacent land uses include agricultural land, pastureland, and a gravel pit.

9 Marketable Aggregate

The marketable material piles are labeled on the current conditions as “MP#”. The volume and value are presented in the table below:

Table 2: Marketable Aggregate

Marketable Pile #	Volume (m³)	Value (\$) FOB
MP1	1,048	26,821

The value \$ FOB does not take into account the royalty payment that would have to be paid to the landowners for sale of the marketable material.

10 End Land Use

The end land use will be pastureland. No end pit waterbody will be left on site.

11 Reclamation Objective

The reclamation objective is to satisfy the EPO requirements and work towards receiving a reclamation certificate and termination of the EPEA registration.

12 Reclamation Activities

Once the EPO Plan is approved and the inventoried marketable material is removed, final reclamation activities will begin.

12.1 Equipment Types

Typical heavy equipment will be used to complete the earthworks portion of the reclamation activities. This includes a tracked excavator, rock trucks, and dozer.

Typical dewatering equipment will be utilized to complete the dewatering portion of reclamation activities. Including water pumps, generators, and hoses/piping.

Typical farm equipment or an equivalent ATV setup will be used to complete the revegetation portion of the reclamation activities. This includes a rubber-tired tractor or equivalent ATV with seeding attachment.

12.2 Dewatering

The large waterbody in the southern portion of the Pit will be reclaimed to upland. Reclamation will include dewatering, deconstruction, backfilling, and contouring.

Water will be pumped into two areas. The first area will be the undisturbed area in the SW corner of LSD 16-18-63-9-W4M within the registration boundary. The second is performing pit to pit dewatering, also within the registration boundary.

Prior to any activities, all appropriate Water Act permitting will be obtained. The pit to pit, will not require a license as it falls within the exception of dewatering of sand and gravel sites Schedule 3.

The natural seeping spring observed during the May 2021 site assessment will be capped with a porous elimination material to protect the continuity of the spring flowing towards the Beaver River.

12.3 Recontouring

Recontouring will help to ensure that the disturbed areas will be reclaimed to an equivalent land capability. The CLI for the pit is predominantly Class 6, therefore all internal slopes, will be recontoured to 6:1 or gentler. Slopes along the boundary will be recontoured to a slope no greater than 3:1. A general north aspect will be maintained as part of the recontouring.

The identified areas of erosion (Appendix A), in the May 2021 site assessment, will be remediated during the recontouring. Remediation of the most norther erosion will be conducted in conjunction with Alberta Transportation to ensure no further incidences of erosion occurs between these two sites.

The dewatered waterbody will be deconstructed, backfilled and recontoured utilizing elimination product and any other material not used for the production purposes. Desktop calculations have determined that there more than enough material on site to reclaim the waterbody to upland.

The pit floor, where compacted, will be ripped prior to soil replacement. The exception for this will be the Registered Plan of Survey for roadway 1810EU running through the southern portion of the pit. The roadway will be re-established to a rough surface above the water table to allow continued access.

12.4 Topsoil Placement

Topsoil and subsoil placement will target 80% of the pre-disturbance thickness, based on industry norm of expected soil losses during soil handling activities. Unfortunately, based on

historical operations very little topsoil and subsoil were salvaged, it is unlikely that the targets of 80% of pre-disturbance thickness will be achieved.

The topsoil piles are labeled on the current conditions map as "TS#". The total volume of topsoil is 9,517 m³.

The subsoil piles are labeled on the current conditions map as "SS#". The total volume of topsoil is 590 m³.

The disturbed area requiring topsoil and subsoil is 14.3 hectares, excluding the Registered Plan of Survey for roadway 1810 EU. Based on the area requiring topsoil and subsoil, the subsoil will be utilized combined with the topsoil to ensure all disturbed areas of the pit will be covered.

Based on the area requiring topsoil and the volume of topsoil/subsoil available, the calculated topsoil thickness is 0.07 m. This is 0.018 m less than the targeted replacement depth of 0.088 m. Personnel involved in topsoil placement activities will be made aware of the topsoil volume limits and the extra care needed when handling and placing the salvaged topsoil. Topsoil placement activities will be supervised and monitored by a competent individual with experience in earthworks operations.

12.5 Revegetation

An appropriate pasture mix and fertilizer for establishing pastureland along with the application rate will be discussed and finalized with the landowners.

The replaced topsoil will be seeded using typical farm equipment or an equivalent ATV setup.

13 Monitoring and Maintenance Program – Six Months

As per the EPO requirements a six-month monitoring and maintenance program will be implemented after final reclamation is completed.

The program scope will cover the completed reclamation activities under the EPO and will monitor the success of the implemented activities and identify the need for any maintenance to meet the objectives of the Plan.

Monitoring of the following will occur:

- Soil stability and signs of erosion
- Surface drainage compared to plan
- Seed germination success
- Weed occurrences
- Natural revegetation in and surrounding the end pit waterbody.
- Water table assessment

Maintenance activities required to address any issues found in the monitoring portion of the program will be implemented in the applicable season. They could include, but not limited to:

- Corrective earthworks (summer, fall)
- Additional seeding (spring, summer)
- Spraying or pulling of weeds (summer) – determined by distance from the end pit waterbody.

If the reclamation activities are completed shortly before winter conditions, the monitoring and maintenance will commence in the spring and summer of the following year as part of the EPO requirements or as part of the EPEA registration process in preparation of applying for a reclamation certificate and eventual termination of the pit registration.

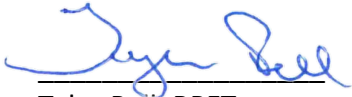
14 Schedule

Table 3: Schedule of Activities for Pit Reclamation

Year	Activity covered under EPO or EPEA Registration	Description	Completion Date
2021	EPO	Remove marketable material	Sept 1 st
2021	EPO	Commence operations to dewater and deconstruct the waterbody once Water Act permitting is in place.	Dec 1 st
2022	EPO	Complete the remaining recontouring, topsoil placement, and seeding of topsoil by July 15 th .	July 15 th
2022	EPO	Begin six month monitoring requirement as per the EPO.	July 15 th or earlier if final reclamation completed earlier
2022	EPO	Assess soil stability, revegetation success, and for the presence of weeds.	Sept 15 th
2023	EPEA	Assess the soil stability after spring thaw.	May 15 th
2023	EPO	Address any shortfalls discovered from the assessment.	June 15 th
2023	EPEA	Assess vegetation success and survey for the presence of weeds.	July 1 st
2023	EPEA	Apply for reclamation certificate that will go towards terminating the registration.	Nov 1 st

15 Closure

The EPO Plan has been prepared by Tyler Pell RPFT, Aggregate Resource Manager, Mantle Materials Group, Ltd.



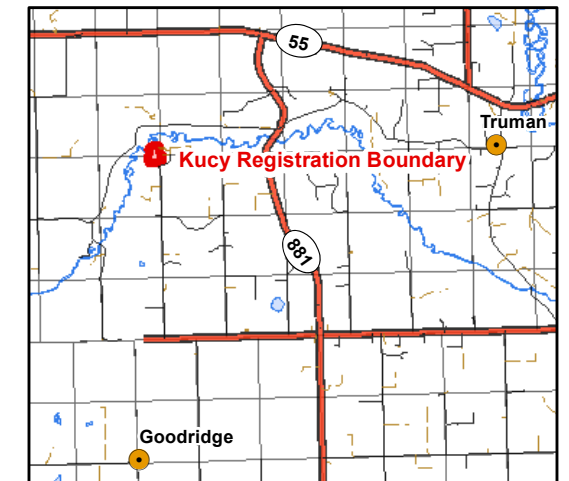
Tyler Pell
Tyler Pell, RPFT

APPENDIX A: Current Conditions Map












MANTLE MATERIALS
GROUP LTD.
Kucy Pit
CURRENT CONDITIONS MAP

M.D. of Bonnyville No. 87

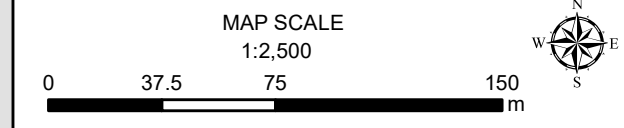

WITHIN:
NW17, NE18, SE19, SW20 TWP 56 RGE 7 W4M



LEGEND

-  Erosion
-  Seepage
-  Registration Boundary (14.2 ha / 35.1 ac)
-  Elimination Pile
-  Top Soil Pile
-  Subsoil Pile
-  Marketable Pile
-  Waterbody (1.6 ha / 4.0 ac)
-  Undisturbed (0.7 ha / 1.7 ac)
-  Disturbed (14.9 ha / 36.8 ac)
-  ATS

DATE: June 11, 2021	BEARINGS: Decimal Degrees, North Azimuth
DRAWN BY: 49 North Geospatial	PROJECTION: NAD83 UTM Zone 12N
VERSION: 1.0	DATUM: NAD 1983

Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774

SE 19
63-09-4

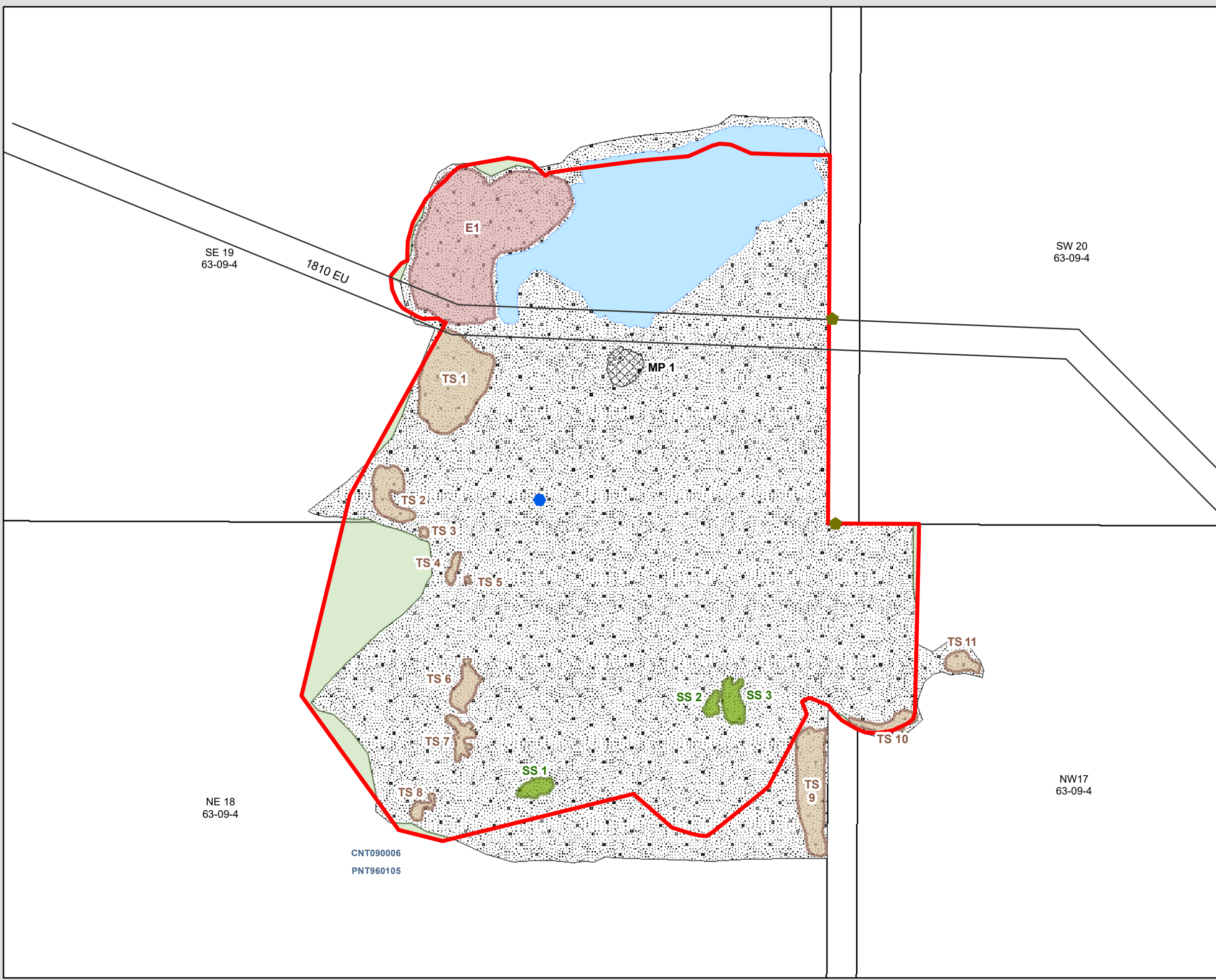
1810 EU

SW 20
63-09-4

NE 18
63-09-4

NW17
63-09-4

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PNT960105

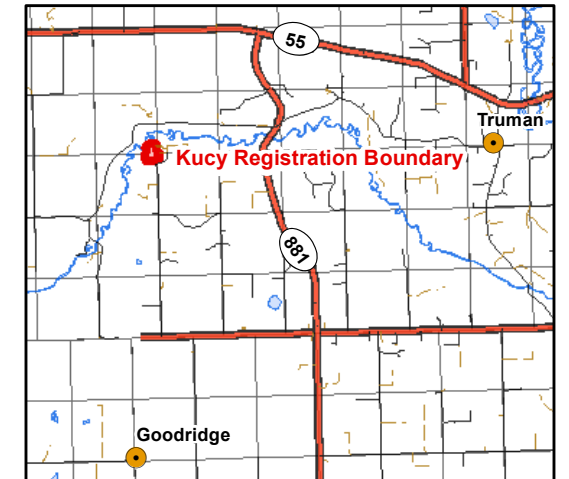


APPENDIX B: Cross-Section Map

MANTLE MATERIALS
GROUP LTD.
Kucy Pit
CROSS SECTION MAP

M.D. of Bonnyville No. 87

WITHIN:
NW17, NE18, SE19, SW20 TWP 56 RGE 7 W4M



LEGEND

- Cross Section Station
- Cross Section
- Registration Boundary
- EPO Pile
- Kucy_Waterbody
- Undisturbed (0.7 ha / 1.7 ac)
- Disturbed (14.9 ha / 36.8 ac)
- ATS

DATE:
June 11, 2021

BEARINGS:
Decimal Degrees
North Azimuth

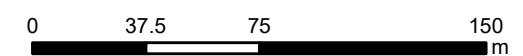
DRAWN BY:
49 North Geospatial

PROJECTION:
NAD83 UTM Zone 12N
Units in meters

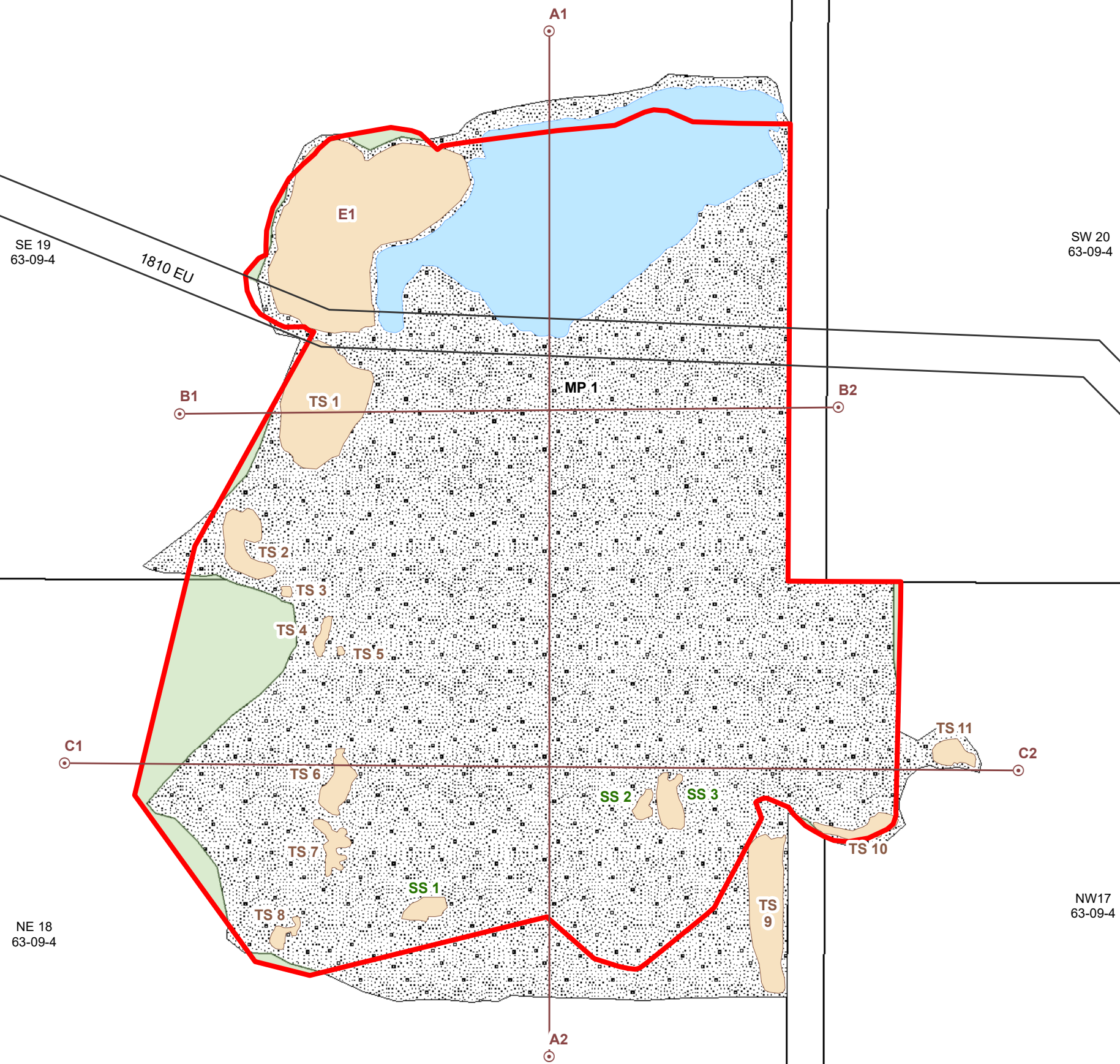
VERSION:
1.0

DATUM:
NAD 1983

MAP SCALE
1:2,500



Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774



SE 19
63-09-4

1810 EU

SW 20
63-09-4

NE 18
63-09-4

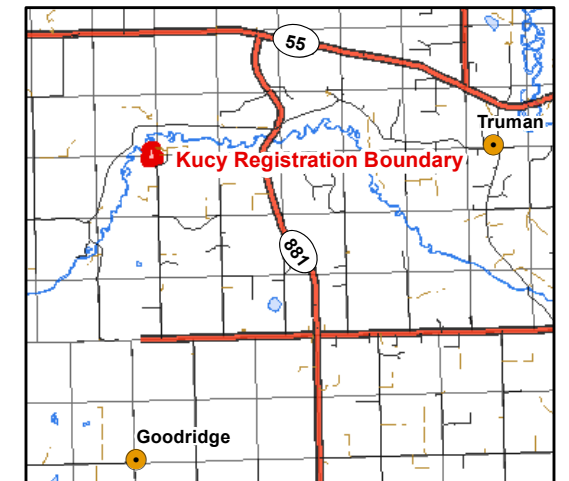
NW17
63-09-4

APPENDIX C: Conceptual Reclamation Map

MANTLE MATERIALS
GROUP LTD.
Kucy Pit
CONCEPTUAL RECLAMATION

M.D. of Bonnyville No. 87

WITHIN:
NW17, NE18, SE19, SW20 TWP 56 RGE 7 W4M



LEGEND

→ Flow Arrow

▭ Registration Boundary

▭ Disturbed (14.9 ha / 36.8 ac)

▭ ATS

DATE:
June 11, 2021

BEARINGS:
Decimal Degrees
North Azimuth

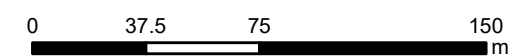
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PROJECTION:
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Units in meters

VERSION:
1.0

DATUM:
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MAP SCALE
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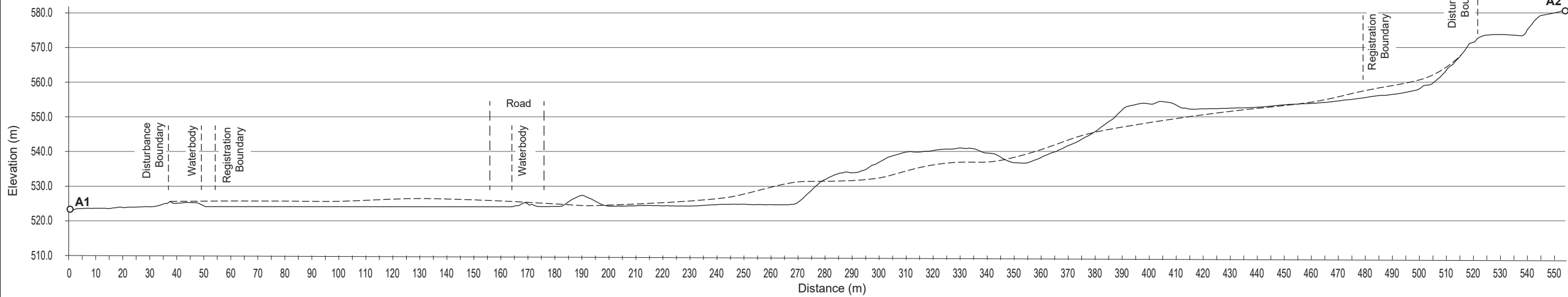
Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774



APPENDIX D: Cross-Sections

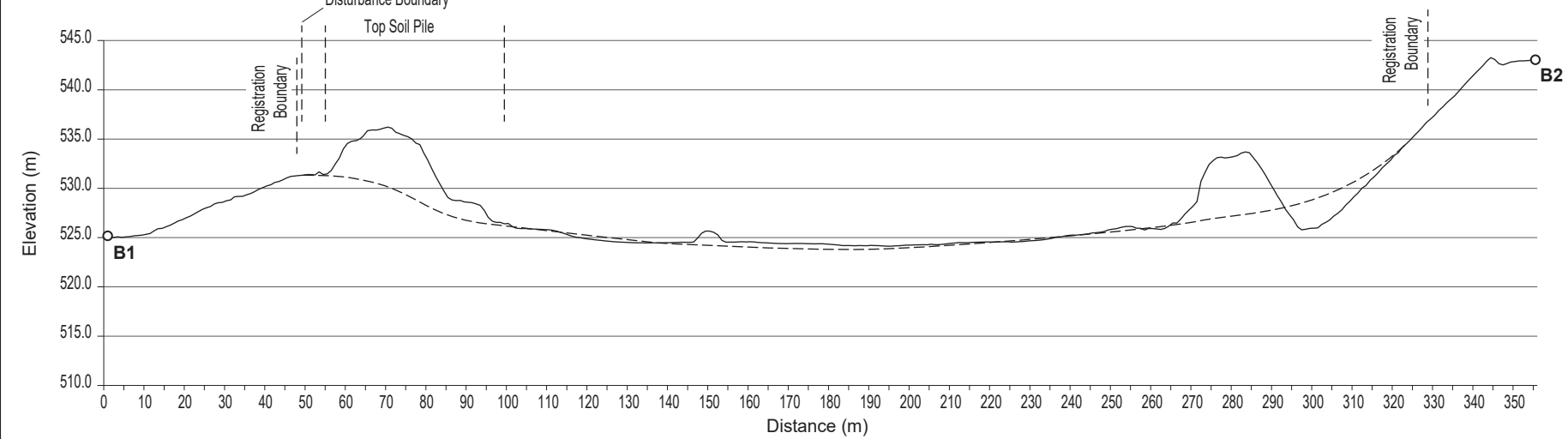
Cross Section A

Existing Site Conditions



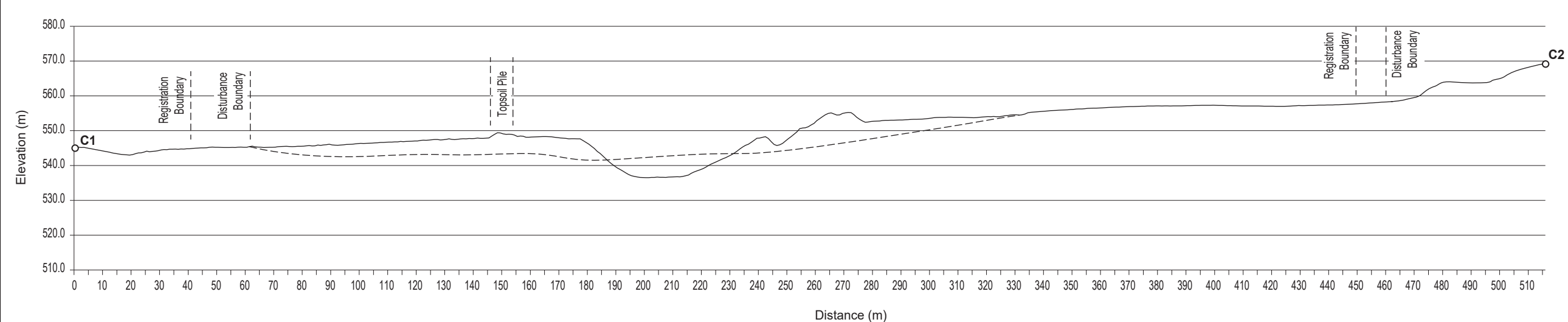
Cross Section B

Existing Site Conditions



Cross Section C

Existing Site Conditions



KUCY PIT

Figure 1

Cross Section A
and
Cross Section B

M.D. of Bonnyville No. 87

WITHIN:

NW17, NE18, SE19, SW20
TWP 56 RGE 7 W4M

LEGEND

- Reclaimed Surface
- Excavated Surface
- Station

All Units in Metres / Variable Scale
Method of Data Capture (Profile): LiDAR 15
Coordinate System: NAD 1983, UTM Zone 12N
Created: May 23, 2021 By: 49 North Geospatial

This is **Exhibit "E"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

Buksa Pit

EPO-EPEA-35659-05 Reclamation and Remedial Plan

Registration No. 15048-03-00

NE 24-56-07-W4M

June 11, 2021

Prepared for

Mantle Materials Group Ltd.



11213 Winterburn Rd NW
Edmonton, AB T5S 2B2

Office (780) 809 8191
Fax (780) 809 8190
Site aspenlandgroup.com

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Drawing No. 5-8	Aerial Photography Historical Overview (1991 – 2016)
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Drawing No. 8-8	Reclamation Plan



1.0 Introduction

Aspen Land Group was consulted by Mantle Materials Group Ltd. (Mantle) to prepare a reclamation and remedial plan as required under Environmental Protection Order (EPO) No. EPO-EPEA-35659-05 for the Buksa pit registered under EPEA Registration No. 15048-00-00.

Alberta Environment and Parks (AEP) issued the Order to JMB Crushing Systems Inc. on March 11, 2021. Note JMB has since been amalgamated into Mantle and Mantle will be responsible for fulfilling the requirements of the Order. Essentially the Order requires Mantle to suspend all work within the pit, to prepare and implement a reclamation and remedial plan committing to complete reclamation by October 29, 2022, implement a monitoring and maintenance program following reclamation, and submit progress reports to the AEP inspector. This report fulfills the requirement to prepare a reclamation and remedial plan prepared by a professional authorized to practice reclamation on private land. Drawings that illustrate current and reclaimed conditions are included in Appendix A.

2.0 Scope of Work

The objective of this project was to prepare a reclamation and remedial plan submitted to AEP by June 11, 2021. The plan includes all information outlined in Section 4 of the EPO. More specifically the goals of the project were to:

- Complete an on-site assessment to determine current operational and environmental conditions.
- Complete a volumetric assessment of stockpiled reclamation materials left in place.
- Complete analysis of the surface, subsurface and groundwater disturbance using aerial imagery.
- Prepare a reclamation plan that meets the requirements of the *EPO*.
- Prepare a monitoring and maintenance program to be implemented following reclamation commencing October 29, 2022 at the latest.

3.0 Results

3.1 Location and Current Site Conditions

The pit is located in the County of St Paul, approximately 3.8 km south of Elk Point, Alberta, in NE 24-56-7-W4M, along the southern side of the North Saskatchewan River, just off Highway 41 (the Site). A site assessment was completed on May 27, 2021 by Jeanette McGlynn and Michele Corry, P.Ag. The



registration boundary is 17.62 ha of which 12.66 ha has been disturbed by the mining operation. Within that 12.66 ha, and 3.48 ha has been reclaimed.

3.2 Topography

The Site is located at a transition between hummocky, medium relief slopes (9%) and the North Saskatchewan River Valley with inclined to steep, high relief slopes (35%). The landscape slopes gently to the north with slopes averaging 5-9% and elevations that range from 538 m to 550 m as shown on Drawing No. 3-8.

3.3 Drainage

The North Saskatchewan River is approximately 600 m to the north of the Site and an intermittent drainage course is located immediately south of the pit and flows east into a tributary of the North Saskatchewan River.

The Site has a general north aspect and is well drained. Groundwater has not been intercepted during the mining process and there have been no detected water impoundment issues during the life of the pit. Surface runoff flows north toward the North Saskatchewan River or infiltrates into the ground. There are no wetlands on or adjacent to the pit.

3.4 Soils

The soils in the southern three LSDs are classified as an Orthic Black Chernozem on gravel or gravelly coarse textured (S, LS, SL) undifferentiated materials. The dominant series is Ferintosh (FTH). The soils in the northern LSD are classified as Cumulic Humic Regosol on medium textured (L, SiL) sediments and Eluviated Black Chernozem on medium textured (L, SiL) sediments, both deposited by wind and water. The dominant series is Ponoka.

The pre-disturbance topsoil depth ranged from 6 cm to 12 cm, averaging 8 cm as included in the 2011 Buksa Registration Application by Millennium EMS Solutions Ltd. Four locations in the reclaimed area were assessed on May 27, 2021, with topsoil depths ranging from 14 cm to 28 cm with a sandy loam texture.

Topsoil has been stripped and stockpiled onsite and in total there are 10,491 cubic metres remaining in stockpile. There is no subsoil stockpiled as it was observed by Millennium EMS Solutions Ltd that the topsoil transitioned into the gravel aggregate near the surface with no subsoil available for salvage, which would align with the Regosol classification. Any subsoil present would have been stripped together with the topsoil. Table 1 outlines the volume of soil currently in stockpile and stockpile locations are shown on Drawing No. 2-8.



Table 1. Volume and Composition of Reclamation Stockpiles		
Stockpile	Composition	Volume (m ³)
1	Topsoil	2641
4	Topsoil	7021
5	Topsoil	829
Total		10,491

3.5 Vegetation

The Site is located within the Dry Mixedwood subregion which is characterized by the presence of aspen and white spruce as climax species in association with agricultural practices. The Site is cultivated for annual cereal crops. Land to the west consisted of typical aspen forest vegetation include trembling aspen, prickly rose, veiny meadow rue, creamy pea vine, buck brush, wild lily of the valley, smooth brome, northern bedstraw, kentucky bluegrass, dandelion, and false solomon seal.

3.6 Land Capability

The Canadian Land Inventory classification for the Site is a Class 2, SubClass C and Class 6, SubClass T with a 40/60 split respectively. The Class 2 soils are in the north-eastern portion of the NE-quarter section while the Class 6 soils are in the south-western portion.

Soils in Class 2 have moderate limitations that restrict the range of crops or require special conservation practices and soils in Class 6 are only capable of producing perennial forage crops, and improvement practices are not feasible. Sloping requirements for side slopes in Class 2 are that they are reclaimed to no steeper than 20:1, while Class 6 can have slopes no greater than 3:1.

Subclass C indicates an adverse climate where the land is adversely affected by a lack of water due to inherent soil characteristics and SubClass T indicates an adverse topography with slopes steep enough to incur a risk of water erosion or to limit revegetation.

4.0 History of Surface, Subsurface, and Groundwater Disturbance

Typical disturbance of the surface and subsurface has occurred as part of the excavation of in-situ aggregate. The total historic disturbance is 17.62 hectares. Of that 17.62 hectares, 3.48 ha has already been reclaimed and 12.66 ha is considered active.

The subsurface in-situ aggregate pit was excavated to a depth of up to 5 meters. No evidence has been found that shows groundwater disturbance. There are no wetlands or changes in drainage on Site.

An aerial photo review was completed to determine the historical disturbance and is outlined in Table 2 and shown on Drawings No. 4-8 to 5-8.



Table 2. Aerial Photo Review of Historical Disturbance	
Year	Summary of Activities
1980	<ul style="list-style-type: none"> • Site prior to pit activity. Patch of trees present within northern and southwestern portion of the registered pit boundary. Land partially cultivated.
1981	<ul style="list-style-type: none"> • Pit has been opened up in the southeast corner. • Rest of land cultivated apart from forested areas.
1982	<ul style="list-style-type: none"> • No further changes evident
1985	<ul style="list-style-type: none"> • Pit activity extended to the north and east. • Highway 41 constructed and includes portion of pit area. • Rest of land cultivated apart from forested areas.
1991	<ul style="list-style-type: none"> • Pit activity extended to the patch of trees in the north
1997	<ul style="list-style-type: none"> • No further changes evident
2005	<ul style="list-style-type: none"> • No further changes evident
2016	<ul style="list-style-type: none"> • Pit activity extended north and west. Trees in northern portion mined through and southwest trees remain untouched.
2020 (Drawing No. 2-8)	<ul style="list-style-type: none"> • Northern portion of pit has been reclaimed. • Disturbance extends south of approach • Southwest portion of the pit remains undisturbed

5.0 Adjacent Land Use

Overall land use in the general area is agricultural and consists of improved pasture and forested white zone with some oil and gas development. More specifically, the lands to the north and east are used for pasture, lands to the west are forested, and lands to the south are being utilized as improved pasture but also contain a third-party gravel pit. The North Saskatchewan River runs north of the Site while Highway 41 runs along the western side of the Site. There are no active wells within or adjacent to the Site.

6.0 Marketable Aggregate

There is no marketable material remaining on Site.

7.0 End Land Use

The end land use will be cultivated agricultural land used for annual cereal crops.



8.0 Reclamation Objective

The reclamation objective is to reclaim the pit to agriculture end land use that meets equivalent land capability so that a reclamation certificate can be issued and the EPEA registration can be cancelled. More specifically, the goals of reclamation are:

1. To restore the land to an agricultural landscape with appropriate slope gradients without any ponded water remaining in place.
2. Ensure positive surface water flow towards the North Saskatchewan River.
3. Replace an even depth of topsoil suitable for agricultural practices.

8.1 Reclamation Activities

Partial reclamation has occurred within 3.48 ha of the northern portion of the pit and has been incorporated back into the landowners' cultivation schedule. There are no site-specific anomalies that need to be addressed within this area. Soils were assessed at four locations within the reclaimed area and found to have depths ranging from 14 cm to 28 cm and an average depth of 17.75 cm.

8.2 Equipment Type

Typical heavy equipment will be used to complete the earthworks portion of the reclamation activities. This includes a tracked excavator, rock trucks, and dozer.

Seeding will be left to the discretion of the landowner as the land is returned into his annual crop rotation.

8.3 Recontouring

Recontouring of the landscape will be completed to establish slopes that naturally integrate with the surrounding landscape. The open excavation in the centre of the pit will be filled with reject gravel materials and sloped to tie into the surrounding landscape. Slopes along the pit boundary will be constructed at 3:1 or gentler and internal slopes will be constructed to 6:1 or gentler. Positive drainage towards the North Saskatchewan River to the north will be maintained. Reclaimed slopes are shown on Drawings No. 6-8 and 7-8.

The eastern boundary slope is currently a nesting site for barn swallows. Disturbance of the area from reclamation will not occur between the nesting period which is late April to late August as per the *Migratory Bird Convention Act*.



8.4 Topsoil Placement

Topsoil placement will target at a minimum, 80% of the pre-disturbance thickness as based on the industry norm of expected soil losses during soil handling activities. Original soil depths were quite shallow, averaging 8 cm.

Approximately 9.18 ha remains in a disturbed state. There are three topsoil piles with a total volume 10,491 m³. Based on the area requiring topsoil and the volume of topsoil available, the calculated topsoil thickness would be 11 cm, which is greater than the average pre-disturbance soil depth recorded by Millennium EMS Solutions in 2011. In addition, 3.48 ha has already been reclaimed with topsoil depths averaging 17.75 cm, which also exceeds the pre-disturbance topsoil depth of 8 cm.

Topsoil will be replaced over reject or overburden once final contouring is complete since no subsoil exists at this location. Any areas exhibiting compaction will be alleviated prior to the replacement of the topsoil layer. Topsoil will be replaced as evenly as possible and disked to break up the soil and improve soil granulation before seeding. Topsoil placement activities will be supervised and monitored by a competent individual with experience in earthworks operations.

8.5 Revegetation

The Site will be incorporated back into the landowners crop rotation after soils have been replaced.

9.0 Monitoring and Maintenance Program

As per the EPO requirements, a six-month monitoring and maintenance program will be implemented commencing October 29, 2022 once reclamation is complete. The program scope will be to monitor the success of the implemented activities and identify the need for any maintenance to meet the reclamation objectives.

The landscape will be inspected for erosion, subsidence, and positive drainage. Revegetation efforts will be monitored for plant emergence, health, and viability, while weedy species will be monitored and controlled when required outside of the farmer's practice.

Maintenance activities required to address any issues found in the monitoring portion of the program will be implemented in the applicable season. Maintenance work will be dependent upon the reclamation issue identified but may include corrective earthworks, decompaction, weed control measures, or soil amendments.



Further maintenance will be up to the discretion of the landowner as he will incorporate his own weed management and fertilization program to the land.

10.0 Schedule

The schedule of reclamation activities over the next two years is outlined below in Table 3.

Table 3. Schedule of Activities for Reclamation			
Year	Activities covered under EPO or EPEA Registration	Description	Completion Date
2021	EPO	Complete the major recontouring noting that the eastern boundary needs to remain undisturbed between late April and late August due to nesting birds.	December 15 th
2022	EPO	Complete all remaining recontouring activities and replace topsoil.	July 15 th
2022	EPO	Assess soil stability	September 15 th
2022	EPO	Address any shortfalls discovered from assessment.	September 20 th
2022	EPO	Begin six-month monitoring requirement as per the EPO.	October 29 th or earlier if final reclamation completed earlier
2023	EPEA	Assess soil stability after spring thaw.	May 15 th
2023	EPEA	Apply for a reclamation certificate that will go towards terminating the registration.	November 1 st



11.0 Closure

This Reclamation and Remedial Plan has been prepared by Aspen Land Group for the sole benefit of Mantle Materials Group Ltd. This document may not be used by any other person or entity, with the exception of Alberta Environment and Parks, without the express written consent of Aspen Land Group Inc. and Mantle Materials Group Ltd. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgment of Aspen Land Group Inc. based on the data obtained. Due to the nature of the data available, Aspen Land Group Inc. cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

Prepared by:

Aspen Land Group Inc.
11213 Winterburn Road NW
Edmonton, AB T5S 2B2

Written by:



Jeannette McGlynn

Reviewed by:

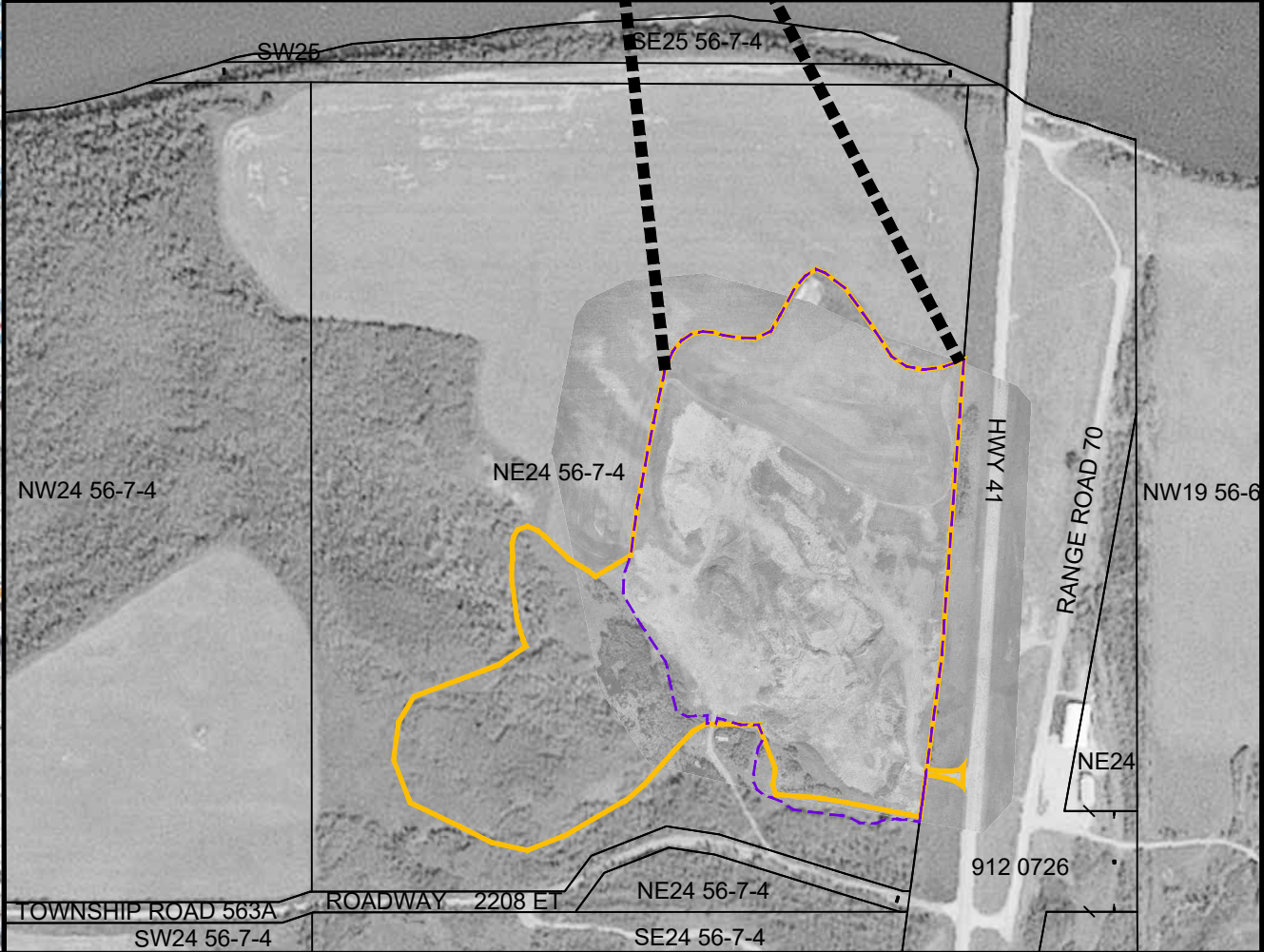
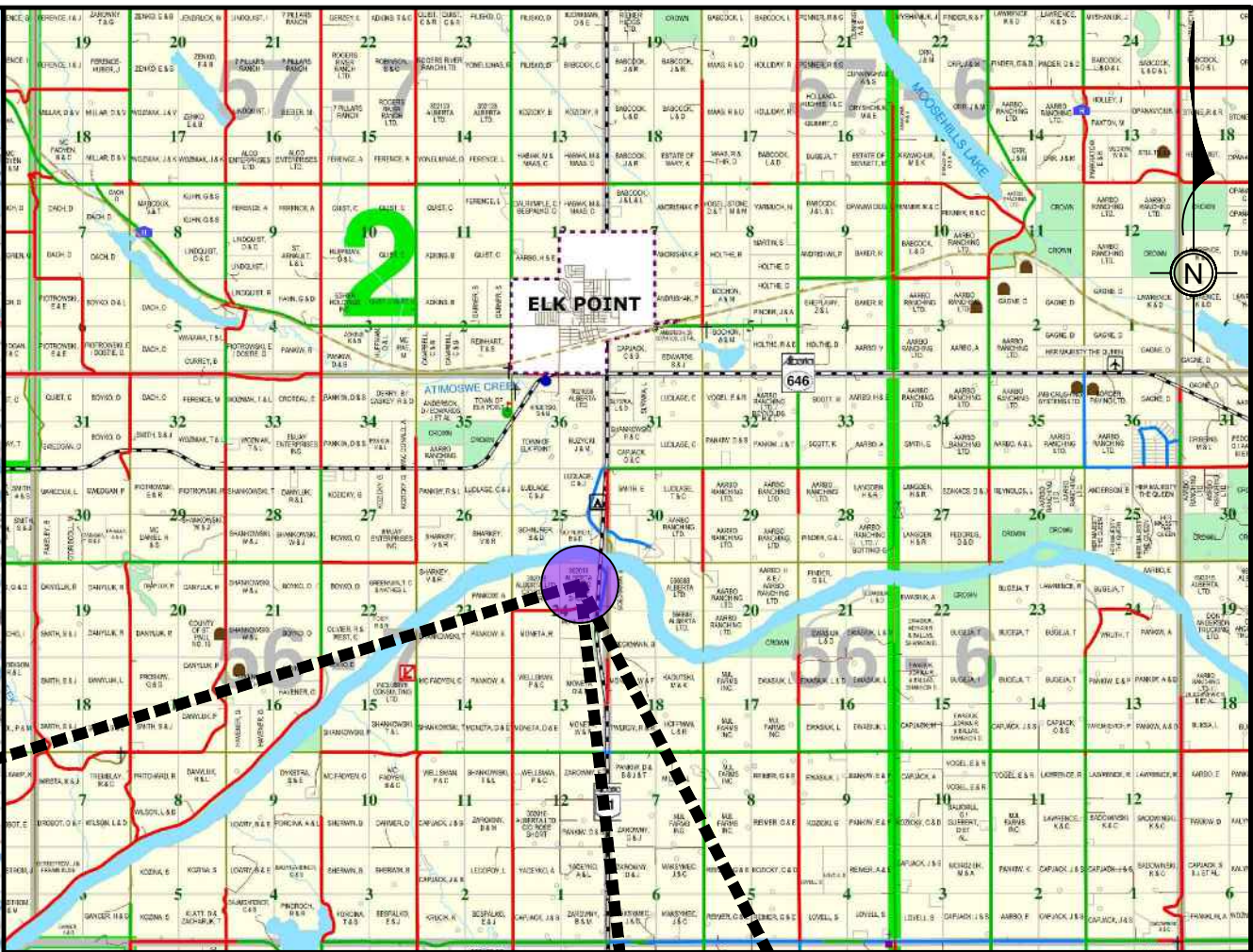
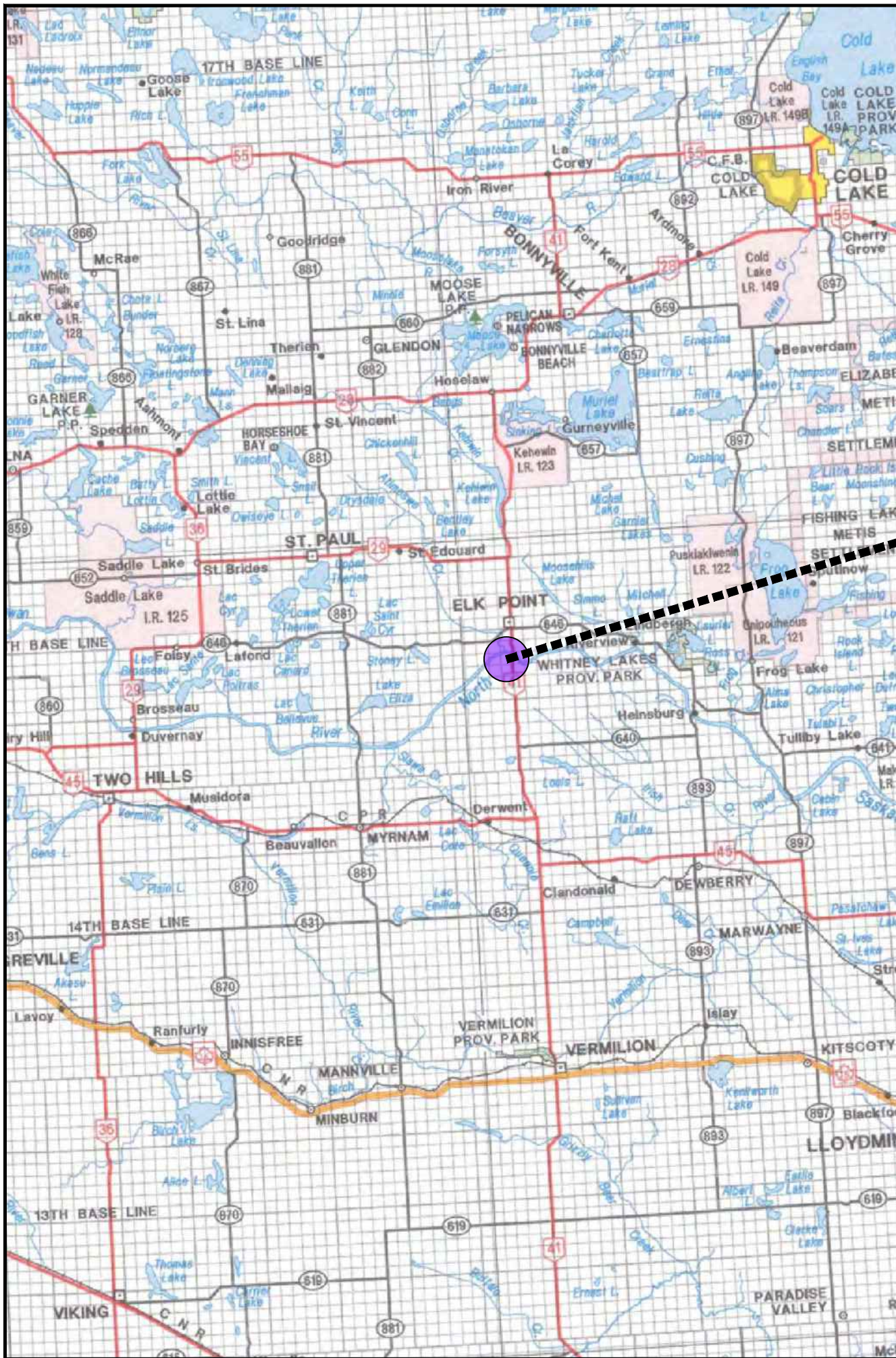


Michele Corry, P.Ag.



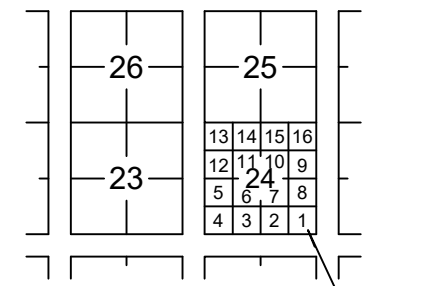


Appendix A: Drawings



LEGAL LAND DESCRIPTION

NE 24-56-07 W4M



LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- CURRENT DISTURBANCE AREA/PIT BOUNDARY (12.66 ha)
- REGISTRATION BOUNDARY (17.62 ha)

Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

BUKSA PIT

Title

LOCATION PLAN

Checked By: M. CORRY & J. MCGLYNN

Scale: NTS

Designed By: M. CORRY & J. MCGLYNN

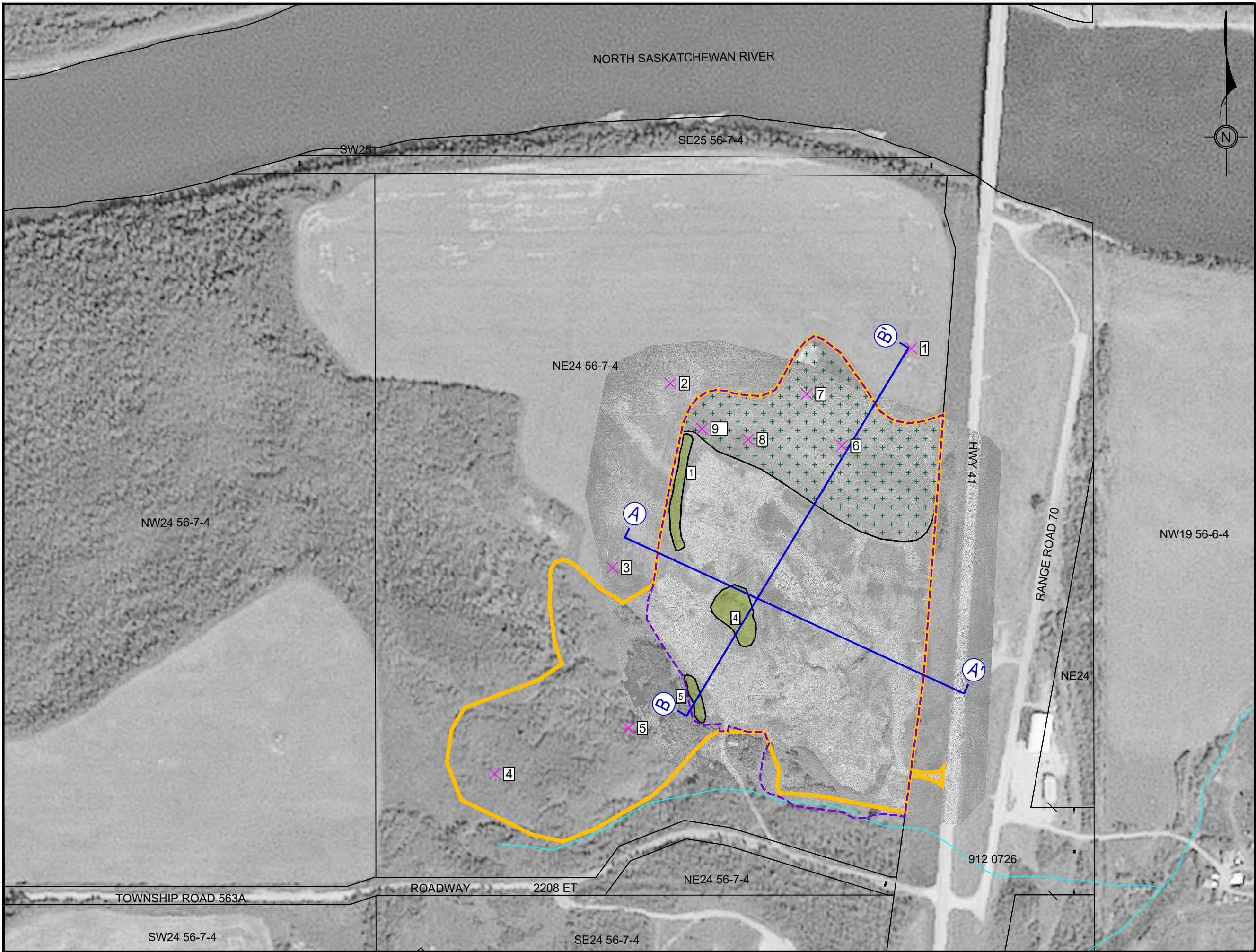
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Drawn By: T. FOY

Air Photo: 2016/2020

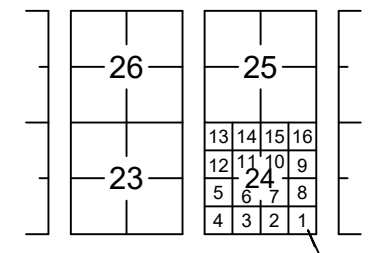
Date: JUNE 2, 2021

PO #: 21-017



LEGAL LAND DESCRIPTION

NE 24-56-07 W4M



LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- CURRENT DISTURBANCE AREA/PIT BOUNDARY (12.66 ha)
- REGISTRATION BOUNDARY (17.62 ha)
- WATERCOURSES
- RECLAMATION TOPSOIL PILES
- RECLAIMED AREA (3.48 ha)
- ASSESSMENT POINT LOCATIONS

Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

BUKSA PIT

Title

EXISTING CONDITIONS

Checked By: M. CORRY & J. MCGLYNN

Scale: 1: 4000

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

Drawn By: T. FOY

2 - 8

Air Photo: 2016/2020

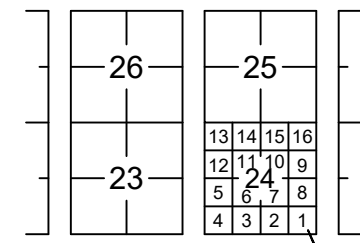
Date: JUNE 2, 2021

PO #: 21-017



LEGAL LAND DESCRIPTION

NE 24-56-07 W4M



LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- CURRENT DISTURBANCE AREA/PIT BOUNDARY (12.66 ha)
- REGISTRATION BOUNDARY (17.62 ha)
- WATERCOURSES
- RECLAMATION TOPSOIL PILES
- PARTIALLY RECLAIMED AREA (3.48 ha)

Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

BUKSA PIT

Title

CONTOUR PLAN

Checked By: M. CORRY & J. MCGLYNN

Scale: 1: 4000

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

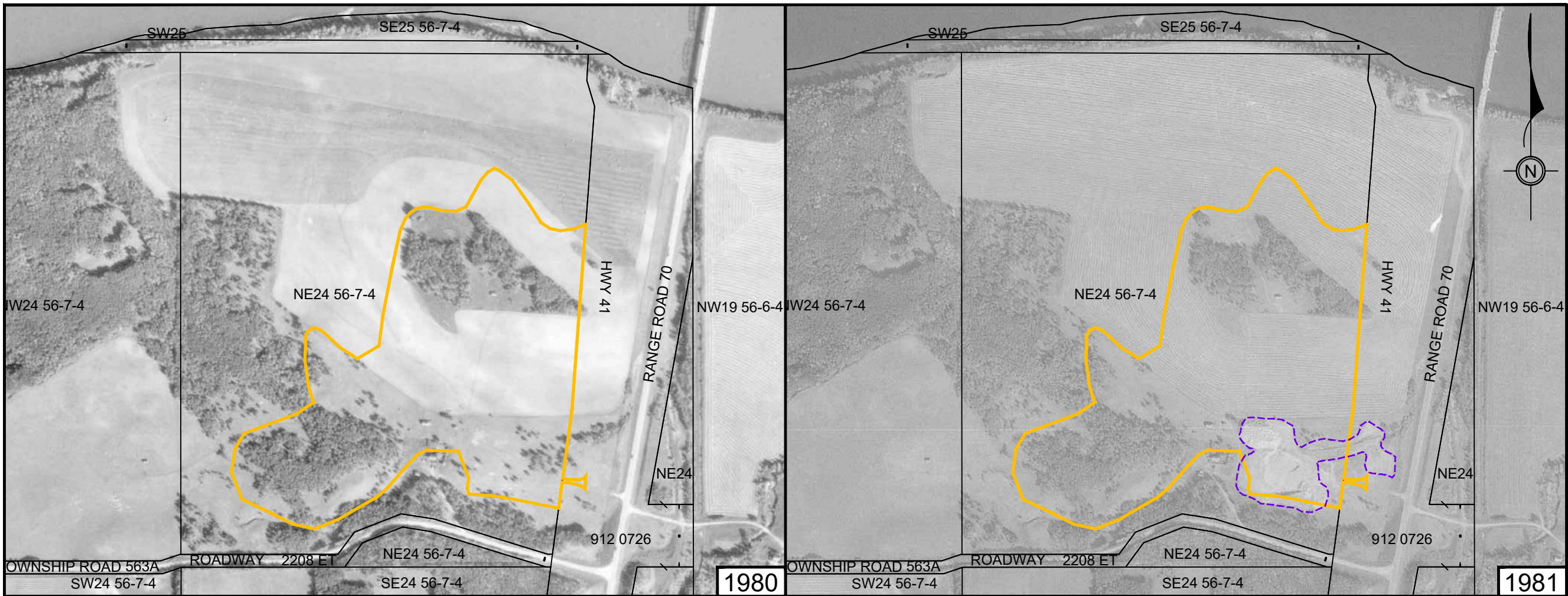
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3 - 8

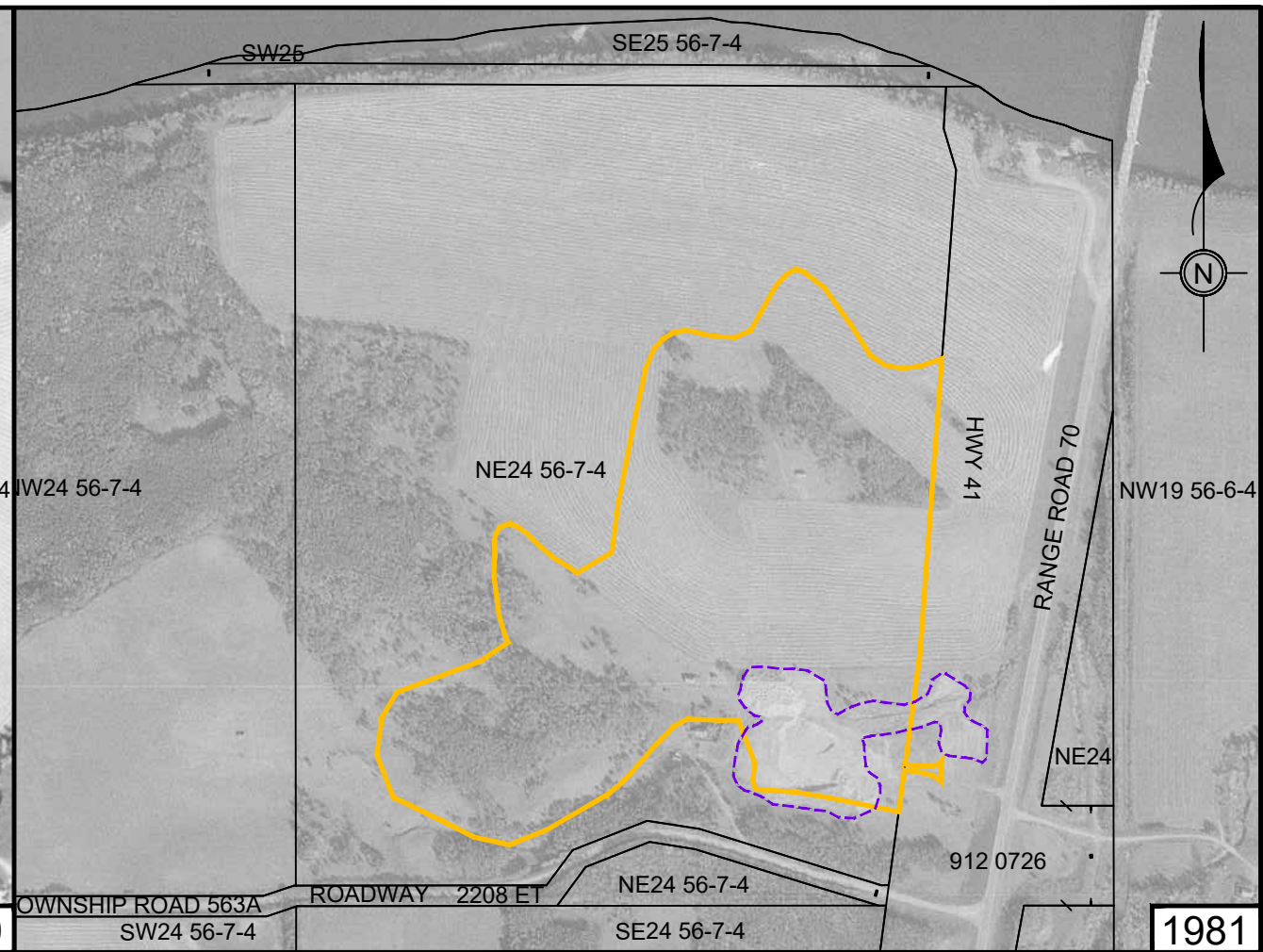
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Date: JUNE 2, 2021

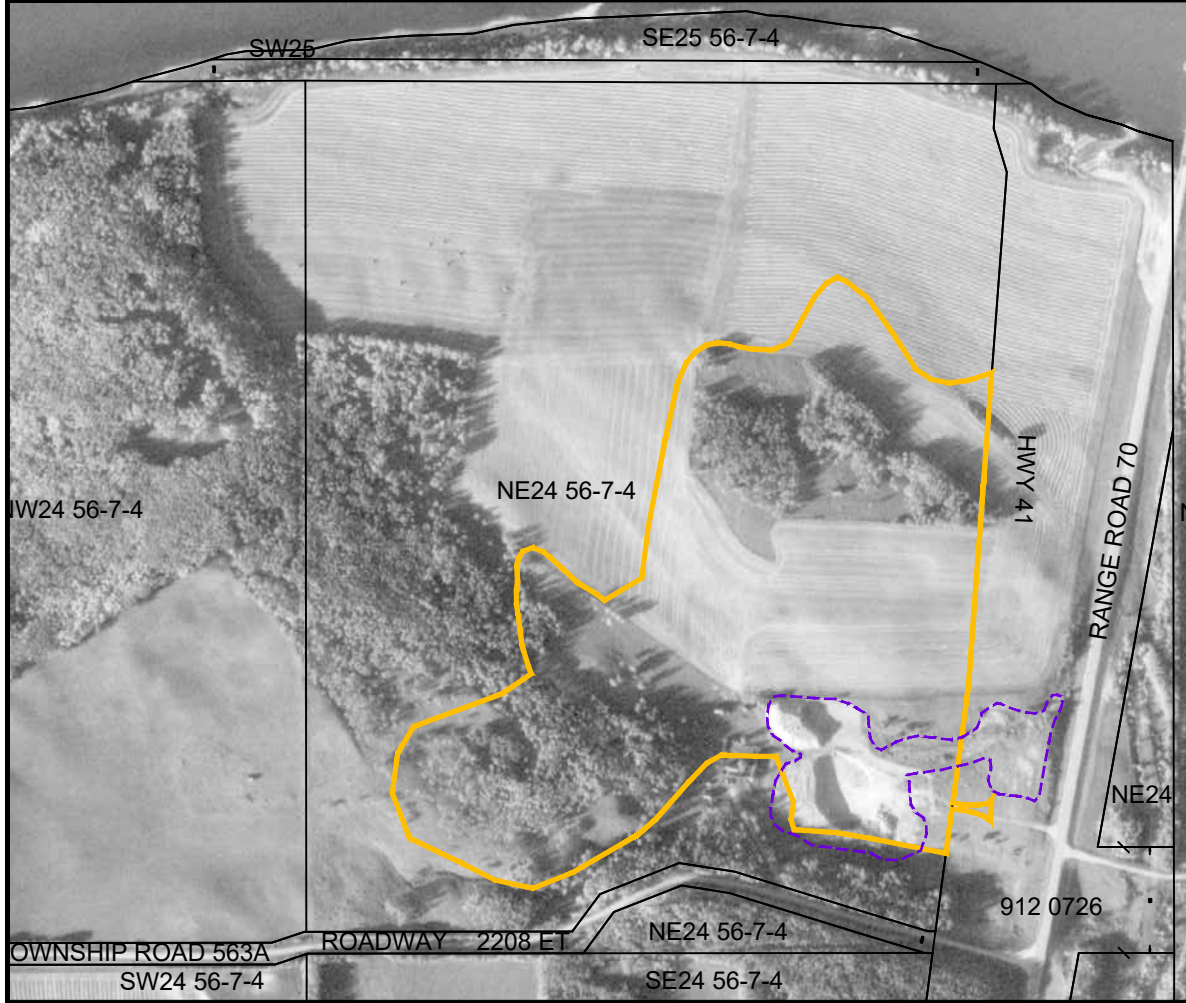
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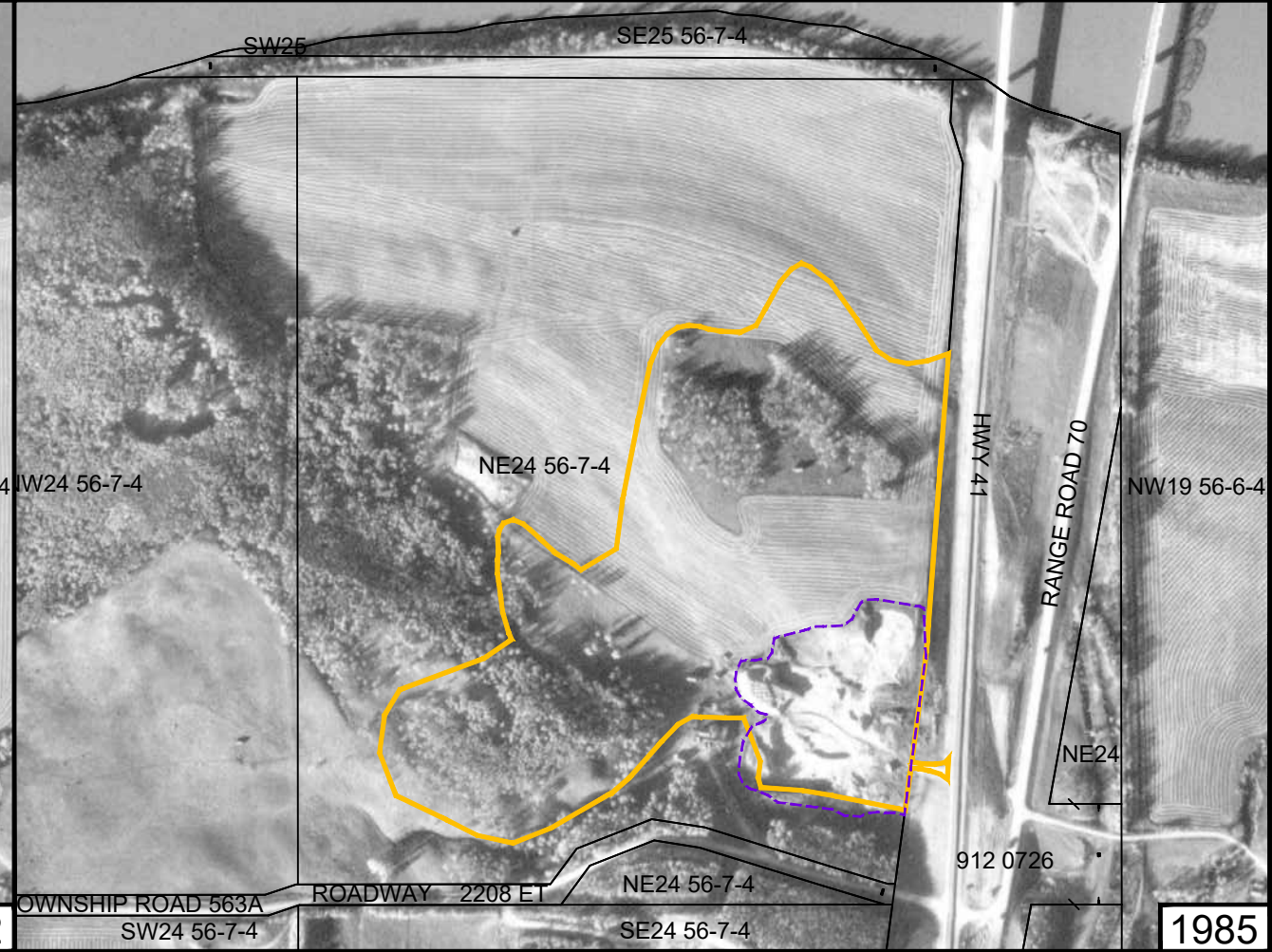
1980



1981



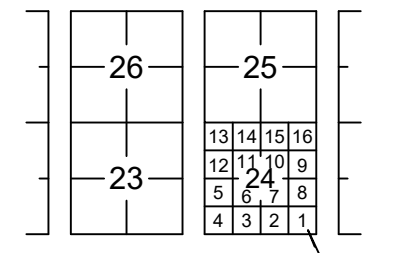
1982



1985

LEGAL LAND DESCRIPTION

NE 24-56-07 W4M



LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- REGISTRATION BOUNDARY (17.62 ha)
- DISTURBANCE AREA

AREA TABLE SHOWING PIT DISTURBANCES WITHIN NE 24-56-07 W4M FROM 1980 - 1985

YEAR	HECTARES	ACRES
1980	N/A	N/A
1981	2.04	5.04
1982	2.27	5.61
1985	3.02	7.46

Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

BUKSA PIT

Title

AERIAL PHOTOGRAPHY HISTORICAL OVERVIEW (1980 - 1985)

Checked By:

M. CORRY & J. MCGLYNN

Scale: 1: 7000

Designed By:

M. CORRY & J. MCGLYNN

Drawing No.

Drawn By:

T. FOY

4 - 8

Air Photo:

AS SHOWN

Date:

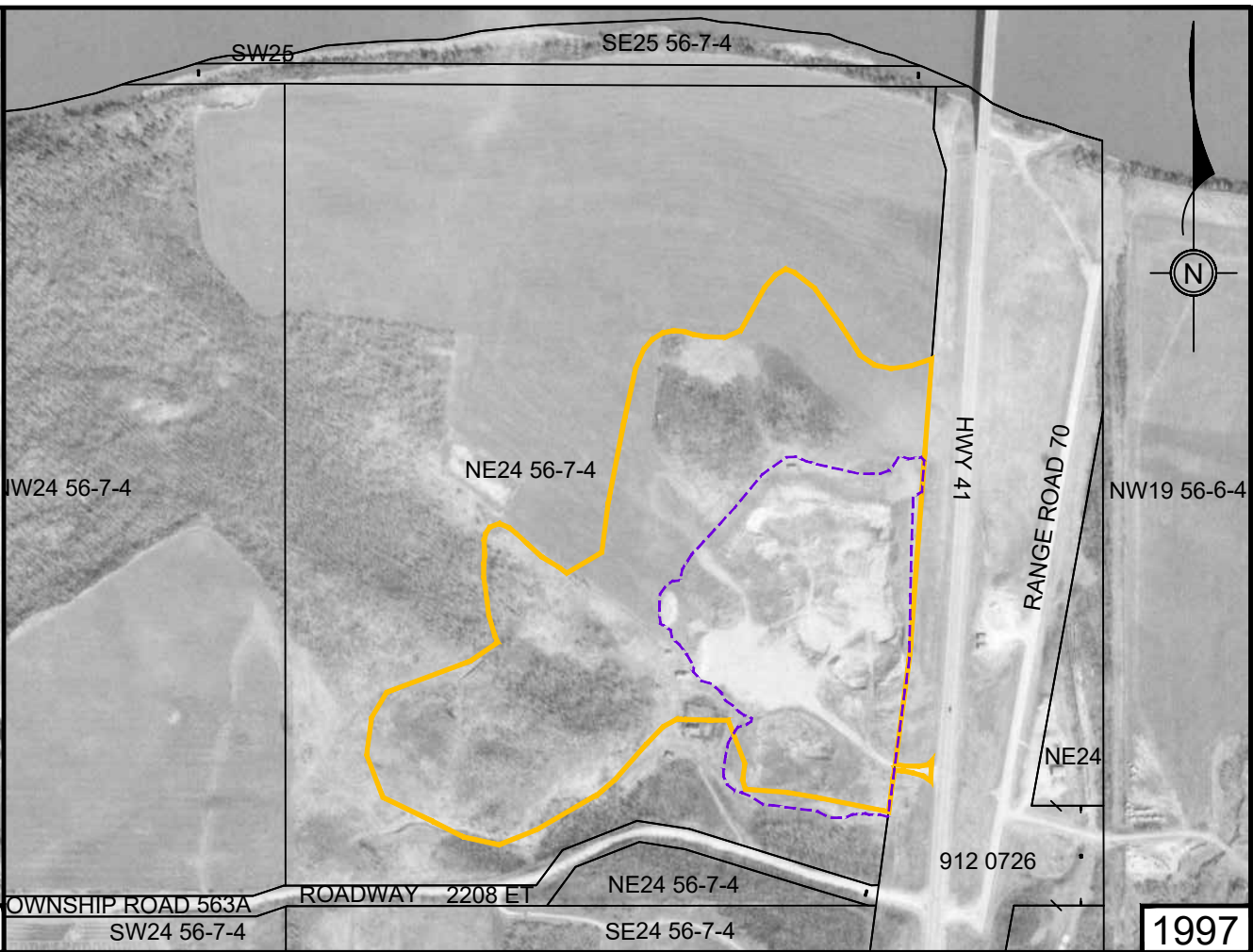
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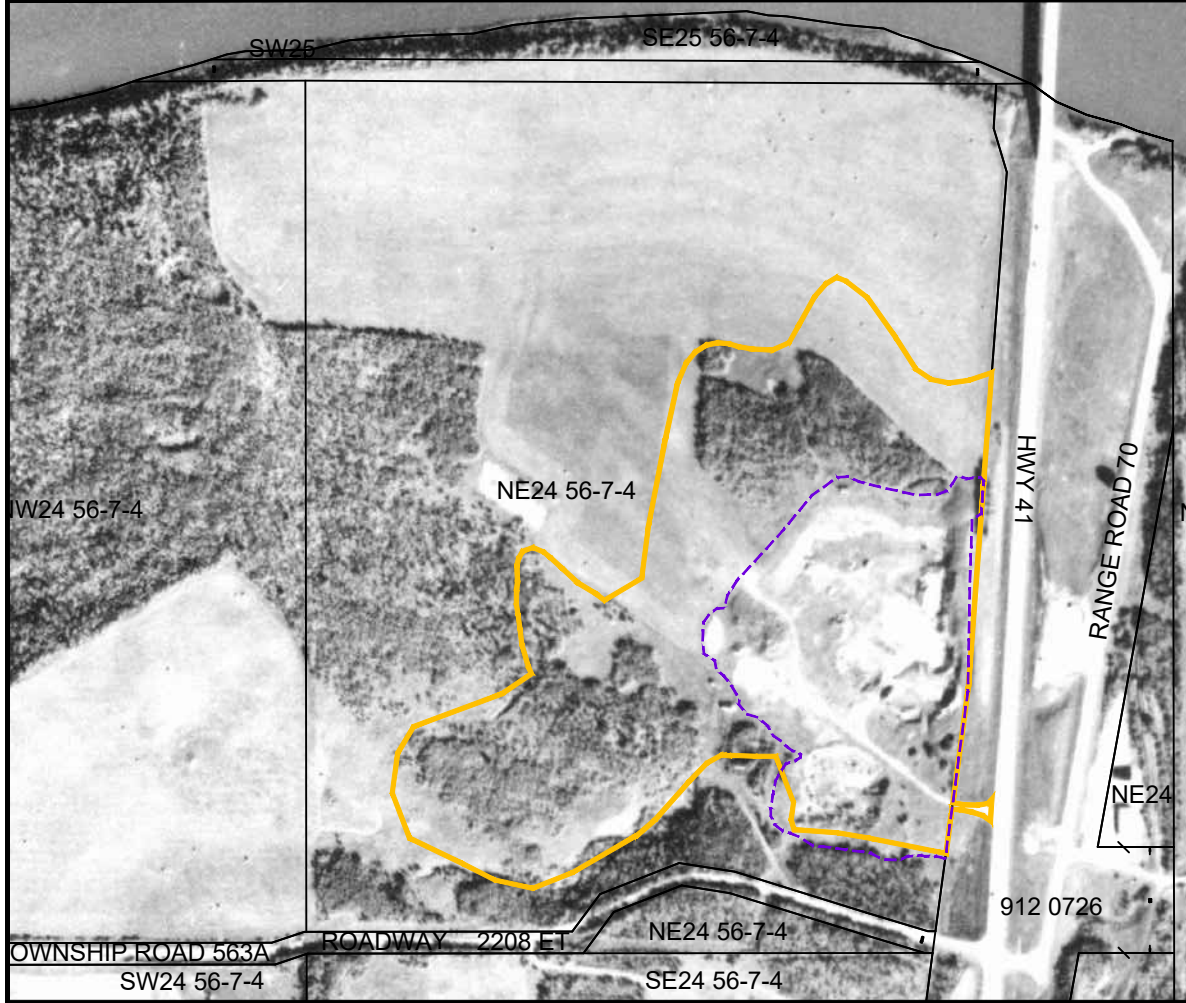
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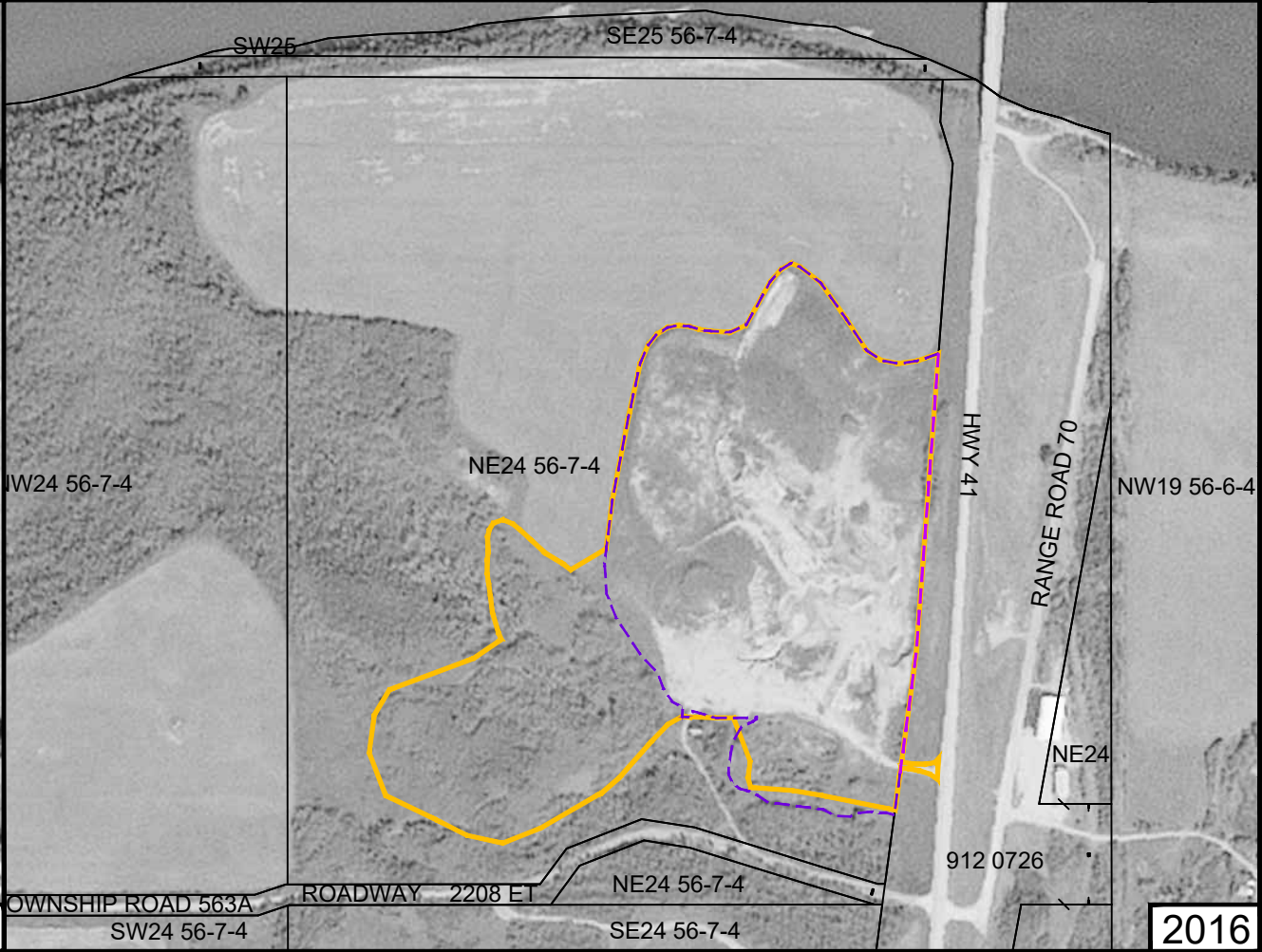
1991



1997



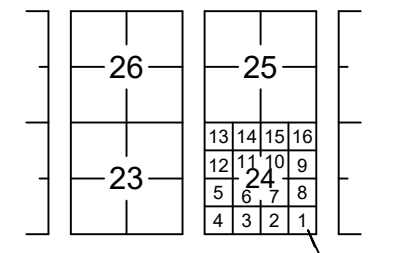
2005



2016

LEGAL LAND DESCRIPTION

NE 24-56-07 W4M



LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- REGISTRATION BOUNDARY (17.62 ha)
- DISTURBANCE AREA

AREA TABLE SHOWING PIT DISTURBANCES WITHIN NE 24-56-07 W4M FROM 1991 - 2016

YEAR	HECTARES	ACRES
1991	6.49	16.04
1997	6.51	16.09
2005	6.51	16.09
2016	12.45	30.77

Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

BUKSA PIT

Title

AERIAL PHOTOGRAPHY HISTORICAL OVERVIEW (1991 - 2016)

Checked By: M. CORRY & J. MCGLYNN

Scale: 1: 7000

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

Drawn By: T. FOY

5 - 8

Air Photo: AS SHOWN

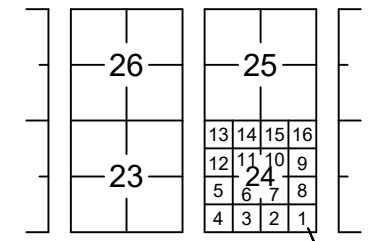
Date: JUNE 2, 2021

PO #: 21-017

SCALE:
V=1:400
H=1:2000

LEGAL LAND DESCRIPTION

NE 24-56-07 W4M

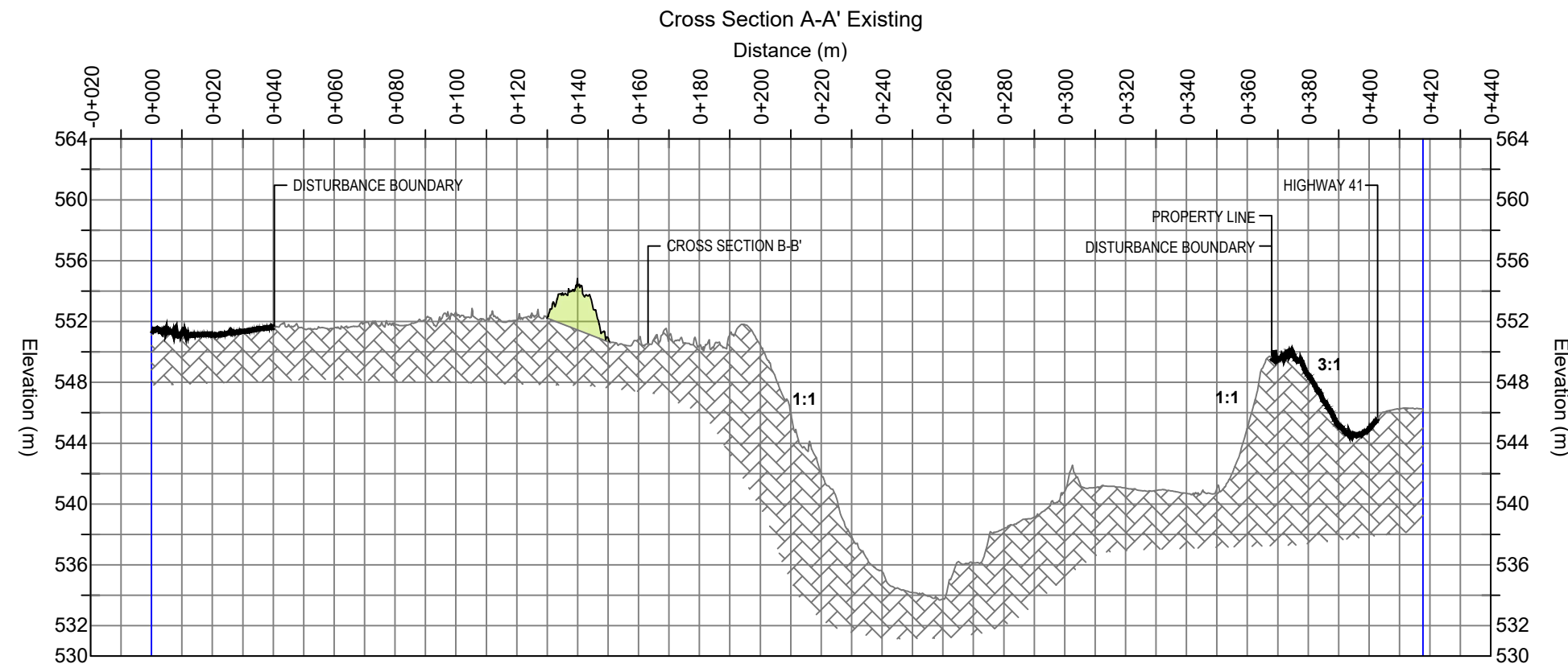


LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

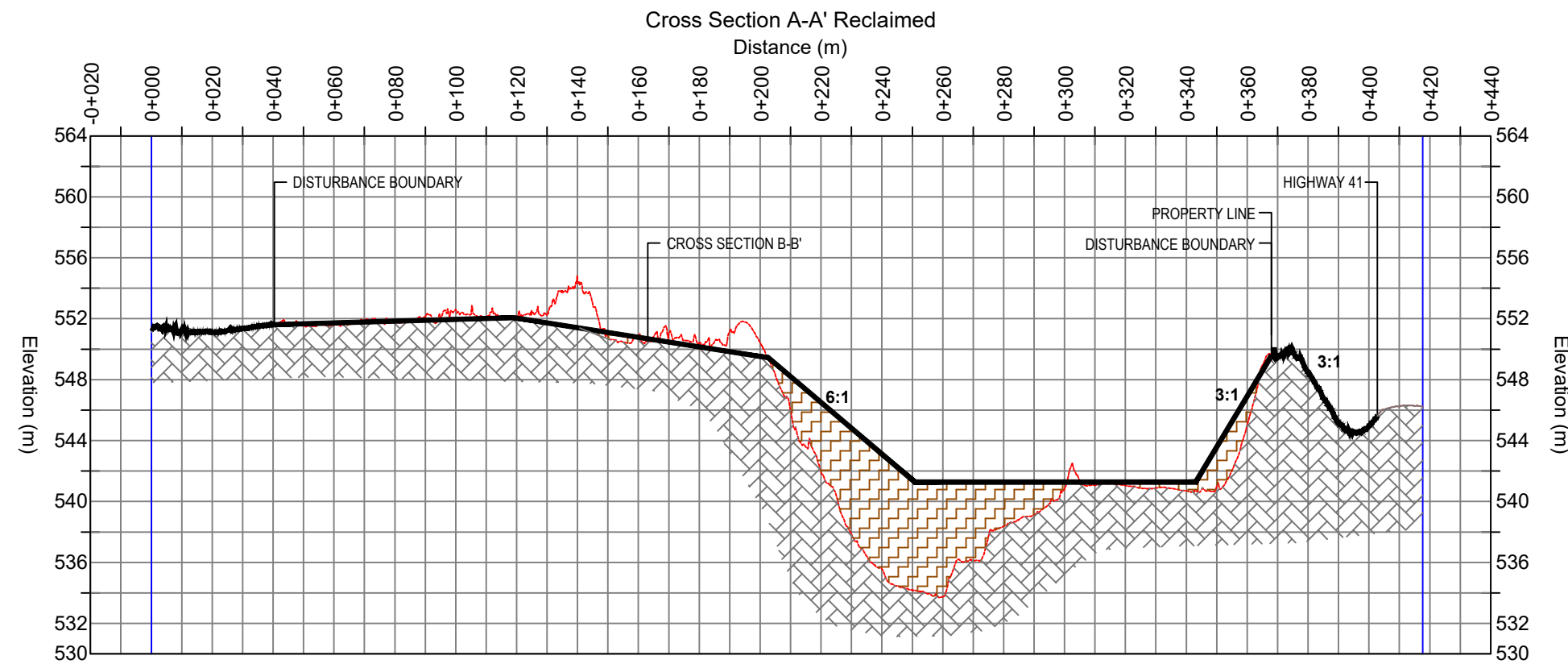
LOCATION PLAN

LEGEND

- TOPSOIL
- EXISTING SURFACE
- RECLAMATION MATERIAL STOCKPILE
- UNKNOWN MATERIAL
- REPLACED MATERIAL (REJECT SAND AND/OR AGGREGATE)



SCALE:
V=1:400
H=1:2000



Prepared By



Client

**MANTLE MATERIALS
GROUP LTD.**

Project

BUKSA PIT

Title

**CROSS SECTION A-A'
EXISTING & RECLAIMED CONDITIONS**

Checked By: M. CORRY & J. MCGLYNN

Scale: AS SHOWN

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

Drawn By: T. FOY

Air Photo: NA

Date: JUNE 2, 2021

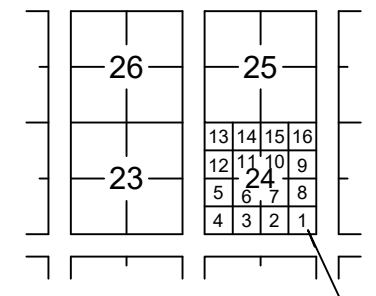
PO #: 21-017

6 - 8

SCALE:
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LEGAL LAND DESCRIPTION

NE 24-56-07 W4M

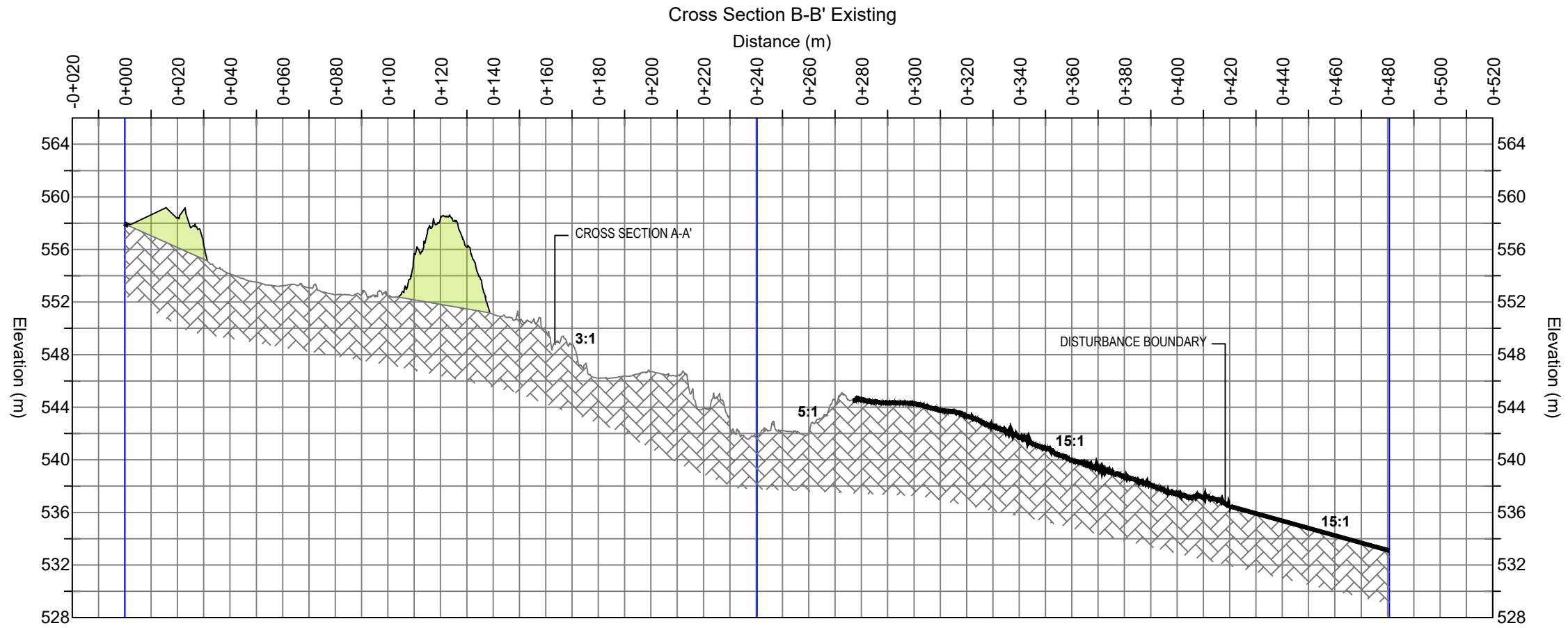


LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

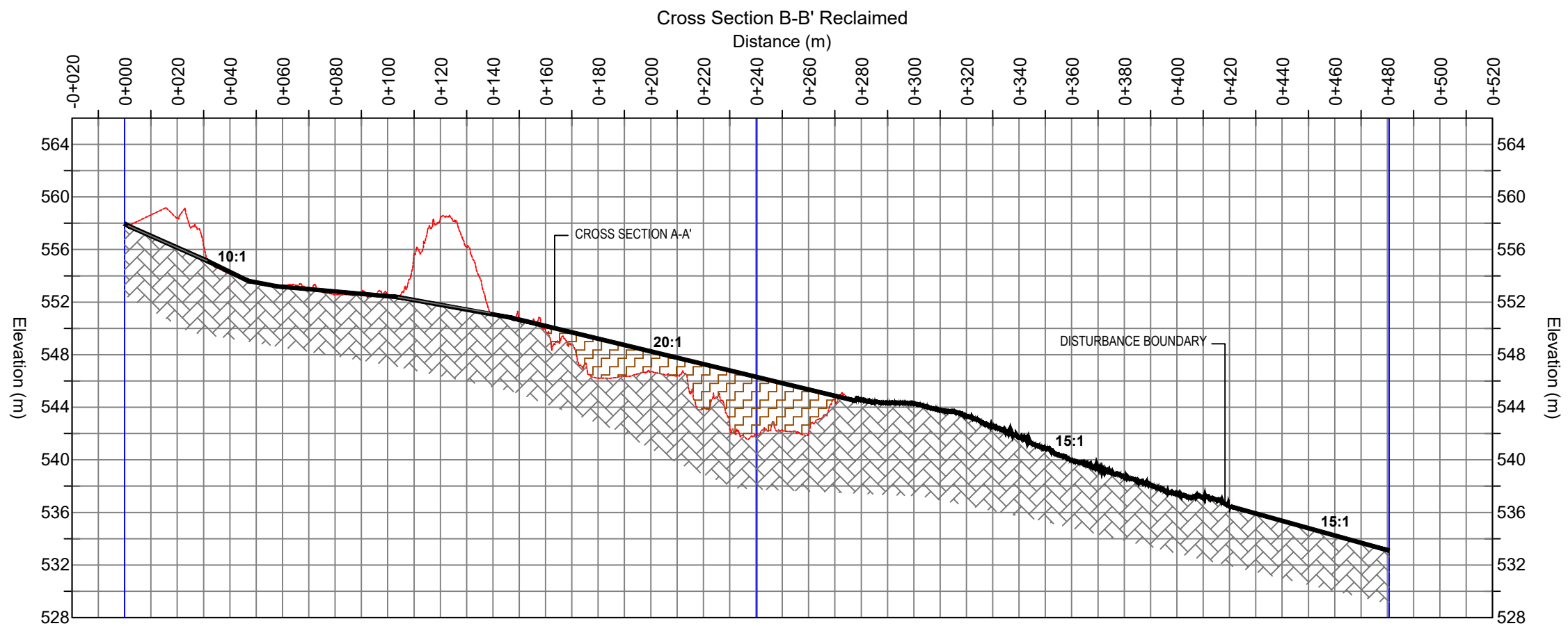
LOCATION PLAN

LEGEND

- TOPSOIL
- EXISTING SURFACE
- RECLAMATION MATERIAL STOCKPILES
- UNKNOWN MATERIAL
- REPLACED MATERIAL (REJECT SAND AND/OR AGGREGATE)



SCALE:
V=1:400
H=1:2000



Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

BUKSA PIT

Title

**CROSS SECTION B-B'
EXISTING & RECLAIMED CONDITIONS**

Checked By: M. CORRY & J. MCGLYNN

Scale: AS SHOWN

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

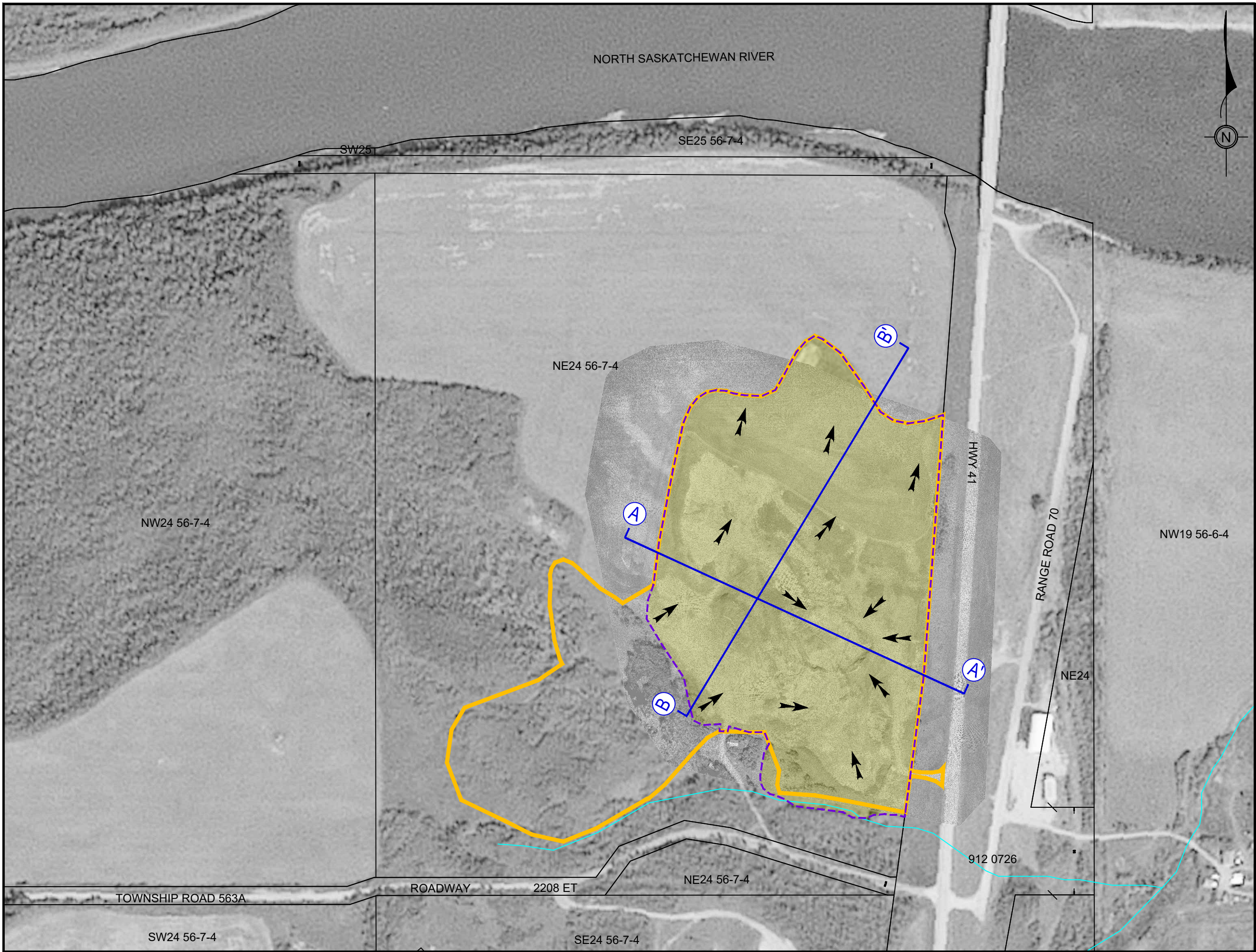
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Air Photo: NA

Date: JUNE 2, 2021

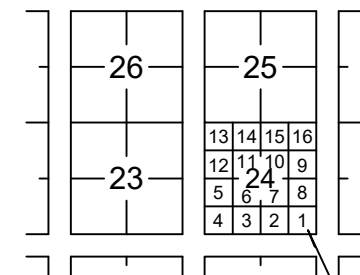
PO #: 21-017

7 - 8



LEGAL LAND DESCRIPTION

NE 24-56-07 W4M



LEGAL SUBDIVISION - LSD
1/4 MILE SQ. - 40 ACRES

LOCATION PLAN

LEGEND

- PROPERTY LINES
- CURRENT DISTURBANCE AREA/PIT BOUNDARY (12.66 ha)
- REGISTRATION BOUNDARY (17.62 ha)
- WATERCOURSES
- RECLAIMED AREA (17.74 ha)
- DRAINAGE ARROWS

Prepared By



Client

MANTLE MATERIALS GROUP LTD.

Project

BUKSA PIT

Title

RECLAMATION PLAN

Checked By: M. CORRY & J. MCGLYNN

Scale: 1: 4000

Designed By: M. CORRY & J. MCGLYNN

Drawing No.

Drawn By: T. FOY

8 - 8

Air Photo: 2016/2020

Date: JUNE 2, 2021

PO #: 21-017

This is **Exhibit "F"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta



Revised Remedial Plan

Water Act Enforcement Order EO-WA-35659-01
Environmental Protection Order EPO-EPEA-35659-07

Prepared for: Mantle Materials Group, Ltd.
January 27, 2023 (*Original Submission June 2021*)



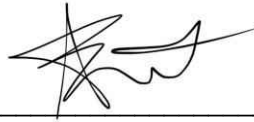
Charette
Pell
Poscente

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PROFESSIONAL SIGNOFF

This report was prepared exclusively for the client by CPP Environmental. The quality of the information, conclusions, and any estimates are based on information available at the time of the preparation of the report. This includes any data supplied by 3rd party sources.

This report is to be used by the client for its identified intention, subject to any terms or agreements with CPP Environmental. Any other use of this report is at the user's own risk.



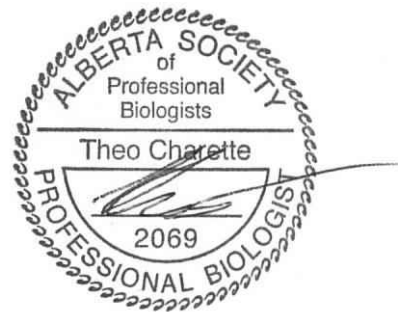
Prepared by: _____

Annette Bugnet, RPFT

To the best of my knowledge and the best of my professional ability, recognizing reasonable standard of care expected of a professional doing this work, it is my professional opinion that all the information contained in this report is accurate and complete, and contains all the relevant information for the purposes of this project or application.

This report, including all attachments, data, and supplemental information, were prepared by me or under my direct supervision and has been reviewed and accepted by me.

All the information submitted is, to the best of my knowledge, true, accurate, and complete.



Reviewed by: _____

Théo Charette, M.Sc., P.Biol.

EXECUTIVE SUMMARY

A Remedial Plan was developed by CPP Environmental in June 2021 on behalf of Mantle Materials Group, Ltd. in response to the Water Act Enforcement Order No. EO-WA-35659-01 and Environmental Protection Order No. EPO-EPEA-35659-07. The document was developed in consultation with Mantle Materials Group, Ltd. representatives and Environment and Protected Areas. This Remedial Plan was intended to meet the requirements listed in the EO and the EPO which consisted of the remediation and reclamation of the waterbody and the ditches present on SML060060.

Since commencing operations in 2022, remediation and recontouring of the ditches, interim remediation of the southwest erosion areas, recontouring of the northeast portion, and partial backfilling of the waterbody has occurred. During the remediation operations, Mantle Materials Group, Ltd. has encountered challenges including buried topsoil and coarse woody debris and increased fill material requirements.

This revised Remedial Plan is based on the approved 2021 Remedial Plan but has been updated to include an end pit waterbody design in the final reclamation. This plan also incorporates all supplemental information requested from the original Remedial Plan submission.

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1 Introduction

This revised Remedial Plan (“this Plan” hereafter) has been developed in response to the Water Act Enforcement Order No. EO-WA-35659-01 (“EO” hereafter) and the Environmental Protection Order EPO-EPEA-35659-07 (“EPO” hereafter) on behalf of Mantle Materials Group, Ltd. (“Mantle” hereafter). Development of this document only pertains to the requirements identified on Page 5, Clause 4 (a – i) of the EO and the EPO. Activities as identified within the document are subject to Environment and Protected Areas (“EPA” hereafter) and Forestry, Parks and Tourism (“FPT” hereafter) approval and are subject to changes or amendments following review by EPA and FPT. The Plan has been developed as a joint plan for both the EO and EPO to allow for simultaneous remedial and reclamation activities for both enforcement orders. Mantle is aware of, and agrees to, the commitments made in this document. Partial remediation work had started, and was completed, in 2022; this Plan identifies these operations but focuses on current conditions and operations moving forward.

1.1 Project Background

SML060060 is a 16.77 ha (41.44 ac) gravel pit located in SW 13-065-18 W4M. Mantle took over the pit in March 2019, which included aggregate extraction and processing operations. Prior to this, the pit had been operated for years under other lease holders. The most recent Conservation and Reclamation Business Plan (“CRBP” hereafter) for SML060060 was approved in May 2014 (CRB No. 100024). Refer to **Table 1** for disposition information. Refer to **Appendix 1** – Overview Map and **Appendix 2** – Imagery Map.

Table 1: Disposition Information

Disposition	Approval Date	Expiry Date	Status/ Information
SML060060	May 28, 2014	May 27, 2024	The pit is currently inactive. EO / EPO in place.

This Plan was developed in accordance with Clause 4 of the EO and EPO outlined by EPA and FPT. Refer to **Table 2** for the EO and EPO requirements and their corresponding sections within this Plan.

Table 2: EO and EPO Requirements and Corresponding Remedial Report Sections

Document	Clause	Clause Description	Remedial Plan Section
EO	4(a)	A detailed assessment of the Lands including drainage, soils, vegetation, water (ground/surface) and any affected areas surrounding the Lands.	Section 2 - Biophysical Description Appendix 1 – Overview Map Appendix 4 - Original and Current Drainage Maps Appendix 3 - Current Site Conditions
	4(b)	Apply for required authorizations to conduct remedial activities of the Land.	Section 2.1.3 - Authorizations
	4(c)	A detailed map to determine: i) the source of the water in the lake; ii) the original drainage prior to any activity on the Lands; and iii) the current drainage including the extent water is discharging off the Lands.	Section 3 - Drainage Appendix 4 - Original and Current Drainage Maps

Document	Clause	Clause Description	Remedial Plan Section
	4(d)	A hydrological assessment of: i) the amount of water that is discharging off of the Lands annually; and ii) the sediment load eroded from the Lands annually.	Section 4 - Hydrological Assessment
	4(e)	A detailed description of how the lake on the Lands will be reclaimed.	Section 7 - Remediation and Reclamation Activities
	4(f)	A detailed plan on how water will be managed on the Lands and be returned to the natural drainage system once the lake has been decommissioned.	Section 7.1.1 - Dewatering and Water Management
	4(g)	A description of the type of equipment, methods, and materials that will be used in implementing the Remedial Plan.	Section 7 - Remediation and Reclamation Activities
	4(h)	A description of the long-term monitoring and maintenance measures that will be implemented to ensure that remedial works remain effective at achieving the goals in Paragraphs 4(e) and 4(f) of the Order.	Section 8 - Monitoring and Maintenance
	4(i)	A schedule of implementing the Remedial Plan with a completion date no later than October 1, 2021 (amended to September 20, 2022).	Section 9 - Schedule of Activities
EPO	4(a)	Particulars of the characteristics and properties of the land including topography, drainage, soils, vegetation and land capability.	Section 2 - Biophysical Description
	4(b)	A historical synopsis of the surface, subsurface and groundwater disturbance.	Section 2.1.1 - Historical Disturbance
	4(c)	A description of the adjacent land uses.	Section 2.1.2 - Adjacent Land Uses
	4(d)	An accounting of what volume of marketable aggregate is left within the Pit and its value.	Section 2.1.4 - Current Marketable Aggregate
	4(e)	A description of the reclamation work including the type of equipment, methods and materials that will be used in implementing the Plan.	Section 7 - Remediation and Reclamation Activities
	4(f)	A description of the proposed reclaimed land use that includes elevations, soil replacement and revegetation.	Section 7 - Remediation and Reclamation Activities
	4(g)	A description of how ground water infiltrating open excavations will be addressed and justification for any surface and water related improvements to be left in place.	Section 7.1.1 - Dewatering and Water Management

Document	Clause	Clause Description	Remedial Plan Section
	4(h)	A proposed Schedule of Implementation that shall have September 20,2022 as the completion date.	Section 9 - Schedule of Activities
	4(i)	A six-month monitoring and maintenance program commencing September 20, 2022.	Section 8 - Monitoring and Maintenance

Table 3 outlines the communications between Mantle and EPA regarding the EO and EPO for SML 060060. Refer to **Appendix 7** for the corresponding documentation.

Table 3: Documented communications regarding the EO and EPO for SML 060060

Date	Communication Details
February 23, 2021	Letter of Non-Compliance from EPA to 2161889 Alberta Ltd.* regarding SML060060.
February 26, 2021	A letter was written from 2161889 Alberta Ltd. in response to EPA’s investigation (#35659) indicating a written plan was required to resolve the current non-compliances.
March 1, 2021	A 7 Day Letter was sent from 2161889 Alberta Ltd. to EPA following the report of a non-compliance (construction of a waterbody without authorization under the Water Act).
March 12, 2021	An EO and an EPO were sent to 2161889 Alberta Ltd. outlining requirements for SML060060 compliance.
March 19, 2021	EPA approved an amendment to the EO and EPO submission dates from March 31, 2021 to May 31, 2021.
June 2, 2021	An amendment was requested to change the submission date of the EO and EPO from May 31, 2021 to June 14, 2021. The dates were not amended but EPA confirmed in a letter that no enforcement of the EO and EPO would occur before June 21, 2021.
June 17, 2021	A Remedial Plan was submitted to the EPA.
June – December, 2021	Multiple supplemental information requests were sent to Mantle in response to the Remedial Plan. Mantle provided responses to all additional information requested.
January 25, 2022	Mantle received EPA approval for the consolidated Remedial Plan.
October 21, 2022	EPA received a request from Mantle to revise the Consolidated Remedial Plan approved by EPA on January 25, 2022 related to the EPO and EO.
October 28, 2022	Mantle submitted an EPO/EO Progress Update Report to EPA outlining all remediation and reclamation activities completed in 2022.
November 8, 2022	A letter was written by EPA in response to the Mantle’s request. The letter outlined requirements to include in the revised remedial plan and a <i>Water Act</i> approval application with a submission date of December 2, 2022.
November 29, 2022	EPA approved an amendment to the revised remedial plan and <i>Water Act</i> approval application submission dates from December 2, 2022 to February 2, 2023.

*Mantle has acquired 2161889 AB Ltd. and therefore assumes all liabilities of the aforementioned company.

2 Biophysical Description

Biophysical information was gathered from the previously approved CRBP (2010), through an onsite visit by CPP Environmental (May 2021) and from onsite documentation and drone data collected during remediation operations in 2022.

2.1 Land Use

2.1.1 Historical Disturbance

The SML has been operated for aggregate extraction for many years. During this time, the following disturbance has occurred:

- Clearing and salvaging of woody vegetation within the SML boundary
- Stripping and salvaging of topsoil and subsoil within the SML boundary
- Extraction and stockpiling of aggregate
- The construction of a waterbody within the SML boundary which retains both groundwater and local surface water. The entire waterbody is connected to the water table, and thus the surface of the waterbody is the surficial expression of the water table. Refer to **Appendix 3** – Current Site Conditions Map.
- The construction of a drainage ditch from the waterbody to the northwest boundary of the SML which contained flow from the waterbody during the 2021 site assessment.

On October 28, 2022, Mantle provided an update of remedial works completed at SML060060 (**Appendix 7**) based on the 2021 Remedial Plan. Remediation works completed to date include:

- Remediation of the north ditches including stripping soils, recontouring, final topsoil placement (completed August 30, 2022).
- Final recontouring of the northeast portion of the SML; interim remediation of south and southwest erosion area; salvaging of topsoil and woody debris; topsoil stripping; dewatering of the waterbody; partial backfilling of waterbody (completed October 21, 2022).

Refer to **Appendix 4** for current site conditions.

2.1.2 Adjacent Land Uses

There are no industrial land uses directly adjacent to SML 060060. Refer to **Appendix 1** – Overview Map for the adjacent land features within a 5 km radius.

2.1.3 Authorizations

To dewater the waterbody, a Temporary Field Authorization (TFA) will be required which will be obtained prior to pump out. Access to the site will require multiple road and land use agreements (**Appendix 8** – Road Use Documentation). Public and private land access from SML060060 includes:

- Public:
 - DLO 170011 – Mantle.
 - DLO 801134 - Travis Skoreyko. Through the CCAA process Mantle has acquired the RUA for DLO 801134. Alberta 2161889 acquired it from the previous SML lease holder.
 - Surveyed Road Allowance – Athabasca County. RUA application in progress. As per historic communications with AEP and Athabasca County, approval from the County will be in place prior to use of the road allowance and crossing of the Amisk River. No TFA will be required.

- Private:
 - No private RUA is required as the Athabasca County RUA will cover the access from DLO 801134 to Highway 663.

2.1.4 Current Marketable Aggregate

There is no marketable aggregate on site. This was determined through professional judgement, industry experience, and multiple on-site assessments. Mantle does not plan on aggregate mining operations.

2.2 Topography and Drainage

General topography of the area is undulating and hummocky with a downward slope to the northwest. Average slopes are gentle (6-9%) (CRBP, 2010). The lease consists of predominantly medium to coarse materials (refer to *Section 2.4 – Soils*) and is well drained through subsurface drainage with little to no natural surface runoff (CRBP, 2010). The natural topography of the area slopes northwest towards Amisk Lake and the Amisk River. Refer to **Appendix 4** for the current drainage map.

2.3 Land Capability

According to AGRASID (Alberta Agriculture and Forestry, 2021), the SML is located in polygon ID 21624 which has a Land Suitability Rating of 2(8) – 5W(2). This indicates that for agricultural production, 80% of the polygon has slight soil limitations while the other 20% has very severe excess water which would limit production (not due to inundation).

The area was previously forested wildlife habitat, and it will be reclaimed as such. The Canada Land Inventory Index (CLI) identifies forestry as predominantly 4 (having moderate limitation to growth of commercial forest) (Government of Canada, 2019). Undisturbed stands surrounding the SML were observed in 2021 as productive with merchantable timber; stockpiles and disturbed areas (cleared but not extracted) were showing signs of natural regeneration throughout the SML.

2.4 Soils

A review of the Agricultural Region of Alberta Soil Inventory Database (AGRASID) (Alberta Agriculture and Forestry, 2021) identifies the pit to be in polygon ID 21624. The polygon identifies the site to consist of Orthic Gray and Dark Gray Luvisols on medium textured till. Soils on site consist of predominantly medium to coarse materials. The 2021 assessment of undisturbed areas surrounding the SML identified the soil characteristics shown in **Table 4**.

Table 4: Summary of topsoil and subsoil horizons surrounding the SML

Soil Layer	Average Thickness (m)	Range of Thickness (m)	Texture
Topsoil (LFH + A horizons)	0.12	0.09 – 0.15	LFH; Sandy Clay Loam; Sandy Loam
Subsoil/Overburden	0.70	0.65 – 0.74+	Sandy Clay Loam; Loamy Sand; Sand; Sandy Loam

2.5 Vegetation

The site is located within the Dry Mixedwood Natural Subregion. This subregion is commonly composed of trembling aspen stands with scattered white spruce, interspersed fens, and cultivated lands (Natural Regions Committee, 2006). Refer to **Table 5** for a summary of the vegetation found within and surrounding the SML.

Table 5: Summary of vegetation within and adjacent to the SML

Source	Ecosite	Identified Species
CRBP 2010, Pg.8	Not specified	Balsam poplar (<i>Populus balsamifera</i>) Lodgepole pine (<i>Pinus contorta</i>) Trembling aspen (<i>Populus tremuloides</i>) White birch (<i>Betula papyrifera</i>) White spruce (<i>Picea glauca</i>)
Site Assessment (May 2021) * Observed within the Surrounding Undisturbed Areas	d1, d2	Beaked hazelnut (<i>Corylus cornuta</i>) Bog cranberry (<i>Vaccinium vitis-idaea</i>) Bunchberry (<i>Cornus canadensis</i>) Grass species Ground pine (<i>Lycopodium obscurum</i>) Knight's plume moss (<i>Ptilium crista-castrensis</i>) Labrador tea (<i>Rhododendron groenlandicum</i>) Low-bush cranberry (<i>Viburnum edule</i>) Prickly wild rose (<i>Rosa acicularis</i>) Red osier dogwood (<i>Cornus sericea</i>) Schreber's moss (<i>Pleurozium schreberi</i>) Snowberry (<i>Symphoricarpos albus</i>) Trembling aspen (<i>Populus tremuloides</i>) Twinflower (<i>Linnaea borealis</i>) White birch (<i>Betula papyrifera</i>) White spruce (<i>Picea glauca</i>) Wild red raspberry (<i>Rubus idaeus</i>) Wild strawberry (<i>Fragaria virginiana</i>) Willow species (<i>Salix spp</i>)
	e2	Beaked hazelnut (<i>Corylus cornuta</i>) Bishop's cap (<i>Mitella nuda</i>) Current (<i>Ribes spp</i>) Low-bush cranberry (<i>Viburnum edule</i>) Red osier dogwood (<i>Cornus sericea</i>) Trembling aspen (<i>Populus tremuloides</i>) White birch (<i>Betula papyrifera</i>) White spruce (<i>Picea glauca</i>) Wild strawberry (<i>Fragaria virginiana</i>)

Source	Ecosite	Identified Species
	g1** (wooded coniferous swamp)	Black spruce (<i>Picea mariana</i>) Bog cranberry (<i>Vaccinium vitis-idaea</i>) Knight's plume moss (<i>Ptilium crista-castrensis</i>) Schreber's moss (<i>Pleurozium schreberi</i>) Moss species Labrador tea (<i>Rhododendron groenlandicum</i>)

*Due to the timing of the site assessment, not all vegetation was observable or identifiable.

**A soil pit assessment could not be completed due to the ground being frozen; therefore, the ecosite identification is based strictly on vegetation identified within the site.

2.6 Hydrology

The SML is located within the Beaver River Watershed. There are no adverse impacts anticipated to local hydrology as a result of the remediation operations.

2.6.1 Ground Hydrology

A search of Alberta Water Well Information Database (Government of Alberta, 2023) identified no water wells within 400 m of the SML and two water wells within 1.6 km south of the SML. Characteristics of the wells can be seen in **Table 6**. Both wells are south of the SML and have noted static water levels of 9.14 m and 11.80 m.

Table 6: Summary of groundwater wells within 1.6 km of site

Well ID (Test Date)	Location	Static Water Level (m)	Completion Depth (m)	Screen Depth Interval (m)
258161 (06/09/1995)	NE 11-65-18 W4M	11.80	48.77	39.62 – 42.67
167963 (07/31/1992)	NW 12-65-18 W4M	9.14	45.72	39.62 – 45.72

Testing data from 2009 identified water in 7 of 41 holes at depths ranging from 6.0 to 18.0 m. During the 2021 site assessment, one soil pit, located on the east side of the pit, was wet at the bottom (0.72 m). Refer to **Appendix 3** – Site Conditions Map for the location of this plot. Due to the time of the assessment, the water could have been influenced by spring melt. Considering the depth of the water encountered and since remediation will consist predominantly of recontouring, this should not be a concern during remediation operations. It is important to note that water tables are dynamic in nature, being subject to seasonal fluctuation.

Water levels within the waterbody were monitored from May 17, 2021 to August 19, 2021 which determined water levels decreased an average of 15.7 cm (**Appendix 9** - Site Photos). The highest water table elevation recorded on site was 627.5m (location: 54.620841, -112.596764) on May 17, 2021; this elevation data was taken prior to remedial works in 2022. Refer to **Appendix 4** – Watershed and Drainage Map for the hydrological connection to the adjacent wetlands.

The water tables identified in **Appendix 6** - Conceptual Reclamation Map and Cross Sections were developed using the following data:

- Test hole data included in the approved 2010 CRBP (from 2006/2009, attached and shown in additional mapping). This data provided an estimation of the water table depths and the lithology of the site which are shown in **Appendix 6**. Refer to **Appendix 10** for the testing data.
- Water levels of the surficial aquifer identified at the time of assessment.
- Since the identified wetland directly west (wooded coniferous swamp S-Wc) that intersects with the cross section was frozen at the time of assessment, the water table is assumed to be at or just below the surface on the west boundary of the SML in cross sections “B” and “C”.

It is important to note that the testing data used for the lithology and water table estimation is from data collected by the previous lease holder. Mantle cannot guarantee the accuracy of the data. Also, the updated cross sections included in this revised Plan were completed using different software to reduce the skewed scale due to the vegetation elevation included in the drone data; the updated cross sections portray identical information.

2.6.2 Surface Hydrology

The SML is located approximately 550 m east of Amisk Lake (FWMIS ID 3916), 350 m south of the Amisk River (FWMIS ID 1965), and 100 m north of an unnamed watercourse (FWMIS ID 298582).

Two wetlands were identified adjacent to the SML. A wooded coniferous swamp (S-Wc) was identified along the west boundary of the SML (refer to **Table 5** for a list of the vegetation) and a seasonal graminoid marsh (M-G-III) to the northwest of the SML. Refer to **Appendix 3** for wetland locations.

2.6.3 Current Non-Natural Water Features

There is currently a waterbody within the SML boundary; two ditches that were documented on site in 2021 have since been remediated and reclaimed. The waterbody, located in the middle of the SML, is due to excavation within the water table. The average depth of the waterbody based on the dry pit drone data and the data listed in *Section 2.6.1 – Ground Hydrology* is approximately 5.5 m. Refer to **Appendix 3** for the waterbody location.

2.7 Erosion and Sedimentation

The 2021 site assessment identified potential impacts outside of the SML boundary due to the documented site conditions:

- Trespass on the south and southwest boundary with signs of rill and gully erosion. Visual sign of sedimentation in the adjacent forested stand due to the erosion (0.91 ha).
 - Interim remediation was completed on this area in the fall of 2022; all erosion gullies were filled in and re-sloping was completed to a 4:1 (rise:run) slope. Refer to **Appendix 3 – Site Conditions Map** and **Appendix 9** for photos of the interim remediation.
- Sedimentation in two adjacent wetlands northwest of the SML due to erosion from the drainage ditch. Water flowing from the waterbody and through the ditch had deposited sandy soils into the wetlands as far out as 100 m from the SML boundary. The deposition consisted primarily of coarse mineral soils (C horizon / overburden) which covered the vegetation in the area. Deposition depths reached a maximum of 70 cm with some vegetation established in shallower areas. Refer to **Appendix 9 – Site Photos** for documentation from the 2021 site visit.
 - Remediation of the two ditches was completed in the fall of 2022. This included filling in and recontouring the ditches and spreading topsoil on the remediated areas. Revegetation will occur by natural ingress. Refer to **Appendix 9** for photos of the ditch remediation.

2.8 Wildlife

As per an Alberta Conservation Information Management System (ACIMS) (Alberta Parks, 2022) and Fish and Wildlife Management Information Internet Mapping Tool (FWIMT) (Government of Alberta, 2022) search on January 21, 2023, no sensitive species or species at risk were identified within 1 km of the lease. The approved CRBP states that the SML is within an ungulate winter range (PNT 950113) and no operations will occur from February 15 – April 30. There were three fish species identified within 1 km of the lease; all species are considered “Secure” under the *Wildlife Act* and are not listed under the *Species at Risk Act*. Refer to **Appendix 11** for the FWIMT and ACIMS documentation.

The lease is within Nesting Zone B5 which has timing restrictions from April 19 – August 29. The CRBP states no operations from early April until August 31. No vegetation clearing will occur within this timeframe. If vegetation removal is required for remediation activities within the timing restrictions, wildlife sweeps will be completed. A wildlife sweep surrounding the waterbody will occur prior to dewatering since dewatering activities are planned within the migratory bird timing restriction.

3 Drainage

3.1 Waterbody Water Source

The waterbody within SML060060 includes input from both groundwater and local surface water/runoff.

3.2 Original Surface Drainage

Due to the coarse surface material, the SML is well drained through subsurface drainage. LiDAR from 2008 – 2009, which represents ground elevations prior to site entry, was used to delineate the watersheds and generate the pre-disturbance surface drainage network using ArcGIS software. The site is shown to use a natural channel to drain northwest towards Amisk Lake and the Amisk River. Refer to **Appendix 4** for the watershed and drainage network maps.

3.3 Current Surface Drainage

Remediation works were completed in 2022; drone elevation data was collected on October 6, 2022 (data collected on the dry pit) and November 4, 2022 (data collected after final work was completed for 2022). The drone elevation data collected was used to generate a post-disturbance surface drainage network (**Appendix 4**, post-reclamation map). These data sets represent feature data including current ground elevations within the SML and the current end pit waterbody elevations. Due to limited available data, 2008 – 2009 LiDAR was used to represent the bare earth data within the undisturbed areas outside of the SML.

The SML is comprised of coarse surface materials allowing surface water to infiltrate into the soils. Surface runoff and/or shallow subsurface drainage likely only occurs during wet periods of the year or during extreme rain events. The waterbody receives local runoff from areas east and southwest of the SML. Drainage within the SML moves northwest towards Amisk Lake and the Amisk River which is similar to the original surface drainage pattern.

4 Hydrological Assessment

4.1 Water Balance

Based on the surficial geology, the constructed waterbody is designed primarily as a Seepage Hydrologic type (refer to **Figure 1**), with minimal runoff. The reclaimed waterbody will be hydraulically connected to the ground water table, as it is now. The waterbody will have no formal inlet, but the reclaimed SML will be recontoured to allow local upgradient drainage to move toward the waterbody. Although there will be some input from local surface runoff, water input will be mainly through water table discharge and precipitation directly on the surface of the waterbody. Water will leave the waterbody through evaporation and seepage into the water table. Throughout most of the year, water levels in the waterbody will largely correspond to the water table; seasonal fluctuation in the waterbody will correspond with local water tables and spring melt. The target depth for the marsh plant zone is 2 m or less, following the accepted definition of a wetland (Green Plan Ltd., 2014). The waterbody will also include a deep-water area (>2 m). Water table elevations were estimated based on the test hole data and the historical site conditions (refer to *Section 2.6.1*). The water balance was calculated for the waterbody as a check to ensure that it will be self sustaining after reclamation from a water availability standpoint. Refer to **Appendix 4** for the site watershed and drainage.

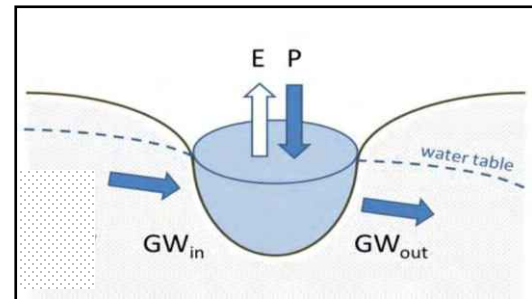


Figure 1: Seepage Hydrologic Waterbody Diagram

Table 7: Water balance calculations for water bodies in end land use design

Parameter	Waterbody
Water Body Surface Area (ha)	1.646
Water Body Volume (m ³)	37,480
Water Body Catchment Area (ha)	37.9
Net Evaporation:	
Lake Area (m ²)	16,460
Local Gross Evaporation (mm)	639.1
Local Precipitation (mm)	452.2
Net Evaporative Loss (m ³)	3,076
Total Inflow:	
Surface Runoff Area (ha)	36.2
Surface Runoff Area (km ²)	0.4
Runoff Rate by Locale (dam ³ /km ²)	32.1
Median Annual Water Body Inflow (m ³)	11,626
Water Balance Results (m³)	8,550

Based on the water balance calculation, it is estimated that the surface water balance for the waterbody is approximately 8,550 m³/year; this indicates that the inflow of water into the waterbody exceeds outflow. Refer to **Table 7** for the calculation and **Appendix 4** for the post-reclamation drainage network map.

4.2 Annual Sediment Load

The ditches from which previous sedimentation had occurred was remediated in August 2022. There will be no further sedimentation occurring from SML060060.

5 Environmental Sensitivities and Mitigation Measures

All reasonable effort will be made to minimize environmental impacts during construction. Potential environmental sensitivities and mitigation measures associated with the remedial activities have been identified in **Table 8**. Note that not all hazards identified will be present on site; this list identifies potential hazards that may appear during the course of remediation and reclamation activities. Many of these measures would require a quick response based on unforeseen circumstances.

Table 8: Project activities and mitigation measures for environmental impacts.

Activity	Potential Impact	Mitigation Measure
Dewatering	Offsite siltation or sedimentation, erosion	<ul style="list-style-type: none"> • If water discharged into a vegetated area has potential to flow into an adjacent waterbody or watercourse, the water must be of equal or better quality of that in the waterbody or watercourse. • Water discharge will be placed in a location where there will not be any erosion or damage to vegetation. Pump discharges shall also be equipped with a diffuser to reduce the potential for erosion. Fabric or poly sheeting and/or sit bags may be placed at the output if scouring becomes an issue. Refer to Appendix 5 for discharge locations. • Discharge will be inspected regularly when pumps are in operation to ensure that erosion or damage to vegetation is not taking place. Frequency of inspections may be reduced to a minimum of once per day, depending on the stability of the discharge area. • Frequency of inspections may be increased to more than hourly in the presence of erosion-related concerns. • If pumping rate is increased, an inspection will take place immediately to ensure that erosion and damage to vegetation is not taking place. • If water levels in the adjacent wetland are decreasing, water will be pumped into the wetland to mitigate further decrease in water level. Water levels will be monitored until water levels in the wetland are back to normal.

Activity	Potential Impact	Mitigation Measure
Storm water management	Siltation or sedimentation offsite	<ul style="list-style-type: none"> Storm water runoff management and temporary erosion controls will be implemented during construction where required. All runoff and excessive water will be managed within the project area. Runoff and excessive water will be directed into designated water holding areas to promote sedimentation of suspended soil particles. Runoff and onsite water diversion techniques will only be utilized if required. Runoff control techniques will be determined based on the applications outlined in Table 7.4 of Alberta Transportation’s Erosion Control Manual (2011).
Use of hazardous materials	Spills enter open water, percolate into the water table, or migrate into local waterbodies or watercourses	<ul style="list-style-type: none"> We do not anticipate storing any hazardous materials on site for any length of time. Any hazardous materials used will be located on equipment operator trucks that leave the site daily. Mantle will follow all applicable laws in accordance with hazardous materials storage, shipping, and disposal. Hazardous materials requiring disposal will be removed from the site in accordance with applicable laws and regulations. Storage sites will be located away from high traffic areas or areas exposed to winds or rains. Storage sites will be away from environmentally sensitive areas and a minimum of 100 meters from any watercourse or waterbody. Storage sites will have impermeable surface with a containment feature (i.e., dyke). Ensure good maintenance practices on machinery used during operations. If leaks are found, repairs or replacement will occur promptly. Mantle will follow applicable laws and EPA reporting requirements regarding spills. This includes following the guidelines outlined in A Guide to Release Reporting (Alberta Environment, 2000). Visual inspections of storage containers will be conducted. Drip pans or pails will be used under machinery. The onsite construction contractor will be properly trained in the use, storage, handling, and material safety of hazardous materials.

Activity	Potential Impact	Mitigation Measure
	Fuel or oil spills or leaks open water, percolate into the water table, or migrate into local waterbodies or watercourses	<ul style="list-style-type: none"> • Compliance with all environmental policies and regulations. • Ensure good maintenance practices on machinery used during operations. If leaks are found, repairs or replacement will occur promptly. • Fuelling of all equipment will be done at least 100 meters from any waterbody. The onsite construction contractor will be properly trained in the use, storage, handling, and material safety of hazardous materials.
Weed management	Introduction of prohibited noxious, noxious, or nuisance weeds	<ul style="list-style-type: none"> • Weed management and control will follow standard best management practices. • Weed inspections will occur during the growing season to assess weed establishment. • A weed management program will be implemented, if required.

6 Remediation Objectives

Remediation of the waterbody will include dewatering and recontouring the end pit lake to create various waterbody zones based on provincial guidelines. Once recontoured and graded, topsoil placement will occur in the marsh zone, riparian zone, and all upland areas. Revegetation will occur once soil placement is complete.

Interim remediation has occurred in the eroded areas along the south and southwest boundaries; materials may be used from this area during the waterbody construction, if required. Topsoil/subsoil placement will occur once wetland construction is complete, and the area will be seeded to mitigate further erosion offsite and promote vegetation establishment and soil stability.

Erosion and sedimentation control measures will be implemented during remediation activities and monitored post-reclamation as part of the monitoring and maintenance plan. These mitigation measures will be left in place until the area has been suitably revegetated and there are no concerns of erosion instability. These measures may include, but are not limited to, silt fences, sandbags, fiber socks and coarse woody debris placement. Settling ponds may also be utilized if there are periods of extreme wet conditions. Refer to *Section 11 – Remediation and Reclamation Activities* for further details. Refer to **Appendix 6 – Conceptual Reclamation Map and Conceptual Cross Sections**.

7 Remediation and Reclamation Activities

Remediation and reclamation activities will adhere to this Plan to reduce environmental impact to the surrounding landscape. Construction will start with the dewatering of the waterbody (*Section 7.1.1*); once the water source has been removed, the construction and reclamation of the waterbody will occur. Remediation and reclamation will also occur on all remaining areas that were not completed in 2022. Operations may occur concurrently at all locations. Equipment types used during implementation of this Plan:

- Excavators (backhoe)
- Dozers
- Rock trucks and/or gravel trucks
- Water pumps, generator, and hoses/piping

The proposed end land use for SML060060 is forested upland wildlife habitat with an end pit waterbody. The construction of the end pit waterbody will be designed to incorporate a deep open water zone, shallow open water, marsh plant zone, and riparian zones. Refer to **Appendix 6** – Conceptual Reclamation Map and Conceptual Cross Section for the final reclamation plan.

7.1 End Pit Waterbody and Surrounding Uplands

7.1.1 Dewatering and Water Management

Water management will be essential during implementation of this Plan. Dewatering of the waterbody will occur in summer of 2023 prior to any remedial works on the waterbody. Remediation and reclamation activities will occur during dry conditions. The grading and contouring of the waterbody will occur as soon as reasonably possible once water levels are low enough to minimize infiltration. Stormwater management and temporary erosion controls will be implemented during construction where required. In order to meet water discharge criteria, runoff and excessive water may be retained within the project area and directed into designated water holding areas to promote sedimentation of suspended soil particles.

In June 2022 prior to dewatering, Mantle installed a water level monitoring well in the west wetland with a levellogger and barologger to record water level fluctuation and changes in atmospheric pressure and temperature, respectively. Should impacts to this wetland arise, water will be diverted directly into this wetland as identified in the approved Remedial Plan. Any change in diversion location will be presented to EPA for EO approval. An amendment was approved by EPA in 2022 to continue to use the discharge zones even though water was observed to eventually reach the Amisk Lake. Multiple water samples were taken in the waterbody and discharge locations and results were all within acceptable limits. Discharge continued with the approval of EPA with the condition that weekly sampling was to occur prior to draining in to the Amisk Lake. Refer to **Appendix 7** (EPO/EO Progress Update Report) for further information.

Dewatering in 2022 occurred from August 24 to October 19. This was significantly more time than initially anticipated due to precipitation events, seasonal fluctuations, springs feeding the waterbody, and the actual depth of the waterbody at the time of dewatering. Dewatering volume is estimated at 37,480 m³ based on current pit design and historical water levels. Although calculations estimate the waterbody to dewater in approximately 4 days using one 6-inch pumps, it is most likely that it will take longer due to environmental conditions and varying pump rates. As performed in 2022, water will be pumped out of the waterbody into the adjacent forested stand (**Appendix 5**) prior to remediation of the waterbody. This will be conducted using 1 pump running for 24 hours a day for an 8-day period at a rate of approximately 1761 US gallons per minute (400 m³/hr). The calculation below shows that this will be sufficient to dewater the estimated volume of the waterbody: (400 m³/hr x 24 hr/day x 4 days) = 38,400 m³. The discharge hose will be placed in a location where there will not be any erosion or damage to vegetation. Pump discharges will be equipped with a diffuser to reduce the potential for erosion. Fabric or poly sheeting and/or silt bags may be placed at the output if scouring becomes an issue. Discharge will be initially inspected every few hours when pumps are in operation to ensure that erosion or damage to vegetation is not taking place. Frequency of inspections may

be reduced to a minimum of once per day, depending on the stability of the discharge area. Frequency of inspections may be increased to more than hourly in the presence of erosion-related concerns. Turbidity monitoring will occur during dewatering, and samples will be visually checked for the presence of hydrocarbons. Results will be compared to the Environmental Quality Guidelines for Alberta Surface Water (ESRD, 2014). If contaminants are identified, additional environmental mitigation will be implemented. Once the waterbody has been dewatered enough to re-grade the edges, the waterbody will be remediated and reclaimed as soon as reasonably possible as outlined in *Section 7 – Remediation and Reclamation Activities*. Refer to *Section 5* for erosion and sedimentation control measures.

7.1.2 End Pit Waterbody Design

Key design characteristics of the end pit waterbody, identified in **Table 9**, follow parameters outlined in the General Design Guidelines for a Constructed ‘Habitat’ Wetland-Boreal Forest Natural Region of Alberta (Design Guidelines; Green Plant Ltd., 2014) and the Alberta Guide to Wetland Construction in Stormwater Management Facilities (CSMF; Government of Alberta, 2018). The waterbody design will include characteristics listed below.

- Salvaged soil, overburden, and reject material will be used to construct the required landscape features.
- Site drainage should be constructed to direct surface runoff to the waterbody.
- Irregular shorelines and areas of emergent vegetation will be constructed to provide nesting and staging areas for waterfowl and shorebirds and add to species diversity in the area.
- The marsh plant zone will be constructed to incorporate water table fluctuations and to increase plant diversity, habitat heterogeneity, and aquatic processes via planting from local donor sites and natural dispersal (native species such as sedges, grasses, bulrushes, cattails, and willows).
- Riparian areas and upland areas will be vegetated appropriately to control erosion and intercept sediments and nutrients.
- The riparian zone is considered the interface of the aquatic and terrestrial, where vegetation is influenced by seasonal variations and can include a wide range of vegetation associated with both wetlands and uplands.
- The current waterbody features will be implemented into the final reclamation design.

Table 9: Water body design characteristics

Waterbody Characteristic	End Pit Waterbody
Water Body Surface Area (ha)	1.6
Max Normal Water Depth (m)	5.5
Waterbody Floor Elevation (masl)	618
Normal Water Elevation (masl)	623.5

The shallow open water zone and marsh plant zone are described as the fringe areas of the open waterbody where solar radiation can reach the bottom of the waterbody. This area is subject to fluctuating temperatures and varying water levels. These zones are important for ecological productivity as fluctuations in the water levels can provide suitable conditions for vegetation establishment. The upland area surrounding the end pit open waterbody will be developed to a slope no steeper than 3:1. Wetland zones have been designed to water depths as per **Figure 2**. See **Appendix 6 - Conceptual Reclamation Maps and Conceptual Cross Sections**.

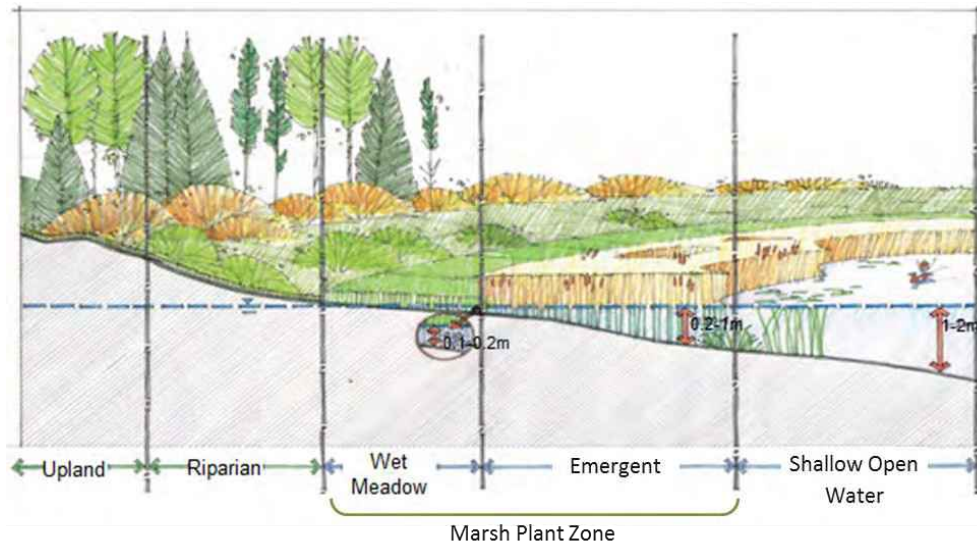


Figure 2: Littoral, shallow, and deep-water wetland zones (CEMA, 2014)

7.1.3 Grading and Contouring

The waterbody zones will be graded as per guidelines outlined in *Section 7.1.4*. The surrounding operating area will be graded and re-contoured to achieve patterns of natural drainage from southeast to northwest based on pre-disturbance conditions. Reject material and overburden will be used to meet the sloping requirements and to create irregularities in the reclaimed topography. Irregularities will give the reclaimed landform a more natural appearance and will create variety of macro and micro ecosites necessary for vegetation establishment. Refer to **Appendix 6** – Conceptual Reclamation Map.

7.1.4 Wetland Construction

The groundwater elevations are based on the pre-remediation activities in 2021 and the 2015 SML780151 test hole data; refer to *Section 2.6.1* for more information. The target grading and contouring values for the reclaimed waterbody are detailed in **Table 10** and are guided by the SCMF; the target depths for each zone are summarized in **Table 11**.

Table 10: Targeted waterbody slopes

Transition Area	Targeted Slope	Conceptual Elevations (masl)	Notes
Deep Open Water Zone / Shallow Open Water Zone	3:1 to 4:1	618 – 623	This area is from the waterbody floor to the beginning of the marsh plant zone. May be constructed to a gentler slope if adequate reclamation material is present.

Transition Area	Targeted Slope	Conceptual Elevations (masl)	Notes
Marsh Plant Zone	10:1	623 - 624	This zone is to be constructed to encourage growth of diverse aquatic vegetation. Gentle slopes were used where adequate reclamation material is present.
Riparian Zone	5:1 to 7:1	624 - 625	May be constructed to a gentler slope (up to 10:1) if adequate reclamation material is present.
Uplands	3:1	625+	Assists in directing surface runoff into waterbody wetland. Reduce wind and wave erosion. May be constructed to a gentler slope (5:1) if adequate reclamation material is present.

Table 11: Target water depth for reclaimed waterbody

Transition Area	Targeted Water Depth
Deep Water Zone	Greater than 2 m
Shallow Water Zone	1 - 2 m
Marsh Plant Zone	Less than 1 m

The waterbody design for SML060060 was incorporated into the current waterbody shape and location. As per the CSMF, the Shoreline Development Index (SDI) for a reclaimed wetland should be above 1.2. The SDI for the waterbody is 1.2 based on the open water characteristics. We do not anticipate changing the shape of the shoreline significantly since it already has a natural appearance.

7.1.5 Soil Stripping

Areas required for remediation under the 2021 Remedial Plan, including operational areas, were stripped in August 2022. Stripped materials were stockpiled and will be used during final reclamation. A minimum of 5 cm was stripped based on the approved Remedial Plan. As stated elsewhere in this document, this 5 cm does not represent topsoil depth throughout the SML. Techniques such as direct placement, pushing short distances (versus moving and stockpiling), and working under frost free conditions were used to mitigate further loss of topsoil during remediation and reclamation activities. Refer to **Appendix 5** for stockpile locations.

7.1.6 Soil Placement

7.1.6.1 Wetland Soils

Since the end pit lake will be influenced by groundwater recharge and/or subsurface seepage, and since these zones are not targeted for plant growth, the floor of the deep-water zone and shallow open water zone will be left as-is (i.e., sand, gravel, clay, shale) to allow for water level fluctuation. No topsoil will be placed in the open water zones (>1.0 m depth). The marsh plant zone and riparian zone will include a minimum of 5 cm of topsoil as a growth medium for vegetation diversity. If available, woody debris will be incorporated along the shoreline to provide additional organics and habitat development opportunities.

7.1.6.2 Upland Soils

Salvaged topsoil and subsoil will be placed on top of the final grade and distributed over the surface. All layers will be left rough to create microsites, increasing the opportunities for seed catch and moisture retention and vegetation establishment. Equipment operators will be aware of soil compaction issues; best management practices include loading from the base of the soil stockpiles and only conducting soil replacement during dry, non-frozen conditions. If soil compaction is identified during replacement, then the soil layer will be de-compacted using a subsoiler or ripper dozer.

Topsoil includes current available stockpiles within the SML and topsoil recovered from the northeast area during 2022 remediation operations (refer to **Appendix 3** for stockpile locations and **Appendix 7** for 2022 remediation findings). Onsite organic soil stockpiles will be used as soil amendments. This includes mixing the organics with the available topsoil, thereby increasing the volume of reclamation materials. Organics that have settled along the waterbody shoreline will be salvaged and used in reclamation operations. Since pre-disturbance depths are not recorded, replacement depths within the SML have been determined based on the current estimated volume of stockpiles available for reclamation. It is important to note that based on the CRBP and field observations of the topsoil and subsoil stockpiles, the materials were salvaged in one lift and stockpiled together. Therefore, the current reclamation stockpiles available consist of both topsoil and subsoil. The stockpiles will be used for soil placement in all currently disturbed and eroded areas.

Based on the estimated stockpile volumes on site, soil placement depths within the disturbed areas in the SML will meet or exceed an average minimum of 10 cm for topsoil/subsoil within the reclamation area (**Table 12**). Refer to **Appendix 5** for the current stockpile locations.

Table 12: Calculated soils materials balance based on current stockpiles

Area (ha) Requiring Topsoil Replacement	Estimated Stockpile Volumes (m ³)	Minimum Soil Replacement Depth (cm)
10.77	12,000	10

7.1.7 Revegetation

Processes will be implemented to ensure vegetation establishment following soil replacement on the site. Any issues with weeds will be addressed as required. The preferred method of vegetation establishment is natural recolonization with local plant species; this would normally include inoculation of the marsh plant zone with salvaged wetland soils that contain seeds (Alberta Government, 2014). Recolonization of local species will occur from the marsh northwest of the site. A list of preferred species is available in the Alberta Guide to Wetland Construction in Stormwater Management Facilities (Table 7, Government of Alberta, 2018). Revegetation will be regularly monitored to ensure suitable progress and will be considered satisfactory if native plant species are establishing and the presence of inhibitors such as noxious weeds are limited. If regular monitoring of the revegetation status indicates that assisted natural recovery is required, further treatments will occur.

7.1.7.1 Riparian Zone

Planting of native shrubs such as willow (*Salix spp.*) and red osier dogwood (*Cornus sericea*) in the riparian zones will provide browse for terrestrial wildlife, nesting and foraging sites, and initiate soil stabilization and revegetation. A diversity of three or more species is preferable (Government of Alberta, 2018). Shrubs should be planted within the riparian zone at a density of 1-2 stems/m² and will be harvested from local sites.

7.1.7.2 Marsh Plant Zone

Revegetation of the wetland will focus on the Wet Meadow Zone (± 0.5 m in relation to the water table) of the Marsh Plant Zone. The Emergent Plant Zone and Shallow Open Water Zone plants are expected to come in on their own through natural ingress. The Wet Meadow Zone will be seeded and/or planted with species,

primarily sedge species (*Carex spp.*), harvested from local wetlands. Plants and roots/rhizomes will be placed in holes dug in the mud and tamped in to ensure good soil contact.

7.1.7.3 Upland Habitat

Re-establishment of tree, shrub, and herbaceous species will occur primarily through natural ingress of native species with planting and seeding of native species occurring as required. The surrounding upland forest and the replaced topsoil provide good sources of native species by acting as natural seed banks. The natural seed bank will help facilitate the ingress of native plants that are common in the surrounding area but may not be readily commercially available for reclamation. Based on the site assessment, the natural seed bank onsite contains seed species such as:

- **Trees:** trembling aspen (*Populus tremuloides*), white spruce (*Picea glauca*), black spruce (*Picea mariana*), paper birch (*Betula papyrifera*)
- **Shrubs:** prickly rose (*Rosa acicularis*), Labrador tea (*Rhododendron groenlandicum*), twinflower (*Linnaea borealis*), bog cranberry (*Vaccinium vitis-idaea*), willow (*Salix spp.*), beaked hazelnut (*Corylus cornuta*), wild red raspberry (*Rubus idaeus*), red osier dogwood (*Cornus sericea*), low-bush cranberry (*Viburnum edule*), common snowberry (*Symphoricarpos albus*), twining honeysuckle (*Lonicera dioica*), currants (*Ribes spp.*)
- **Ground cover:** bunchberry (*Cornus canadensis*), wild strawberry (*Fragaria virginiana*), bishop's cap (*Mitella nuda*), ground pine (*Dendrolycopodium obscurum*), horsetail (*Equisetum spp.*), common yarrow (*Achillea millefolium*), peavine (*Lathyrus spp.*), dandelion (*Taraxacum officinale*), clover (*Trifolium spp.*), grass species
- **Mosses and Lichens:** stair-step moss (*Hylocomium splendens*), Schreber's big red stem moss (*Pleurozium schreberi*), Knight's plume moss (*Ptilium crista-castrensis*)

Revegetation will be monitored to ensure suitable progress following soil replacement on site. Revegetation will be considered satisfactory if native plant species are establishing, seedlings appear healthy, and the presence of inhibitors such as noxious weeds are limited. If regular monitoring of the revegetation status indicates that assisted natural recovery is required, the site will be seeded with Canada No. 1 certified weed free seed. EPA approved a seed mix for the revegetation of SML060060 in October 2021. This seed mix is comprised of the following species:

- 20% Fringed Brome
- 30% Awned Wheatgrass
- 20% Northern Wheatgrass
- 30% Canada Wildrye

Planting will follow the Alberta Forest Genetic Resource Management and Conservations Standards (Government of Canada, 2016). Refer to *Section 8 – Monitoring and Maintenance*. Any issues with weeds will be addressed as per the *Weed Control Act*. Weed inspections will occur as part of the post-reclamation monitoring. A pre-discussion meeting with the local FPT Lands Officer will occur should amendments or changes to the reclamation plan be deemed necessary. Communications with the FPT Lands Officer is meant to determine if the changes to the reclamation plan are acceptable within regulatory frameworks and to determine if formal authorizations will be required. Such changes to the reclamation plan may be required due to unforeseen issues such as pathogen or insect infection at the time of reclamation requiring changes to revegetation strategies.

7.2 Erosion and Sedimentation Area (South and Southwest Boundaries)

7.2.1 Topsoil Stripping

Topsoil was stripped and stockpiled in 2022 based on operations identified in the approved Remedial Plan and interim remediation of the south and southwest area was completed; materials from this area may be used during the waterbody construction. Handling of reclamation materials will be minimized during remediation and reclamation operations. This will help reduce soil losses due to handling. Refer to **Appendix 3** – Site Conditions Map and **Appendix 5** - Proposed Operations Map.

7.2.2 Grading and Contouring

The south and southwest boundary was re-graded during 2022 remediation operations to a slope of 4:1 (rise:run) to mitigate further erosion. Additional grading may be required if materials from this area are used for the waterbody construction. Topsoil placement and seeding during reclamation will allow for revegetation of native species. Refer to **Appendix 6** – Conceptual Reclamation Map for the recontoured grades.

7.2.3 Topsoil Placement

Final reclamation along the south and southwest boundary, including topsoil placement and seeding, will occur once the waterbody is constructed and final grading on the slope is complete. Soils salvaged from the area will be replaced. Additional soils recovered from the 2022 operations may also be used to meet the targeted soil cover thickness. Based on currently available stockpiles on site, the proposed soil replacement depth is 10 cm. Soil stockpiles have well established natural vegetation and are expected to provide abundant natural revegetation. Any woody debris available on site will be placed on the steepest portions of the replaced soils to mitigate erosion and increase microtopography. Refer to **Appendix 5** for the soil replacement locations

7.2.4 Revegetation

Herbaceous species, forbs, and shrubs are expected to establish naturally.

7.3 Operational Constraints

Operations may experience delays due to poor weather. To mitigate soil degradation and soil loss, earthworks will not occur during adverse conditions.

7.3.1 Shut down of Operations/ Stop Work

Shutdown operations will occur when any environmental or field conditions, or construction methods could possibly result in the loss or degradation of topsoil or subsoil or could cause other unmitigated environmental impacts (ex: damage to existing wetlands). Voluntary shut down of activity will be implemented as outlined in the Voluntary Shut down Criteria for Construction Activity or Operations (Government of Alberta, 1998). Once conditions are determined to be safe, operations will resume.

8 Monitoring and Maintenance

Within 2 weeks prior to dewatering, a water sample from the waterbody will be collected and tested for suspended solids, routine water quality, and dissolved metals to assess potential offsite impacts. Results will

be submitted to EPA. Turbidity monitoring will occur throughout the dewatering process to ensure sediment levels stay within the Environmental Quality Guidelines for Alberta Surface Water (ESRD, 2014).

The discharge area will be monitored for signs of erosion. If erosion is observed as a result of dewatering activities, mitigation measures will be implemented as recommended by the environmental monitor. Potential mitigation techniques include idling down or stopping pumps and installing additional erosion and sedimentation control materials (e.g., sediment fencing, fibre rolls and matting) at locations deemed appropriate by the monitor. Surplus erosion and sedimentation control materials will be readily available onsite to expedite response time in case any impacts are observed. Mitigation may be implemented within SML060060 and any area within the TFA permitted area outside of the SML060060 boundary in the area of dispersion.

Once the remedial plan has been fully implemented, a six-month monitoring and maintenance program will commence in October 2023. Annual inspections will occur to identify and mitigate concerns (e.g., erosion, weeds). Mantle will apply an Implement – Monitor – Adapt approach to monitor the site. If concerns are identified during the inspections, appropriate mitigation measures will be implemented to eliminate and reduce the potential for reoccurrence as suggested by the environmental monitor. Within three years of reclamation, an assessment will be completed to ensure that the site will meet reclamation requirements. Revegetation will be considered satisfactory if native plant species are establishing and if re-vegetation will meet the proposed end land-use objectives. If after three years the site is not identified as meeting the objectives, the proponent will consult with EPA/FPT representatives on how to appropriately meet the goals and objectives of the reclamation.

9 Schedule of Activities

Table 13: Project activities and proposed schedule

Activity	Description	References	Start Date	End Date	Status as of Jan 2023
Remediation	Remediation of ditches in north, interim remediation of southwest erosion, and recontouring in northeast.	June 2021 Remedial Plan Sections: 9 / 10 / 11 / 12	August 2022	October 2022	Complete
Remediation	Dewatering of waterbody	January 2023 Remedial Plan Sections: 7.1.1 / 8	July 1, 2023	July 31, 2023	Incomplete
Remediation	Construction of waterbody	January 2023 Remedial Plan Sections: 7.1	August 1, 2023	September 30, 2023	Incomplete
Remediation	Remediation of south / southwest boundary – Recontouring, final topsoil placement, seeding	January 2023 Remedial Plan Sections: 7.2	August 1, 2023	September 30, 2023	In process

Activity	Description	References	Start Date	End Date	Status as of Jan 2023
Reclamation	Complete all remaining reclamation activities; Final fill, final recontouring, final topsoil placement, seeding	January 2023 Remedial Plan Sections: 7	August 1, 2023	September 30, 2023	In process
Monitoring	Begin six-month EPO/EO monitoring program.	January 2023 Remedial Plan Section: 8	October 1, 2023	March 31, 2024	Not started
Growing Season 1 Assessment	Assess completed reclamation for soil stability, vegetation success, weeds.	Remaining liabilities managed through regulatory compliance of Surface Material Lease (SML).	Summer 2024	August 15, 2024	Not started
Growing Season 2 Assessment	Assess completed reclamation for soil stability, vegetation success, weeds.	Remaining liabilities managed through regulatory compliance of Surface Material Lease (SML)	Summer 2025	August 15, 2025	Not started
Permitting	Reclamation certificate application	Remaining liabilities managed through regulatory compliance of Surface Material Lease (SML).	September 1, 2025	September 15, 2025	Not started

10 Future Operations

This Plan has been developed to address the EO and EPO requirements. At the time of writing there have been ongoing discussions with EPA and FPT regarding future operations either under Mantle directly or under an approved agreement with a third party. The intention of Mantle is to satisfy the EO and EPO requirements and at the same time work towards operating the remaining aggregate resource in a way that is agreeable to EPA and FPT through the typical regulatory process outside of the EO and EPO process.

11 References

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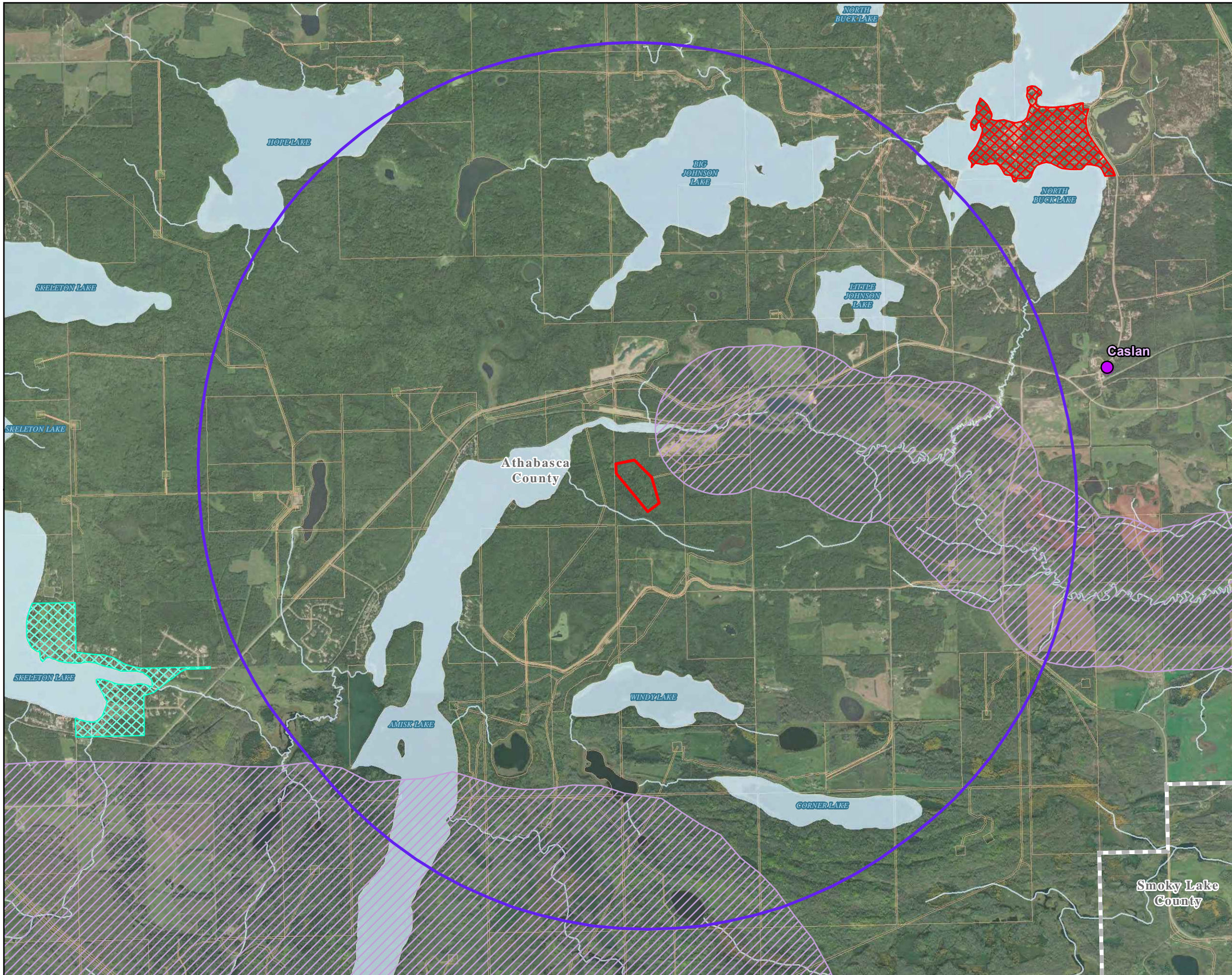
TorLand Resource Inc. (March 2010). SML060060 CRBP (CRB #100024).











Water Act, Revised Statutes of Alberta, 2000 (Chapter W-3). Current as of December 15, 2017.

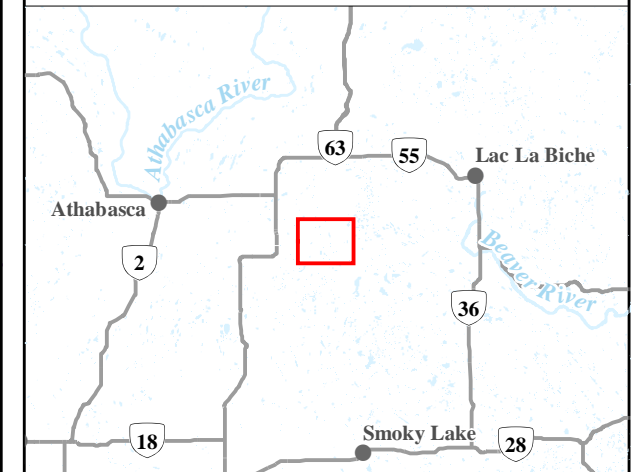
Weed Control Act, Statutes of Alberta 2008 (Chapter W-5.1). Current as of December 15, 2017.

12 Appendices

Appendix 1 – Overview Map



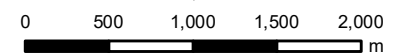
-  Hamlet/Village/Town
-  Watercourse
-  Waterbody
-  SML060060
-  SML060060 Buffer (5 km)
-  Disposition
-  Municipal Boundary
-  Key Wildlife and Biodiversity Zone
-  Residential Area
-  Provincial Recreation Area



Source: Contains information licensed under the Open Government Licences – Canada, Alberta and Maxar
 Imagery Acquisition Date: Aug 6, 2014
 Coordinate System: NAD 1983 3TM 114



1:45,000



Appendix 2 – Imagery Map



SML060060
EO-WA-35659-01

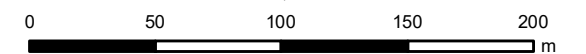
Appendix 2
Imagery

- Watercourse
- Wetland
- SML060060 (16.74 ha / 41.37 ac)
- Disposition
- Legal Land Description

Source: Contains information licensed under the
Open Government Licences – Canada, Alberta,
Altalis and Maxar
Imagery Acquisition Date: 2014 - 2022
Coordinate System: NAD 1983 3TM 114



1:3,000



Date: January 22, 2023
Prepared by: T. Kjolrien



Appendix 3 – Current Site Conditions Map



SML060060
EO-WA-35659-01

Appendix 3
Site Conditions

-  Plot Location
-  Watercourse
-  Wetland
-  Waterbody
-  Stockpile
-  Ditch Remediation
-  Erosion Remediation
-  Fully Recontoured Area
-  Area Worked in 2022
-  Disturbance Footprint
-  SML060060
-  Legal Land Description

Source: Contains information licensed under the
Open Government Licences – Canada, Alberta
and Maxar
Imagery Acquisition Date: 2014 - 2022
Coordinate System: NAD 1983 3TM 114



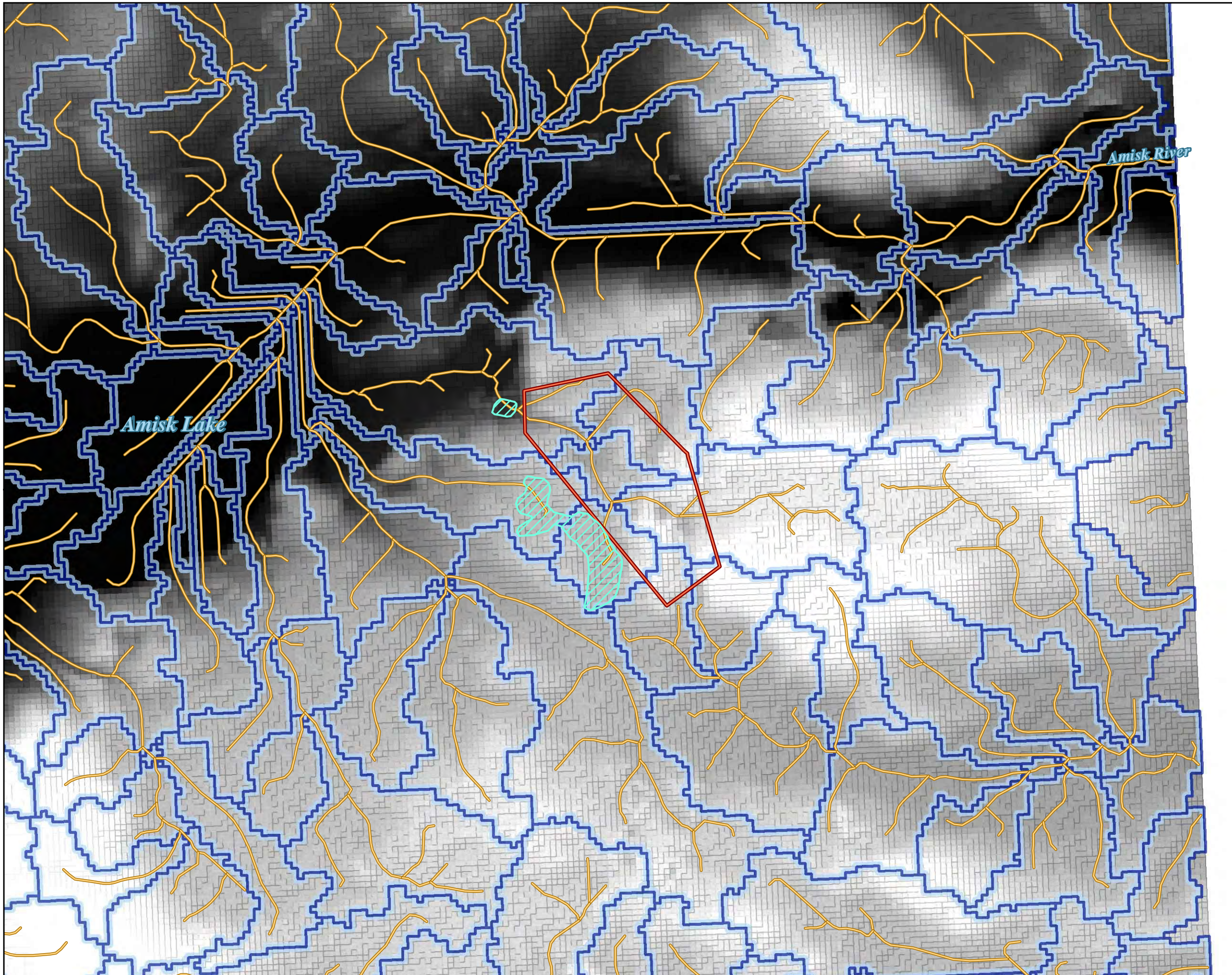
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Date: January 22, 2023
Prepared by: T. Kjolien



Appendix 4 – Watershed and Drainage Network



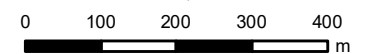
-  Wetland
-  Drainage Network
-  SML060060
-  Watershed

Note: Pre-Disturbance LiDAR obtained from 2008- 2009.

Source: Contains information licensed under the
Open Government Licences – Canada, Alberta
and Altalis
LiDAR Acquisition Date: 2008 - 2009
Coordinate System: NAD 1983 3TM 114

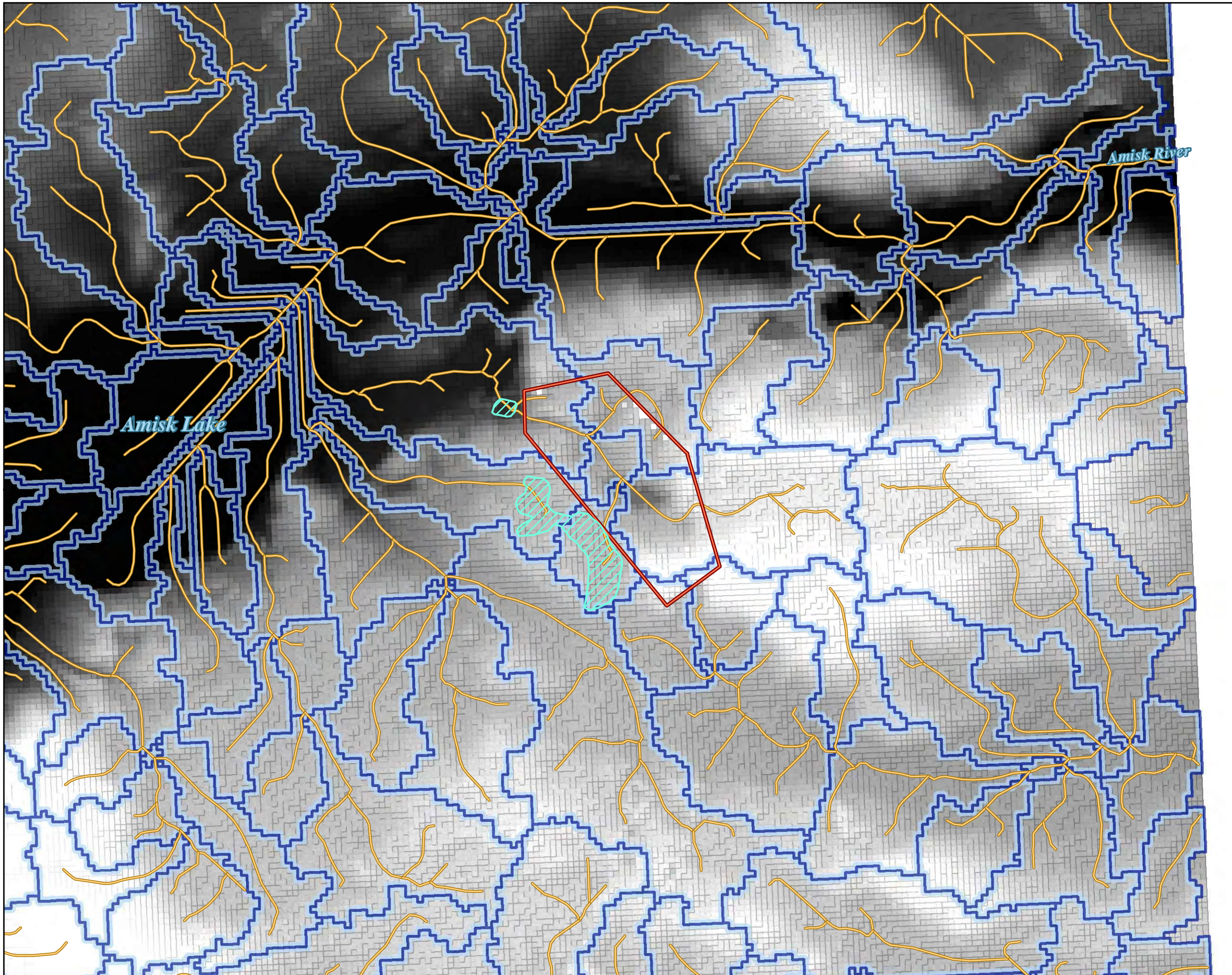


1:10,000



Date: January 23, 2023
Prepared by: T. Kjolien





SML060060
EO-WA-35659-01

Appendix 4
Post-Reclamation Watershed
and Drainage Network

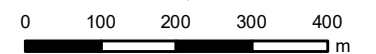
- Wetland
- Drainage Network
- SML060060
- Watershed

Note: LiDAR used outside of the SML is from 2008- 2009. Post-reclamation elevation profile is modelled using drone elevation data captured on November 6, 2022.

Source: Contains information licensed under the Open Government Licences – Canada, Alberta and Altalis
LiDAR Acquisition Date: 2008 - 2009
Drone Elevation Data Acquisition Date: Nov. 6, 2022
Coordinate System: NAD 1983 3TM 114



1:10,000



Date: January 23, 2023
Prepared by: T. Kjolrien



Appendix 5 – Proposed Operations Map



- Area to be Recontoured into End Pit Waterbody
- Partially Reclaimed Ditch Requiring Seeding
- Fully Recontoured Area Ready for Soils Placement and Seeding
- Partially Recontoured Area Requiring Grading, Soils Placement, and Seeding
- Stockpile (to be removed)
- SML060060
- Wetland
- Dewatering Discharge Zone
- Legal Land Description
- Watercourse

Source: Contains information licensed under the Open Government Licences – Canada, Alberta and Maxar
 Imagery Acquisition Date: 2014 - 2022
 Coordinate System: NAD 1983 3TM 114



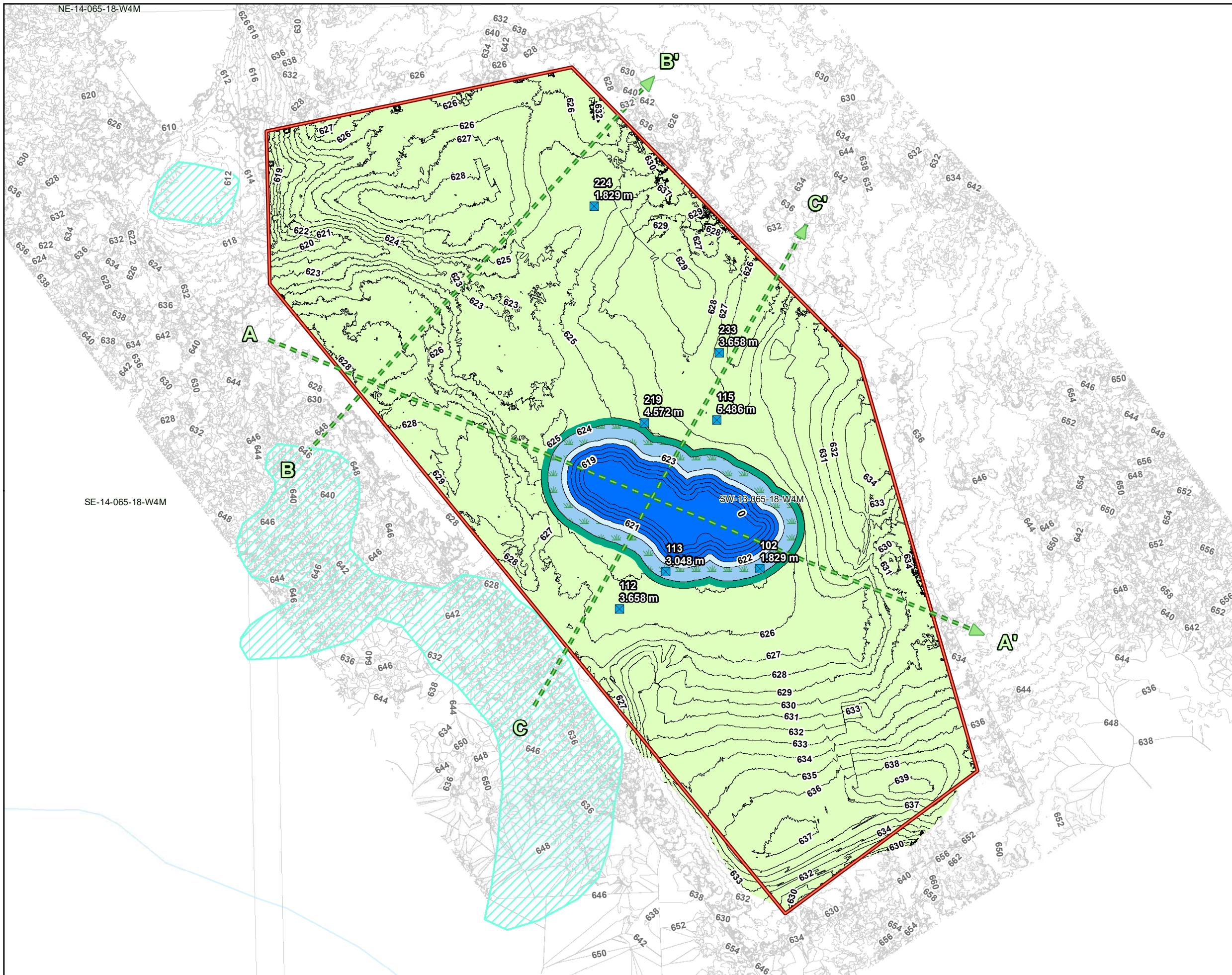
1:2,750



Date: January 23, 2023
 Prepared by: T. Kjorlien



Appendix 6 - Conceptual Reclamation Map and Conceptual Cross Sections



Appendix 6
Conceptual Reclamation Cross Sections

- Test Hole (Water Table Depth)
- Reclaimed Upland
- Open Water Zone (3:1 Slope)
- Shallow Open Water Zone (4:1 Slope)
- Marsh Plant Zone (10:1 Slope)
- Riparian Zone (5:1 Slope)
- SML060060 (16.74 ha / 41.37 ac)
- Wetland
- Watercourse
- Reclamation Contour (1 m)
- Full Feature Contour (1 m)
- Legal Land Description

Note 1: Test data from March 2010 CRBP (revised April 2012) and approved May 28, 2014, completed by VM Torstensen. Mantle Materials Group Ltd and CPP Environmental Corp do not assume responsibility and have not confirmed the accuracy of the data provided.

Note 2: Contours in undisturbed areas and outside of the SML060060 boundary are created from DSM, thus the contour lines do not represent bare earth topography.

Source: Contains information licensed under the Open Government Licences – Canada and Alberta
 Drone Elevation Data Acquisition Date: November 2022
 Coordinate System: NAD 1983 3TM 114



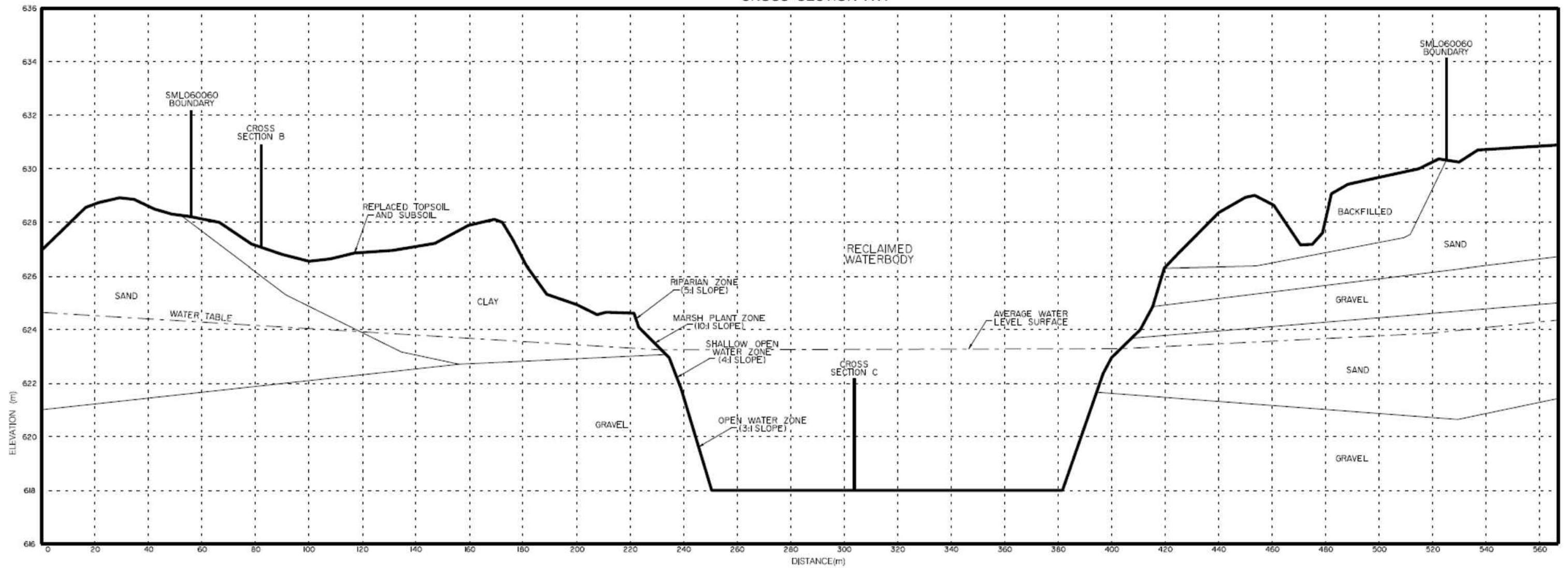
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Date: January 23, 2023
 Prepared by: T. Kjolien

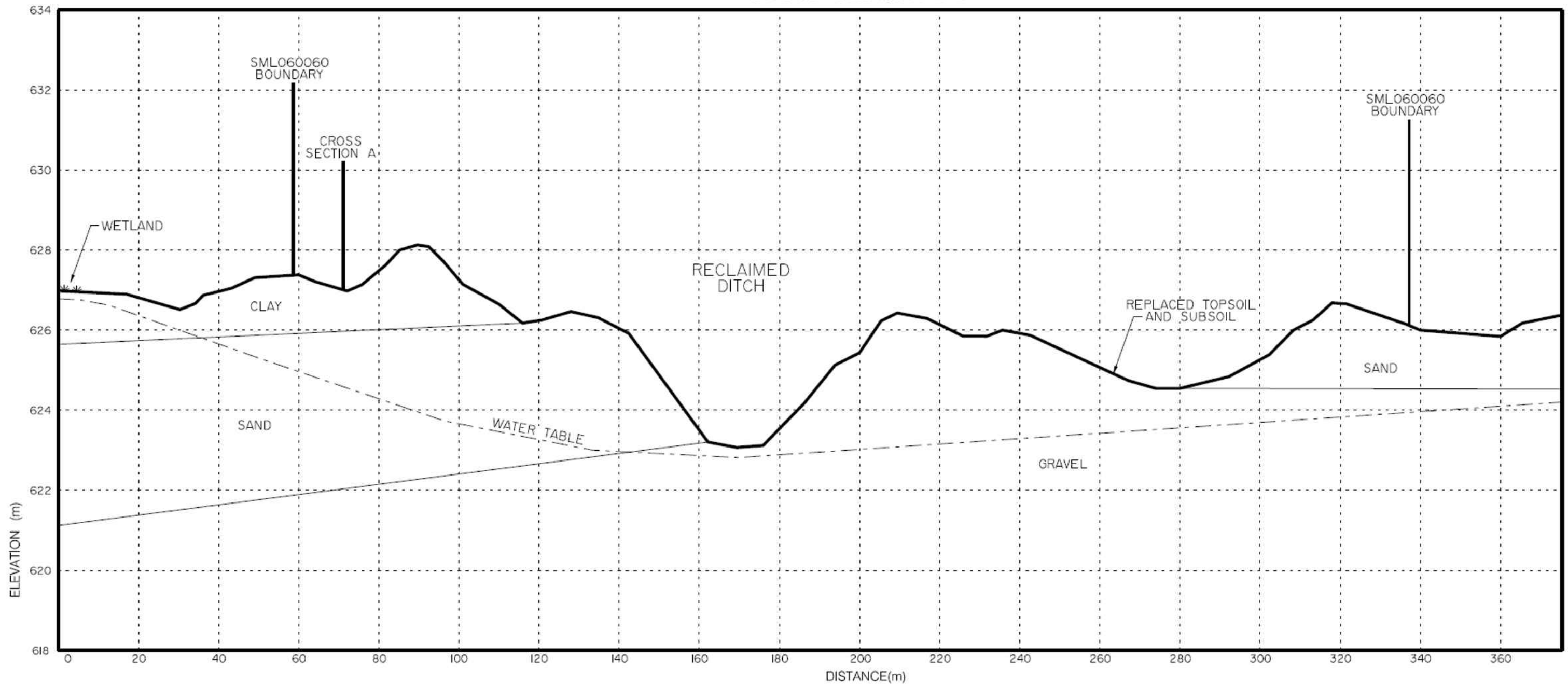


CROSS SECTION A-A'



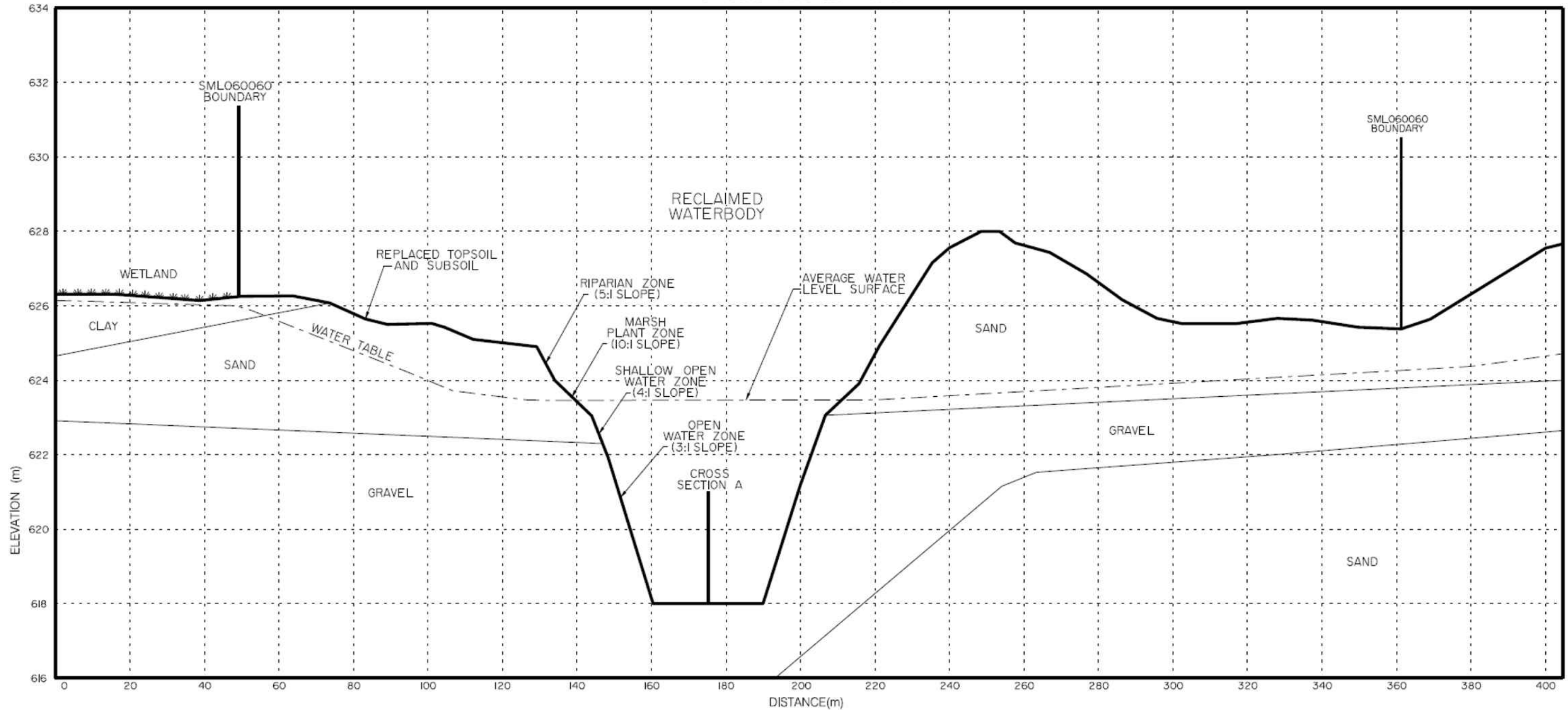
Vertical Scale - 1:200
Horizontal Scale - 1:2000

CROSS SECTION B-B'



Vertical Scale - 1:200
Horizontal Scale - 1:2000

CROSS SECTION C-C'



Vertical Scale - 1:200
Horizontal Scale - 1:2000

Appendix 7 - Enforcement Order / Environmental Protection Order Correspondence Documentation

Inv. No. 35659

February 23, 2021

2161889 Alberta Ltd.
PO Box 6977
Bonnyville, AB T9N 2H4
Via Email: tylerpell@jmbcrush.com

Attention: Mr. Tyler Pell
Aggregate Resource Manager

NOTICE OF NON-COMPLIANCE

Alberta Environment and Parks (AEP) has identified numerous instances of 2161889 Alberta Ltd.'s (216) non-compliance with the pit covered by SML 060060. On February 17, 2021 AEP finished a review of the terms and conditions of SML 060060 and satellite imagery of the lands covered by SML 060060.

Public Lands Act

AEP has determined that as it relates to SML 060060, 216 has:

- caused, permitted, or allowed loss or damage to public land;
- caused, permitted, or allowed the creation of conditions likely to result in soil erosion on public land; and
- contravened one or more provisions of the disposition.

The above are contraventions of the *Public Lands Act*:

54(1)(c) "No person shall cause, permit or suffer the existence on public land of any condition that may cause loss or damage to the public land."

54(1)(f) "No person shall cause, permit or suffer the creation of any condition on public land which is likely to result in soil erosion."

56(1)(n) "A person who as the holder of a disposition, contravenes a provision of

the disposition is guilty of an offence.”

Public Lands Administration Regulation

AEP has determined that as it relates to SML 060060, 216 has:

- failed to pay fees owing to AEP;
- failed to comply with the terms and conditions of the disposition;
- failed to adhere to disturbance standards;
- allowed or caused loss or damage on the subject land; and
- failed to report these non-compliance issues to the Director.

The above are contraventions of the *Public Lands Administration Regulation*:

21(1)(b) “The holder of a formal disposition must pay promptly and regularly any rent, rate, royalty, charge or fee that is payable by the holder under the formal disposition, the Act or this Regulation.”

21(1)(d) “The holder of a formal disposition must comply with the terms and conditions of the formal disposition.”

21(1)(g) “The holder of a formal disposition shall not cause or allow unauthorized loss or damage on the subject land.”

165(1) “A person responsible for a reportable event must report the event to the Department as soon as possible and in any event not later than 7 days after the person became aware, or should reasonably have become aware, of its occurrence.”

AEP’s investigation into potential other contraventions of the *Public Lands Act* and the *Public Lands Administration Regulation* are ongoing.

Water Act

In October 2020, AEP conducted an inspection of SML 060060 and identified an end pit lake present at the disposition. On February 17, 2021, AEP confirmed the existence of the end pit lake through satellite imagery. Based on a review of its databases, AEP determined that no authorization has been issued for the creation of a waterbody at this location. This is a contravention of section 36(1) of the *Water Act*, which states:

“No person may commence or continue an activity except pursuant to an approval, unless it is otherwise authorized under this Act.”

Written Plan to Resolve Non-Compliance

For SML 060060, 2161889 Alberta Ltd. is required to submit a written plan to AEP by no later than **February 26, 2021**:

- detailing its assessment of the disposition against the terms and conditions of SML 060060, the *Public Lands Act* and the *Public Lands Administration Regulation*;
- describing how 216 plans to bring the disposition into compliance with the *Public Lands Act*, *Public Lands Administration Regulation*, and the terms and conditions of the disposition, including a timeline to completion; and
- stating its immediate plans to operate the pit on the lands contained in SML 060060.

Please be advised that enforcement action arising from the above mentioned contraventions may be taken without further notice. Should you have any questions, please contact the undersigned at 780-623-5483 or by email at nathan.polturak@gov.ab.ca.

Respectfully,



Nathan Polturak, P.Biol.
Environmental Protection Officer
Regulatory Assurance Division – North District

CC: Heather Dent, Compliance Manager
Neil Brad, Regulatory Assurance Manager
Maxwell Harrison, Compliance Manager (acting)
Bryon LevKulich, Mantles Materials Group Ltd.
Josh Inglett, Mantles Materials Group Ltd.
Tom Cumming, Gowling WLG (Canada) LLP

February 26, 2021

Nathan Polturak
Regulatory Assurance Division
North District
2nd Flr Provincial Building
9503 Beaver Hill Road
Lac La Biche, Alberta T0A 2C0
Phone: (780) 623-5240

**Re: Written Plan to Resolve Non-Compliances – Investigation No. 35659
SML 060060**

This letter is submitted by 2161889 Alberta Ltd. (“216”) in response to your February 23, 2021 letter in which Alberta Environment and Parks (“AEP”) required a written plan (the “Plan”) to be submitted by February 26, 2021. Further clarification of the letter and the requirements were discussed during a follow up meeting between yourself and Tyler Pell on February 23, 2021.

As you may be aware, pursuant to an order of the Court of Queen’s Bench of Alberta (the “Court”) under the *Companies’ Creditors Arrangement Act* (the “CCAA”) made on May 1, 2020, JMB and its subsidiary, 2161889 Alberta Ltd. (“216”), were granted protection from their creditors and FTI Consulting Canada Inc. was appointed as their monitor (the “Monitor”). The Court subsequently approved a sale and investment solicitation procedure, under which the Monitor and a sale advisor marketed the assets of JMB and 216. The only viable proposal to purchase certain core assets of JMB and 216 was set out in a bid submitted by Mantle Resources Group, Ltd. (“Mantle”). Pursuant to an asset purchase agreement dated September 28, 2020 between JMB and 216 as vendors and Mantle as purchaser, and a plan of arrangement filed by JMB and Mantle, the core assets of JMB and 216 were to be vested in Mantle, Mantle was to assume specific liabilities, and the remaining assets and liabilities of JMB were to be vested in 216.

Mantle, JMB and 216 intend to amend and restate the purchase agreement and plan of arrangements such that a new corporation will be incorporated (“ResidualCo”), JMB and 216 will retain their respective public lands dispositions and registrations under the *Environmental Protection and Enhancement Act* (the “EPEA”) and the majority of their core assets that were previously to be vested in Mantle, and certain residual non-regulated assets and all non-assumed liabilities will be vested in ResidualCo. The effect of this is that Mantle and JMB would be subsidiaries of RLF Canada Holdings Limited, 216 would remain a

subsidiary of JMB, JMB and 216 would emerge as solvent companies from the CCAA proceedings, and Mantle would fund the combined business of the three corporations.

JMB and 216 are exiting CCAA under challenging market conditions and without a sales backlog. Current and first year financial pressures play a factor in financing the outstanding reclamation. Mantle will perform progressive reclamation on a number of pits as production is performed. As markets and sales improve there will be opportunity to align reclamation implementation with active operations. This approach takes advantages of the economies of scale with heavy equipment and personnel already in the same general area. Fully addressing the current volume of outstanding reclamation for all the pits is proposed to take four years with some pits only taking three years. Reclamation in the first year of operations will be of a smaller scale on numerous pits and each year after that will increase to meet, in some cases, a four-year timeframe. Details are presented below, and further detail will be presented in any applicable regulatory submissions.

The following criteria was used for the assessment and planning of each individual pit non-compliance and/or issue:

Assessment

- Desktop review of the current conditions of the pit.
- Review current Activity Plan to compare against current conditions.
- Determination of issue and/or further detailing of non-compliance and when it likely occurred.

Plans to address issues and bring pit into compliance

- List out tasks that, when implemented, go towards getting the pit back into compliance and/or address issues.

Written Plan Information

SML 060060

Assessment of Pit

- Non-compliance: Water Act (unauthorized water body)
- The creation of a water body was not authorized under the Water Act or presented in the Conservation and Reclamation Business Plan (CRBP).
- The construction of the water body and all other disturbances existed before 216 was assigned SML 060060 in March 2019.
- JLG Ball Enterprises is believed to be the operator of the pit prior to March 2019.
- 216 has not operated in the water body since being assigned the disposition.
- 216's operations since March 2019 have not increased the overall disturbance footprint of the disposition or further disturbed areas logged of trees but not previously striped of the original root mat. Only a very minor amount of earthworks was completed on area already devoid of topsoil. This was necessary to support the hauling of saleable crushed material produced by the previous operator of the SML.
- Total disposition area 16.77 ha.
 - 3.9 ha - Area with trees removed and original root mat and soils undisturbed.
 - 3.6 ha - Recontoured area with topsoil replaced.
 - 1.2 ha - Recontoured area yet to receive topsoil.
 - 4.1 ha – Disturbed (active operations area)
 - 1.3 ha – Water body
 - 1.2 ha – Disturbed – temporary revegetation
 - 0.5 ha – Soil storage
 - 1.0 ha – Undisturbed
- Evidence of parent materials being washed away past the SML boundary into adjacent undisturbed forest to the south.
- Potential boundary non-compliance in south.
- Mining sequence
 - Timber was harvested over the entire site as one event sometime in 2017.
 - Excavation occurred in portions of mining cell #1, #3, and #4.
 - Topsoil stripping and excavation was not implemented in mining cell #2. Portions of the other mining cells also have area not stripped of topsoil and excavated.

Plan to bring pit into compliance

- Engage the services of a legal land surveyor to survey the southern boundary in question. Forward results to AEP for further consultation and possible action.
- Work with AEP to determine final Water Act authorization requirements for filling in the constructed water body.
- Update CRBP as needed.
- Submit non-compliance for construction of water body without authorization.

Timeline

- Non-compliance submission – Week of March 1st, 2021.
- Legal survey of southern boundary – Two weeks after closing of CCAA court proceedings.
- Frost free site assessment in relation to erosion concerns and constructed water body – May 15, 2021.
- Water Act submission – TBD in 2021 based on results of consultation with AEP.
- CRBP update submission - TBD in 2021 based on results of consultation with AEP.
- Earthworks to deconstruct water body - TBD in 2021 based on results of consultation with AEP.

Scheduling factors

- Closing date of CCAA court proceedings.

Immediate Plans to operate the pit

- 216 has no immediate plans to operate the pit for production purposes.
- 216 is in negotiations with Skoreyko Crushing Ltd for the assignment of the disposition to Skoreyko Crushing Ltd.

If you have any questions please contact the undersigned.

Regards,



Tyler Pell

Aggregates Resource Manager

JMB Crushing Systems Inc.

tylerpell@jmbcrushing.com

1.780.815.0139

March 1st, 2021

Environmental Services Response Centre
#111 Twin Atria Building
4999-98 Avenue
Edmonton, Alberta T6B 2X3

Sent via email: erc.environment@gov.ab.ca

Re: 7 Day Letter (Water Act)
2161889 Alberta Ltd
SML060060
SW 13-65-18-W4M

This letter is written as the 7 Day Report in response to an incident that occurred in regard to SML 060060. On March 1st, 2021 Tyler Pell, the Aggregate Resource Manager of JMB Crushing Systems Inc. (JMB), called into the 24-hour environmental hotline on behalf of 2161889 Alberta Ltd (216) to report a non-compliance related to the construction of a water body without authorization under the Water Act. The reported non-compliance was given reference # **376512**.

Description of contravention

Sometime before March 2019 a water body was constructed without authorization.

Date of contravention

Sometime before March 2019.

Legal land description of the location of the contravention

SW 13-65-18-W4M

Explanation as to why the contravention occurred

The construction of the water body and all other disturbances existed before 216 was assigned SML 060060 in March 2019. JLG Ball Enterprises is believed to be the operator of the pit prior to March 2019. 216 has not operated in the water body since being assigned the disposition.

Current registered landowners of the parcel on which the contravention occurred

SML 060060 is located on crown land.

Summary of all preventative measures and actions that were taken prior to the contravention

216 was not the operator or lease holder of the pit prior to the contravention.

Summary of all measures and actions that were taken to mitigate any effects of the contravention

216 has not operated in the water body since being assigned the disposition.

Summary of all measures that will be taken to address the remaining adverse effects related to the contravention

216 will work with AEP to determine final Water Act authorization requirements for filling in the constructed water body.

Update CRBP as needed.

The disposition number issued by the Department for the pit, and the name of the person who held the registration at the time the contravention occurred

At the time of the contravention Robert W Beaverford held the lease for SML 060060.

Names, addresses, phone numbers and responsibilities of all persons operating the pit at the time the contravention occurred

216 was not the operator or lease holder of the pit prior to the contravention. JLG Ball Enterprises is believed to be the operator of the pit prior to March 2019.

Names, addresses, phone numbers and responsibilities of all persons who had charge, management and control of the pit that the contravention occurred

216 was not the operator or lease holder of the pit prior to the contravention. JLG Ball Enterprises is believed to be the operator of the pit prior to March 2019.

Summary of proposed measures that will prevent future contraventions including a schedule of implementation for these measures

216 will work with AEP to determine final Water Act authorization requirements for filling in the constructed water body.

Update CRBP as needed.

A schedule for the implementation of these measures is being developed by 216 in consultation with the AEP and will be approved by the Court in the CCAA proceedings.

Any information that was maintained or recorded as a result of the incident

Communications with Nathan Polturak, Environmental Protection Officer, Alberta Environment and Parks.

Any other information required by the Director in writing

The Director had requested a written plan to resolve the non-compliance by February 26, 2021. The written plan was submitted on February 26, 2021 as requested.

Closing

If you have any questions please contact the undersigned.

Tyler Pell



Aggregates Resource Manager

JMB Crushing Systems

tylerpell@jmbcrushing.com

1.780.815.0139

WATER ACT

BEING CHAPTER W-3 R.S.A. 2000 (the "Act")

ENFORCEMENT ORDER NO. EO-WA-35659-01

2161889 Alberta Ltd.
P.O. Box 6977
Bonnyville, AB
T9N 2H4

Byron Levkulich, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
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Jeffrey Buck, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
3439 Keswick Boulevard SW
Edmonton, AB
T6W 3B2

Lisa Ball, former Director of 2161889 Alberta Ltd.
2161889 Alberta Ltd.
PO Box 211
Boyle, AB
T0A 0M0

541466 Alberta Ltd.
o/a JLG Ball Enterprises
2300, 10180 – 101 St NW
Edmonton, AB
T5J 1V3

Robert W. Beaverford
52547 RR 223
Sherwood Park, AB
T8A 4P7

[Collectively, the “Parties”]

WHEREAS 2161889 Alberta Ltd. (“216”) has operated a gravel pit (the “Pit”) in 2019 and 2020 on a portion of public land legally described as SW-13-065-18-W4M [the “Lands”] in Athabasca County, in the Province of Alberta;

WHEREAS the Pit covers approximately 11.271 hectares on the Lands and the approximate boundaries of the Pit are shown on the map in Appendix A to this Order;

WHEREAS the Lands are contained in surface material lease 060060 (“SML 060060”) that is a disposition issued to 216 under the *Public Lands Act* as a result of an assignment on March 15, 2019. SML 060060 expires on May 28, 2024;

WHEREAS Byron Levkulich, Aaron Patsch, Jeffrey Buck, and Lisa Ball are former Directors for 216;

WHEREAS Robert W. Beaverford held SML 060060 between June 27, 2008 and March 15, 2019;

WHEREAS 541466 Alberta Ltd. (“541”) operated the Pit between May 2017 and March 15, 2019;

WHEREAS Lisa Ball has been a Director for 541 from November 1999 to March 10, 2021 (present);

WHEREAS Clause 6 of Schedule A to SML 060060 – “Operating Conditions to the Agreement” requires the holder to reclaim any land disturbed in accordance with the approved Conservation and Reclamation Business Plan (CRBP). CRBP dated: May 28, 2014;

WHEREAS on May 28, 2014, Alberta Environment and Parks (“AEP”) approved the Conservation and Reclamation Business Plan Approval for SML060060 (“CRBP”);

WHEREAS Clause 13 of Schedule A to SML 060060 – “Operating Conditions to the Agreement” requires the holder to leave a buffer zone of undisturbed vegetation a minimum width of 100 m between the Lands and all waterbodies and courses;

WHEREAS on May 10, 2017, an AEP Public Lands Officer [“PLO”] inspected the Lands and observed that the Lands had been recently logged, but had not yet been disturbed by mining activities;

WHEREAS on January 22, 2019 Robert Beaverford filed an annual return documenting the removal of 174,965.19 cubic yards of material from SML 060060 during the 2018 operating year;

WHEREAS on March 26, 2019 the Director issued an administrative penalty to 541466 Alberta Ltd. and Robert Beaverford, for:

- Entering public land without authorization;

- Cleared public land without authority;
- Causing loss and damage with rutting and vegetation removal by heavy equipment;
- Contravened the terms of the lease by operating during a timing restriction; and
- Caused loss and damage to public land with root removal and vegetation piling and the removal of topsoil, which are all contraventions of the *Public Lands Act* or SML 0600060;

WHEREAS on May 1, 2020, 216 entered into proceedings under the *Companies Creditors Arrangement Act* R.S.C., 1985, c. C-36;

WHEREAS on October 7, 2020, the PLO inspected the Lands, took photos, and identified:

- An end pit waterbody (“Lake”) in the Pit (refer to Appendix A);
- Drainage patterns in the south of the Pit do not match details shown in the CRBP;
- Erosion washing to the adjacent vegetation resulting in trespass of public land (“trespass” on map in Appendix A);
- Rills and gullies formed along southern boundary of the Lands (refer to Appendix A);
- Subsoil and aggregate stockpiles were located on the edges of the Lake;
- A trench (“Ditch A”) that was not identified on the CRBP that functioned as outflow for the Lake;
- The trench exited the Lands near a small waterbody located across from the northwest corner of SML 060060 in SE-14-065-18-W4M; and
- Siltation occurring to the small waterbody;

WHEREAS on January 31, 2020 216 filed an annual return documenting the removal of 3,384.41 cubic yards of material from SML 060060 during the 2019 operating year;

WHEREAS on February 10, 2021 216 filed an annual return documenting the removal of 2,254 cubic yards of material from SML 060060 during the 2020 operating year;

WHEREAS the *Public Lands Administration Regulation* section 105(c) defines operations as the removal of surface material from public land described in a lease;

WHEREAS the *Public Lands Administration Regulation* section 105(g) defines surface material means sand and gravel;

WHEREAS on February 10, 2021, an AEP Environmental Protection Officer (“EPO”) identified that the approved CRBP committed to dry excavation only in the pit sequencing;

WHEREAS on February 10, 2021, the EPO conducted a search of the AEP Authorization Viewer for the Lands for a *Water Act* Approval to conduct activities and determined there is no authorization on record;

WHEREAS on February 17, 2021, Nathan Polturak, an EPO and Inspector under the *Water Act*

RSA 2000, c W-3 (the "Inspector"), conducted a review of the terms and conditions of SML 060060 and 2019 satellite imagery of the area and determined that 216 contravened the *Public Lands Act* and the *Water Act* by:

- Contravened one or more provisions of the disposition; and
- commencing or continuing an activity except pursuant to an approval where no authorization was granted

WHEREAS on February 23, 2021, AEP issued a Notice of Non-Compliance ("NONC") to 216 stating that AEP had identified issues of non-compliance of the *Public Lands Act* under SLM 060060.

WHEREAS the NONC stated that, by February 26, 2021 216 was to provide a written plan:

- detailing its assessment of the disposition against the terms and conditions of SML 060060, the *Public Lands Act* and the *Public Lands Administration Regulation*;
- describing how 216 plans to bring the disposition into compliance with the *Public Lands Act*, *Public Lands Administration Regulation*, and the terms and conditions of the disposition, including a timeline to completion; and
- stating its immediate plans to operate the pit on the lands contained in SML 060060.

WHEREAS on February 26, 2021, 216 provided AEP with its response to the NONC, which clarified with respect to SML 060060, that since March 2019, 216 has completed minor earthworks and hauling of crushed gravel and stated that 216's intentions were as follows;

- engage the services of a legal land surveyor to survey the southern boundary in question. Forward results to AEP for further consultation and possible action;
- work with AEP to determine final *Water Act* authorization requirements for filling in the constructed water body;
- update CRBP as needed; and
- submit non-compliance for construction of water body without authorization.

WHEREAS on February 26, 2021, the EPO identified off-site impacts to a waterbody due to erosion and siltation originating from the Lake. The observation was made on the Athabasca County MuniSight website using the 2019 ortho base layer. Observed impacts include silty water in a small waterbody across from the northwest corner of SML 060060 in SE-14-065-18-W4M as well as a siltation plume (refer to Appendix A) extending north from the small waterbody into a wetland complex ("the waterbodies") that empties to Amisk Lake;

WHEREAS altering the flow, direction of flow or level of water or changing the location of water for the purpose of drainage is an "activity" as defined in Section 1(1)(b)(i) and (ii) of the *Water Act*;

WHEREAS the maintaining, removing or disturbing ground or carrying out of any undertaking that causes, may cause or may become capable of causing the siltation of water is an "activity" as defined in Section 1(1)(b)(i) of the *Water Act*;

WHEREAS section 36(1) of the *Water Act* states that no person shall commence or continue an activity except pursuant to an approval unless otherwise authorized under the *Act*;

WHEREAS AEP has not issued an approval or licence to any of the Parties or to any person for the creation of the Lake and this activity is not otherwise authorized under the *Water Act*;

WHEREAS AEP has not issued an approval or licence to any of the Parties or to any person for any undertaking resulting in the siltation of the waterbodies and this activity is not otherwise authorized under the *Water Act*;

WHEREAS section 135(1) of the *Water Act* states the Director may issue an enforcement order to any person if, in the Director's opinion, that person has contravened this Act, whether or not that person has been charged or convicted in respect of the contravention;

WHEREAS Heather Dent, Compliance Manager, Alberta Environment and Parks, has been designated as a Director for the purpose of issuing enforcement orders under the *Water Act* [the "Director"];

WHEREAS the Director is of the opinion that the Parties have contravened Section 36(1) of the *Water Act* by commencing or continuing an activity without an approval;

THEREFORE, I, Heather Dent, the Director, pursuant to Sections 135(1) and 136(1) of the *Water Act*, DO HEREBY ORDER THAT:

1. The Parties shall immediately cease all unauthorized activities on the Lands, including any work on, in or around the Lake.
2. The Parties shall submit to the Director, for the Director's approval, the name and qualifications of a Professional who is a member in good standing with a Professional Regulatory Organization, with experience in preparing a remedial plan and managing groundwater by **March 19, 2021**.
3. The Parties shall submit to the Director, for the Director's approval, a written remedial plan ("Remedial Plan") signed and stamped by the Professional by **March 31, 2021**.
4. The Parties shall include in the Remedial Plan all of the following:
 - a. A detailed assessment of the Lands including drainage, soils, vegetation, water (ground/surface) and any affected areas surrounding the Lands;
 - b. Apply for required authorization to conduct remedial activities of the Land;

- c. A detailed map to determine:
 - i. The source of the water in the Lake;
 - ii. The original drainage prior to any activity on the Lands; and
 - iii. The current drainage including the extent water is discharging off the Lands.
 - d. A hydrological assessment of:
 - i. the amount of water that is discharging off of the Lands annually; and
 - ii. The sediment load eroded from the Lands annually;
 - e. A detailed description of how the Lake on the Lands will be reclaimed;
 - f. A detailed plan on how water will be managed on the Lands and be returned to the natural drainage system once the Lake has been decommissioned;
 - g. A description of the type of equipment, methods, and materials that will be used in implementing the Remedial Plan;
 - h. A description of the long-term monitoring and maintenance measures that will be implemented to ensure that remedial works remain effective at achieving the goals in Paragraphs 4E and 4F of this Order; and
 - i. A schedule of implementing the Remedial Plan with a completion date no later than **October 1, 2021**.
5. In the Water Act Remedial Plan, the Parties must include a detailed plan to permanently render ineffective Ditch A
 6. The Parties shall implement the Remedial Plan as approved in writing by the Director in accordance with the schedule of implementation approved by the Director.
 7. The Parties shall provide the Director with a minimum of 2 business days' notice by email prior to commencing any work under the Remedial Plan.
 8. The Parties shall submit progress updates to the Director on **July 15, 2021**; **November 15, 2021**; **May 15, 2022**; and **July 31, 2022** that include a detailed summary of all remedial activities undertaken pursuant to this Enforcement Order;
 9. The Parties shall submit a final report prepared and signed by the approved Professional describing the work undertaken to comply with this Order by **October 30, 2022**.

DATED at the City of Edmonton in the Province of Alberta, this 12th day of March 2021.

Heather Dent
Compliance Manager
Boreal North Region

Section 115 of the *Water Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 115 is enclosed. For further information, please contact the Board Secretary at:

**#306 Peace Hills Trust Tower
10011 - 109 Street
Edmonton, Alberta, T5J 3S8
Telephone (780) 427-6207
Fax (780) 427-4693.**

Notwithstanding the above requirements, the Parties shall obtain all necessary authorizations from any regulatory agency (federal, provincial, or municipal) in complying with this order.















Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation. Failure to comply with this order may result in further enforcement proceedings.


APPENDIX A

INV 35659

Scale: 1 : 4,000

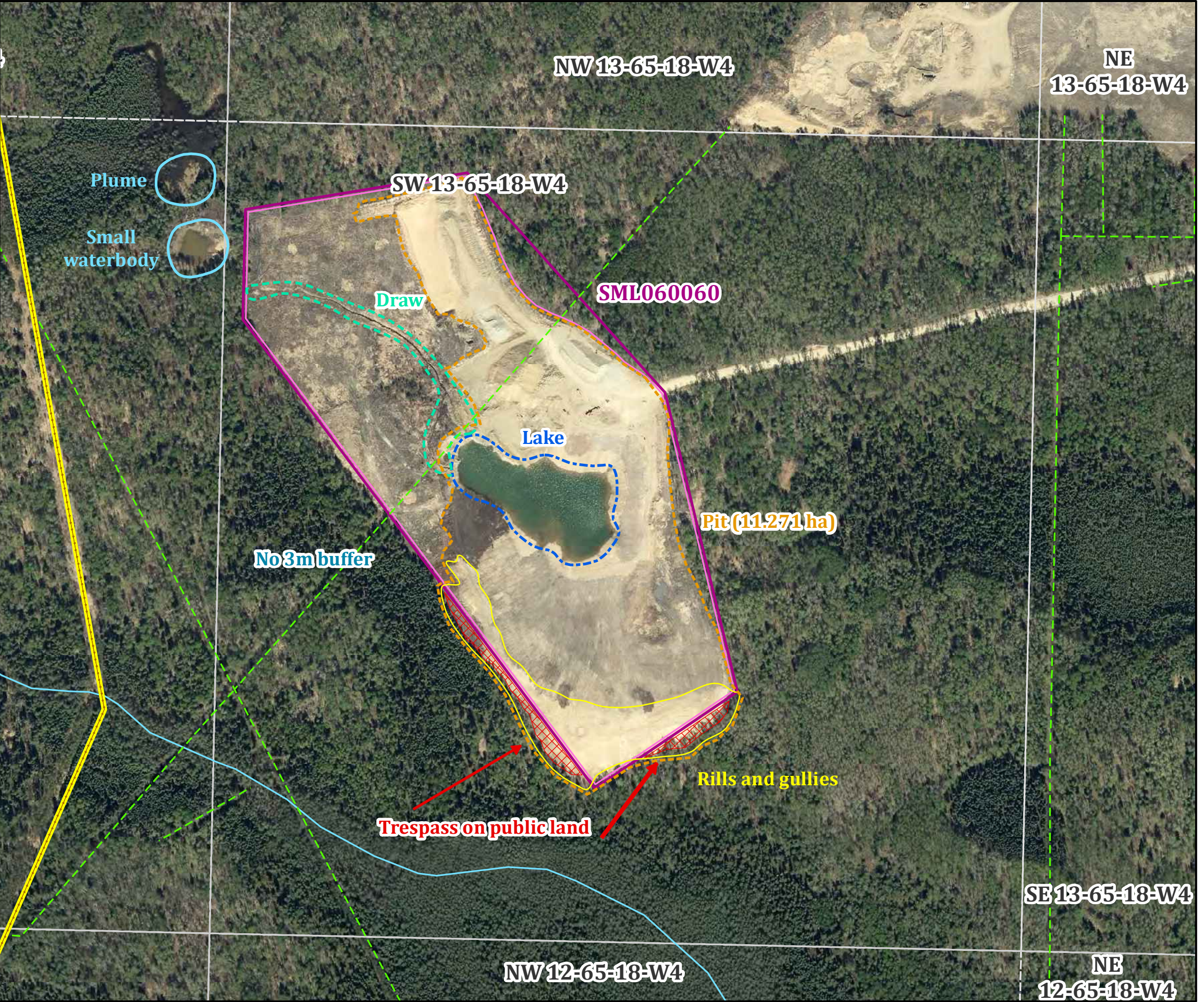
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	Pit (11.271 ha)		Pipeline
	Rills and gullies		Above Ground Pipeline
	Draw		Cut Trail
	Lake		Lake - Perennial
	Plume		Stream
	Small waterbody		SML060060
	Trespass on public land		3m buffer inside SML boundary



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 Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.
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Coordinate System: NAD 1983 UTM Zone 12N
 Produced by Northeast Geospatial Unit
 Created by: ronda.conners on 3/11/2021
 Project # NE-0554-000-00
 Base Data provided by the Government of Alberta under the Alberta Open Government Licence.



ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT

BEING RSA 2000, c. E-12 (the "Act")

ENVIRONMENTAL PROTECTION ORDER EPO-EPEA-35659-07

2161889 Alberta Ltd.
P.O. Box 6977
Bonnyville, AB
T9N 2H4

Byron Levkulich, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
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United States

Jeffrey Buck, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
3439 Keswick Boulevard SW
Edmonton, AB
T6W 3B2

Lisa Ball, former Director of 2161889 Alberta Ltd.
2161889 Alberta Ltd.
PO Box 211
Boyle, AB
T0A 0M0

541466 Alberta Ltd.
2300, 10180 – 101 St NW
Edmonton, AB
T5J 1V3

Robert W. Beaverford
52547 RR 223
Sherwood Park, AB
T8A 4P7

[Collectively, the "Parties"]

WHEREAS 2161889 Alberta Ltd. ("216") has operated a gravel pit (the "Pit") in 2019 and 2020 on a portion of public land legally described as SW-13-065-18-W4M [the "Lands"] in Athabasca County, in the Province of Alberta;

WHEREAS the Pit covers approximately 11.271 hectares on the Lands and the approximate boundaries of the Pit are shown on the map in Appendix A to this Order;

WHEREAS the *Environmental Protection and Enhancement Act* ("EPEA") section 1(xx) defines pit as an operation on or excavation from the surface of the land for the purpose of removing sand and gravel and includes any associated infrastructure;

WHEREAS the Lands are contained in surface material lease 060060 ("SML 060060") that is a disposition issued to 216 under the *Public Lands Act* as a result of an assignment on March 15, 2019. SML 060060 expires on May 28, 2024;

WHEREAS Byron Levkulich, Aaron Patsch, Jeffrey Buck, and Lisa Ball are former Directors for 216;

WHEREAS Robert W. Beaverford held SML 060060 between June 27, 2008 and March 15, 2019;

WHEREAS 541466 Alberta Ltd. ("541") operated the Pit between May 2017 and March 15, 2019;

WHEREAS Lisa Ball has been a Director for 541 from November 1999 to March 10, 2021 (present);

WHEREAS Clause 6 of Schedule A to SML 060060 – "Operating Conditions to the Agreement" requires the holder to reclaim any land disturbed in accordance with the approved Conservation and Reclamation Business Plan (CRBP). CRBP dated: May 28, 2014;

WHEREAS on May 28, 2014, Alberta Environment and Parks ("AEP") approved the Conservation and Reclamation Business Plan Approval for SML060060 ("CRBP");

WHEREAS on May 10, 2017 an Alberta Environment and Parks ("AEP") Public Lands Officer ["PLO"] inspected the Lands and observed the Lands had been recently logged but not yet been disturbed by mining activities;

WHEREAS on January 22, 2019 Robert Beaverford filed an annual return documenting the removal of 174,965.19 cubic yards of material from SML 060060 during the 2018 operating year;

WHEREAS on March 26, 2019 the Director issued an administrative penalty to 541466 Alberta Ltd. and Robert Beaverford for:

- Entering public land without authorization;
- Cleared public land without authority;
- Causing loss and damage with rutting and vegetation removal by heavy equipment;

- Contravened the terms of the lease by operating during a timing restriction; and
- Caused loss and damage to public land with root removal and vegetation piling and the removal of topsoil, which are all contraventions of the *Public Lands Act* or the SML

WHEREAS on May 1, 2020, 216 entered into proceedings under the *Companies Creditors Arrangement Act* R.S.C., 1985, c. C-36;

WHEREAS Clause 13 of Schedule A to SML 060060 – “Operating Conditions to the Agreement” requires the holder to leave a buffer zone of undisturbed vegetation a minimum width of 100 m between the Lands and all waterbodies and courses;

WHEREAS on October 7, 2020 the AEP PLO inspected the Lands and observed:

- Pit operations had not followed pit development sequencing as required by the CRBP;
- Drainage patterns in the south of the Pit do not match details shown in the CRBP;
- The 3 m vegetation buffer was not in place around the perimeter of the Pit (refer to Appendix A);
- Erosion washing to the adjacent vegetation resulting in trespass of public land (“trespass” on map in Appendix A);
- Rills and gullies formed along southern boundary of the Lands (refer to Appendix A);
- Noxious weeds were present throughout the south of the Pit;
- An end pit lake had formed in the Pit (refer to Appendix A);
- Subsoil and aggregate stockpiles were located on the edges of the end pit lake;
- Stockpiles of topsoil interspersed with stockpiles of non-processed aggregate and subsoil in the Pit; and
- A watercourse that was not identified on the CRBP (refer to “draw” in Appendix A);

WHEREAS Clause 28 of SML 060060 requires the holder to strip and pile topsoil separately from any woody material and subsoil;

WHEREAS Clause 33 of SML 060060 requires the holder to take all precautions and safeguards necessary to prevent soil and surface erosion to the satisfaction of the Department in its sole discretion;

WHEREAS on January 31, 2020 216 filed an annual return documenting the removal of 3,384.41 cubic yards of material from SML 060060 during the 2019 operating year;

WHEREAS on February 10, 2021, 216 filed an annual return documenting the removal of 2,254 cubic yards of (material) from SML 060060 during the 2020 operating year;

WHEREAS on February 10, 2021 an AEP Environmental Protection Officer [“EPO”] identified that the CRBP committed the operator to dry excavation only in the pit sequencing notes;

WHEREAS on February 17, 2021, Nathan Polturak, an Environmental Protection Officer (“EPO”) and Inspector under the *Environmental Protection and Enhancement Act* RSA 2000, c E-12 (the “Inspector”), conducted a review of the terms and conditions of SML 060060 and 2019 satellite imagery of the area and determined that 216 contravened the *Public Lands Act* and *Public Lands Administration Regulation* by:

- caused, permitted, or allowed loss or damage to public land;
- caused, permitted, or allowed the creation of conditions likely to result in soil erosion on public land; and
- contravened one or more provisions of the disposition.
- failed to pay fees owing to AEP;
- failed to adhere to disturbance standards;
- allowed or caused loss or damage on the subject land; and
- failed to report these non-compliance issues to the Director.

WHEREAS on February 23, 2021, AEP issued a Notice of Non-Compliance (“NONC”) to 216 stating that AEP had identified issues of non-compliance of the *Public Lands Act* under SLM 060060.

WHEREAS on February 26, 2021, 216 provided AEP with its response to the NONC, which stated that since March 2019, 216 has completed minor earthworks and hauling of crushed gravel. It also stated that 216’s intentions with respect to the Pit were as follows;

- to engage the services of a legal land surveyor to survey the southern boundary in question. Forward results of the surveyor to AEP for further consultation and possible action;
- to work with AEP to determine final *Water Act* authorization requirements for filling in the constructed water body;
- to update CRBP as needed; and
- to submit non-compliance for construction of water body without authorization.

WHEREAS section 137 of the *Environmental Protection and Enhancement Act* states that an operator must conserve and reclaim specified land and unless exempted by the regulation, obtain a reclamation certificate in respect of the conservation and reclamation;

WHEREAS the surface land disturbance in the Pit is “specified lands” as defined by the *Conservation and Reclamation Regulation* section 1(t)(v);

WHEREAS the Parties are persons who carry on or have carried on an activity on or in respect of specified land other than pursuant to an approval or registration, and are persons who act as principal or agent of person(s) referred to in any of *EPEA* section 134(b)(i) to (vi), and therefore are operators;

WHEREAS Nathan Polturak, Environmental Protection Officer, North Region (the “Inspector”) has been designated as an Inspector for the purposes of issuing environmental protection orders under section 140 the *Environmental Protection and Enhancement Act*; , and

WHEREAS the Inspector is of the opinion that the suspension of the operation in the Pit and directing the performance of work is necessary in order to conserve and reclaim specified land.

THEREFORE, I Nathan Polturak, Inspector, North Region, pursuant to section 140 of the *Environmental Protection and Enhancement Act*, DO HEREBY ORDER:

1. The Parties shall immediately suspend any and all work at the Pit, and shall not remove any stockpiled materials.
2. By **March 19, 2021**, the Parties shall submit to the Inspector for the Inspector's approval, the name and qualifications of a consultant who carries a professional designation authorized to practice reclamation on private land, which the Parties will retain to prepare and sign the below noted reclamation and remedial plan.
3. By **March 31, 2021**, the Parties shall submit to the Inspector for the Inspector's review and approval a written reclamation and remedial plan ("Plan").
4. The Parties shall include at minimum include all of the following in the Plan:
 - a. Particulars of the characteristics and properties of the land including topography, drainage, soils, vegetation and land capability.
 - b. A historical synopsis of the surface, subsurface and groundwater disturbance.
 - c. A description of the adjacent land uses.
 - d. An accounting of what volume of marketable aggregate is left within the Pit and its value.
 - e. A description of the reclamation work including the type of equipment, methods and materials that will be used in implementing the Plan.
 - f. A description of the proposed reclaimed land use that includes elevations, soil replacement and re-vegetation.
 - g. A description of how ground water infiltrating open excavations will be addressed and justification for any surface and water related improvements to be left in place.
 - h. A proposed Schedule of Implementation that shall have **September 20, 2022** as the completion date.
 - i. A six month monitoring and maintenance program commencing **September 20, 2022**.
5. Upon approval of the Plan by the Inspector, the Parties shall conduct the work described in the approved Plan, according to the approved schedule of implementation, unless otherwise authorized in writing by the Inspector.
6. The Parties shall submit progress updates to the Inspector on **July 30, 2021**, **November 30, 2021**, **March 31, 2022**, and **July 29, 2022** that include a detailed summary of all reclamation activities undertaken at the Pit;

7. Within 14 days of the completion of the requirements of this Order, the Parties shall submit to the Inspector a final written report prepared and signed by the consultant describing the work undertaken to comply with this Order.

DATED at the Town of Lac La Biche in the Province of Alberta, the 12th day of March, 2021.



Nathan Polturak
Inspector,
Environmental Protection Officer
North Region

Section 91 of the *Environmental Protection and Enhancement Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 91 is enclosed. For further information, please contact the Board Secretary at:

**#306 Peace Hills Trust Tower
10011 - 109 Street
Edmonton, Alberta, T5J 3S8
Telephone (780) 427-6207
Fax (780) 427-4693.**

Notwithstanding the above requirements, the Parties shall obtain all necessary authorizations from any regulatory agency (federal, provincial, or municipal) in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation. Failure to comply with this order may result in further enforcement proceedings.















APPENDIX A



INV 35659

Scale: 1 : 4,000

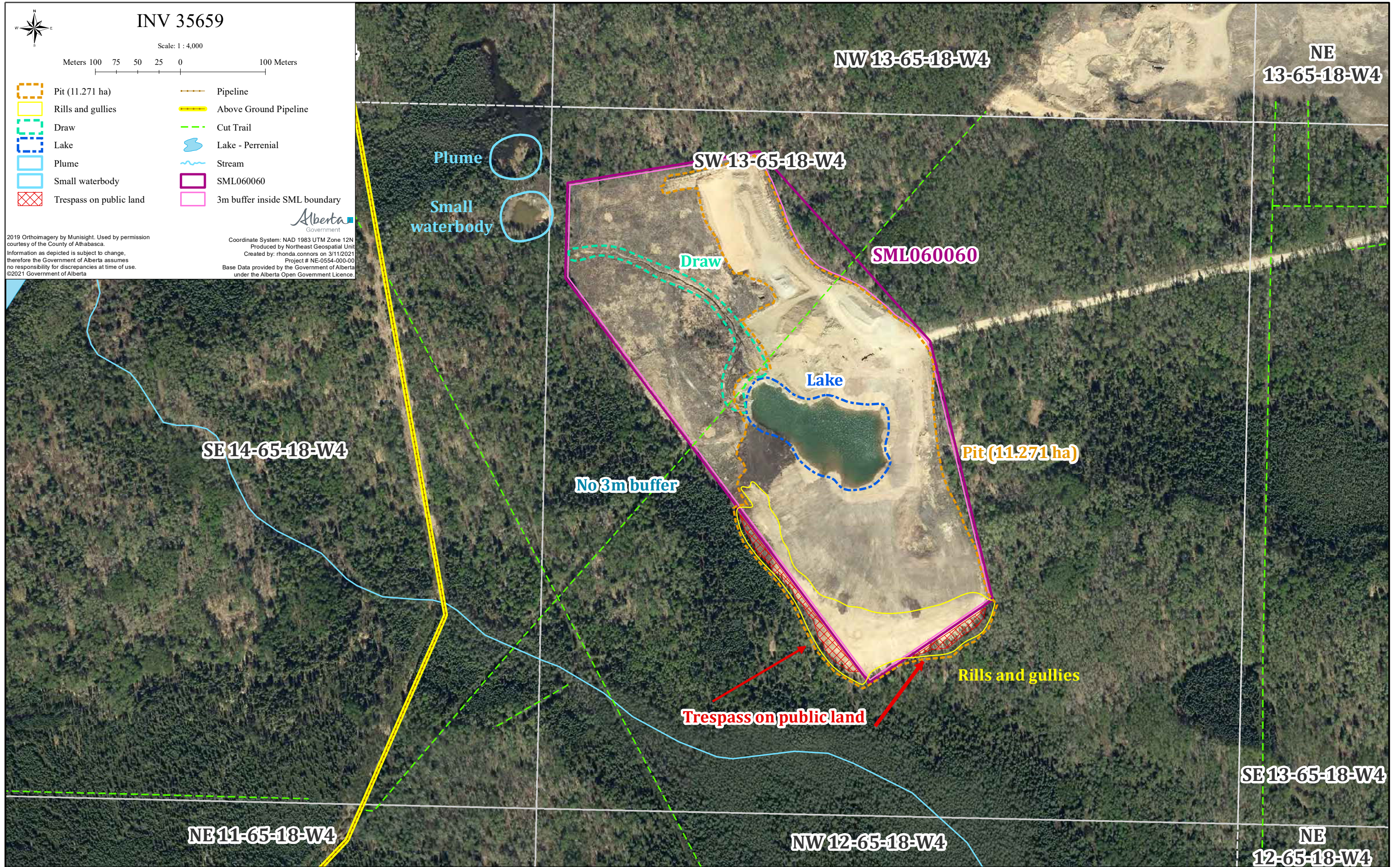
Meters 100 75 50 25 0 100 Meters

-  Pit (11.271 ha)
-  Rills and gullies
-  Draw
-  Lake
-  Plume
-  Small waterbody
-  Trespass on public land
-  Pipeline
-  Above Ground Pipeline
-  Cut Trail
-  Lake - Perrenial
-  Stream
-  SML060060
-  3m buffer inside SML boundary



2019 Orthoimagery by Munisight. Used by permission
courtesy of the County of Athabasca.
Information as depicted is subject to change,
therefore the Government of Alberta assumes
no responsibility for discrepancies at time of use.
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Coordinate System: NAD 1983 UTM Zone 12N
Produced by Northeast Geospatial Unit
Created by: rmonda.conners on 3/11/2021
Project # NE-0554-000-00
Base Data provided by the Government of Alberta
under the Alberta Open Government Licence.



WATER ACT

BEING CHAPTER W-3 R.S.A. 2000 (the "Act")

Amendment No. 1

To

ENFORCEMENT ORDER NO. EO-WA-35659-01

2161889 Alberta Ltd.
P.O. Box 6977
Bonnyville, AB
T9N 2H4

Byron Levkulich, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

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1400 16th Street, Suite 320
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JMB Crushing Systems Inc.
3439 Keswick Boulevard SW
Edmonton, AB
T6W 3B2

Lisa Ball, former Director of 2161889 Alberta Ltd.
2161889 Alberta Ltd.
PO Box 211
Boyle, AB
T0A 0M0

541466 Alberta Ltd.
o/a JLG Ball Enterprises
2300, 10180 – 101 St NW
Edmonton, AB
T5J 1V3

Robert W. Beaverford
52547 RR 223
Sherwood Park, AB
T8A 4P7

[Collectively, the "Parties"]

WHEREAS Enforcement Order No. 35659-01 was issued to the Parties on March 12, 2021;

WHEREAS on March 17, 2021 2161889 Alberta Ltd. requested an extension to Clause 3 of the Enforcement Order, requesting to change the Plan's submission date from March 31, 2021 to May 31, 2021;

WHEREAS section 137(1) of the *Water Act* states the Director may amend a term or condition of an enforcement order;

THEREFORE, I, Heather Dent, the Director, pursuant to section 137(1) of the *Water Act*, DO HEREBY ORDER THAT:

1. In Clause 3 of the Enforcement Order, that the date of "March 31, 2021" be deleted and replaced by "**May 31, 2021**".

DATED at the City of Edmonton in the Province of Alberta, this Friday the 19th day of March 2021.

Heather Dent
Compliance Manager
Boreal North Region

Section 115 of the *Water Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 115 is enclosed. For further information, please contact the Board Secretary at:

**#306 Peace Hills Trust Tower
10011 - 109 Street
Edmonton, Alberta, T5J 3S8
Telephone (780) 427-6207
Fax (780) 427-4693.**

Notwithstanding the above requirements, the Parties shall obtain all necessary authorizations from any regulatory agency (federal, provincial, or municipal) in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation. Failure to comply with this order may result in further enforcement proceedings.

June 2, 2021

Mr. Tyler Pell, Aggregate Resource Manager
Mantle Materials Group, Ltd
tyler.pell@mantlegroup.ca

Dear Mr. Pell:

I write in response to the following amendment requests:

- On April 27, 2021, 2161889 Alberta Ltd. requested that the deadline in Clause 3 of EPO-EPEA-35659-07 (EPO) be amended from May 31, 2021 to June 14, 2021.
- On April 27, 2021, 2161889 Alberta Ltd. requested that the deadline in Clause 3 of EO-WA-35659-01 (EO) be amended from May 31, 2021 to June 14, 2021.
- On April 27, 2021, 2161889 Alberta Ltd. requested that the deadline in Clause 4(i) of the EO be amended from October 1, 2021 to September 20, 2022.

AEP understands that on May 1, 2021, 2161889 Alberta Ltd. amalgamated with JMB Crushing Systems Inc. and Mantle Materials Group, Ltd. to continue as Mantle Materials Group, Ltd.

AEP understands the request for amendments were made on behalf of 2161889 Alberta Ltd., Mantle Materials Group, Ltd., Byron Levkulich, and Aaron Patsch.

Having considered the above requests, the two unresolved preliminary motions to be determined by the Environmental Appeals Board and the June 15, 2021 mediation in the appeals of the EPO and EO I have decided not to amend the EPO or EO.

I confirm that AEP will not take steps to enforce the deadline in Clause 3 of EPO-EPEA-35659-07 and the deadline in Clause 3 of EO-WA-35659-01 against 2161889 Alberta Ltd. and Mantle Materials Group, Ltd., Byron Levkulich, and Aaron Patsch before June 21, 2021.

Cc: Tom Cumming, Partner - Gowling WLG
tom.cumming@gowlingwlg.com

Sincerely,



Heather Dent
Compliance Manager

January 25, 2022

SML 060060
EO-WA-35659-01
EPO-EPEA 35659-07

Mantle Materials Group, Ltd., previously 2161889 Alberta Ltd.
P.O. Box 6977
Bonnyville, AB
T9N 2H4

Byron Levkulich, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Jeffrey Buck, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
3439 Keswick Boulevard SW
Edmonton, AB
T6W 3B2

Lisa Ball, former Director of 2161889 Alberta Ltd.
2161889 Alberta Ltd.
PO Box 211
Boyle, AB
T0A 0M0

541466 Alberta Ltd.
o/a JLG Ball Enterprises
2300, 10180 – 101 St NW
Edmonton, AB
T5J 1V3

Robert W. Beaverford
52547 RR 223
Sherwood Park, AB
T8A 4P7

Subject: Consolidated Remedial Plan for and Amendments to Water Act Enforcement Order EO-WA-35659-01 and Environmental Protection Order EPO-EPEA- 35659-07

AEP has received and reviewed the following submissions:

- Draft Remedial plan, dated June 17, 2021 (Attachment 1),
- Supplemental information, dated September 17, 2021 (Attachment 2),
- Supplemental information, dated October 7, 2021 (Attachment 3),
- Supplemental information, dated December 9, 2021 (Attachment 4), and
- Supplemental information, dated January 6, 2021 (Attachment 5).

(collectively the “Consolidated Remedial Plan”)

Director’s and Inspector’s Approval of Consolidated Remedial Plan

By this letter we approve the Consolidated Remedial Plan in satisfaction of Clause 3 of EPO-EPEA- 35659-07 and Clause 3 of EO-WA-35659-01.

Pursuant to Clause 5 of EPO-EPEA- 35659-07 and Clause 6 of EO-WA-35659-01, the parties shall conduct the work described in the Consolidated Remedial Plan in accordance with the Schedule of Implementation included in the Consolidated Remedial Plan.

Amendments to EO-WA-35659-01 and EPO-EPEA- 35659-07

Please find enclosed, the amended EO-WA-35659-01(Attachment 6) and EPO-EPEA- 35659-07(Attachment 7) to reflect the deadlines included in the Schedule of Implementation included in the Consolidated Remedial Plan.

If you have any comments or questions about this letter, please contact Nathan Polturak at (780) 623-5483 or Nathan.polturak@gov.ab.ca or Heather Dent at (780) 427-9335 or Heather.Dent@gov.ab.ca.

Sincerely,



Heather Dent Director Boreal North Region	Nathan Polturak Inspector Boreal North Region
---	---

WATER ACT

BEING CHAPTER W-3 R.S.A. 2000 (the "Act")

Amendment No. 2

To

ENFORCEMENT ORDER NO. EO-WA-35659-01

Mantle Materials Group, Ltd., previously 2161889 Alberta Ltd.
P.O. Box 6977
Bonnyville, AB
T9N 2H4

Byron Levkulich, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Jeffrey Buck, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
3439 Keswick Boulevard SW
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2161889 Alberta Ltd.
PO Box 211
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T0A 0M0

541466 Alberta Ltd.
o/a JLG Ball Enterprises
2300, 10180 – 101 St NW
Edmonton, AB
T5J 1V3

Robert W. Beaverford
52547 RR 223
Sherwood Park, AB
T8A 4P7

[Collectively, the “Parties”]

WHEREAS Amendment #1 to Enforcement Order No. 35659-01 was issued to the Parties on March 19, 2021;

WHEREAS on May 1, 2021, 2161889 Alberta Ltd. amalgamated with Mantle Materials Group, Ltd. and continued as Mantle Materials Group, Ltd. (“Mantle”);

WHEREAS on January 6, 2022, Mantle Materials Group, Ltd. (“Mantle”) submitted the Consolidated Remedial Plan (the “Plan”) for AEP’s review;

WHEREAS the Plan included an updated schedule of implementation itemizing the timelines for remediation, reclamation, revegetation, and monitoring;

WHEREAS on January 25, 2022, AEP approved the Consolidated Remedial Plan and notified the parties;

WHEREAS section 137(1) of the *Water Act* states the Director may amend a term or condition of an enforcement order;

THEREFORE, I, Heather Dent, the Director, pursuant to section 137(1) of the *Water Act*, **DO HEREBY ORDER THAT:**

1. The name of 2161889 Alberta Ltd. is revised to reflect the amalgamation with Mantle.
2. In Clause 4(i) of the Enforcement Order, that the date of “October 1, 2021” be deleted and replaced by “**November 1, 2022**”.
3. In Clause 8 of the Enforcement Order, that the dates of “July 15, 2021; November 15, 2021; May 15, 2022; and July 31, 2022” be deleted and replaced by “**July 29, 2022; October 28, 2022; May 12, 2023; September 22, 2023; and September 20, 2024**”.
4. In Clause 9 of the Enforcement Order, that the date of “October 30, 2022” be deleted and replaced by “**November 30, 2024**”.

DATED at the City of Edmonton in the Province of Alberta, this Tuesday the 25th day of January 2022.

Heather Dent
Compliance Manager
Boreal District – East Region

Section 115 of the *Water Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 115 is enclosed. For further information, please contact the Board Secretary at:

**#306 Peace Hills Trust Tower
10011 - 109 Street
Edmonton, Alberta, T5J 3S8
Telephone (780) 427-6207
Fax (780) 427-4693.**

Notwithstanding the above requirements, the Parties shall obtain all necessary authorizations from any regulatory agency (federal, provincial, or municipal) in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation. Failure to comply with this order may result in further enforcement proceedings.

ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT

BEING RSA 2000, c. E-12 (the "Act")

Amendment No. 2

To

ENVIRONMENTAL PROTECTION ORDER EPO-EPEA-35659-07

Mantle Materials Group, Ltd., previously 2161889 Alberta Ltd.
P.O. Box 6977
Bonnyville, AB
T9N 2H4

Byron Levkulich, former Director of 2161889 Alberta Ltd.
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

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3439 Keswick Boulevard SW
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T6W 3B2

Lisa Ball, former Director of 2161889 Alberta Ltd.
2161889 Alberta Ltd.
PO Box 211
Boyle, AB
T0A 0M0

541466 Alberta Ltd.
o/a JLG Ball Enterprises
2300, 10180 – 101 St NW
Edmonton, AB
T5J 1V3

Robert W. Beaverford
52547 RR 223
Sherwood Park, AB
T8A 4P7

[Collectively, the “Parties”]

WHEREAS Amendment #1 to Environmental Protection Order No. 35659-07 was issued to the Parties on March 19, 2021;

WHEREAS on May 1, 2021, 2161889 Alberta Ltd. amalgamated with Mantle Materials Group, Ltd. and continued as Mantle Materials Group, Ltd. (“Mantle”);

WHEREAS on January 6, 2022 Mantle submitted the Consolidated Remedial Plan (the “Plan”) for AEPs consideration;

WHEREAS the Plan included an updated schedule of implementation itemizing the timelines for remediation, reclamation, revegetation, and monitoring;

WHEREAS on January 25, 2022 AEP responded to Mantle accepting the Consolidated Remedial Plan;

WHEREAS section 243(1)(a) of the *Environmental Protection and Enhancement Act* states the Director may amend a term or condition of an environmental protection order;

THEREFORE, I Heather Dent, Director pursuant to section 243 of the *Environmental Protection and Enhancement Act*, **DO HEREBY ORDER**:

1. The name of 2161889 Alberta Ltd. is revised to reflect the amalgamation with Mantle.
2. In Clause 4(h) of the Environmental Protection Order, that the date of “September 20, 2022” be deleted and replaced by “**October 31, 2022**”.
3. In Clause 4(i) of the Environmental Protection Order, that the date of “September 20, 2022” be deleted and replaced by “**November 1, 2022**”.
4. In Clause 6 of the Environmental Protection Order, that the dates of “July 15, 2021; November 15, 2021; May 15, 2022; and July 31, 2022” be deleted and replaced by “**July 29, 2022; October 28, 2022; May 12, 2023; September 22, 2023; and September 20, 2024**”.

DATED at the City of Edmonton in the Province of Alberta, this Tuesday the 25th day of January, 2022.

Heather Dent
Compliance Manager
Boreal District – East Region

Section 91 of the *Environmental Protection and Enhancement Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 91 is enclosed. For further information, please contact the Board Secretary at:

**#306 Peace Hills Trust Tower
10011 - 109 Street
Edmonton, Alberta, T5J 3S8
Telephone (780) 427-6207
Fax (780) 427-4693**

Notwithstanding the above requirements, the Parties shall obtain all necessary authorizations from any regulatory agency (federal, provincial, or municipal) in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation. Failure to comply with this order may result in further enforcement proceedings.

8 EPO-EPEA-35659-07 / EO-WA-35659-01 SML 060060

8.1 Summary

Reclamation for SML 060060 began on August 22nd and shut down on October 21st, 2022. Activities on site included dewatering, remediation of the northern ditch, recontouring an area in the northern portion, removing and salvaging buried topsoil and woody debris, interim remediation of the southeastern border, soil salvage, backfilling a portion of the waterbody, recontouring, and rough grading.

To access the pit, Mantle must cross the Amisk River. Historically the Amisk river crossing does not dry up, at this crossing site, until later in the summer. To reduce the risk and avoid extra costs with crossing the Amisk river during a flow period, Mantle is proposing to start earthworks activities August 1st, 2023.

The EPO amendment for hauling aggregate has now expired (July 31st, 2022) no extension was approved. The pit run that was remaining on site was used for recontouring and backfilling the waterbody.

Mantle recently engaged with AEP regarding an amended approach to the end land use. Specifically, Mantle presented the approach of developing a viable end pit lake concept as part of the final reclamation on the landscape. AEP is currently reviewing the request.

8.2 Reclamation Activities 2022

8.2.1 Dewatering

Prior to dewatering the constructed waterbody was again sampled for total metals and routine water analysis, total suspended solids (TSS), and pH. The results were positive to support the start up of dewatering operations.

Dewatering commenced on August 24th and ended on October 19th. During this time seven water samples (TSS/pH) were collected at the entry point into the wetlands adjacent to the lake. All samples were below the discharge threshold maximums as per the “Environmental Quality Guidelines for Alberta Surface Waters” (Government of Alberta, 2018).

Prior to starting the earthworks reclamation activities, the water level monitoring well was installed in the first week of June within the Wooded Coniferous Swamp S-Wc. On August 25th a levellogger and the barologger were installed in the water level monitoring well and were setup to record water level fluctuation and changes in atmospheric pressure and temperature, respectively. The two loggers recorded and logged until October 11, 2022. During the regular monitoring of the wetland water level at the monitoring well it was noticed that the level had receded slightly. As per the EPO/EO Plan tactics the discharge was temporally directed into the wetland to recharge it. The tactic proved successful to bring the level back up pre-existing conditions. The wetland

water level continued to be monitored during the remaining dewatering activities. The level stayed static and no additional recharging tactics were deployed.

The discharged water from the dewatering was not expected to be able to enter Amisk Lake. As part of the regular monitoring, the discharged water was observed to be entering the lake via a wetland with open water that borders the lake. Once discovered Mantle obtained water samples of the discharge at the end of the discharge hose and the entry point into the wetlands adjacent to the lake. After the samples were taken the pump was shut down and the samples were tested for TSS. During the dewatering operations the surface flow showed no signs of erosion, scouring, or sediment build up. An amendment was submitted to AEP along with results of samples at the discharge site, the Amisk Lake entry point, and an additional sample collected from the Amisk River. The Amisk River was sampled for total metals and routine water analysis, TSS, and pH. All results were positive to support the continuation of dewatering into Amisk Lake. AEP approved the amendment and dewatering commenced with the expectation of continuing the weekly sampling of the water prior to draining into the Amisk Lake. Weekly samples were collected for pH and TSS for the remainder of the dewatering program and they continued to be under the maximum thresholds.

8.2.2 Recontouring

The recontouring along the northeast border uncovered topsoil and woody debris that was buried in a natural depression. The burying of this material occurred prior to JMB/Mantle taking over the pit from JLG. The buried material was salvaged and the depression was recontoured to match surrounding patterns of natural drainage. The topsoil and woody debris salvaged is approximately 5,000 m³. This volume will go towards a positive increase in the soil replacement calculations for the pit.

8.2.3 Topsoil Replacement

Topsoil was replaced on the remediated ditch in the northern portion of the SML.

8.2.4 Revegetation

No revegetation activities have occurred to date.

8.3 EPO-EPEA-35659-07 / EO-WA-35659-01 SML 060060 - Schedule

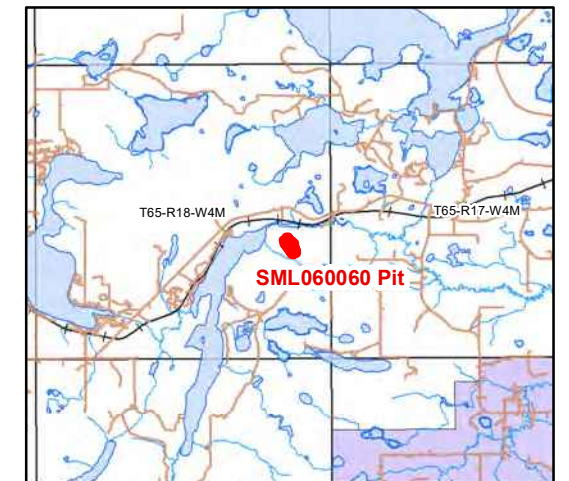
Table 7: Schedule of Activities for SML 060060 Reclamation (Grey = completed)

Year	Activity covered under EPO or EPEA Registration	Description	Completion Date
2022	EPO	Remediation of the North ditches – stripping soils, recontouring, final topsoil placement.	Aug 30 th
2022	EPO	Final recontouring of the Northern area. Interim remediation of southwest erosion. Salvaged topsoil and woody debris. Stripping topsoil. Dewater waterbody and completed partial backfilling of the waterbody.	Oct 21 st
2023	EPO	Dewater the waterbody. July 1 st – July 31 st	July 31 st
2023	EPO	Remediation of the waterbody-backfilling, major recontouring of the constructed waterbody. Complete all remaining reclamation activities; Final fill, final recontouring, final topsoil placement, seeding Aug 1 st – Sept 30 th	Sept 30 th
2023	EPO	Six-month monitoring requirement as per the EPO	Oct 1 st , 2023, to March 31 st , 2024
2024	EPEA	Assess completed reclamation for soil stability, vegetation success, weeds	Aug 15 th
2025	EPEA	Assess completed reclamation for soil stability, vegetation success, weeds	Aug 15 th
2025	EPEA	Apply for reclamation certificate that will go towards terminating the registration	Sept 15 th

Appendix D: SML 060060

MANTLE MATERIALS
GROUP LTD.
SML 060060
Current Conditions

Athabasca County
WITHIN:
SW 13 TWP 65 RGE 18 W4M



LEGEND

-  Disturbance Boundary
-  Waterbody (Original)
-  Areas Worked 2022
-  Ditch Remediation
-  Erosion_remediation
-  Recontoured Fully
-  Salvaged Soil Area

DATE:
October 27, 2022

BEARINGS:
Decimal Degrees
North Azimuth

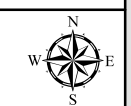
DRAWN BY:
49 North Geospatial

PROJECTION:
NAD83 UTM Zone 12N
Units in meters

VERSION:
1.0

DATUM:
NAD 1983

MAP SCALE
1:4,000



0 65 130 260
m



Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774

SW14
65-18-4

SW13
65-18-4

SW11
65-18-4

SW12
65-18-4

SML 060060



Photo 1: Photo taken looking North at the low-lying area where all the buried topsoil and woody debris was salvaged.



Photo 2: Photo taken looking North of the topsoil salvaged from the low lying area.



Photo 3: Photo looking south towards the hill utilized to backfill the waterbody.



Photo 4: Photo taken looking North of the backfill filling in the waterbody.



Photo 5: Photo taken looking southwest of the interim remediation of the erosion on the back of the south slopes.

Appendix 8 – Road Use Documentation

ASSIGNMENT AGREEMENT

THIS ASSIGNMENT AGREEMENT dated effective the 15th day of March, 2019;

Between:

541466 Alberta Ltd. operating as JLG Ball Enterprises
(hereinafter the "Assignor")

OF THE FIRST PART

-and-

2161889 Alberta Ltd.
(hereinafter called the "Assignee")

OF THE SECOND PART

WHEREAS Robert Beaverford ("Beaverford") has entered into a Memorandum of Agreement with Travis Skoreyko, dated May 25, 2017 granting Beaverford the ability to develop and use DLO 801134 (the "Road Use Agreement") a copy of which is attached hereto as Exhibit "1";

WHEREAS the Beaverford subsequently assigned his rights and obligations in the Road Use Agreement to the Assignor by way of an Assignment Agreement dated May 25, 2017 a copy of which is attached hereto as Exhibit "2"; and

WHEREAS the Assignor has agreed to transfer and assign its rights and obligations under the Road Use Agreement to the Assignee and the Assignee has agreed to accept the transfer and assignment of the rights and obligations of the Assignor under the Road Use Agreement as its own.

NOW THEREFORE in consideration of the mutual covenants and obligations exchanged herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Assignor hereby transfers and assigns to the Assignee and the Assignee hereby assumes and accepts from the Assignor all right, title and obligation in and to the Road Use Agreement in place of the Assignor including liability for all rent and taxes.

IN WITNESS WHEREOF the parties have executed this Agreement effective as of the date and year first above written.

541466 Alberta Ltd.



Name: Lisa Ball
Title: President

2161889 Alberta Ltd.



Name: Lisa Ball
Title: President

EXHIBIT "1"

MEMORANDUM OF AGREEMENT

THIS AGREEMENT MADE effective as of the 25th day of May, 2017

BETWEEN: Travis Skoreyko,
P.O. Box 266
Caslan, Alberta
T0A 0R0

(Hereinafter referred to as the 'Holder')

AND: Robert Beaverford
52547 Rge Road 223
Sherwood Park, Alberta
T8A 4P7

(Hereinafter referred to as the 'User')

WHEREAS the Holder has entered into an Agreement with the Government of Alberta and has been granted certain rights and privileges regarding the use of DLO 801134 as shown on Schedule "A" (hereinafter referred to as the "Road").

WHEREAS the User desires to develop and use a portion of the Road for equipment transportation and hauling of goods and commodities in connection with its business.

NOW THEREFORE IN CONSIDERATION OF THE COVENANTS AND AGREEMENTS HEREIN CONTAINED IT IS HEREBY AGREED BETWEEN THE PARTIES THAT:

1. Subject to the terms and conditions of this Agreement, the Holder shall permit the User, including the directors, officers, employees, agents, contractors and guests of the User, to use that part of the Road for the development and transportation of aggregate materials from, and reclamation of SML060060.
2. The term of the Agreement shall be for a period of 5 years, commencing on the 25th day of May, 2017 (the "Term"). The Term of this Agreement may be extended beyond the initial 5 year period for up to an additional 5 years, but only for so long as is required by the User to fully remediate and reclaim SML060060 as required, once the Term is completed.
3. The User will, at its own expense and at all times and in all respects in its use of the Road, strictly conform to all legal requirements whatsoever whether imposed by municipal, or provincial authorities.
4. The use of the Road by the User shall not interfere or conflict with the use of the Road by the Holder and any use of the Road by the Holder shall not interfere or conflict with the use of the Road by the User.
5. The User shall be responsible for the development and construction of that portion of the Road, as outlined in Schedule "A" hereto, noted as "Portion of DLO801134 to be developed Approx. 802m" (the "User Road")
6. The User shall be responsible for the cost of and installation of a metal gate on the Road to control access to the Road.
7. The User shall acknowledge and use the Road in accordance with AEP regulations and specifications.
8. The User will implement controls and practices to preserve the Road surface and maintain safe conditions.
9. The User shall post necessary cautionary and safety signage.

10. The User may at their cost, upgrade and maintain the Road to a standard (that the User requires for their operations. The Holder shall be responsible for its use of the Road and the cost of maintaining and repairing any damage created by the Holder's use of the Road at any time.
11. The User shall be responsible for reclamation of the User Road only, once its use of the User Road is completed.
12. The User shall be responsible for Provincial and Municipal fees and taxes assessed for use of the User Road, while the User is making use of the User Road.
13. Any notice, demand or other document required or permitted to be given under the terms of this Agreement shall be sufficiently given to the party to who it is addressed if delivered or forwarded by registered mail return receipt requested to:

Travis Skoreyko,
P.O. Box 266
Caslan, Alberta
T0A 0R0

AND

Robert Beaverford
52547 Rge Road 223
Sherwood Park, Alberta
T8A 4P7

or to such other address as either party may furnish to the other from time to time. Every such notice shall be deemed to have been received, if delivery on the date of delivery and if mailed on the next business day following the date of posting.

14. This Agreement will enure to and remain binding upon the parties hereto, their respective heirs, executors, administrators, successors and assigns.
15. This Agreement constitutes the entire agreement among the parties, and supersedes any and all prior oral or written communications, proposals, representations and agreements. Each of the parties irrevocably confirm that there are no other written or verbal agreements or representations.
16. No amendment to this Agreement shall be valid and binding unless made in writing and signed by an authorized representative of each of the parties hereto.
17. This Agreement may be executed in any number of counterparts by any one or more of the parties. Each executed counterpart shall be deemed to be an original and such counterparts shall together constitute one and the same Agreement. Each counterpart may be transmitted by way of facsimile or electronic transmission, which shall constitute an original valid document, enforceable among the parties.


IN WITNESS WHEREOF the parties hereto have executed this Agreement effective on the day and year first above written.



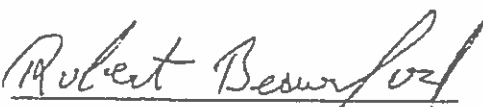
Witness
Kevin Proden



Travis Skoreyko



Witness
Kevin Proden



Robert Beaverford

EXHIBIT "2"

ASSIGNMENT AGREEMENT

THIS ASSIGNMENT AGREEMENT dated effective the 25th day of May, 2017;

Between:

Robert Beaverford
(hereinafter the "Assignor")

OF THE FIRST PART

- and -

541466 Alberta Ltd. operating as JLG Ball Enterprises
(hereinafter called the "Assignee")

OF THE SECOND PART

WHEREAS the Assignor has entered into a Memorandum of Agreement with Travis Skoreyko, dated May 25, 2017 granting the Assignor the ability to develop and use DLO 801134 (the "Road Use Agreement") a copy of which is attached hereto; and

WHEREAS the Assignor has agreed to transfer and assign its rights and obligations under the Road Use Agreement to the Assignee and the Assignee has agreed to accept the transfer and assignment of the rights and obligations of the Assignor under the Road Use Agreement as its own.

NOW THEREFORE in consideration of the mutual covenants and obligations exchanged herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Assignor hereby transfers and assigns to the Assignee and the Assignee hereby assumes and accepts from the Assignor all right, title and obligation in and to the Road Use Agreement in place of the Assignor including liability for all rent and taxes.

IN WITNESS WHEREOF the parties have executed this Agreement effective as of the date and year first above written.

Robert Beaverford



Robert Beaverford



Witness

541466 Alberta Ltd. operating as JLG Ball Enterprises

Per: 

Name: Lisa Ball

Title: President

I have authority to bind the corporation

Annette Bugnet

From: Abby Horne <abbyhorne@jmbcrush.com>
Sent: Tuesday, December 17, 2019 10:39 AM
To: Caitlin Green; ndewet@athabascacounty.com
Cc: Tyler Pell
Subject: FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M
Attachments: SML060060-Temporary Bridge Crossing 20191217.PDF

Importance: High

Good Morning Norm and Caitlin,

We have been working on creating the ice bridge between NE 13-65-18-W4M and NW 18-65-17-W4M, but with the fluctuating temperatures we are not having any luck. We are looking at renting a bridge in the new year that would be removed prior to January 15, 2020 for the timing restriction, so as to provide product to our clients and are wondering if the county would be open to amending the previous agreement?

Again the reiterate what would be required and that we again would take full responsibility:

- An addendum to our existing agreement for the road allowance between NE 13-65-18-W4M and NW 18-65-17-W4M
- This addendum would be an agreement for the area shown in the map attached (Road Allowance – Temporary bridge).
- The addendum would be a temporary agreement for January 1, 2020 to January 14th, 2020.
- JMB Crushing Systems Inc. would assume full responsibility for the structure and the area identified in the attached maps.
- We would ensure the bridge was placed outside of the high water mark.

As this is once again a pressing matter, we look forward to hearing your thoughts.

Best Regards,
Abby



Abby Horne | Aggregate Resource Planner
JMB Crushing Systems Inc.

Box 6977 Bonnyville, AB T9N 2H4

Tel: 780-545-7071 | Fax: 780-826-6280

Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com

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From: Abby Horne
Sent: November 15, 2019 9:22 AM
To: Caitlin Green <CGreen@athabascacounty.com>
Subject: RE: [Internal]RE: [EXTERNAL]RE: [Internal]RE: [EXTERNAL]FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Not to worry, that was the name prior! Thank you, you have a great weekend as well!



Abby Horne | Aggregate Resource Planner
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Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com
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From: Caitlin Green <CGreen@athabascacounty.com>

Sent: November 15, 2019 9:10 AM

To: Abby Horne <abbyhorne@jmbcrush.com>

Subject: [Internal]RE: [EXTERNAL]RE: [Internal]RE: [EXTERNAL]FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Sorry for the error in the company name. Have a good weekend!

Caitlin Green

Administrative Assistant

Infrastructure Services

Athabasca County

Office: (780) 675-2273 | Fax: (780) 675-5512

3602 48th Ave, Athabasca, AB T9S 1M8

www.athabascacounty.com

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From: Abby Horne [<mailto:abbyhorne@jmbcrush.com>]

Sent: November 15, 2019 8:59 AM

To: Caitlin Green

Subject: [EXTERNAL]RE: [Internal]RE: [EXTERNAL]FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Importance: High

Good Morning Caitlin,

Thank you very much for your help. I have attached the signed agreement.

Best Regards,

Abby



Abby Horne | Aggregate Resource Planner
JMB Crushing Systems Inc.
Box 6977 Bonnyville, AB T9N 2H4
Tel: 780-545-7071 | Fax: 780-826-6280
Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com
Follow us on: [Facebook](#) | [LinkedIn](#)

From: Caitlin Green <CGreen@athabascacounty.com>

Sent: November 15, 2019 8:32 AM

To: Abby Horne <abbyhorne@jmbcrush.com>

Subject: [Internal]RE: [EXTERNAL]FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Good morning,

Please see the attached addendum with additional conditions for the ice bridge.

Thank you,

Caitlin Green

Administrative Assistant

Infrastructure Services

Athabasca County

Office: (780) 675-2273 | Fax: (780) 675-5512

3602 48th Ave, Athabasca, AB T9S 1M8

www.athabascacounty.com

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From: Abby Horne [<mailto:abbyhorne@jmbcrush.com>]

Sent: November 13, 2019 8:39 AM

To: Caitlin Green

Subject: [EXTERNAL]FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Importance: High

Good Morning Caitlin,

Just received an email to say this email was not sent yesterday. I apologize.

Thank you,

Abby



Abby Horne | Aggregate Resource Planner

JMB Crushing Systems Inc.

Box 6977 Bonnyville, AB T9N 2H4

Tel: 780-545-7071 | Fax: 780-826-6280

Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com

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Abby Horne

Sent: November 12, 2019 8:13 AM

To: cgreen@athabasca.com

Subject: FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Importance: High

Good Morning Caitlin,

I had sent the email below to Norm, but received an email that he will not be back to the office until November 18, 2019. Is there anyone else I can reach out to concerning our request?

Thank you,

Abby



Abby Horne | Aggregate Resource Planner

JMB Crushing Systems Inc.

Box 6977 Bonnyville, AB T9N 2H4

Tel: 780-545-7071 | Fax: 780-826-6280

Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com

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Abby Horne

Sent: November 12, 2019 8:06 AM

To: ndewet@athabascacounty.com

Subject: FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Importance: High

Good Morning,

As a follow up to the email sent yesterday and that the government is relaying that this is up to the county, I thought I would lay out exactly what we require and where the responsibility would lay.

- An addendum to our existing agreement for the road allowance between NE 13-65-18-W4M and NW 18-65-17-W4M
- This addendum would be an agreement for the area shown in the map attached (Road Allowance – Ice Bridge).
- The addendum would be a temporary agreement for November 13th, 2019 to January 14th, 2020.
- JMB Crushing Systems Inc. would assume full responsibility for the structure and the area identified in the attached maps.

As we are in a bit of a tight bind with trying to provide our customers with product we would greatly appreciate your consideration. Please feel free to comment with any questions or additional concerns.

Thank you,
Abby



Abby Horne | Aggregate Resource Planner

JMB Crushing Systems Inc.

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Tel: 780-545-7071 | Fax: 780-826-6280

Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com

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Abby Horne

Sent: November 11, 2019 12:46 PM

To: 'county@smokylakecounty.ab.ca' <county@smokylakecounty.ab.ca>

Subject: FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Importance: High

Good Afternoon,

As a follow up to our conversation last week, I have included below JMBs conversation with Jenn Bowlby (Lands Officer, GOA) and Guy Hancock (Senior Water Administrator, GOA) for further clarification/information.

As per Jenn's email below we are to obtain an agreement from the Smoky Lake County for the ice bridge crossing as it is on your Road Allowance. Additionally, for the portion that is not in the road allowance we will be submitting a TFA to the government for approval.

Please let me know what further thoughts you have on this matter or if you have additional questions or comments.

I look forward to hearing back from you.

Best Regards,



**Abby Horne | Aggregate Resource Planner
JMB Crushing Systems Inc.**

Box 6977 Bonnyville, AB T9N 2H4

Tel: 780-545-7071 | Fax: 780-826-6280

Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com

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Jennifer Bowlby <Jennifer.Bowlby@gov.ab.ca>

Sent: November 8, 2019 2:38 PM

To: Abby Horne <abbyhorne@jmbcrush.com>

Cc: Guy Hancock <Guy.Hancock@gov.ab.ca>

Subject: RE: Derek's - FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Hi Abby,

So are you planning to apply on crown land and therefore DLO051854 or have you determined that you are remaining on the developed road allowance? With DLO051854 you would require consent and some sort of agreement between the two of you. As mentioned before, you will not require a TFA if solely on the municipal road allowance. Also, it is advisable that you relay your intent with the other users in the area as you are not the only one travelling down that corridor. There has been conflict in the past regarding this crossing with other users.

Regards,

Jenn Bowlby

Lands Officer UAR

Alberta Environment and Parks

From: Abby Horne <abbyhorne@jmbcrush.com>

Sent: Friday, November 08, 2019 2:17 PM

To: Jennifer Bowlby <Jennifer.Bowlby@gov.ab.ca>

Subject: FW: Derek's - FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Importance: High

Good Afternoon Jenn,

With the clarification from Guy Hancock is it possible to move forward with a TFA?

Thank you,

Abby



**Abby Horne | Aggregate Resource Planner
JMB Crushing Systems Inc.**

Box 6977 Bonnyville, AB T9N 2H4

Tel: 780-545-7071 | Fax: 780-826-6280

Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com

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From: Guy Hancock <Guy.Hancock@gov.ab.ca>
Sent: November 8, 2019 2:11 PM
To: Abby Horne <abbyhorne@jmbcrush.com>
Cc: Muhammad Aziz <muhammad.aziz@gov.ab.ca>; Jennifer Bowlby <Jennifer.Bowlby@gov.ab.ca>
Subject: RE: Derek's - FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

It kicked back at me, so lets try again.

Guy Hancock
Senior Water Administration Officer
Upper Athabasca Region
Environment and Parks
Box 4240
Suite 1 250 Diamond Avenue
Spruce Grove Alberta T7X 3B4
Telephone 780.960.8638
Cell 780.499.1743
Fax: 780.960.8605

From: Guy Hancock
Sent: Friday, November 08, 2019 2:09 PM
To: 'abbyhorne@jmbcrush.com' <abbyhorne@jmbcrush.com>
Cc: Muhammad Aziz <muhammad.aziz@gov.ab.ca>; Jennifer Bowlby <Jennifer.Bowlby@gov.ab.ca>
Subject: RE: Derek's - FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M

Hello Abby,

Under section 1 of schedule 2 of the Water (Ministerial) Regulations you are exempt from obtaining an Approval under the Water Act. And, as this type of crossing is not noted in the Code of Practice for Watercourse Crossings you are not required to provide notice of this crossing under the Water Act.

It should be noted that only water/snow/ice can be used in the snow fill/ice bridge creation for this to be applicable. Snow mixed with soils which can cause turbidity and high TSS in the waterbody when the snow melts is not acceptable.

This does not mean you are exempt from obtaining authorization under the Public Lands Act. TFA's are part of the Public Lands Act not the Water Act.

Guy Hancock
Senior Water Administration Officer
Upper Athabasca Region
Environment and Parks
Box 4240
Suite 1 250 Diamond Avenue
Spruce Grove Alberta T7X 3B4
Telephone 780.960.8638
Cell 780.499.1743
Fax: 780.960.8605

From: Kathy Svenshek <Kathy.Svenshek@gov.ab.ca>
Sent: Friday, November 08, 2019 1:36 PM
To: Guy Hancock <Guy.Hancock@gov.ab.ca>
Cc: Muhammad Aziz <muhammad.aziz@gov.ab.ca>
Subject: Derek's - FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M
Importance: High

Good Afternoon Guy – can you please look into this and respond to Abby please? Thank you, Kathy

From: Abby Horne <abbyhorne@jmbcrush.com>
Sent: Friday, November 08, 2019 11:19 AM
To: Kathy Svenshek <Kathy.Svenshek@gov.ab.ca>
Cc: Tyler Pell <tylerpell@jmbcrush.com>
Subject: FW: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M
Importance: High

Good Morning Kathy,

I received an automated response from Derek Alexander that he is unavailable till November 29th. I had send him the email below and because this is a time sensitive matter for our company and you tell me who I can speak to on the matter below?

Thank you for your time!

Best Regards,
Abby



Abby Horne | Aggregate Resource Planner
JMB Crushing Systems Inc.
Box 6977 Bonnyville, AB T9N 2H4
Tel: 780-545-7071 | Fax: 780-826-6280
Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com
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Abby Horne

Sent: November 8, 2019 11:00 AM
To: Derek Alexander <Derek.Alexander@gov.ab.ca>
Cc: Jennifer Bowlby <Jennifer.Bowlby@gov.ab.ca>; Tyler Pell <tylerpell@jmbcrush.com>
Subject: Temporary Ice Bridge Crossing Between NE 13-65-18-W4M and NW 18-65-17-W4M
Importance: High

Good Morning Derek,

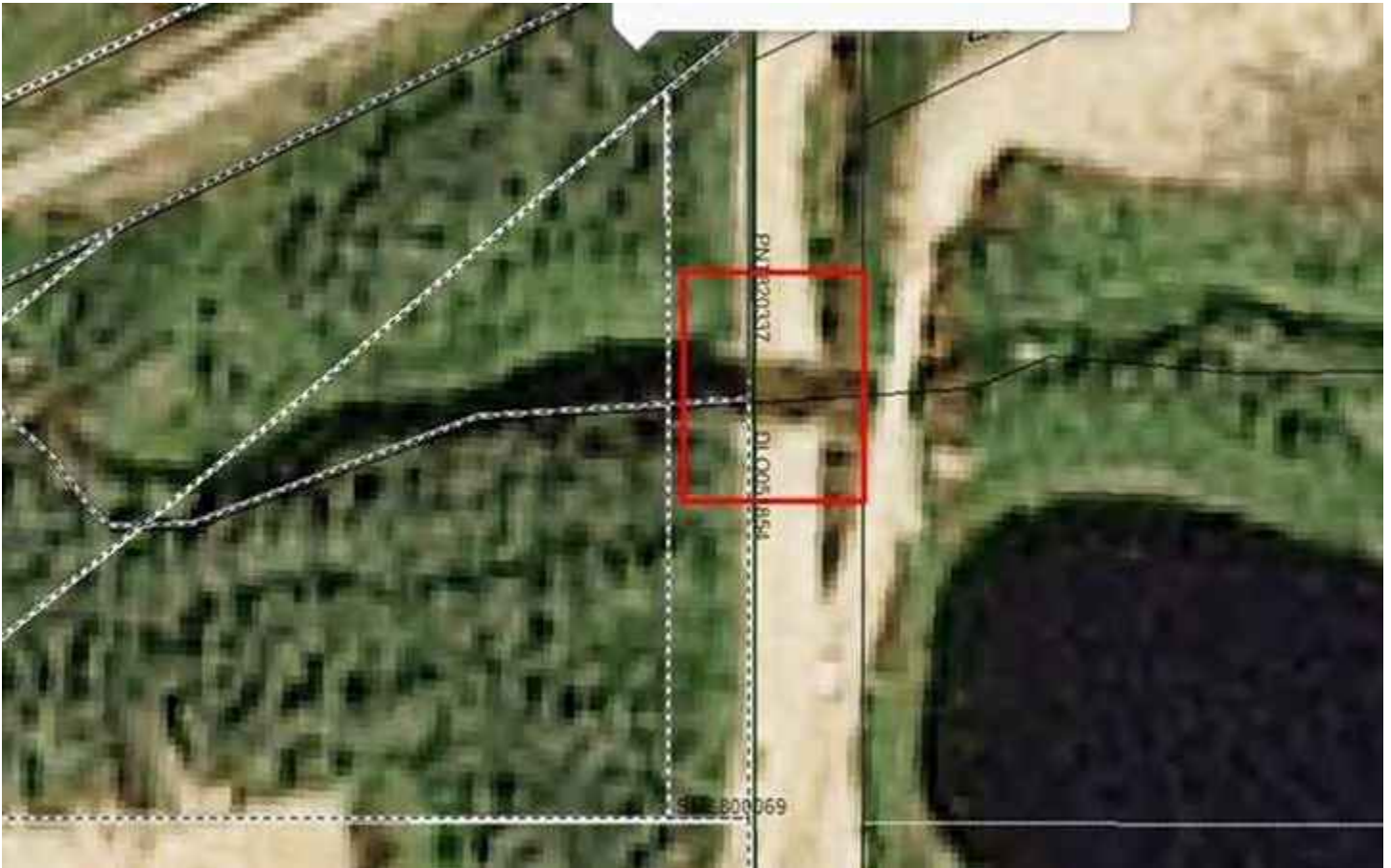
JMB Crushing Systems Inc. would like to create a temporary crossing (ice bridge on a fairly shallow crossing) from November 12th, 2019 to January 14th, 2020 between NE 13-65-18-W4M and NW 18-65-17-W4M. Previously we were using a bridge adjacent to this proposed ice bridge, but the owner has pulled the bridge as of the beginning of November (2019) and has left us with no access and in some financial turmoil as we have product that we cannot move out of SML 060060.

I have spoken to Jenn Bowlby (Lands Officer) and although according to the Water Ministerial Regulation, Section 1 of Schedule 2, it seems as though we are exempt from an approval and would not require a TFA as majority of the crossing

is on a government road allowance (We have been in contact with the county regarding this matter). Jenn has suggested I speak to you as there is some past history regarding this crossing. We would greatly appreciate your input into this matter as we would like to move this matter forward in a timely manner.

If have any questions or require additional information please feel free to contact me.

Below is approximate location of the proposed ice bridge crossing.



Best Regards,
Abby



Abby Horne | Aggregate Resource Planner
JMB Crushing Systems Inc.

Box 6977 Bonnyville, AB T9N 2H4

Tel: 780-545-7071 | Fax: 780-826-6280

Email: abbyhorne@jmbcrush.com | Website: www.jmbcrush.com

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Appendix 9 – Site Photos (2021/2022)



Photo 1: Waterbody looking east



Photo 2: Waterbody looking west



Photo 3: Erosion along the south boundary



Photo 4: Wetland to the northwest of the SML where the ditch drains. Looking south.



Photo 5: Ditch looking south



Photo 6: Ditch looking north, slumping along ditch.



Photo 7: Erosion/slumping within ditch



Photo 8: Erosion along the southwest boundary.



Photo 9: Overburden stockpile in south of SML to be stripped and used for backfilling the waterbody. Looking east.



Photo 10: Overburden stockpile in south of SML to be stripped and used for backfilling the waterbody. Looking west..



Photo 11: Black spruce stand (g1 ecosite) west of the SML, looking south.



Photo 12: White spruce and trembling aspen stand (e2 ecosite) west of the SML, looking south.



Photo 13: Trembling aspen and white spruce stand (d1 ecosite) east of the SML, looking east.



Photo 14: Vegetation establishment in the wetland, August 2021



Photo 15: Sedimentation depths in the wetland



Photo 16: Vegetation in south deposition area, August 2021



Photo 17: South deposition depths, August 2021



Photo 18: Vegetation on topsoil stockpile, August 2021



Photo 19: Vegetation within ditch, August 2021



Photo 20: Placemark 3, August 2021



Photo 21: Placemark 4, August 2021



Photo 22: Placemark 5, August 2021



Photo 23: Placemark 6, August 2021



Photo 24: Topsoil recovered (previously buried by previous landowner) looking north, October 2022



Photo 25: Remediated ditch looking south, October 2022



Photo 26: Remediated ditch looking north, October 2022



Photo 27: Reggrading along south boundary looking northwest, October 2022

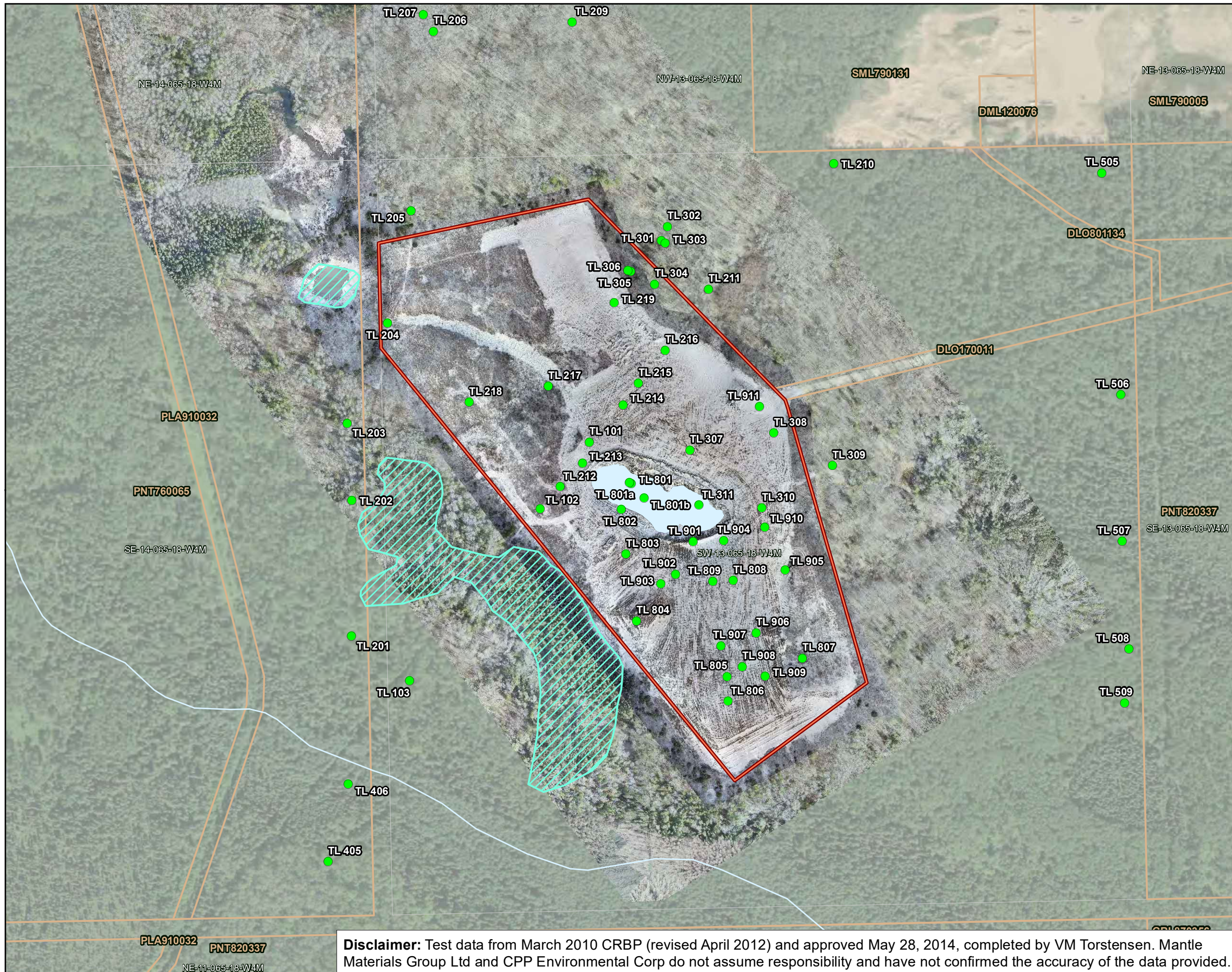


Photo 28: Drained waterbody, Oct 2022



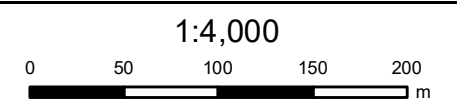
Photo 29: Pumping waterbody into identified discharge zone.

Appendix 10 – Aggregate Testing Data



- Test Hole
- Watercourse
- Wetland
- Waterbody
- SML060060 (16.74 ha / 41.37 ac)
- Disposition
- Legal Land Description

Source: Contains information licensed under the Open Government Licences – Canada, Alberta, Altalis and Maxar
 Imagery Acquisition Date: Aug 6, 2014 - Apr 21, 2021
 Coordinate System: NAD 1983 3TM 114



Disclaimer: Test data from March 2010 CRBP (revised April 2012) and approved May 28, 2014, completed by VM Torstensen. Mantle Materials Group Ltd and CPP Environmental Corp do not assume responsibility and have not confirmed the accuracy of the data provided.

Date: January 22, 2023
 Prepared by: T. Kjolrien



Test Hole Data -
Water Table Dept.

TABLE 1: TEST LOG
REF: ATTACHED SKETCH 1 'SAMPLE LOCATIONS'

TEST LOG	SUBSURFACE SOIL SAMPLES	MATERIALS CLASSIFICATION
SITE LOCATION:	SML 060060 PART OF SW13 065 18 W4M	J.L.G BALL ENT / GORD
TEST PLAN:	D TORSTENSEN	TORLAND / D TORSTENSEN
EQUIPMENT OPERATOR:	CRAIG	LOGS:
EQUIPMENT:	JD 270 TRACKED HOE	D TORSTENSEN 101-116 / GORD 217- 241
TESTING DATE(S):	MARCH 31, APRIL 2 & 3, 2009	

COORDINATES: UTM ZONE 12 GENERAL SOIL LITHOLOGY TS 0-10cm CLAYEY SAND; SS 0-20cm CLAY & SAND
DEPTH UNITS: FEET (+/- NEAREST UNIT) GENERAL TOPOGRAPHY MIXED MATURE TREES, HILLS. ELEVATION VARIANCE APPROX 20 FT

TL 101	TL 102	TL 103	TL 104	TL 105	TL 106	TL 107	TL 108	TL 109	TL 110
0397 000 E 6053 673 N	0396 939 E 6053 673 N	0396 989 E 6053 676 N	0397 021 E 6053 641 N	0397 022 E 6053 550 N	0396 939 E 6053 476 N	0396 916 E 6053 483 N	0396 893 E 6053 540 N	0396 827 E 6053 573 N	0396 836 E 6053 620 N
00 - 20 S	00 - 04 Pe 04 - 18 Gcs	00 - 12 S 12 - 17 Ps 17 - 19+ Gs	00 - 20 C	00 - 15 S 15 - 18 C	00 - 20 S	00 - 04 S 04 - 06 Fs 06 - 18+ Ps	00 - 13 S 13 - 18 S 18 - 00	00 - 09 SiS 09 - 18+ Fs 18+ - 00	00 - 03 S 03 - 20+ Gs 20+ - 00
00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00
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0396 888 E 6053 837 N	0396 835 E 6053 848 N	0396 870 E 6053 874 N	0396 914 E 6053 717 N	0396 912 E 6053 783 N	0396 950 E 6053 772 N	0396 965 E 6053 828 N	0396 992 E 6053 792 N	0396 859 E 6053 783 N	0396 786 E 6053 789 N
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00 - 00	W@12	W@10	On Ridge	W@18				W@15	
00 - 00								12-18 2-3' Rock	
TL 221	TL 222	TL 223	TL 224	TL 225	TL 226	TL 227	TL 228	TL 229	TL 230
0396 854 E 6053 818 N	0396 857 E 6053 894 N	0396 786 E 6053 907 N	0396 829 E 6053 843 N	0396 894 E 6053 966 N	0396 815 E 6053 995 N	0396 737 E 6053 717 N	0396 774 E 6053 704 N	0396 798 E 6053 708 N	0396 838 E 6053 700 N
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5-20 2-3' Rock	1-5 Big Gravel		W@6 16+ Smaller Rock			4-18 Big Rocks		18-Small Gravel	
TL 231	TL 232	TL 233	TL 234	TL 235	TL 236	TL 237	TL 238	TL 239	TL 240
0396 871 E 6053 741 N	0396 916 E 6053 697 N	0396 916 E 6053 832 N	0396 739 E 6053 977 N	0396 844 E 6053 985 N	0396 838 E 6053 924 N	0396 866 E 6053 871 N	0396 870 E 6053 793 N	0396 921 E 6053 437 N	0396 993 E 6053 482 N
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TL 241	TL 242	TL 243	TL 244	TL 245	TL 246	TL 247	TL 248	TL 249	TL 250
0397 066 E 6053 520 N	0000 000 E 0000 000 N	0000 000 E 0000 000 N	0000 000 E 0000 000 N	0000 000 E 0000 000 N	0000 000 E 0000 000 N	0000 000 E 0000 000 N	0000 000 E 0000 000 N	0000 000 E 0000 000 N	0000 000 E 0000 000 N
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01 - 02 F	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00
02 - 20 C	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00	00 - 00
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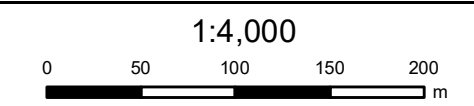
CRBP for SML 060060 March 2010, revised April 2012 Submitted to ASRD

LEGEND:				AGGREGATE PROFILE:			
Pe	Peat	CS	Clayey Sand	CSI	Clayey Silt	Sa (S)	Sand: estimated less than 20% gravel
T	Organic Top Soils	SSi	Sandy Silt	SIS	Silty Sand	Low (P)	Low gravel content: estimated 20-35% gravel
C	Clay	SIC	Silty Clay	SC	Sandy Clay	Med (F)	Medium gravel content: estimated 35-50% gravel
BR	Bedrock	SS	Sandstone			High (G)	High gravel content: estimated more than 50% gravel
W@	Water @ (level or range of the top of wet material)					Definer:	Gs G in Sand; Gsi G in Silt; Gc G in Clay
UTP	Unable to penetrate						Gsc G in Sandy clay; Gcs G in Clayey sand;

- TestHoleData
- Watercourse
- Wetland
- Waterbody
- SML060060 (16.74 ha / 41.37 ac)
- Disposition
- Legal Land Description



Source: Contains information licensed under the Open Government Licences – Canada, Alberta, Altalis and Maxar
 Imagery Acquisition Date: 2014 - 2022
 Coordinate System: NAD 1983 3TM 114



Disclaimer: Test data from March 2010 CRBP (revised April 2012) and approved May 28, 2014, completed by VM Torstensen. Mantle Materials Group Ltd and CPP Environmental Corp do not assume responsibility and have not confirmed the accuracy of the data provided.

Date: January 22, 2023
 Prepared by: T. Kjorlien



TEST DATA IN SUPPORT OF SML 060060

Test Logs:	VM Torstensen dated 9-13 Feb. & 4-5 Apr. 2006			
Location:	Crown Land SME050166 and SME060026 N1/2 2 E 1/2 11, SW 1/4 11, W 1/2 12, W 1/2 13 & E 1/2 14 of 65-18-W4			
Equipment:	Bobcat (tracked) Mounted Hydraulic Auger (6") capable of 60 foot depth.			
LEGEND:	Clay Silt Sand	Poor Gravel	less than 35% rock content	
		Fair Gravel	less than 35-50% rock content	
		Good Gravel	greater than 50% rock content	
		BedRock		
		Refusal	unable to penetrate	
Test Log #	GPS Location	Material Type	Depth (feet)	Comments
TL 101	N6053787 E396807	Cl FG G	00 - 11 11 - 14 14 - 26+	G below
TL 102	N6053718 E396752	Cl Sa Cl	00 - 14 14 - 17 17 - 28	
TL 103	N6053541 E396605	Cl	00 - 27	
TL 104	N6053186 E396257	Cl	00 - 24	
TL 105	N6052724 E396150	Cl	00 - 22	
TL 106	N6052055 E395406	Cl	00 - 22	
TL 201	N6053591 E396545	Cl some rock	00 - 18	
TL 202	N6053736 E396552	Cl Sa Cl	00 - 07 07 - 16 16 - 17	
TL 203	N6053818 E396550	Cl	00 - 22	
TL 204	N6053923 E396598	Sa SaCl Sa G	00 - 03 03 - 08 08 - 12	Ref
TL 205	N6054041 E396628	Sa	00 - 27	
TL 206	N6054231 E396660	Sa	00 - 27	
TL 207	N6054249 E396650	Sa	00 - 22	
TL 209	N6054235 E396808	Sa PG Cl	00 - 30 30 - 33 @ 33	
TL 210	N6054072 E397080	Sa	00 - 33	
TL 211	N6053944 E396941	Cl	00 - 22	
TL 212	N6053741 E396774	Sa Cl	00 - 12 12 - 25	
TL 213	N6053765 E396799	Cl PG G F G	00 - 08 08 - 11 11 - 17 17 - 21 21 - 33+	G below
TL 214	N6053825 E396845	SaCl Sa G P/FG FG CG	00 - 05 05 - 11 11 - 15 15 - 29 29 - 32 32 - 39	Ref
TL 215	N6053847 E396862	Sa G Sa PG Sa G	00 - 11 11 - 18 18 - 30 30 - 33 33 - 40 40 - 50+	G below
TL 216	N6053881 E396892	Sa G	00 - 41 41 - 50+	G below
TL 217	N6053848 E396766	Organics + Cl G Cl	00 - 30 30 - 36 36 - 42	
TL 218	N6053835 E396681	Sa	00 - 17	

CRBP for SML 060060 March 2010, revised April 2012 Submitted to ASRD

TL 219	N6053934 E396840	SaCl Sa PG FG G	00 - 08 08 - 12 12 - 21 21 - 28 28 - 47+	G below
TL 301	N6053998 E396893	Sa Cl	00 - 16 16 - 40	
TL 302	N6054013 E396900	Sa SaCl Cl	00 - 15 15 - 22 22 - 35	
TL 303	N6053995 E396897	Sa Cl	00 - 22 22 - 40	
TL 304	N6053952 E396884	Sa	00 - 40	
TL305	N6053967 E396859	Sa G PG G	00 - 28 28 - 33 33 - 44 44 - 47	G below
TL 306	N6053968 E396856	Cl Sa G	00 - 7 7 - 14 14 - 16	G below
TL 307	N6053774 E396914	Sa PG G	00 - 20 20 - 42 42 - 48	G below
TL 308	N6053788 E397004	Sa G	00 - 40 40 - 50	G below
TL 309	N6053751 E397065	Sa Cl	00 - 3 3 - 22	
TL 310	N6053709 E396988	Sa G Sa	00 - 13 13 - 15 15 - 50	
TL 311	N6053715 E396921	Sa FG Sa PG Sa PG Sa FG Sa	00 - 14 14 - 17 17 - 20 20 - 23 23 - 30 30 - 33 33 - 40 40 - 43 43 - 50	
TL 401	N6052592 E396965	SaCl G Sa	00 - 2 2 - 4 4 - 33	
TL 402	N6052698 E396962	Sa	00 - 32	
TL 403	N6052966 E396532	SaCl Cl some rock Cl	00 - 03 03 - 10 10 - 22	
TL 404	N6053143 E396538	Cl Cl Some rock Cl	00 - 17 17 - 19 19 - 24	
TL 405	N6053352 E396510	Cl G Cl	00 - 02 02 - 07 07 - 24	
TL 406	N6053434 E396535	Cl	00 - 25	
TL 410	N6052464 E396963	Sa PG Sa Sa below	00 - 04 04 - 08 08 - 40+	
TL 411	N6052297 E396522	Sa G Sa Sa below	00 - 01 01 - 06 06 - 30+	

CRBP for SML 060060 March 2010, revised April 2012 Submitted to ASRD

TL 412	N6052196 E396513	Sa G Sa G Sa G Sa Sa below	00 - 01 01 - 03 03 - 17 17 - 18 18 - 23 23 - 25 25 - 40+	
TL 413	N6051995 E396432	Sa Sa below	00 - 22+	
TL 414	N6051925 E396363	Sa G @ 1-3, 10-12 (@ 10-15 P/FG)	00 - 30	
TL 505	N6054050 E397365	Cl	00 - 20	
TL 506	N6053813 E397375	Cl Cl some rock Cl	00 - 15 15 - 17 17 - 25	
TL 507	N6053657 E397370	Cl G	00 - 12 12 - 25	
TL 508	N6053542 E397372	Sa/G G Sa Cl	00 - 01 01 - 04 04 - 09 09 - 23	
TL 509	N6053485 E397365	G Cl	00 - 05 05 - 25	
TL 801	N6053741 E396850	Sa G	00 - 08 08+	(some rock @ 2-4 ft. Ref)
TL 801a	N6053742 E396848	Sa G	00 - 02 02+	Ref
TL 801b	N6053725 E396863	Sand G	00 - 10 10 - 23+	Ref
TL 802	N6053714 E396838	Sa PG G Sa PG G PG/Sa G	00 - 04 04 - 09 09 - 11 11 - 13 13 - 16 16 - 22 22 - 24 24 - 26+	(some rock @ 4ft) (some Cl in Sa) G below
TL 803	N6053666 E396841	Sa PG G Sa/PG FG G	00 - 17 17 - 22 22 - 24 24 - 35 35 - 42 42 - 50+	(some Cl) (coarse @ 42ft-layers of PG @ 36-38ft) G below
TL 804	N6053594 E396849	Sa PG G PG Sa G	00 - 15 15 - 17 17 - 25 25 - 27 27 - 38 38 - 50+	G below
TL 805	N6053531 E396943	Sa FG Sa	00 - 05 05 - 09 09 - 50+	
TL 806	N6053505 E396943	Sa	00 - 32	(small pea G @ 0-4ft)
TL 807	N6053547 E397024	PG Cl SaCl Cl	00 - 05 05 - 09 09 - 12 12 - 25+	
TL 808	N6053633 E396954			Ref

TL 809	N6053633 E396932	Soil CG Sa G Sa	00-01 01-23 23-28 28-30 30-50+	
TL 810	N605364 E396920	Sa G Sa G Sa	00-04 04-20 20-40 40-42 42-50+	
TL 901	N6053676 E396913	Sa G	00-11 11-14+	Ref
TL 902	N6053642 E396893	Sa G	00-12 12-13+	
TL 903	N6053633 E396877	Sa G	00-17 17-19+	Ref
TL 904	N6053676 E396946	Soil G F/PG G PG/Sa G FG G	00-06 06-10 10-17 17-27 27-29 29-32 32-35 35-38+	G below
TL 905	N6053642 E397010	Sa G	00-42 42-50+	(1-2 ft Sa in layer)
TL 906	N6053576 E396976	Sa G Sa FG Sa FG	00-14 14-15 15-26 26-28 28-45 45-56+	G below
TL 907	N6053564 E396938	Sa G FG Sa FG Sa	00-09 09-14 14-19 19-27 27-29 29-50+	
TL 908	N6053541 E396960	Sa FG Sa G	00-09 09-11 11-40 40-50+	G below
TL 909	N6053530 E396984	Sa FG G	00-22 22-45 45-50+	G below
TL 910	N6053688 E396990	Sa G PG Sa	00-12 12-15 15-20 20-50+	
TL 911	N6053817 E396990	Sa G Sa	00-36 36-37 37-50+	

CRBP for SML 060060 March 2010, revised April 2012 Submitted to ASRD

Appendix 11 – Alberta Conservation Information Management System (ACIMS) and Fish and Wildlife Management Information Internet Mapping Tool (FWIMT) Documentation

Date: 21/1/2023

Requestor: Consultant

Reason for Request: Environmental Reporting

SEC: 13 **TWP:** 065 **RGE:** 18 **MER:** 4



■ Non-sensitive EOs (updated: June 2022)

M_RR_TTT_SS	EO_ID	ECODE	S_RANK	SNAME	SCOMNAME	LAST_OBS_D
-------------	-------	-------	--------	-------	----------	------------

No Non-sensitive EOs Found: Next Steps - See FAQ (<https://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/faqs.aspx#2> - Process).

■ Sensitive EOs (updated: June 2022)

M-RR-TTT	EO_ID	ECODE	S_RANK	SNAME	SCOMNAME	LAST_OBS_D
----------	-------	-------	--------	-------	----------	------------

No Sensitive EOs Found: Next Steps - See FAQ (<https://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/faqs.aspx#2> - Process).

Fish and Wildlife Internet Mapping Tool (FWIMT)

(source database: Fish and Wildlife Management Information System (FWMIS))

Species Summary Report

Report Date: 21-Jan-2023 16:13

Species present within the current extent

Fish Inventory

NORTHERN PIKE
WALLEYE
YELLOW PERCH

Wildlife Inventory

No Species Found in Search Extent

Stocked Inventory

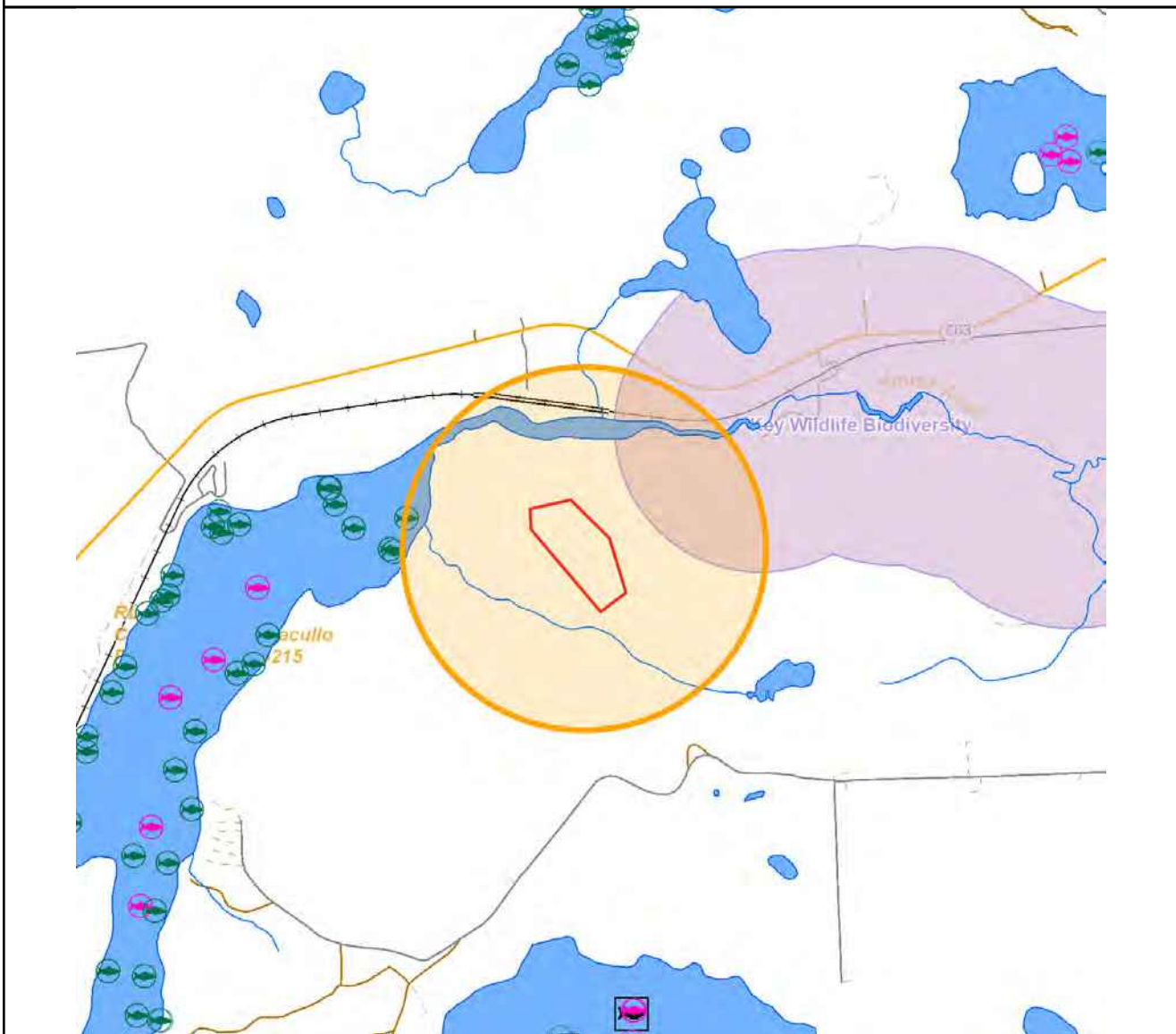
No Species Found in Search Extent

Buffer Extent

Centroid (X,Y)	Projection	Centroid (Qtr Sec Twp Rng Mer)	Radius or Dimensions
655077, 6052830	10-TM AEP Forest	SW 13 65 18 4	1 kilometers

Contact Information

For contact information, please visit:
<https://www.alberta.ca/fisheries-and-wildlife-management-contacts.aspx>



Display may contain: Base Map Data provided by the Government of Alberta under the Alberta Open Government Licence. Cadastral and Dispositions Data provided by Alberta Data Partnerships. (c)GeoEye, all rights reserved. Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use

This is **Exhibit "G"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14th day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

EPO-EPEA-35659-08 PLAN

SML 930040

(SE 23-061-07-W4M)

Mantle Materials Group, Ltd.

May 31, 2021

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12.3	Topsoil Placement.....	3
12.4	Revegetation.....	3
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APPENDIX A: Current Conditions Map

APPENDIX B: Cross-Section Map

APPENDIX C: Conceptual Reclamation Map

APPENDIX D: Cross-Sections

1 Introduction

This Plan is in response to EPO-EPEA-35659-08 on Surface Materials Lease (SML) 930040 and covers requirements in the order under number four Plan requirements.

Information from previous documents and site assessments for SML 930040 were used in the development of this Plan.

All garbage and debris on site will be removed prior to reclamation activities.

Nathan Polturak, Environmental Protection Officer with Alberta Environment & Parks was consulted in the development of the Plan.

2 Topography

SML 930040 is approximately one-kilometer upslope and east of the Mooselake River valley. The undisturbed area surrounding the SML is mostly level to nearly level.

3 Drainage

The SML is located within the Mooselake River valley and the area has an overall western aspect.

The SML and area surrounding are well-drained; as such no pooling of water was observed.

4 Soils

The soils in SE 23-61-7-W4M, based on the Agricultural Regions of Alberta Soil Inventory Database (AGRASID), are classified as Eluviated Butric Brunisols developed on very coarse textured (S, LS) sediments deposited by wind or water.

Based on site assessment on May 12, 2021 the following soil conditions were determined based on the undisturbed areas of the SML:

Table 1: 2021 Soil Conditions

Material	Average Thickness (cm)	Texture
Topsoil	3.5	Loamy Sand, Loam
Subsoil	18+	Sand

5 Vegetation

A portion of the SML has been undisturbed in the west and northwest area. The undisturbed portion of the SML is forested consisting primarily of Jack Pine with prickly rose, blueberry, bearberry, lichen, and moss. The jack pine in this area have been severely affected by dwarf mistletoe.

No weeds were observed within the SML during the May 12th, 2021, site assessment.

6 Land Capability

The Canadian Land Inventory (CLI) classification for Forestry has been classed SML 930040 as a Class 4, Subclass X for 90% and Class 6, Subclass W for 10% for most of the SML. A small western portion of the SML is classified as a Class 7 with subclass WH. Class 4 lands have moderate limitations to the growth of commercial forests including some soils with moisture deficiency. Class 6 is lands having severe limitations to the growth of commercial forests including soils that have excess moisture. Class 7 is lands having severe limitations which preclude the growth of commercial forests with excess moisture with low temperatures.

7 History of Surface, Subsurface, Groundwater Disturbance

Typical disturbance of surface and subsurface has occurred as part of the excavation of insitu aggregate.

The total disturbed area is 0.51 hectares. While most of the SML has been disturbed, no issues with erosion were observed.

Overall drainage of the SML is aligned with the surrounding area; no water is being impounded in any of the low-lying areas of the SML.

8 Adjacent Land Use

The adjacent land uses include oil and gas, and two gravel pits: SML 840073 and SML 860002.

9 Marketable Aggregate

No marketable material is on site.

10 End Land Use

The end land use of SML 930040 is proposed as a forested upland wildlife habitat.

To ensure the targeted end land use is reached, large boulders will be strategically placed to block access to the reclaimed areas of the SML.

11 Reclamation Objective

The reclamation objective is to satisfy the EPO requirements and work towards receiving a reclamation certificate and cancellation of the SML.

12 Reclamation Activities

Once the EPO Plan is approved, final reclamation activities will begin as presented in this plan.

12.1 Equipment Types

Typical hydroseeding machinery will be utilized in the revegetation strategies of the reclamation activities.

Small equipment such as a skid steer and small excavator will be used to complete the earth works portion of the reclamation activities.

12.2 Recontouring

Recontouring will be completed using onsite native materials. All internal slopes and slopes along the boundary will be recontoured to slopes no greater than 6:1.

12.3 Topsoil Placement

Topsoil placement will target, at a minimum, 80% of the pre-disturbance thickness. This is based on the industry norm of expected soil losses during soil handling activities.

The topsoil piles are labeled on the current conditions map as "TS#". The total volume of topsoil is approximately 120 m³.

Based on the area requiring topsoil and the volume of topsoil available, there is a shortfall of 1 cm. Since topsoil availability is minimal within the SML, hydroseeding with native seed mixture is proposed as an alternative to hauling in topsoil. Together with the topsoil on site, hydroseeding will provide a growing medium for the native seed to establish in the bare areas of the SML.

The disturbed area requiring topsoil and hydroseed is 0.51 hectares.

12.4 Revegetation

Revegetation will occur through natural ingress of native species and the seeding of native seed via hydroseeding over the available topsoil. Recommended seed will be based on Native Plant Revegetation Guidelines for Alberta¹ for the for the Dry Mixwood natural sub-region.

¹ Government of Alberta. 2001. Native Plant Revegetation Guidelines for Alberta. Agriculture, Food and Rural Development Department. <http://www.environment.gov.ab.ca/info/library/6155.pdf>

Mantle is currently working with a reclamation services company on a hydroseed and a native seed prescription for reclamation.

13 Monitoring and Maintenance Program – Six Months

As per the EPO requirements a six-month monitoring and maintenance program will be implemented after final reclamation is completed.

The program scope will cover the completed reclamation activities under the EPO and will monitor the success of the implemented activities and identify the need for any maintenance to meet the objectives of the Plan.

Monitoring of the following will occur:

- Soil stability and signs of erosion
- Surface drainage compared to plan
- Seed germination success
- Weed occurrences.

Maintenance activities required to address any issues found in the monitoring portion of the program will be implemented in the applicable season. They could include, but not limited to:

- Corrective earthworks (summer, fall)
- Additional seeding (spring, summer)
- Spraying or pulling of weeds (summer)

If the reclamation activities are completed shortly before winter conditions, the monitoring and maintenance will commence in the spring and summer of the following year as part of the EPO requirements and as part of the Surface Material Lease conditions that go towards receiving a reclamation certificate and eventual cancellation of the Surface Material Lease.

14 Schedule

Table 2: Schedule of Activities for SML Reclamation

Year	Activity covered under EPO or Surface Material Lease (SML)	Description	Completion Date
2021	EPO	Removal of garbage and debris. Complete the recontouring, hydroseeding, and block access by October 31 st .	Oct 31 st
2022	EPO	Begin six-month monitoring requirement as per the EPO	May 1 st to October 31 st
2022	EPO	Assess soil stability, revegetation success, and check for the presence of weeds.	July 15 th
2022	EPO	Address any shortfalls discovered from the assessment.	Sept 20 th
2023	SML	Assess the soil stability after spring thaw.	May 15 th
2023	SML	Assess vegetation success and survey for the presence of weeds.	July 1 st
2023	SML	Apply for reclamation certificate that will go towards cancellation of the Surface Materials Lease.	Nov 1 st

15 Closure

The EPO Plan has been prepared by Tyler Pell RPFT, Aggregate Resource Manager, Mantle Materials Group, Ltd.


Tyler Pell, RPFT

Appendix A: Current Conditions Map

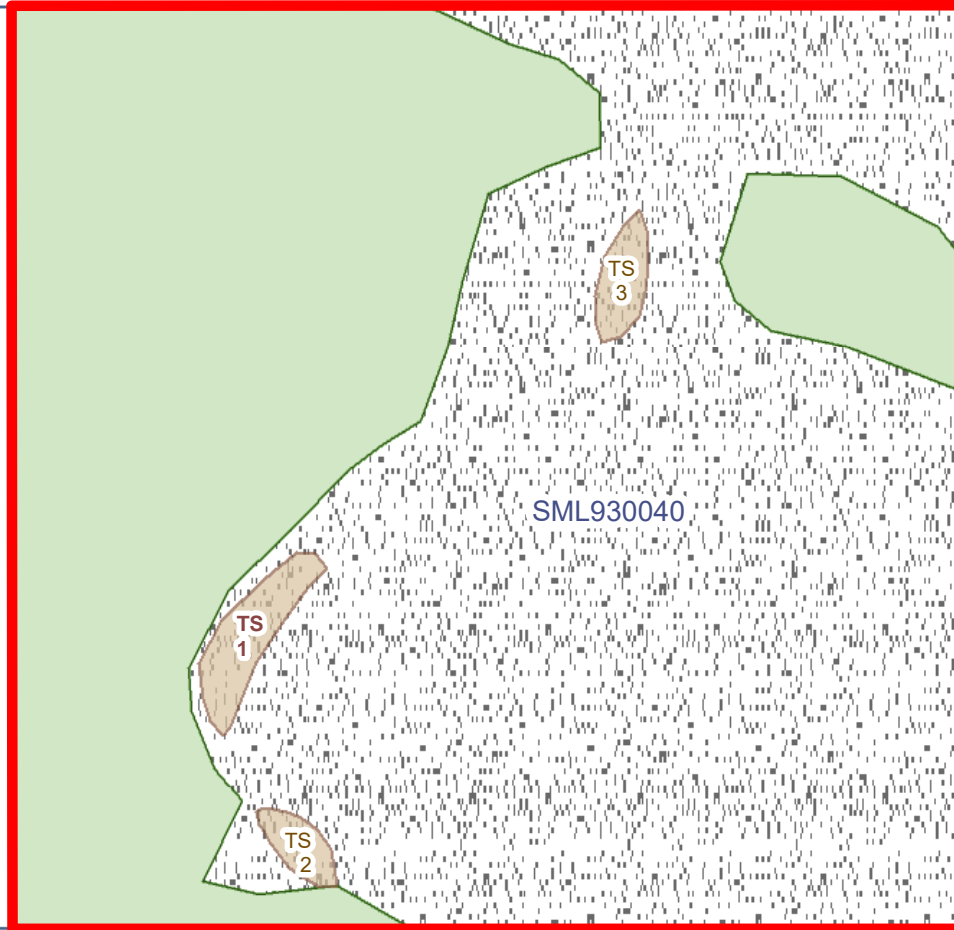
NE23
61-7-4

NW24
61-7-4

DLO880883

SE23
61-7-4

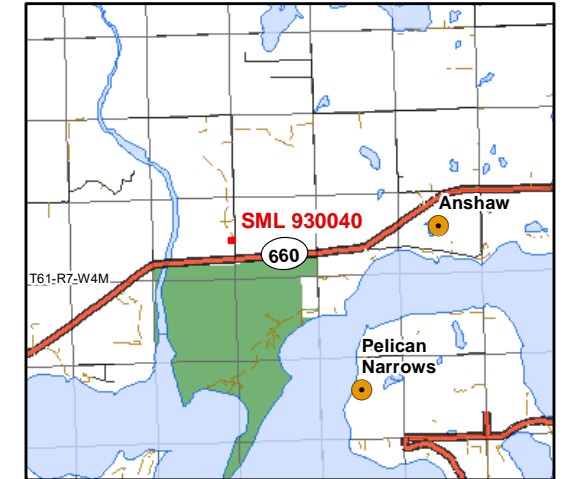
SW24
61-7-4








SML840073

MANTLE MATERIALS
GROUP LTD.
SML9340040
Current Conditions

M.D. of Bonnyville No. 87
WITHIN:
SE 23 TWP 61 RGE 7 W4M



LEGEND

-  SML930040
-  Disposition
-  Topsoil Pile
-  Undisturbed (0.36 Ha \ 0.89 Ac)
-  Disturbed (0.51 Ha \ 1.26 Ac)

DATE:
May 29, 2021

BEARINGS:
Decimal Degrees
North Azimuth

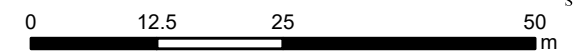
DRAWN BY:
49 North Geospatial

PROJECTION:
NAD83 UTM Zone 12N
Units in meters

VERSION:
1.0

DATUM:
NAD 1983

MAP SCALE
1:750



Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774

Appendix B: Cross-Section Map

NE23
61-7-4

NW24
61-7-4

DLO880883
⊙A1

⊙B1

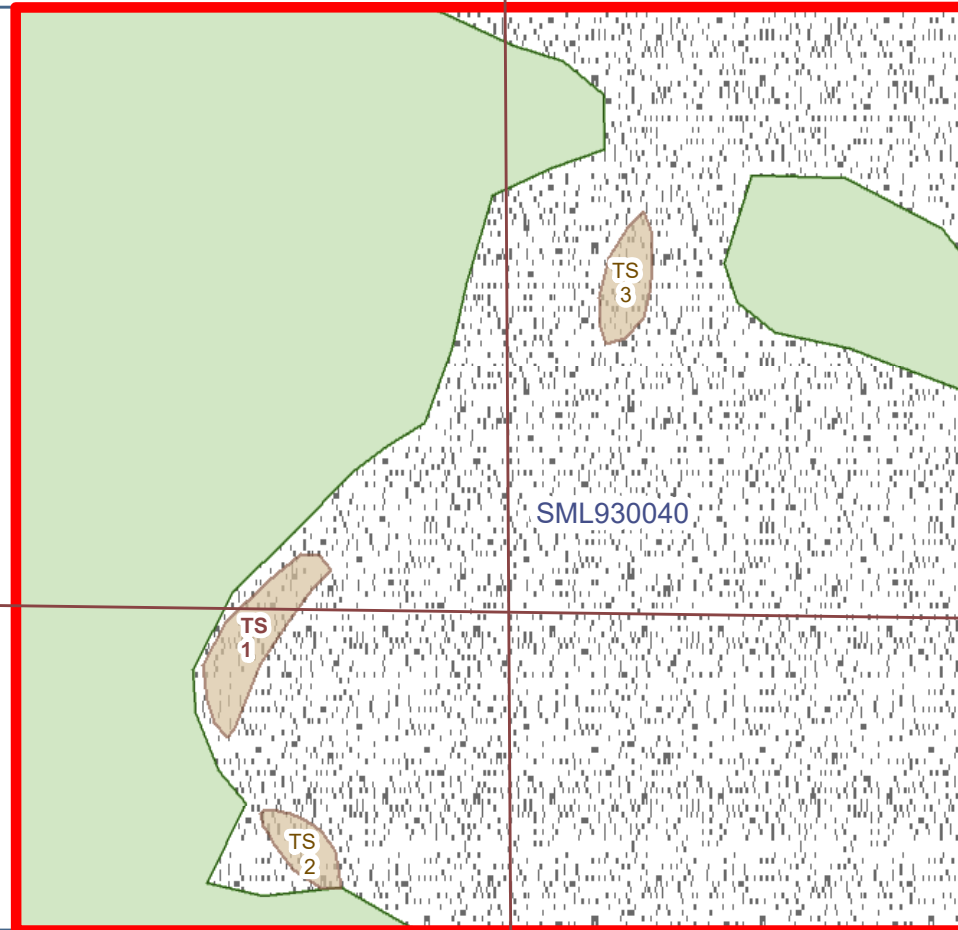
⊙B2

SE23
61-7-4

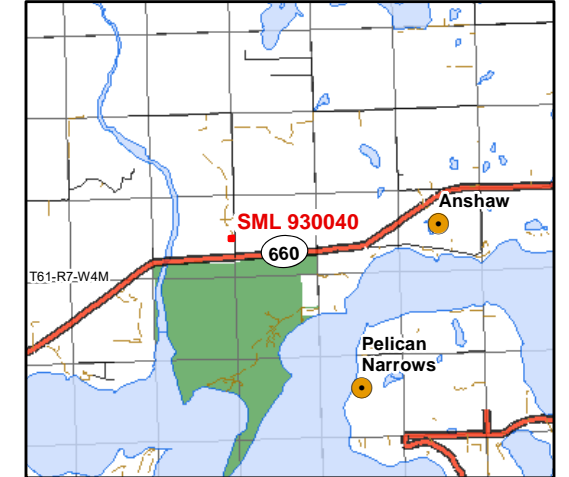
SW24
61-7-4

SML840073

⊙A2



MANTLE MATERIALS
GROUP LTD.
SML9340040
Cross Sections
M.D. of Bonnyville No. 87
WITHIN:
SE 23 TWP 61 RGE 7 W4M



LEGEND

- ⊙ Cross Section Station
- Cross_Section
- SML930040
- Disposition
- Topsoil Pile
- Undisturbed
- Disturbed

DATE:
May 30, 2021

BEARINGS:
Decimal Degrees
North Azimuth

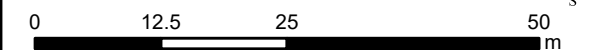
DRAWN BY:
49 North Geospatial

PROJECTION:
NAD83 UTM Zone 12N
Units in meters

VERSION:
1.0

DATUM:
NAD 1983

MAP SCALE
1:750

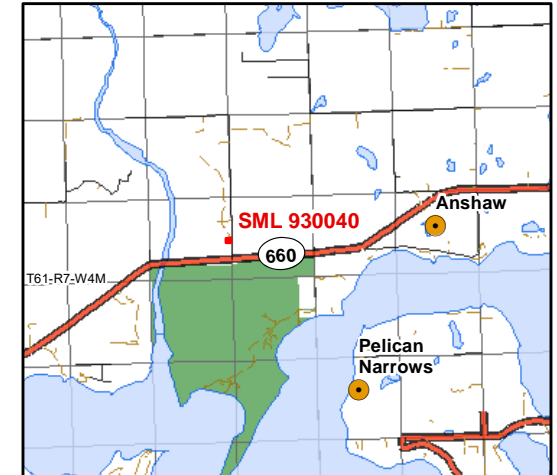


Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774

Appendix C: Conceptual Reclamation Map

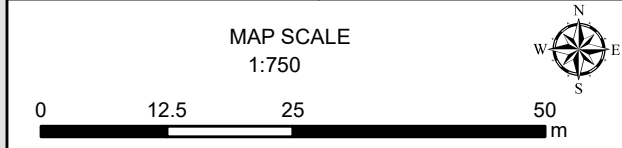


MANTLE MATERIALS
GROUP LTD.
SML9340040
Conceptual Reclamation
M.D. of Bonnyville No. 87
WITHIN:
SE 23 TWP 61 RGE 7 W4M



- LEGEND**
- Flow Arrow
 - SML930040
 - Disposition
 - Disturbed (0.51 Ha \ 1.26 Ac)

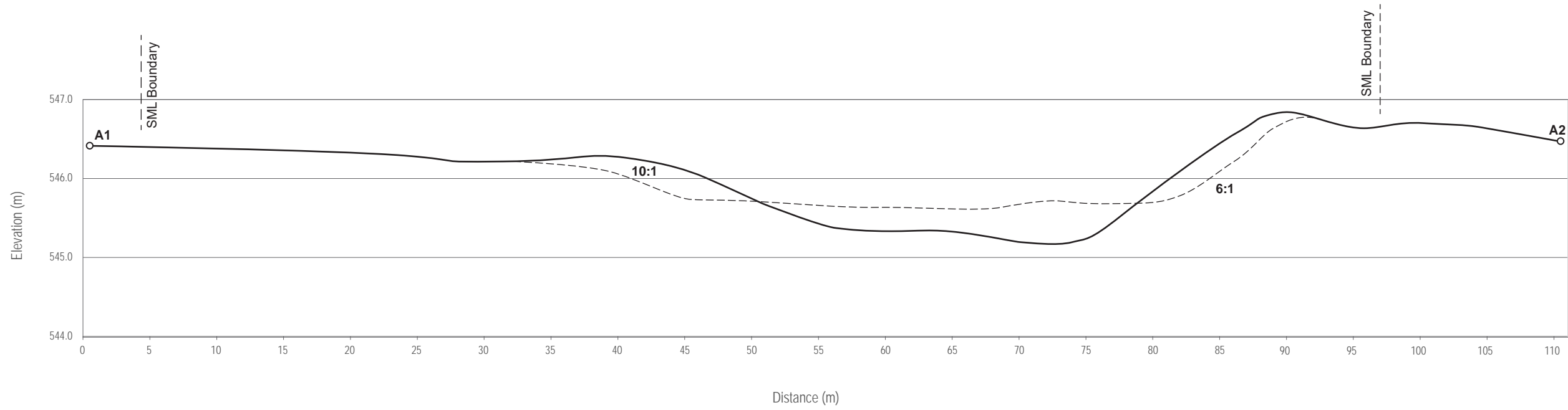
DATE: May 29, 2021	BEARINGS: Decimal Degrees North Azimuth
DRAWN BY: 49 North Geospatial	PROJECTION: NAD83 UTM Zone 12N Units in meters
VERSION: 1.0	DATUM: NAD 1983



Appendix D: Cross-Sections

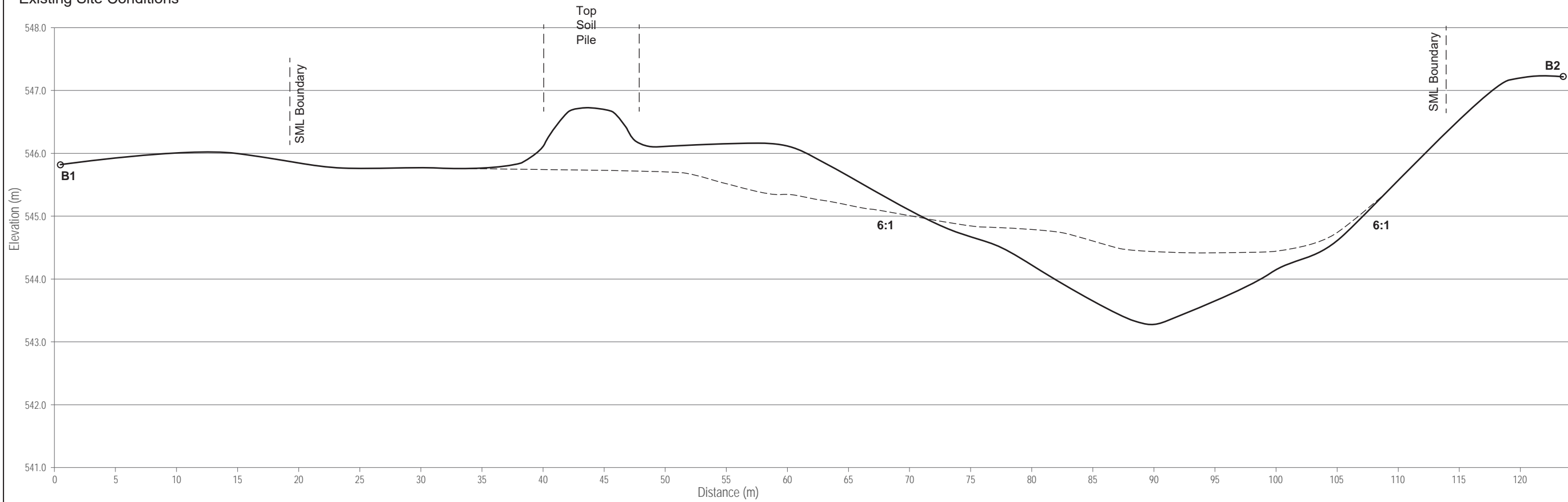
Cross Section A

Existing Site Conditions



Cross Section B

Existing Site Conditions



SML930040

Figure 1

Cross Section A
and
Cross Section B

M.D. of Bonnyville No. 87

WITHIN:

SEC 23 TWP 61 RGE 7 W4M

LEGEND

- Reclaimed Surface
- Excavated Surface
- Station

All Units in Metres / Variable Scale
Method of Data Capture (Profile): LiDAR 15
Coordinate System: NAD 1983, UTM Zone 12N
Created: May 23, 2021 By: 49 North Geospatial

This is **Exhibit "H"**
referred to in the Affidavit of Heather Dent
Sworn before me this **14** day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

EPO-EPEA-35659-09 PLAN

SML 980116

(SW 21-063-12-W4M)

Mantle Materials Group, Ltd.

May 31, 2021

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9	Marketable Aggregate.....	3
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APPENDIX A: Current Conditions Map

APPENDIX B: Cross-Section Map

APPENDIX C: Conceptual Reclamation Map

APPENDIX D: Cross-Sections

1 Introduction

This Plan is in response to EPO-EPEA-35659-09 on Surface Material Lease (SML) 980116 and covers requirements in the order under number four Plan requirements.

Information from the Conservation and Reclamation Plan (CORP), previous documents and site assessments for SML 980116 were used in the development of this Plan.

Nathan Polturak, Environmental Protection Officer with Alberta Environment & Parks was consulted in the development of the Plan.

2 Topography

SML 980116 sits on top of the valley break for the Beaver River approximately 0.1 kilometers southwest of the river. The topography of the SML is rolling (3 to 5 %) with some areas that are mostly level to nearly level. The north, north-east of the SML slopes towards the Beaver River. Whereas the south, south-west portion of the pit slopes away from the Beaver River, towards south, south-west.

3 Drainage

The SML sits mainly on top of the valley break and thus most of the SML has a southwest aspect which faces away from the Beaver River. Most of the disturbed area has been revegetated; no issues with erosion were observed.

The SML has a southwesterly aspect and ranges from well-drained to poorly drained. Pooling of water was observed in the central portion of the SML. The May 1999 CORP showed that a "slough" in the SML. Towards the center of the SML a small collection of water was observed in the May 2021 site assessment. Based on historical photos the water observed on site is more of a shallow seasonal waterbody.

4 Soils

The soils in SW 21-63-12-W4M, based on the Agricultural Regions of Alberta Soil Inventory Database (AGRASID), are classified as miscellaneous undifferentiated mineral soils, Chernozemic soils within a floodplain landform.

Based on site assessment on May 12th, 2021, the following soil conditions from the undisturbed area were determined:

Table 1: 2021 Soil Conditions

Material	Average Thickness (cm)		Texture
	Undisturbed	Disturbed/ Reclaimed	
Topsoil	6*	5	Silty Loam
Subsoil	15	15+	Sand & Gravel

* Topsoil was stated as 15 cm in the May 1999 CORP. Site assessment conducted in May 2021 determined the topsoil to be 6 cm.

5 Vegetation

The majority of the SML has been disturbed during the life of the pit. A portion of the disturbed area is “reclaimed” (Current Conditions Map) with well-established vegetation. There are varying stages of ingression of trees, from well-established to the seedling stage. The remaining disturbed areas are revegetated as well. There is Canada thistle on site.

The undisturbed portions of the SML are forested, consisting primarily of Spruce and Aspen with some Birch and alder. The understory includes prickly rose, strawberry, grass.

The area around the shallow seasonal waterbody within the SML includes willow, alder sp., common cattails, and grasses.

Revegetated areas include Spruce, Aspen, alder, prickly rose, grass sp., moss sp., sweet clover, and strawberry.

Canadian thistle was identified within the SML during the May 2021 site assessment.

6 Land Capability

The Canadian Land Inventory (CLI) classification for Forestry has been classed SML 980116 as a Class 4, Subclass X for 90% and Class 6, Subclass W for 10%. Class 4 lands have moderate limitations to the growth of commercial forests including some soils with moisture deficiency. Class 6 is lands having severe limitations to the growth of commercial forests including soils that have excess moisture.

7 History of Surface, Subsurface, Groundwater Disturbance

Typical disturbance of surface and subsurface has occurred as part of the excavation of insitu aggregate. Insitu aggregate was excavated to an unknown depth.

The total disturbance is 3.0 hectares, excluding the Licence of Occupation (LOC).

Overall drainage of the pit is still aligned with the surrounding area. There is a shallow seasonal waterbody in the SML.

8 Adjacent Land Use

The adjacent land uses include grazing leases as well as a gravel pit located directly east (SML 160050) of SML 980116 with highway 866 running along the west of the SML.

9 Marketable Aggregate

No marketable material is on site.

10 End Land Use

The end land use of SML 980116 is proposed as green zone grazing land that will support grazing operations under GRL 36298. It is expected that the area under this SML will be added to GRL 36298 once a reclamation certificate is received and the Surface Material Lease is cancelled.

In discussion with the adjacent GRL 36298, Shane Yakoweshen, the shallow seasonal waterbody is a good water source for livestock. As part of the final reclamation an improved dugout under a capacity of 2,500 m³ will be constructed to support livestock operations under GRL 36298. The remaining topsoil pile will be utilized in the dugout construction.

11 Reclamation Objective

The reclamation objective is to satisfy the EPO requirements and work towards receiving a reclamation certificate and cancellation of the Surface Materials Lease.

12 Reclamation Activities

Once the EPO Plan is approved, final reclamation activities will begin as presented in this plan.

12.1 Equipment Types

Small equipment such as a skid steer, small dozer, and small excavator will be used to complete the earth works portion of the reclamation activities.

12.2 Recontouring

Recontouring will use native materials on site as part of the dugout construction.

Final slopes on the overall land scape will be at least 6:1. The sloping on the sides of the dugout will be no steeper than 5:1 side-slopes and 4:1 for end-slopes¹.

12.3 Topsoil Placement

Topsoil throughout the disturbance has an average topsoil thickness of 0.05 m.

The topsoil pile is labeled on the current conditions map as "TS#". The total volume of topsoil is approximately 190 m³.

The topsoil pile will be utilized in finalizing the construction of the dugout and in any other shortfalls realized during construction.

12.4 Revegetation

Revegetation is currently occurring through natural ingression of native species. Any new disturbances from the dugout construction will be seeded with native seed once the topsoil is replaced.

Recommended seed will be based on the Native Plant Revegetation Guidelines for Alberta² for the Dry Mixwood natural sub-region.

13 Monitoring and Maintenance Program – Six Months

As per the EPO requirements a six-month monitoring and maintenance program will be implemented after final reclamation is completed.

The program scope will cover the completed reclamation activities under the EPO and will monitor the success of the implemented activities and identify the need for any maintenance to meet the objectives of the Plan.

Monitoring of the following will occur:

- Soil stability and signs of erosion
- Surface drainage compared to plan
- Seed germination success
- Weed occurrences.

¹ Government of Alberta. 2015. Quality Farm Dugouts. <https://open.alberta.ca/dataset/a55d220d-b8c7-405d-90b4-e216b7fa1776/resource/770e7737-9c69-455c-98f5-56c5cccfe589/download/716-b01.pdf>

² Government of Alberta. 2001. Native Plant Revegetation Guidelines for Alberta. Agriculture, Food and Rural Development Department. <http://www.environment.gov.ab.ca/info/library/6155.pdf>

Maintenance activities required to address any issues found in the monitoring portion of the program will be implemented in the applicable season. They could include, but not limited to:

- Corrective earthworks (summer, fall)
- Additional seeding (spring, summer)
- Spraying or pulling of weeds (summer)

If the reclamation activities are completed shortly before winter conditions, the monitoring and maintenance will commence in the spring and summer of the following year as part of the EPO requirements and as part of the Surface Material Lease conditions that go towards receiving a reclamation certificate and eventual cancellation of the Surface Material Lease.

14 Schedule

Table 2: Schedule of Activities for SML Reclamation

Year	Activity covered under EPO or Surface Material Lease (SML)	Description	Completion Date
2021	EPO	Complete dugout construction and topsoil placement by November 30 th	Nov 30 th
2022	EPO	Begin six month monitoring requirement as per the EPO	May 1 st to October 31 st
2022	EPO	Assess soil stability, revegetation success, and check for the presence of weeds.	July 15 th
2022	EPO	Address any shortfalls discovered from the assessment.	Sept 20 th
2023	SML	Assess the soil stability after spring thaw.	May 15 th
2023	SML	Assess vegetation success and survey for the presence of weeds.	July 1 st
2023	SML	Apply for reclamation certificate that will go towards cancellation of the Surface Materials Lease.	Nov 1 st

15 Closure

The EPO Plan has been prepared by Tyler Pell RPFT, Aggregate Resource Manager, Mantle Materials Group, Ltd.

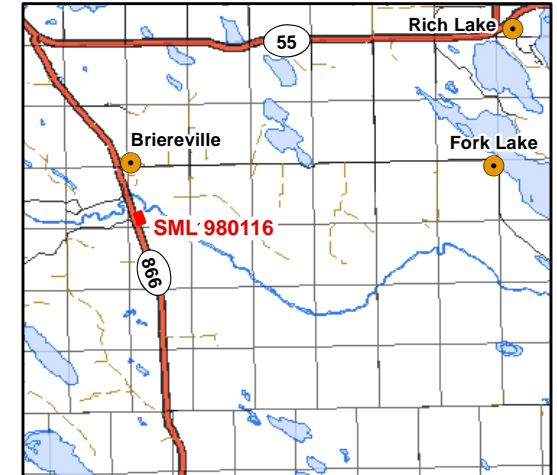


Tyler Pell, RPFT

Appendix A: Current Conditions Map

MANTLE MATERIALS
GROUP LTD.
SML980116
CURRENT CONDITIONS

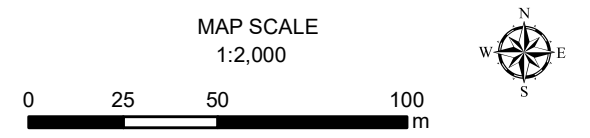
Lac La Biche County
WITHIN:
SEC 21 TWP 63 RGE 12 W4M



LEGEND

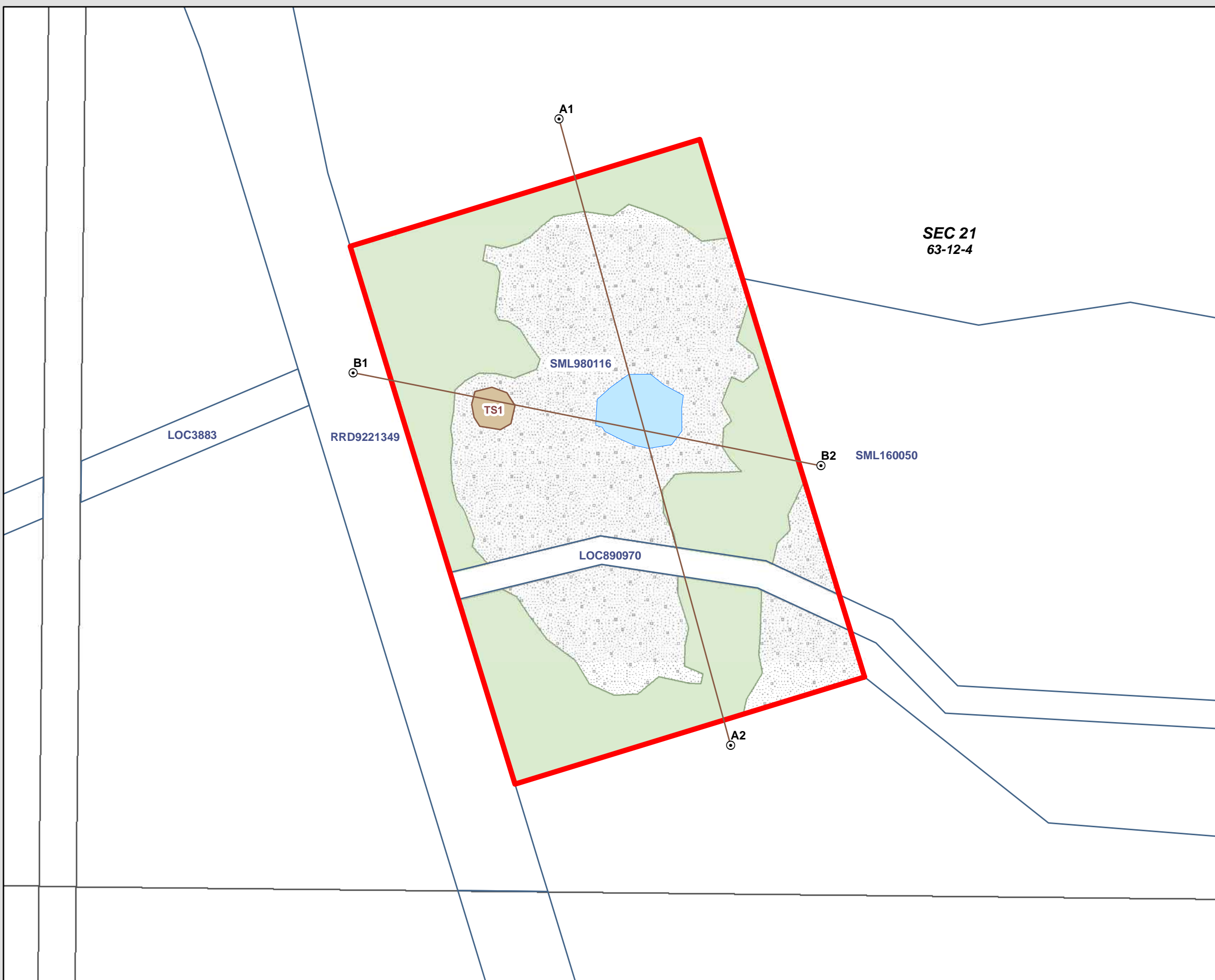
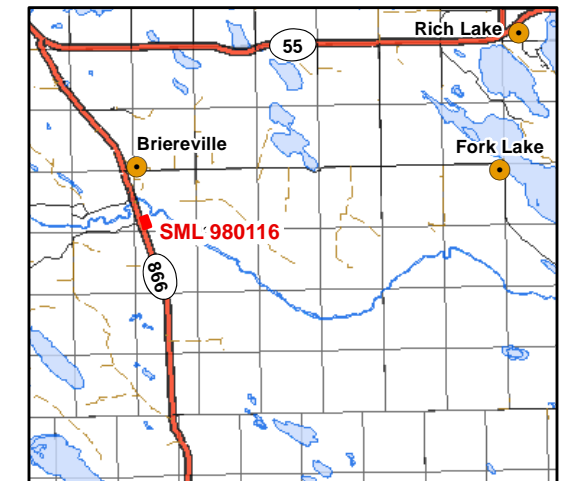
- SML980116
- Disposition
- Waterbody (0.14 ha \ 0.35 Ac)
- Topsoil Pile
- Reclaimed (0.75 Ha \ 1.85)
- Undisturbed (2.53 Ha \ 6.25)
- Disturbed (3.00 Ha \ 7.40)

DATE: May 29, 2021	BEARINGS: Decimal Degrees North Azimuth
DRAWN BY: 49 North Geospatial	PROJECTION: NAD83 UTM Zone 12N Units in meters
VERSION: 1.0	DATUM: NAD 1983



Appendix B: Cross-Section Map

MANTLE MATERIALS
GROUP LTD.
SML980116
Cross Sections
Lac La Biche County
WITHIN:
SEC 21 TWP 63 RGE 12 W4M



LEGEND

- ⊙ Cross Section Station
- Cross Section
- SML980116
- Disposition
- Waterbody
- Topsoil Pile
- Undisturbed
- Total Disturbance
- ATS

DATE:
May 29, 2021

BEARINGS:
Decimal Degrees
North Azimuth

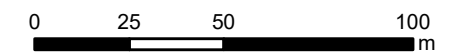
DRAWN BY:
49 North Geospatial

PROJECTION:
NAD83 UTM Zone 12N
Units in meters

VERSION:
1.0

DATUM:
NAD 1983

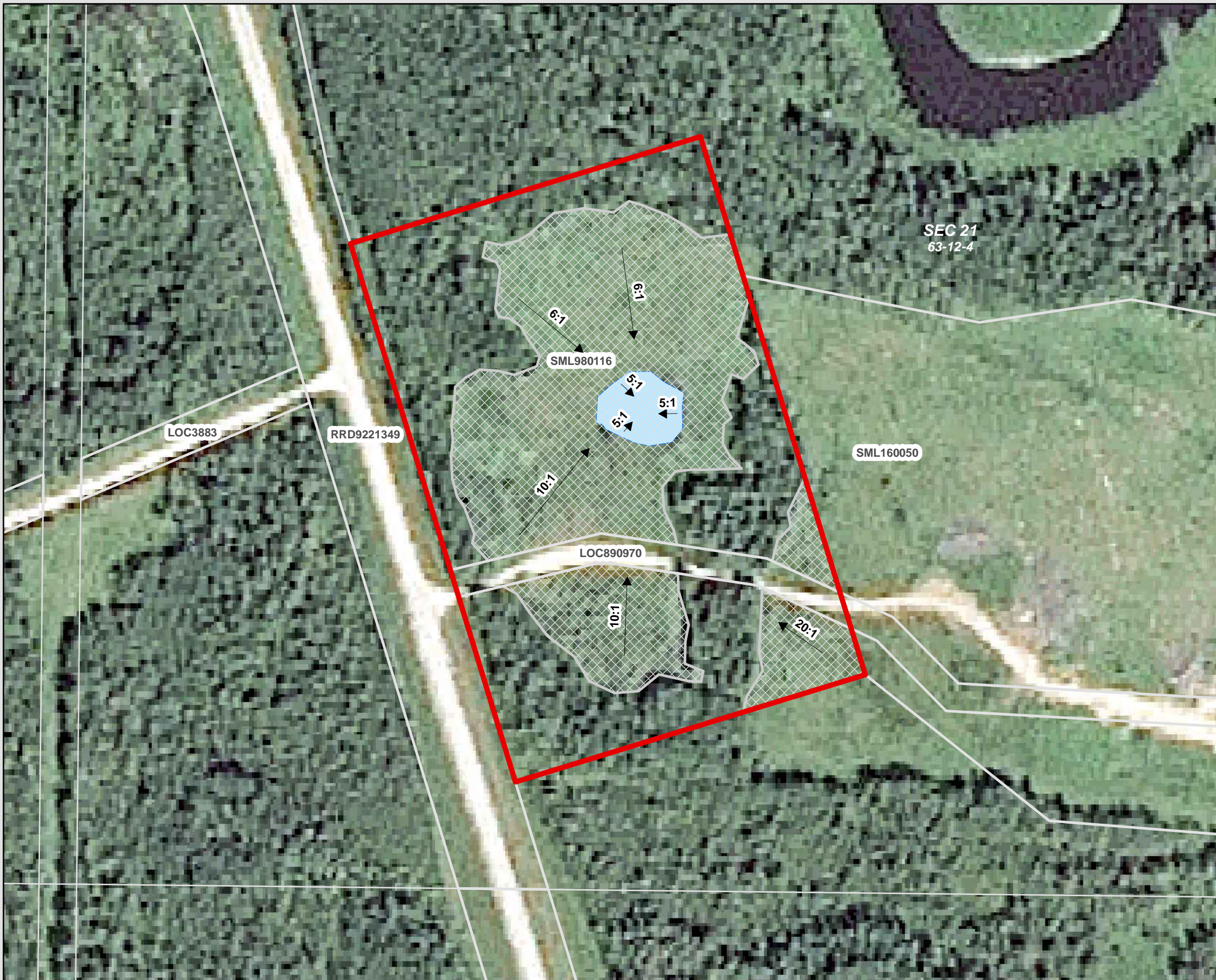
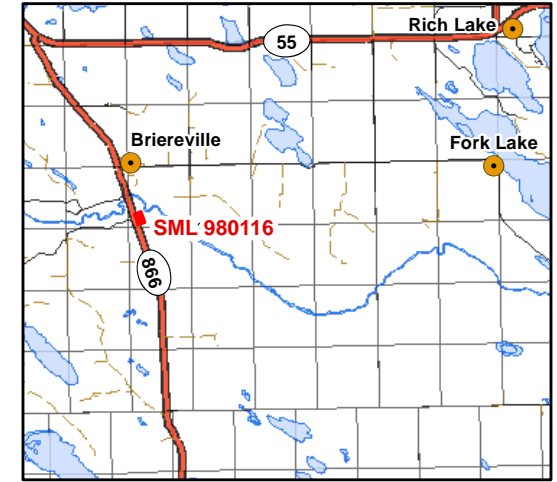
MAP SCALE
1:2,000



Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774

Appendix C: Conceptual Reclamation Map

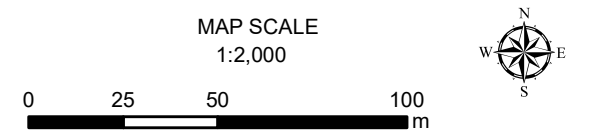
MANTLE MATERIALS
GROUP LTD.
SML980116
Conceptual Reclamation
Lac La Biche County
WITHIN:
SEC 21 TWP 63 RGE 12 W4M



LEGEND

- Flow Arrow
- ⊗ Total Disturbance (3.00 Ha \ 7.40 Ac)
- ▭ SML980116
- ▭ Disposition
- ▭ Waterbody
- ▭ ATS

DATE: May 30, 2021	BEARINGS: Decimal Degrees North Azimuth
DRAWN BY: 49 North Geospatial	PROJECTION: NAD83 UTM Zone 12N Units in meters
VERSION: 1.0	DATUM: NAD 1983

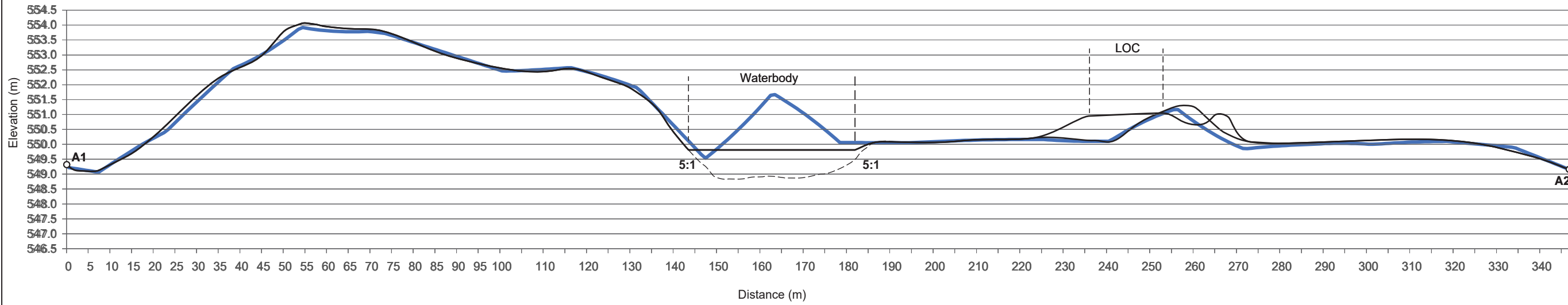


Mantle Materials Group Ltd.
P.O Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774

Appendix D: Cross-Sections

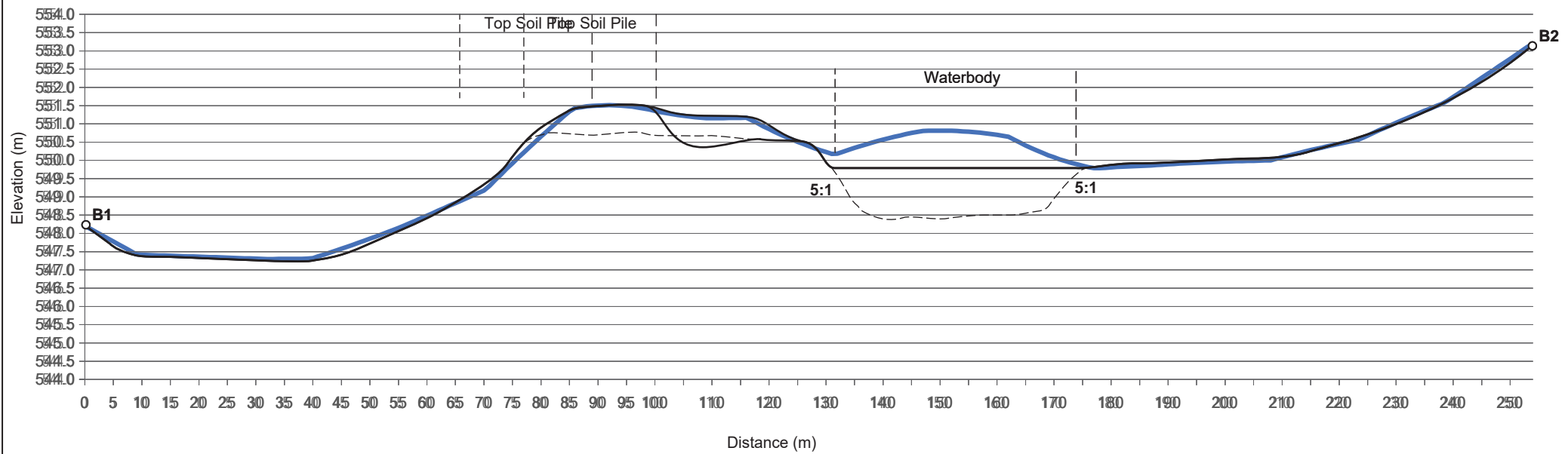
Cross Section A

Existing Site Conditions



Cross Section B

Existing Site Conditions



SML980116

Figure 1

Cross Section A
and
Cross Section B

Lac La Biche County

WITHIN:

SEC 21 TWP 63 RGE 12 W4M

LEGEND

- Reclaimed Surface
- Excavated Surface
- o Station

All Units in Metres / Variable Scale
Method of Data Capture (Profile): LiDAR 15
Coordinate System: NAD 1983, UTM Zone 12N
Created: May 23, 2021 By: 49 North Geospatial

This is **Exhibit "I"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

EPO-EPEA-35659-10 PLAN

SML 120027

(SW 30-063-08-W4M)

Mantle Materials Group, Ltd.

May 31, 2021

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3	Drainage.....	1
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6	Land Capability.....	2
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8	Adjacent Land Use.....	3
9	Marketable Aggregate.....	3
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APPENDIX A: Current Conditions Map

APPENDIX B: Cross-Section Map

APPENDIX C: Conceptual Reclamation Map

APPENDIX D: Cross-Sections

1 Introduction

This Plan is in response to EPO-EPEA-35659-10 on Surface Material Lease (SML) 120027 and covers requirements in the order under number four Plan requirements.

Information from previous documents and site assessments for SML 120027 were used in the development of this Plan.

Nathan Polturak, Environmental Protection Officer with Alberta Environment & Parks was consulted in the development of the Plan.

2 Topography

SML 120027 is level to nearly level. The general aspect of the SML is towards the east.

3 Drainage

The SML and adjacent lands have a general east aspect and are well-drained. No issues with pooling or impoundment of water were noted during the May 2021 site assessment.

4 Soils

The soils in SW 30-63-8-W4M, based on the Agricultural Regions of Alberta Soil Inventory Database (AGRASID), are classified as miscellaneous undifferentiated mineral soils and Chernozemic soils.

Based on site assessment on May 12, 2021 the following soil conditions were determined based on undisturbed areas in and surrounding the SML:

Table 1: 2021 Soil Conditions

Material	Average Thickness (cm)	Texture
Topsoil	4	Loamy Sand, Sand
Subsoil	25+	Sand

5 Vegetation

A large portion of the SML has been historically disturbed and is currently within the stages of revegetation. Portions of the SML are well revegetated, other portions are partially revegetated with some bare spots (lacking topsoil), and other spots are bare with no vegetation and no topsoil.

The small undisturbed portions of the SML include Jack Pine, alder, birch, prickly rose, bearberry, grass, lab tea, moss sp. and lichen sp.

The naturally revegetated areas including some of the partially revegetated areas include, jack pine, larch, alder, prickly rose, raspberry, grass sp., and moss sp. Woody debris was placed in these areas, successfully creating micro sites for other species.

No weeds were observed on the SML during the May 12th, 2021 site assessment.

6 Land Capability

The Canadian Land Inventory (CLI) classification for Forestry has been classed SML 120027 as a Class 7, Subclass WH for 70% and Class 5, Subclass MF for 30%. Class 7 lands have severe which preclude the growth of commercial forests including some soil moisture excess and low temperatures. Class 5 lands have moderately severe limitations to the growth of commercial forests including soil moisture deficiency and low fertility.

7 History of Surface, Subsurface, Groundwater Disturbance

Typical disturbance of surface and subsurface has occurred as part of the excavation of insitu aggregate. Insitu aggregate was excavated to an unknown depth.

The total disturbance is 1.53 hectares.

Overall drainage of the pit is still aligned with the surrounding area, no standing water was observed.

8 Adjacent Land Use

The adjacent land use includes oil and gas activity.

9 Marketable Aggregate

No marketable material is on site.

10 End Land Use

The end land use of SML 120027 is proposed as a forested upland wildlife habitat.

11 Reclamation Objective

The reclamation objective is to satisfy the EPO requirements and work towards receiving a reclamation certificate and cancellation of the Surface Materials Lease.

12 Reclamation Activities

Once the EPO Plan is approved, final reclamation activities will begin as presented in this plan.

12.1 Equipment Types

Typical hydroseeding machinery will be utilized in revegetation strategies of the reclamation activities.

Laborers with hand tools will be used to move woody debris across the site.

Recontouring

All recontouring for SML 120027 has been completed. No recontouring is required.

12.2 Topsoil Placement

Topsoil availability is minimal within the SML and any topsoil donor areas have established vegetation. As an alternative to disturbing the vegetation hydroseeding with native seed mixture is proposed as an alternative to hauling in topsoil. Hydroseeding will provide a growing medium for the native seed to establish in the bare areas of the SML.

The disturbed bare areas requiring hydroseeding are approximately 0.6 hectares in total.

Based on the undisturbed area and the target of 80% the topsoil (via hydroseeding) target for the bare areas will be approximately 0.003 m.

12.3 Revegetation

Revegetation has already occurred through natural ingression in several areas within the SML. Identified bare areas will be covered by hydroseeding. Recommended seed will be based on the Native Plant Revegetation Guidelines for Alberta¹ for the Dry Mixwood natural sub-region.

The following year, as a spring plant, conifer trees will be planted within the hydroseeded areas. Mantle is currently working with a tree supply and reclamation services company on a planting prescription for reclamation.

13 Monitoring and Maintenance Program – Six Months

As per the EPO requirements a six-month monitoring and maintenance program will be implemented after final reclamation is completed.

The program scope will cover the completed reclamation activities under the EPO and will monitor the success of the implemented activities and identify the need for any maintenance to meet the objectives of the Plan.

Monitoring of the following will occur:

- Soil stability and signs of erosion
- Surface drainage compared to plan
- Seed germination success
- Weed occurrences.

Maintenance activities required to address any issues found in the monitoring portion of the program will be implemented in the applicable season. They could include, but not limited to:

- Corrective earthworks (summer, fall)
- Additional seeding (spring, summer)
- Spraying or pulling of weeds (summer)

If the reclamation activities are completed shortly before winter conditions, the monitoring and maintenance will commence in the spring and summer of the following year as part of the EPO requirements and as part of the Surface Material Lease conditions that go towards receiving a reclamation certificate and eventual cancellation of the Surface Material Lease.

¹ Government of Alberta. 2001. Native Plant Revegetation Guidelines for Alberta. Agriculture, Food and Rural Development Department. <http://www.environment.gov.ab.ca/info/library/6155.pdf>

14 Schedule

Table 2: Schedule of Activities for SML Reclamation

Year	Activity covered under EPO or Surface Materials Lease (SML)	Description	Completion Date
2021	EPO	Complete hydroseeding on required areas.	Oct 31 st
2022	EPO	Plant conifer trees	June 30 th
2022	EPO	Begin six-month monitoring requirement as per the EPO	July 1 st to Nov 30 th
2022	EPO	Assess soil stability, revegetation success, and check for the presence of weeds.	July 15 th
2022	EPO	Address any shortfalls discovered from the assessment.	Sept 20 th
2023	SML	Assess the soil stability after spring thaw.	May 15 th
2023	SML	Assess vegetation success and survey for the presence of weeds.	July 1 st
2023	SML	Apply for reclamation certificate that will go towards cancellation of the Surface Materials Lease.	Nov 1 st

15 Closure

The EPO Plan has been prepared by Tyler Pell RPFT, Aggregate Resource Manager, Mantle Materials Group, Ltd.


Tyler Pell, RPFT

Appendix A: Current Conditions Map

SE25
63-9-4

SW30
63-8-4

RRD2654PX

EZE950156

LOC082444

SML120027

MSL083486

PLA110710

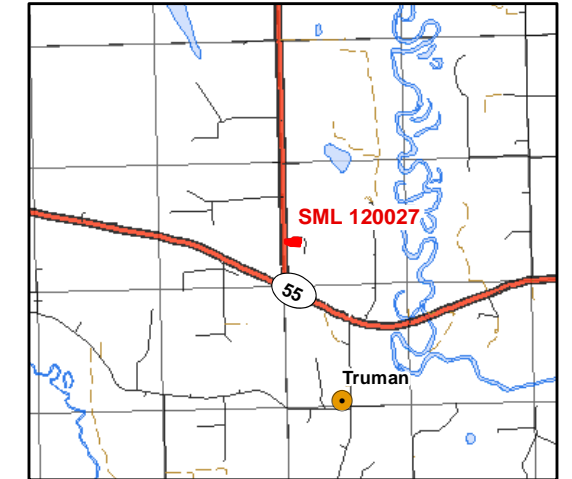
LOC112989

PLA131033








MSL113367

MANTLE MATERIALS
GROUP LTD.
SML120027
Current Conditions

M.D. of Bonnyville No. 87
WITHIN:
SW 30 TWP 63 RGE 8 W4M



LEGEND

-  SML120027
-  Disposition
-  Trespass
-  Bare Soil (0.40 Ha / 0.99)
-  Patchy Bare Soil (0.39 Ha / 0.97)
-  Undisturbed (0.16 Ha \ 0.40)
-  Disturbed (1.53 Ha \ 3.78)

DATE:
May 30, 2021

BEARINGS:
Decimal Degrees
North Azimuth

DRAWN BY:
49 North Geospatial

PROJECTION:
NAD83 UTM Zone 12N
Units in meters

VERSION:
1.0

DATUM:
NAD 1983

MAP SCALE
1:1,250

0 12.5 25 50
m



Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774

Appendix B: Cross-Section Map

SE25
63-9-4

SW30
63-8-4

RRD2654PX

EZE950156

LOC082444

MSL083486

PLA110710

A1

A2

SML120027

B1

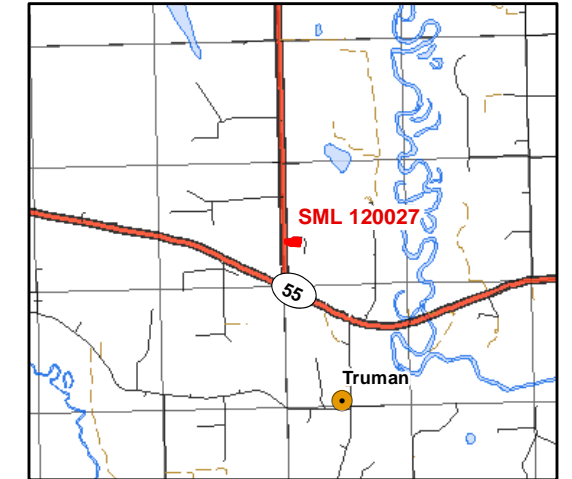
B2

LOC112989

PLA131033

MSL113367

MANTLE MATERIALS
GROUP LTD.
SML120027
Cross Sections
M.D. of Bonnyville No. 87
WITHIN:
SW 30 TWP 63 RGE 8 W4M



LEGEND

- ⊙ Cross Section Station
- Cross Section
- SML120027
- Patchy Bare Soil
- Bare Soil
- Disposition
- Undisturbed (0.16 Ha \ 0.40 Ac)
- Disturbed (1.53 Ha \ 3.78 Ac)

DATE:
May 30, 2021

BEARINGS:
Decimal Degrees
North Azimuth

DRAWN BY:
49 North Geospatial

PROJECTION:
NAD83 UTM Zone 12N
Units in meters

VERSION:
1.0

DATUM:
NAD 1983

MAP SCALE
1:1,250

0 12.5 25 50
m

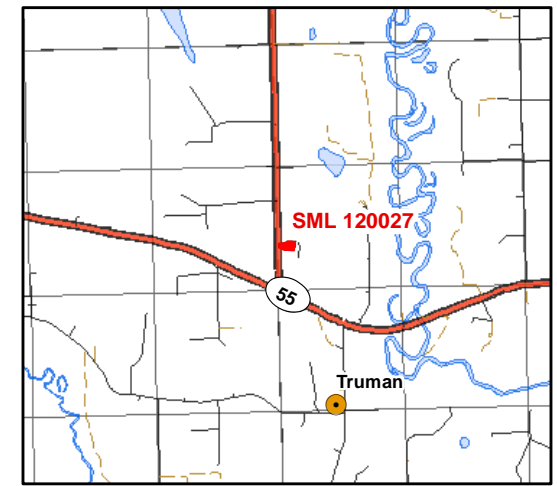


Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774

Appendix C: Conceptual Reclamation Map

MANTLE MATERIALS
GROUP LTD.
SML120027
Conceptual Reclamation

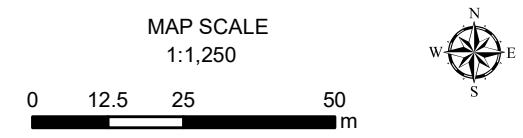
M.D. of Bonnyville No. 87
WITHIN:
SW 30 TWP 63 RGE 8 W4M



LEGEND

- Flow Arrow
- Disturbed (1.53 Ha \ 3.78 Ac)
- SML120027
- Disposition

DATE: May 28, 2021	BEARINGS: Decimal Degrees North Azimuth
DRAWN BY: 49 North Geospatial	PROJECTION: NAD83 UTM Zone 12N Units in meters
VERSION: 1.0	DATUM: NAD 1983

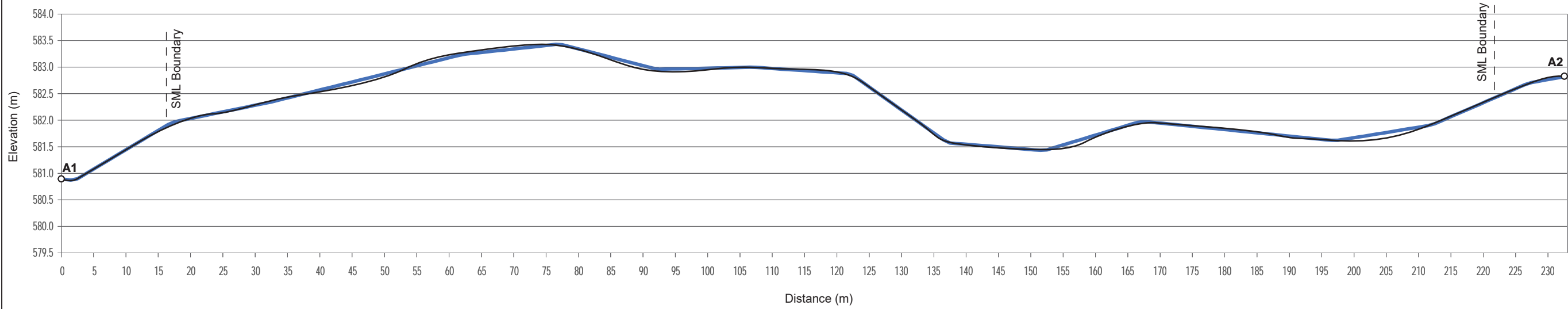


Mantle Materials Group Ltd.
P.O. Box 6977 Bonnyville, AB T9N2H4
Phone: (780)-826-1774

Appendix D: Cross-Sections

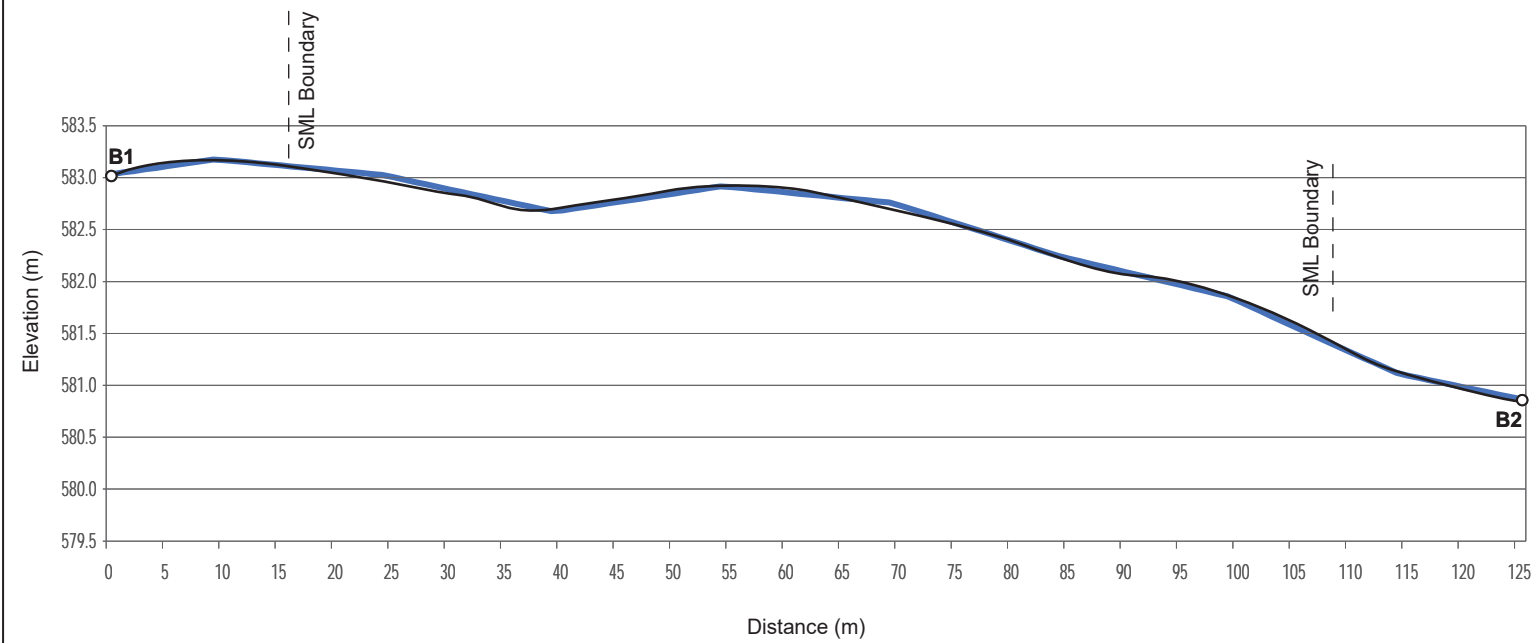
Cross Section A

Existing Site Conditions



Cross Section B

Existing Site Conditions



SML120027

Figure 1



Cross Section A
and
Cross Section B

Lac La Biche County

WITHIN:

SEC 21 TWP 63 RGE 12 W4M

LEGEND

-  Reclaimed Surface
-  Station

All Units in Metres / Variable Scale
Method of Data Capture (Profile): LiDAR 15
Coordinate System: NAD 1983, UTM Zone 12N
Created: May 23, 2021 By: 49 North Geospatial

This is **Exhibit "J"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

Inspection Form		Pit Name: Havener Pit
Date/Time: September 01, 2023		Enviro. Protect. Order No: 35659-01
Complainant Information: Follow up on remedial work		Inspector Name: Colette Strap
Incident Type: <input checked="" type="checkbox"/> Private Land <input type="checkbox"/> Commercial <input type="checkbox"/> Industry Other: Public Lands		
Contact Person: Cory Pichota – President-Chief Operating Officer		Phone No: 587-991-8440
Address:		
GPS / ATS Coordinate: NW 16-056-07 W4M		

Purpose of Inspection

EPO 35659-04 closed. Due to Mantle’s insolvency a follow up inspection was conducted to confirm the status of the pit.

Observations

Reference Map

- - - Area contoured
- - - Previously disturbed, where Mantle has never conducted any work
- - - Area containing reject material.
- Photo location

At the time of the site inspection, Mantle's representative who attended the site indicated that:

- No mining has taken place, the footprint of the site's disturbance has not increased in size, marketable material is being removed off site and that the site contains many piles of reject material (combination of various sizes of aggregate including sand which is not profitable to screen).
- They are working on putting together information packages for potential buyers.



Above Picture 1: View SE (141.55 degrees) looking at the area that was contoured in 2021.

Reference Map

Picture coordinates: 53.845985; -110.994756



Above Picture 2: View SE (132.97 degrees) looking at a disturbed area.

Reference Map

Topsoil piles are located on the right of the picture and reclamation (reject) material located on the left.

Picture coordinates: 53.844328; -110.990188



Above Picture 3: View SSW (211.82 degrees) looking at aggregate material located at the East end of pit the area.

Picture coordinates: 53.844328; -110.990188

Reference Map



Above Picture 4: View SE (144 degrees) looking at an overview of the Havener pit from the Stankowski Pit.

Picture coordinates: 53.846463; -110.991751

Reference Map



Above: Continuation of picture above looking SE to SSE.

This is **Exhibit "K"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

Inspection Form

Pit Name: **Shankowski Pit**

Registration No: **308161-00-00**

Date/Time: **September 01, 2023**

Inspector Name: **Colette Strap**

Complainant Information: **Follow up on status of the pit**

Incident Type: **Private Land** Commercial Industry Other: Public Lands

Contact Person: **Cory Pichota** – President-Chief Operating Officer

Phone No: **587-991-8440**

Address:

GPS / ATS Coordinate: **SW 21-056-07 W4M**

Purpose of Inspection

Due to Mantle's insolvency an inspection was conducted to confirm the status of Registered Pit No. 0308161.

Observations

Reference Map



● Photo location

At the time of the site inspection, Mantle's representative who attended the site indicated that:

- No mining has taken place, the footprint of the site's disturbance has not increased in size and the site contains many piles of reject material (combination of various sizes of aggregate including sand which is not profitable to screen).
- They are working on putting together information packages for potential buyers.



Above Picture 1: View SW (229.82 degrees) looking at an area mined in 2021.
Picture coordinates: 53.849502; -110.99074

Reference Map



Above Picture 2: View NNE (29.22 degrees) looking at an overview of the site.
Picture coordinates: 53.846727; -110.991139

Reference Map



Above Picture 3: View SW (227 degrees) looking at an overview of the site.
Picture coordinates: 53.846651; -110.992328

Reference Map



Above Picture 3: Continuation of overview of site

This is **Exhibit "L"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
in and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

September 8, 2023

Sent via cory.pichota@mantlegroup.ca

Mantle Materials Group Ltd.
Box 6977
Bonnyville, Alberta
T9N 2H4

Dear Sir:

Subject: Mantle Materials Group Inc. Public Land Dispositions

As indicated in Forestry and Parks (FP) August 8, 2023, Notice of Intention letter to Brandi Swift of FTI Consulting Canada Inc., Mantle is the holder of several public lands dispositions issued under the *Public Lands Act* (“Act”) and has environmental and other statutory obligations for each disposition. Forestry and Parks seeks to understand Mantle’s intentions for each of the dispositions.

By no later than Friday September 15, 2023, please provide to Brendan Hemens, Director, Public Lands Disposition Management, Mantle’s intended action for each disposition listed below in writing:

- **SML120005**

According to disposition condition 1581, the disposition is subject to cancellation or withdrawal of portions of land if development and production are not in accordance with the approved Conservation and Reclamation Business Plan and Addendum. To date the site has only been partially excavated and does not follow the sequencing plan outlined in the Conservation and Reclamation Business Plan.

Does Mantle intend to excavate mineable material from this pit before the end of this operating season?

By what date will Mantle reclaim this pit as required by the disposition, the Conservation and Reclamation Business Plan and Addendum, the Act, and the *Public Lands Administration Regulation* (PLAR)?

When will a Reclamation Certificate application be submitted to Environment and Protected Areas (EPA)?

- **SML120100**

May be cancelled for non-use. According to the Alberta Aggregate (Sand and Gravel) Allocation Policy for Commercial Use on Public Land, and disposition condition 055 a holder must

commence operations on the site within 4 years of the date of the approval. Failure to develop may lead to cancellation. To date the site has not been entered.

Does Mantle intend to excavate mineable material from this pit before the end of this operating season?

- **SML120006**

May be cancelled for non-use. According to the Alberta Aggregate (Sand and Gravel) Allocation Policy for Commercial Use on Public Land, and disposition condition 055 a holder must commence operations on the site within 4 years of the date of the approval. Failure to develop may lead to cancellation. To date the site has not been entered.

Does Mantle intend to excavate mineable material from this pit before the end of this operating season?

- **DLO170011**

By what date will Mantle reclaim the lands subject to this disposition as required by the disposition, the Act and PLAR?

When will a Reclamation Certificate application be submitted to FP?

- **DML120032**

Gravel storage site.

Does Mantle intend to use this site during this operating season?

By what date will Mantle reclaim the lands subject to this disposition as required by the disposition, the Act and the PLAR?

When will an application for Letter of Clearance be submitted to FP?

- **SML060060 (EPO-EPEA-35659-07/EO-WA-35659-01)**

Outstanding Reclamation Obligations.

By what date will Mantle reclaim the lands subject to this disposition as required by the *Environmental Protection and Enhancement Act* (EPEA) environmental protection order and the *Water Act* enforcement order?

When will a Reclamation Certificate application be submitted to FP?

- **SML080085**

May be cancelled for non-use. According to Alberta Aggregate (Sand and Gravel) Allocation Policy for Commercial Use on Public Land, and disposition condition 055 a holder must commence operations on the site within 4 years of the date of the approval. Failure to develop may lead to cancellation. To date the site has not been entered.

Does Mantle intend to excavate mineable material from this pit before the end of this operating season?

- **SML100085**

May be cancelled for non-use. According to Alberta Aggregate (Sand and Gravel) Allocation Policy for Commercial Use on Public Land, and disposition condition 055 a holder must commence operations on the site within 4 years of the date of the approval. Failure to develop may lead to cancellation. To date the site has not been entered.

Does Mantle intend to excavate mineable material from this pit before the end of this operating season?

- **SML110025**

The department evaluates that you have completed 40% of your planned resource extraction.

Does Mantle intend to excavate mineable material from this pit before the end of this operating season?

By what date will Mantle reclaim the lands subject to this disposition as required by the disposition, the Conservation and Reclamation Business Plan, the Act and the PLAR?

When will a Reclamation Certificate application be submitted to FP?

- **SML110026**

66% reclaimed.

When will reclamation be complete?

When will a Reclamation Certificate application be submitted to FP?

- **SML110045**

May be cancelled for non-use. According to Alberta Aggregate (Sand and Gravel) Allocation Policy for Commercial Use on Public Land, and disposition condition 055 a holder must commence operations on the site within 4 years of the date of the approval. Failure to develop may lead to cancellation. According to the 2022 Annual Operating report there has been no extraction.

Does Mantle intend to excavate mineable material from this pit before the end of this operating season?

- **SML110046**

May be cancelled for non-use According Alberta Aggregate (Sand and Gravel) Allocation Policy for Commercial Use on Public Land, and disposition condition 055 a holder must commence operations on the site within 4 years of the date of the approval. Failure to develop may lead to cancellation. To date, there has been only clearing, no extraction.

Does Mantle intend to excavate mineable material from this pit before the end of this operating season?

- **SML110047**

According to disposition condition 062, the approval is subject to cancellation or withdrawal of portions of land if development and production are not in accordance with the approved Conservation and Reclamation Business Plan and Addendum. To date the site has only been partially excavated and does not follow the sequencing plan outlined in the Conservation and

Reclamation Business Plan dated March 18, 2015. Additionally, the 2022 Annual Operating report states there are no areas where material has been extracted.

Does Mantle intend to excavate mineable material from this pit before the end of this operating season?

- **SML120027 (EPO-EPEA-35659-10)**
In final stages of reclamation.

By what date will Mantle complete the reclamation of the lands subject to this disposition as required by the EPEA environmental protection order?

When will a Reclamation Certificate application submitted to FP?

- **SML930040 (EPO-EPEA-35659-08)**
Has been re-established to grasses.

By what date will Mantle complete the reclamation of the lands subject to this disposition as required by the EPEA environmental protection order?

When will a Reclamation Certificate application submitted to FP?

- **SML980116 (EPO-EPEA-35659-09)**
Final stages of reclamation.

By what date will Mantle complete the reclamation of the lands subject to this disposition as required by the EPEA environmental protection order?

When will a Reclamation Certificate application submitted to FP?

- **SME200056**
Authorization expired July 10, 2021, No visible exploration (2022). Authorization will be closed.

Yours Truly,

Brendan Hemens
Director, Public Lands Disposition Management
Public Lands Disposition Management

cc: Joanne Sweeney, Team Lead, Aggregates
Dave Pochailco, Senior Manager, Prairie/Parkland Lands Manager
Darrell Kentner, Senior Manager, Northeast Lands Manager
Vivienne Ball, Barrister and Solicitor, Alberta Justice
Heather Dent, Compliance Manager, Alberta Environment and Protected Areas

This is **Exhibit "M"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT

BEING RSA 2000, c. E-12 (the "Act")

ENVIRONMENTAL PROTECTION ORDER EPO-EPEA-35659-12

Mantle Materials Group, Ltd., previously JMB Crushing Systems Inc.
P.O. Box 6977
Bonnyville, AB T9N 2H4

Byron Levkulich, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

(Collectively hereafter referred to as the "Parties")

WHEREAS JMB Crushing Systems Inc. ("JMB") operated a gravel pit (the "Shankowski Pit") on lands legally described as SW 21-56-7 W4M (the "Lands") in the County of St. Paul No. 1, in the Province of Alberta;

WHEREAS on May 1, 2021, as part of the restructuring of JMB and 2161889 Alberta Ltd. ("216") under the *Companies Creditors Arrangement Act*, JMB, 216 and Mantle Materials Group, Ltd. amalgamated and continued as Mantle Materials Group Ltd. ("Mantle");

WHEREAS Byron Levkulich and Aaron Patsch are former Directors of JMB and 216, and are current Directors of Mantle;

WHEREAS Jerry Shankowski own's the Lands on which the Shankowki Pit is located ("Landowners");

WHEREAS a "pit" is defined in the *Act* to mean an operation on or excavation from the surface of the land for the purpose of removing sand and gravel and includes any associated infrastructure;

WHEREAS Mantle holds registration no. 308161-00-00 for the Shankowski Pit in accordance with section 3.1.1 of the Code of Practice for Pits to commence an activity at a pit;

WHEREAS an “activity at a pit” is defined in the Code of Practice for Pits to mean the construction, operation or reclamation of a pit;

WHEREAS section 2.1.1. of the Code of Practice for Pits states that any person who carries out an activity at a pit must do so in accordance with the Code of Practice;

WHEREAS section 137 of the *Act* states that an operator must conserve and reclaim specified land and unless exempted by the regulation, obtain a reclamation certificate in respect of the conservation and reclamation;

WHEREAS Mantle is an “operator” as section 134(b)(i) and (vii) in the *Act* defines an operator as a registration holder who carries on or has carried on an activity on or in respect of specified land pursuant to an approval or registration and is a person(s) who acts as principal or agent of a person(s) referred to in any of subclause (i) to (vi);

WHEREAS the surface land disturbance in the Shankonski Pit is “specified lands” as defined by the Conservation and Reclamation Regulation section 1(t)(v);

WHEREAS on July 14, 2023, Mantle commenced restructuring proceedings by filing a Notice of Intention to Make a Proposal pursuant to section 50.4(1) of the *Bankruptcy and Insolvency Act*;

WHEREAS the Inspector is of the opinion that Mantle’s financial resources and intention to reclaim the Shankowski Pit are in question given that Mantle is the successor corporation of JMB and 216 that were restructured in 2021 and more recently in 2023, Mantle commenced restructuring proceedings;

WHEREAS on September 1, 2023, EPA conducted a site inspection of the Shankowski Pit and observed two stockpiles of marketable aggregate material with the remaining piles being comprised of reject aggregate material that can be used for reclamation. The Shankowski Pit’s footprint has not increased as it appears no mining has taken place since 2021. Mantle has not commenced reclamation work at the Shankowski Pit.

WHEREAS Colette Strap, Environmental Protection Officer, North Region (the “Inspector”) has been designated as an Inspector for the purposes of issuing Environmental Protection Orders under section 140 of the *Act*;

WHEREAS the Inspector is of the opinion that directing the performance of work in the Shankowski Pit is necessary in order to conserve and reclaim specified land.

THEREFORE, I Colette Strap, Inspector, Northern Region, pursuant to section 140 of the *Act*, DO HEREBY ORDER:

1. Mantle shall complete the following actions on the Shankowski Pit on or before October 31, 2023:
 - a. place overburden materials within the Shankowski Pit and create the base for the subsoil and topsoil placement by contouring the Shankowski Pit with reject material and other soil materials available for reclamation;

- b. establish grade and contour across the Shankowski Pit so that:
 - i. internal slopes are 10:1 as shown in the 2021 Updated Activities Pan, Appendix A – Figure 1,
 - ii. side slopes are no steeper than 3:1 as shown in the 2021 Updated Activities Pan, Appendix A – Figure 1,
 - iii. the material along the common boundary between the Havener Pit's north-east boundary and the Shankowski Pit's west boundary are to have slopes no steeper than 3:1,
 - iv. surface water is directed to drain as shown in the 2021 Updated Activities Pan, Appendix A - Conceptual Reclamation Map.
 - c. place a depth of 16 cm of subsoil over the Shankowski Pit;
 - d. rip the subsoil in the Shankowski Pit to alleviate compaction; and
 - e. place a depth of 8 cm of topsoil over the Shankowski Pit.
2. Mantle shall complete the following actions on or before October 31, 2023:
 - a. revegetate the Shankowski Pit with a seed mix that is consistent with pastureland and in accordance with the Landowner's request.
 3. Mantle shall complete the following actions on or before October 31, 2024:
 - a. monitor and maintain the Shankowski Pit:
 - i. slopes to prevent erosion,
 - ii. for weeds by applying herbicide for control,
 - iii. vegetation: for vigor, health, cover, density, height and yield.
 4. Mantle must apply for a reclamation certificate for the Shankowski Pit as per Section 134 of the *Act* by January 1, 2024.
 5. Mantle shall submit progress updates to the Inspector on November 30, 2023, June 30, 2024, and January 1, 2024, that include a detailed summary of all reclamation activities and/or monitoring activity undertaken at the Shankowski Pit.

DATED at the Town of Vegreville in the Province of Alberta, this 21st day of September 2023.



Colette Strap, Inspector
Regulatory Assurance Division-North

Section 91 of the *Environmental Protection and Enhancement Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 91 is enclosed. For further information, please contact the Board Secretary at #306 Peace Hills Trust Tower, 10011 - 109 Street, Edmonton, Alberta, T5J 3S8; telephone (780) 427-6207; fax (780) 427-4693.

Notwithstanding the above requirements, the Party shall obtain all necessary approvals in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation.

Further, contravention of the Environmental Protection Order may lead to additional enforcement proceedings, up to and including prosecution.

This is **Exhibit "N"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT

BEING RSA 2000, c. E-12 (the "Act")

ENVIRONMENTAL PROTECTION ORDER EPO-EPEA-35659-11

Mantle Materials Group, Ltd., previously JMB Crushing Systems Inc.
P.O. Box 6977
Bonnyville, AB T9N 2H4

Byron Levkulich, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

Aaron Patsch, Director
JMB Crushing Systems Inc.
1400 16th Street, Suite 320
Denver CO 80202
United States

(Collectively hereafter referred to as the "Parties")

WHEREAS JMB Crushing Systems Inc. ("JMB") operated a gravel pit (the "Havener Pit") on lands legally described as NW-16-056-7 W4M (the "Lands") in the County of St. Paul No. 1, in the Province of Alberta;

WHEREAS on May 1, 2021, as part of the restructuring of JMB and 2161889 Alberta Ltd. ("216") under the *Companies Creditors Arrangement Act*, JMB, 216 and Mantle Materials Group, Ltd. amalgamated and continued as Mantle Materials Group Ltd. ("Mantle");

WHEREAS Byron Levkulich and Aaron Patsch are former Directors of JMB and 216, and are current Directors of Mantle;

WHEREAS Lynne Havener and Gail Havener own the Lands on which the Havener Pit is located ("Landowners");

WHEREAS a "pit" is defined in the *Act* to mean an operation on or excavation from the surface of the land for the purpose of removing sand and gravel and includes any associated infrastructure;

WHEREAS Mantle holds registration no. 17395-01-00 for the Havener Pit in accordance with section 3.1.1 of the Code of Practice for Pits to commence an activity at a pit;

WHEREAS an “activity at a pit” is defined in the Code of Practice for Pits to mean the construction, operation or reclamation of a pit;

WHEREAS section 2.1.1. of the Code of Practice for Pits states that any person who carries out an activity at a pit must do so in accordance with the Code of Practice;

WHEREAS section 137 of the *Act* states that an operator must conserve and reclaim specified land and unless exempted by the regulation, obtain a reclamation certificate in respect of the conservation and reclamation;

WHEREAS Mantle is an “operator” as section 134(b)(i) and (vii) in the *Act* defines an operator as a registration holder who carries on or has carried on an activity on or in respect of specified land pursuant to an approval or registration and is a person(s) who acts as principal or agent of a person(s) referred to in any of subclause (i) to (vi);

WHEREAS the surface land disturbance in the Havener Pit is “specified lands” as defined by the Conservation and Reclamation Regulation section 1(t)(v);

WHEREAS on July 14, 2023, Mantle commenced restructuring proceedings by filing a Notice of Intention to Make a Proposal pursuant to section 50.4(1) of the *Bankruptcy and Insolvency Act*;

WHEREAS the Inspector is of the opinion that Mantle’s financial resources and intention to reclaim the Havener Pit are in question given that Mantle is the successor corporation of JMB and 216 that were restructured in 2021 and more recently in 2023, Mantle commenced restructuring proceedings;

WHEREAS on September 1, 2023, EPA conducted a site inspection of the Havener Pit and observed stockpiles of marketable and reject aggregate material in the Havener Pit. The Havener Pit’s footprint has not increased as it appears no mining has taken place since 2021.

WHEREAS during EPA’s September 1, 2023 inspection it was observed that only an area of approximately 1 acre along the west side of the Havener Pit has been recontoured. No other reclamation activity had taken place.

WHEREAS Colette Strap, Environmental Protection Officer, North Region (the “Inspector”) has been designated as an Inspector for the purposes of issuing Environmental Protection Orders under section 140 the *Act*

WHEREAS the Inspector is of the opinion that directing the performance of work in the Havener Pit is necessary in order to conserve and reclaim specified land.

THEREFORE, I Colette Strap, Inspector, Northern Region, pursuant to section 140 of the *Act*, DO HEREBY ORDER:

1. Mantle shall complete the following actions on the Havener Pit on or before October 31, 2023:

- a. place overburden materials within the Havener Pit and create the base for the subsoil and topsoil placement by contouring the Havener Pit with reject material and other soil materials available for reclamation;
 - b. establish grade and contour across the Havener Pit so that:
 - i. internal slopes range from 10:1 to 6:1 and no slope is greater than 6:1 as shown in the 2021 Updated Activities Plan, Appendix A – Figure 1,
 - ii. side slopes are no steeper than 3:1 as shown in 2021 Updated Activities Pan, Appendix A – Figure 1,
 - iii. the material along the common boundary between the Havener Pit's north-east boundary and the Shankowski Pit's west boundary are to have slopes no steeper than 3:1,
 - iv. surface water drainage is to be directed to drain as shown in 2021 Updated Activities Plan Appendix A - Conceptual Reclamation Map,
 - v. the access road to the wellsite located south-east of the Havener Pit is not to be contoured but left in place;
 - c. rip the subsoil in the Havener Pit to alleviate compaction; and
 - d. place a depth of 8 cm of topsoil over the Havener Pit.
2. Mantle shall complete the following actions on or before October 31, 2023:
- a. revegetate the Havener Pit with a seed mix that is consistent with pastureland and in accordance with the Landowner's request.
3. Mantle shall complete the following actions on or before October 31, 2023:
- a. monitor and maintain the Havener Pit:
 - i. slopes to prevent erosion,
 - ii. for weeds by applying herbicide for control,
 - iii. vegetation: for vigor, health, cover, density, height and yield.
4. Mantle must apply for a reclamation certificate as per Section 134 of the *Act* by January 1, 2024.
5. Mantle shall submit progress updates to the Inspector on November 30, 2023, June 30, 2024 and January 1, 2024, that include a detailed summary of all reclamation activities and/or monitoring activity undertaken at the Havener Pit.

DATED at the Town of Vegreville in the Province of Alberta, this 21st day of September 2023.



Colette Strap, Inspector
Regulatory Assurance Division-North

Section 91 of the *Environmental Protection and Enhancement Act* may provide a right of appeal against this decision to the Alberta Environmental Appeals Board. There may be a strict time limit for filing such an appeal. A copy of section 91 is enclosed. For further information, please contact the Board Secretary at #306 Peace Hills Trust Tower, 10011 - 109 Street, Edmonton, Alberta, T5J 3S8; telephone (780) 427-6207; fax (780) 427-4693.

Notwithstanding the above requirements, the Party shall obtain all necessary approvals in complying with this order.

Take notice that this environmental protection order is a remedial tool only, and in no way precludes any enforcement proceedings being taken regarding this matter under this Act or any other legislation.

Further, contravention of the Environmental Protection Order may lead to additional enforcement proceedings, up to and including prosecution.

This is **Exhibit "O"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

September 15, 2023

Sent via Brendan.hemens@gov.ab.ca

Brendan Hemens
Director, Public Lands Disposition Management
Forestry and Parks
Government of Alberta

5th Floor South Petroleum Plaza
9915 108th Street NW
Edmonton, AB T5K 2G8

Dear Sir:

Subject: Mantle Materials Group Inc. Public Lands Dispositions

Mantle Materials Group Inc. (Mantle) intentions for each of the dispositions are listed below:

- **SML120005**
Mantle does not intend to excavate mineable material from this pit before the end of this operating season.

Mantle is looking to transfer the pit registration.

CORP expires October 4, 2027.
- **SML120100**
Mantle does not intend to excavate mineable material from this pit before the end of this operating season.

Mantle is looking to transfer the pit registration.

CORP expires October 4, 2027.
- **SML120006**
Mantle does not intend to excavate mineable material from this pit before the end of this operating season.

Mantle is looking to transfer the pit registration.

CORP expires October 4, 2027.



- **DLO170011**
Mantle is looking to transfer DLO.

DLO expires May 27, 2024.
- **DML120032**
Mantle does not intend to use this site during this operating season.

Mantle is looking to transfer DML.

Submitted renewal March 8, 2023.
- **SML060060 (EPO-EPEA-35659-07/EO-WA-35659-01)**
Mantle is currently waiting for approval to start reclamation on the lands.

A Reclamation Certificate application will be submitted 2 years after reclamation has been completed.
- **SML080085**
Mantle does not intend to use this site during this operating season.

CORP expired May 31, 2023.
- **SML100085**
Mantle does not intend to use this site during this operating season.

Mantle is looking to transfer the pit registration.

CORP expires June 23, 2026.
- **SML110025**
Mantle does not intend to use this site during this operating season.

Mantle is looking to transfer the pit registration.

CORP / WA expires February 10, 2024.
- **SML110026**
Mantle is looking to transfer the pit registration.

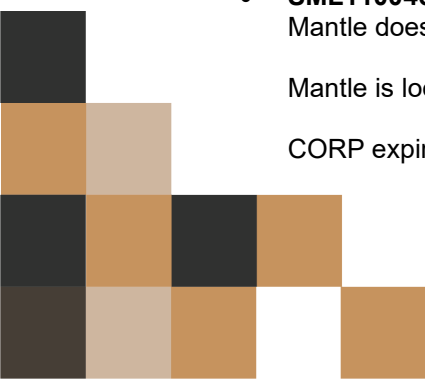
CORP submitted March 16, 2023.
- **SML110045**
Mantle does not intend to use this site during this operating season.

Mantle is looking to transfer the pit registration.

CORP expires March 17, 2025.
- **SML110046**
Mantle does not intend to use this site during this operating season.

Mantle is looking to transfer the pit registration.

CORP expires March 17, 2025.



- **SML110047**
Mantle does not intend to use this site during this operating season.

Mantle is looking to transfer the pit registration.

CORP expires March 17, 2025.

- **SML120027 (EPO-EPEA-35659-10)**
Mantle has completed the reclamation of the lands.

A Reclamation Certificate application will be submitted November 1, 2023.

- **SML930040 (EPO-EPEA-35659-08)**
Mantle has completed the reclamation of the lands.

A Reclamation Certificate application will be submitted November 1, 2024.

- **SML980116 (EPO-EPEA-35659-09)**
Mantle has completed the reclamation of the lands.

A Reclamation Certificate application will be submitted November 1, 2024.

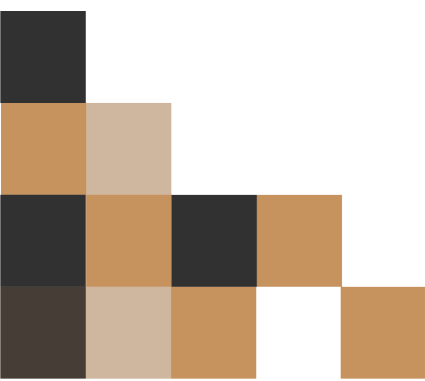
Yours Truly,

Mantle Materials Group, Ltd.



Cory Pichota

President / COO



This is **Exhibit "P"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
in and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta



MANTLE
MATERIALS GROUP



2023 NOI - Sale Solicitation Process



- Mantle Materials Group, Ltd. (“**Mantle**” of the “**Company**”) has filed a Notice of Intention to Make a Proposal (“**NOI**”) on July 13, 2023, pursuant to section 50.4(1) of the Bankruptcy and Insolvency Act.
- Mantle is launching a sale and solicitation process (the “**SSP**”) to solicit interest in, and opportunities for, a sale of, its pit registrations and mining lease rights (the “**Opportunity**”).
- The timeline for the SISP and contact information for the Opportunity are set out below. Additional information is available at <http://cfcanada.fticonsulting.com/mantle/> and access to a virtual data room is available to parties executing an NDA.

Timeline

September 25, 2023 Data Room Open

October 25, 2023 Bid Deadline

Contact Information

Cory Pichota
President/ COO

cory.pichota@mantlegroup.ca
587-991-8440

Jason Mercier
Business Development Manager

jason.mercier@mantlegroup.ca
780-207-0960



MANTLE
MATERIALS GROUP

Summary of Operating Pits

<https://goo.gl/maps/WAMRtRp7dok683Pt8>



ESTIMATED RESERVES

(As of Sept 1, 2023)

4,785,160 Mt in Opened Pits

2,440,000 Mt in Unopened Pit

Est. Life of Pit Gross Revenue: \$ 32.5 M¹

¹ 1,806,290 Mt Net Reserves (after factoring in mining and processing loss estimates) x \$18.00 / Mt of finished product

FINISHED INVENTORY

As of Sept 1, 2023

Des 2 Class 25 ~ 8,000 Mt

Des 4 Class 40 ~ 5,600 Mt

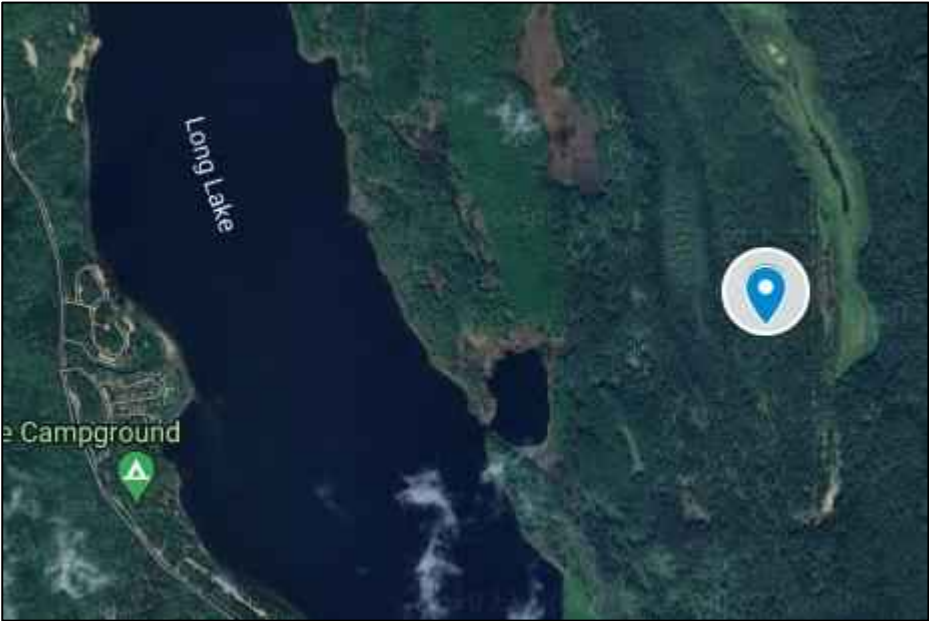
Des 6 Class 80 ~ 5,300 Mt

Estimated FMV \$340,000¹

¹ Based on Average Selling Price FOB Pit past 12 months

Pit Common Name	Public Lands		Gross Estimated Reserves (Tonne)
	Disposition # or Registration #	Primary Market Service	
JLG 5	SML 110025	Smoky Lake	772,200
JLG 6	SML 110026	Smoky Lake	752,400
JLG 7	SML 110045	Smoky Lake	236,880
JLG 8	SML 110046	Smoky Lake	747,100
JLG 9	SML 110047	Smoky Lake	1,372,180
JLG 10	SML 120005	Smoky Lake	904,400
JLG 11	SML 120006	Smoky Lake	-
JLG 12	SML 120100	Smoky Lake	2,440,000

<https://goo.gl/maps/vPX5QPDL9iGk1HiS6>



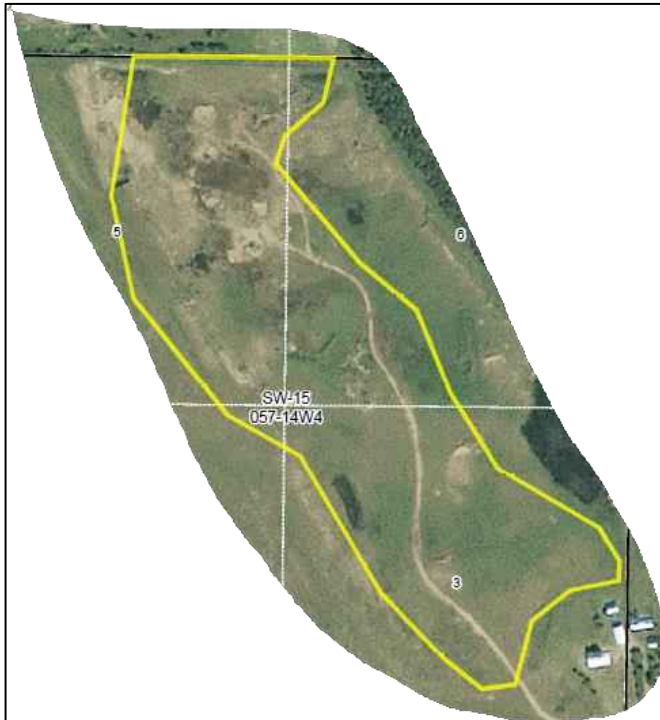
ESTIMATED RESERVES
(As of Sept 1, 2023)

2,756,406 Mt in Unopened Pit
Est. Life of Pit Gross Revenue: \$ 29.8 M¹

¹ 1,6538,43 Mt net reserves (after factoring in mining and processing loss estimates) x \$ 18.00 / Mt of finished product

		Public Lands			
		Disposition # or		Gross Estimated	
Pit Common Name	Registration #	Primary Market Serve	Reserves (Tonne)	Status	
JLG 4	SML100085	Thorhild	2,756,406	Not opened	

<https://goo.gl/maps/onewyTLVycBndrQ2A>



ESTIMATED RESERVES
(As of Sept 1, 2023)

784,560 Mt in Opened Pits
Est. Life of Pit Gross Revenue: \$ 8.5 M¹

¹ 470,736 Mt net reserves (after factoring in mining and processing loss estimates) x \$18.00 / Mt of finished product

Pit Common Name	Registration #	Lease Holder	Primary Market Service	Gross Estimated Reserves (Tonne)
Andrychuk	n/a	Mantle Materials Group	Fort Saskatchewan	784,560

<https://goo.gl/maps/632ELbBwAuYTAjEW9>



ESTIMATED RESERVES
(As of Sept 1, 2023)

4,755,104 Mt in Opened Pits
Est. Life of Pit Gross Revenue: \$ 42.8 M¹

¹ 2,377,552 Mt net reserves (after factoring in mining and processing loss estimates) x \$18.00 / Mt of finished product

FINISHED INVENTORY
As of Sept 1, 2023

Des 4 Class 20 ~ 4,900 Mt
Estimated FMV \$88,200¹

¹ Based on Average Selling Price FOB Pit past 12 months

Pit Common Name	Public Lands Disposition # or Registration #	Primary Market Service	Gross Estimated Reserves (Tonne)	Status
Shankowski	308161-00-00	Elk Point	4,755,104	Open

<https://goo.gl/maps/WAMRtRp7dok683Pt8>



ESTIMATED RESERVES

(As of Sept 1, 2023)

2,143,128 Mt in Opened Pits

Est. Life of Pit Gross Revenue: \$ 25.1 M¹

¹ 1,393,033 Mt net reserves (after factoring in mining and processing loss estimates) x \$18.00 / Mt of finished product

FINISHED INVENTORY

As of Sept 1, 2023

Des 4 Class 20 ~ 21,000 Mt

Des 2 Class 40 ~ 18,700 Mt

Des 6 Class 80 ~ 22,200 Mt

Class 1 Rip Rap ~ 965 Mt

4" x 8" Gabion ~ 300 Mt

Estimated FMV \$1,145,825¹

¹ Based on Average Selling Price FOB Pit past 12 months


Pit Common Name	Registration #	Primary Market Service	Reserves (Tonne)	Status
Havener	17395-01-00	Elk Point	2,143,128	Open

This is **Exhibit "Q"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

		Lac La Biche District RAD North- Boreal East	
Inspection Form		CIC Reference No:	
		Incident No:	
Date/Time: September 22, 2023; 11:35 hrs		Inspector(s) Name: Nathan Polturak Rajarajeswari Cavala	
Complainant Information: n/a			
Incident Type:	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industry Other: Public Lands
Contact Person: Cory Pichota		Phone No: 587-991-8440	
Address: SML 110025			
GPS / ATS Coordinate: NE-11-061-18-W4M			

Purpose of Inspection
The inspection was conducted to verify the state of the disposition. The holder is in bankruptcy proceedings.

Observations
<p>Inspectors POLTURAK and CAVALA conducted a current state of site inspection at the disposition. Observations recorded by taking notes and photographs.</p> <p>Inspection started at 11:35 hrs and was completed at 12:05 hrs.</p> <p>Observations</p> <ul style="list-style-type: none"> - One big stockpile of unprocessed material and a few smaller stockpiles of similar material. - Topsoil bermed along the northeast boundary. - The developed pit area was leveled for pit operations. - Two excavations, one in the west and one in the south of the developed Lands. - Slopes in the excavations appeared to be approximately 1:1 to 1:4. - Western half of the Lands had not been disturbed for aggregate mining purposes. - Pine trees and some aspen trees were noted around the lease area. - One truck tire abandoned on site; wildlife/cattle activity noted around the tire. - Deep erosion channels at faces of each of the excavated areas in the lease; - No recent work related activity identified; shrubs, grass, and weed growth noted throughout works areas of lease.

Concerns and Deficiencies

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Follow Up Required

Wait for next update from Mantle to report on progress with remedial order.

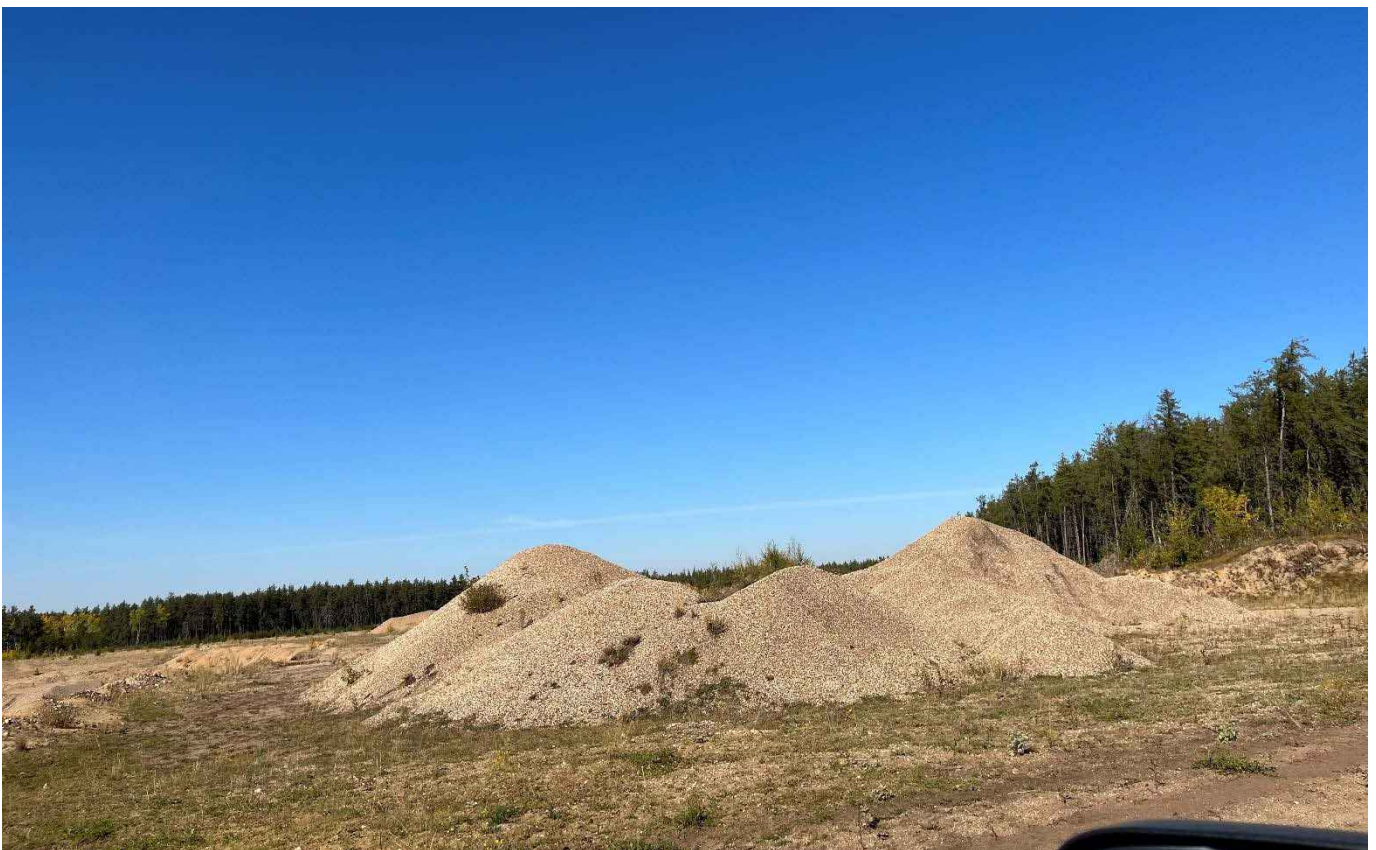
Photos



The excavation in the middle part of the lease, as observed September 22, 2023, looking southeast.



The big stockpile of unprocessed material, as seen looking east.



Smaller stockpiles with weed growth on them, looking north from centre of pit.



Vegetation throughout the non-developed area of the pit, looking north. This portion of the lease did not appear to have been stripped during pit development.



Signs of erosion.



Abandoned tire with signs of wildlife/cattle active in centre of lease.


This is **Exhibit "R"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta

My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

		Lac La Biche District RAD North- Boreal East	
Inspection Form		CIC Reference No:	
		Incident No:	
Date/Time: September 22, 2023; 10:40 hrs		Inspector(s) Name: Nathan Polturak Rajarajeswari Cavala	
Complainant Information:			
Incident Type:	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industry Other: Public Lands
Contact Person: Cory Pichota		Phone No: 587-991-8440	
Address: SML 110026			
GPS / ATS Coordinate: SE-11-061-18-W4M			

Purpose of Inspection
Inspection was conducted to verify status of the disposition. The holder is in bankruptcy proceedings.

Observations
<p>Inspectors POLTURAK and CAVALA conducted a current state of site inspection by documentation and photographs.</p> <p>Inspection started at 10:40 hrs and was completed at 11:25 hrs.</p> <p>Observations</p> <ul style="list-style-type: none"> - Good vegetation cover, mix of grass, shrubs, weed, pine, and aspen along lease perimeter and through topsoil berms. - No recent work-related activity identified. - Stockpiles of marketable and reject aggregate material. - Slopes in excavated areas approximately 1:1 to 1:4. - No efforts made towards progressive reclamation in disturbed area. - Topsoil was not stripped throughout western half of lease, but did appear to be logged at some time in the past; observed grass, lichen, and short understory vegetation with jack pine to 3 m. - Metal fire pit at southwest of developed pit area hidden behind a stockpile. - Vehicle/quad tracks in the pit area.

Concerns and Deficiencies

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Follow Up Required

Wait for next update from Mantle to report on progress with remedial order.

Photos



State of lease as observed on September 22, 2023, looking north.



Vehicle/quad tracks in the pit, located in east central part of the lease.



Small stockpiles were observed in centre of the lease; woody debris and vegetation can be seen on the topsoil berm in bottom right of photo. As seen looking southwest, September 22, 2023.



The conditions observed in the west half of the lease. No visual surface disturbance was identified. September 22, 2023.



Piece of metal equipment that has been used as fire pit. Observed in southwest corner of developed pit, September 22, 2023.


This is **Exhibit "S"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta

My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

		Lac La Biche District RAD North- Boreal East	
Inspection Form		CIC Reference No:	
		Incident No:	
Date/Time: September 22, 2023; 14:20 hrs		Inspector(s) Name: Nathan Polturak Rajarajeswari Cavala	
Complainant Information:			
Incident Type:	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industry Other: Public Lands
Contact Person: Cory Pichota		Phone No: 587-991-8440	
Address: SML 110045			
GPS / ATS Coordinate: NE-15- and SE-15-061-18-W4M			

Purpose of Inspection
Inspection was conducted to verify status of the disposition. The holder is in bankruptcy proceedings.

Observations
<p>Inspectors POLTURAK and CAVALA conducted a current state of site inspection by documentation and photographs.</p> <p>Inspection started at 14:20 hrs and was completed at 14:45 hrs.</p> <p>Observations</p> <ul style="list-style-type: none"> - Multiple stockpiles of coarse sand and gravel. - NE corner: approximately 7 m to 8 m deep pit collecting water. Signs of wildlife/cattle accessing pit for water. - Metal waste (chain link fence), multiple tires, signage, and drainpipe (~5 m to 6 m, 20 cm diameter) found on site. - Swallow nests found on the stockpile at southeast corner of pit. - Entire north half of lease north of the access road criss-crossed by seismic lines, otherwise no disturbance. - SE stockpile with coarse sand. - Pit working area appears built up over natural ground surface with coarse sand or pit run.

Concerns and Deficiencies

Follow Up Required

Wait for next update from Mantle to report on progress with remedial order.

Photos



State of gravel pit observed on September 22, 2023, looking northwest.



The pit in the northeast corner of the developed area collecting water. Trails on slope leading to left corner of water body appeared to be from wildlife or cattle accessing the water. The inspector can be seen at edge of the water for scale. Observed September 22, 2023, looking northwest.



Swallow nests in the stockpile at southeast corner of waterbody, observed September 22, 2023, looking north.



Coarse stones and gravel on the southwest side of the developed lease area, observed September 22, 2023, looking east.




Photo showing the boundary of the developed lease area and the non-developed lease area, southwest part of the lease, observed September 22, 2023, looking west.

This is **Exhibit "T"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

		Lac La Biche District RAD North- Boreal East	
Inspection Form		CIC Reference No:	
		Incident No:	
Date/Time: September 22, 2023; 12:30 hrs		Inspector(s) Name: Nathan Polturak Rajarajeswari Cavala	
Complainant Information: n/a			
Incident Type:	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industry Other: Public Lands
Contact Person: Cory Pichota		Phone No: 587-991-8440	
Address: SML 110047			
GPS / ATS Coordinate: SE-15-061-18-W4M			

Purpose of Inspection
Inspection was conducted to verify status of the disposition. The holder is in bankruptcy proceedings.

Observations
<p>Inspectors POLTURAK and CAVALA conducted a current state of site inspection by documentation and photographs.</p> <p>Inspection started at 12:30 hrs and was completed at 12:50 hrs.</p> <p>Observations</p> <ul style="list-style-type: none"> - North half of lease undisturbed except for seismic lines that appear older than the lease. - South half of lease has been disturbed for pit operations. - Slash pile and topsoil pile with vegetation cover on the north side, adjacent to slash pile. - No indications of recent activity observed. - Natural regrowth in various areas of the lease including thistle, aspen, and willows. - Swallow nests observed in face of low bank of undisturbed material northwest of the large stockpile. - Large built-up stockpile in the southeast corner to an approximate height of 7 m over the White Earth Creek valley at south part of stockpile. - Emergent aspen regrowth on northeast side – along the approach.

Concerns and Deficiencies

Follow Up Required

Wait for next update from Mantle to report on progress with remedial order.

Photos



State of pit as observed from the access at northeast of the pit, looking southwest, on September 22, 2023.



Slash pile and topsoil pile with regrowth on the north side of the lease, looking northwest, September 22, 2023.



Swallow nests observed in a bank of undisturbed material in the southwest of the pit, looking south, September 22, 2023.



Excavated area in the lease located along southwest boundary of the lease, looking west, September 22, 2023.



Aerial image of SML 110047 showing the majority of the lease. Image taken looking northwest from over the southeast corner, September 22, 2023.


This is **Exhibit "U"**
referred to in the Affidavit of Heather Dent
Sworn before me this *14* day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
in and for Alberta

My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

		Lac La Biche District RAD North- Boreal East	
Inspection Form		CIC Reference No:	
		Incident No:	
Date/Time: September 22, 2023; 13:40 hrs		Inspector(s) Name: Nathan Polturak Rajarajeswari Cavala	
Complainant Information: n/a			
Incident Type:	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industry Other: Public Lands
Contact Person: Cory Pichota		Phone No: 587-991-8440	
Address: SML 120005			
GPS / ATS Coordinate: SW-14-061-18-W4M			

Purpose of Inspection
Inspection was conducted to verify status of the disposition. The holder is in bankruptcy proceedings.

Observations
<p>Inspectors POLTURAK and CAVALA conducted a current state of site inspection by documentation and photographs.</p> <p>Inspection started at 13:40 hrs and was completed at 14:15 hrs.</p> <p>Observations</p> <ul style="list-style-type: none"> - Slash piles along side topsoil pile with veg cover aligned E-W in west central part of pit. - Multiple stockpiles of coarse sand and pea gravel in operations area in central west portion of the pit. - The north half of the developed pit appears to be bordered by topsoil berms along the perimeter. - The north side appears to be excavated to approximately 2 m; the northwest area was refilled with coarse sand deposited in tight stockpiles. - Southeast corner has a pit with sideslopes of 1:1, excavated to a depth of 6 m - Large stockpile on the west side of the excavation to a height of approximately 6 m. - No open or standing water noted, but potential to capture water under wet condition.

Concerns and Deficiencies

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Follow Up Required

Wait for next update from Mantle to report on progress with remedial order.

Photos



A stockpile of pea gravel topsoil and woody debris piled in to a berm in the west central part of the pit, looking northeast, September 22, 2023.



The northwest corner of the pit – topsoil removed and collected into a berm observed at left in photo. The excavated area was refilled with coarse sand. Photo looking northeast, September 22, 2023.



The central part of the large excavation in the southeast area of the pit, looking southeast, September 22, 2023.



Large stockpile on the west side of the excavation to approximately 6 m height. Looking south, September 22, 2023.



The processing area in west part of the pit adjacent to access road. The large stockpile is visible in background. A small stockpile of pit run is visible in foreground at bottom right. Looking southeast, September 22, 2023.

This is **Exhibit "V"**
referred to in the Affidavit of Heather Dent
Sworn before me this *14* day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

From: [Heather Dent](#)
To: cory.pichota@mantlegroup.ca
Cc: [Maxwell Harrison](#)
Subject: Follow up on September 25 Meeting
Date: October 2, 2023 4:32:00 PM
Attachments: [image001.png](#)

Cory,

Thanks for taking time on Monday September 25 to discuss Mantle’s regulatory obligations to reclaim gravel pits on private and public land, and progress being made by Mantle in fulfilling the orders issued by Alberta Environment and Protected Areas.

As a quick recap, we discussed:

Order #	Name	Updates Provided by Mantle September 25, 2023
EPO-EPEA-35659-01	MacDonald Pit	<ul style="list-style-type: none"> Reclamation will start in the next 2 weeks (Oct 9).
EPO-EPEA-35659-02	Megley Pit	<ul style="list-style-type: none"> Complete – seeded and rocks picked. Assessment stage is left
EPO-EPEA-35659-03	Kucy Pit	<ul style="list-style-type: none"> In final stages of Reclamation Topsoil shortage – may be requesting for partial rec-cert leaving one area under 5 ha with no topsoil as landowner wants to extract aggregate
EPO-EPEA-35659-04	Havener Pit	<ul style="list-style-type: none"> Potential buyer St. Paul County – to be handled through sales and solicitation process
EPO-EPEA-35659-12	Shankowski Pit	<ul style="list-style-type: none"> Potential buyer St. Paul County - to be handled through sales and solicitation process.
EPO-EPEA-35659-05	Buksa Pit	<ul style="list-style-type: none"> Full reclaimed Assessment stage left
EPO-EPEA-35659-06	O’Kane Pit	<ul style="list-style-type: none"> No reclamation requirements Paperwork regarding the transfer of pit from Mantle to Aarbo has started. EPA to review and respond.
EPO-EPEA-35659-07 EO-WA-35659-01	SML 060060	<ul style="list-style-type: none"> Dewatering has commenced. Plans to be onsite in the next two weeks (initiating work between Sept 25- Oct 6).
EPO-EPEA-35659-08	SML 930040	<ul style="list-style-type: none"> Work has been completed on site, nothing outstanding. Will provide formal assessment when its due.
EPO-EPEA-35659-09	SML 980116	<ul style="list-style-type: none"> Work has been completed on site, nothing outstanding. Will provide formal assessment when its due.
EPO-EPEA-35659-10	SML 120027	<ul style="list-style-type: none"> Work has been completed on site, nothing outstanding. Will provide formal assessment when its due.

- Mantle is pursuing a sales and solicitation process to solicit interest in, and opportunities for, a sale of, its pit registration and dispositions. The deadline for bids is October 25, 2023.
- Mantle raised concerns about the impact the exiting orders and other potential orders might have on sales and solicitation process. Mantle sought a letter outlining under what circumstances EPA would lift the orders.
- Environment and Protected Area primary focus is on ensuring that all reclamation obligations (including reclamation certification) are met.
- Cory suggested a possible long-term outcome of the Mantle’s bankruptcy and insolvency proceeding might be the creation of a trust designed to satisfy the long-term requirements of the orders. This would include the monitoring, reporting and application for reclamation certification.

We came to the conclusion that:

- Mantle will continue to engage with Compliance Managers Maxwell Harrison and Heather Dent (who are the

statutory decisions), in relation to the orders referenced above.

- Compliance Manager Harrison has agreed to have discussion with prospective buyers or parties that are interested in taking on the registration in place of Mantle to discuss EPA's requirements that need to be met for EPA to consider lifting or closing the EPOs.

Reach out with any questions, concerns, or relevant updates in the meantime.

Heather Dent
Compliance Manager
North East Boreal, Regulatory Assurance Division North
Alberta Environment and Protected Areas
Government of Alberta

1st Floor, Twin Atria Building
4999-98 Avenue
Edmonton, AB T6B 2X3

Office 780 427 9335
Heather.Dent@gov.ab.ca
Environmental Emergencies 1 800 222 6514



This is **Exhibit "W"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

October 11, 2023

Sent via cory.pichota@mantlegroup.ca

Mantle Materials Group, Ltd.
Box 6977
Bonnyville, Alberta
T9N 2H4

Dear Sir:

Subject: Mantle Materials Group, Ltd Public Land Dispositions

The department has received the September 15, 2023 letter from Mantle Material Group, Ltd. and provides the following response.

Cancellation of Dispositions under the *Public Lands Act*

In the department's September 8, 2023 letter, it advised Mantle that the following dispositions will be cancelled for failure to develop.

1. SML 120100
2. SML 120006
3. SML 100085
4. SML 110046

Please be advised that pursuant to section 26(1) of the *Public Lands Act*, the department intends to cancel each of these 4 dispositions listed above after 30 days of the date of this letter, November 13, 2023. If Mantle objects to cancellation of one or more of these dispositions, it may provide written representations to Brendan Hemens by no later than November 13, 2023.

Assignments under the *Public Lands Act*

Please note that pursuant to section 43 of the *Public Lands Act*, disposition holders are prohibited from assigning dispositions without the written consent of the director.

For more information about the assignment process including application requirements, please refer to the Mortgage, Assignment, Transfer, and Sublease document found on Forestry and Parks website at: <https://open.alberta.ca/dataset/429dd966-b558-4e00-b4f9-c41943a077f1/resource/3bb16e5c-968f-44dd-bbb7-ce606afea089/download/mortgageassigntranssublease-apr2017.pdf>

This is **Exhibit "X"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

Ryan Trainer
ryan.trainer@mross.com
Direct 780.482.9153

Our File Reference: 20233153

Shauna Trueman, Assistant
Shauna.trueman@mross.com
Direct 780.482.9162

Fax 780.733.9790

PLEASE REPLY TO EDMONTON OFFICE

October 13, 2023

BY REGISTERED MAIL

2161889 Alberta Ltd.
1600, 421 – 7th Avenue SW
Calgary, AB T2P 4K9

Dear Sir/Madam:

Re: **Irrevocable Letter of Credit – Automatic Renewal No. 417357, 417360, 417362, 417368, 417371, 417377, 417378, 417385, 417386, 417747, and 417748 (collectively the “Irrevocable Letters of Credit”) Issued by Canadian Western Bank for 2161889 Alberta Ltd. In favour of the Government of Alberta**

We are legal counsel to the Canadian Western Bank (“**CWB**”) with respect to the aforementioned matter.

We refer to the Irrevocable Letters of Credit dated January 14, 2019 and January 23, 2019, respectively, requested by 216889 Alberta Ltd. (the “**Customer**”) and provided in favour of the Environment and Sustainable Resource Development, Operations Division Provisional Programs Branch of the Government of Alberta.

CWB has elected to not extend the Irrevocable Letters of Credit for any further period and this correspondence shall be deemed express written notice of the same. The Irrevocable

Edmonton

600 McLennan Ross Building
12220 Stony Plain Road
Edmonton, AB T5N 3Y4
Telephone 780 482 9200
Facsimile 780 482 9100
Toll-free 800 567 9200

Calgary

1900 Eau Claire Tower
600 – 3rd Avenue SW
Calgary, AB T2P 0G5
Telephone 403 543 9120
Facsimile 403 543 9150
Toll-free 888 543 9120

Yellowknife

301 Nunasi Building
5109 – 48th Street
Yellowknife, NT X1A 1N5
Telephone 867 766 7677
Facsimile 867 766 7678
Toll-free 888 836 6684

Letters of Credit numbered 417357, 417360, 417362, 417368, 417371, 417377, 417378, 417385, and 417386 shall expire January 14, 2024, and the Irrevocable Letters of Credit numbered 417747 and 417748 shall expire January 23, 2024. No further notice as to the expiration of these letters will be provided and the Irrevocable Letters of Credit shall become of no force and effect after the expiration date.

We ask that upon the expiration of the Irrevocable Letters of Credits, the original Irrevocable Letters of Credits be returned to our office.

If you have any questions regarding this matter, please do not hesitate to contact the undersigned.

CWB reserves all rights and remedies under the Irrevocable Letters of Credit.

Please note that we have copied Environment and Sustainable Resource Development, Operations Division Provisional Programs Branch of the Government of Alberta and counsel for FTI Consulting Canada Inc.

Yours truly,

A handwritten signature in blue ink, appearing to read 'RTT', is positioned above the name RYAN TRAINER.

RYAN TRAINER

RTT/smt

CC: Government of Alberta
Environment and Sustainable Resource Development
Attention: Sandra Moore
Main Floor, South Petroleum Plaza
9915 108 Street
Edmonton AB, T5J 0J4
Sandra.Moore@gov.ab.ca

Gowling WLG (Canada) LLP
Attention: Tom Cumming / Sam Gabor / Stephen Kroeger
1600, 421 7th Avenue SW
Calgary, AB T2P 4K9
tom.cumming@gowlingwlg.com
sam.gabor@gowlingwlg.com
stephen.kroeger@gowlingwlg.com

FTI Consulting Canada Inc.
Attention Sean Collins
Suite 1610, 520 - 5th Avenue SW
Calgary, AB T2P 3R7
scollins@mccarthy.ca



CANADIAN
WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 14 January 2019 BR 10 JHF PARK MD 1901566216 CIF 691154

TO: Government of Alberta
Environment and Sustainable Resource Development
Operations Division Land Management Branch
3rd Floor South Petroleum Plaza
9915 - 108 Street
Edmonton AB T5K 2G8

L/C No.: 417360 - *ML*
Office: Credit Support NAB
201, 12230 Jasper Ave
Edmonton AB T5N 3K3
Telephone: 1-888-851-9087
Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 110025
NE 11-61-18W4M (79.69 acres) Purpose: Sand and Gravel

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Seventy-nine Thousand Six Hundred Ninety Dollars And Zero Cents
(\$79,690.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 14 January 2020 and
(b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 14 January 2020 expiry date above, this Credit shall be automatically extended without amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

Drawings under this Credit shall be made in the form of a written demand for payment by you delivered to the Bank at the above mentioned office of the Bank and any demand must bear on its face the date and number of this Credit. Partial drawings are permitted.

Demands for payment in proper form and presented to the Bank while this Credit continues in effect shall be honored on presentation without inquiry by the Bank as to your rights to make such demand and without recognizing any claims of the Customer against you.

The Bank's sole obligation under this Credit shall be to pay monies in the circumstances and subject to the conditions described above. The maximum aggregate amount of this Credit will automatically be reduced by the amount of any partial drawings and may also be reduced at any time upon notice in writing by you to the Bank.

This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per: Heidi Jerrard JA125
Heidi Jerrard

Per: Laurel Skarlicki 8778
Laurel Skarlicki

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com

CANADIAN WESTERN BANK T 916902224



CANADIAN WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 14 January 2019 BR CH PARK RD 1701519257 CIF 691154

TO: Government of Alberta
Environment and Sustainable Resource Development
Operations Division Provincial Programs Branch
5th Floor South Petroleum Plaza
9915 - 108 Street
Edmonton AB T5K 2G8

L/C No.: 417386
Office: Credit Support NAB
201, 12230 Jasper Ave
Edmonton AB T5N 3K3
Telephone: 1-888-851-9087
Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 120100, Conservation and Reclamation Business Plan CRB 150020
SE 21-61-18-W4 (79.30 acres) Purpose: Sand and Gravel

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Twenty-nine Thousand Six Hundred Fifty Dollars And Zero Cents
(\$29,650.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 14 January 2020 and
(b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 14 January 2020 expiry date above, this Credit shall be automatically extended without
amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration
date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

Drawings under this Credit shall be made in the form of a written demand for payment by you delivered to the Bank at the
above mentioned office of the Bank and any demand must bear on its face the date and number of this Credit. Partial
drawings are permitted.

Demands for payment in proper form and presented to the Bank while this Credit continues in effect shall be honored on
presentation without inquiry by the Bank as to your rights to make such demand and without recognizing any claims of the
Customer against you.

The Bank's sole obligation under this Credit shall be to pay monies in the circumstances and subject to the conditions
described above. The maximum aggregate amount of this Credit will automatically be reduced by the amount of any
partial drawings and may also be reduced at any time upon notice in writing by you to the Bank.

This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per: Heidi Jerrard JA125
Heidi Jerrard

Per: Laurer Skarlicki SA178
Laurer Skarlicki

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com

CANADIAN WESTERN BANK 29,650.00



CANADIAN WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 14 January 2019 BRN 01 PARK MD 1201504575 CIF 691154

TO: Government of Alberta
Environment and Sustainable Resource Development
Main Floor South Petroleum Plaza
9915 - 108 Street
Edmonton AB T5K 2G8

L/C No.: 417378
Office: Credit Support NAB
201, 12230 Jasper Ave
Edmonton AB T5N 3K3
Telephone: 1-888-851-9087
Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 120005
W4-18-061-14-SW

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Seventy-eight Thousand One Hundred Ten Dollars And Zero Cents
(\$78,110.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 14 January 2020 and
(b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 14 January 2020 expiry date above, this Credit shall be automatically extended without
amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration
date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

Drawings under this Credit shall be made in the form of a written demand for payment by you delivered to the Bank at the
above mentioned office of the Bank and any demand must bear on its face the date and number of this Credit. Partial
drawings are permitted.

Demands for payment in proper form and presented to the Bank while this Credit continues in effect shall be honored on
presentation without inquiry by the Bank as to your rights to make such demand and without recognizing any claims of the
Customer against you.

The Bank's sole obligation under this Credit shall be to pay monies in the circumstances and subject to the conditions
described above. The maximum aggregate amount of this Credit will automatically be reduced by the amount of any
partial drawings and may also be reduced at any time upon notice in writing by you to the Bank.

This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per: Heidi Jerrard JA125
Heidi Jerrard

Per: Laurel Skarlicki SA178
Laurel Skarlicki

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com

CANADIAN WESTERN BANK 78,110.00



CANADIAN WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 14 January 2019 BR W SH PARK MID 1701500 957 CIF 671154

TO: Government of Alberta
 Environment and Sustainable Resource Development
 Operations Division Provincial Programs Branch
 5th Floor South Petroleum Plaza
 9915 - 108 Street
 Edmonton AB T5K 2G8

L/C No.: 417362
 Office: Credit Support NAB
 201, 12230 Jasper Ave
 Edmonton AB T5N 3K3
 Telephone: 1-888-851-9087
 Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 110026
 SW 11-61-18-W4 (79.86 acres) Purpose: Sand and Gravel

CANADIAN WESTERN BANK 77,540.00

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
 (the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
 Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
 Seventy-seven Thousand Five Hundred Forty Dollars And Zero Cents
 (\$77,540.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 14 January 2020 and
- (b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 14 January 2020 expiry date above, this Credit shall be automatically extended without amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

Drawings under this Credit shall be made in the form of a written demand for payment by you delivered to the Bank at the above mentioned office of the Bank and any demand must bear on its face the date and number of this Credit. Partial drawings are permitted.

Demands for payment in proper form and presented to the Bank while this Credit continues in effect shall be honored on presentation without inquiry by the Bank as to your rights to make such demand and without recognizing any claims of the Customer against you.

The Bank's sole obligation under this Credit shall be to pay monies in the circumstances and subject to the conditions described above. The maximum aggregate amount of this Credit will automatically be reduced by the amount of any partial drawings and may also be reduced at any time upon notice in writing by you to the Bank.

This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per: Heidi Jerrard JA125
 Heidi Jerrard

Per: Laurel Skarlicki SA178
 Laurel Skarlicki

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
 t. 888.851.9087 | f. 855.392.3014
 cwbank.com



CANADIAN WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 14 January 2019 BR 10 SW PARK MD 1701573428 CIF 691154

TO: Government of Alberta
Environment and Sustainable Resource Development
Operations Division Provincial Programs Branch
5th Floor South Petroleum Plaza
9915 - 108 Street
Edmonton AB T5K 2G8

L/C No.: 417368
Office: Credit Support NAB
201, 12230 Jasper Ave
Edmonton AB T5N 3K3
Telephone: 1-888-851-9087
Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 110045
E1/2 15-61-18-W4M (77.20 acres) Purpose: Sand and Gravel

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Fifty-seven Thousand Thirty Dollars And Zero Cents
(\$57,030.00) Dollars Canadian.

CANADIAN WESTERN BANK 57,030.00

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 14 January 2020 and
(b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 14 January 2020 expiry date above, this Credit shall be automatically extended without
amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration
date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

Drawings under this Credit shall be made in the form of a written demand for payment by you delivered to the Bank at the
above mentioned office of the Bank and any demand must bear on its face the date and number of this Credit. Partial
drawings are permitted.

Demands for payment in proper form and presented to the Bank while this Credit continues in effect shall be honored on
presentation without inquiry by the Bank as to your rights to make such demand and without recognizing any claims of the
Customer against you.

The Bank's sole obligation under this Credit shall be to pay monies in the circumstances and subject to the conditions
described above. The maximum aggregate amount of this Credit will automatically be reduced by the amount of any
partial drawings and may also be reduced at any time upon notice in writing by you to the Bank.

This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per: Heidi Jerrard
Heidi Jerrard

Per: Laurel Skarlicki
Laurel Skarlicki

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com



CANADIAN
WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 14 January 2019 RR 10 SH PARK RD 1701557050 CIF 691154

TO: Government of Alberta
Environment and Sustainable Resource Development
Operations Division Provincial Programs Branch
5th Floor South Petroleum Plaza
9915 - 108 Street
Edmonton AB T5K 2G8

L/C No.: 417377 W
Office: Credit Support NAB
201, 12230 Jasper Ave
Edmonton AB T5N 3K3
Telephone: 1-888-851-9087
Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 110047
S1/2, NW 15-61-18-W4M (79.54 acres) Purpose: Sand and Gravel

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Forty-six Thousand One Hundred Ten Dollars And Zero Cents
(\$46,110.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 14 January 2020 and
(b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 14 January 2020 expiry date above, this Credit shall be automatically extended without amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

Drawings under this Credit shall be made in the form of a written demand for payment by you delivered to the Bank at the above mentioned office of the Bank and any demand must bear on its face the date and number of this Credit. Partial drawings are permitted.

Demands for payment in proper form and presented to the Bank while this Credit continues in effect shall be honored on presentation without inquiry by the Bank as to your rights to make such demand and without recognizing any claims of the Customer against you.

The Bank's sole obligation under this Credit shall be to pay monies in the circumstances and subject to the conditions described above. The maximum aggregate amount of this Credit will automatically be reduced by the amount of any partial drawings and may also be reduced at any time upon notice in writing by you to the Bank.

This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per:

Heidi Gerrard JA125
Heidi Gerrard

Per:

Laurel Skarlicki SA178
Laurel Skarlicki

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com

CANADIAN WESTERN BANK 46110024



CANADIAN
WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 14 January 2019 BR 10 341 19219 MD 1701510027 CIF 671154

TO: Government of Alberta
Environment and Sustainable Resource Development
Operations Division Land Management Branch
3rd Floor South Petroleum Plaza
9915 - 108 Street
Edmonton AB T5K 2G8

L/C No.: 417357 *dm*
Office: Credit Support NAB
201, 12230 Jasper Ave
Edmonton AB T5N 3K3
Telephone: 1-888-851-9087
Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 060060 Conservation and Reclamation Business Plan CRB 100024
SW 13-65-18-w4 (41.44 acres) Purpose: Sand and Gravel

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Forty-one Thousand Four Hundred Forty Dollars And Zero Cents
(\$41,440.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 14 January 2020 and
(b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 14 January 2020 expiry date above, this Credit shall be automatically extended without amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

Drawings under this Credit shall be made in the form of a written demand for payment by you delivered to the Bank at the above mentioned office of the Bank and any demand must bear on its face the date and number of this Credit. Partial drawings are permitted.

Demands for payment in proper form and presented to the Bank while this Credit continues in effect shall be honored on presentation without inquiry by the Bank as to your rights to make such demand and without recognizing any claims of the Customer against you.

The Bank's sole obligation under this Credit shall be to pay monies in the circumstances and subject to the conditions described above. The maximum aggregate amount of this Credit will automatically be reduced by the amount of any partial drawings and may also be reduced at any time upon notice in writing by you to the Bank.

This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per:

Heidi Jerrard JH125
Heidi Jerrard

Per:

Laurel Skarlicki SA178
Laurel Skarlicki

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com



CANADIAN WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 14 January 2019 BRID SH PARK MD 1701567008 CIF 671154

TO: Government of Alberta
Environment and Sustainable Resource Development
Operations Division Provincial Programs Branch
5th Floor South Petroleum Plaza
9915 - 108 Street
Edmonton AB T5K 2G8

L/C No.: 417371 JM
Office: Credit Support NAB
201, 12230 Jasper Ave
Edmonton AB T5N 3K3
Telephone: 1-888-851-9087
Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 110046
N1/2 15-61-18-W4M (70.13 acres) Purpose: Sand and Gravel

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Forty-four Thousand Three Hundred Eighty Dollars And Zero Cents
(\$44,380.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 14 January 2020 and
(b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 14 January 2020 expiry date above, this Credit shall be automatically extended without
amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration
date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

Drawings under this Credit shall be made in the form of a written demand for payment by you delivered to the Bank at the
above mentioned office of the Bank and any demand must bear on its face the date and number of this Credit. Partial
drawings are permitted.

Demands for payment in proper form and presented to the Bank while this Credit continues in effect shall be honored on
presentation without inquiry by the Bank as to your rights to make such demand and without recognizing any claims of the
Customer against you.

The Bank's sole obligation under this Credit shall be to pay monies in the circumstances and subject to the conditions
described above. The maximum aggregate amount of this Credit will automatically be reduced by the amount of any
partial drawings and may also be reduced at any time upon notice in writing by you to the Bank.

This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per: Heidi Jerrard JA125
Heidi Jerrard

Per: Laurel Skarlicki SA178
Laurel Skarlicki

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com

CANADIAN WESTERN BANK # 43800004



CANADIAN WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 14 January 2019 BR 10 CH PARK NW 1701555888 CIF 671154

TO: Government of Alberta
Environment and Sustainable Resource Development
Operations Division Provincial Programs Branch
3rd Floor South Petroleum Plaza
9915 - 108 Street
Edmonton AB T5K 2G8

L/C No.: 417385
Office: Credit Support NAB
201, 12230 Jasper Ave
Edmonton AB T5N 3K3
Telephone: 1-888-851-9087
Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 120006, Conservation and Reclamation Business Plan CRB 140022
NW 14-61-18-W4 (25.70 acres) Purpose: Sand and Gravel

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Twenty-five Thousand Six Hundred Ninety Dollars And Zero Cents
(\$25,690.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 14 January 2020 and
(b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 14 January 2020 expiry date above, this Credit shall be automatically extended without
amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration
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partial drawings and may also be reduced at any time upon notice in writing by you to the Bank.

This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per: Heidi Jerrard JA125
Heidi Jerrard

Per: Laurel Skarlicki SA118
Laurel Skarlicki

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com

CANADIAN WESTERN BANK 25690000



CANADIAN WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 23 January 2019 *BP 10 JH 1995 MID 190 236 798 CIF 49104*

TO: Government of Alberta
Environment and Sustainable Resource Development
Operations Division Land Management Branch
3rd Floor South Petroleum Plaza
9915 108 Street
Edmonton AB T5K 2G8

L/C No.: 417748
Office: Credit Support - NAB
201 - 12230 Jasper Ave
Edmonton AB T5N 3K3
Telephone: 1-888-851-9087
Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 100085
NW 1/2 12-63-19-W4M (79.94 acres) Purpose: Sand and Gravel

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Forty-two Thousand Ten Dollars And Zero Cents
(\$42,010.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 23 January 2020 and
- (b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 23 January 2020 expiry date above, this Credit shall be automatically extended without amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

Drawings under this Credit shall be made in the form of a written demand for payment by you delivered to the Bank at the above mentioned office of the Bank and any demand must bear on its face the date and number of this Credit. Partial drawings are permitted.

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This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per: Maegah Eggertson
Maegah Eggertson

Per: Heidi Jerrard
Heidi Jerrard

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com

CANADIAN WESTERN BANK 2010000



CANADIAN
WESTERN BANK

IRREVOCABLE LETTER OF CREDIT - AUTOMATIC RENEWAL

DATE: 23 January 2019

BR ID of PARK MO 1202372170 CIF 691154

TO: Government of Alberta
Environment and Sustainable Resource Development
Operations Division Land Management Branch
3rd Floor South Petroleum Plaza
9915 108 Street
Edmonton AB T5K 2G8

L/C No.: 417747

Office: Credit Support - NAB
201 - 12230 Jasper Ave
Edmonton AB T5N 3K3

Telephone: 1-888-851-9087

Fax: 1-855-392-3014

RE: Surface Materials Lease Application No. SML 080085
NW 12 and SW 13-63-19-W4M (79.14 acres) Purpose: Sand and Gravel

Pursuant to the request of and for the account of 2161889 Alberta Ltd.
(the "Customer"), CANADIAN WESTERN BANK ("Bank") hereby establishes in your favor and gives to you the Bank's
Irrevocable Letter of Credit/Guarantee (the "Credit"), in an amount not exceeding in the aggregate
Nineteen Thousand Five Hundred Forty Dollars And Zero Cents
(\$19,540.00) Dollars Canadian.

This Credit shall become operative on the date hereof and shall continue in effect until the earlier of:

- (a) 23 January 2020 and
(b) the date by which the maximum aggregate amount of this Credit has been drawn upon by, and paid to you.

Notwithstanding the 23 January 2020 expiry date above, this Credit shall be automatically extended without amendment for one year from the present or any future expiration date unless at least 60 days prior to any such expiration date, the Bank shall notify you in writing by registered mail that we elect not to extend this Credit for any further period.

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This Credit shall be governed by the laws of the Province of Alberta.

CANADIAN WESTERN BANK

Per:

Maegan Eggertson
Maegan Eggertson

Per:

Heidi Jerrard
Heidi Jerrard

Suite 201, 12230 Jasper Avenue NW, Edmonton, AB T5N 3K3
t. 888.851.9087 | f. 855.392.3014
cwbank.com

CANADIAN WESTERN BANK 19,540.00

This is **Exhibit "Y"**
referred to in the Affidavit of Heather Dent
Sworn before me this *14* day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

From: [Cory Pichota](#)
To: [Heather Dent](#); [Maxwell Harrison](#); [Brendan Hemens](#)
Cc: [Cumming, Tom](#); John.stout@rlholdings.com
Subject: Mantle EPO Status Update Report
Date: October 16, 2023 4:35:19 PM
Attachments: [image001.png](#)
[OCTOBER 16 2023 - EPO Status Report.pdf](#)
[Kucy Pit Fish Rescue Report-15Sep2023.pdf](#)

CAUTION: This email has been sent from an external source. Treat hyperlinks and attachments in this email with care.

Good afternoon,

Please see attached October 16 EPO/EO Status Update Report associated with EPO-EPEA-35659-01 to 10 and EO-WA-35659-01.

Regards,



Cory Pichota | President/Chief Operating Officer
Mantle Materials Group, Ltd.

Tel: 587-991-8440

Email: cory.pichota@mantlegroup.ca

Website: www.mantlegroup.ca

Follow us on: [Facebook](#) | [LinkedIn](#)

Progress Update Report

EPO-EPEA-35659-01
MacDonald

EPO-EPEA-35659-02
Megley

EPO-EPEA-35659-03
Hoye/Kucy

EPO-EPEA-35659-04
Havener

EPO-EPEA-35659-05
Buksa

EPO-EPEA-35659-06
Okane

EPO-EPEA-35659-07/ EO-WA-35659-01
SML 060060

EPO-EPEA-35659-08
SML 930040

EPO-EPEA-35659-09
SML 980116

EPO-EPEA-35659-10
SML 120027

Mantle Materials Group, Ltd. (Mantle)

OCTOBER 16th, 2023

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11	EPO-EPEA-35659-10 SML120027	19
12	Closure	21

Appendix A: Kucy Pit Fish Salvage Summary Report

1 Executive Summary

This is the fifth report as a requirement for detailing the progress of the reclamation activities associated with EPO-EPEA-35659-01 to 10 and EO-WA-35659-01. The reporting period of activities is from October 28, 2022, to October 16, 2023.

2 EPO-EPEA-35659-01 MacDonald

2.1 Reclamation Activities 2023

Scheduled to complete the remaining of the recontouring activities including disposal of oversized rocks, place topsoil by October 31, 2023.

2.2 Reclamation Activities 2024

Seeding of topsoil will take place in the spring of 2024 after spring thaw.

2.4 EPO-EPEA-35659-01 MacDonald - Updated Schedule

Table 1: Updated Schedule of Activities for MacDonald Reclamation (Grey = completed)

Year	Activity covered under EPO or EPEA Registration	Description	Completion Date
2021	EPO	Removed a portion of marketable material	2021
2021	EPO	Site Assessment to finalize topsoil volume availability	May 15 th
2022	EPO	Remove a portion of the marketable material	June 15 th
2022	EPO	Complete a portion of the recontouring activities	July 15 th
2022	EPO	Remove all remaining marketable materials	Oct 28 th
2023	EPO	Complete the remaining of the recontouring activities including disposal of oversize rocks, place topsoil. Oct 18 th – Oct 31 st	Oct 31 st
2024	EPO	Assess soil stability after spring thaw and seed topsoil with pasture mix	May 15 th
2024	EPO	Six-month monitoring requirement as per the EPO	May 15 th to Nov 15 th , 2024
2024	EPEA	Assess pasture vegetation success and survey for the presence of weeds	Oct 1 st
2025	EPEA	Assess the soil stability after spring thaw	May 15 th
2025	EPEA	Assess crop vegetation success and survey for the presence of weeds	July 1 st
2025	EPEA	Apply for reclamation certificate that will go towards terminating the registration	Nov 1 st

3 EPO-EPEA-35659-02 Megley

3.1 Reclamation Activities 2023

Completed all remaining recontouring activities, placing of topsoil and seeding.

3.2 EPO-EPEA-35659-02 Megley - Updated Schedule

Table 2: Updated Schedule of Activities for Megley Reclamation (Grey = completed)

Year	Activity covered under EPO or EPEA Registration	Description	Completion Date
2021	EPO	Filled in a portion of the eastern waterbody (SW-36-58-16-W4M)	Nov 15 th
2022	EPO	Northern portion was tilled.	July 22 nd
2022	EPO	Complete filling in of all open excavations that have intercepted the ground water	Aug 23 rd
2023	EPO	Complete all remaining recontouring activities, place topsoil and seeding. May 17 th – Sept 12 th	Sept 12 th
2023	EPO	Six-month monitoring requirement as per the EPO	Oct 1 st , 2023, to March 30 th , 2024
2024	EPEA	Assess the soil stability after spring thaw	May 15 th
2024	EPEA	Assess crop vegetation success and survey for the presence of weeds	July 1 st
2025	EPEA	Assess the soil stability after spring thaw	May 15 th
2025	EPEA	Assess crop vegetation success and survey for the presence of weeds	July 1 st
2025	EPEA	Apply for reclamation certificate that will go towards terminating the registration	Nov 1 st

4 EPO-EPEA-35659-03 Hoye/Kucy

4.1 Reclamation Activities 2023

The constructed waterbody and the Beaver River were sampled prior to dewatering for total metals and routine water analysis, total suspended solids (TSS), and pH. Regular water samples from the discharge were sent to a credited lab for analysis.

Basin Environmental was retained to capture fish and release them into the Beaver River. The fish salvage was conducted between August 28 and September 10, 2023. (Summary Report included)

Completed all remaining recontouring activities and placing of topsoil.

4.2 Reclamation Activities 2024

Seeding of topsoil will take place in the spring of 2024 after spring thaw.

4.3 EPO-EPEA-35659-03 Hoyer/Kucy - Updated Schedule

Table 3: Updated Schedule of Activities for Hoyer/Kucy Reclamation (Grey = completed)

Year	Activity covered under EPO or EPEA Registration	Description	Completion Date
2022	EPO	Preparation for dewatering. Dewatering.	Sep 13 th
2023	EPO	Dewatering of the Waterbody. Aug 15 th – Sept 15 th	Sept 15 th
2023	EPO	Fish rescue conducted. Aug 28 th – Sept 10 th	Sept 10 th
2023	EPO	Deconstruct waterbody, complete final recontouring and topsoil placement. Aug 17 th – Oct 9 th	Oct 9 th
2024	EPO	Assess soil stability and seed topsoil	May 15 th
2024	EPO	Six-month monitoring requirement as per the EPO	May 15 th to Nov 15 th , 2024
2024	EPEA	Assess soil stability, revegetation success, and for the presence of weeds	May 15 th
2024	EPEA	Address any shortfalls discovered from the assessment	June 15 th
2025	EPEA	Assess vegetation success and survey for the presence of weeds	May 15 th
2025	EPEA	Address any shortfalls discovered from the assessment	June 15 th
2025	EPEA	Apply for reclamation certificate that will go towards terminating the registration	Nov 1 st

5 EPO-EPEA-35659-04 Havener

5.1 Summary

AEPA has placed an Environmental Protection Order EPO-EPEA-35659-11. Mantle is currently going through a sales and solicitation process on the pit which the deadline for bids is October 25, 2023.

6 EPO-EPEA-35659-05 Buksa

6.1 Reclamation Activities 2023

Completed final recontouring including oversize rock disposal, topsoil placement, and seeding.

6.2 EPO-EPEA-35659-05 Buksa - Updated Schedule

Table 4: Updated Schedule of Activities for Buksa Reclamation (Grey = completed)

Year	Activity covered under EPO or EPEA Registration	Description	Completion Date
2021	EPO	Completed the major recontouring	Nov 14 th
2022	EPO	Additional recontouring including backfilling and recontouring along the east side.	May 28 th
2023	EPO	Complete final recontouring including oversize rock disposal, topsoil placement, and seeding June 19 th – Sept 13 st	Sept 13 th
2023	EPO	Six-month monitoring requirement as per the EPO	Oct 1 st , 2023, to March 30 th , 2024
2024	EPEA	Assess the soil stability after spring thaw	May 15 th
2024	EPEA	Assess crop vegetation success and survey for the presence of weeds	July 1 st
2024	EPEA	Address any shortfalls discovered from the assessment	Sept 20 th
2025	EPEA	Assess the soil stability after spring thaw	May 15 th
2025	EPEA	Assess crop vegetation success and survey for the presence of weeds	July 1 st
2025	EPEA	Address any shortfalls discovered from the assessment	Sept 20 th
2025	EPEA	Apply for reclamation certificate that will go towards terminating the registration	Nov 1 st

7 EPO-EPEA-35659-06 Okane

7.1 Summary

No reclamation requirements. Transfer of pit from Mantle to Aarbo in process, waiting on EPA to review and respond.

7.2 EPO-EPEA-35659-06 Okane - Updated Schedule

Table 5: Updated Schedule of Activities for Okane Reclamation (Grey = completed)

Year	Activity covered under EPO or EPEA Registration	Description	Completion Date
2021	EPO	Completed erosion remediation	Nov 13 th
2022	EPO	UAP submission	March 10 th
2022	EPO	SIR submission	Aug 1 st
2022	EPO	WA Submission	Oct 14 th
2022	EPO	Application for transfer of pit registration and Water Act approval from Mantle to Aarbo Ranching	15 days after receiving UAP approval
2023	EPO	Transfer of pit from Mantle to Aarbo.	Nov 1 st

8 EPO-EPEA-35659-07 / EO-WA-35659-01 SML 060060

8.1 Summary

Mantle submitted a revised Remedial Plan January 27, 2023 in response to the Water Act Enforcement Order No. EO-WA-35659-01 and Environmental Protection Order No. EPO-EPEA-35659-07. Mantle received approved September 14th and was issued TFA to commence dewatering activities.

8.2 Reclamation Activities 2023

Prior to dewatering the constructed waterbody was sampled for total metals and routine water analysis, total suspended solids (TSS), and pH. Regular water samples from the discharge continue to be sent to a credited lab for analysis.

On August 23rd a levellogger and the barologger were installed in the water level monitoring well and were setup to record water level fluctuation and changes in atmospheric pressure and temperature, respectively. The two loggers continue recording and logging to date.

Dewatering commenced on September 14th and is still ongoing.

Major recontouring of the lands along with reconstructing the waterbody edge and final recontouring and topsoil placement is currently ongoing and scheduled to be completed by October 31st.

8.2 Reclamation Activities 2024

Seeding of topsoil will take place in the spring of 2024 after spring thaw.

8.3 EPO-EPEA-35659-07 / EO-WA-35659-01 SML 060060 - Schedule

Table 6: Schedule of Activities for SML 060060 Reclamation (Grey = completed)

Year	Activity covered under EPO or EPEA Registration	Description	Completion Date
2022	EPO	Remediation of the North ditches – stripping soils, recontouring, final topsoil placement.	Aug 30 th
2022	EPO	Final recontouring of the Northern area. Interim remediation of southwest erosion. Salvaged topsoil and woody debris. Stripping topsoil. Dewater waterbody and completed partial backfilling of the waterbody.	Oct 21 st
2023	EPO	Dewater the waterbody. Sep 14 th – Oct 31 st	Oct 31 st
2023	EPO	Remediation of recontouring of the constructed waterbody. Complete all remaining reclamation activities; Final fill, final recontouring, final topsoil placement. Oct 2 nd – Oct 31 st	Oct 31 st
2024	EPO	Assess soil stability and seed topsoil	May 15 th
2024	EPO	Six-month monitoring requirement as per the EPO	May 15 th to Nov 15 th , 2024
2024	EPEA	Assess completed reclamation for soil stability, vegetation success, weeds	Aug 15 th
2025	EPEA	Assess completed reclamation for soil stability, vegetation success, weeds	Aug 15 th
2025	EPEA	Apply for reclamation certificate that will go towards terminating the registration	Sept 15 th

9 EPO-EPEA-35659-08 SML930040

9.1 Summary

Weed management occurred in May 2023 and a site assessment was completed in July and October for presence of weeds as part of the ongoing maintenance required to receive a reclamation certificate in November 2023.

9.2 EPO-EPEA-35659-08 SML930040 - Updated Schedule

Table 7: Updated Schedule of Activities for SML 930040 Reclamation (Grey = completed)

Year	Activity covered under EPO or Surface Material Lease (SML)	Description	Completion Date
2021	EPO	Removal of garbage and debris. Complete the recontouring, seeding, and block access	Oct 20 th
2022	EPO	Six-month monitoring requirement as per the EPO	Nov 1 st , 2021, to April 30 th , 2022
2022	EPO	Assess soil stability, revegetation success, and check for the presence of weeds	July 15 th
2022	EPO	Address any shortfalls discovered from the assessment	Sept 20 th
2023	SML	Assess the soil stability after spring thaw	May 15 th
2023	SML	Spray for weed control.	June 1 st
2023	SML	Assess vegetation success and survey for the presence of weeds.	July 1 st
2023	SML	Assess vegetation success and survey for the presence of weeds.	Oct 13 th
2023	SML	Apply for reclamation certificate that will go towards cancellation of the Surface Materials Lease	Nov 1 st

10 EPO-EPEA-35659-09 SML 980116

10.1 Summary

Weed management occurred in May 2023 and a site assessment was completed in July and October for presence of weeds as part of the ongoing maintenance required to receive a reclamation certificate in November 2023.

10.2 EPO-EPEA-35659-09 SML 980116 - Updated Schedule

Table 8: Updated Schedule of Activities for SML 980116 Reclamation (Grey = completed)

Year	Activity covered under EPO or Surface Material Lease (SML)	Description	Completion Date
2021	EPO	Complete the dugout construction and topsoil placement by October 31 st	Oct 14 th
2021	EPO	Seed native grass seed	Dec 31 st
2022	EPO	Six-month monitoring requirement as per the EPO	Jan 1 st , 2022, to June 30 th 2022
2022	EPO	Assess soil stability, revegetation success, and check for the presence of weeds	July 15 th
2022	EPO	Address any shortfalls discovered from the assessment	Sept 20 th
2023	SML	Assess the soil stability after spring thaw	May 15 th
2023	SML	Spray for weed control.	June 1 st
2023	SML	Assess vegetation success and survey for the presence of weeds.	July 1 st
2023	SML	Assess vegetation success and survey for the presence of weeds.	Oct 13 rd
2023	SML	Apply for reclamation certificate that will go towards cancellation of the Surface Materials Lease	Nov 1 st

11 EPO-EPEA-35659-10 SML120027

11.1 Summary

Weed management occurred in May 2023 and a site assessment was completed in July and October for presence of weeds as part of the ongoing maintenance required to receive a reclamation certificate in November 2023.

11.2 EPO-EPEA-35659-10 SML120027 - Updated Schedule

Table 9: Updated Schedule of Activities for SML 120027 Reclamation (Grey = completed)

Year	Activity covered under EPO or Surface Materials Lease (SML)	Description	Completion Date
2021	EPO	Complete hydroseeding on required areas	Oct 13 th
2022	EPO	Six-month monitoring requirement as per the EPO	Nov 1 st , 2021, to April 30, 2022
2022	EPO	Assess soil stability, revegetation success, plant trees and check for the presence of weeds	July 15 th
2022	EPO	Address any shortfalls discovered from the assessment	Sept 20 th
2023	SML	Assess the soil stability after spring thaw	May 15 th
2023	SML	Spray for weed control.	June 1 st
2023	SML	Assess vegetation success and survey for the presence of weeds	July 1 st
2023	SML	Assess vegetation success and survey for the presence of weeds	Oct 13 rd
2023	SML	Apply for reclamation certificate that will go towards cancellation of the Surface Materials Lease	Nov 1 st

12 Closure

This report has been prepared by Cory Pichota, Mantle Materials Group, Ltd.



Cory Pichota



Mantle Materials Group Ltd.
455-61329 Range Road
Bonnyville AB T9N 2H4

15 September 2023

Attention: Cory Pichota

Kucy Pit Fisheries Salvage Summary Report

1.0 Introduction

Mantle Materials Group Ltd. (Mantle) is in the process of dewatering the Kucy borrow pit in SE 19-63-9 W4M. Due to its age and proximity to Beaver River, fish are likely present in the borrow pit. The borrow pit was roughly 210 m long by 100 m wide, with water depths ranging from 0.5 m to 2 m deep. Mantle retained Basin Environmental Ltd. (Basin) to capture fish (fish salvage) and release them into Beaver River. The fish salvage was conducted between August 28 and September 10, 2023.

2.0 Methods

Basin followed fish rescue protocols as per the *Electrofishing Policy Respecting Injuries to Fish* (GOA 2012) and *Standard for Sampling Small-Bodied Fish in Alberta* (GOA 2013). The fish salvage process utilized various fish collection methods depending on equipment availability and effectiveness. Water temperature ranged between 12 and 14°C with conductivity ranging from 428 to 484 µS/cm.

Boat electrofishing was utilized with a 3-man crew using a Smith-Root GPP Float Electrofisher mounted on a pontoon boat. Multiple passes were conducted using the boat electrofisher with each pass averaging about 200 m. Boat settings used 30 Hz with 50-500 voltage.

Where boat electrofishing was not used, backpack electrofishing was conducted using the Smith-Root LR-24 unit. On Sept 3, 2023, two 2-man crews were used, both using LR-24 backpack units. The remaining days utilized one 3-man crew. Electrofishing settings used 30-40 Hz, with 150 to 450 voltage. In addition to boat/backpack electrofishing, minnow trapping (using G-type minnow traps) and dip netting was also conducted.

Fish captured were held in an aerated holding tank, then processed (identified, enumerated and measured) prior to releasing into Beaver River.

3.0 Results

Boat electrofishing was used from Aug 28 to 30, 2023. A total of 23 passes were conducted resulting in 907 fish caught over 15,321 seconds of electrofishing effort. Species caught were white sucker, northern pike and lake chub. From September 3 to 10, 2023, backpack electrofishing was conducted. A total of 43 passes were conducted resulting in 1,843 fish caught over 21,162 seconds of electrofishing effort. Species caught with the backpack unit consisted of white sucker, northern pike, Iowa darter, and lake chub.



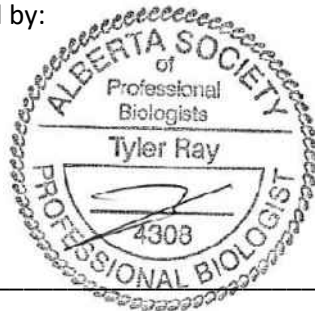
White suckers were the most abundant species (n=2,213), followed by Iowa darter (n=481), northern pike (n=91) and lake chub (n=10). Overall, a total of 2795 fish were removed from the borrow pit and released into Beaver River. As per the fish license, the fish rescue was deemed completed when two complete passes were conducted with no fish caught.

Details of the fish rescue are presented in Table A1 in Attachment 1. Select site photos are presented in Attachment 2.

4.0 Closure

Mantle assisted in the fish rescue by pumping the water down to levels where fish rescue could be conducted effectively. As the water levels dropped during the fish rescue period, this allowed for capture efforts to focus on isolated pools where fish congregated. Basin has made every effort to capture all the fish within the Kucy Pit and no fish were harmed in the capture and release activities.

Report Prepared by:



Tyler Ray, P.Biol., CAN-CISEC
Senior Fisheries Biologist

3.0 References

Government of Alberta (GOA) 2012. Electrofishing Policy Respecting Injuries to Fish. Accessed: August 2023. Available at: <https://www.alberta.ca/fish-research-licence>

Government of Alberta (GOA) 2013. Standard for Sampling Small-Bodied Fish in Alberta. Accessed: August 2023. Available at: <https://www.alberta.ca/fish-research-licence>

APPENDIX A: DETAIL FISH RESCUE RESULTS

Date	Fishing Method										
	Electrofishing			Minnow Traps		Dip-Netting				Fish Caught	
	Pass No.	Distance Fished (m)	Shocking Seconds (s)	Date/Time Set	Date/Time Pulled	Pass No.	Distance Fished (m)	Number of Nets	Netting Time (min)	Species***	Count
Aug 28, 2023	1*	200	1352	Not utilized this day		Not utilized this day				WHSC	143
	2*	200	758							WHSC	60
										NRPK	4
										LKCH	1
Day Totals		400	2110							3	208
Aug 29, 2023	1*	200	1476	Not utilized this day		Not utilized this day				WHSC	56
	2*	200	523							NRPK	6
	3*	200	319							WHSC	61
	4*	200	463							WHSC	38
	5*	200	698							WHSC	44
	6*	200	373							WHSC	39
	7*	200	537							WHSC	30
	8*	200	754							NRPK	1
	9*	200	598							WHSC	21
	10*	200	694							WHSC	42
	11*	200	520							WHSC	34
Day Totals		2200	6955							2	439
Aug 30, 2023	1*	200	1105	Not utilized this day		Not utilized this day				WHSC	34
	2*	200	350							WHSC	10
	3*	200	540							WHSC	27
	4*	200	571							WHSC	33
	5*	200	903							WHSC	42
	6*	200	638							WHSC	23
	7*	200	522							WHSC	38
	8*	200	697							WHSC	17
	9*	200	624							WHSC	22
	10*	200	576							WHSC	14
Day Totals		2000	6256							1	260
Sept 3, 2023	1	64	360	Not utilized		Not utilized this day				NRPK	1
	2	64	430							NRPK	1
										LKCH	1

Date	Fishing Method										
	Electrofishing			Minnow Traps		Dip-Netting				Fish Caught	
	Pass No.	Distance Fished (m)	Shocking Seconds (s)	Date/Time Set	Date/Time Pulled	Pass No.	Distance Fished (m)	Number of Nets	Netting Time (min)	Species***	Count
	5	100	673	Not utilized						WHSC	16
										LKCH	1
										IWDR	20
	6	50	228							WHSC	4
										NRPK	2
	7	200	688							NRPK	1
										IWDR	4
	8	100	419							WHSC	31
			NRPK	4							
			IWDR	2							
Day Totals		750	3497							3	37
Sept 7, 2023-	1	50	121	Not utilized						WHSC	21
										NRPK	8
										LKCH	1
	2	150	731							WHSC	45
										NRPK	17
										LKCH	3
										IWDR	88
	3	150	659							WHSC	27
										NRPK	7
										LKCH	3
										IWDR	7
	4	150	392							WHSC	41
										NRPK	1
			IWDR	14							
5	80	238	WHSC	64							
			NRPK	3							
6	100	261	IWDR	2							
Day Totals		680	2402							4	352
Sept 8, 2023	1	_**	_**	Not utilized						IWDR	22
										WHSC	49
	2	_**	_**							NRPK	2
			IWDR	6							

Date	Fishing Method											
	Electrofishing			Minnow Traps		Dip-Netting				Fish Caught		
	Pass No.	Distance Fished (m)	Shocking Seconds (s)	Date/Time Set	Date/Time Pulled	Pass No.	Distance Fished (m)	Number of Nets	Netting Time (min)	Species***	Count	
	3	_**	_**	Not utilized		Not utilized				WHSC	6	
	---	---	---	Not utilized	1	50	2	53	NRPK	1		
									IWDR	118		
									WHSC	54		
	---	---	---		2	50	2	60	IWDR	6		
									WHSC	30		
									NRPK	3		
	---	---	---	3	50	2	65	IWDR	17			
								WHSC	55			
								NRPK	1			
	Day Totals		150**	_**				150	6	178	4	386
	Sept 9, 2023	1	50	1016	Not utilized		Not utilized				WHSC	59
2		50	236	NRPK							2	
				IWDR							51	
3		50	159	WHSC							96	
				IWDR							11	
4		50	349	WHSC							99	
				IWDR							2	
5		50	240	WHSC							101	
				NRPK							1	
6		50	203	IWDR							9	
				WHSC							129	
7		100	690	NRPK							6	
				IWDR							6	
				WHSC							112	
	NRPK			3								
			IWDR	1								
			WHSC	77								
			NRPK	8								
			IWDR	16								

Date	Fishing Method											
	Electrofishing			Minnow Traps		Dip-Netting				Fish Caught		
	Pass No.	Distance Fished (m)	Shocking Seconds (s)	Date/Time Set	Date/Time Pulled	Pass No.	Distance Fished (m)	Number of Nets	Netting Time (min)	Species***	Count	
	8	50	324							WHSC	26	
										NRPK	1	
										IWDR	9	
	9	100	625	Not utilized		Not utilized				WHSC	44	
										NRPK	4	
										IWDR	8	
Day Totals		550	3842							3	881	
Sept 10, 2023	1	50	550		Not utilized			Not utilized		WHSC	22	
										NRPK	2	
										IWDR	31	
	2	50	376							WHSC	5	
										IWDR	17	
	3	50	373							WHSC	6	
										IWDR	6	
4	50	203							-	0		
5	100	502							-	0		
Day Totals		300	2004							3	89	
Final Totals		3788	36483			150 hr 6 m			2	178	4	2750

* Denotes boat Electrofishing

** Data not recorded.

***WHSC – White Sucker, NRPK – Northern Pike, IWDR – Iowa Darter, LKCH – Lake Chub

APPENDIX B: SELECT SITE PHOTOS

PHOTO 1:

Electrofishing boat.

(30 August 2023)



Aug 30, 2023 at 8:39:11 AM
+54.458375, -111.344414
Bonnyville No. 87 AB
Canada
B-0382-33
Fish salvage

PHOTO 2:

Photo of northern pike being processed prior to release.

(30 August 2023)



Aug 30, 2023 at 1:08:14 PM
+54.458364, -111.344339
Bonnyville No. 87 AB
Canada
B-0382-33
Fish salvage

PHOTO 3:

Photo of Iowa darter.

(3 September 2023)



PHOTO 4:

Photo of northern pike and holding tank.

(5 September 2023)



PHOTO 1:

Photo of lake chub.

(5 September 2023)



PHOTO 2:

White suckers in a temporary holding tank.

(7 September 2023)



PHOTO 1:

A pair of Iowa darters being processed.

(9 September 2023)



PHOTO 2:

Photo of white sucker.

(9 September 2023)



This is **Exhibit "Z"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

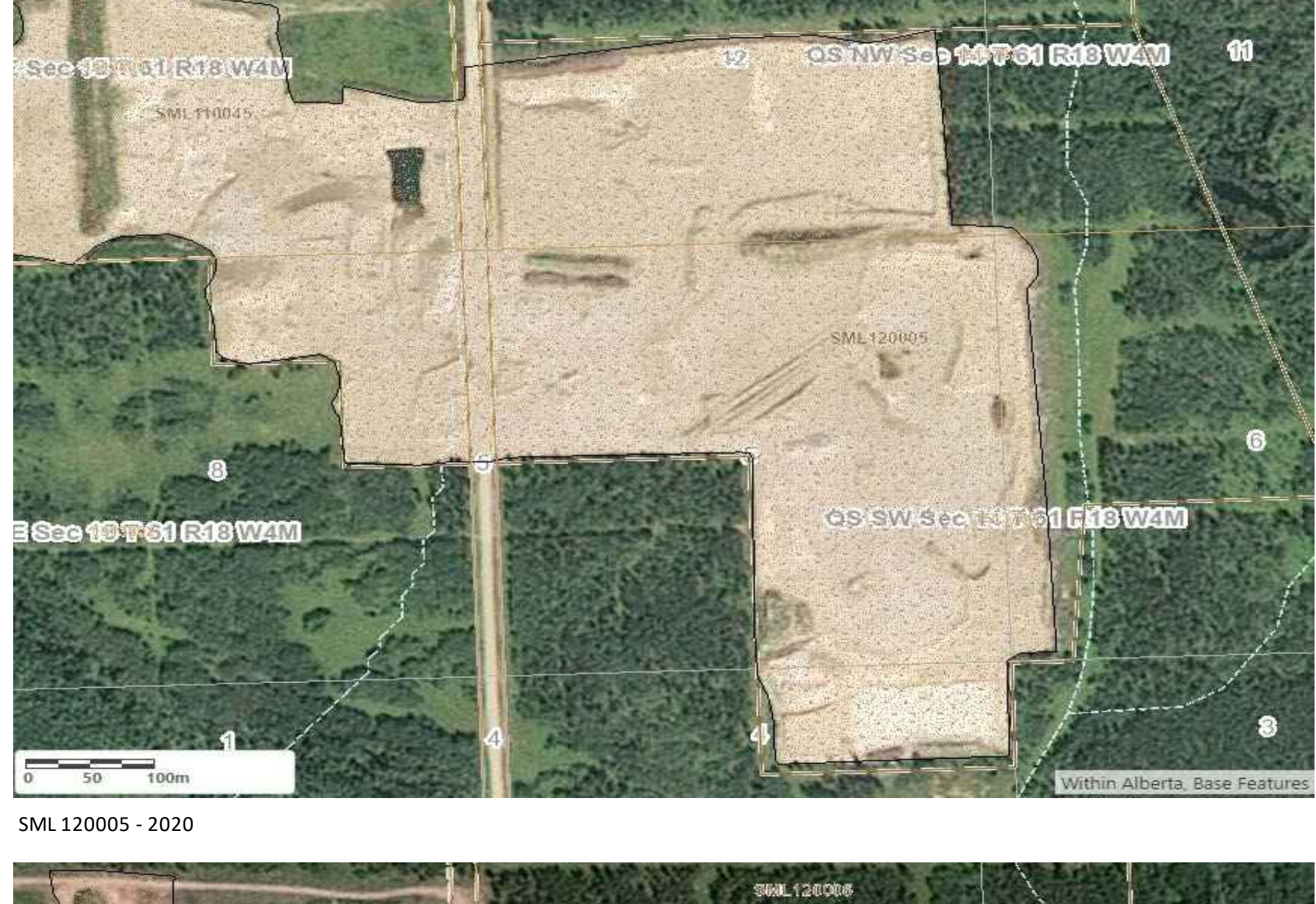
Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta

My Commission Expires April 28, 2025

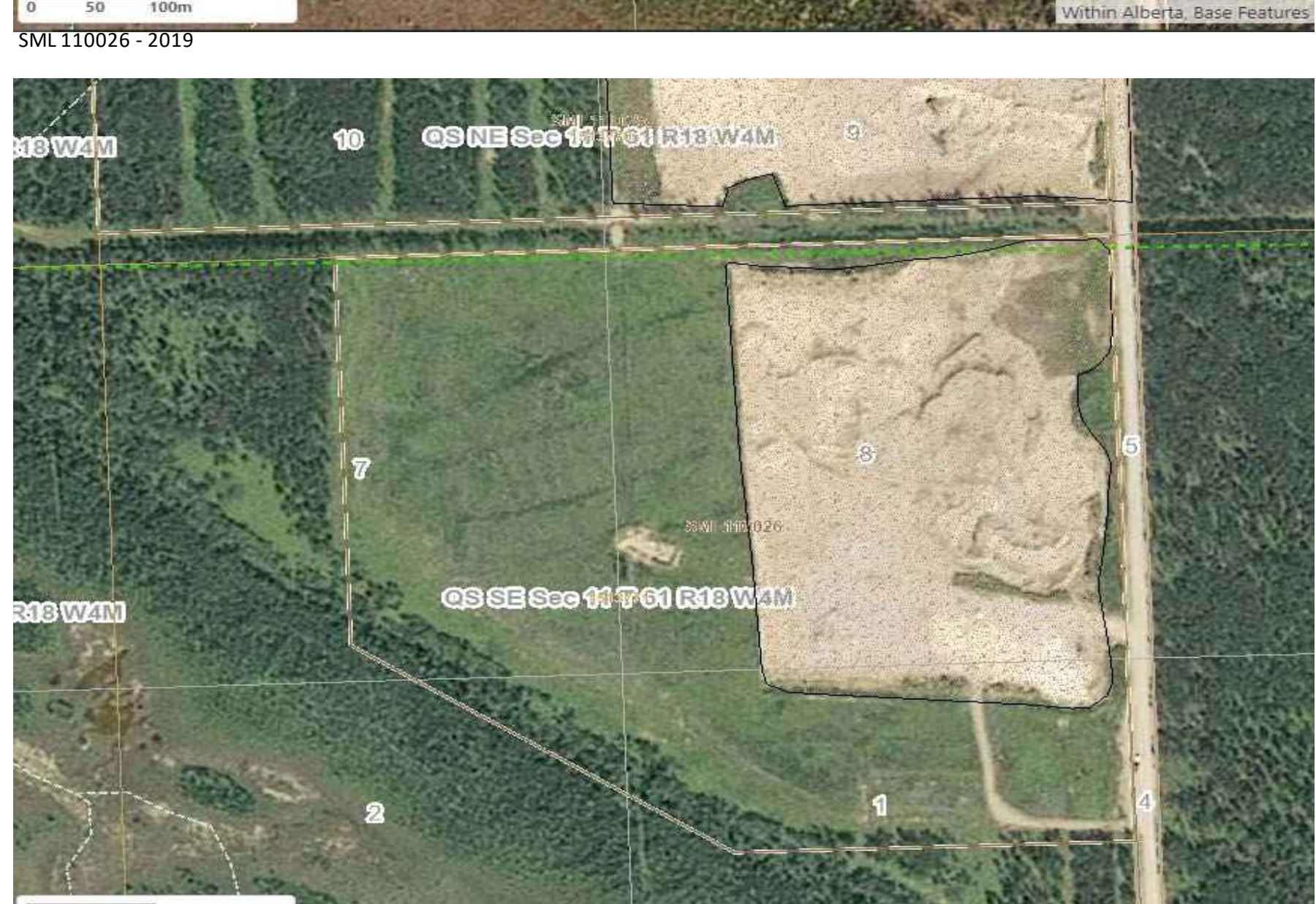
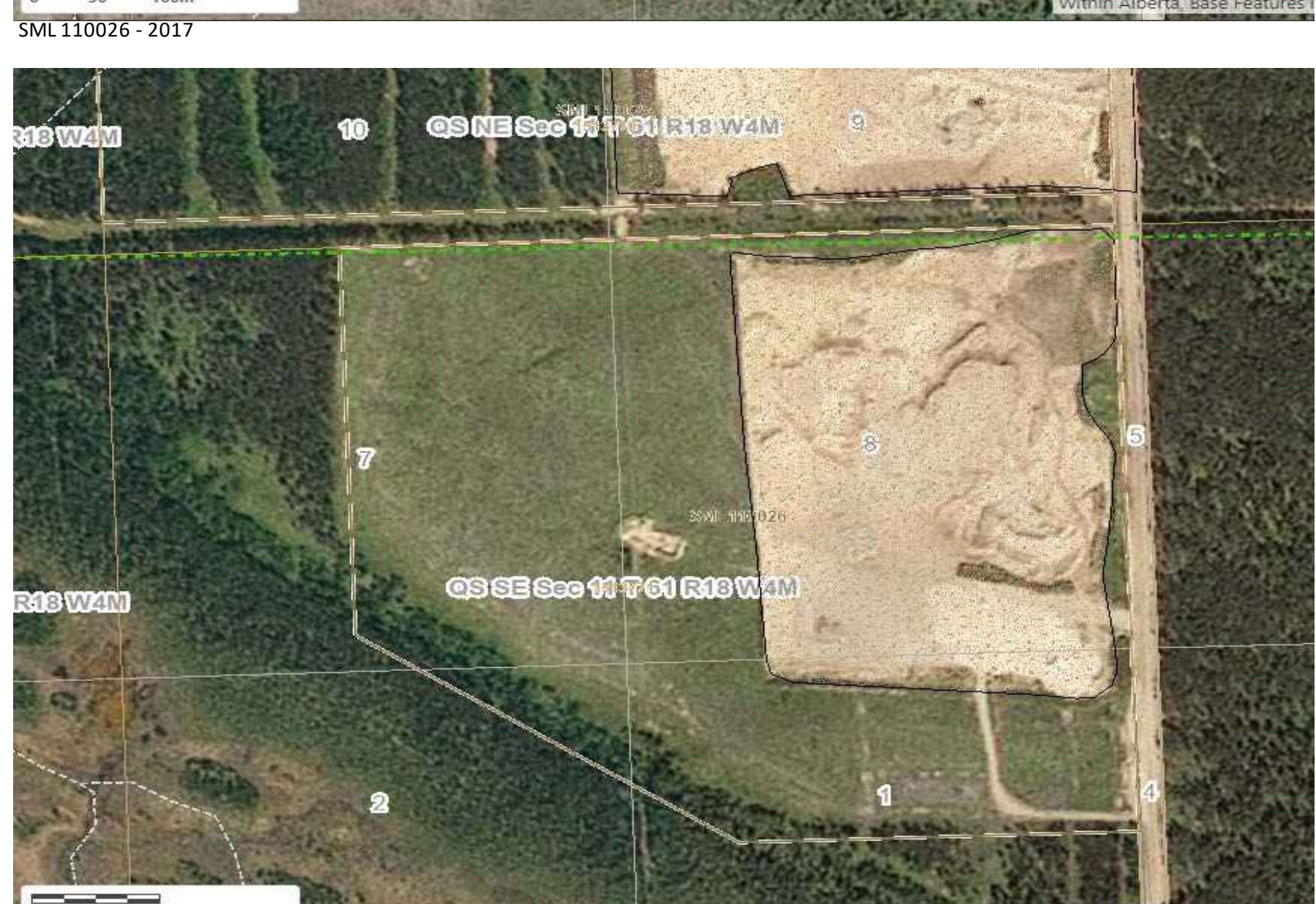


A Commissioner of Oaths
In and for the Province of Alberta

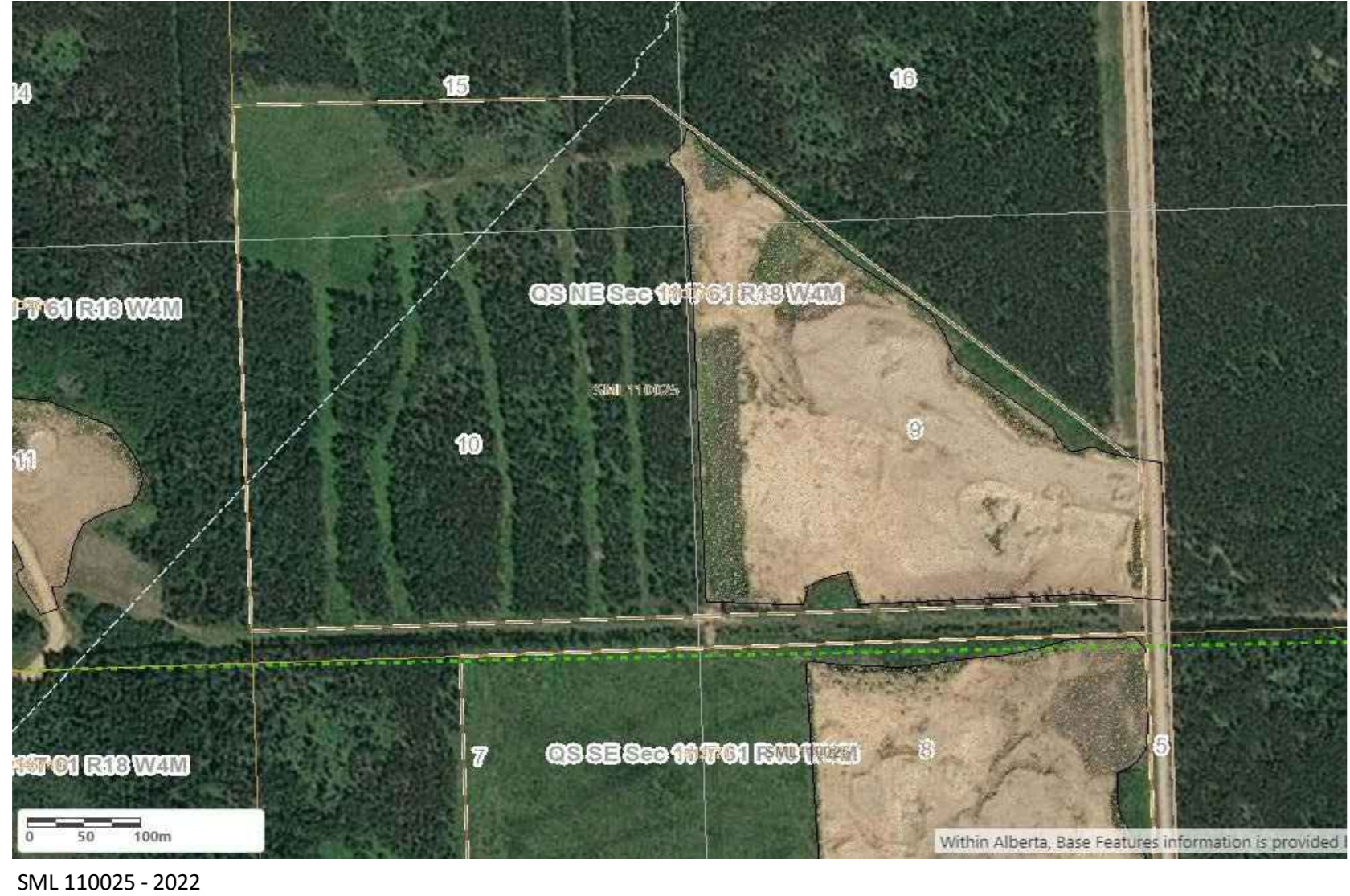
Disposition	Operator	Operating Year	AR filed?	Aggregate Volume Reported (cu yds)	In accordance with GLIMPS?		Associated Imagery	
SML 110025	Bonnie Badry	2011	N				SML 110025'!A1	
		2012	Y	0				
		2013	N					
		2014	Y	0				
	Bonnie Badry	2015	Y		21.72	Y		A portion returned in Q234?
		2016	Y		3360.48	Y		
		2017	Y		11066.99	Y		
		2018	Y		13440.21	N		
2161889 AB Ltd.	2019	Y		6743.68	Y			
	2020	Y		1269	Y			
SML 11026	541466 AB Ltd.	2012	Y	0	Y	SML 11026'!A1		
		2013	Y	44452.61	Y			
		2014	Y	50717.78	Y			
		2015	Y	136.84	Y			
		2016	Y	356.94	Y			
		2017	Y	4175.69	28.35 N			
		2018	Y	482.67	Y			
		2019	Y	320.3	Y			
		2020	Y	0	Y			
SML 110045	Robert Beaverford	2013	Y	0	0 0 Y	SML 110045'!A1		
		2015	Y	0	Y			
		2016	Y	6208.68	6208.68			
		2017	Y	33180.59	33463.83 N			
		2018	Y	4436.13	Y			
		2019	Y	13697.59	Y			
		2020	Y	6108	Y			
SML 110047	Glenn Ball	2012	Y		0	SML 110047'!A1		
		2013	Y	0	0			
		2015	Y	0	0			
		2016	Y	0	0			
		2017	Y	0	0			
		2018	Y	0	0			
		2019	Y	0	0			
		2020	Y	38685	38685			
		2021	Y	0	0			
		2022	Y	0	0			
SML 120005	Jordan Ball	2013	Y	0		SML 120005'!A1		
			Y	0				
	Jordan Ball	2018	Y	0				
		2019	Y	161260.2	Y			
		2020	Y	40750	Y			





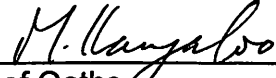


SA 11000 - 2013



This is **Exhibit "AA"**
referred to in the Affidavit of Heather Dent
Sworn before me this *14* day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

EPO-EPEA-35659-01
EPO-EPEA-35659-02
EPO-EPEA-35659-03
EPO-EPEA-35659-04
EPO-EPEA-35659-05
EPO-EPEA-35659-06/ EO-WA-35659-01
EPO-EPEA-35659-07
EPO-EPEA-35659-08
EPO-EPEA-35659-09
EPO-EPEA-35659-10

October 27, 2023

Mr. Cory Pichota
President and CEO
Mantle Materials Group, Ltd.
cory.pichota@mantlegroup.ca

Subject: Progress Update Report for Environmental Protection Orders and Enforcement Order

Alberta Environment and Protected Areas (AEPA) received a Status Update dated October 16, 2023, from Mantle Materials Group, Ltd (Mantle).

AEPA has completed the review of these status updates and provide the following comments for each of the pits both public land and private land.

PRIVATE LAND

MacDonald Pit - EPO-EPEA-35659-01

On June 8, 2021, AEPA accepted a Reclamation and Remedial Plan submitted by Mantle on March 27, 2021.

On September 01, 2023, AEPA completed an inspection of the MacDonald Pit. The inspection found the site not yet reclaimed and still requiring recontouring activities including the disposal of oversize rock, topsoil placement and seeding requirements. Reclamation work was estimated to take two weeks to complete and scheduled for completion closer to the end of October 2023. Mantle's October 16, 2023, Progress Update Report indicated that by October 31, 2023, the site would be recontoured, oversized rocks disposed, and topsoil placed.

The Schedule in the Remedial Plan includes a commitment to complete the remaining recontouring activities, place topsoil, and seed topsoil with pasture mix by June 15, 2022. The plan also required a six-month monitoring period, soil stability assessment and revegetation and weed assessment all before its Reclamation Certificate application submission deadline of November 1, 2023. At this time, Mantle is deficient in fulfilling this obligation as per its Remedial Plan.

Megley Pit -EPO-EPEA-35659-02

On August 20, 2021, AEPA accepted a Reclamation and Remedial Plan submitted by Mantle on June 11, 2021.

On September 22, 2023, AEPA completed an inspection of the Megley Pit. The inspection found that the site's open excavations that had intercepted groundwater had been filled in and the majority of recontouring activities completed. Mantle's October 16, 2023, Progress Update Report indicated that all remaining recontouring, topsoil placement and seeding activities were completed by September 12, 2023.

The Schedule in the Remedial Plan includes a commitment to have open excavations that intercepted the groundwater filled in by December 1, 2021, complete all major recontouring by December 15, 2021, with remaining contouring and topsoil placement completed by July 15, 2022. At this time, Mantle is deficient in fulfilling this obligation.

Hoye/Kucy Pit - EPO-EPEA-35659-03

On August 20, 2021, AEPA accepted a Reclamation and Remedial Plan submitted by Mantle on June 11, 2021

On August 15, 2023, AEPA completed an inspection of the Kucy Pit. The inspection found that the recontouring, topsoil placement, and seeding of topsoil had not taken place. Mantle's October 16, 2023, Progress Update Report indicated that the dewatering of the waterbody took place on September 15, 2023, with deconstruction of the waterbody, completion of the final recontouring and topsoil placement completed on October 9, 2023.

The Schedule in the Remedial Plan includes a commitment to complete the remaining recontouring, topsoil placement, and seeding of topsoil by July 15, 2022. A six-month monitoring requirement as per the EPO was due July 15, 2022, or earlier if final reclamation completed earlier followed by the assessment of the stability of the soil, revegetation success, and the assessment of weeds all due September 15, 2022. Further soil stability and vegetation assessment were required in the spring of 2023 with the submission of a reclamation certificate application to terminate the registration due November 1, 2023. At this time, Mantle is deficient in fulfilling this obligation.

Havener Pit - EPO-EPEA-35659-04

On April 28, 2023, AEPA sent Mantle a closure letter regarding EPO-EPEA-35659-04 as an Updated Activities Plan and security had been submitted restoring the pit to good standing.

Buksa Pit - EPO-EPEA-35659-05

On August 20, 2021, AEPA accepted a Reclamation and Remedial Plan submitted by Mantle on June 11, 2021

On September 01, 2023, AEPA completed an inspection of the Buksa Pit. The inspection found the site to have completed final recontouring including the disposal of oversize rock, topsoil placement and surface rock removal. Rocks that were extracted from the topsoil were placed along the south side of the site and used as erosion control. The end land use of the land is agricultural and is ready for the implementation of a crop. With no vegetation establishment required on the site at this time, the bank along the Hwy was the only are requiring seeding to prevent erosion. Mantle's October 16, 2023, Progress Update Report indicated a completion date of September 13, 2023, which included seeding.

The Schedule in the Remedial Plan includes a commitment of a six-month monitoring requirement as per the EPO with a completion date of October 20, 2022. During this time soil stability were to be assessed by September 15, 2022, and any shortfalls from the assessment rectified by September 20, 2022. A second soil stability assessment was due on May 15, 2023. At this time, Mantle is deficient in fulfilling this obligation. AEPA awaits the Reclamation Certificate application before November 1, 2023.

Okane Pit - EPO-EPEA-35659-06

On August 20, 2021, AEPA accepted a Reclamation and Remedial Plan submitted by Mantle on June 11, 2021.

On September 22, 2022, AEPA completed an inspection of the O'Kane Pit. The inspection found that no remedial work was conducted at this site as it required an updated Activities Plan including the submission of a *Water Act* approval for an end pit lake located on the west portion of the site.

Mantle's October 28, 2022, Progress Update Report indicated the updated Activities Plan was submitted March 10, 2022, and the *Water Act* approval submitted on October 14, 2022. On July 4, 2023, a formal request to transfer the pit from Mantle to Aarbo was submitted and the registration for the pit was transferred by EPA to a Aarbo on September 28, 2023.

PUBLIC LAND**SML 060060 – EPO-EPEA-35659-07/EO-WA-35659-01**

On June 14, 2023, AEPA accepted a Revised Remedial Plan submitted by Mantle on May 12, 2023. The Status Update refers to revised Remedial Plan submitted January 27, 2023.

On August 15, 2023, AEPA completed an inspection of SML 060060. The inspection found the site to be dormant of any activities except for a Mantle employee taking water samples in preparation for dewatering activities. Reclamation appeared to be advanced from the state at time of last inspection, September 2022. Contouring appeared largely done except for some areas around the shoreline of the end pit lake.

The dewatering date reported in the Status Update, September 14, is not in alignment with the date provided in the Revised Remedial Plan, July 31, 2023. Similarly, the earthworks described in the Status Update were to be completed by September 30, 2023, but were still on-going at the time the Status Report was submitted. (AEPA recognizes some of the delay is attributable to internal reviews taking longer than expected that were required for the *Water Act* approval application required for dewatering activities.)

SML 930040 - EPO-EPEA-35659-08

AEPA accepts Mantle's work regarding weed management at the site. The Schedule in the Remedial Plan (Section 14), and repeated in the Status Update, includes a commitment to assess soil stability following spring thaw. This was to be completed by May 15, 2023, however this has not been included in this Update and Mantle is deficient in fulfilling this obligation. AEPA awaits the Reclamation Certificate application before November 1, 2023.

SML 980116 - EPO-EPEA-35659-09

AEPA accepts Mantle's work regarding weed management at the site. The Schedule in the Remedial Plan (Section 14), and repeated in the Status Update, includes a commitment to assess soil stability following spring thaw. This was to be completed by May 15, 2023, however this has not been included in this Update and Mantle is deficient in fulfilling this obligation. AEPA awaits the Reclamation Certificate application before November 1, 2023.

SML 120027 - EPO-EPEA-35659-10

AEPA accepts Mantle's work regarding weed management at the site. The Schedule in the Remedial Plan (Section 14), and repeated in the Status Update, includes a commitment to assess soil stability following spring thaw. This was to be completed by May 15, 2023, however this has not been included in this Update and Mantle is deficient in fulfilling this obligation. AEPA awaits the Reclamation Certificate application before November 1, 2023.

If you would like to discuss any work required by the EPOs for private land pits, , please contact Maxwell Harrison at maxwell.harrison@gov.ab.ca or by phone at (780) 960-8620. To discuss any work required by the EPOs for public land pits, please contact Heather Dent at heather.dent@gov.ab.ca or by phone at (780) 427-9335.

Yours truly,

Okey Obiajulu, P.Eng.
Regulatory Assurance Manager
Regulatory Assurance Division – North Boreal District

CC: Byron Levkulich in his personal capacity, on behalf of 2161889 Alberta Ltd. and on behalf of Mantle Materials Group, Inc. (Byron.levkulich@rholdings.com)

Aaron Patsch in his personal capacity on behalf of 2161889 Alberta Ltd. and on behalf of Mantle Materials Group, Inc. (aaron.patsch@rholdings.com)

Heather Dent, AEPA (heather.dent@gov.ab.ca)

Maxwell Harrison, AEPA (maxwell.harrison@gov.ab.ca)

Nathan Polturak, AEPA (nathan.polturak@gov.ab.ca)

Colette Strap, AEPA (colette.strap@gov.ab.ca)

This is **Exhibit "BB"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

October 31, 2023

Alberta Forestry and Parks
Land Operations Division
Lands Delivery & Coordination – North Branch
Public Lands Disposition Management
5th floor, South Petroleum Plaza
9915-108 Street
Edmonton, AB T5K 2G8
Attn: Brendan Hemens
Director, Public Lands Disposition Management

(780) 826-1774 (Phone)
(780) 826-6280 (Fax)

info@mantlegroup.ca

www.mantlegroup.ca



Dear Mr. Hemens:

Re: Mantle Materials Group, Ltd. Public Land Dispositions

I am writing further to your letter of October 11, 2023, and your advice that Public Lands Disposition Management (“**Public Lands**”) intends to cancel the following dispositions pursuant to s. 26 of the *Public Lands Act* (“**Act**”) for failure to develop:

1. SML 120100
2. SML 120006
3. SML 100085
4. SML 110046

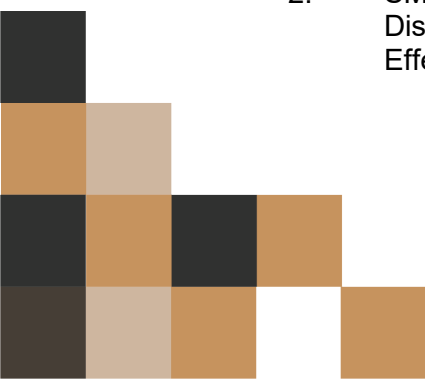
(collectively, the (“**Dispositions**”).

Mantle objects to the cancellation of the dispositions.

It is Mantle’s understanding that Public Lands intends to cancel the Dispositions for failure to develop. We assume the Dispositions are being cancelled pursuant to s. 26(1)(a) of the Act, which permits the director to cancel a disposition when the holder fails to comply with the disposition, the Act or regulations.

As you are aware, Mantle was not the original disposition holder of the Dispositions. Rather, the Dispositions were issued as follows:

1. SML 120100:
Disposition Holder: Katie Ball
Effective date: October 5, 2017
2. SML 120006
Disposition Holder: Cathy Ball
Effective date: October 5, 2017



3. SML 100085
Operator: 541466 Alberta Ltd.
Effective date: June 24, 2016
4. SML 110046
Operator: 541466 Alberta Ltd.
Effective date: March 18, 2015

The above dispositions were acquired by JMB Crushing Systems Inc. (“**JMB**”) pursuant to a Purchase and Sale Agreement dated March 15, 2019. JMB and its wholly owned subsidiary 2161889 Alberta Ltd. applied for and obtained protection under the *Companies’ Creditors Arrangement Act*, RSC 1985, c C-36, as amended on May 1, 2020 (“**CCAA Proceedings**”). Through a sale process undertaken as part of the CCAA Proceedings, Mantle acquired the Dispositions, which sale was completed on May 1, 2021. Consequently, Mantle has only been the holder of the Dispositions since May 1, 2021.

The terms of the Dispositions require operations, including development, to commence within the following timeframes:

1. SML 120100: three years from Conservation and Reclamation Business Plan (**CRBP**), the date of which is believed to be May 2017;
2. SML 120006: three years from the CRBP, the date of which is believed to be October 5, 2017;
3. SML 100085: three years from the date of approval, being June 24, 2016; and
4. SML 110046: four years from the date of approval, being March 18, 2015.

As far as Mantle is aware, no operations have taken place on the Dispositions since they were approved, with the result that the timeframes within which development had to commence according to the terms of the Dispositions expired prior to Mantle acquiring the Dispositions. Despite the prior disposition holders’ failure to comply with the terms of the Dispositions and commence development within the required time, Public Lands did not cancel the Dispositions. Further, at the time of the acquisition, Public Lands did not advise Mantle the Dispositions were at risk of being cancelled because development had not commenced within the required time. Consequently, Mantle had a legitimate expectation that the Dispositions would not be cancelled prematurely for failure to develop.

Further, given Mantle did not acquire the Dispositions until May 1, 2021, the three or four year time limit for commencing operations under the Dispositions must be calculated from the start date of May 1, 2021. As such, the deadline for Mantle to commence development pursuant to the Dispositions is May 1, 2024 and May 1, 2025.

Mantle always had the intention of commencing development under the Dispositions prior to May 1, 2024 and May 1, 2025. Since acquiring the Dispositions, Mantle focussed its resources on other operations and the completion of reclamation work at inactive gravel pits. Mantle intended to complete the reclamation work and then focus its resources on developing the Dispositions.

Based on the above, Mantle has not failed to comply with the terms of the Dispositions, the Act or regulations, with the result that the Dispositions cannot be cancelled.





Should our understanding of the basis for the cancellation of the Dispositions be incorrect, we would appreciate being able to provide further reasons why the Dispositions should not be cancelled.

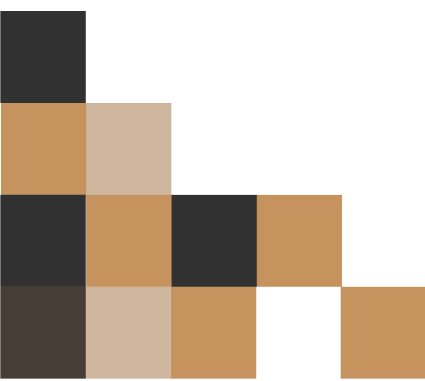
Yours Truly,

Mantle Materials Group, Ltd.

A handwritten signature in black ink, appearing to read 'C. Pichota', is written over a light grey rectangular background.

Cory Pichota

President/COO



This is **Exhibit "CC"**
referred to in the Affidavit of Heather Dent
Sworn before me this *14* day of December, 2023


Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta

My Commission Expires April 28, 20


25

M. Kangaloo

A Commissioner of Oaths
In and for the Province of Alberta

		Regulatory Assurance Division North District – Capital Region 111 Twin Atria Building, 4999-98 Ave Edmonton, Alberta T6B 2X3 Telephone: 780-427-7617 https://www.alberta.ca/environment-protected-areas	
<h2>Inspection Form</h2>		Pit Name: Havener Pit	
		Enviro. Protect. Order No: 35659-11	
Date/Time: November 02, 2023		Inspector Name: Colette Strap	
Complainant Information: Follow up on remedial work			
Incident Type: <input checked="" type="checkbox"/> Private Land <input type="checkbox"/> Commercial <input type="checkbox"/> Industry Other: Public Lands			
Contact Person: Cory Pichota – President-Chief Operating Officer		Phone No: 587-991-8440	
Address:			
GPS / ATS Coordinate: NW 16-056-07 W4M – Havener			

Purpose of Inspection
Confirming Mantle’s compliance with Environmental Protection Order No. 35659-11.

Observations
<p>Reference Map</p> 

1. Mining Activities: *extraction, processing, and aggregate sales*

When the EPO arrived to the Havener pit, the main gate was unlocked and open. On site were two Mantle employees Dwight Kanzig – Equipment Operator and Enrique Tovar – Scale Operator, who were waiting for the arrival of a transport truck so staff could load the truck with aggregate material sold from the Havener pit. Loaded trucks then had to get weighed on the truck scale located on the Shankowski pit. Mantle staff indicated that initially they were to load each truck three times today but due to the lengthy travel time (there and back), the trucks were only able to transport each two loads.

The EPO inquired with the two Mantle staff members as to whether any additional aggregate material had been mined and stockpile this year? The equipment operator indicated that no mining had taken place this year (2023). He informed the EPO that the site consisted of three aggregate stockpiles and two smaller piles of riprap (larger boulders) one located on the north and the other on the east side of the large aggregate stockpiles.

The EPO toured the site and did not observe:

- any additional landscape disturbances since the last site inspection conducted in September of 2023. The vegetation that had established on piles of reject material and adjacent lands did not appear to be disturbed,
- an increase in the site's footprint since September 2023,
- any significant changes in the volume of aggregate stockpiles on site. However, the EPO did not assess the volume of material stockpiled during the September 2023 site inspection either.
- any additional equipment on site other than two loaders used to fill the transport trucks.

2. Mining Activities: *progressive reclamation*

During the site visit, the EPO did not observe any additional re-contouring activities or placement of reclamation material to have taken place on site since the last site inspection in September of 2023. Only 1 acre (0.41 ha) on the west side of the pit site by the site's entrance remains recontoured. Topsoil material located southwest on the property also appeared untouched.

3. Based on the EPO's observations noted above in point 2 (no supplementary activities regarding site recontouring or reclamation material placement occurred on site since September of 2023) the EPO can confidently say that Mantle is in non-compliance with Environmental Protection Order (EPO) no. 35659-11 clause 1-5, for failing to complete or commence activities by or before October 31, 2023.

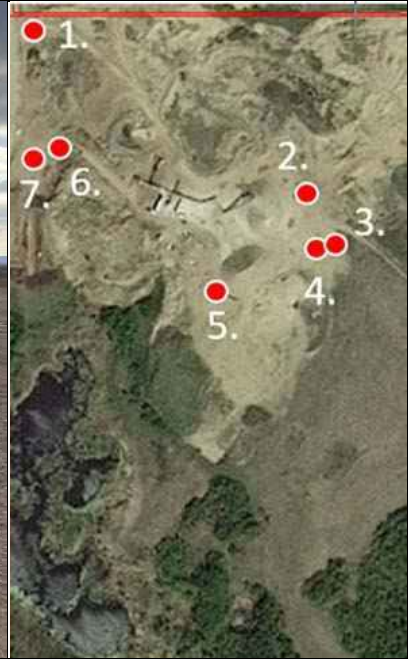


Above Picture 1: View ESE (105.33degrees) looking at the Havener pit from the pit entrance.
Picture coordinates: 105.338409; -110.994804

Reference Map



Above Picture: Continuation from Picture 1: In the foreground of the picture, you can see the area that was recontoured. In the background you can see 1 of 3 marketable aggregate piles.



Above Picture 2: View WNW (298.31 degrees) looking at a pile of riprap.
Picture coordinates: 53.844365; -110.990348

Reference Map



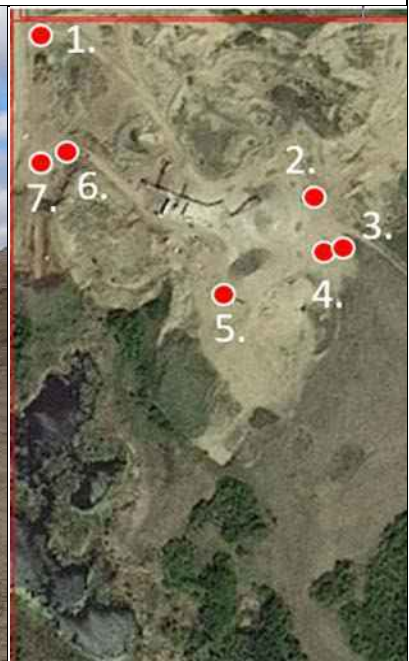
Above Picture 3: View NW (316.63 degrees) looking the 3 piles of marketable aggregate on site.
Picture coordinates: 53.843874; -110.990187

Reference Map



Above Picture 4: View NNW (338.44 degrees) looking landscape disturbance that has not yet been reclaimed.
Picture coordinates: 53.843903; -110.989902

Reference Map



Above Picture 5: View NW (304.04 degrees) looking at reject material in piles.
Picture coordinates: 53.843356; -110.99168

Reference Map



Above Picture 6: View S (185.84 degrees) looking towards the county road where the area was re-contoured.
Picture coordinates: 53.844804; -110.994417

Reference Map




Above Picture 7: View SE (132.97 degrees) looking at an area that contain topsoil piles for reclamation. Area not yet reclaimed.
Picture coordinates: 53.844486; -110.994763

This is **Exhibit "DD"**
referred to in the Affidavit of Heather Dent
Sworn before me this *14* day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

		Regulatory Assurance Division North District – Capital Region 111 Twin Atria Building, 4999-98 Ave Edmonton, Alberta T6B 2X3 Telephone: 780-427-7617 https://www.alberta.ca/environment-protected-areas	
<h2>Inspection Form</h2>		Pit Name: Havener Pit	
		Enviro. Protect. Order No: 35659-11	
Date/Time: November 02, 2023		Inspector Name: Colette Strap	
Complainant Information: Follow up on remedial work			
Incident Type: <input checked="" type="checkbox"/> Private Land <input type="checkbox"/> Commercial <input type="checkbox"/> Industry Other: Public Lands			
Contact Person: Cory Pichota – President-Chief Operating Officer		Phone No: 587-991-8440	
Address:			
GPS / ATS Coordinate: NW 16-056-07 W4M – Havener			

Purpose of Inspection
Confirming Mantle’s compliance with Environmental Protection Order No. 35659-11.

Observations
<p>Reference Map</p> 

1. Mining Activities: *extraction, processing, and aggregate sales*

When the EPO arrived to the Havener pit, the main gate was unlocked and open. On site were two Mantle employees Dwight Kanzig – Equipment Operator and Enrique Tovar – Scale Operator, who were waiting for the arrival of a transport truck so staff could load the truck with aggregate material sold from the Havener pit. Loaded trucks then had to get weighed on the truck scale located on the Shankowski pit. Mantle staff indicated that initially they were to load each truck three times today but due to the lengthy travel time (there and back), the trucks were only able to transport each two loads.

The EPO inquired with the two Mantle staff members as to whether any additional aggregate material had been mined and stockpile this year? The equipment operator indicated that no mining had taken place this year (2023). He informed the EPO that the site consisted of three aggregate stockpiles and two smaller piles of riprap (larger boulders) one located on the north and the other on the east side of the large aggregate stockpiles.

The EPO toured the site and did not observe:

- any additional landscape disturbances since the last site inspection conducted in September of 2023. The vegetation that had established on piles of reject material and adjacent lands did not appear to be disturbed,
- an increase in the site's footprint since September 2023,
- any significant changes in the volume of aggregate stockpiles on site. However, the EPO did not assess the volume of material stockpiled during the September 2023 site inspection either.
- any additional equipment on site other than two loaders used to fill the transport trucks.

2. Mining Activities: *progressive reclamation*

During the site visit, the EPO did not observe any additional re-contouring activities or placement of reclamation material to have taken place on site since the last site inspection in September of 2023. Only 1 acre (0.41 ha) on the west side of the pit site by the site's entrance remains recontoured. Topsoil material located southwest on the property also appeared untouched.

3. Based on the EPO's observations noted above in point 2 (no supplementary activities regarding site recontouring or reclamation material placement occurred on site since September of 2023) the EPO can confidently say that Mantle is in non-compliance with Environmental Protection Order (EPO) no. 35659-11 clause 1-5, for failing to complete or commence activities by or before October 31, 2023.

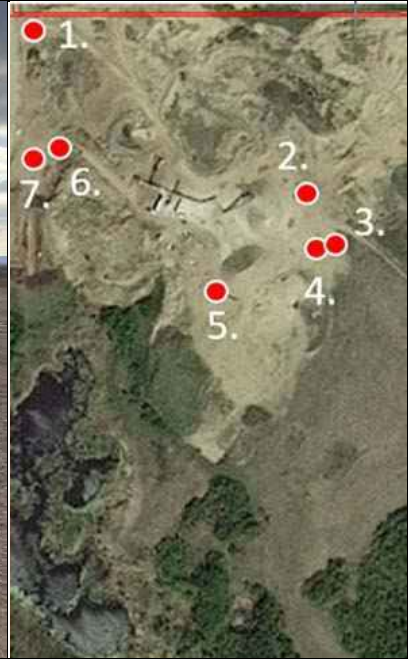


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Picture coordinates: 53.844365; -110.990348

Reference Map



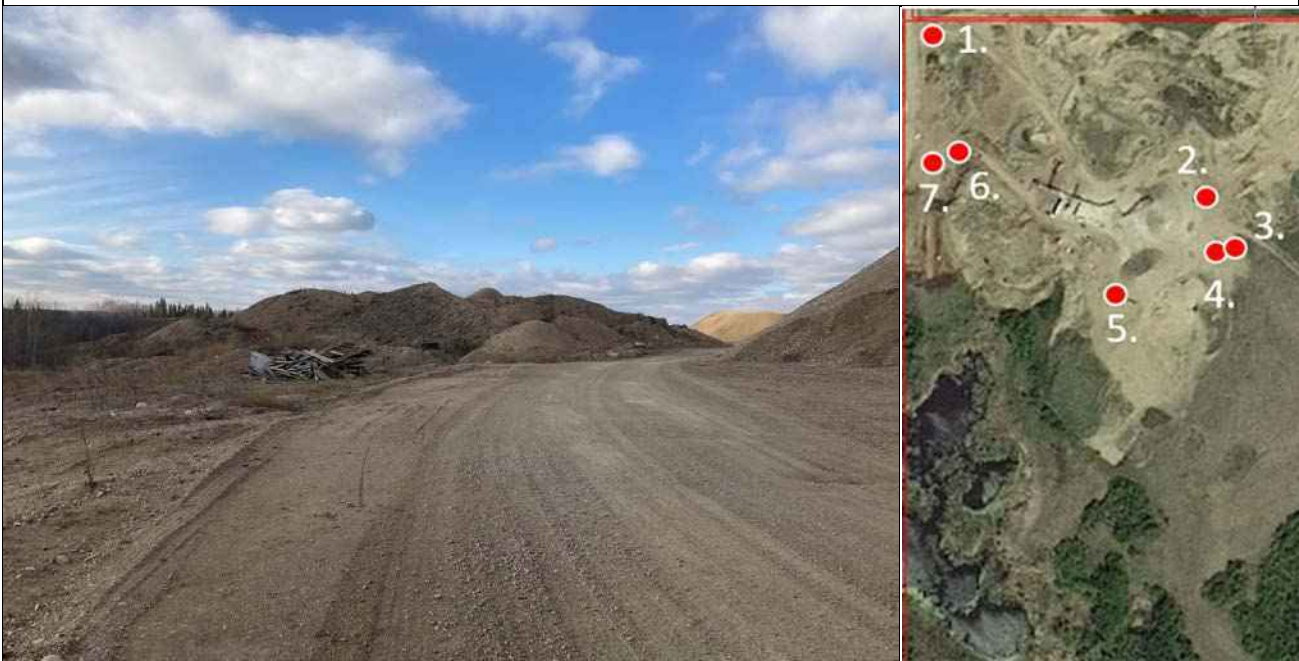
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Reference Map



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Picture coordinates: 53.843903; -110.989902

Reference Map



Above Picture 5: View NW (304.04 degrees) looking at reject material in piles.
Picture coordinates: 53.843356; -110.99168

Reference Map



Above Picture 6: View S (185.84 degrees) looking towards the county road where the area was re-contoured.
Picture coordinates: 53.844804; -110.994417

Reference Map



Above Picture 7: View SE (132.97 degrees) looking at an area that contain topsoil piles for reclamation. Area not yet reclaimed.
Picture coordinates: 53.844486; -110.994763

This is **Exhibit "EE"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025 *M. Kangaloo*

A Commissioner of Oaths
In and for the Province of Alberta

From: [Heather Dent](#)
To: cory.pichota@mantlegroup.ca
Cc: [Maxwell Harrison](#)
Subject: IMPORTANT CORRESPONDANCE: Response to Request for Amendments
Date: Thursday, November 09, 2023 11:48:00 AM
Attachments: [image001.png](#)

Hi Cory,

I am following up on your recent requests concerning:

1. EPO-EPEA – 353659-01 (MacDonald)
 - a. Requesting the completion date of October 31, 2023 be amended to May 15, 2024.
2. EPO-EPEA-35659-03 (Kucy)
 - a. Requesting the completion date of October 31, 2023 be amended to May 15, 2024.
3. EPEA-35659-07 / EO-WA-35659-01 (SML 060060)
 - a. Requesting the completion date of October 31, 2023 be amended to May 15, 2024.

To consider these amendments, the Environment and Protected Areas requires clarification on certain points. These questions are necessary to ensure that all environmental protection obligations will be met post-bankruptcy proceedings. Please see the inquiries below:

1. During our meeting with Tom Cummings on September 25, 2023, there was uncertainty regarding whether Mantle will continue to exist as a corporate entity following the resolution of the bankruptcy proceedings. Can you provide some explanation of what legal entity that will assume responsibility for fulfilling the reclamation obligations on both the private and public lands pits after the bankruptcy process concludes?
2. What mechanism or financial safeguards will Mantle put in place to ensure that sufficient funds are available to satisfy its reclamation obligations on private and public land after the bankruptcy has concluded? Furthermore, where will the money to carry out the remaining reclamation work on these lands and other lands including public land in 2024, 2025 and beyond come from? Can you provide an operational overview of how this mechanism or trust will function over the next few years?

Thank you for your attention to these issues.

Heather Dent
Compliance Manager
North East Boreal, Regulatory Assurance Division North
Alberta Environment and Protected Areas
Government of Alberta

1st Floor, Twin Atria Building
4999-98 Avenue
Edmonton, AB T6B 2X3

Office 780 427 9335

Heather.Dent@gov.ab.ca

Environmental Emergencies 1 800 222 6514




This is **Exhibit "FF"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

		Lac La Biche District RAD North- Boreal East	
Inspection Form		CIC Reference No:	
		Incident No:	
Date/Time: November 28, 2023; 12:30 hrs		Inspector(s) Name: Nathan Polturak	
Complainant Information: EPO-EPEA-35659-15			
Incident Type:	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industry Other: Public Lands
Contact Person: Cory Pichota		Phone No: 587-991-8440	
Address: SML 110047			
GPS / ATS Coordinate: SE-15-061-18-W4M			

Purpose of Inspection

Inspection was conducted to verify status of the disposition. The holder is in bankruptcy proceedings.

Observations

Inspector POLTURAK conducted a current state of site inspection by documentation and photographs.

Inspection started at 10:29 hrs and was completed at 11:00 hrs.

Observations

- No recent works identified at the site.
- No evidence of progressive reclamation in the site.
- Conditions remain as those observed at time of last inspection, September 22, 2023.
- The site has not been remediated or reclaimed since EPO-EPEA-35659-17 was issued on October 19, 2023.

Concerns and Deficiencies

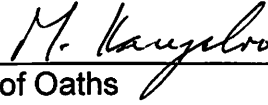
None of the remedial or reclamation objectives identified in EPO-EPEA-35659-17 have been met or attempted. Mantle has missed the **Nov. 24, 2023** date included in the order as the deadline to complete the remedial works. The disposition was issued for 32.19 hectares, and 8.92 hectares were disturbed in the course of developing the pit, of which 8.92 hectares remain disturbed.

Follow Up Required

Wait for outcome of bankruptcy proceedings to determine remaining obligation Mantle or successor will have to carry out the remedial works.

This is **Exhibit "GG"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
in and for Alberta
My Commission Expires April 28, 2025



A Commissioner of Oaths
In and for the Province of Alberta

Photos



State of pit as observed from the access at northeast of the pit, looking west, on November 28, 2023.



State of pit as observed from the access at northeast of the pit, looking southwest, on November 28, 2023.



State of pit as observed from the access at northeast of the pit, looking southwest, on November 28, 2023.



State of pit as observed from the access at northeast of the pit, looking south, on November 28, 2023.



Aerial image of SML 110047 showing the majority of the lease. Image taken looking northwest from over the southeast corner, November 28, 2023.



Drone image of the topsoil stockpile and slash pile along north boundary of the disturbed area. Observed from the east boundary of the site looking northwest, November 28, 2023.



Drone image of the excavation areas along southwest boundary of the disturbed area. Observed from the northwest boundary of the site looking southeast, November 28, 2023.



Drone image overview of the disturbed part of the lease. Observed from the southeast corner of the site looking northwest, November 28, 2023.

From: [Heather Dent](#)
To: [Vivienne Ball](#); [Lee Plumb](#)
Subject: FW: Mantle ARs
Date: November 28, 2023 12:19:43 AM
Attachments: [Smoky Lake pits - Annual Return reconciliation \(with images\).xlsx](#)
[image002.png](#)

Vivienne and Lee

Please find enclosed a workbook of Annual Returns filed for each of the Smokey Lake SML's by year and operator. Imagery for each year are shown on separate tabs for each SML. You may find it helpful.

Cheers,

Heather Dent
Compliance Manager
North East Boreal, Regulatory Assurance Division North
Alberta Environment and Protected Areas
Government of Alberta

1st Floor, Twin Atria Building
4999-98 Avenue
Edmonton, AB T6B 2X3

Office 780 427 9335
Heather.Dent@gov.ab.ca
Environmental Emergencies 1 800 222 6514




Classification: Protected A

This is **Exhibit "HH"**
referred to in the Affidavit of Heather Dent
Sworn before me this 14 day of December, 2023

Murray Francis Kangaloo
A Commissioner for Oaths
In and for Alberta
My Commission Expires April 28, 2025

M. Kangaloo

A Commissioner of Oaths
In and for the Province of Alberta

		Lac La Biche District RAD North- Boreal East	
Inspection Form		CIC Reference No:	
		Incident No:	
Date/Time: December 04, 2023; 10:35 hrs		Inspector(s) Name: Nathan Polturak Dylan Cummins	
Complainant Information: n/a			
Incident Type:	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industry Other: Public Lands
Contact Person: Cory Pichota		Phone No: 587-991-8440	
Address: SML 110025			
GPS / ATS Coordinate: NE-11-061-18-W4M			

Purpose of Inspection

The inspection was conducted to verify the state of the disposition. The holder is in bankruptcy proceedings.

Observations

Inspectors POLTURAK and CUMMINS conducted a current state of site inspection by documentation and photographs.

Inspection started at 10:35 hrs and was completed at 11:40 hrs. A drone flight was completed at 11:20 to capture video footage of the site and overhead photographs.

Observations

1)

- a) place overburden materials within the Pit to a minimum thickness of 1.5 m and create the base for the subsoil and topsoil placement by contouring the Pit with reject material and other soil materials available for reclamation;
During the inspection no recent earthworks were observed that would indicate overburden materials had been placed within the pit to a depth of 1.5 m since EPO-EPEA-35659-14 was issued October 19, 2023.
- b) establish grade and contour across the Pit so that:
 - i) internal slopes range from 10:1 to 6:1 and no slope is greater than 3:1 as required by Section 10.0 Planned Reclamation of the CORP,
During the inspection internal slopes were observed in the range of 1:1 to 3:1. The excavation in the south of the lease contained slopes at 1:1 on the north, west, and east faces of the pit. The excavation at west part of lease had slopes approximately 3:1.
 - ii) side slopes are no steeper than 3:1 as required by the CORP (see Appendix B), Drawings – Dwg. No. 6,
During the inspection side slopes were observed in the range of 1:1 to level. The excavation in the south of the lease contained slopes of 3:1 on the southeast face and 2:1 on the southwest face. The developed part of the pit sloped down to undisturbed ground in the northwest of the site at approximately 1:1 slope. The west area and northeast area of the site integrated with the surrounding landscape at roughly level sloping.
 - iii) the 5 m buffer between the Lands and pipeline right of way contained in pipeline agreement PLA 910056, as required by Section 8.1 Buffers and Setbacks of the CORP, is maintained;
The Inspectors measured the buffer between the PLA and the SML at the southeast corner of the site during the inspection. Using a tape measure and measuring from the north edge of trees growing along the PLA, the width of undisturbed, mature

vegetation buffer was measured in excess of 5 m.

- iv) the 3 m undisturbed buffer along the Lands boundary, as described in Section 8.1 Buffers and Setbacks of the CORP, is maintained;
As the Inspectors did not have surveying equipment during the inspection, they were not able to identify the south boundary of the SML to verify if the 3 m buffer was maintained.
- v) the material along the common boundary between the SML 110025 south boundary and the lands contained in SML 110026's north boundary is to have slopes no steeper than 6:1 as described in Section 8.1 Buffers and Setbacks of the CORP;
During the inspection slopes along the common boundary between SML 110025 and SML 110026 were observed in the range of of 3:1 on the southeast face and 2:1 on the southwest face.
- vi) surface water drainage is to be directed to drain as shown in CORP (see Appendix B), Drawings – Dwg. No. 6;
There was no evidence that earthworks have been completed since EPO-EPEA-35659-14 was issued October 19, 2023. Internal sloping remains the same as observed during the September 22, 2023 inspection. Erosion from the last rain events in the summer or fall were observed as rilling from the surface down the slopes of the excavations and the slope of the build up area in at the northwest of the site.

- c) rip the subsoil in the Pit to alleviate compaction;
During the inspection there was no evidence that any of the subsoils in the pit had been ripped or decompacted since EPO-EPEA-35659-14 was issued.
- d) place an average depth of 50 cm of subsoils over the Pit;
The inspection showed the Pit remains covered by leveled gravel, stockpiles of aggregate material, and excavated areas. There was no evidence of subsoils being placed at any location within the Pit.
- e) place an average depth of 15 cm of topsoil over Pit; and
The inspection showed the Pit remains covered by leveled gravel, stockpiles of aggregate material, and excavated areas. There was no evidence of topsoils being placed at any location within the Pit. Topsoil stockpiles were observed along the eastern half of the north boundary.
- f) roll back woody debris located on the surface of the Pit to provide surface roughness and a variety of microsites for plant establishment.
The inspection showed the Pit remains covered by leveled gravel, stockpiles of aggregate material, and excavated areas. There was no evidence of woody debris being rolled back at any location in the Pit.

2)

- a) revegetate the Pit with poplar planting and distribution of tops of conifer trees harvested from the site during site development in accordance with the most recent CORP.
There was no evidence during the inspection of any attempt to revegetate or plant the site as described in the Order. Regrowth was observed on areas of the Pit that were stripped of vegetation but not disturbed as well as on the topsoil stockpiles.

3)

- a) Monitor the Pit and take all necessary steps to:
 - i) prevent erosion on all slopes of the Pit,
Erosion from the most recent rainfall event was noted from the surface down the slopes of the excavation at south of Pit as well as from developed surface down the slope to undisturbed areas at northwest of Pit.

Concerns and Deficiencies

None of the remedial or reclamation objectives identified in EPO-EPEA-35659-14 have been met or attempted. Based on observations during the December 4, 2023 inspection it appears Mantle has not been present at the site since the September 22, 2023 inspection.

Mantle, as the successor operator, committed to progressive reclamation in the 2013 Conservation and Reclamation Business Plan, approved by AEPA (previously ESRD) February 12, 2014 under CRB No. 120004. The observations included above show no evidence that reclamation, progressive or otherwise, has been practiced in any portion of the Pit since first production in 2015.

Mantle has missed the **Nov. 24, 2023** date included in the order as the deadline to complete the remedial works. The disposition was issued for 32.04 hectares, and 11.07 hectares were disturbed in the course of developing the pit, of which 11.07 hectares remain disturbed.

Follow Up Required

Wait for outcome of bankruptcy proceedings to determine remaining obligation Mantle or successor will have to carry out the remedial works.

Photos



The topsoil stockpiles along the north boundary of the developed part of the Pit, as observed December 04, 2023, looking northwest.



The excavation located in the southeast part of the Pit, as seen looking wouthwest.



Smaller stockpiles of topsoil observed in the southwest of the Pit, looking southwest. The mature trees demarcate the south boundary of the SML.



The limit of soil stripping observed at west of developed Pit. The emergent Jack pine are new growth since the site was cleared of vegetation, contrast with mature Jack pine in background. The vegetation cover on the ground (left) and the bare area (right) shows where stripping was stopped during Pit development.



The limit of development at northwest of Pit. The slope is approximately 1:1 and shows signs of erosion from the most recent rainfall event (summer/fall). Observed looking north.



Another view of erosion from the developed surface down the slope at the northwest edge of Pit development.



Overhead view of the stockpile of aggregate located in the north of the developed part of the Pit. Observed looking north.



Drone overview looking east along the south boundary of the Pit. The image shows the approximate slope of the south boundary of the Pit as well as the condition of the excavation in the south part of the Pit.



Overview of the southwest of the Pit, observed from drone over east boundary of the Pit, looking southwest.



Overview of the Pit, observed from drone looking northwest over the Pit.



Overview of the Pit, observed from drone looking northeast over the Pit.