

Ore Storage Pad 2 (Stage 1)
Construction Summary (As-Built) Report
6515-687-230-REP-001

Prepared by:

Agnico Eagle Mines Limited – Meliadine Division

July 2020

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DOCUMENT CONTROL

Version	Date	Section	Page	Revision
0	October 5, 2019			Working Draft
1	October 22, 2019			Draft Revision
2	February 23, 2020			Final

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Haloui
Date: 2020.07.08 19:31:16
-05'00'

Jawad Haloui
Engineering Superintendent

1.0 INTRODUCTION

1.1 General

Meliadine gold mine is located approximately 25 km north from Rankin Inlet, and 80 km southwest from Chesterfield Inlet in the Kivalliq Region of Nunavut. Situated on the western shore of Hudson Bay, the mine site is located on a peninsula between the east, south, and west basins of Meliadine Lake (63°1'23.8" N, 92°13'6.42 W).

The current mine plan focuses on the development of the Tiriganiaq gold deposit which will be mined using both conventional open-pit and underground mining operations. Current or proposed mining facilities to support this development include a plant site and accommodations, temporary overburden stockpile, tailings storage facility (TSF) and a water management system comprised of collection ponds, diversion channels and retention berms. A Type "A" Water License (No. 2AM-MEL-1631) was awarded for the development of Meliadine gold mine in 2016.

This report summarizes the construction activities for Ore Storage Pad 2 (OP2) (Stage 1). Construction management and quality assurance was performed by AEM Civil Construction, while several contractors provided the equipment and operators for the work including: AEM Civil Construction, Kivalliq Contractors Group and Fournier et Fils. All surveying was conducted by Hamel Arpentage (Hamel). Construction of the facility occurred between May 2018 and July 2019.

This report, which is to be submitted to the Nunavut Water Board (NWB), is prepared to meet the requirements in the Type "A" Water License No. 2AM-MEL 1631 – Agnico Eagle Mines Limited for the Meliadine Gold Project (Part D, Item 3).

1.2 Related Documents

The supporting and related documents for this report are as follows:

- Ore Storage Pad 2 Design Report and Drawings (Agnico Eagle Mines Limited – Meliadine Division, May 2018).

2.0 SUMMARY OF THE CONSTRUCTION

2.1 Site Location Plan

The figure below presents the site location for OP2 in relation to other site infrastructure.

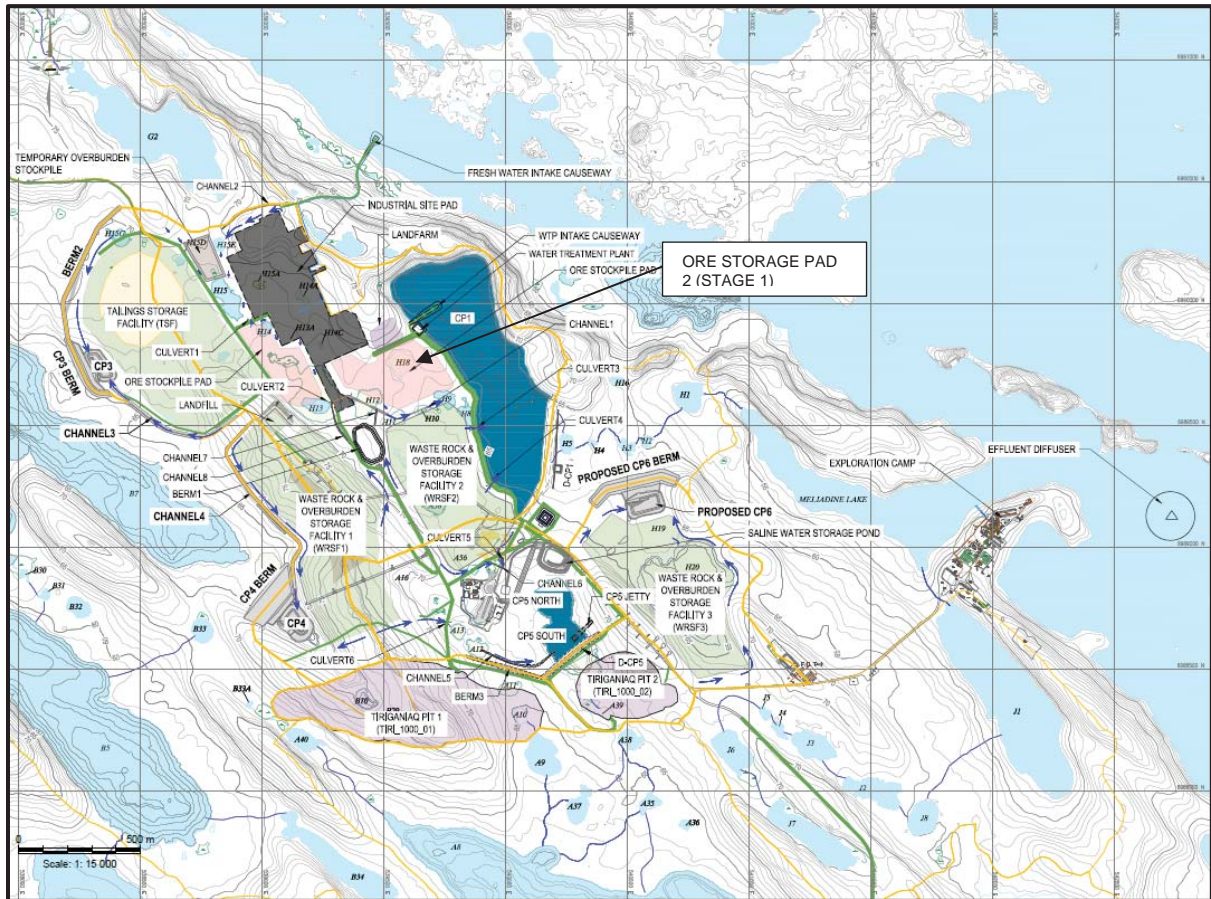


Figure 1: Meliadine site, plan view (Tetra Tech, 2020)

2.2 Construction Activities

As indicated previously, construction of OP2 spanned a fifteen-month period (May 2018 to July 2019). The multi-year construction window was required due to low availability of waste rock coming from underground operations and high demands for this material for other construction purposes.

Prior to initiating placement, Hamel conducted a topographic survey of the original ground and placed grade stakes to control lift heights. The decommissioned waterbody H18 was drained towards H19 and CP1.

Electrical lines within the pad footprint that were unable to be relocated were first protected with layers of sand, 50 mm minus crushed ROM and 200 mm minus crushed ROM as per specifications provided by AEM Construction Electrical.

The majority of construction material was 600 mm minus run-of-mine (ROM) from underground development. The material was either deposited directly by underground haul trucks or loaded onto surface haul trucks from the Portal 1 area and dumped on the pad. The ROM was then spread into place with a CAT D6 bulldozer. A 10-ton vibratory roller was used to compact the pad as the final step in the construction process.

A final survey of the completed pad was then conducted by Hamel.

2.3 Drawings and Photographs

The as-built drawing completed by Hamel is presented in Appendix A.

A survey drawing conducted after the construction of OP2 can be found in Appendix B.

Photographs of the OP2 during construction period is shown in Appendix C.

3.0 DOCUMENTATION ON FIELD DECISIONS THAT DEVIATE FROM ORIGINAL PLANS

This section documents any variations from the original design which were approved by the designer and/or field engineer on site. The intent of the structure was not compromised with any of the changes to the original design.

A comparison of the design with the as-built characteristics of OP2 is presented in the table below.

Parameter	Design Values	As-Built Values	Difference
Minimum pad thickness (m)	1.0	0.35	-0.65
Maximum elevation (m)	80.0	71.7	-8.3
Minimum distance from Channel 1 crest (m)	10.0	1.14	-9.86
Average side slopes for pad (H:V)	1.3:1 (38°)	2.3:1 (23.4°)	--
Grade towards Channel 1 (%)	0.5	1	+0.5
Surface area (m ²)	103,000	103,179	+ 179
Volume of rockfill (m ³)	140,000	107,798	- 30,202

The construction of OP2 differs from the original design on the following points:

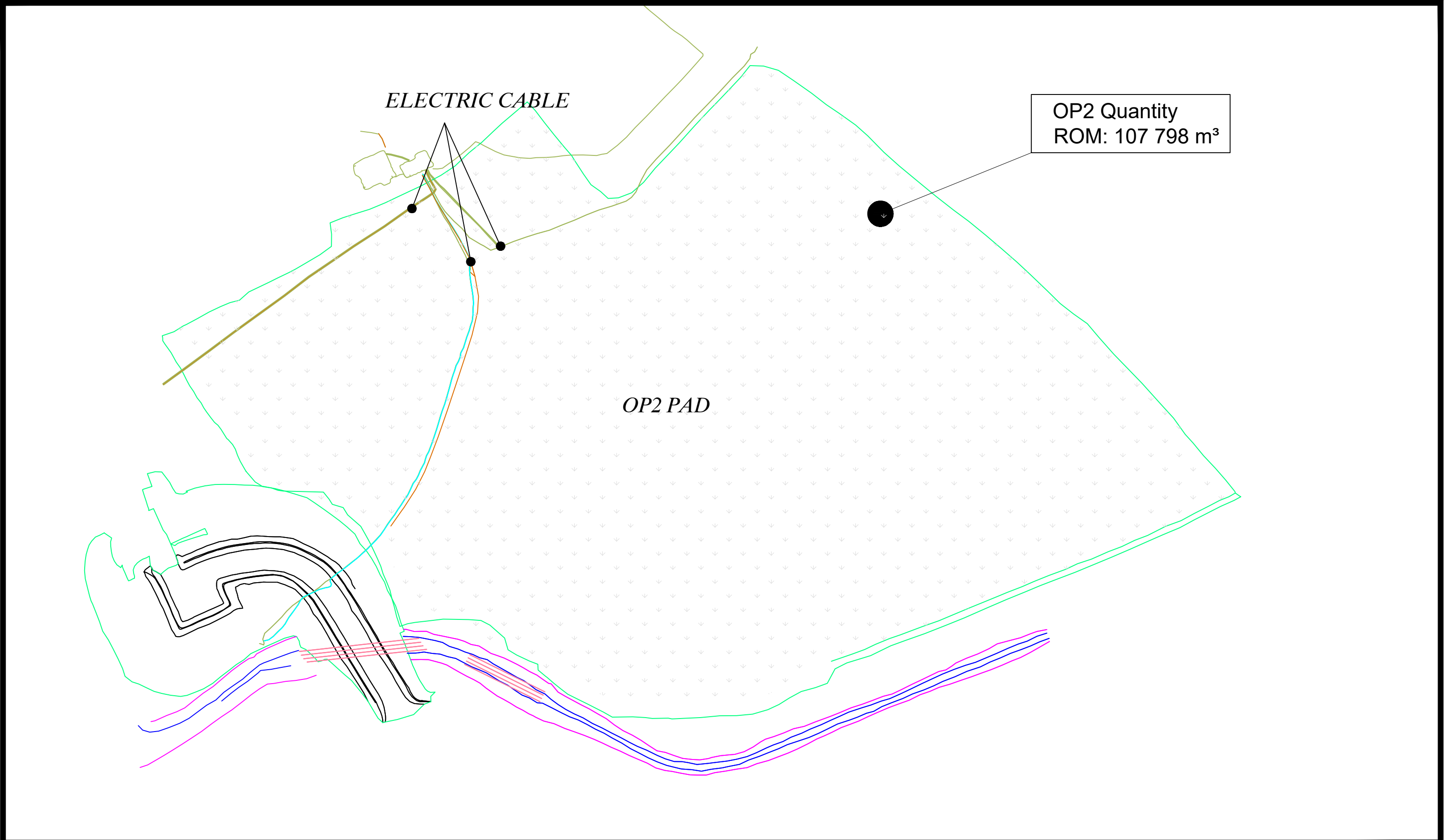
- According to the as-built survey, the minimum 1.0 m fill of Run of Mine (ROM) was not respected everywhere on the pad, with the pad thickness varying from 0.35 to 2.57 m. The average fill is 1.23 m with 64 % of the pad being filled by at least 1 m.
- The minimum design distance to respect from the crest of Channel 1 is 10.0 m, in order to provide overflow capacity for the channel in case of extreme precipitation events. The length of Channel 1 along the pad is 353 m and the minimum distance is respected along the majority (84%) of the pad. A small section (58.12 m) of OP2 was constructed within the minimum 10.0 m, predominately in the area of the access road across the Culvert 16 system. The impact on Channel 1 overflow capacity of this small encroachment area is expected to be minimal.
- The majority of OP2 abuts against an existing pad structure (Industrial pad or service road) with the exception of the southern boundary. Although the side slopes were designed to be 1.3:1 (38°), this open southern boundary is generally less steep at 2.3:1 (23.4°). This will have no impact on the performance of the pad.
- The grade of the ore pad towards Channel 1 was designed to be 0.5 %, however it has been built to a 1 % grade towards Channel 1. Drainage of the pad is expected to be more efficient when doubling the grade.
- In total, although a slightly larger surface area was covered by OP2, less material was used for construction due to the less than design pad thickness in some areas. Increased maintenance may be required in those areas not covered by an ore stockpile to maintain a level surface as the potential for thaw-induced differential settlements is expected to be greater.

REFERENCES

Agnico Eagle, 2018. Meliadine Gold Project Ore Storage Pad 2 (Stage 1) Design Report and Drawings. Version 1. 6515-E-132-013-REP-033. May 2018.

Tetra Tech, 2020. Design Report for CP6 and CP6 Berm, Meliadine Project, Nunavut. 6526-695-100-REP-001. Issued for use January 24, 2020

APPENDIX A – AS-BUILT DRAWING



Système de Coord.:
UTM15 NAD83

Echelle:
NA

No plan:

65-687-142-R0_ABD-OP2

AGNICO EAGLE

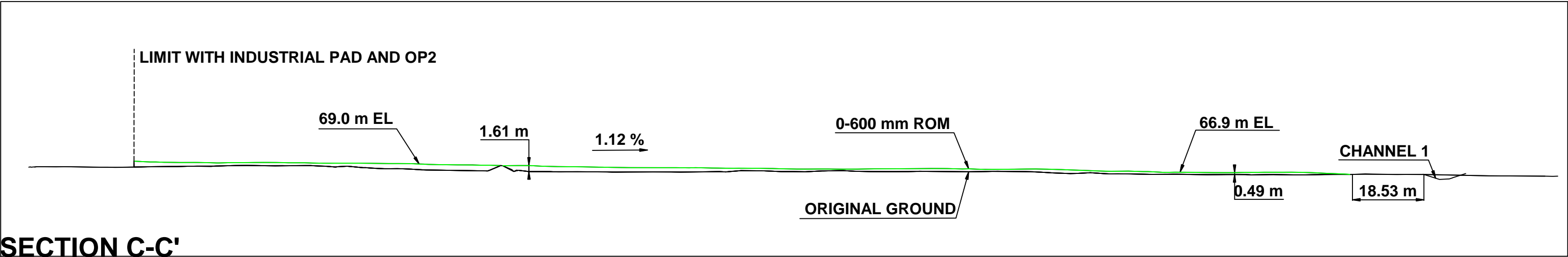
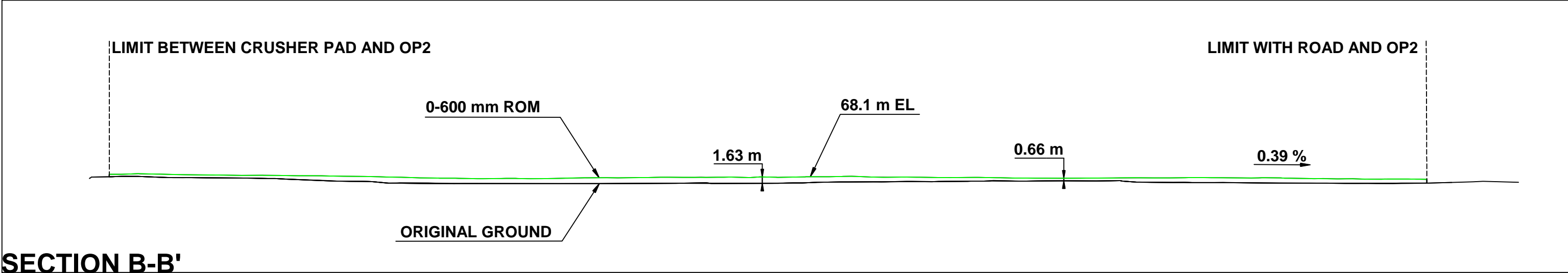
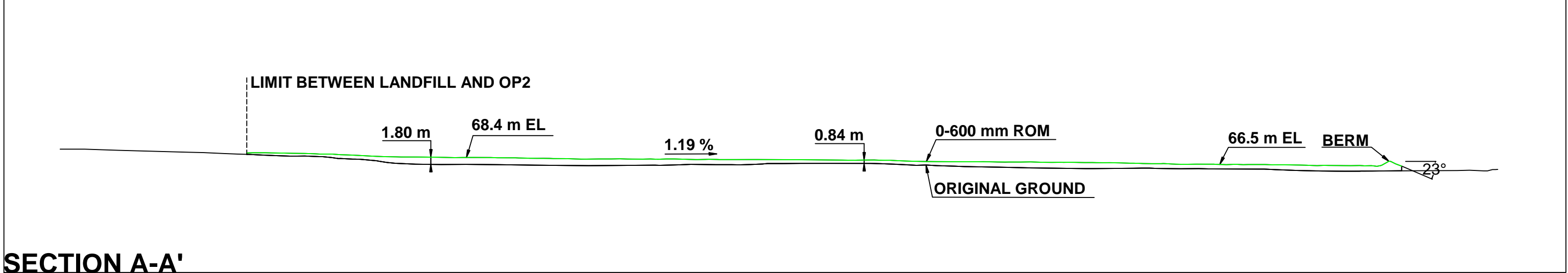
Date des travaux :
2018-2019

Date d'envoi :
2019-07-31

Dessine par:
Y. Hamel

Approuve par:
HAMEL ARP.

APPENDIX B – SURVEY DRAWING



						DESSINÉ PAR/DRAWN BY vanessa.gagnon		DATE 2020/07/07	TITRE / TITLE AGNICO EAGLE – MELIADINE DIVISION ORE STORAGE PAD 2 (STAGE 1) AS-BUILT DRAWING SECTION VIEW	
						VÉRIFIÉ PAR/CHECKED BY	DATE			
						APPROUVÉ PAR/APPROVED BY	DATE			
1	Final revision	2020/7/7	VG				ÉCHELLE/SCALE 1:1000	FEUILLE/SHT 2/2	No. DESSIN/DRAWING NO. 6515–687–230–002	REVISION 1
REV	DESCRIPTION	DATE	PAR/BY							
REVISIONS										
07/07/2020 07:58:18 AM P:\ Operations\ 3. Engineering\ Surface\ Stockpile Management\ OP2\ OP2_Asbuilt_RA2_VG4.dcf										

APPENDIX C – PHOTOGRAPHS



Photograph 1: Electrical cables across OP2 footprint to protect prior to ROM placement, these cables were identified with tires being place on top of the pad after ROM placement; view facing northwest (June 10, 2018)



Photograph 2: Haulage and placement of ROM for Ore Storage Pad 2 (Stage 1), view facing southwest (August 20, 2018)



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