



AGNICO EAGLE

DESIGN REPORT FOR THE INSTALLATION OF ANTI-EROSION RING INTO TANKS FOUNDATIONS AT ITIVIA FUEL STORAGE TANK FARM

ITIVIA SITE, RANKIN INLET, NUNAVUT



May 8th, 2026

Revision: R0

Doc. N°: 65-116-REP-001

Tt Project N°: 711-55222



TETRA TECH


Agnico Eagle Mines Ltd / MELIADINE DIVISION	DESIGN REPORT	Tt Doc. N°: 65-116-REP-001	
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Client Project N°: 65		Work Package: -	
		Date: 2026-05-08	Revision: 00

REVISION FOLLOW-UP

REV.	DATE	DESCRIPTION	COMPANY	PREPARED BY
00	2026-05-08	Issue for use	Tetra Tech	S. Moreau
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SIGNATURES

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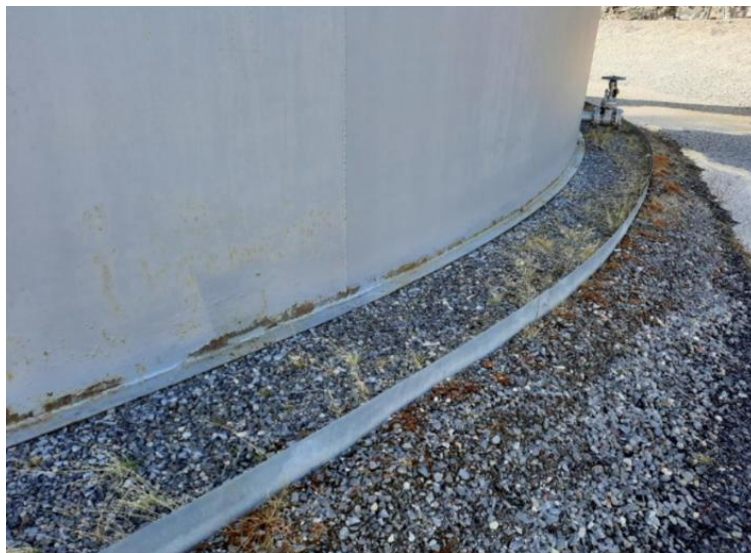
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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Agnico Eagle Mines Ltd. (Agnico Eagle) operates a fuel storage tank farm at the Itivia site in Rankin Inlet (NU), comprising four tanks. Tanks 65TK11601 and 65TK11602 were commissioned in 2017 and 2018, respectively; tanks 65TK11604 and 65TK11605 were commissioned in 2024. In 2022, tanks 65TK11601 and 65TK11602 were taken out of service for inspection by a certified API 653/STISP001 inspector. The inspection identified minor washout of the foundation pad beneath the tanks. The inspector recommended installing an anti-erosion ring around the tank foundations to retain foundation material, as illustrated in Picture 1 (an example installation at a different site).

In accordance with that recommendation, Agnico Eagle proposes to install anti-erosion rings around all four tanks at the Itivia fuel farm.



Picture 1 – Example of an anti erosion ring

1.2 PURPOSE OF THE REPORT

Agnico Eagle retained Tetra Tech to conduct the engineering works for the installation of the anti-erosion rings for the four tanks of Itivia fuel farm.

This report is intended to present the engineering design and construction details related to the project. It includes the final design and construction drawings as specified under Nunavut Water Board (NWB) Water License 2AM-MEL1631.

1.3 SCHEDULE

Work is planned to begin in July 2026 and to be completed in September 2026.

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2 EXISTING CONDITIONS

This is a brownfield project: the foundation pads, fuel-farm secondary containment and tanks are already in place. Although the anti-erosion ring installation is a relatively small scope of work, it will require activities that might affect existing site elements, including:

- Work within the tanks foundation pad.
- Work inside the fuel farm secondary containment — preserve waterproofing and containment capacity.
- Work in proximity to existing buried liner, which must not be damaged.
- Work adjacent to the tanks.

The approach is to gather and review all available data on the foundation pad and liner location to minimize risk and avoid damage to existing infrastructure.

2.1 AVAILABLE INFORMATION REVIEW

The documents listed below were reviewed to characterize the existing conditions.

- Design report for fuel storage and facilities at Rankin Inlet (ref.: 6515-E-132-004-132-REP-003_R0, WSP/Tetra Tech/ April 2017).
- Construction Summary Report for fuel storage and facilities at Rankin Inlet (ref.: 6515-E-132-004-132-REP-015_R2, Tetra Tech, April 2019).
- API 653 Inspection Report – Tank 65TNK11601 (ref.: 32-02100569.005-MC-006-00, Englobe, May 2022).
- API 653 Inspection Report – Tank 65TNK1602 (ref.: 32-02100569.005-MC-001-00, Englobe, May 2022).
- Rankin Inlet Tank Farm Geophysical investigation report (ref.: 6537-116-125-REP-001_R0, Tetra Tech, October 2023).
- Design report for two new tanks at Rankin Inlet – 65TNK11604 & 65TNK11605 (ref.: 6537-116-132-REP-003_R0, Tetra Tech, January 2024).
- Construction Summary Report for new tanks at Rankin Inlet fuel farm – 65TNK11604 & 65TNK11605 (ref.: 6537-116-132-REP-004_R0, Tetra Tech, February 2025).

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2.2 EXISTING CONDITIONS ASSESSMENT

The following summarizes the available information and observations regarding the current site conditions and tank foundations.

- The existing tanks are constructed on top of engineered gravel pads. The pads are placed over the compacted gravel surfacing materials (fuel farm floor).
- The existing HDPE liner is installed below the fuel-farm floor gravel surfacing materials and is sandwiched between two sand bedding layers (non-woven geotextile and a 100 mm sand bedding layers were placed above and below the HDPE liner, as per as-built drawing 65-131-230-201_rev4_28-01-2019).
- As-built surveys provide the final grade elevation and the buried liner elevation. The minimum heights of material above the liner near the proposed steel rings derived from these as-built elevations are presented in Table 1.

Table 1: Height of material above liner

Tank ID	Height of material above liner (min)
65TNK11601	360 mm (min.)
65TNK11602	506 mm (min.)
65TNK11604	918 mm (min.)
65TNK11605	946 mm (min.)

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3 PROPOSED DESIGN

The anti-erosion ring shall be fabricated from 14-gauge galvanized steel plate, with each segment measuring 2 500 mm in length and 250 mm in height. Segments will be bolted together to form a continuous ring to be installed around each tank at an offset of 600 mm from the tank wall. The ring will be partially buried so that 100 mm remains above finished grade. This configuration will prevent loss of surrounding material due to scour and undermining. The completed installation shall resemble the configuration shown in Picture 1 (see above). Refer to construction drawing 65-116-230-003 in Appendix A for details.

Table 2: Key specifications for anti-erosion ring

Item	Specifications
MATERIAL	Steel plate, Gauge 14, Galvanized steel
SEGMENT LENGTH	2 500 mm
SEGMENT HEIGHT	250 mm
OFFSET FROM TANK WALL	600 mm
BURIAL	Partially buried with 100 mm exposed above finished grade
FASTENING	Bolted connections to assemble ring in place

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4 CONSTRUCTION METHODOLOGY AND MONITORING

4.1 RISKS IDENTIFICATION

This is a brownfield project: foundation pads, fuel-farm secondary containment and tanks are existing. Although the scope for installing the anti-erosion ring is relatively limited, activities may affect existing site elements. Key risks include:

- Work within the tank foundation pads — Excavation or handling within the pad footprint could disturb the engineered pad and reduce its compaction and its geometry. Existing compaction and bearing conditions must be preserved.
- Work inside the fuel-farm secondary containment — The waterproofing and containment capacity must be maintained. Berms should not be altered. Vehicle traffic within the containment are prohibited to avoid damage on buried liner or mitigation measures such as the installation of rig mats should be taken.
- Work in proximity to the buried HDPE liner — The height of material above liner at ring location varies for each tank and the minimum value is estimated to be 400mm. The liner must not be punctured or otherwise damaged. Construction methods must avoid endangering the liner.
- Work adjacent to the tanks — The integrity of the tanks and their accessories is critical; work must not adversely affect the tanks.

The construction methodology shall be adapted to avoid or mitigate these risks.

4.2 PROPOSED CONSTRUCTION METHODS (RECOMMENDED)

- Access and traffic control: Restrict access within the containment. No vehicles are permitted to circulate on the fuel farm floor at any time. Exceptions require written authorization from the field engineer and mitigation measures such as rig mats installation. The maximum allowable ground pressure inside the fuel farm is 25 kPa due to the presence of the liner.
- Laydowns areas inside the fuel farm can be managed with rig mats. Do not store plates directly on the ground.
- Prioritize manual methods: Use hand tools and other low-impact equipment wherever feasible to minimize disturbance to the existing pad, liner and containment surfaces.
- Controlled plate assembly: Bolt anti-erosion plates together in the working area and position them carefully around the tanks. Ensure bolted joints and overlaps form a continuous anti-erosion barrier.
- Trench excavation: Excavate any required trench by hand or with very small equipment. Keep excavation depth and footprint to the minimum necessary. It is proposed to use a pickaxe to dig the trench.
- Plate installation: Install the plates to the designed depth using controlled, non-impact techniques (e.g., gradual tamping). Avoid heavy impact methods that transmit shock to the tanks. Keep the plate partially buried with 50 mm exposed above finished grade.
- Backfill with 0–30 mm minus granular material in thin lifts and compact each lift using manual or lightweight compaction equipment to achieve the density required by the field engineer.

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4.3 CONTROLS AND MONITORING

- Pre-work survey: Record tank elevations, pad conditions, and containment surfaces prior to mobilization. Photograph and document existing conditions and retain records for comparison.
- Monitoring during works: Provide continuous visual monitoring by a full-time qualified inspector who is independent of the Contractor. The inspector shall have authority to stop work if unsafe conditions are observed.
- Liner protection: If excavation/trench digging encounters unusual resistance or there is any indication that the liner may have been reached, cease operations immediately and notify the field engineer for assessment before proceeding.
- Approval of alternative methods: The Contractor may submit alternative construction methods in writing. No changes are permitted without written approval from the field engineer. Approval will be granted only if the alternate method demonstrates equivalent or better risk mitigation and protection of existing assets.
- Emergency response: Maintain an on-site emergency response plan for immediate action in the event of liner damage, tank impact, or containment breach. The plan shall include notification procedures, containment measures, and roles/responsibilities.
- Documentation and reporting: Conduct and maintain pre- and post-work surveys and prepare regular construction reports to document activities, monitoring observations, corrective actions, and the final condition of the works.

5 COMPLIANCE WITH CODES

The proposed works and methodology are designed to minimize impact on existing conditions. They will not alter the secondary containment's properties (including imperviousness and capacity), the tanks, the fuel-farm drainage system, or the pad foundation geometry. As a result, the proposed design does not affect the compliance with applicable codes and regulations of the existing design.

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6 EARTH WORKS

6.1 CONSTRUCTION MATERIAL QUANTITIES

Table 3 below presents the estimated in-place material quantities for the construction of the fuel farm.

Table 1 – Material quantities estimation

Item	TOTAL
Granular fill 0-30 (m ³)	60 m³
Steel Plate (length 2.5 m) for 65TK11601	57 units
Steel Plate (length 2.5 m) for 65TK11602	47 units
Steel Plate (length 2.5 m) for 65TK11604	39 units
Steel Plate (length 2.5 m) for 65TK11605	29 units

6.2 CONSTRUCTION MATERIAL SPECIFICATIONS

All the material to be used is NPAG (Non-Potential Acid Generating). Any new material used in the dike raise will be collected and analyzed to ensure it is NPAG and non-metal leaching.

The general requirements for the materials are specified below.

6.2.1 Granular Fill (0-30 mm)

Granular Fill (0-30 mm) shall consist of hard durable particles, be free of roots, topsoil and other organic material and have a particle size distribution as presented in Table 4. Processing will be required to achieve the specified gradation.

Table 2 - Granular fill (0-30 mm) – Particle size distribution limits

Particle size (mm)	% Passing
30	100
14	65 – 100
5	45 – 70
0.63	15 – 35
0.08	4 – 10

6.2.2 Steel Plates

Refer to section 3.

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APPENDIX A – CONSTRUCTION DRAWING

Number	Title	Rev.
65-116-230-003	AGNICO EAGLE - MELIADINE DIVISION 116 - FUEL FARM 230- GENERAL EARTH WORKS PLAN VIEW AND DETAILS ITIVIA FUEL FARM ANTI-EROSION RING INSTALLATION	R0

