Appendix 17

Meadowbank and Whale Tail Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan Version 6.1

AGNICO EAGLE

MEADOWBANK GOLD PROJECT

Baker Lake Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan

In Accordance with Water License 2AM-MEA1530

Prepared by:
Agnico Eagle Mines Limited – Meadowbank Complex

Version 6.1
March 2022

EXECUTIVE SUMMARY

Agnico Eagle Mines Limited – Meadowbank Complex (Agnico Eagle) is currently operating the Meadowbank Gold Project approximately 70 km north of the Hamlet of Baker Lake. Agnico Eagle is also operating the Amaruq property, approximately 150 kilometers (km) north of the hamlet of Baker Lake and approximately 50 km northwest of Meadowbank Mine, in the Kivalliq Region of Nunavut. The Whale Tail deposit is being mined and ore is hauled by truck to the approved infrastructure at Meadowbank Mine for milling. Agnico Eagle received approval on January 2019 to add two (2) 10 million liters diesel fuel storage tanks to the Marshalling Area Bulk Fuel Storage Facility in Baker Lake. Agnico has since built and commissioned the two approved tanks. In 2019, one of the approved tanks (Tank 7) was added to the facility, and in 2021, the second approved tank (Tank 8) was added to the facility. As part of the project, a total of eight (8) 10 million litres fuel storage tanks for diesel and eighteen (18) 100,000L fuel storage tank for Jet-A will receive and store bulk shipments of fuel for the Meadowbank Project at the Baker Lake Marshalling Area. Two (2) 100,000L fuel storage tank for Jet-A are scheduled to be re-added the system in 2022 as approved by the Water License.

To adequately assess the environmental performance of the bulk fuel storage tank at Meadowbank this report provides: a summary of the design, installation, operation and maintenance that follows the CCME (2003) Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum and Allied Petroleum Products; a summary of the location and environmental setting; a summary of the NWB Type A water license requirements; and an environmental assessment to support the recommended environmental monitoring for the ongoing evaluation of the secondary containment.

IMPLEMENTATION SCHEDULE

As required by Water License 2AM-MEA1530, Part B, Item 11, the proposed implementation schedule for this Plan is outlined below.

This Plan will be immediately implemented (March 2022) subject to any modifications proposed by the NWB as a result of the review and approval process.

DISTRIBUTION LIST

Agnico Eagle – General Mine Manager

Agnico Eagle – Superintendent of Environment and Critical Infrastructures

Agnico Eagle – Environment General Supervisor

Agnico Eagle – Environmental Coordinator

Agnico Eagle – Environmental Technician

Agnico Eagle – Energy and Infrastructures Superintendent

Agnico Eagle – Procurement Department

DOCUMENT CONTROL

Version	Date (YMD)	Section	Page	Revision
1	2009/12/22			Comprehensive plan for Baker Lake Bulk Fuel Storage Facility
2	2011/12/13			Update all items related to the Baker Lake Fuel Storage Installations: Final Report of Phase 3 (2010)
3	2014/06/30			Add Jet-A Tank information and 2014 comprehensive review
4	2018/08/16			Text updated to reflect proposal to add 2 diesel fuel tanks.
5	2020/01/17	1		Add Tank 7 information
		2		Deleted as it's a duplicate of Section 4 and 5.1
		Figure 1-2		Update Figure to add Tank 7 information +
		3		Adjust condition Part H Item 4 as per the Water License
		4.1		Add Tank 7 information
		5.1		Update with current monitoring / inspection
		6		Update reference section
6	2022/01/17	1		Add Tank 8 information
		Figure 1-1		Update Figure
		3		Adjust conditions to align with section numbers in Water License 2AM-MEA1530
		4.1		Add Tank 8 information
		5.1		Updated inspection frequency during summer and Freshet
		6		Added Tank 8 construction summary to references.
6.1	2022/03/03	Figure 1-1		Updated Figure to include tanks 7 and 8
		Figure 1-2		Updated Figure to include aerial image of entire tank farm facilities
		4.3.3		Preventative measures to ensure HDPE liner integrity added.
		5.1		Requirements from Part 6 of the CCME (2003) guidelines for monitoring and detection of leaks.

Prepared By: Environmental Department

Approved by: 

Alexandre Lavallee
Superintendent of Environment and Critical Infrastructures

Table of Contents

LIST OF FIGURES

LIST OF APPENDICES

SECTION 1. INTRODUCTION

Agnico Eagle Mines Limited – Meadowbank Complex (Agnico Eagle) is currently operating the Meadowbank Gold Project approximately 70 km north of the Hamlet of Baker Lake. Agnico Eagle is also operating the Amaruq property, approximately 150 kilometers (km) north of the hamlet of Baker Lake and approximately 50 km northwest of Meadowbank Mine, in the Kivalliq Region of Nunavut. The Whale Tail deposit is being mined and ore is hauled by truck to the approved infrastructure at Meadowbank Mine for milling.

The Baker Lake Bulk Fuel Storage Tank Facility is located east of the hamlet of Baker Lake, on the north shore of Baker Lake. The GPS coordinates of these facilities is NAD 83 15W E 356874 N 7134486. A general site location is provided in Figure 1-1. An aerial photo depicting the site layout of the infrastructure and tanks is provided in Figure 1-2.

In 2007-2008, four (4) 10 million diesel tank were constructed. Following the amendment No.1 - Marshalling Area Bulk Fuel Storage Facility Expansion Water Licence 2AM-MEA0815 Type A, two (2) more 10 million liters bulk fuel storage tank (#5 and #6) were constructed in 2010. This amendment also permitted the construction, in 2013, of Jet A Fuel tanks.

Following a modification to the Water License 2AM-MEA1526, Agnico Eagle received approval in January 2019, to add two (2) 10 million liters diesel fuel storage tanks to the Marshalling Area Bulk Fuel Storage Facility in Baker Lake. In 2019, Agnico has built and commissioned one of the two approved tanks (Tank 7), and in 2021, the second approved tank (Tank 8) was added to the Fuel Storage Facility.

As part of the project, a total of eight (8) 10 million litres fuel storage tanks for diesel and eighteen (18) 100,000L fuel storage tank for Jet-A will receive and store bulk shipments of fuel for the Meadowbank Project at the Baker Lake Marshalling Area. Two (2) 100,000L fuel storage tank for Jet-A are scheduled to be re-added the system in 2022 as approved by the Water License.

To adequately assess the environmental performance of the bulk fuel storage tank at Meadowbank this report provides: a summary of the design, installation, operation and maintenance that follows the CCME (2003) Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum and Allied Petroleum Products; a summary of the location and environmental setting; a summary of the NWB Type A water license requirements; and an environmental assessment to support the recommended environmental monitoring for the ongoing evaluation of the secondary containment.

Figure 1-1: General Location of Baker Lake Bulk Fuel Storage Facilities

Figure 1-2: Baker Lake Bulk Fuel Storage Facility Site Layout

**Aerial photo taken in Summer 2021 during Tank 8 construction*

SECTION 2. ENVIRONMENTAL SETTING

2.1 TOPOGRAPHY

The bulk fuel storage area is located east of the Hamlet of Baker Lake, approximately 350 m north of Baker Lake. The storage facility sits on a low terrace parallel with the shoreline of the lake. There is a gradual slope (5 to 10% grade) toward Baker Lake with an approximate elevation change of 35 m from the bulk fuel storage facility to the Baker Lake shoreline.

The Baker Lake shoreline is gently sloping, well-drained and is lined with marine gravels, sands and boulders.

2.2 GEOLOGY

The regional surficial geology is characterized by sandy till, bedrock outcrops, felsenmeer (ice-shattered bedrock) and shallow lakes (Golder, 2007). The most common soil type in this region is glacial till. Marine beach deposits are found along the north shore of Baker Lake.

The soil near the bulk fuel storage facility is comprised of silts, sands, gravels, cobble and boulders and frost-susceptible glacial till overlying weathered bedrock (Golder, 2007). The soil thickness is typically less than 1.4 m with permafrost or bedrock encountered at less than 2 m. Approximately 60% of the surface area surrounding the bulk fuel storage facility is comprised of bedrock outcrop.

2.3 FLORA AND FAUNA

There are no trees and few shrubs in the area surrounding the bulk fuel storage facility. The site is covered by low-lying vegetation; predominated by grassy hummocks, dwarf willow, sedge, green moss and lichen.

Arctic ground squirrels, ptarmigan and songbirds are inhabitants in the area surrounding the bulk fuel storage facility. Lake cisco, lake trout, arctic char, lake whitefish, round whitefish, slimy sculpin and stickleback are predominant species found in Baker Lake.

2.4 SUBSURFACE CONDITIONS

Test pits excavated in 2005 near the bulk fuel storage facility and between the tanks and the shoreline indicate a saturated top layer (0.2 m) of organic material (primarily green moss) (Golder, 2005; 2007). A layer of grey to black medium sand is present up to 0.7 m thickness throughout the area, below which a saturated, grey brown, sand and silt layer is found.

Bedrock is exposed at shallow depths throughout the site in locations where topsoil or till soils are present (Golder, 2005). Bedrock is encountered at a maximum depth of 1.4 m. As predicted by the soil conditions, seepage flows in test pits indicate high site drainage.

2.5 WATER QUALITY

Baker Lake water quality closely resembles distilled water as many conventional water chemistry parameters are at or below detection limits (BAER, 2005). The water column is generally well mixed and the water chemistry homogenous. During the open water season there is limited vertical stratification in temperature and dissolved oxygen, with observed higher salinity in the bottom strata.

SECTION 3. NWB TYPE A WATER LICENSE CONDITIONS

The Nunavut Water Board (NWB) Type A Water License 2AM-MEA1530 requirements related to the bulk fuel storage facility in Baker Lake are provided below. Agnico Eagle is committed to achieving all of these requirements.

Part F: Conditions Applying to Waste Disposal and Management

9. The Discharge of Effluent to land from fuel containment facilities at the Baker Lake Bulk Fuel Storage Facility and Meadowbank Fuel Storage Facility (Monitoring Program Stations ST-37 through ST-40), shall not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration (MAC)	Maximum Concentration of any single Grab sample
pH	6.0 to 9.5	6.0 to 9.5
Total Arsenic (mg/L)	**0.5	1.0
Total Copper (mg/L)	**0.3	0.6
Total Nickel (mg/L)	**0.5	1.0
Total Zinc (mg/L)	*0.5	1.0
Total Suspended Solids (mg/L)	*15	30
Ammonia (mg/L)	6.0	6.0
Benzene (µg/L)	370	370
Toluene (µg/L)	2	2
Ethylbenzene (µg/L)	90	90
Lead (mg/L)	0.1	0.1
Oil and Grease (mg/L)	5 and no visible sheen	5 and no visible sheen

* Environmental Guideline for Industrial Waste Discharges in the NWT, 2004
** Metal and Diamond Mines Effluent Regulations (MDMER)

10. The Licensee shall, under Part F, Item 9, discharge Effluent in such a manner as to minimize surface erosion at a distance of at least thirty-one (31) meters above the ordinary High Water Mark of any Water body, where direct flow into a Water body is not possible and no additional impacts are created, or as otherwise approved by the Board in writing.

12. The Licensee shall confirm compliance with Effluent quality limits in Part F, Items 3, 4, 5, 7 and 9 prior to Discharge.

13. The Licensee shall provide at least ten (10) days' notice to the Inspector prior to any planned Discharges from any facilities. The notice shall include an estimated volume proposed for Discharge and the receiving location.

Part H: Conditions Applying to Emergency Response and Contingency Planning

2. The Licensee shall prevent any chemicals, petroleum product or unauthorized Wastes associated

with the project from entering Water.

3. The Licensee shall provide secondary containment for fuel and chemical storage as required by applicable standards and acceptable industry practice

4. The Licensee shall perform weekly inspections of petroleum products storage and containment facilities, fuel tanks and connectors, for leaks and settlement and shall keep a written log of inspections to be made available to an Inspector upon request. More frequent inspections may be requested by an Inspector.

SECTION 4. ENVIRONMENTAL PERFORMANCE ASSESSMENT

To adequately assess the environmental performance of the bulk fuel storage tanks and facilities, a desk-top review of the design and installation reports were completed. In addition, a consultant performed a geotechnical inspection to annually evaluate the site drainage, secondary containment and performed an environmental assessment of the bulk fuel storage facility.

4.1 DESK-TOP REPORT REVIEW

The installation/construction reports (Agnico Eagle, 2009a, b; Agnico Eagle, 2010; Agnico Eagle 2011, Agnico Eagle 2020, Agnico Eagle 2021 for diesel tank and Agnico Eagle, 2013 for Jet-A tanks; attached in Appendix A) indicated the use of best management practices during the installation of the aboveground fuel storage tanks.

During the summer of 2007, Agnico Eagle built bulk fuel tanks #1 and #2. Under the supervision of Hatch Engineering, the construction of the secondary containment berm was completed. Enviroline Services Inc. was hired in October 2007 to install the HDPE membrane liner in accordance with CCME (2003) specifications; this liner was subsequently covered with a surface layer of crushed stone. Tanks were commissioned in 2007.

Bulk fuel storage tanks #3 and #4 were completed in October 2008. Under the supervision of Stavibel Engineering, the secondary containment berms were constructed and the HDPE membrane liner was designed and installed for bulk fuel storage tanks #3 and #4 under the supervision of Luc Croisetière and Agnico Eagle. Works were completed for these tanks in July 2009 and tanks were commissioned the same year.

Bulk fuel storage tank #5 and #6 were completed in October 2010. Under the supervision of Stavibel Engineering, the construction of the secondary containment berms for tanks #5 and #6 was completed. Enviroline Services Inc. was hired in May 2010 to install the HDPE membrane liner. Tanks were commissioned the same year.

Construction of the bulk fuel storage tank #7 was completed in September 2019. Under the supervision of Agnico Eagle the secondary containment berms were constructed. The HDPE membrane liner was installed and tested by Geosynthetiques ZTG Inc. for bulk fuel storage tank #7.

Under the supervision of Agnico Eagle, construction of the bulk fuel storage tank #8 was completed in September 2021. Piping installation work associated with the tank system was finalized in October 2021.

All of the aboveground storage tanks were field erected. For the diesel tanks, construction activity was supervised by Hatch Engineering, Stavibel Engineering and Agnico Eagle and included qualified steel fabricators and installers. Following the diesel tank construction, X-Ray testing of horizontal and vertical welds was completed. For tanks #7 and #8, to attest welds quality, inspectors relied on visual inspection, magnetic particulate tests and high penetration oil tests. All of the welds met the specifications outlined in the API Standard 650 (Agnico Eagle, 2009a, b, 2020, 2021).

In 2013, the Jet-A tanks, the secondary containment enclosure and installation of the HDPE liner in accordance with CCME (2003) specifications was completed and commissioned. Stavibel Engineering provided the design, planning and construction oversight related to the installation of infrastructure of Agnico Eagle's Jet A Fuel Storage facility which consists of 100,000 liters double walled tanks, associated piping and pumping systems and secondary requirement. SM Construction had installed the Jet-A tanks and Texcel was hired in July 2013 to install the HDPE secondary containment membrane liner. After construction, all tanks were cleaned and washed inside and pressure tests were performed as per specifications.

A secondary containment volume calculation was completed to provide verification on the liquid storage capacity of the storage tank system. The CCME Environmental Code of Practice for Aboveground Storage Tanks (2003) states:

> *a storage tank system that consists of more than one storage tank which should have a volumetric capacity of not less than the sum of the capacity of the largest storage tank located in the contained space and 10% of the capacity of the largest tank or the aggregate capacity of all other storage tanks located in the contained space*.

In accordance with the CCME (2003) code of practice, the Baker Lake bulk fuel storage tanks meet the volumetric requirements for a storage tank system.

4.2 SECONDARY CONTAINMENT VISUAL INSPECTION

A consultant performs a geotechnical inspection annually and inspects the bulk fuel secondary containment structures, the report is sent to NWB annually as per requirement of the Water Licence.

4.3 ENVIRONMENTAL ASSESSMENT

The management of site drainage, surface water collection and water/fuel removal within the secondary containment area is an important measure in the protection of the terrestrial environment, surface water and ground water from potential sources of contamination. The environmental protection objectives, strategy and an evaluation of the potential of leaks or seepage to contaminate the terrestrial environment, surface water and ground water are provided in the following sections. Much of the environmental protection strategies focus on the control of contact water. In this report contact water is defined as any water that may be physically or chemically affected by the nearby operational activities.

4.3.1 Terrestrial Environment

The primary objective of the terrestrial management plan is to minimize any adverse impacts to the terrestrial (soil, flora and fauna) environment. To meet this objective, bulk fuel storage facility structures have been constructed to minimize the operational footprint and control contact run-off water within the secondary containment area. Due to the site grading, all water that comes into contact with the bulk fuel storage facility is intercepted and directed into the impermeable HDPE lined secondary containment area.

The ground beneath the secondary containment area has been adequately graded to ensure berm stability.

4.3.2 Surface Water

The objective of water management around the bulk fuel storage facility is to minimize impacts on the quantity and quality of surface water and groundwater. To meet this objective, the bulk fuel storage facility structures have been constructed to intercept and direct contact run-off water to the impermeable HDPE lined secondary containment area. As there is a high volume of fuel transfer and activity around the modular fuel dispenser, the pad below the modular fuel dispenser and refueling station is lined and sloped toward the secondary containment berm.

Seepage flows in test pits indicate high site drainage due to the high soil porosity. Therefore, should contact water reach the natural environment, the ultimate fate of the contaminants is likely to be in shallow groundwater or surface water (Golder, 2007).

4.3.3 Groundwater

It is not expected that groundwater would be impacted as there is no direct pathway for contaminated water to seep from the bulk fuel storage facility. Due to the site grading, all contact water from the bulk fuel storage facility is directed inside the HDPE lined secondary containment area. Preventative measures that are currently in place to ensure the integrity of the HDPE membrane liner include: limiting access into the area and prohibiting snow removal within the secondary containments to avoid accidental damage to the liner. Water levels within the secondary containment are monitored and kept to minimal levels to preserve the lifespan of the liner. Should the integrity of the liner become compromised, there could be leakage into the below grade soil; this would likely present the greatest source of hydrocarbon contamination to impact groundwater and receiving water. Should this occur, an implementation plan for repair would be initiated. Refer to Section 5 below for the visual and operational inspection performed within the facility.

SECTION 5. PERFORMANCE MONITORING PLAN

The environmental performance monitoring plan is a tiered approach with an emphasis on visual and operational inspections; routine surface water sampling to control and monitor the quality of the contact water; and event monitoring (in the case of a spill emergency or occurrence). Management of the bulk fuel storage facility will be guided by the monitoring results.

5.1 VISUAL AND OPERATIONAL INSPECTIONS

Visual and operational inspections are a central component of the environmental performance monitoring plan. Visual inspections of the secondary containment structure are important because if the integrity of the berm walls or liner is compromised this presents the greatest potential for leaks or seepage into groundwater and ultimately the receiving environment.

Inspections are logged and reported by the Environmental Department, these are conducted on a weekly basis and increased to a twice weekly frequency during Freshet and summer months. These inspections include, but are not limited to, assessment of the area for any spills, adherence to waste management procedures, adherence to proper fueling procedures, precipitation/ run-off accumulation, and visible sheens on contact water pools and crush material inside the secondary containment. Environmental staff follow-up with operations staff and advise the supervisor if any non-conformity is observed. A weekly written log is completed and available upon request. Weekly fuel leak inspections are conducted by the Energy and Infrastructure Department on the entire Baker Lake Fuel Storage Facility. Monthly owner/operator inspections to assure continued tank integrity, are also conducted by the Energy and Infrastructure Department. Inspection of the facilities include: leak detection, exterior paint assessment, tank and piping condition, condition of tank supports and foundation, functionality of monitoring gauges and alarms, condition of product dispenser components, secondary containment berm structure and integrity, indicators of liner damage, evidence of tampering or misuse, any structural abnormalities. Copies of these inspection reports are retained for reference. Continuous improvement to incorporate API 653 standards into preventative maintenance scheduling are on-going. Qualified API inspectors will also be involved in this process. Each of the 10 million liter diesel fuel tanks are also subject to a 10-year recertification schedule.

In-service monitoring, including inventory control of transfer and weekly volume inspections using manual or live gauge reconciliation are conducted by Meadowbank staff. Weekly visual inspections and inventory reconciliation are used to evaluate and determine bulk fuel tank leakage. Annual air tests are conducted on all systems.

An annual geotechnical inspection is also conducted annually by a third party to evaluate the site drainage, secondary containment including HDPE liner integrity and performed an environmental assessment of the bulk fuel storage facility. Corrective action/ maintenance may be necessary following the inspection to ensure optimal performance of the facility. The bulk fuel storage facility is maintained in accordance with best management practices.

Should a leak be suspected, visual leak detection and precision leak detection or API 653 standard approved test will be conducted on the aboveground storage tanks and a pressure liquid media leak detection test or high-pressure inert gas or vacuum leak detection test will be conducted on the aboveground piping.

The aforementioned monitoring and leak detection criteria is in alignment with the frequencies and methods outlined in Part 6 of the CCME (2003) Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products. Tables 1 and 2 outline the details for in-service monitoring, periodic leak detection, and if a leak is suspected for applicable aboveground storage tanks and aboveground piping respectively.

Table 1 CCME Monitoring and Leak Detection Criteria for Aboveground Storage Tanks

Containment	In-Service Monitoring	Periodic Leak Detection	Leak Suspected
API Std 650-98 *(within approved secondary containment)*	Manual dip and inventory reconciliation; electronic dip and electronic inventory reconciliation; or electronic dip and manual inventory reconciliation in conformance with Section 8.3 of CCME (2003) and Visual leak detection (weekly) or High-technology *secondary containment* monitoring	API 653	Precision leak detection test of a storage tank; or API 653
Horizontal tanks	Manual dip and inventory reconciliation; electronic dip and electronic inventory reconciliation; or electronic dip and manual inventory reconciliation in conformance with Section 8.3 of CCME (2003) and Visual leak detection (weekly).	Not required	Visual leak detection (weekly) (where entire system including *piping* is visible); or Precision leak detection test of a storage tank

Table 2 CCME Monitoring and Leak Detection Criteria for Aboveground Piping

Containment	In-Service Monitoring	Periodic Leak Detection	Leak Suspected
All types	Visual leak detection (weekly).	Not required	Pressure liquid media leak detection test or High-pressure inert gas or vacuum leak detection test

The bulk fuel tanks are filled during barge season on an annual basis. During the period of re-filling there is the greatest risk of over-filling. Through regular visual inspections, inventory control and monitored fuel transfer, the risk is significantly reduced. The fuel transfer from ship to shore is detailed in the Oil Pollution Emergency Plan and Oil Pollution Prevention Plan (OPEP/OPPP) and the Product Transfer Area Assessment – Baker Lake Oil Handling Facility found in Spill Contingency Plan Appendix. In the case of a spill, the spill contingency plan and the OPEP/OPPP will be followed.

5.2 ROUTINE CONTACT WATER MONITORING

Due to snow accumulation, melting and precipitation, contact water will unavoidably collect inside the secondary containment area. Contact water from inside the secondary containment area will be sampled as described in Section 3 above prior to its release into the terrestrial environment. During water discharge, piping will be directed onto the nearby tundra at least 31 m above the ordinary High Water Mark, to allow for natural attenuation and drainage (i.e. surface water will never be pumped directly into Baker Lake).

During visual inspections, the quantity of contact water collected inside the secondary containment area will be evaluated. When water withdrawal is deemed necessary, water samples will be collected and analyzed for the parameters: pH, Total Arsenic, Total Copper, Total Lead, Total Nickel, Total Zinc, Total Suspended Solids, Ammonia, Benzene, Toluene, Ethylbenzene, Xylene, and Oil and Grease. If the contact water exceeds the licensed limits detailed in Section 3 above, the portable oil-water separator will be used to treat the water prior to discharge to the receiving environment or water will be pumped and disposed at the Meadowbank Tailings Storage Facility or Stormwater Management Pond. Prior to withdrawal, samples will be analyzed at a certified laboratory.

In addition, water samples from Baker Lake are collected as part of the Core Receiving Environment Management Program (CREMP). The results of these analyzes are included in the annual report. These samples are used to evaluate the performance of the overall water management plan for the Baker Lake Marshalling Area.

5.3 EVENT MONITORING

In the event of a spill occurrence at the bulk fuel storage facility, the spill contingency plan and the OPEP/OPPP will be followed. As a follow-up to the spill response, the environmental staff will conduct an environmental assessment to determine the extent of impacts of the spill occurrence on the nearby environment. This will include the identification of the potential environmental pathways of concern that may result in impacts to surface water (i.e. Baker Lake near-shore surface water), soil or groundwater.

5.3.1 Soil Sampling

Following the unlikely event where a spill is not contained within the secondary containment area, soil sampling may be required to locate and prevent further impact to the terrestrial and aquatic receiving environment. Depending on the quantity of the spill, the organic surface soils and silt-containing till below the surface are a likely sink for hydrocarbons, thus soil samples will be taken at selected locations to horizontally and vertically delineate the impacted areas. Furthermore, the soil samples will provide valuable information used to determine the necessity of installing groundwater wells (see Section 5.3.3 below).

5.3.2 Water Sampling

Following a spill event, an environmental assessment could be conducted. Similar to routine contact water sampling (inside the secondary containment area), water samples will be collected and analyzed for the following parameters: pH, Total Arsenic, Total Copper, Total Lead, Total Nickel, Total Zinc, Total Suspended Solids, Ammonia, Benzene, Toluene, Ethylbenzene, Xylene, and Oil and Grease.

As part of the CREMP, receiving environment surface and at- depth water samples will be taken in Baker Lake and analyzed for the same parameters as listed above.

5.3.3 Assessment of the Need for Groundwater Well Installation

Following a spill event, if soil sample results identify elevated concentrations of contaminants (i.e. exceeding the industrial standard levels outlined in the CCME Canada-Wide Standard (CWS) for Petroleum Hydrocarbons (PHC) in Soil, 2008) and/or if water samples identify elevated receiving environment water samples (i.e. exceeding licensed limits caused as a result of the spill event), an assessment of the need for groundwater wells will be conducted. The assessment, and if required, design for installation, monitoring and maintenance of vertical ground water monitoring wells will be in accordance with CCME (2003) procedures.

SECTION 6. REFERENCES

Agnico Eagle (2009a). Baker Lake Fuel Storage Installations: Interim Report of Phase 1 (2007) and Phase 2- A (2008). April 2009.

Agnico Eagle (2009b). Baker Lake Fuel Storage Installations: Final Report of Phase 2-B (2009). December 2009.

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Golder Associates Ltd. (2007). Water Use and Management Plan: Baker Lake Marshalling Area Meadowbank Gold Project. March 2007.

Golder Associates Ltd (2005). Field Geotechnical Investigations Baker Lake Staging Area, Meadowbank Gold Project. Report N. 05-1413-040.

Appendix A1

Baker Lake Diesel Fuel Storage Installations: Interim Report Following Construction of Phase 1 (2007) and Phase 2-A (2008)

AEM

AGNICO-EAGLE MINES LTD
MEADOWBANK DIVISION

BAKER LAKE FUEL STORAGE INSTALLATIONS

INTERIM REPORT

FOLLOWING THE CONSTRUCTION

OF

PHASE 1 (2007)
PHASE 2-A (2008)

AGNICO-EAGLE MINES LTD
MEADOWBANK DIVISION

BAKER LAKE FUEL STORAGE INSTALLATIONS

INTERIM REPORT

FOLLOWING THE CONSTRUCTION

OF

PHASE 1 (2007)
PHASE 2-A (2008)

PREPARED BY :

Patrick Giard, P.Eng., CCE
Supervisor, Construction Department
AGNICO-EAGLE MINES LTD, *Meadowbank Division*

AGNICO-EAGLE MINES LTD
MEADOWBANK DIVISION

BAKER LAKE FUEL STORAGE INSTALLATIONS

INTERIM REPORT
FOLLOWING THE CONSTRUCTION
OF PHASE 1 (2007) AND PHASE 2-A (2008)

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Agnico-Eagle Mines Limited is currently in the process of building a gold mining project in the Kivalliq region of Nunavut, about 70 km north of Baker Lake.

The yearly operations of this mining operation requires the storage of a minimum of forty million (40 000 000) liters of diesel fuel, which represents four (4) bulk fuel storage tanks, each with a nominal capacity of ten million (10 000 000) liters.

PHASE 1

During the summer of 2007, Agnico-Eagle Mines Limited has built the first two (2) bulk fuel tanks, with a combined capacity twenty million (20 000 000) liters of diesel fuel. An impervious enclosure was built around it in order to provide secondary containment around the fuel tanks. These first two (2) bulk fuel tanks were then in condition to be filled.

PHASE 2-A

During the summer of 2008, Agnico-Eagle Mines Limited has built another two (2) bulk fuel tanks, for a total combined capacity of forty million (40 000 000) liters of diesel fuel. Only a portion of the enclosure was built around it, with the final purpose being to provide secondary containment around the fuel tanks. These other two (2) bulk fuel tanks were completed in late October 2008, and they remain empty as of April 2009.

PHASE 2-B

During 2009, Agnico-Eagle Mines Limited plans to complete the installation of an impermeable HDPE membrane, which will provide adequate secondary containment around the fuel tanks. This will allow to fill up all four (4) bulk fuel tanks in the summer of 2009, once the piping installation has been completed

DESCRIPTION OF THE MANDATE

Agnico-Eagle Mines has given a mandate to the undersigned in order to verify the compliance with applicable regulations of its fuel storage installations in Baker Lake, Nunavut.

According to the terms of reference, the mandate consists summarily in the following activities.

A. Review and compilation of the available documentation ;

B. Collection of any information that may be missing ;

C. REVISION OF CONSTRUCTION DRAWINGS

   a. Preparation of *AS BUILT* drawings of the construction of PHASE 1 ;

   b. Preparation of *AS BUILT* drawings of the construction of PHASE 2-A ;

   c. Preparation of *IFC* drawings for the construction of PHASE 2-B ;

D. Verifications to the storage capacity within the existing containment berms of PHASE 1 and verifications for PHASE 2 in regards to the applicable regulations.

A. DOCUMENTATION READILY AVAILABLE

GOLDER ASSOCIATES - Vancouver Office

For the Baker Lake bulk fuel storage facilities, this firm has produced some construction specifications on 2006-04-28, which were given reference SP-GAL-03 under their project number 06-1413-009.

NISHI-KHON / SNC-LAVALIN LTD - Vancouver Office

For the Baker Lake bulk fuel storage facilities, this firm has produced a set of drawings issued **for construction** on 2007-08-03, under their project number 017202. Some specifications for fuel piping and valves were also issued.

EARTHWORK DRAWINGS	017202-1000-41D1-0006	17202-1000-46ES-1001A	017202-8000-46DC-9150
017202-1000-41D1-0001	**FUEL PIPING DRAWINGS**	17202-1000-46ES-1001B	017202-8000-46DC-9152
017202-1000-41D1-0002	017202-1000-41D1-0007	**ELECTRICAL DRAWINGS**	017202-8000-46DC-9153
017202-1000-41D1-0003	017202-1000-46D4-1004	017202-1000-46D6-1001	017202-8000-46DC-9156
017202-1000-41D1-0004	017202-1000-46D4-1005	017202-1000-47D2-2001	017202-8000-46DC-9157
017202-1000-41D1-0005	017202-1000-46D4-1006	017202-8000-47DA-9004	017202-8000-46DC-9166

GEM STEEL EDMONTON LTD

This vendor has submitted a set of drawings issued **for review**, which consist in four (4) structural drawings showing the details of a fuel tank of 10 million liters nominal capacity. The original design of this fuel tank is shown on revision A of drawings BL-2007-1, BL-2007-2, BL-2007-3, and BL-2007-4.

CHAMCO INDUSTRIES LTD

This vendor has submitted a set of preliminary drawings issued **for approval** under their project number 1014938ABS, consisting of the following drawings .These documents have all been reviewed by HATCH.

DRAWING NUMBER	H325174-M268-VD-0040	H325174-M268-VD-0041	H325174-M268-VD-0010
H325174-M268-VD-0011	H325174-M268-VD-0012	**H325174-M268-VD-0013**	H325174-M268-VD-0014
H325174-M268-VD-0015	H325174-M268-VD-0016	H325174-M268-VD-0017	H325174-M268-VD-0019
H325174-M268-VD-0020	H325174-M268-VD-0021	H325174-M268-VD-0029	H325174-M268-VD-0030
H325174-M268-VD-0031	H325174-M268-VD-0032	H325174-M268-VD-0033	H325174-M268-VD-0034
H325174-M268-VD-0035	H325174-M268-VD-0036	H325174-M268-VD-0037	H325174-M268-VD-0039

B. ADDITIONAL COLLECTION OF INFORMATION

HATCH - Vancouver Office

Role during construction phase : Field Supervision during construction of PHASE 1 (2007).

Mr. Marlon Coakley and Jim Bonia, which were HATCH employees at the time, have supervised the construction of the fuel containment area around tanks #1 and #2, in phase 1 of this project. A specialized crew coming from Saskatoon (Enviroline Service inc.) was hired in October 2007 to install an HDPE membrane over the berms. This HDPE membrane has been covered with a layer of about 150 mm thickness of crushed stone. During August 2008, some additional HDPE membrane was installed under the tanks #3 and #4, but the final installation of the impermeable enclosure for phase 2-B remains to be done in 2009.

GEM STEEL EDMONTON LTD

Role during construction phase : Fabrication and field assembly of 10 M liters fuel tanks

Construction of phase 1 (tanks #1 and #2) took place from September to November 2007, with a crew of about 16 workers. During this time, a crew has welded a pipeline towards a booster pump and installed flanged connections and gate valves between fuel tank #1 and the fuel dispensing module manufactured by CHAMCO. The connection of the booster pump to the barge, using hoses, allowed for fuel tank #1 to be filled up in 2007. During August 2008, tanks #1 and #2 were also filled up with fuel by barge delivery.

Construction of phase 2-A (tanks #3 and #4) took place from August to October 2008. Following each phase of this field work, a crew from ACUREN has proceeded to X-RAY testing of horizontal and vertical welds according to specifications described in the latest edition of API Standard 650. According to the report made by ACUREN, no repairs of defective welds were required, either on the tank shell or nozzles.

MOSHER ENGINEERING LTD

Role during construction phase : Welding of pipelines and support brackets between the 10 M liters tanks and the sea hose connection.

In September 2008, a crew of four (4) workers has extended a pipeline towards the barge landing and installed pipes with flanged connections and gate valves between fuel tank #2 and the fuel dispensing module manufactured by CHAMCO. They have also installed check valves on both the inlet and outlet nozzles of tank #2, as well as a pressure relief valve set at 75 psi to bypass the gate valve on the outlet of tank #2.

This safety feature against thermal expansion of fuel inside the pipeline towards the fuel dispensing module remains to be installed on tank #1. The grade of material that was used for this pipeline was A333 cold temperature rated steel.

CHAMCO INDUSTRIES LTD

Role during construction phase : Manufacturing of the fuel dispensing module.

This fuel dispensing module was manufactured in 2006 and sent to the Meadowbank site. A representative from CHAMCO was present during the commissioning. Possibly due to vibrations during transport, there were many flanged connections that needed tightening.

C. REVISION OF CONSTRUCTION DRAWINGS

AEM has hired STAVIBEL Engineering Services, a firm based in Val-d'Or, in order to complete the drawings that were used in producing this report. Those twelve (12) drawings are enclosed in **Appendix 1** of this report.

Drawing VD2259-BKL-001 shows the general layout of fuel storage area. It has been compiled using surveying data collected by a crew from NUNA.

Drawing VD2259-BKL-002 shows the fuel storage area and existing piping for PHASE 1. It has been compiled using surveying data collected by NUNA.

Drawing VD2259-BKL-003 shows the fuel storage area and location of a sump for collection of surface water, to be built in PHASE 2-B. It shows the limits of the HDPE membrane that has been installed in 2008 under the fuel tanks.

Drawings VD2259-BKL-004, 005, and 006 show cross-sections of the containment area in PHASE 2 (to be completed in 2009). These cross-sections are derived from surfaces that were generated using the *Autocad Civil 3D* software, and are also based on information collected from existing land surveys. This drawing file was also used to verify containment volumes, as it is described further in section D.

Drawing VD2259-BKL-007 is an as-built version of structural drawing BL2007-1, which was designed and issued by Gem Steel Edmonton Limited. This drawing has been updated to reflect nozzle orientations that were noted during a visit. No significant changes were noted, except those made to the nozzle schedule.

Drawing VD2259-BKL-008 shows the proposed piping for PHASE 2. It contains a schedule of valves and fittings that remain to be installed.

Drawing VD2259-BKL-009 shows the location of the existing pipeline and sea hose connection with the barge for fuel unloading. Also, a spill containment sump is proposed on this drawing.

Drawing VD2259-BKL-010 is a process and instrumentation diagram. It shows the details of the existing and proposed piping, along with further details for the fuel dispensing module.

Drawing VD2259-BKL-011 is a general layout that shows the location of existing grounding wire and proposed layout to extend this grounding into PHASE 2.

Drawing VD2259-BKL-012 shows the details of the barge and laydown areas, along with the details of a ditch and culvert for diversion of surface water run-off.

Also enclosed are two (2) vendor drawings from CHAMCO INDUSTRIES LTD, which shows the piping details inside the fuel dispensing module.

D. VERIFICATIONS TO STORAGE CAPACITY WITHIN BERMS

STAVIBEL Engineering Services has completed verifications on the liquid storage capacity inside the containment berms, which create an impermeable enclosure around tank #1 and #2.

The method used was a volume calculation using *Autocad CIVIL 3D* software.

The maximum storage capacity of fuel tank #1 is 10 515 000 litres of diesel fuel at a standard temperature of fifteen degrees Celcius (15 °C).

The maximum storage capacity of fuel tank #2 is 10 480 000 litres of diesel fuel at a standard temperature of fifteen degrees Celcius (15 °C).

It has been verified using the above software that the impermeable enclosure built in PHASE 1 will effectively hold one hundred percent (100 %) of the maximum storage capacity of the biggest tank, plus ten percent (10 %) of the maximum storage capacity of the other tank. This calculation has been summarized in a worksheet that is shown on PAGE 8, hereunder.

The containment volume for tanks #1 and #2 is 11 586 cubic meters, of which 367 cubic meters were occupied by accumulation of surface water as of 2008-10-31.

Thus, the lowest point of the HDPE membrane that sits atop the containment area is sufficiently high (at elevation 33.86 m) to meet the above criteria.

A worst case scenario has been simulated, and consists in either a rupture of the first course of side plates in the tank shell, or a failure in the outlet piping, when either one of fuel tanks is 100% full.

This simulation shows that, in such a worst case scenario, the hydraulic balancing level inside the containment area would not exceed the point with the lowest elevation on the surrounding berms, providing that there is no substantial accumulation of surface water inside. There is a no additional safety margin.

However, with the upcoming completion in phase 2-B (summer 2009) of the impermeable enclosure around tanks #3 and #4, a breach will be made into the berm dividing the two containment areas. This is also shown on a sketch, hereby.

When phase 2-b is completed in summer of 2009, the containment volume for tanks #3 and #4 will be 10 855 cubic meters As a result, the new containment requirement of 130% of the biggest tank volume (or 13 647 cubic meters), expressed while considering all four (4) tanks as a whole, will then be exceeded.

DESIGN REVIEW - FOR FUEL SPILL CONTAINMENT BERMS AT BAKER LAKE

EQUIPMENT #	diam (ft)	rim el. (m)	radius (m)	surface (m2)	top el. (m)	height (m)	volume (m3)
740-TK-044 **TANK # 1**	110	32.99	16.764	882.89	44.90	11.910	**10 515**
740-TK-044 **TANK # 2**	110	33.03	16.764	882.89	44.90	11.870	**10 480**

Let's say berms are 5' 3" higher than the average tank floor (so 1.60 m total height) with variable slopes and that the tanks are sitting on cones made of crushed stone of 20 m diameter x 1.0 m height.

	Volume
Secondary Containment Requirement	**11 563 m3**
according to ref. PN-1326, Section 3.9.1(1) 2-b-ii	110%

DESIGN OF BERM DIMENSIONS

elevation	height (m)	width (m)	length (m)	surface (m2)			cumulative volume (m3)
32.00	0.00	**64.0**	**104.0**	6656.00	**slope ratio N-S**		0
32.66	0.66	69.3	107.6	7452.03	horizontal	vertical	4656
32.76	0.76	70.1	108.1	7575.93	4.0	1	5407
32.86	0.86	70.9	108.6	7700.69			6171
32.96	0.96	71.7	109.2	7826.31	**slope ratio E-W**		6947
33.06	1.06	72.5	109.7	7952.80	horizontal	vertical	7736
33.16	1.16	73.3	110.3	8080.15	2.7	1	8538
33.26	1.26	74.1	110.8	8208.36			9352
33.36	1.36	74.9	111.3	8337.44			10 180
33.46	1.46	75.7	111.9	8467.38			11 020
33.56	1.56	76.5	112.4	8598.19			11 873
33.66	1.66	77.3	113.0	8729.86			12 739
33.76	1.76	78.1	113.5	8862.39			13 619
33.86	1.86	78.9	114.0	8995.79		**GROSS CONTAINMENT**	**14 512**
34.00							**CUBIC METERS**

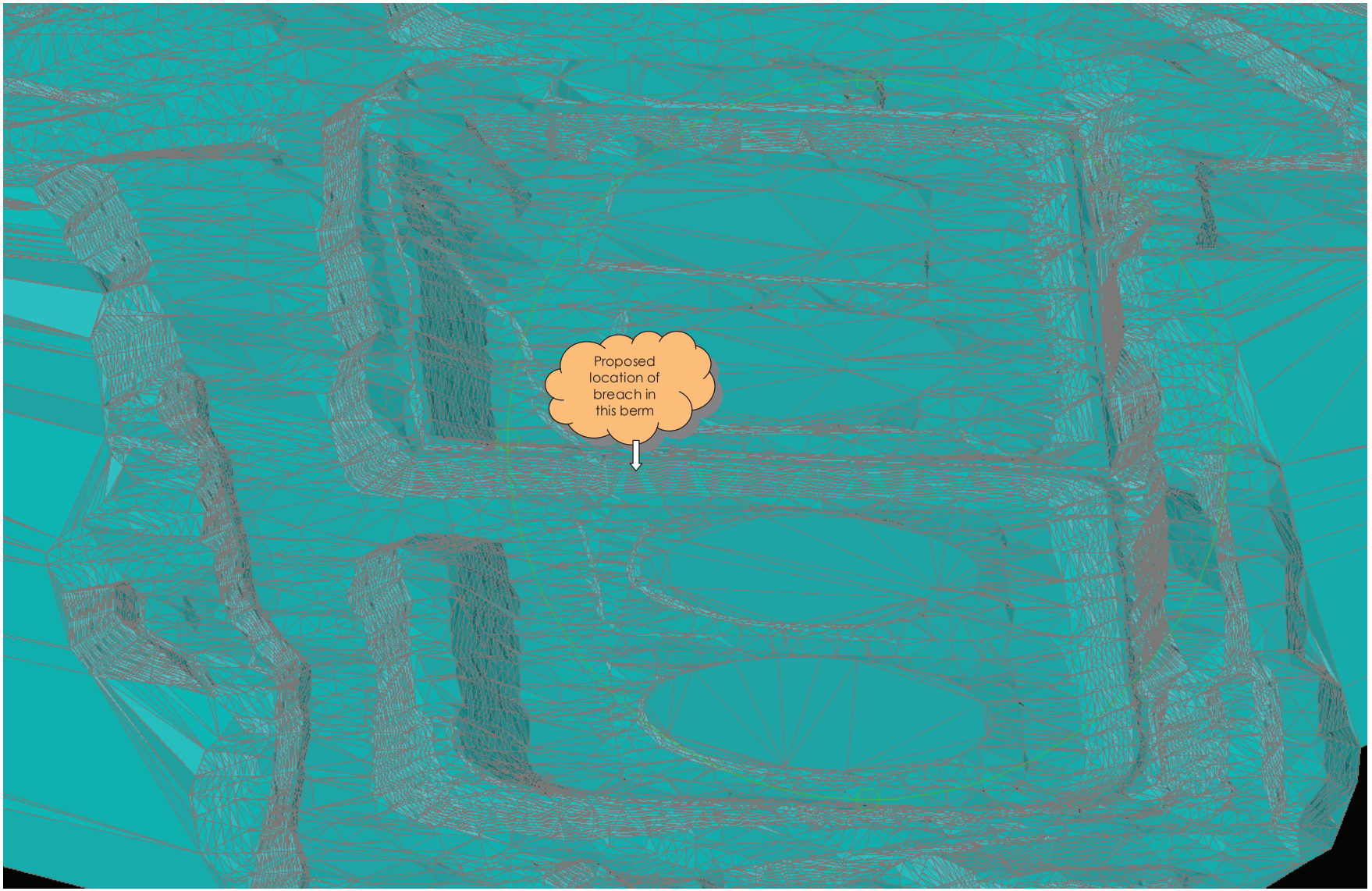
containment volume to be substracted for the two (2) cones made of crushed stone

	perimeter (m)	number	radius (m)	surface (m2)	height (m)	**volume (m3)**
CONES	126.0	2	20.05	1262.93	1.01	**-2680**
RAMP		1			variable	**-246**

containment volume to be substracted for accumulation of surface water

	elevation	**volume (m3)**
water level as of November 2008	**31.70**	**-367.0**

	Volume
NET CONTAINMENT	**11 219 m3**
	or **107%**


Proposed location of breach in this berm

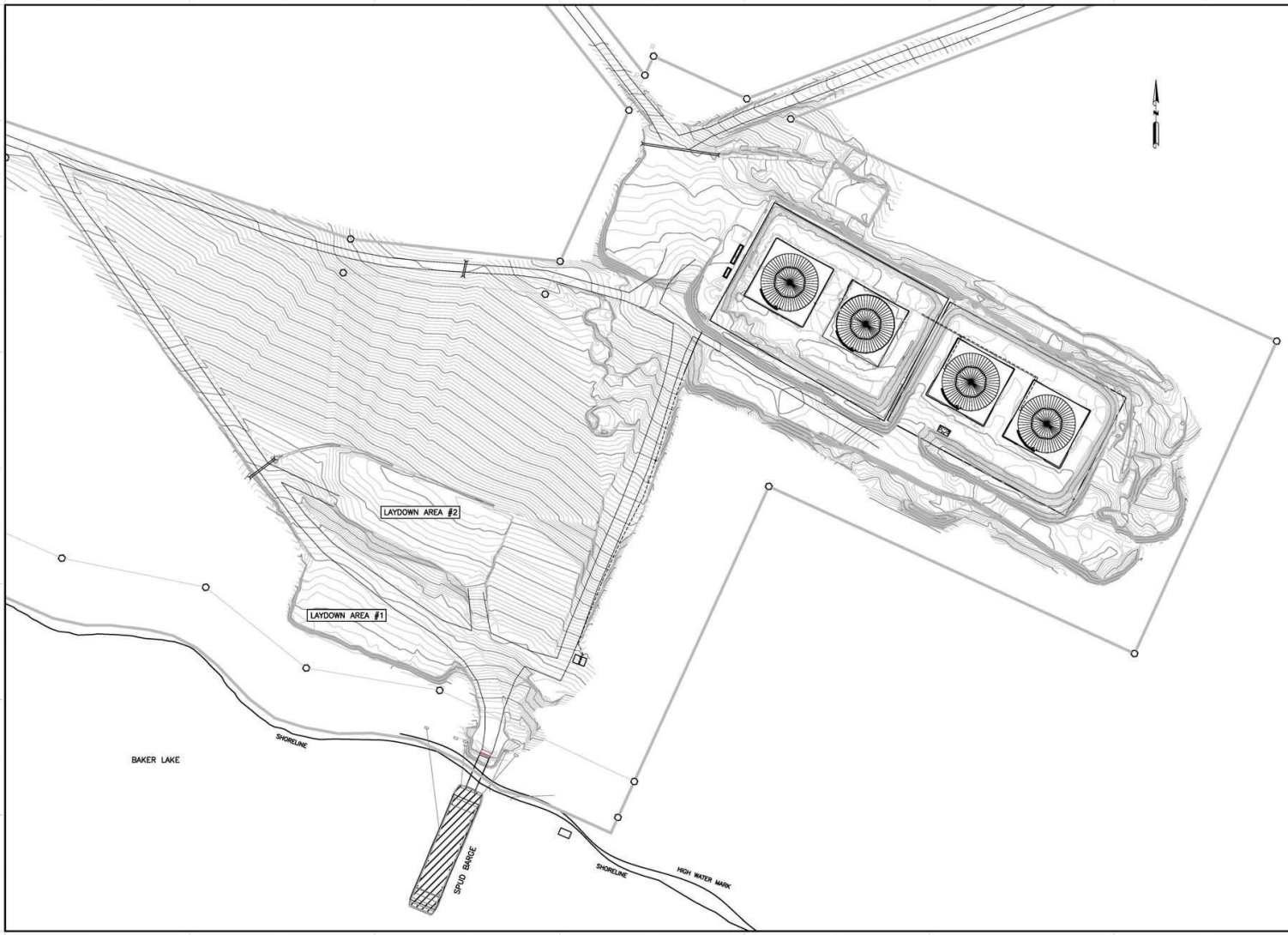
APPENDIX 1

AS BUILT DRAWINGS for PHASE 2-A

IFC DRAWINGS (10) for PHASE 2-B

VD2259-BKL-001	VD2259-BKL-002	VD2259-BKL-003	VD2259-BKL-004
VD2259-BKL-005	VD2259-BKL-006	VD2259-BKL-007	VD2259-BKL-008
VD2259-BKL-009	VD2259-BKL-010	VD2259-BKL-011	VD2259-BKL-012

Plus two (2) drawings from CHAMCO INDUSTRIES LTD
Vendor ref. # CUP1014938-22
CUP1014938-25



DRAWING NO.

FORMAT ARCH-D-LANDSCAPE

KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2233 Télec: (819) 825-1322
Courriel : stavibel@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

TITLE	# DWG

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP.	CLIENT
1	09-03-27	FOR CONSTRUCTION	F.R.	P.G.	

REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

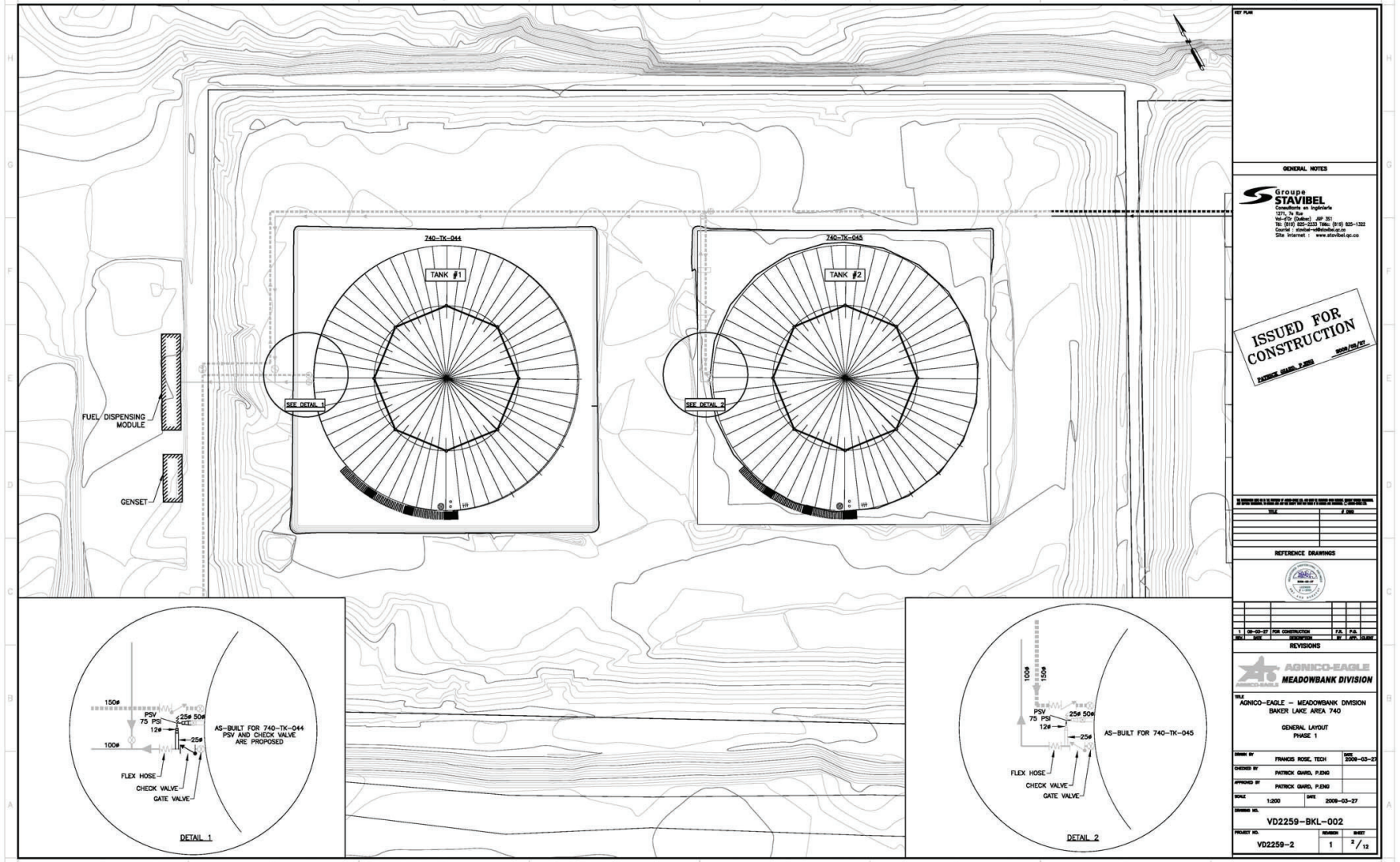
TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

GENERAL LAYOUT

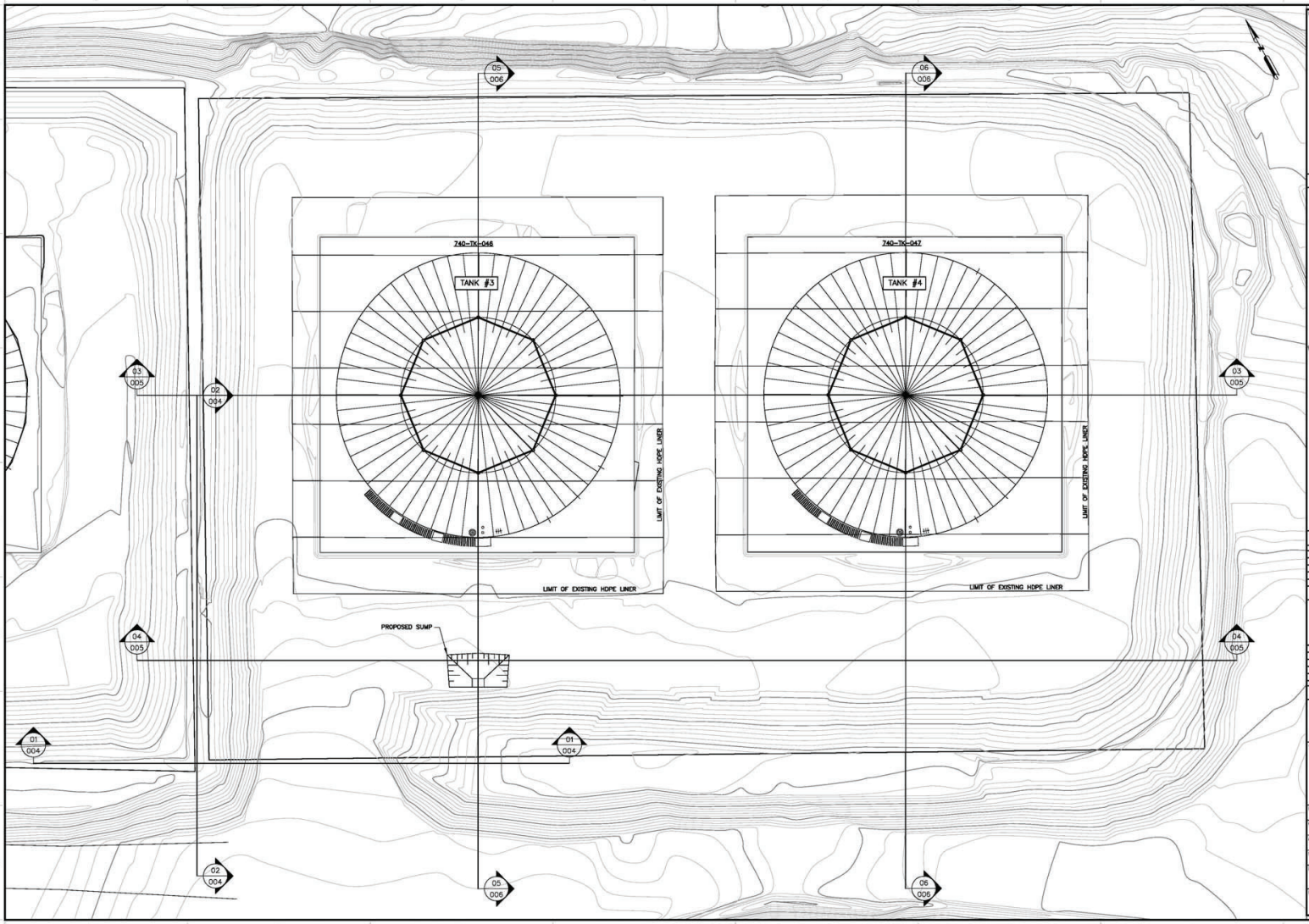
DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GIARD, P.ENG	
APPROVED BY	PATRICK GIARD, P.ENG	
SCALE	1:1000	DATE 2009-03-27

DRAWING NO.
VD2259-BKL-001

PROJECT NO.	REVISION	SHEET
VD2259-2	1	1/12


740-TK-044
TANK #1
SEE DETAIL 1
740-TK-045
TANK #2
SEE DETAIL 2
FUEL DISPENSING MODULE
GENSET
150ø
PSV
75 PSI
25ø 50ø
12ø
25ø
100ø
FLEX HOSE
CHECK VALVE
GATE VALVE
AS-BUILT FOR 740-TK-044
PSV AND CHECK VALVE
ARE PROPOSED
DETAIL 1
100ø
150ø
PSV
75 PSI
25ø 50ø
12ø
25ø
AS-BUILT FOR 740-TK-045
FLEX HOSE
CHECK VALVE
GATE VALVE
DETAIL 2
KEY PLAN
GENERAL NOTES
Groupe STAVIBEL
Consultants en Ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2233 Téléc: (819) 825-1322
Courriel : stavibel-val@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca
ISSUED FOR CONSTRUCTION
PATRICK GUARD, P.ENG
2009/03/27
REFERENCE DRAWINGS
1 09-03-27 FOR CONSTRUCTION F.R. P.G.
REVISIONS
AGNICO-EAGLE
MEADOWBANK DIVISION
AGNICO-EAGLE – MEADOWBANK DMSION
BAKER LAKE AREA 740
GENERAL LAYOUT
PHASE 1
DRAWN BY FRANCIS ROSE, TECH DATE 2009-03-27
CHECKED BY PATRICK GUARD, P.ENG
APPROVED BY PATRICK GUARD, P.ENG
SCALE 1:200 DATE 2009-03-27
DRAWING NO. VD2259-BKL-002
PROJECT NO. VD2259-2
REVISION 1
SHEET 2/12

FORMAT ARCH-LANDSCAPE



KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2233 Télec: (819) 825-1322
Courriel : stavibel-val@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

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REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

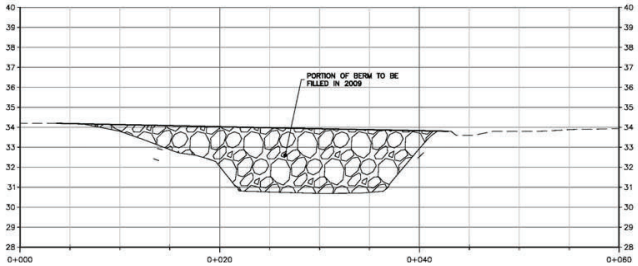
TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

GENERAL LAYOUT
PHASE 2-A (2008)

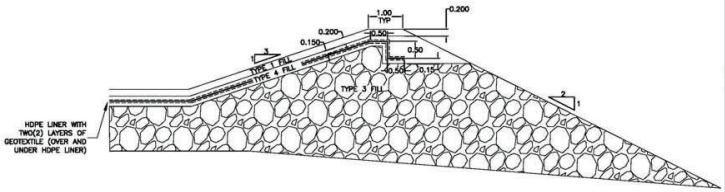
DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GUARD, P.ENG	
APPROVED BY	PATRICK GUARD, P.ENG	
SCALE	1:200	DATE 2009-03-27

DRAWING NO.
VD2259-BKL-003

PROJECT NO.	REVISION	SHEET
VD2259-2	1	3/12

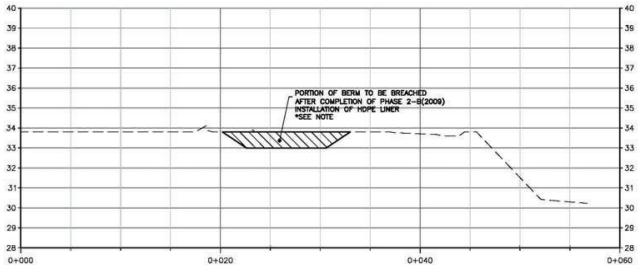


CROSS-SECTION 01/003



TYPE 1 FILL: MINUS 20mm CRUSHED
TYPE 2 FILL: MINUS 150mm ROCK
TYPE 3 FILL: BLASTED ROCK 0-200mm
TYPE 4 FILL: SCREENED SAND

TYPICAL CROSS-SECTION



CROSS-SECTION 02/003

*NOTE:
HDPE LINER MUST BE WELDED BACK ON TOP OF EXISTING LINER ON BERM ONCE BREACH HAS BEEN EXCAVATED TO ENSURE IMPERMEABLE LINK BETWEEN BOTH BERM ENCLOSURES

KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en Ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2233 Télec: (819) 825-1322
Courriel : stavibel@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

ISSUED FOR CONSTRUCTION
PATRICK GUARD, P.ENG 2009/03/27

TITLE	# DWG

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP.
1	09-03-27	FOR CONSTRUCTION	FR	PG

REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

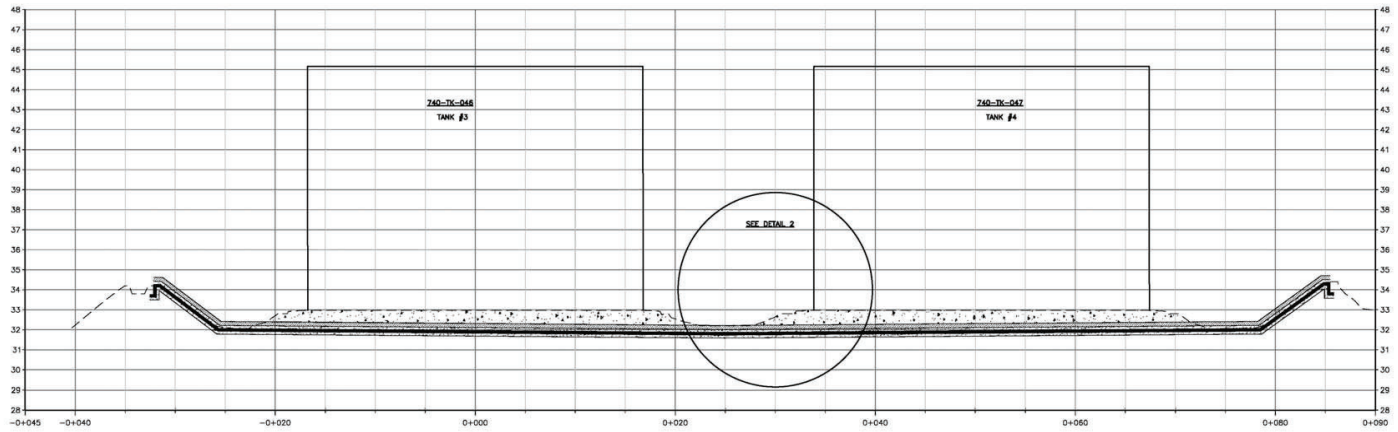
TITLE
AGNICO-EAGLE - MEADOWBANK DIVISION
BAKER LAKE AREA 740

CROSS-SECTIONS OF HDPE MEMBRANE
PHASE 2-B (2009)

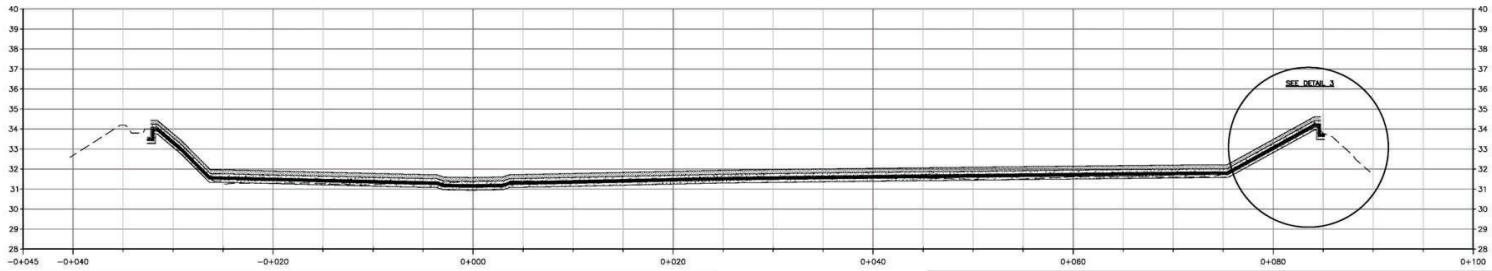
DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GUARD, P.ENG	
APPROVED BY	PATRICK GUARD, P.ENG	
SCALE	HOR:1:200 VER:1:100	DATE 2009-03-27

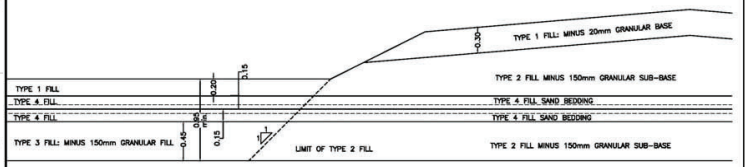
DRAWING NO.
VD2259-BKL-004

PROJECT NO.	REVISION	SHEET
VD2259-2	1	4/12



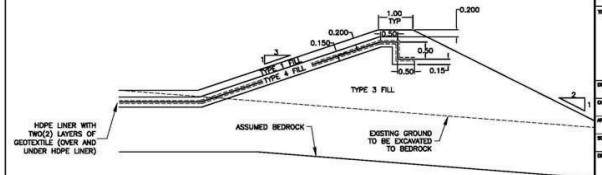
CROSS-SECTION 03/003





DETAIL 2

CROSS-SECTION 04/003



DETAIL 3

FORMAT ARCH-LANDSCAPE

KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en Ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2233 Télec: (819) 825-1322
Courriel : stavibel-val@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

ISSUED FOR CONSTRUCTION
PATRICK GUARD, P.ENG 2009/03/27

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP.
1	09-03-27	FOR CONSTRUCTION	F.R.	P.G.

REVISIONS

AGNICO-EAGLE MEADOWBANK DIVISION

TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

CROSS-SECTIONS
PHASE 2-9 (2009)

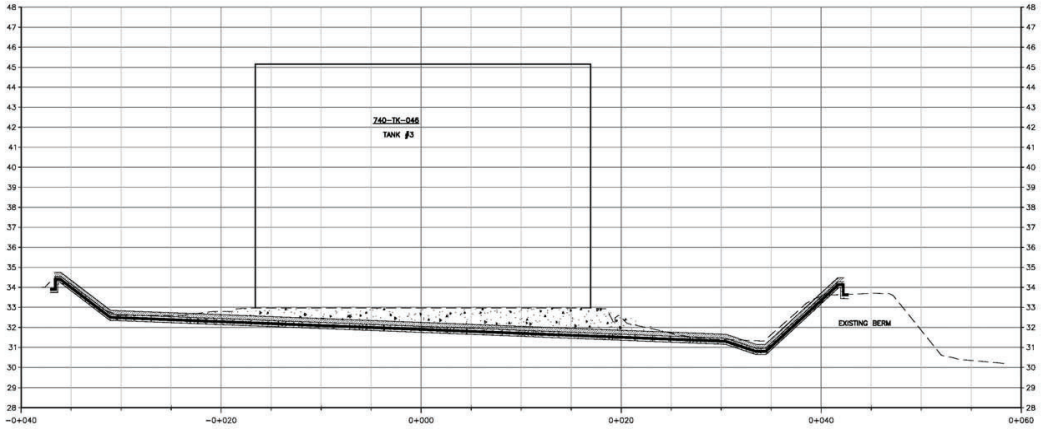
DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GUARD, P.ENG	
APPROVED BY	PATRICK GUARD, P.ENG	
SCALE	HOR:1:200 VER:1:100	DATE 2009-03-27

DRAWING NO.
VD2259-BKL-005

PROJECT NO.	REVISION	SHEET
VD2259-2	1	5/12

DRAWING NO.

FORMAT ARCH-LANDSCAPE



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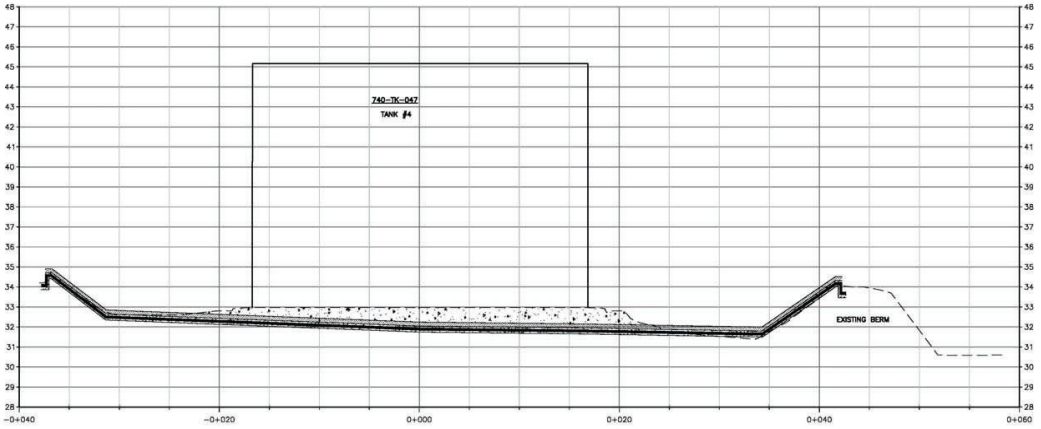


CROSS-SECTION 006/003

KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en Ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél. (819) 825-2233 Télec. (819) 825-1322
Courriel : stavibel-val@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

ISSUED FOR CONSTRUCTION
2009/03/27
PATRICK GIARD, P.ENG

TITLE	# DWG

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP.	CLIENT
1	09-03-27	FOR CONSTRUCTION	F.R.	P.G.	

REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

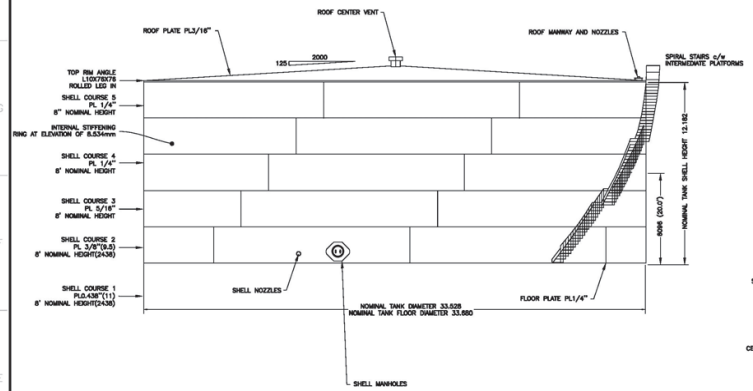
TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

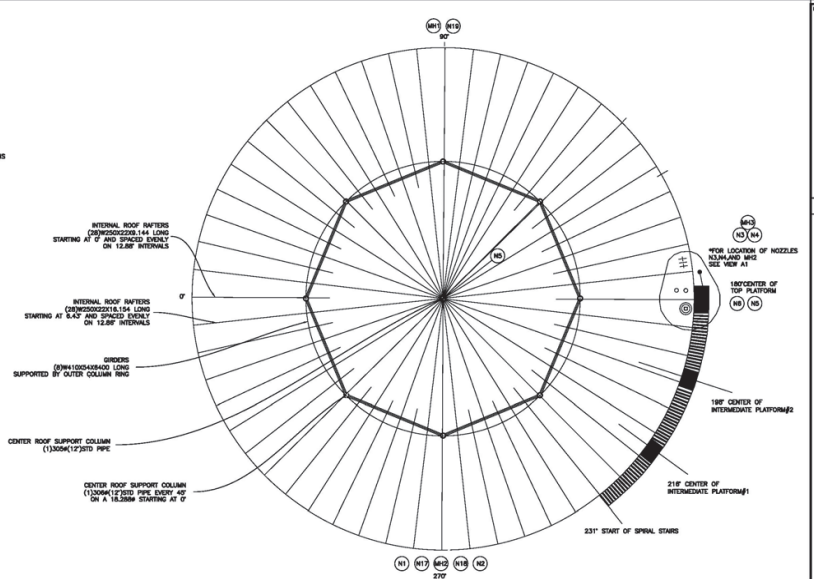
CROSS-SECTIONS
PHASE 2-9 (2009)

DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GIARD, P.ENG	
APPROVED BY	PATRICK GIARD, P.ENG	
SCALE HOR:1:200	VER:1:100	DATE 2009-03-27

DRAWING NO.
VD2259-BKL-006

PROJECT NO.	REVISION	SHEET
VD2259-2	1	6/12





FOUR(4) TANKS WERE BUILT WITH IDENTICAL NOZZLE SPECS : 740-TK-045
740-TK-046
740-TK-047
740-TK-048

GENERAL NOTES

DESIGN

1. CODE OF CONSTRUCTION: API-650, LATEST EDITION
2. ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE
3. PRODUCT STORED: DIESEL FUEL
4. DIAMETER 33.528mm#
5. HEIGHT: 12.192
6. NOMINAL CAPACITY: 10,780,000 LITRES
7. WORKING CAPACITY: 10,000,000 LITRES
8. DESIGN METAL TEMP: -40°C
9. PRODUCT SPECIFIC GRAVITY: 0.9@15°C

INSPECTION

1. VACUUM TESTING: FLOOR
2. RADIOGRAPHY: VERTICAL SHELL WELDS-SPOT AS PER API 650
3. AIR TEST: NOZZLES
4. VACUUM OR DIESEL TEST: SHELL WELDS

MATERIALS

1. BOLTS: A-325
2. PIPE NOZZLES: A333 Gr.6
3. FORGED FLANGES AND COUPLINGS:A350M, Gr.LF2 AND ANSI B16.5 LF2 CLASS D
4. PIPE FITTINGS: A420 Gr.WPC-6
5. STRUCTURAL STEEL: G40.21 300W
6. SHELL STEEL PLATE: G40.21M-260WT, KILLED AND FINE-GRAIN PRACTICE, IMPACT ENERGY 15ft/lbs(20J@-40°C)
7. FLOOR AND ROOF STEEL PLATE: G40.21M-250WT
8. TANK MANWAYS: STRUCTURAL GRADE PIPE OR BETTER

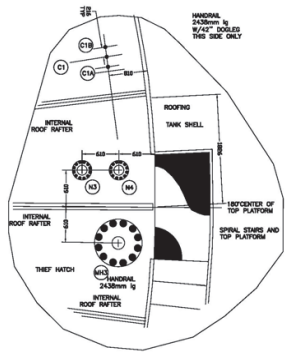
API STANDARD 650 STORAGE TANKS

CONNECTIONS

SHELL NOZZLES

MARK	NO REQ'D	SIZE	FLANGED	THREADED	REINFORCEMENT	ORIENTATION N=0	HEIGHT FROM BOTTOM (mm)	NAME/SERVICE
N1	1	6"	SFL 150RF		API 650 Fig 3-5	270°(OFFSET 450mm)	305	INLET FROM BARGE PIPELINE
N2	1	4"	SFL 150RF		API 650 Fig 3-5	270°(OFFSET 450mm)	305	OUTLET TO FUEL DISPENSING
N5	1	4"	SFL 150RF		API 650 Fig 3-5	180°	610	DRAIN PUMPOUT
MH1	2	24"			API 650 Fig 3-5	90°	762	SHELL MANHOLES
MH2	2	24"			API 650 Fig 3-5	270°	762	SHELL MANHOLES
N6	1	3"	SFL 150RF		API 650 Fig 3-5	180°	305	WATER DRAWOFF
N17	1	2"	SFL 150RF		API 650 Fig 3-5	270°(OFFSET 155mm)	1000	PSV DISCHARGE
N18	1	2"	SFL 150RF		API 650 Fig 3-5	270°(OFFSET 155mm)	1000	(SPARE) INTENDED PSV
N19	1	2"	SFL 150RF		API 650 Fig 3-5	90°	1000	(SPARE) INTENDED PSV

MARK	NO REQ'D	SIZE	FLANGED	THREADED	REINFORCEMENT	ORIENTATION N=0	HEIGHT FROM BOTTOM (mm)	NAME/SERVICE
N3	1	3"	SFL 150RF*		API 650 Fig 3-5	175°	15.656	SPARE
N4	1	256X480			API 650 Fig 3-5	175°	15.636	INSPECTION-HATCH**
MH3	1	24"	SFL 150RF		API 2000	185°	15.048	EMERGENCY VENT/MANHOLE*
N5	1	24"	SFL 150RF		API 2000	0	0	CENTRE ROOF VENT*
C1	1							VAREC 2500 LEVEL INDICATOR



KEY PLAN

GENERAL NOTES

GEM STEEL

9060-24 STREET
EDMONTON, ALBERTA
CANADA T6P 1X8
PH. (780) 449-0000
FAX. (780) 449-0001

TITLE	# DWG
GENERAL TANK ELEVATION	SL2007-1
ROOF AND NOZZLE PLAN	SL2007-2
GENERAL TANK DETAILS	SL2007-3
GENERAL TANK DETAILS	SL2007-4

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP'D
1	09-03-30	AS-BUILT	F.R.	P.G.
0	07-05-17	FOR EDMONTON	A.D.C.	R.M.S.

REVISIONS

AGNICO-EAGLE MEADOWBANK DIVISION

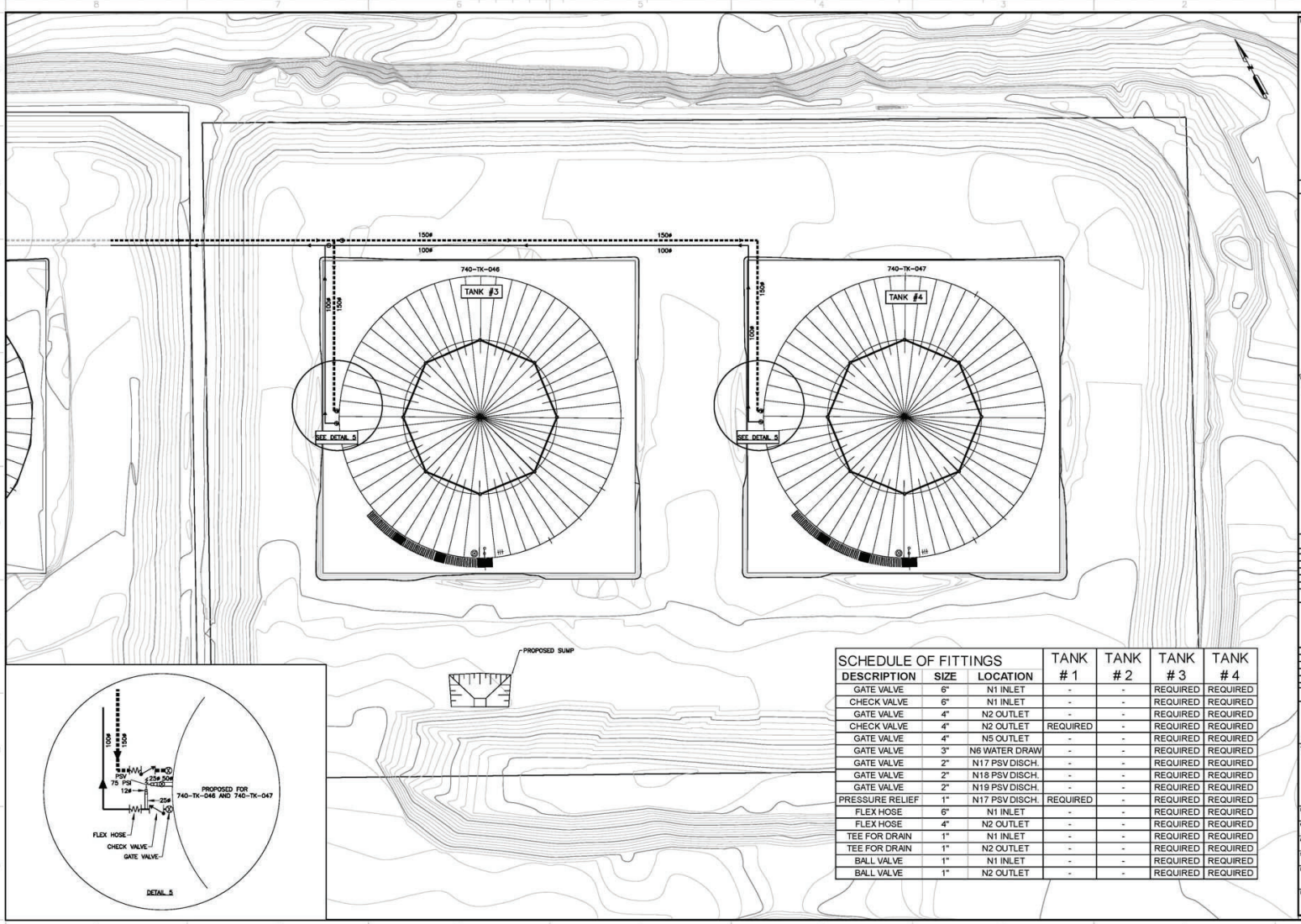
TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

STRUCTURE

DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-30
CHECKED BY	PATRICK GIARD, P.ENG	
APPROVED BY	GEM STEEL EDMONTON LTD	
SCALE	N.T.S.	DATE 2009-03-27

DRAWING NO.
VD2259-BKL-007

PROJECT NO.	REVISION	SHEET
VD2259-2	1	7/12



DETAIL 5

SCHEDULE OF FITTINGS			TANK	TANK	TANK	TANK
DESCRIPTION	SIZE	LOCATION	# 1	# 2	# 3	# 4
GATE VALVE	6"	N1 INLET	-	-	REQUIRED	REQUIRED
CHECK VALVE	6"	N1 INLET	-	-	REQUIRED	REQUIRED
GATE VALVE	4"	N2 OUTLET	-	-	REQUIRED	REQUIRED
CHECK VALVE	4"	N2 OUTLET	REQUIRED	-	REQUIRED	REQUIRED
GATE VALVE	4"	N5 OUTLET	-	-	REQUIRED	REQUIRED
GATE VALVE	3"	N6 WATER DRAW	-	-	REQUIRED	REQUIRED
GATE VALVE	2"	N17 PSV DISCH.	-	-	REQUIRED	REQUIRED
GATE VALVE	2"	N18 PSV DISCH.	-	-	REQUIRED	REQUIRED
GATE VALVE	2"	N19 PSV DISCH.	-	-	REQUIRED	REQUIRED
PRESSURE RELIEF	1"	N17 PSV DISCH.	REQUIRED	-	REQUIRED	REQUIRED
FLEX HOSE	6"	N1 INLET	-	-	REQUIRED	REQUIRED
FLEX HOSE	4"	N2 OUTLET	-	-	REQUIRED	REQUIRED
TEE FOR DRAIN	1"	N1 INLET	-	-	REQUIRED	REQUIRED
TEE FOR DRAIN	1"	N2 OUTLET	-	-	REQUIRED	REQUIRED
BALL VALVE	1"	N1 INLET	-	-	REQUIRED	REQUIRED
BALL VALVE	1"	N2 OUTLET	-	-	REQUIRED	REQUIRED

FORMAT ARCH-D-LANDSCAPE

KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en Ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2253 Télec: (819) 825-1322
Courriel : stavibel@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

ISSUED FOR CONSTRUCTION
PATRICK GIARD, P.ENG 2009/04/07

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP.	YY.MM.DD
1	2009-03-27	FOR CONSTRUCTION	F.R.	P.G.	

REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

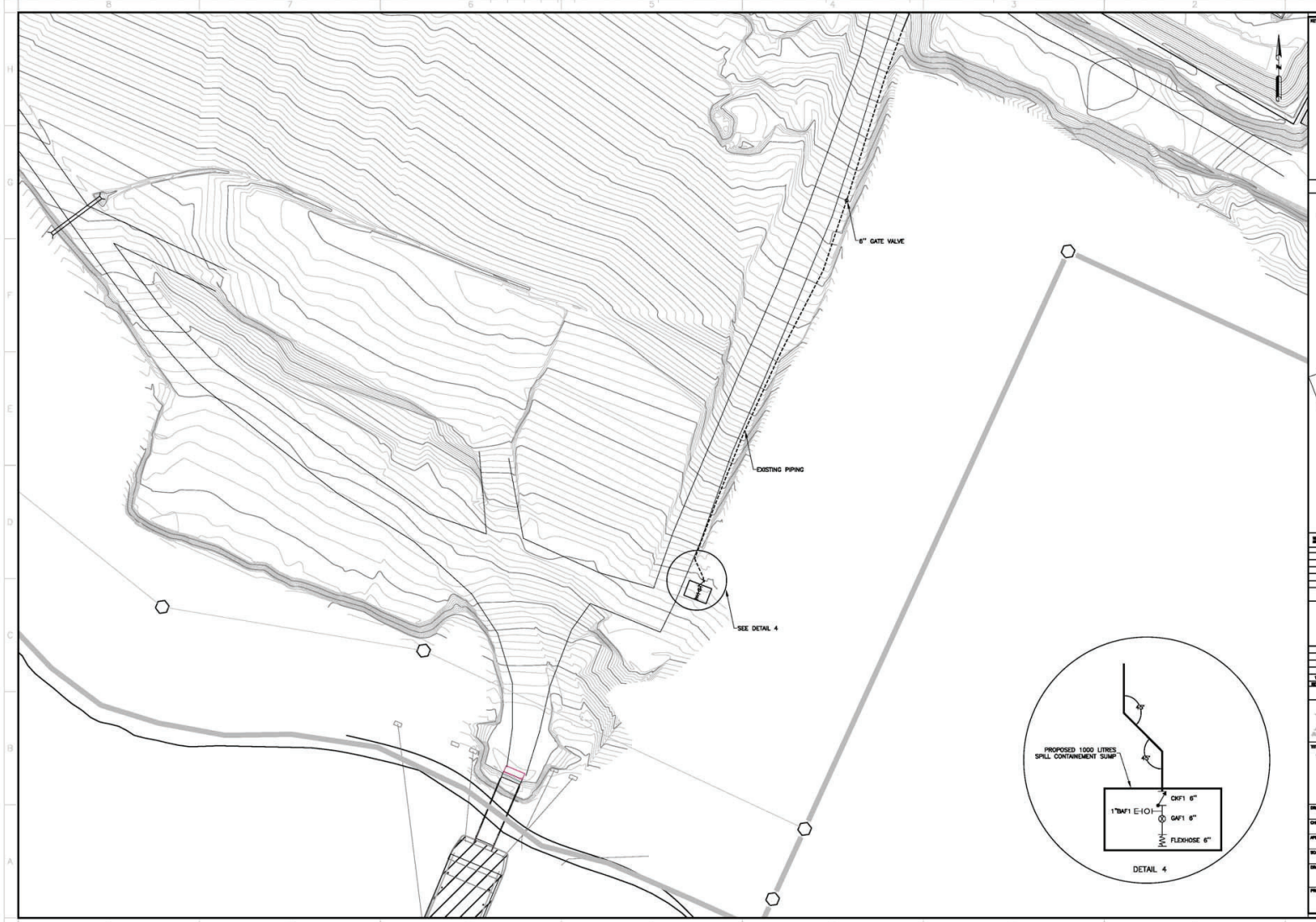
TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

PIPING LAYOUT
FOR PHASE 2-B (2009)

DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GIARD, P.ENG	
APPROVED BY	PATRICK GIARD, P.ENG	
SCALE	1:200	DATE 2009-03-27

DRAWING NO.
VD2259-BKL-008

PROJECT NO.	REVISION	SHEET
VD2259-2	1	5/12



FORMAT ARCH-D-LANDSCAPE

KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en Ingénierie
1271, 1e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2313 Télec: (819) 825-1322
Courriel : stavibel-val@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

ISSUED FOR CONSTRUCTION
PATRICK GUARD, P.ENG 2009/03/27

TITLE	# DWG

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP. CLIENT
1	09-03-27	FOR CONSTRUCTION	F.R.	P.G.

REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

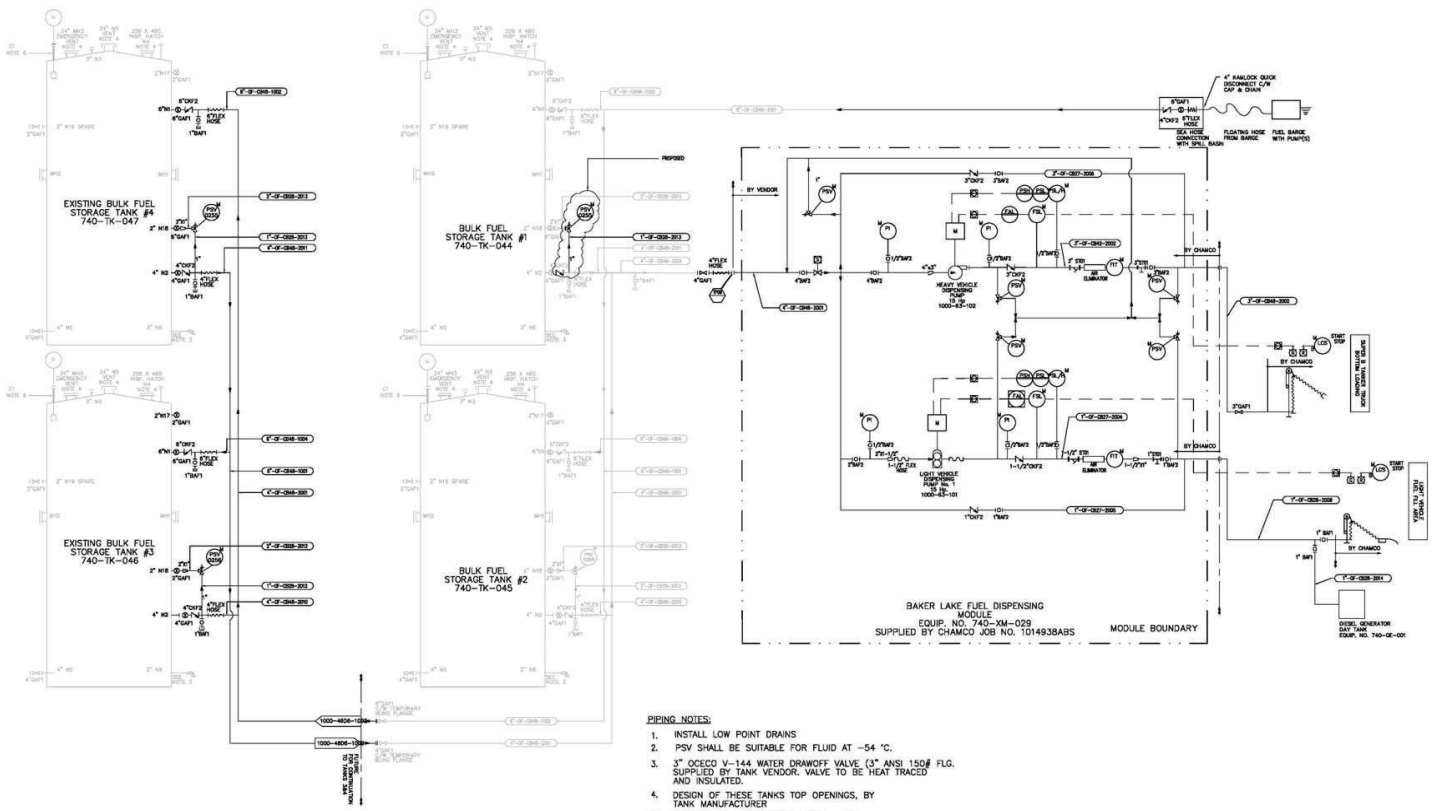
TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

PIPING LAYOUT

DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GUARD, P.ENG	
APPROVED BY	PATRICK GUARD, P.ENG	
SCALE	1:500	DATE 2009-03-27

DRAWING NO.
VD2259-BKL-009

PROJECT NO.	REVISION	SHEET
VD2259-2	1	9/12



PIPING NOTES:

1. INSTALL LOW POINT DRAINS
2. PSV SHALL BE SUITABLE FOR FLUID AT -54 °C.
3. 3" OCECO V-144 WATER DRAWOFF VALVE (3" ANSI 150# FLG. SUPPLIED BY TANK VENDOR. VALVE TO BE HEAT TRACED AND INSULATED.
4. DESIGN OF THESE TANKS TOP OPENINGS, BY TANK MANUFACTURER
5. FLEXIBLE SS BRAIDED HOSE, 750mm LG. (FLEXONIC SENIOR, OR EQUAL)
6. VAREC 2500 LEVEL INDICATOR BY TANK MANUFACTURER

*SEE PLAN 008 FOR SCHEDULE OF FITTINGS

KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2313 Télec: (819) 825-1322
Courriel : stavibel@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

ISSUED FOR CONSTRUCTION
PATRICK GUARD, P.ENG 2009/03/27

TITLE	# DWG

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP.	CLIENT
1	09-03-27	FOR CONSTRUCTION	F.R.	P.G.	

REVISIONS

AGNICO-EAGLE MEADOWBANK DIVISION

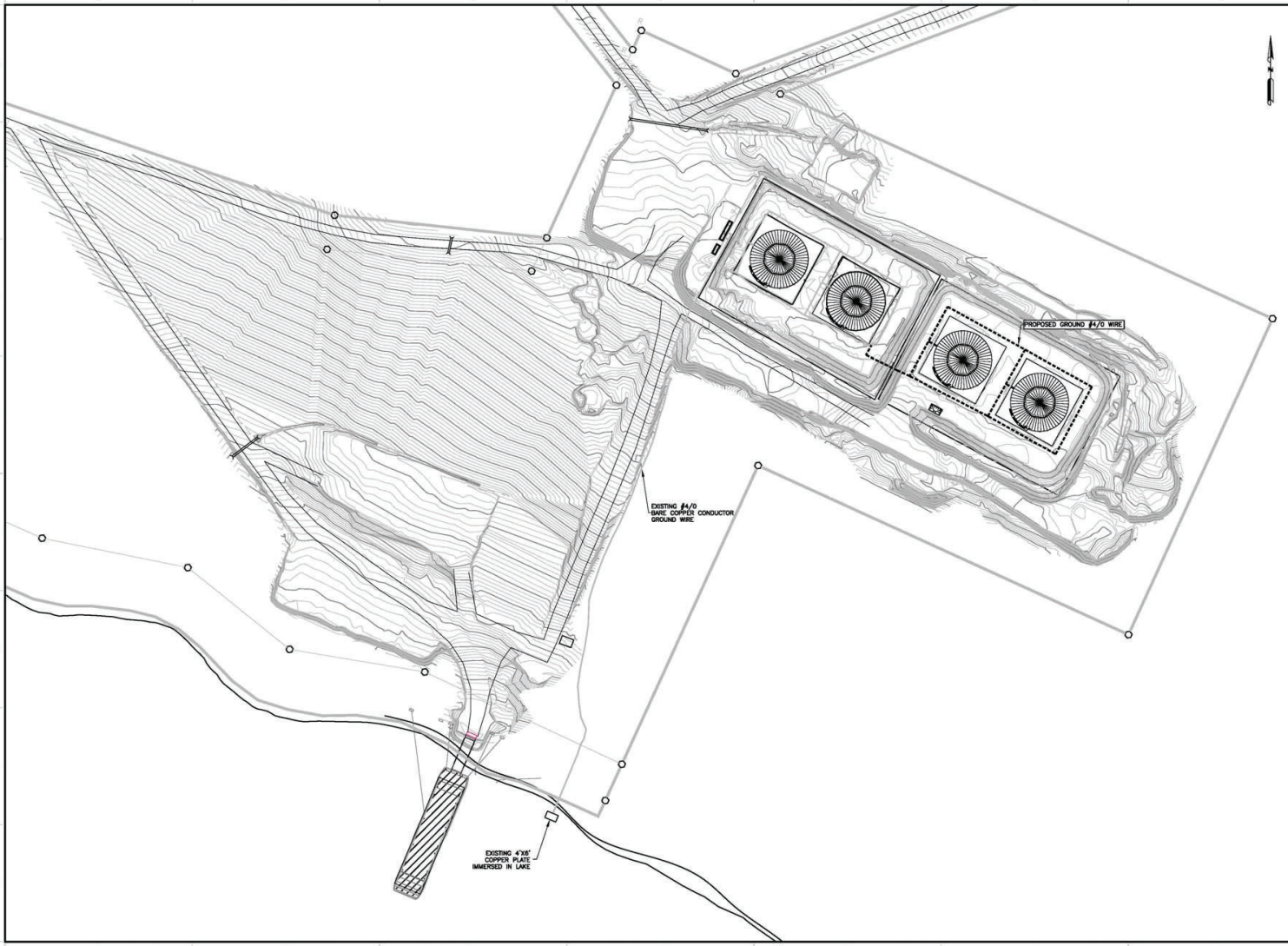
TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

PROCESS AND INSTRUMENTATION DIAGRAM

DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GUARD, P.ENG	
APPROVED BY	PATRICK GUARD, P.ENG	
SCALE	N.T.S	DATE 2009-03-27

DRAWING NO.
VD2259-BKL-010

PROJECT NO.	REVISION	SHEET
VD2259-2	1	10/12



FORMAT ARCH-LANDSCAPE

KEY PLAN

GENERAL NOTES

Groupe
STAVIBEL
Consultants en Ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2113 Télec: (819) 825-1322
Courriel : stavibel-vd@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

ISSUED FOR CONSTRUCTION
PATRICK GUARD, P.ENG 2009/03/27

TITLE	# DWG

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP.
1	09-03-27	FOR CONSTRUCTION	F.R.	P.G.

REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

GENERAL LAYOUT
ELECTRICAL GROUND

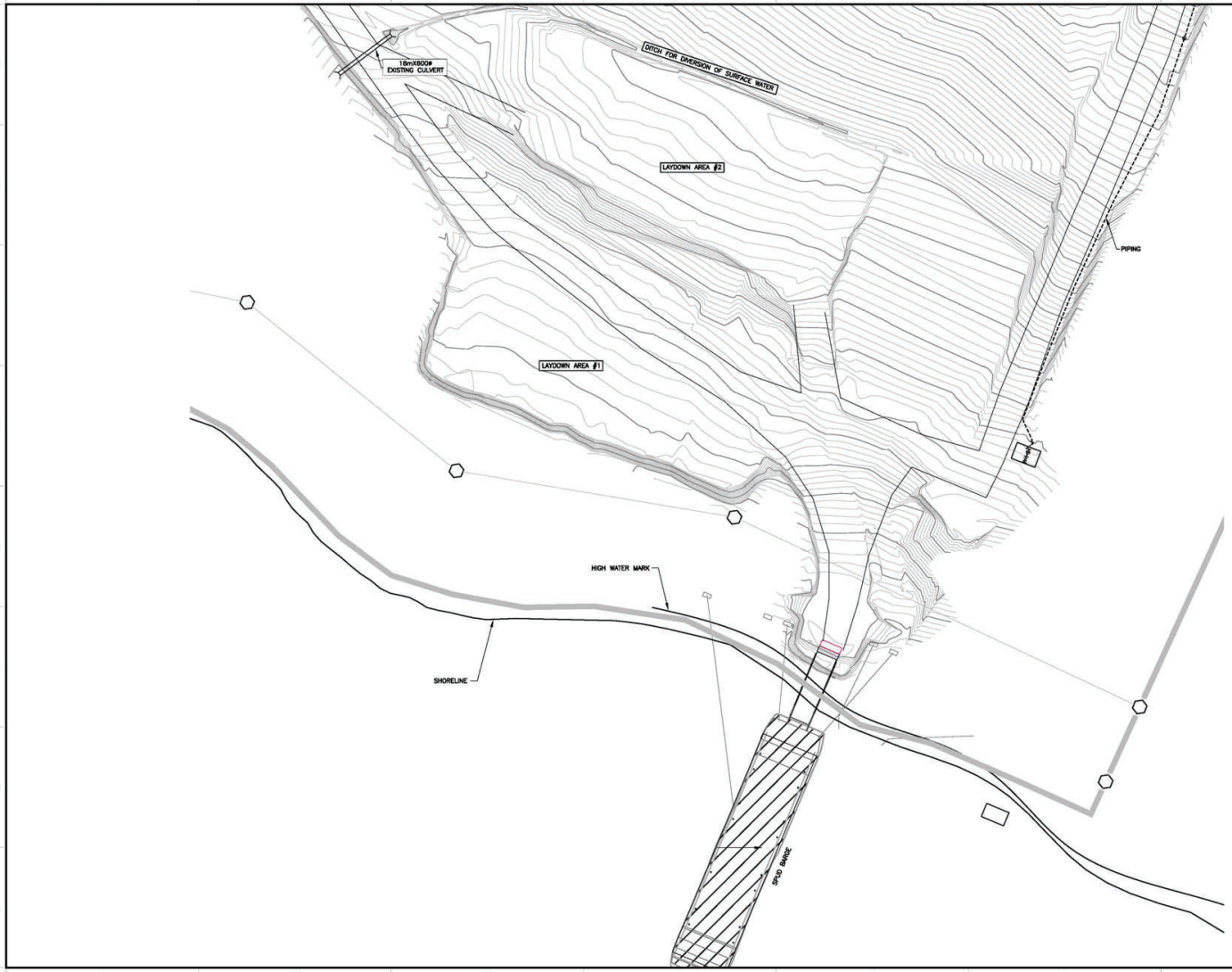
DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GUARD, P.ENG	
APPROVED BY	PATRICK GUARD, P.ENG	
SCALE 1:1000	DATE 2009-03-27	

DRAWING NO.
VD2259-BKL-011

PROJECT NO.	REVISION	SHEET
VD2259-2	1	11/12

DRAWING NO.

FORMAT ARCH-D-LANDSCAPE



KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en Ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2313 Télec: (819) 825-1322
Courriel : stavibel-val@stavibel.qc.ca
Site Internet : www.stavibel.qc.ca

TITLE	# DWG

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION	BY	APP.	CLIENT
1	09-03-27	AS-BUILT	F.R.	P.G.	

REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

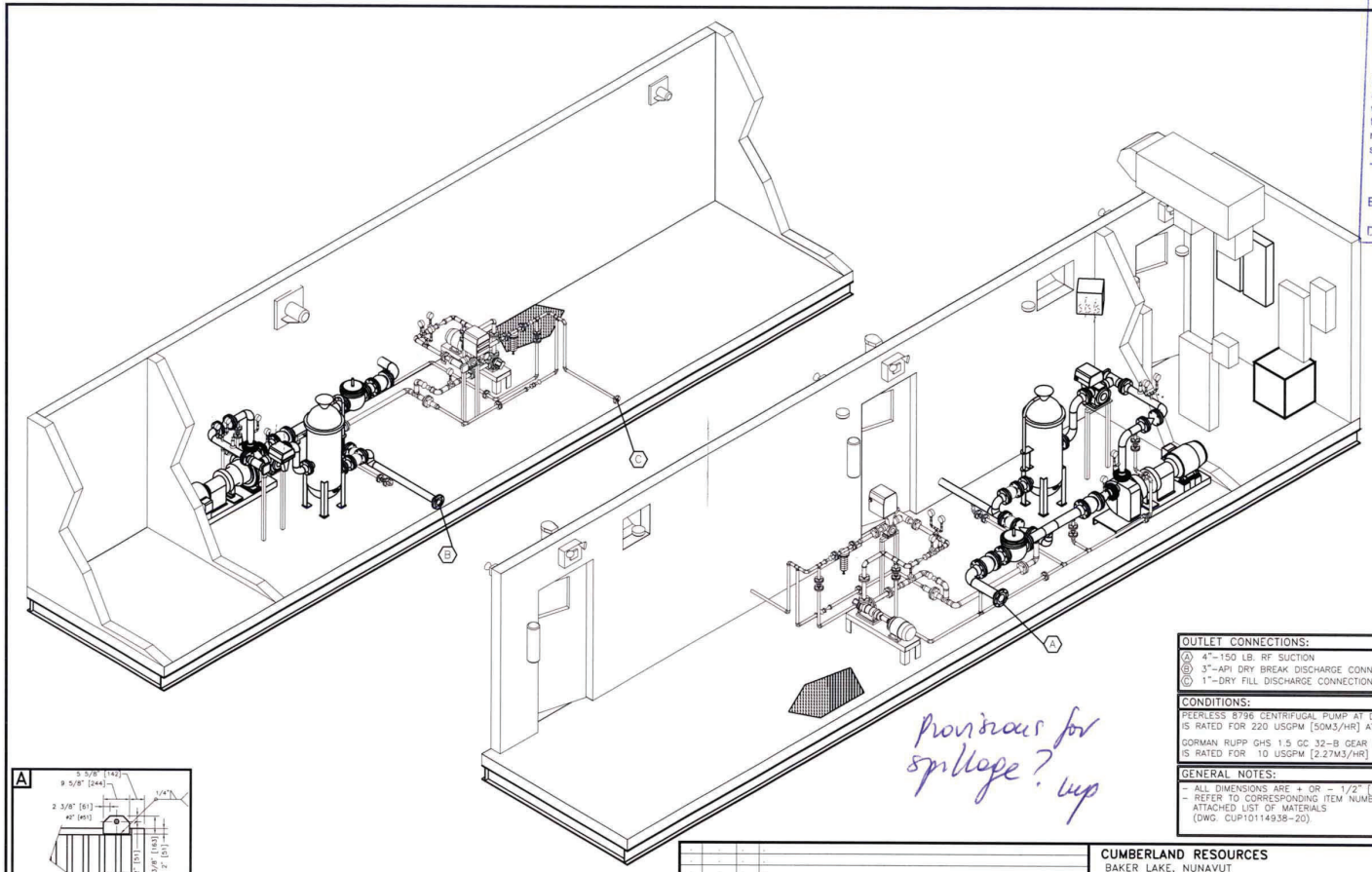
TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

GENERAL LAYOUT

DRAWN BY	FRANCIS ROSE, TECH	DATE 2009-03-27
CHECKED BY	PATRICK GIARD, P.ENG	
APPROVED BY	PATRICK GIARD, P.ENG	
SCALE 1:500	DATE 2009-03-27	

DRAWING NO.
VD2259-BKL-012

PROJECT NO.	REVISION	SHEET
VD2259-2	1	12/12



HATCH

☐ Code 1" Proceed, No Exception Taken"
☐ Code 2 "Proceed, with Exceptions as Noted and Re-submit"
☐ Code 3 "Do not Proceed, Revise as Noted and Re-submit"
☐ Code 4 "Information Only"

Reviewed only for general conformity with the drawings and specifications. The Consulting Engineer does not warrant or represent that the information contained on this drawing is either accurate or complete. Sole responsibility for correct design, details and dimensions shall remain with the party submitting the drawing.

HATCH

By _____

Date _____

RECEIVED
JUL 18 2007
DRAWING CONTROL
HATCH

OUTLET CONNECTIONS:
(A) 4"–150 LB. RF SUCTION (B) 3"–API DRY BREAK DISCHARGE CONNECTION (HEAVY FILL) (C) 1"–DRY FILL DISCHARGE CONNECTION (LIGHT FILL)

CONDITIONS:
PEERLESS 8796 CENTRIFUGAL PUMP AT DISCHARGE HEAD IS RATED FOR 220 USGPM [50M3/HR] AT 100' [30M] TDH. GORMAN RUPP GHS 1.5 GC 32–B GEAR PUMP AT DISCHARGE HEAD IS RATED FOR 10 USGPM [2.27M3/HR] AT 110' [33.53M] TDH.

GENERAL NOTES:
– ALL DIMENSIONS ARE + OR – 1/2" [13 mm]. – REFER TO CORRESPONDING ITEM NUMBER ON THE ATTACHED LIST OF MATERIALS (DWG. CUP10114938–20).

Provisions for spillage? cup

A

LOW TEMP
LIFTING LUGS
ONE LOCATED ON EACH CORNER OF PKG.

PRELIMINARY
FOR APPROVAL
CHAMCO INDUSTRIES LTD.

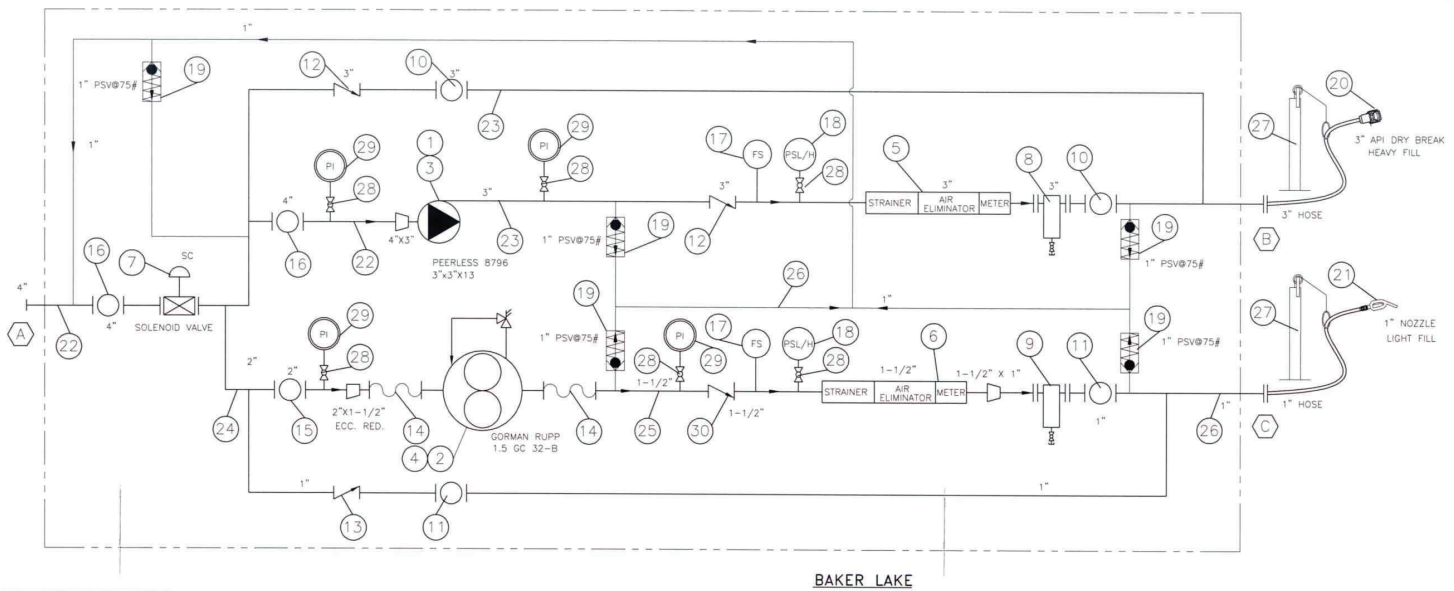
REV.	DATE	BY	DESCRIPTION
-	-	-	-

CHAMCO
CHAMCO INDUSTRIES LTD.
VANCOUVER – CALGARY – EDMONTON – PRINCE GEORGE

CUMBERLAND RESOURCES
BAKER LAKE, NUNAVUT
P.O. No. M268

BAKER LAKE DISPENSING FUEL TRANSFER MODULE
PEERLESS 8796, 3x3x13MTP CENTRIFUGAL PUMP (1)
GORMAN RUPP GHS 1.5 GC 32–B GEAR PUMP (1)
ISOMETRIC VIEW GENERAL ARRANGEMENT

DESIGNED BY	D.J.C.
DRAWN BY	G.R.M.
CHECKED BY	.
JOB No.	1014938ABS
DATE	25–APRIL–07
SCALE	N.T.S.
DWG No.	CUP1014938–22
REV.	0



BAKER LAKE
DISPENSING MODULE

LEGEND

1. PEERLESS – 3" X 3" – 13 MTP 8796 HEAVY FILL PUMP RATED AT 220 USGPM (1)
2. GORMAN RUPP GHS 1.5 GC 32–B PUMP RATED AT 10 USGPM – LIGHT FILL (1)
3. ELECTRIC MOTOR (15HP, 1800 RPM, 254T, 3/60/575V) – NOT SHOWN
4. ELECTRIC MOTOR (1.5HP, 1200 RPM, 182T, 3/60/575V) – NOT SHOWN
5. TCS 700–30 3" AIR ELLIMINATOR, DISCHARGE STRAINER AND FLOW METER
6. TCS 700–15 1–1/2" ELLIMINATOR, DISCHARGE STRAINER AND FLOW METER
7. 4" 120VAC SOLENOID FIRE SAFE VALVE
8. 3" BASKET FILTER
9. 1" BASKET FILTER
10. 3" BALL VALVE
11. 1" BALL VALVE
12. 3" CHECK VALVE
13. 1" CHECK VALVE
14. 1–1/2" FLEX HOSE
15. 2" BALL VALVE
16. 4" BALL VALVE
17. FLOW SWITCH
18. PRESSURE SWITCH HIGH/LO DISCHARGE PRESSURE ALARM
19. 1" PSV SET AT 75PSI
20. 3" API DRY BREAK (HEAVY FILL)
21. 1" NOZZLE (LIGHT FILL)
22. 4" LOW TEMP PIPE AND FITTINGS
23. 3" LOW TEMP PIPE AND FITTINGS
24. 2" LOW TEMP PIPE AND FITTINGS
25. 1–1/2" LOW TEMP PIPE AND FITTINGS
26. 1" LOW TEMP PIPE AND FITTINGS
27. HIGH HOSE RETRIEVER AND BUN
28. 1/2" BALL VALVE
29. PRESSURE GAUGE
30. 1–1/2" CHECK VALVE

HATCH
- ☐ Code 1" Proceed, No Exception Taken"
- ☐ Code 2 "Proceed, with Exceptions as Noted and Re-submit"
- ☐ Code 3 "Do not Proceed, Revise as Noted and Re-submit"
- ☐ Code 4 "Information Only"

Reviewed only for general conformity with the drawings and specifications. The Consulting Engineer does not warrant or represent that the information contained on this drawing is either accurate or complete. Sole responsibility for correct design, details and dimensions shall remain with the part submitting the drawing.

HATCH
By _____
Date _____

RECEIVED
JUL 1 3 2007
DRAWING CONTROL
HATCH

OUTLET CONNECTIONS:
(A) 4"–150# RFWN FLANGE (B) 3"–API DRY BREAK– HEAVY FILL (C) 1"–DISCHARGE NOZZLE–LIGHT FILL

CONDITIONS:
EACH PEERLESS 8796 CENTRIFUGAL PUMP AT DISCHARGE HEAD IS RATED FOR 220 USgpm [50M3/HR] AT 100' [30M] TDH. EACH GORMANN RUPP GHS 1.5 GC 32–B GEAR PUMP AT DISCHARGE HEAD IS RATED FOR 10 USgpm[2.27M3/HR] AT 110'[33.53M] TDH.

GENERAL NOTES:
– ALL DIMENSIONS ARE + OR – 1/2" [13 mm].

REV.	DATE	BY	DESCRIPTION

PRELIMINARY
FOR APPROVAL
CHAMCO INDUSTRIES LTD.

CHAMCO
CHAMCO INDUSTRIES LTD.
VANCOUVER – CALGARY – EDMONTON – PRINCE GEORGE

CUMBERLAND RESOURCES
BAKER LAKE, NUNAVUT
P.O. No. M268

BAKER LAKE DISPENSING FUEL TRANSFER MODULE
PEERLESS 8796, 3x3x13MTP CENTRIFUGAL PUMP (1)
GORMAN RUPP GHS 1.5 GC 32–B GEAR PUMP (1)
FLOW DIAGRAM

DESIGNED BY	D.J.C.
DRAWN BY	G.R.M.
CHECKED BY	.
JOB No.	1014938ABS
DATE	25–APRIL–07
SCALE	N.T.S.
DWG No.	CUP1014938–25
REV.	0

APPENDIX 2

SAFE FILL LEVELS FOR ALL FUEL TANKS

TEMPERATURE OF FUEL in the barge at discharge	MAXIMUM FUEL LEVEL to be read on the VAREC float level			
	TANK #1	**TANK #2**	**TANK #3**	**TANK #4**
0°C	11.68 m	11.64 m	11.70 m	11.70 m
+ 5°C	11.73 m	11.69 m	11.75 m	11.75 m
+10°C	11.79 m	11.75 m	11.81 m	11.81 m
+15°C	11.84 m	11.80 m	11.86 m	11.86 m

NOTE : EACH TANK HAS A SLIGHTLY DIFFERENT ELEVATION, SO CARE MUST BE TAKEN DURING HYDRAULIC BALANCING OF TANKS, ESPECIALLY WHEN THOSE ARE FULL.

Appendix A2

Baker Lake Diesel Fuel Storage Installations: Final Report Following Construction of Phase 2-B (2009)

AGNICO-EAGLE MINES LTD
MEADOWBANK DIVISION

BAKER LAKE FUEL STORAGE INSTALLATIONS

FINAL REPORT

FOLLOWING THE CONSTRUCTION

OF

PHASE 2-B (2009)

AEM

AGNICO-EAGLE MINES LTD
MEADOWBANK DIVISION

BAKER LAKE FUEL STORAGE INSTALLATIONS

FINAL REPORT

FOLLOWING THE CONSTRUCTION

OF

PHASE 2-B (2009)

PREPARED BY :

REGISTERED PROFESSIONAL ENGINEER
B.A.P. GIARD
LICENSEE
NWT/NU

Patrick Giard, P.Eng., CCE

2009-12-07

AGNICO-EAGLE MINES LTD

MEADOWBANK DIVISION

BAKER LAKE FUEL STORAGE INSTALLATIONS

FINAL REPORT

FOLLOWING THE CONSTRUCTION

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

Agnico-Eagle Mines Limited has undertaken construction of a gold mining project in the Kivalliq region of Nunavut, about 70 km north of Baker Lake.

The yearly operations of this mining operation requires the storage of a minimum of forty million (40 000 000) liters of diesel fuel, which represents four (4) bulk fuel storage tanks, each with a nominal capacity of ten million (10 000 000) liters.

PHASE 1 (2007)

During the summer of 2007, Agnico-Eagle Mines Limited has built the first two (2) bulk fuel tanks, with a combined capacity twenty million (20 000 000) liters of diesel fuel. An impervious enclosure was built around it in order to provide secondary containment around the fuel tanks. These first two (2) bulk fuel tanks were then in condition to be filled.

PHASE 2-A (2008)

During the summer of 2008, Agnico-Eagle Mines Limited has built another two (2) bulk fuel tanks, for a total combined capacity of forty million (40 000 000) liters of diesel fuel. Only a portion of the enclosure was built around it, with the final purpose being to provide secondary containment around the fuel tanks. These other two (2) bulk fuel tanks were completed in late October 2008, and they have remained empty during the winter of 2008-09.

PHASE 2-B (2009)

During 2009, Agnico-Eagle Mines Limited has completed the installation of an impermeable HDPE membrane, which provides adequate secondary containment around the fuel tanks. This has allowed to fill up all four (4) bulk fuel tanks in the summer of 2009, with the piping installation towards tanks 3 and 4 being completed.

PHASE 3

Consideration is currently being given to an expansion project for the fuel storage facilities in Baker Lake. The scale of the project has been defined in a set of drawings and technical specifications, which will be used for the permitting process.

2.0 SECONDARY CONTAINMENT BERMS

2.1 Final completion of berm enclosure

During the construction of fuel tanks 3 and 4 there was a small part of the secondary containment enclosure built in 2008 had been left open to provide easy access.

The granular material and rock fill that was used for civil works was taken from an approved quarry, which has been demonstrated not to produce Acid Rock Drainage and to be non-Metal Leaching.

Given that theses fuel tanks were to be filled up in August 2009, the berm enclosure was fully completed in July 2009, exactly as shown on the construction drawings and at a minimal crest elevation of 34.20 m.

2.2 Breach in middle berm

Once the berm enclosure was fully completed, a breach was made in the middle berm between fuel tanks 2 and 3. At that moment, fuel tanks 1 and 2 had been fully drawn with truck tankers, and were totally empty. Meanwhile, the mine operations relied on the fuels tanks located at the Meadowbank site.

The breach section in this midside berm was capped with an HDPE membrane at the 33.00 m elevation mark, which is the same as the tank rim elevation. This HDPE membrane was welded to the existing ones on the berm crests, thus ensuring an impermeable transition from one side to the other of both secondary containment areas. An access ramp was built over this breach to provide vehicle access inside the secondary containment area around fuel tanks 3 and 4.

3.0 HDPE MEMBRANE WELDING

A specialized crew from Saskatchewan was mobilized to Baker Lake for the completion of the HDPE membrane installation. The contractor was Enviroline Services inc.

During July 2008, or prior to the construction of fuel tanks 3 and 4, some HDPE panels were laid out under the fuel tanks. The edges of this HDPE membrane had been protected with plywood sheets and covered with a layer of screened sand.

The work that took place in 2009 was to weld some HDPE membrane rolls to those existing panels, and extend all those HDPE membrane rolls right up to the berm crest. The membrane was anchored into a trench, as indicated on the construction drawings.

Detailed reports of wedge welder seam logs and qualification tests, as well as logs for extrusion welder and qualification tests are enclosed herein, in Appendix 1.

4.0 GEOTEXTILE INSTALLATION

As indicated on the construction drawings, a geotextile was placed directly under and over the HDPE membrane, as a means to reduce the risk of puncturing this membrane.

5.0 SCREENED SAND COVER

As indicated on the construction drawings, a layer of screened sand was placed directly under and over the geotextile, as an additional means to reduce the risk of puncturing the HDPE membrane. This sand was screened at the Blueberry Hill pit and hauled to the worksite by local truckers.

6.0 WELDING OF PIPELINE

A crew from the ABF Mines contractor, composed of a qualified welder and a pipefitter, have completed the extension of the barge discharge pipeline towards tanks 3 and 4.

Also, some additional piping was installed from the tank 3 and 4 towards the fuel dispensing module, thus allowing to draw fuel from these tanks, after barge delivery.

Some pressure release valves were installed on each of these pipelines, with a discharge pressure set at 75 psi and piped back into the fuel tanks. This constitutes a protection feature against the effects of thermal expansion of fuel which was indicated on the construction drawings.

Another feature of the modifications implemented in 2009 is the installation of some swing check valves at the N2 nipple outlets of all fuel tanks. This will most likely help the fuel dispensing pump keeps its prime when the fuel levels get low in the tanks.

The only exception to the complete compliance of these installations with the piping drawings is that the containment sump for the fuel sea hose connection shown on section A of drawing 017202-1000-46D4-1004 from SNC-Lavalin has not been installed.

The flanges and gaskets that were use for mechanical joints are rated for 150 psi.

7.0 PRESSURE TESTING OF PIPELINE

7.1 Selection of test method and suitable air pressure for testing

The purpose of the leak detection program is to proof the fuel delivery system in a non-destructive manner. Fuel pipelines were pressure tested with a non-inert gas, given that no petroleum product had ever entered the pipelines prior to testing.

Section 6.2 of CCME PN_1326 states that the testing pressure must be greater than 350 kPa (50.8 psi), but without exceeding the manufacturer specifications for flanges and gaskets of 1034 kPa (150 psi). For that purpose, an evaluation was made of the maximum operating pressure at the fuel sea hose connection of the barge discharge pipeline. The results are as follows :

Expected discharge flow rate : 0.090 m^3/s

Maximum operating pressure = static pressure + velocity pressure + friction loss

Maximum operating pressure = 29.64 m + 1.24 m + 35.80 m = **94.7 psi**

Whereas static pressure = elevation of (tank overflow - pump intake) x 0.8396
static pressure = (44.90 m - 9.60 m) x diesel fuel density @ 2°C

Whereas friction loss was evaluated to be :
Pressure Loss (psi): 50.95 psi **Head Loss (ft):** 139.83 ft of diesel fuel
for the barge discharge pipeline **Fluid:** diesel fuel **Pipe/Tubing ID (in):** 6" or 150 mm **Flow Rate (USGPM):** 1426.5 USGPM or 0.090 m^3/s **Dynamic Viscosity of diesel fuel (cP):** 5.0 cP **Specific Gravity (water=1):** 0.8396 at 35°F **Temperature (F):** 35°F or 2°C **Pipe Roughness (ft):** 0.00015 **Fluid Velocity (ft/sec):** 16.19 ft/s or 4.93 m/s **Friction Factor:** 0.019 **Piping Length (ft):** 900 **Pressure Loss (psi):** 50.84 psi **Head Loss (ft):** 139.88 ft or 42.64 m of diesel fuel @ 0.8396

7.2 Results of air pressure testing of fuel piping

The test pressure has been set at 690 kPa (100 psi), and the stabilization of pressure due to ambient temperature was noted after pressurization at 100 psi was achieved for testing. The piping system was not considered to be leaking due to a pressure variation occurrence of less than 2% within at least two (2) hours, after noted stabilization of air pressure. Detailed results are stated hereunder.

TESTING DAY ONE

Section of piping tested	100 mm pipe	from TANK 3 to TANK 4	
DATE OF TESTING :	2009-07-24	Air temperature :	N/A
TEST STARTED AT :	07:55 AM	TEST WAS ENDED AT :	02:57 PM
INITIAL PRESSURE	**99 PSI**	FINAL PRESSURE READING	**102 PSI**

Section of piping tested	150 mm pipe	from TANK 3 to TANK 4	
DATE OF TESTING :	2009-07-24	Air temperature :	N/A
TEST STARTED AT :	10:25 AM	TEST WAS ENDED AT :	02:55 PM
INITIAL PRESSURE	**99 PSI**	FINAL PRESSURE READING	**102 PSI**

TESTING DAY TWO

Section of piping tested	100 mm pipe	from TANK 2 to TANK 3	
DATE OF TESTING :	2009-07-25	Air temperature :	18°C
TEST STARTED AT :	01:08 PM	TEST WAS ENDED AT :	VOID TEST
INITIAL PRESSURE	**100 PSI**	FINAL PRESSURE READING	**NIL**

The cause of air pressure drop was located (missing gasket) and testing resumed.

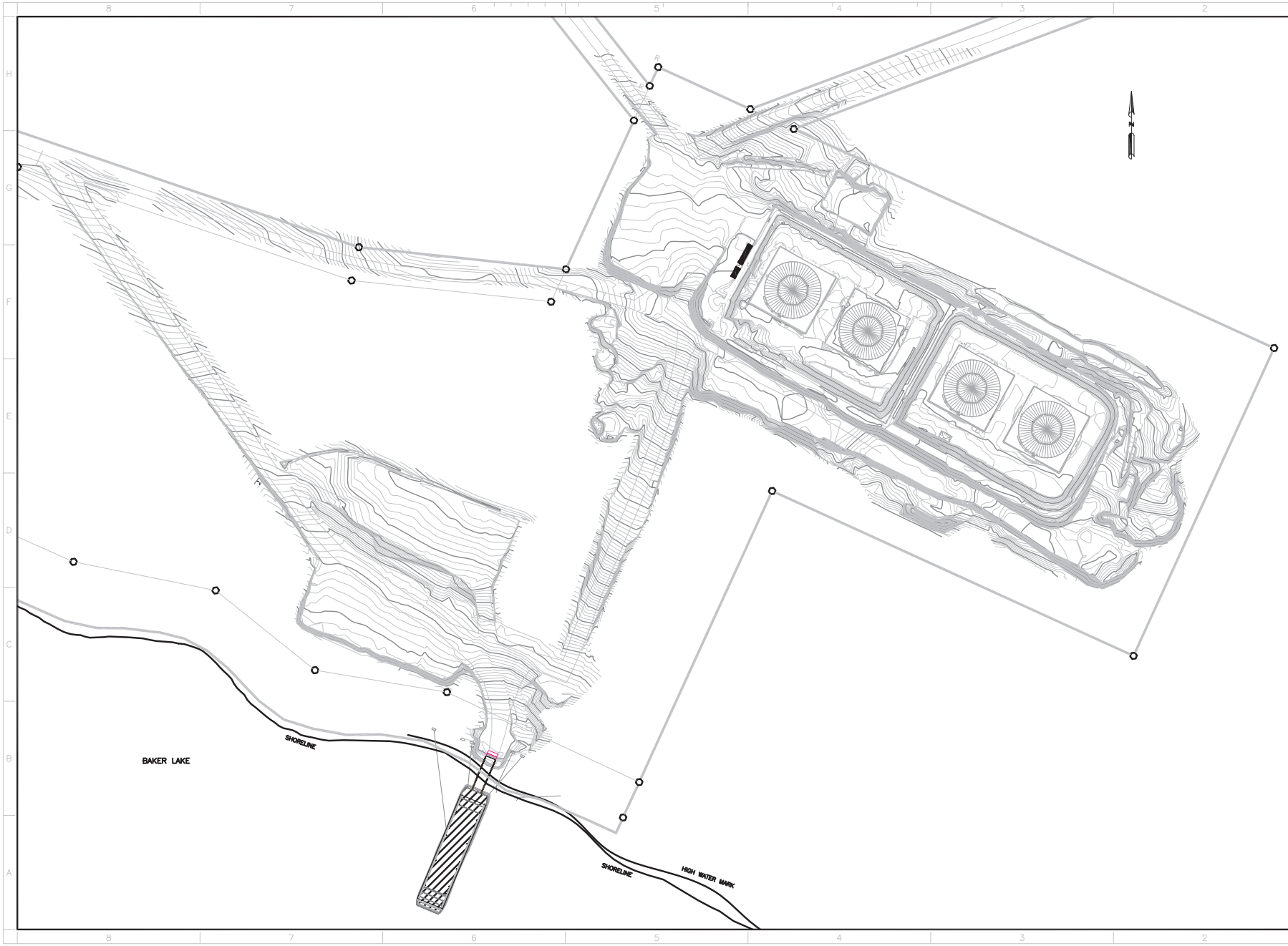
Section of piping tested	100 mm pipe	from TANK 2 to TANK 3	
DATE OF TESTING :	2009-07-25	Air temperature :	18°C
TEST STARTED AT :	02:12 PM	TEST WAS ENDED AT :	06:15 PM
INITIAL PRESSURE	**100 PSI**	FINAL PRESSURE READING	**100 PSI**

TESTING DAY THREE

Section of piping tested	150 mm pipe	from TANK 2 to TANK 3	
DATE OF TESTING :	2009-07-26	Air temperature :	15°C
TEST STARTED AT :	09:30 AM	TEST WAS ENDED AT :	VOID TEST
INITIAL PRESSURE	**100 PSI**	FINAL PRESSURE READING	**80 PSI**

The cause of air pressure drop was located (tightening bolts) and testing resumed.

Section of piping tested	100 mm pipe	from TANK 2 to TANK 3	
DATE OF TESTING :	2009-07-26	Air temperature :	18°C
TEST STARTED AT :	11:45 AM	TEST WAS ENDED AT :	04:25 PM
INITIAL PRESSURE	**100 PSI**	FINAL PRESSURE READING	**101 PSI**



KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en Ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2233 Télec: (819) 825-1322
Courriel : stavibel-val@stavibel.qc.ca
Site internet : www.stavibel.qc.ca

AS BUILT
Groupe STAVIBEL
2009-12-07
PATRICK GIARD, P.ENG.

TITLE	# SHEET

REFERENCE DRAWINGS

#	DATE	DESCRIPTION	BY	APP.	P.E.
0	AS BUILT		AL		P.G.

REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

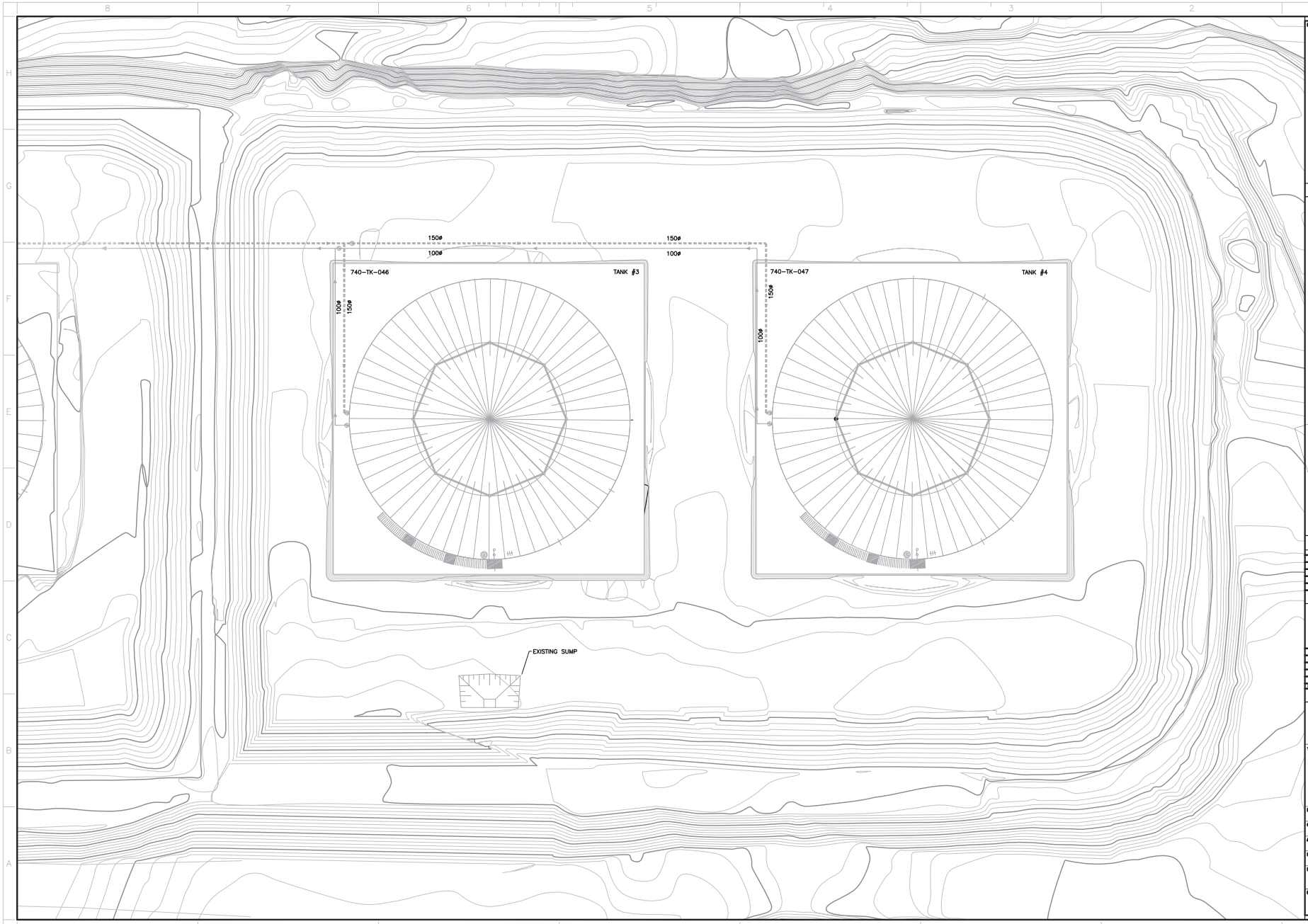
TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

GENERAL LAYOUT

DRAWN BY	FRANCIS ROXE, TECH	DATE
CHECKED BY	PATRICK GIARD, P.ENG	
APPROVED BY	PATRICK GIARD, P.ENG	
SCALE	1:1000	DATE

DRAWING NO.
VD2259-BKL-001

PROJECT NO.	REVISION	SHEET
VD2259-2	2	1/10



KEY PLAN

GENERAL NOTES

Groupe STAVIBEL
Consultants en Ingénierie
1271, 7e Rue
Val-d'Or (Québec) J9P 3S1
Tél: (819) 825-2233 Télec: (819) 825-1322
Courriel : stavibel-val@stavibel.qc.ca
Site internet : www.stavibel.qc.ca

AS BUILT
Groupe STAVIBEL
PATRICK GIARD, P.ENG. 2009-12-07

TITLE	# SHEET

REFERENCE DRAWINGS

2	AS BUILT	JL	P.G.	
1	FOR CONSTRUCTION	P.G.	P.G.	
NO.	DESCRIPTION	BY	APP.	DATE

REVISIONS

AGNICO-EAGLE
MEADOWBANK DIVISION

TITLE
AGNICO-EAGLE – MEADOWBANK DIVISION
BAKER LAKE AREA 740

PIPING LAYOUT
FOR PHASE 2-B (2009)

DRAWN BY	FRANCIS ROBY, TECH	DATE
CHECKED BY	PATRICK GIARD, P.ENG	
APPROVED BY	PATRICK GIARD, P.ENG	
SCALE	1:1000	DATE

DRAWING NO.
VD2259-BKL-002

PROJECT NO.	REVISION	SHEET
VD2259-2	2	9/10

AGNICO EAGLE MINES LTD
MEADOWBANK DIVISION
PROJECT REF. VD2415-000

BAKER LAKE: TANK FARM

IMPERMEABLE ENCLOSURE AROUND TANKS #3 AND #4

CONTRACTOR: ENVIROLINE SERVICES INC.

Contents

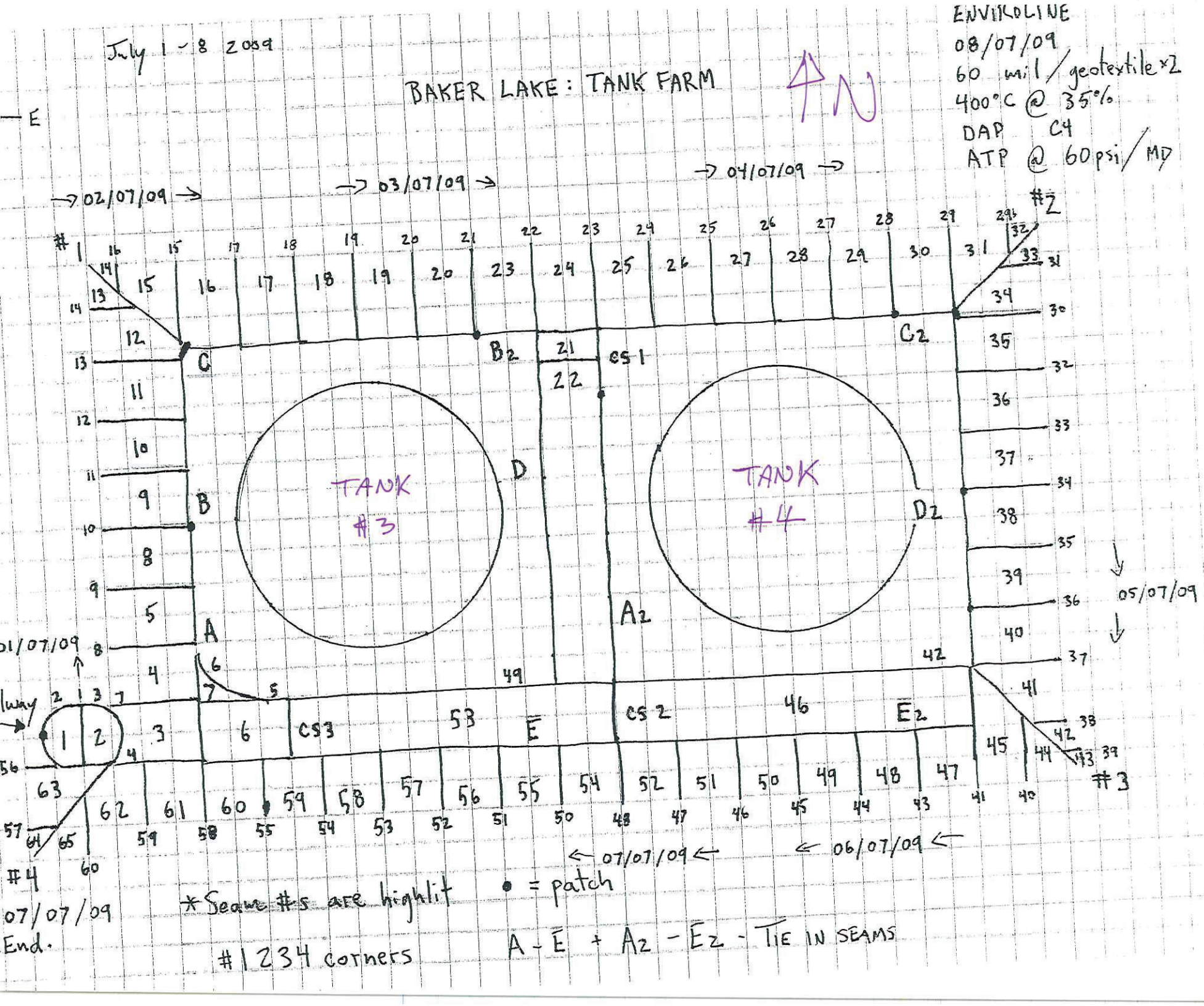
JULY 08, 2009
ENVIROLINE

Enviroline Services Supervisor

DEREK PROVOST

2009/07/08

PATRICK GIARD, P.Eng.


July 1 - 8 2009
BAKER LAKE : TANK FARM
N
ENVIROLINE
08/07/09
60 mil / geotextile x2
400°C @ 35%
DAP C4
ATP @ 60psi / MD
→ 02/07/09 →
→ 03/07/09 →
→ 04/07/09 →
05/07/09
01/07/09
TANK #3
TANK #4
#1
#2
#3
#4
A
B
C
D
E
A2
B2
C2
D2
E2
CS1
CS2
CS3
← 07/07/09 ←
← 06/07/09 ←
07/07/09
End.
* Seam #s are highlit
• = patch
#1234 corners
A - E + A2 - E2 - TIE IN SEAMS

nviroline services inc.
x 7539 Saskatoon, SK. S7K 4J4 Tel. 306 242 8836 Fax 306 249 6721 Email: dvhames@home.com

dge Welder Seam Log

ect	TANK FARM	QC Tech. MD	Drive Pressure 60
tion	BAKER LAKE	Wedge Temp. 400°C	Dwell Pressure
erial	60 mil	Wedge Gap	Comments

Fusion Information					Testing Information								
	HDPE Weld				Peel Test		Air Test		60 psi 60		Date 7/07/09	Date	
n #	Tech.	Temp	Speed	Vise Grip	Inside	Outside	Start	Finish	Start	Finish	Welded	Tested	Comments
	DAP	400	35%	✓	121	114	6:35	6:40	60	60	01	02	July 2009
2				✓	109	115	5:30?	5:35?			01	02	
3				✓	115	117	5:55	6:00			01	02	
4				✓	117	116	6:40	6:45			01	02	
5				✓	118	119	6:29	6:34			01	02	
6				✓	119	112	1:05	1:11			01	02	
7				✓	119	114	1:12	1:17			01	02	
8				✓	112	112	11:42	11:47			02	03	
9				✓	120	113	11:49	11:54			02	03	
10				✓	113	114	11:56	12:01			02	03	
11				✓	117	116	10:00	10:05			02	03	
12				✓	118	114	10:06	10:11			02	03	
13				✓	114	115	10:12	10:17			02	03	
14				✓	121	112	10:18	10:23			02	03	
15				✓	122	112	10:24	10:29			02	03	
16				✓	109	121	8:45	8:50			03	04	
17				✓	118	116	8:51	8:56			03	04	
18				✓	114	117	8:57	9:02			03	04	
19				✓	116	119	9:30	9:35			03	04	
20	↓	↓	↓	✓	120	118	9:03	9:08	↓	↓	03	04	

nviroline services inc.
ox 7539 Saskatoon, SK. S7K 4L4 Tel. 306 242 8836 Fax 306 249 6721 Email: dvbarnes@home.com

dge Welder Seam Log

ect	TANK FARM	QC Tech. MP	Drive Pressure 60
tion	BAKER LAKE	Wedge Temp. 400°C	Dwell Pressure
erial	60 mil	Wedge Gap	Comments

Fusion Information					Testing Information								
	HDPE Weld				Peel Test		Air Test		60 psi	60	Date -/07/09	Date	
m #	Tech.	Temp	Speed	Vise Grip	Inside	Outside	Start	Finish	Start	Finish	Welded	Tested	Comments
1	DAP	400	35%	✓	116	121	8:16	8:21	60	60	04	05	July 2009
2				✓	117	123	8:22	8:27			05	05	
3				✓	112	119	2:25	2:30			05	05	
4				✓	108	117	2:31	2:36			05	05	
5				✓	114	119	2:37	2:42			05	05	
6				✓	115	121	2:49	2:54			05	05	
27				✓	118	120	2:55	3:00			05	06	
28				✓	113	118	6:10	6:15			05	06	
29				✓	117	114	6:16	6:21			05	06	
30				✓	117	113	6:22	6:27			05	06	
31				✓	116	117	6:28	6:33			05	06	
32				✓	112	119	6:15	6:20			06	06	
33				✓	113	121	6:21	6:26			06	06	
34				✓	115	120	6:27	6:32			06	06	
35				✓	117	116	6:33	6:38			06	06	
36				✓	114	115	6:39	6:44			06	06	
37				✓	112	117	6:45	6:50			06	06	
38				✓	118	120	6:51	6:56			06	07	
39				✓	113	114	6:57	7:02			06	07	
40	↓	↓	↓	✓	113	118	7:03	7:08	↓	↓	06	07	

V..oline services inc.
539 Saskatoon, SK S7K 4L4 Tel 306 242 8838 Fax 306 249 6721 E-mail: dvbarnes@shaw.ca

ge Welder Seam Log

	TANK FARM	QC Tech. MJ	Drive Pressure 60
n	BAKER LAKE	Wedge Temp. 400°C	Dwell Pressure
l	60 mil	Wedge Gap	Comments

on Information	Testing Information

HDPE Weld | Peel Test | Air Test 60 psi 60 | Date | Date -/07/09

Tech.	Temp	Speed	Vise Grip	Inside	Outside	Start	Finish	Start	Finish	Welded	Tested	Comments
DAP	400	35%	✓	109	114	6:07	7:14	60	60	06	06	July 2009
			✓	114	118	2:30	2:35			06	06	
			✓	115	116	2:36	2:41			06	06	
			✓	114	118	2:42	2:47			06	06	
			✓	113	112	2:48	2:53			06	06	
			✓	112	111	3:00	3:05			06	06	
			✓	113	113	3:06	3:11			06	06	
			✓	110	115	3:12	3:17			06	06	
			✓	116	117	6:20	6:25			06	08	
			✓	118	118	6:26	6:31			06	08	
			✓	112	116	6:32	6:37			07	08	
			✓	114	117	6:38	6:43			07	08	
			✓	119	118	6:44	6:49			07	08	
			✓	117	116	6:50	6:55			07	08	
			✓	115	118	6:56	7:01			07	08	
			✓	114	115	7:06	7:11			07	08	
			✓	112	118	7:12	7:17			07	08	
			✓	109	119	7:18	7:23			07	08	
			✓	111	114	7:24	7:29			07	08	
↓	↓	↓	✓	115	117	7:30	7:35	↓	↓	07	08	

...oline services inc.
...539 Saskatoon, SK. S7K 4L4 Tel. 306 242 8838 Fax 306 249 6721 Email: dvbournes@home.com

...ge Welder Seam Log

	TANK FARM	QC Tech. MP	Drive Pressure 60
...n	BAKER LAKE	Wedge Temp. 400°C	Dwell Pressure
...l	60 mil	Wedge Gap	Comments

...on Information | Testing Information

	HDPE Weld				Peel Test		Air Test		psi		Date	Date	
	Tech.	Temp	Speed	Vise Grip	Inside	Outside	Start	Finish	Start	Finish	Welded	Tested	Comments
	DAP	400°C	35%	✓	116	117	11:30	11:35	60	60	02	02	July 2009
				✓	114	112	11:36	11:41			02	02	
				✓	119	114	11:42	11:47			02	02	
				✓	117	116	1:24	1:29			03	04	
				✓	113	119	1:30	1:35			04	04	
				✓	109	121	6:55	7:00			04	04	
				✓	111	109	7:00	7:05			05	05	
				✓	112	112	7:12	7:17			05	05	
				✓	118	117	7:18	7:23			05	05	
				✓	115	121	2:24	7:29			05	05	
				✓	112	119	11:42	11:47			02	02	
				✓	118	117	11:00	11:05			03	03	
				✓	116	112	1:10	1:15			06	07	
				✓	117	119	1:25	1:30			07	07	
				✓	116	114	2:31	2:36			03	03	
				✓	112	121	1:30	1:35			07	07	
				✓	119	117	8:00	8:05	↓	↓	07	08	
	↓	↓	↓	✓									
				✓									
				✓									

enviroline Services Inc.

P O Box 7539 Saskatoon, SK. S7K 4L4 Tel.306 242 8836 Fax 306 249 6721 Email: dybarnes@home.com

Wedge Welder Qualifiication Data

Date	July 1, 2009	Wedge Welder #	C4
Project	Tank Farm	Travel Speed	35%
Work Area	Baker Lake	Drive Pressure	* 60
Material	60 mil	Dwell Pressure	*
QC tech.	MD	Wedge Setting	*
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	*
Test Location	ON SITE	Testing Temp.	14° C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
118	0	117	0	P
104	0	107	0	P
116	0	116	0	P
102	0	122	0	P
107	0	104	0	P

Seam Tensile

Lb/Inch	% Enlongation	Comments
181	*	P
172	*	P

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P O Box 7539 Saskatoon, SK. S7K 4L4 Tel.306 242 8836 Fax 306 249 6721 Email: dybarnes@home.com

Wedge Welder Qualifiication Data

Date	July 2, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	40%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	R.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	13°C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
114	0	107	0	P
116	0	109	0	P
111	0	112	0	P
114	0	114	0	P
115	0	114	0	P

107 - 117

Seam Tensile

Lb/Inch	% Enlongation	Comments
179		P
188		P

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P O Box 7539 Saskatoon, SK. S7K 4L4 Tel.306 242 8836 Fax 306 249 6721 Email: dybarnes@home.com

Wedge Welder Qualifiication Data

Date	July 02, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	P.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	18° C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
/	/

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
113	0	116	0	P
112	0	115	0	P
114	0	114	0	P
110	0	111	0	P
119	0	113	0	P

Seam Tensile

Lb/Inch	% Enlongation	Comments
181		P
185		P

enviroline Services Inc.

P O Box 7539 Saskatoon, SK. S7K 4L4 Tel.306 242 8836 Fax 306 249 6721 Email: dybarnes@home.com

Wedge Welder Qualifiication Data

Date	July 03, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	13°C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
112	0	109	0	P
114	0	111	0	P
115	0	107	0	P
113	0	109	0	P
114	0	110	0	P

Seam Tensile

Lb/Inch	% Enlongation	Comments
183		P
185		P

enviroline Services Inc.

P O Box 7539 Saskatoon, SK. S7K 4L4 Tel.306 242 8836 Fax 306 249 6721 Email: dybarnes@home.com

Wedge Welder Qualifiication Data

Date	July 04, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MP	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	12° C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
116	0	118	0	P
120	0	117	0	P
121	0	119	0	P
114	0	112	0	P
114	0	119	0	P

Seam Tensile

Lb/Inch	% Enlongation	Comments
191		P
188		P

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Wedge Welder Qualifiication Data

Date	July 02, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	P.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	18°C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
119	0	113	0	P
116	0	119	0	P
118	0	115	0	P
112	0	114	0	P
113	0	116	0	P

Seam Tensile

Lb/Inch	% Enlongation	Comments
177	200	P
181	200	P

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Wedge Welder Qualifiication Data

Date	July 07, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MP	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	14°C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
116	0	118	0	P
113	0	112	0	P
117	0	110	0	P
119	0	116	0	P
118	0	115	0	P

Seam Tensile

Lb/Inch	% Enlongation	Comments
184	200	P
180	200	P

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Wedge Welder Qualifiication Data

Date	July 06, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	14°C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
116	0	115	0	P
113	0	115	0	P
112	0	119	0	P
119	0	121	0	P
117	0	113	0	P

Seam Tensile

Lb/Inch	% Enlongation	Comments
185	200	P
189	200	P

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Wedge Welder Qualifiication Data

Date	July 07, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	12°C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
112	0	119	0	P
119	0	116	0	P
116	0	111	0	P
117	0	117	0	P
114	0	113	0	

Seam Tensile

Lb/Inch	% Enlongation	Comments
180	200	P
184	200	P

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Wedge Welder Qualifiication Data

Date	July 07, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MP	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	P.M	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	16°C

Destructive Testing Results

Vice Grip Peel

Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel

Outside Track		Inside Track		
Lb/Inch	%Separation	Lb/Inch	% Separation	Comments
112	0	112	0	P
117	0	111	0	P
114	0	116	0	P
116	0	121	0	P
115	0	112	0	P

Seam Tensile

Lb/Inch	% Enlongation	Comments
181	200	P
182	200	P