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November 2, 2007

07-1362-0449

AREVA Resources Canada Inc.
P.O. Box 9204
817 - 45th Street West
Saskatoon, Saskatchewan
S7K 3X5

Attention: Mr. Trevor Carlson, B.Sc.
Manager, Licensing and Regulatory Affairs

RE: TEMPORARY BULK FUEL TANKS KIGGAVIK- SISSONS PROJECT

Dear Trevor,

Golder Associates Ltd. (Golder) is pleased to provide this letter report to AREVA Resources Canada Ltd. (AREVA) that contains recommendations for foundation support for temporary storage tanks to be located at the Kiggavik-Sissons project in Nunavut, Canada.

1.0 PROJECT DESCRIPTION

We understand that AREVA wishes to establish temporary fuelling facilities at the Kiggavik-Sissons project site. Two fuelling stations are proposed:

- a site near the Kiggavik pit to contain three diesel and three Jet B fuel tanks; and
- a site near the Sissons pit to contain two diesel tanks.

Because of the remoteness of the site and the dearth of earthmoving and excavating equipment, AREVA needs to develop foundation design and construction guidelines for the tanks based on anticipated subsurface conditions (*i.e.*, without subsurface geotechnical investigation). Three proposed locations for the fuel storage facilities were identified by AREVA staff and these were inspected briefly by Mr. Brent Topp of Golder. At that time, surficial samples were collected, photographs were taken and a GPS tracking survey was undertaken at each of the proposed sites.



2.0 SITE DESCRIPTION

One option was identified for the Kiggavik pit (Site 1, see Figure 1). Approximate GPS coordinates for this site are 561500, 7145200 (NAD 83). This area is raised approximately 2 metres (m) above the surrounding tundra and appears to be a kame feature, composed of sand and gravel deposited by flowing water in a glacial crevasse at some point during the last glacial period. The approximate area of this feature, based on handheld GPS survey, is 14,000 square metres (m²). Two surficial samples were collected at this location and these were tested for grain size distribution. The material was described as a uniform to well graded sand with 10 to 30 percent gravel sizes. Using Hazen's approximation, a permeability in the range of 4 to 9 x 10⁻² cm/s is estimated for this material.

Two options were identified near the Sissons site (Sites 2 and 3, see Figure 1). Site 2 is about one kilometre (km) east of the Sissons pit located at coordinates 554300, 7134400 (NAD 83). This appears to be a kame feature, about 5,000 m² in area. Upon visual inspection, it appears that bedrock outcrops over part of this feature. Furthermore, numerous boulders were observed at ground surface, randomly distributed across the site. The matrix material of this feature, based on two samples collected, is a well graded sand and gravel mixture with less than 10 percent fines. Using Hazen's approximation, a permeability in the range of 1 to 2 x 10⁻² cm/s is estimated for this material.

Site 3 is located about 2 km northeast of the Sissons pit at coordinates 554400, 7136700. This site appears to be a kame feature of about 5,800 m² area. This feature is raised about 2 m above the surrounding tundra. Samples of material collected from Site 3 indicate a uniform fine to medium sand, with little or no gravel and 5 to 15 percent fines. Using Hazen's approximation, a permeability in the range of 5 to 6 x 10⁻² cm/s is estimated for this material.

Table 1 summarizes the test results for all three sites.

Table 1
Test Results for Sites 1, 2 and 3

Site	Sample	Easting	Northing	D ₁₀	D ₃₀	D ₆₀	C _u	K
Site 1	SL1107	561564	7145215	0.019	0.041	0.21	11.1	3.61E-02
Site 1	SL1110	561517	7145251	0.03	0.05	0.11	3.7	9.00E-02
Site 2	SL1108	554327	7134350	0.015	0.072	0.81	54.0	2.25E-02
Site 2	SL1111	554307	7134392	0.011	0.051	0.22	20.0	1.21E-02
Site 3	SL1106	554400	7136652	0.025	0.04	0.08	3.2	6.25E-02
Site 3	SL1109	554355	7136717	0.007	0.011	0.018	2.6	4.90E-03

Note: D₁₀ = Diameter for 10% passing (cm).
D₃₀ = Diameter for 30% passing (cm).
D₆₀ = Diameter for 60% passing (cm).
C_u = Uniformity coefficient (-).
K = Hydraulic conductivity (cm/s).

3.0 ENGINEERING ASSESSMENT

Site 3 is located immediately adjacent to Mushroom Lake and extends approximately 50 m perpendicular to the lake. Review of the baseline environmental report prepared in 1991 (Beak 1991) indicated that Mushroom Lake is fish bearing. Due to the proximity to a fish bearing lake, Site 3 was eliminated from consideration based on discussions with AREVA personnel.

Figures 2 and 3 show the proposed layout of the tanks on Sites 1 and 2, respectively. The final location of the tanks should be determined in the field at the time of construction. We understand that the tanks must be a minimum of 3 m apart. Further, at Site 1 we suggest that the diesel and Jet B tanks be physically separated to mitigate the potential to accidentally fill the tanks with the wrong product.

Potential engineering issues associated with the construction of a bulk fuel storage facility at these sites include:

- bearing capacity and consolidation settlement of the tanks. Potential for “punching” failure of the skids during spring thaw or rainfall events;
- presence of boulders at ground surface (Site 2);
- potential for freeze-thaw related movement of the foundation in spring or fall; and
- potential to locally thaw permafrost in the foundation due to changing albedo caused by placement of the tanks.

3.1 Bearing Capacity and Settlement

We understand that the tanks must be constructed without the benefit of preparation of the foundation by compaction. As the tanks will be placed in winter, under frozen conditions, bearing capacity issues may not manifest themselves until spring thaw. Localization of loads due to differential thawing could result in stress concentrations and punching of (parts of) the support skids. This in turn could lead to buckling of the skids.

This problem should be mitigated by placing wooden timbers underneath the skids, in particular underneath the saddles (Figure 4). The mass of a full 50,000 litre (L) tank is estimated at 55,000 kilograms (kg). It is estimated that placing five timbers (0.3 m wide by 0.15 m thick by 3.7 m long) beneath each saddle would provide a surface area of about 11 m² for each tank, which corresponds to a surface loading of approximately 50 kPa. The sands and gravels at the site are suitable to support these types of loads.

It is very difficult to assess the amount of consolidation settlement that may occur under the tank foundations. Some settlement is inevitable and the tanks may require shimming in the first years of operation in order to stabilize the tanks.

3.2 Boulders

It is necessary to place the timbers on relatively flat ground, without protrusions in order to adequately support the tank loads. This should not be an issue at Site 1, however at Site 2, numerous boulders could be observed at ground surface. It is likely that a Cat tractor would be required to smooth the pad at Site 2 prior to foundation construction.

3.3 Freeze-Thaw Movements

Freeze-thaw related movement depends on several factors including the susceptibility of the soil to frost action and the presence of free water within the freezing zone. The surficial samples collected were well graded sands and gravels with typically less than 10% fines. Such materials are not particularly susceptible to frost action. Free water may exist in the subsurface of these kame features, and based on observation of surrounding topography, it is likely that any free water would be within the depth of frost penetration.

If freeze-thaw movement becomes excessive, it will be necessary to shim the tanks in order to maintain serviceability.

3.4 Thawing of Permafrost

If permafrost exists in the foundation, it is possible that construction of the tanks may affect the permafrost due to changing albedo, disruption of air circulation and increasing surface pressure. Such localized thawing or freezing could result in differential movement of the tank foundations. The placement of timbers as foundation preparation will provide a measure of insulation and should thus mitigate the potential for permafrost effects. Placing timbers under the saddles will also improve air circulation underneath the tanks, which may be of benefit. Notwithstanding, some effects may be experienced in the first years of operation. These can generally be compensated by shimming.

4.0 SUMMARY

Potential issues identified for the construction of bulk fuel storage tanks on kame-like features at the Kiggavik-Sissons site include bearing capacity, protruding boulders, seasonal freeze-thaw effects, and possible thawing of permafrost. Based on the limited information available, it is recommended that the tanks be placed on timber members in order to mitigate these effects. Five timbers (0.3 m wide x 0.15 m thick x 3.7 m long) under each saddle would provide a bearing area of about 11 m² for each tank, which should be suitable to mitigate bearing capacity failure.

AREVA should expect, and be prepared to deal with differential settlement and/or heave of the tank foundations. Monitoring and shimming should be suitable management strategies to deal with expected settlements.

Golder recommends that a qualified geotechnical inspector be on site during the installation of the tanks in order to ground-truth the assumptions made in this report and to verify that the intent of the design has been achieved.

5.0 INFORMATION AND LIMITATIONS OF THIS REPORT

We would draw your attention to our “important information and limitations of this report”, attached, and which forms an integral part of this report.

6.0 CLOSURE

We trust that this report is suitable for your present needs. Please contact the undersigned at your convenience if you have any questions or if any point requires clarification.

Yours very truly,

GOLDER ASSOCIATES LTD.

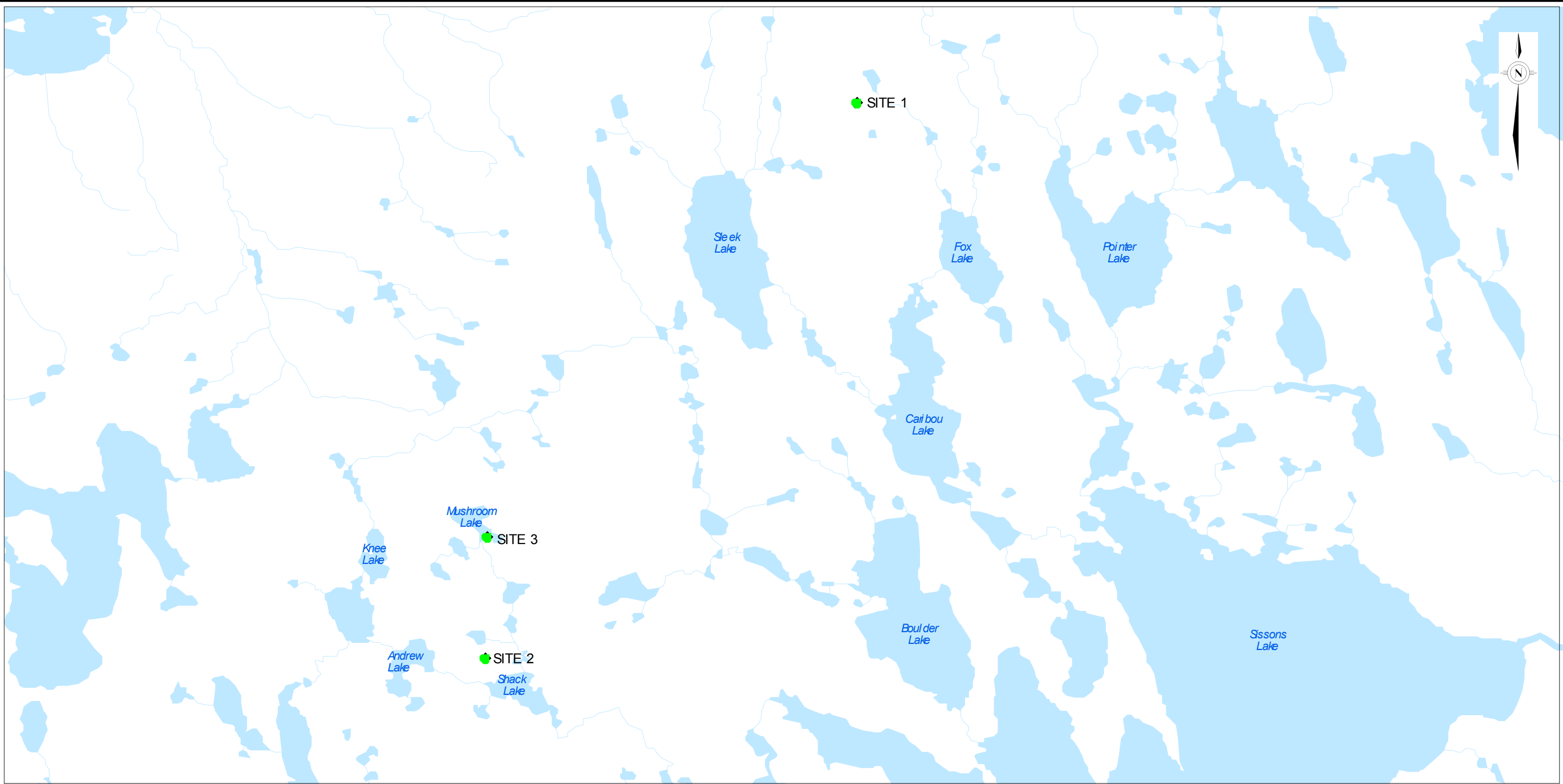
Laurent F. Gareau, M.Sc.
Associate, Senior Geotechnical Engineer

Leon C. Botham, M.S.C.E., P.Eng.
Associate, Senior Geotechnical Engineer


Attachment: Figures 1 to 4
Important Information and Limitations of this Report

LFG/LCB/msd


G:\2007\1362-007-1362-044-9 AREVA Bulk Fuel Storage Locations.mxd - 10/31/2007 @ 3:25:54 PM



LEGEND


 POTENTIAL BULK FUEL STORAGE LOCATION

PROJECT

 KIGGAVIK PROJECT

TITLE

BULK FUEL STORAGE
POTENTIAL SITE LOCATIONS

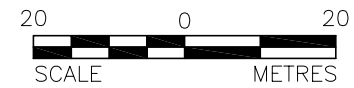
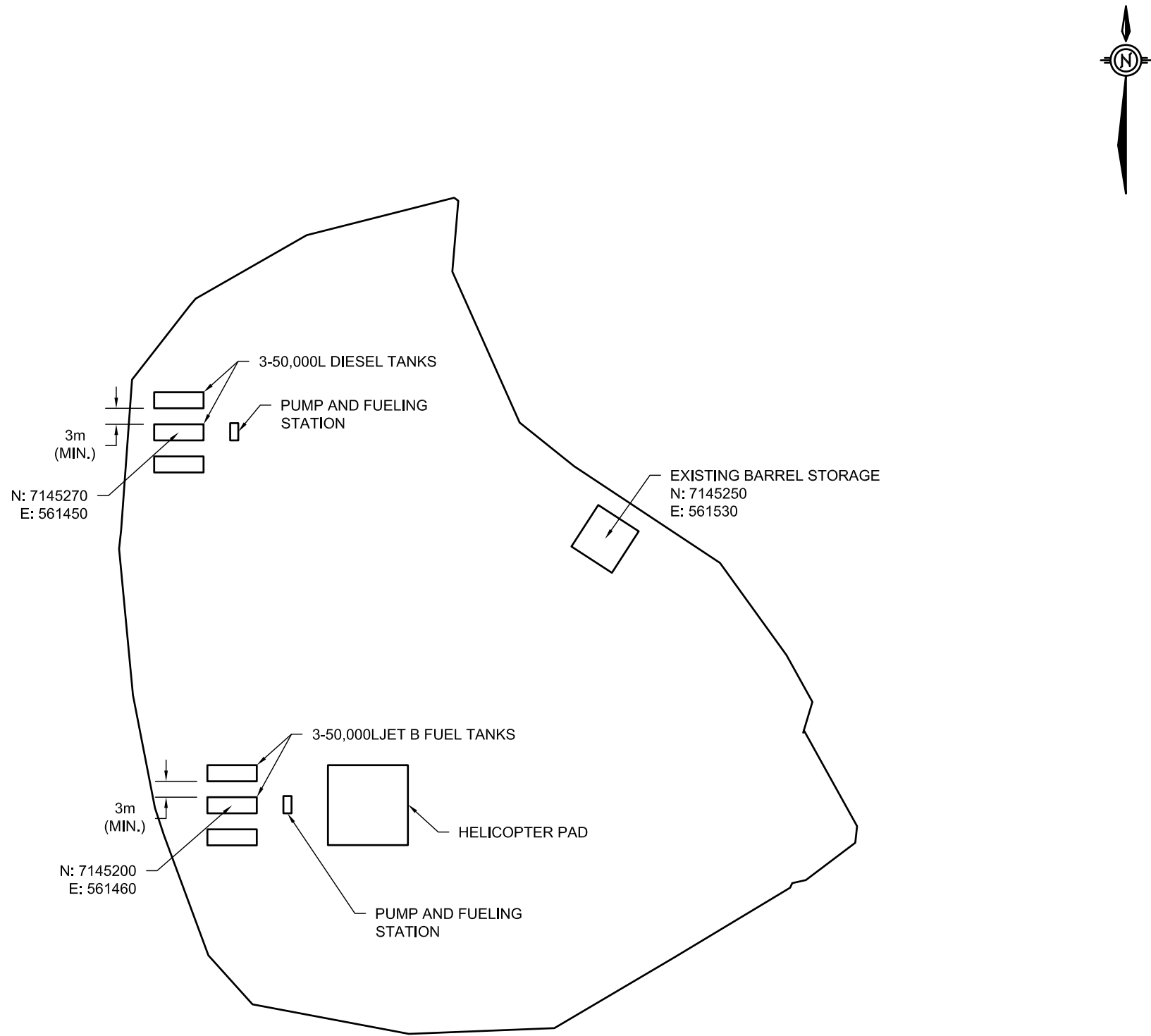




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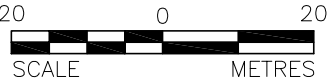
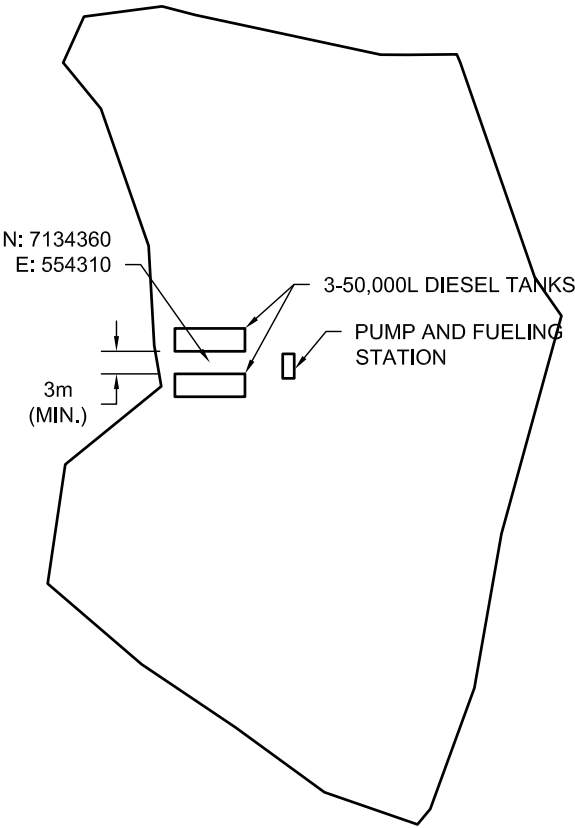
PROJECT	07-1362-0449	FILE No.
DESIGN		SCALE AS SHOWN
GIS	JRC	22/10/07
CHECK		
REVIEW		

FIGURE: 1


G:\2007\1362\07-1362-0449 AREVA Bulk Fuel Kiggavik\CAD\ Drawing file: Bulk Fuel Storage Locations.dwg Oct 31, 2007 - 4:04pm



PROJECT		 KIGGAVIK PROJECT			
TITLE		SITE 1			
 Golder Associates Saskatoon, Saskatchewan	PROJECT	07-1362-0449		FILE No.	
	DESIGN			SCALE	AS SHOWN
	CADD	RML	19/10/07	REV.	0
	CHECK			FIGURE: 2	
REVIEW					




PROJECT

 KIGGAVIK PROJECT

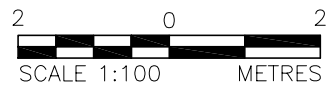
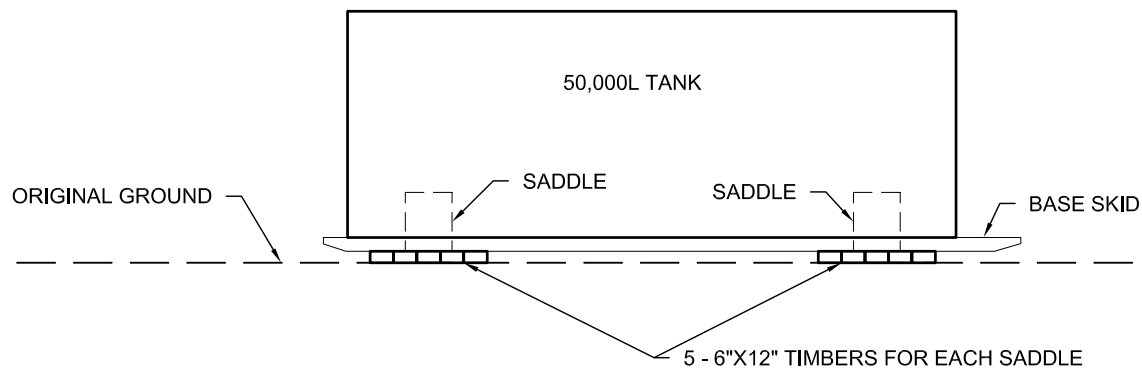
TITLE

SITE 2

 **Golder Associates**
Saskatoon, Saskatchewan

PROJECT	07-1362-0449		FILE No.	
DESIGN			SCALE	AS SHOWN
CADD	RML	09/10/07	REV.	0
CHECK			FIGURE: 3	
REVIEW				

G:\2007\1362\07-1362-0449 AREVA Bulk Fuel Kiggavik\CAD\ Drawing file: Bulk Fuel Storage tank.dwg Oct 31, 2007 - 3:48pm



PROJECT		 KIGGAVIK PROJECT	
TITLE		TANK SADDLE LOCATION	
 Golder Associates Saskatoon, Saskatchewan	PROJECT	07-1362-0449	FILE No.
	DESIGN		SCALE AS SHOWN REV. 0
	CADD	RML 19/10/07	
	CHECK		
	REVIEW		
FIGURE:4			

IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Standard of Care: Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practising under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

Basis and Use of the Report: This report has been prepared for the specific site, design objective, development and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. Any change of site conditions, purpose, development plans or if the project is not initiated within eighteen months of the date of the report may alter the validity of the report. Golder can not be responsible for use of this report, or portions thereof, unless Golder is requested to review and, if necessary, revise the report.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client can not rely upon the electronic media versions of Golder's report or other work products.

The report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. Golder can not be responsible for use of portions of the report without reference to the entire report.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. The extent and detail of investigations, including the number of test holes, necessary to determine all of the relevant conditions which may affect construction costs would normally be greater than has been carried out for design purposes. Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, safety and equipment capabilities.

Soil, Rock and Groundwater Conditions: Classification and identification of soils, rocks, and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.

IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT (cont'd)

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. **The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report.** The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated the soil must be protected from these changes during construction.

Sample Disposal: Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

Follow-Up and Construction Services: All details of the design were not known at the time of submission of Golder's report. Golder should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of Golder's report.

During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.

Changed Conditions and Drainage: Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.