
	<b>6212 – Hope Bay</b>	
	<b>DESIGN REPORT</b> 6212-692-210-TCR-001 <b>FRESH WATER INTAKE, PUMPING STATION AND PIPELINES AT WINDY LAKE NORTH</b>	

**6212-692-210-TCR-001\_R0**

(AtkinsRéalis Document No.: 704148-0000-40ER-0001\_00)

**DESIGN REPORT**

**Fresh Water Intake, Pumping Station and Pipelines at Windy Lake North**

Prepared by:

Verified by:

Approved by:

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Alexandre Mercille, P. Eng.  
 AtkinsRéalis  
 OIQ Member No. 5070546  
 NAPEG Member No. L2386

---

Mathieu Myrand, P. Eng. M.Sc.  
 AtkinsRéalis  
 OIQ Member No. 133602  
 NAPEG Member No. L4614

---

Anh-Long Nguyen, P. Eng.  
 AtkinsRéalis  
 OIQ Member No. 122858  
 NAPEG Member No. L2716

Accepted by:

Accepted by:

Accepted by:

---

Arnaud Fréchet, P.Eng.  
 Agnico Eagle  
 OIQ Member No. 6024206

---

Alex Gélinas, P.Eng.  
 Agnico Eagle  
 OIQ Member No. 5085546  
 NAPEG Member No. L4895

---

Sam Gordon  
 Agnico Eagle  
 Permitting Specialist Aquatics

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**APPENDICES**

**Appendix A: Construction Drawings**

**Appendix B: Windy Lake Bathymetric Survey**

**Appendix C: P&ID Drawings**

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## ACRONYMS & ABBREVIATIONS

Acronyms/Abbreviations	Definition
Agnico Eagle	Agnico Eagle Mines Limited
CSP	Corrugated Steel Pipe
HDPE	High-Density Polyethylene
LAHH	Level Alarm High High
LSHH	Level Switch Low Low
LSLL	Level Switch High High
NWB	Nunavut Water Board
PTP	Potable Treatment Plant
ROQ	Run-of-quarry
VSD	Variable Speed Drive

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## 1. INTRODUCTION

### 1.1 Site Location and Access


The **Hope Bay property** is in the Kitikmeot region of Nunavut, Canada, approximately 685 km northeast of Yellowknife and 125 km southwest of Cambridge Bay. The property spans 191,342 hectares and includes portions of the Hope Bay and Elu greenstone belts. The 80-km-long Hope Bay greenstone belt hosts three main gold deposits: Doris, Madrid, and Boston.

Agnico Eagle Mines Limited (Agnico Eagle) acquired the Hope Bay property in February 2021. The project has significant infrastructure, including underground mining development at the Doris and Boston deposits, a processing plant with a capacity of 2,000 tons per day, airstrips, a port, and an all-weather road network.

Figure 1-1 shows the location of the project in the Nunavut region.



**Figure 1-1: Project Location**

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**1.2 Existing and Future Site Facilities**

Since taking over, Agnico Eagle has focused on exploration activities, particularly at the Doris and Madrid deposits. The company aims to upgrade and expand mineral resources, with ongoing drilling programs targeting high-potential areas. As of December 31, 2023, Hope Bay hosts proven and probable mineral reserves of 3.4 million ounces of gold. The site development involves new civil constructions, such as pads for ore storage, diversion berms, roads and others. The capacity of the gold concentrator will also be increased.

An existing pumping station is already installed on Windy Lake to supply water via tanker trucks to Doris Camp. A Goodwin HL100M centrifugal diesel pump is used to pump water into tanker trucks. Two suction water lines collect water from the lake. According to the existing license awarded by the Nunavut Water Board (NWB), the maximum quantity of water that can be taken from Windy Lake for domestic use is 43800 m<sup>3</sup>/year.



**Figure 1-2: Existing Fresh Water Intake Facility**

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The following picture shows the location of the existing pumping station in the southern portion of Windy Lake, near the Madrid deposit.



**Figure 1-3: Location of existing and new Fresh Water Intake Facility**

A new fresh water intake is required to sustain the current water supply and accommodate potential increases (subject to water license approval) at the Doris Camp, primarily for potable and domestic use. In addition, Agnico Eagle intends to eliminate water trucking by pumping water directly from Windy Lake to the new potable treatment plant (PTP) at the Doris camp. To support this objective, the new Fresh water Intake Facility will be in the northern portion of Windy Lake as can be seen in Figure 1-3. The new pump system will be electrically driven rather than diesel-powered.

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### 1.3 Purpose of the Document

This report includes the final design and construction drawings for the fresh water intake, pumping station and associated pipelines into Windy Lake. The location of the pumping station is referred to as Windy Lake North.

This report also details the environmental conditions characterizing the lake where the water intake will be installed.

### 1.4 Scope of Work

AtkinsRéalis was retained by Agnico Eagle to design the fresh water intake, pumping station and associated pipelines. AtkinsRéalis is also responsible for the design of the access road and the pad located on the shore of Windy Lake.

This report presents the design of the fresh water intake, pumping station and associated pipelines. Corresponding construction drawings are provided in Appendix A.

## 2. GENERAL SITE CONDITIONS



### 2.1 Climate and Meteorology

The Project is located in the Kitikmeot district of Nunavut and lies well within the Arctic tundra climate region. This high Arctic setting is characterized by extreme seasonal variations in daylight, ranging from near-continuous darkness in winter to continuous daylight in summer. The climate is extreme with long cold winters and short cool summers. The extreme high temperature is 29°C and an extreme low is -52°C.

Total annual precipitation in the region is relatively low, typically on the order of 150 to 250 mm/year, reflecting the polar desert to low-precipitation Arctic tundra conditions. Most of the precipitation falls as snow, with snowfall dominating the annual water balance. Rainfall is generally limited to the short summer period. Evaporation rates are low due to cool temperatures and limited open-water season, with most evaporation occurring between June and August.

Snow processes strongly influence the hydrologic regime. Redistribution of snow by wind and sublimation losses is significant, with a substantial proportion of winter precipitation lost or relocated across the landscape between October and May.

The region is also characterized by persistent and often strong winds, influenced by the exposed, sparsely vegetated terrain and proximity to Arctic coastal systems. Prevailing winds are generally from the northwest to north sectors. Wind speeds are typically moderate to strong and higher gusts occurring during storm events.

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**2.2 Permafrost**

The project site is located within the Northern Arctic terrestrial ecozone in the Kitikmeot Region of Nunavut, a region characterized by very cold and dry climatic conditions and the presence of continuous permafrost. Permafrost is expected to be continuous and extensive beneath the site, with a typical thickness in the high Arctic commonly exceeding several hundred metres. Permafrost in the project area extends to depths of about 570 m (TMAC Resources, 2017). Active layer thickness generally ranges from approximately 0.5 m to 1,4 m in areas of thin overburden and exposed bedrock. Thicker active layers may occur in areas with coarse-grained materials, organic soils, or where thermal disturbance is present.

In areas adjacent to lakes, rivers, or zones of flowing groundwater, the active layer is expected to be locally deeper due to the thermal influence of water bodies and reduced permafrost stability. Similarly, snow accumulation and drift may also lead to localized thickening of the active layer.

**2.3 Topography and Lakes**

Permafrost soils are comprised mainly of marine clays, silty clay and clayey silt, with pockets of moraine till underlying these deposits (TMAC Resources, 2017). The most prevalent rock type on site with surface exposure is mafic volcanic, predominantly basalt. The marine silts and clays contain ground ice on average, ranging from 10 to 30% by volume, but occasionally as high as 50%. The till typically contains low to moderate ice contents ranging from 5 to 25%.

The property is located in a low-lying topography with numerous lakes. Surface waters are usually frozen by early October and remain frozen until early June. The lake’s surface elevation of Windy Lake is 18,34 masl and the max depth is 21,2 m. The maximum baseline ice thickness of Windy Lake is 1.9 m.

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## 2.4 Land Survey and Lake Bathymetric Data

A 2 m contour lake bathymetric data for selected lakes at the project site were provided to AtkinsRéalis by Agnico Eagle. Those data were incorporated into the original digital map for the design of infrastructure in this report.

The Windy Lake bathymetric survey conducted by Golder Associates (October 2006) is attached to Appendix B.



## 3. DESIGN OF THE FRESH WATER INTAKE

### 3.1 Water Intake Location and Design Concept

The fresh water intake is going to be installed in Windy Lake. It will consist of two (2) 72 m long insulated and heat traced HDPE pipes (DR11) with a diameter of  $\varnothing 150$  mm. The pipes are lying and anchored to the bottom of the lake with concrete ballasts. The suction lines will be insulated and heat traced to prevent freezing from the pumping station up to the water intake.

Two (2) suction cages will be installed at the submerged end of the intake pipeline at the bottom of Windy Lake. The cages will be constructed of stainless steel to eliminate the need for protective coatings and prevent the potential release of paint chips into the intake system. The water intake portion of the cages will consist of wedge wire screens with a 2.5 mm slot opening designed to prevent fish impingement, in accordance with the requirements of the Department of Fisheries and Oceans (DFO, 1995). Considering all fish species and a design flow rate of 3.6 L/s using the [End-of-Pipe Screen Size Tool](#), the required effective screen area is 0.10 m<sup>2</sup>. Assuming an open area of 45% of the wedge wire screen, the corresponding gross screen area is 0.22 m<sup>2</sup>. The suction cage shown in Appendix A provides an actual wedge wire surface area of 2.68 m<sup>2</sup>, which exceeds the required area and meets the applicable design criteria. The intake point will be elevated 1 m above the bottom of Windy Lake to prevent sediment entrainment and will be positioned below the ice level, at a location maintaining a minimum year-round water depth of 5 m.

Details about the intake location and design concept can be found in Appendix A.

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## **4. DESIGN OF THE PUMPING STATION**

### **4.1 General**

A pumping station will be installed along the shoreline to pump fresh water from Windy Lake to the potable water treatment plant (PTP) located at Doris Camp.

### **4.2 Pump narrative**

Two pumps will be installed in the pumping station for the duration of the project. One will be operating while the second one will be on standby in case of a failure of the operation pump. The pumps operate in alternating duty/standby mode to provide redundancy and ensure continual operational readiness. They also allow for balanced usage and reduced wear over time.

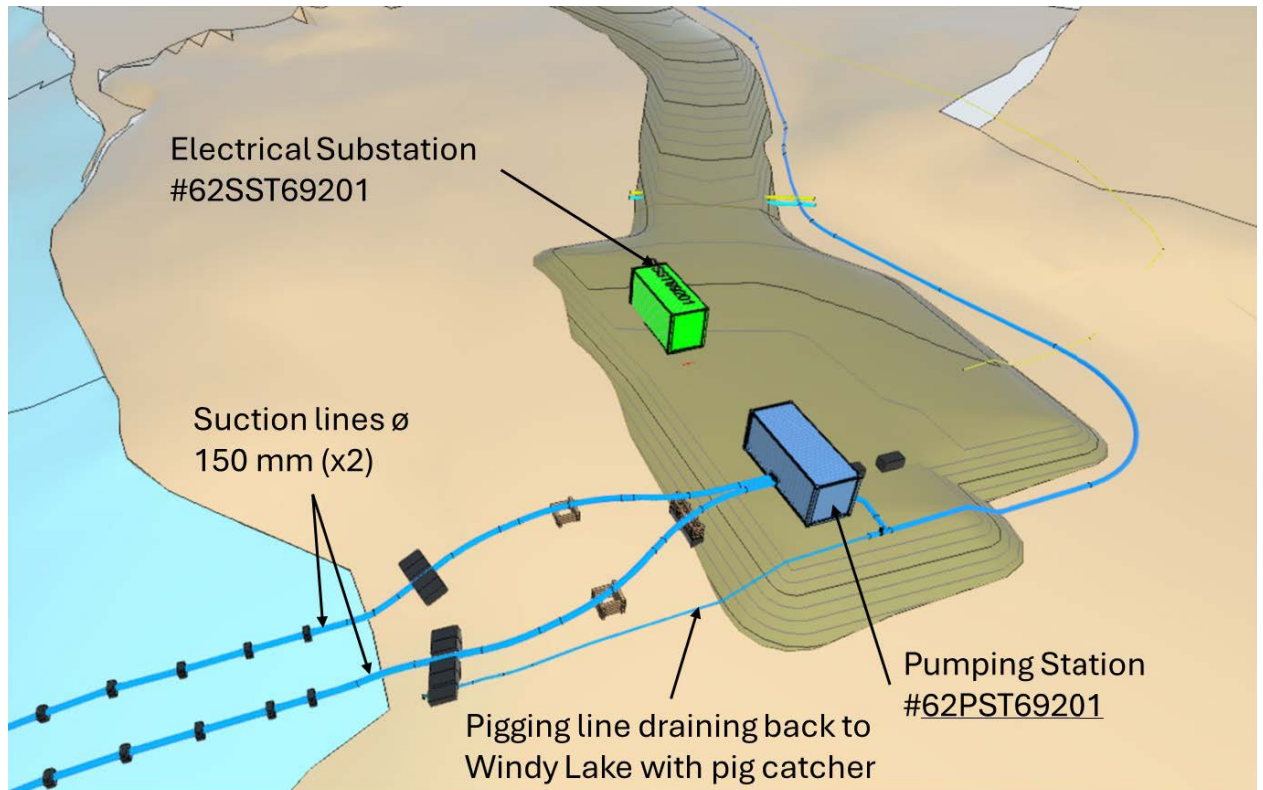
The maximum amount of water to pump each day will be 210 m<sup>3</sup> which gives a mean flow of 8,75 m<sup>3</sup>/h. The design flow value for the selected pump is 13 m<sup>3</sup>/h at 107 m of head pressure.

### **4.3 Pumping Station**

All mechanical and electrical pumping station equipment will be housed in a heated and insulated enclosure, a 20-foot container.

Electrical equipment (e.g., control panels, junction boxes, soft starters, etc.) will be separated from the mechanical equipment (e.g., pumps, isolation valves, piping, piping accessories, etc.) and installed in a separate container (substation 62SST69201) as can be seen in the picture below.

The elevation of the inlet of the pumps is approximately 5 metres higher than the water level of Windy Lake. Instead of using self-priming pumps, an automatic vacuum priming system (Q-VAC) was selected to be able to use regular vertical multistage centrifugal pumps with improved efficiency, a key advantage in a mining environment where reliability and energy efficiency are critical.




**Figure 4-1: Electric Substation and Pumping Station at Windy Lake North**

In the mechanical enclosure (62PST69201), the two (2) centrifugal pumps will be installed.

The enclosure has been designed in accordance with site-specific conditions and design parameters (including temperature, wind loads, and snow loads) defined in Agnico Eagle's general guidelines, ensuring suitability for the harsh climatic conditions of Nunavut.

The enclosure will be installed on a level, compacted coarse gravel pad using clean material. All surfaces will be coated in compliance with Agnico Eagle requirements to provide long-term corrosion protection throughout the service life.

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#### 4.4 Piping


The piping manifolds within the pumping station will be fabricated from steel in schedule 40 and fitted with Victaulic connections to allow for ease of dismantling during maintenance. All piping shall be hydrostatically tested at the manufacturing facility to verify leak tightness.

#### 4.5 Controls

The pumping station control system is designed to fill the raw water tank (62TNK46101) located at the PTP. The water tank is equipped with a level probe (LT), a low-level switch (LSLL) and a high-level switch (LSHH). The pump starts when the low level setpoint (LIC1) is triggered and stops when the high level setpoint (LIC2) is reached. The pumps operate at a fixed speed, with no variable speed drive (VSD). Upstream of the PTP, a container fitted with pre-filters will be installed. This container includes a motorized on/off valve that automatically shuts off the incoming flow upon activation of the high-high level switch (LSHH) or in the event of a communication loss with the PLC.

A flowmeter is installed inside the pump station 62PST69201. Refer to P&ID drawing No. 62-692-205-001 and No. 62-692-205-004 in Appendix C for additional details.

A local PLC located at electrical substation 62SST69201 is used to monitor and control all instruments and equipment. A local HMI is also provided for on-site operation. The PLC is connected to the plant control system via a fibre-optic network, allowing monitoring and control of parameters from remote locations.

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**5. DESIGN OF THE PIPELINES**

The fresh water intake pumping station at Windy Lake North conveys water to the PTP near Doris Camp through approximately 6,100 m of pipeline, extending from pumping station 62PST69201. An initial pipeline section of approximately 72 m conveys water from Windy Lake to the pumping station located along the shoreline. From the pumping station, water is pumped through a 6,023 m pipeline to the raw water tank at the PTP.

All piping is insulated and heat traced to ensure reliable operation under Arctic conditions.

**5.1 Above-ground pipelines**

The above-ground pipeline section is approximately 6,023 m in length and consists of a 100 mm diameter HDPE pipe. It is installed directly on the tundra surface at the toe of the roads, following the alignment of the D10 (Doris–Windy Lake) road and the M16 (Windy Lake Fresh Water Pumping Station Access) road to the PTP. The pipeline is fully insulated and equipped with heat tracing. Road crossings are achieved using pipe sleeves constructed from CSP culverts. Combination air/vacuum valves are installed to accommodate transient hydraulic conditions within the system.

Prior to installation, sharp rocks and coarse materials are cleared from the pipeline route to minimize the risk of damage, including punctures and premature wear. The pipeline system is designed to be fully watertight. Therefore, no significant environmental impacts are anticipated during operation. Flanged connections are minimized, with fusion joints preferred to enhance system integrity.

**5.1.1 Pigging**

The pipeline profile between pumping station 62PST69201 at Windy Lake North and the PTP at Doris Camp includes multiple high and low points. As a result, the pipeline cannot be fully drained by gravity. In addition, the total volume of water contained within the line exceeds the storage capacity of the raw water tank, making direct discharge to the PTP impractical without risk of overflow.

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To address this, the pipeline is designed to allow water to be returned to Windy Lake. If the draining of the line is required, a foam pig will be launched from the PTP using compressed air, pushing the water back toward the lake. An in-line pig catcher is installed near pumping station 62PST69201 to prevent the pig from being discharged into the lake. A dedicated discharge outlet to the lake is also incorporated into the pipeline to facilitate pigging operations, as shown in Figure 4-1

**5.2 Submarine pipeline**

The submerged portion of the suction line is approximately 51 m in length (out of a total 72 m from the intake to the pumping station) and consists of a 150 mm diameter HDPE pipe. A construction and service pad is established near the shoreline at approximately 15 m from the high-water mark to provide a level working surface for material staging and equipment operation. This approach minimizes disturbance to the surrounding terrain. Only essential infrastructure related to the intake will be built within 31m of the high-water mark. Additional details regarding the construction pad are provided in section 6.1 of this report.

The suction pipeline components, including the fish screen and ballast system, are assembled onshore prior to deployment. The assembled pipeline is then launched into the water, where it initially floats due to trapped air. Once properly positioned, the line is progressively flooded to achieve controlled submergence and is placed in its final configuration on the lakebed.

**5.3 Material**

All materials selected for the pipeline system are compliant with applicable health, safety, and environmental requirements and are not expected to pose any associated hazards. Material selection has been based on the chemical and mechanical properties required to withstand process conditions and the harsh climatic environment of Nunavut, including considerations such as corrosion resistance and minimum operating temperatures.

**5.3.1 Pipeline**

All pipelines and flanges are made of HDPE DR11 PE4710 pipes, with stub-end and ductile iron back-up ring epoxy coated.

**5.3.2 Heat tracing and Insulation**

To ensure freeze protection under Arctic conditions, all piping is insulated and fitted with heat tracing.

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Above ground pipes are pre-insulated with 75 mm (3") thick standard U.I.P.® urethane factory installed, an external black polyethylene cover .125" thick, one (1) heat trace channel and one (1) additional channel for spare heat trace.

Submerged pipes are pre-insulated with 75 mm (3") thick U.I.P.® system insulation factory-installed, a black polyethylene outer jacket, 3 integrated 3/4" copper conduits with watertight end caps (2 for heating cables and 1 for sensors).

### **5.3.3 Flanges, valves and accessories**

Above-ground sections installed outside are butt-fused HDPE, with flanged connections provided at each end. Within the pumping station, piping systems are constructed from steel, utilizing Victaulic-type mechanical couplings for ease of installation and maintenance.

### **5.3.4 Earthen Berms, Thrust Blocks and Ballast**

Pipeline anchoring is achieved using earthen berms in areas not subject to flooding. These berms are constructed using overburden or other suitable materials, provided they are free of sharp particles that could damage the pipeline. In locations where earthen berms are not feasible, precast concrete blocks and ballast systems of various configurations are used to secure both terrestrial and submerged pipeline sections. These factory-manufactured ballast units are considered to have no significant environmental impact. See Appendix A for the drawing of the ballast.

### **5.3.5 Expansion joints**

The inherent flexibility of HDPE piping allows the system to absorb thermal expansion and contraction stresses, eliminating the requirement for expansion joints.


### **5.3.6 Culvert sleeves**

Given the length of the pipeline, crossings of haul roads and access roads will be required. At these locations, galvanized corrugated steel sleeves (CSP) are installed to protect the pipeline, support traffic loads, and maintain system integrity.

## **5.4 Instrumentation**

### **5.4.1 Level probe**

Considering the water intake being a lake, the level probe is not required for this design.

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#### 5.4.2 Flowmeter

Flow measurement is provided by a magnetic flowmeter installed downstream of the pumps. The unit consists of a Rosemount Model 8705 flow tube (ø2-inch diameter) paired with a model 8712E transmitter, field-mounted. The flowmeter is integrated into the control system via a programmable logic controller (PLC), where flow data is recorded and monitored. The flowmeter is installed inside the pumping station 62PST69201.

#### 5.4.3 Pressure transmitter

A pressure transmitter is installed at the downstream of the pumps to measure pressure in real time and manage deviation in pump operation (i.e. pressure too low or pressure too high).

### 6. CONSTRUCTION

#### 6.1 Construction Pad on Windy Lake shore

To minimize land disturbance during construction, a construction pad will be built close to the shore of Windy Lake. This area will further be used as an operation and maintenance pad for the pipeline and fresh water intake. The main purpose of the pad is to define a limited area of work for shore activities, reducing the risks of environmental or health and safety issues. Since the pumping station will be installed at approximately 20 m from the Windy Lake water level, this pad will therefore be located within 15 m of the shore of Windy Lake. Refer to drawing 62-MAN-417-230-000-008 and 62-MAN-417-230-000-009 in Appendix A for the exact location. The location of the pad and its proximity to the edge of the water will allow safe access to the lake and installation of the submerged section of the pipelines as well as the fresh water intake.

Drawing 62-692-270-002 in Appendix A shows an overview of the pipeline and fresh water intake system.

No archaeological sites have been documented near the construction site.

#### 6.2 Earth Work Construction Material Specifications

The general requirements for the materials are specified below. Two layers of material will be added on top of the existing ground: an upper foundation of crushed stones will lay on top of a run-of-quarry foundation made of boulders, as shown in Figure 6-1.





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DESCRIPTION :	
①	 UPPER FOUNDATION : CRUSHED STONES 0-38 mm, COMPACTED TO 95% S.P.M.D.D. - 150 mm THICKNESS ESTIMATED QUANTITY : 85 m <sup>3</sup>
②	 RUN-OF-QUARRY (ROQ) : BOULDER ≤600 mm MINIMUM THICKNESS 850 mm ESTIMATED QUANTITY : 695 m <sup>3</sup>
<b>NOTE :</b> ALL MATERIAL MUST BE COMPETENT, WELL GRADED AND COMPACTABLE, NON-ACID-GENERATING ROCK, FREE OF ORGANIC MATTER, FROZEN SOIL, SNOW AND ICE.	

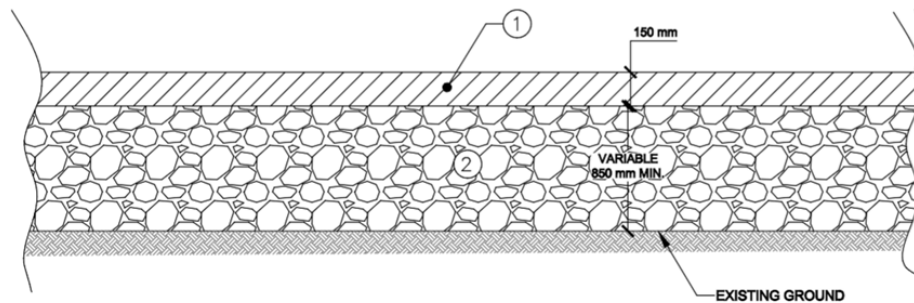


Figure 6-1: Earth Work Construction Detail

6.2.1 Class A borrow material from Quarry D

The rock fill required for earth work construction will be sourced from the construction of CWP 3, near Quarry D.

6.2.2 Construction Material Quantities

The table below presents the earthwork material quantities for the construction of the fresh water intake area at Windy Lake North.

Item	Pad
Run-of-Quarry (0-600 mm)	710 m <sup>3</sup>
Surfacing Material (crushed stones, 0-38 mm)	85 m <sup>3</sup>
<b>Total Fill Material Volume</b>	<b>795 m<sup>3</sup></b>

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### 6.3 Construction Equipment

The following construction equipment will be used to build the pad and assemble the Windy Lake North pump station:

- CAT 374 Excavator
- John Deere 470 Excavator or similar sized equipment
- CAT 745 Rock Trucks or similar sized equipment
- CAT D8 Dozer
- CAT 14H Grader

### 6.4 Construction Schedule

The in-water works at Windy Lake are dependent on the delivery of components via sealift, with vessel arrivals expected between early August and early September.

Construction of the in-water components is currently scheduled for September or October 2026, which falls outside Zone 2 in-water work window. The project will be submitted to Fisheries and Oceans Canada (DFO) for review. While the activities will occur within a restricted in-water work window, Agnico Eagle is confident that the proposed construction methods and appropriate mitigation measures will effectively avoid impacts on fish and fish habitat.


Construction of the land-based components, including the pumping station and pipelines extending to the Doris potable water treatment plant, is planned for completion by Q4 2026.

### 6.5 Construction Quality Control/Assurance and Survey

A quality control/quality assurance (QC/QA) program will be implemented during the construction of all infrastructure components to ensure that construction-sensitive aspects of the design are properly executed.

Upon completion of construction activities, an as-built report will be prepared and submitted to the regulatory authorities within 90 days. The report will include all relevant supporting documentation.

Surveying activities will be carried out by Agnico Eagle to document as-built conditions, including excavations, fills, and material interfaces, and to support the preparation of the as-built report.

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	<b>DESIGN REPORT</b> 6212-692-210-TCR-001 <b>FRESH WATER INTAKE, PUMPING STATION AND          PIPELINES AT WINDY LAKE NORTH</b>	

## 6.6 Testing and Inspection

The above-ground pipeline will be inspected and tested at fusion welds and flange joints prior to commissioning. Any deficiencies or leaks identified will be repaired, and the affected sections will be retested to confirm proper sealing. A hydrostatic pressure test is not proposed. Given that the pipeline conveys clean raw water directly from the source lake, system integrity will instead be verified through controlled in-service testing during commissioning under normal operating conditions. This approach will allow for confirmation of leak tightness and overall system performance without the need for introducing or discharging additional test water. Any issues identified during commissioning will be promptly addressed prior to full operation.

Fusion welding and inspection activities will be carried out in accordance with ASTM F2620 and applicable industry best practices (including guidance from the Plastic Pipe Institute).

Following commissioning, annual inspections will be performed by Agnico Eagle personnel to verify ongoing pipeline integrity. Routine inspections of the intake pipeline will also be conducted by the Site Services Department to monitor for any signs of leakage.

## 7. OPERATIONAL AND CLOSURE CONSIDERATIONS


The principal operational considerations for Windy Lake North pump stations shall include as a minimum the following:

- Monitoring of flow rate and volume pumped on a daily basis.
- Monitor pump operation and perform maintenance as needed.
- Monitor heat-tracing system operation.
- During prolonged pump shutdown, drainage of the line.

Closure activities for Windy Lake North pump stations will be carried out in accordance with the Interim Closure and Reclamation Plan.

## 8. NOTICE TO READER

This report has been prepared and the work referred to in this report has been undertaken by AtkinsRéalis Canada Inc. (AtkinsRéalis), for the exclusive use of Agnico Eagle Mines Ltd., who has been party to the development of the scope of work and understands its limitations. The methodology, findings, conclusions and recommendations in this report are based solely upon the scope of work and subject to the time and budgetary considerations described in the proposal and/or contract pursuant to which this report was issued. Any use, reliance on, or decision made by a third party based on this report is the

	<b>6212 – Hope Bay</b>	 <b>AGNICO EAGLE</b>
	DESIGN REPORT 6212-692-210-TCR-001 FRESH WATER INTAKE, PUMPING STATION AND PIPELINES AT WINDY LAKE NORTH	

sole responsibility of such third party. AtkinsRéalis accepts no liability or responsibility for any damages that may be suffered or incurred by any third party as a result of the use of, reliance on, or any decision made based on this report.

The findings, conclusions and recommendations in this report (i) have been developed in a manner consistent with the level of skill normally exercised by professionals currently practicing under similar conditions in the area, and (ii) reflect AtkinsRéalis' best judgment based on information available at the time of preparation of this report. No other warranties, either expressed or implied, are made with respect to the professional services provided to Agnico Eagle Mines Ltd. or the findings, conclusions and recommendations contained in this report. The findings and conclusions contained in this report are valid only as of the date of this report and may be based, in part, upon information provided by others. If any of the information is inaccurate, new information is discovered or project parameters change, modifications to this report may be necessary.

This report must be read as a whole, as sections taken out of context may be misleading. If discrepancies occur between the preliminary (draft) and final version of this report, it is the final version that takes precedence. Nothing in this report is intended to constitute or provide a legal opinion.

The contents of this report are confidential and proprietary. Other than by Agnico Eagle Mines Ltd., copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of Agnico Eagle Mines Ltd. and AtkinsRéalis.

## 9. REFERENCES

AtkinsRéalis, (2026), Scope of Work – Pumping Station – Water Management, N/Ref: 6212-S-265-048-SOW-001.

Agnico Eagle, (2024), Doris-Madrid Water Management Plan – Hope Bay Project, Version 18.

TMAC Resources, (2017), Hope Bay Project: Windy Lake North Fresh water Intake Preliminary Design, N/Ref: 1CT022.013.

Golder Associates, (2006), Bathymetric Surveys – Hope Bay Project – Hope Bay, Nunavut, N/Ref: 06-1419-007.

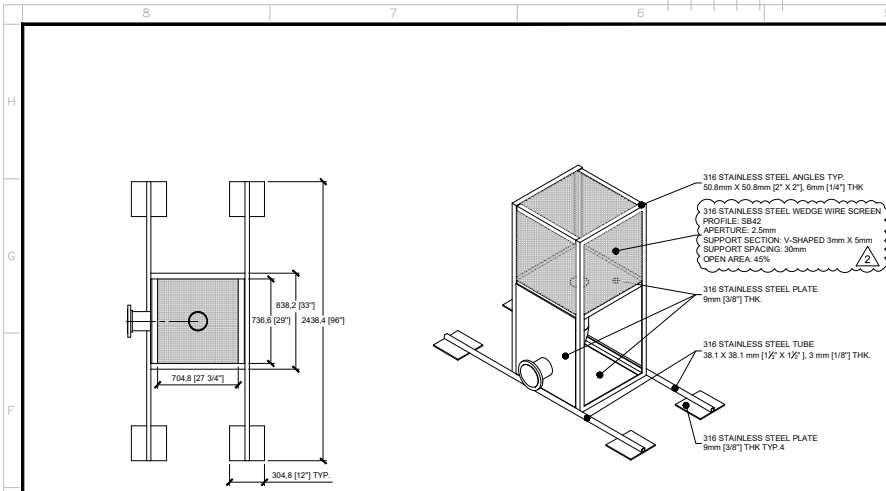
Department of Fisheries and Oceans, (1995), Fresh water Intake End-of-Pipe Fish Screen Guideline.

 <p>AtkinsRéalis</p>	<b>6212 – Hope Bay</b>	 <p><b>AGNICO EAGLE</b></p>
	DESIGN REPORT 6212-692-210-TCR-001 FRESH WATER INTAKE, PUMPING STATION AND PIPELINES AT WINDY LAKE NORTH	

## **APPENDIX A:**

# **CONSTRUCTION DRAWINGS**





PLAN VIEW  
SCL:1:20

ISOMETRIC VIEW  
SCL:1:20

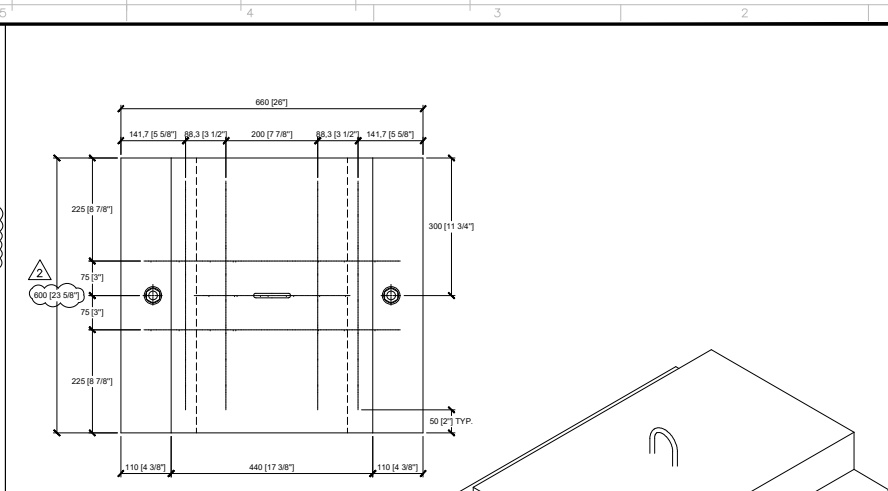
**DESIGN CRITERIA:**

BASED ON FRESHWATER INTAKE END-OF-PIPE FISH SCREEN TOOL AND END-OF-PIPE SCREEN MANUAL, FISHERIES AND OCEANS CANADA, 1995.

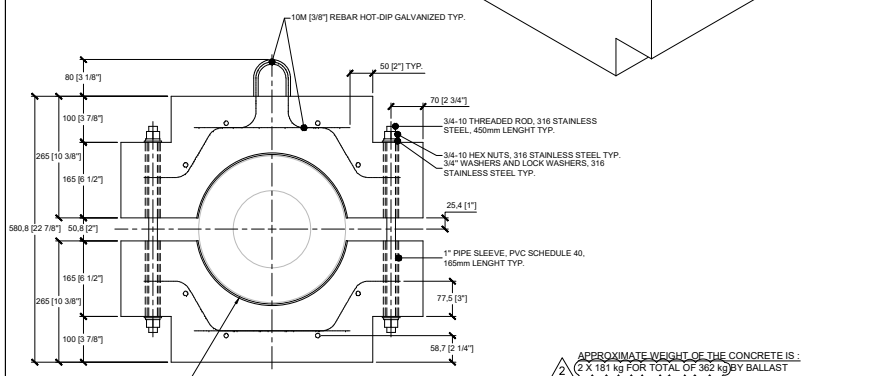
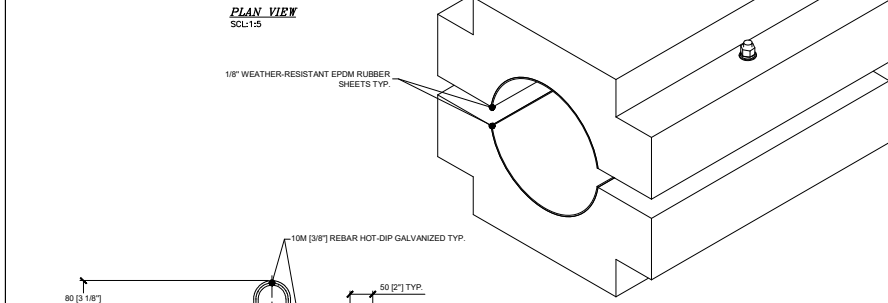
- DESIGN FLOW: 11 m<sup>3</sup>/h (48 USGPM)
- MESH (2% OPENING)
- EFFECTIVE SCREEN AREA REQUIRED (FROM TOOL): 0.09m<sup>2</sup> (0.97 ft<sup>2</sup>)
- REQUIRED MESH AREA (COR. 2.15m<sup>2</sup>)
- ACTUAL MESH AREA: 2.68m<sup>2</sup> (28.9 ft<sup>2</sup>)

**OTHER SPECIFICATIONS:**

- 2X LIFTING LUG WITH 2000LB CAPACITY.
- 1X TOP DOOR ACCESS WITH WELDED HINGES AND LOCK.

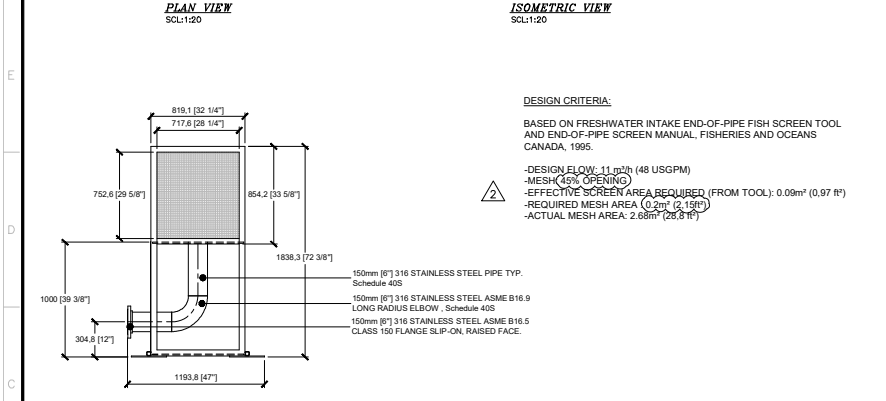


PLAN VIEW  
SCL:1:5



FRONT VIEW  
SCL:1:5

APPROXIMATE WEIGHT OF THE CONCRETE IS:  
2 X 181 kg FOR TOTAL OF 362 kg BY BALLAST



ELEVATION VIEW  
SCL:1:20

INTAKE DETAIL 1  
SCL: 1:20  
QTY: 2

BALLAST DETAIL 2  
SCL: 1:5  
QTY: 32



455, René-Lévesque Blvd West  
Montreal (Quebec) H2Z 1Z3  
Phone: 514 383-1000

Project # : 2024-06-15-000-48200-0009  
Contract

**NOTES GÉNÉRALES / GENERAL NOTES**

1. CONTOURS, ELEVATIONS, COORDINATES ARE IN METERS. DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. COORDINATE SYSTEM IS UTM NAD83 ZONE 13.



DESIGN IN REFERENCE / REFERENCE DRAWINGS

NO.	DATE	TITLE	BY	CHK



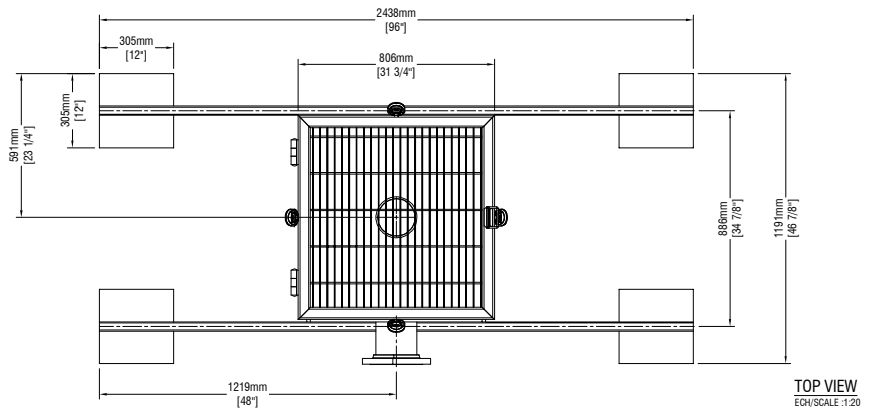
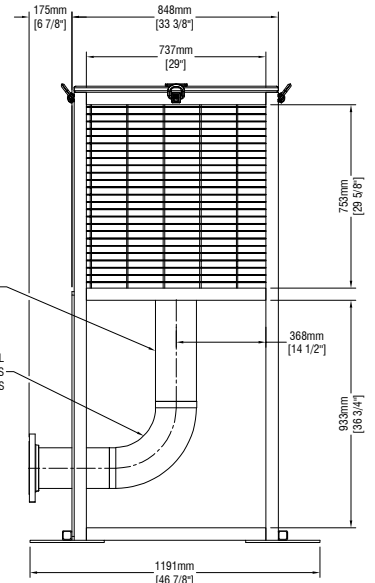
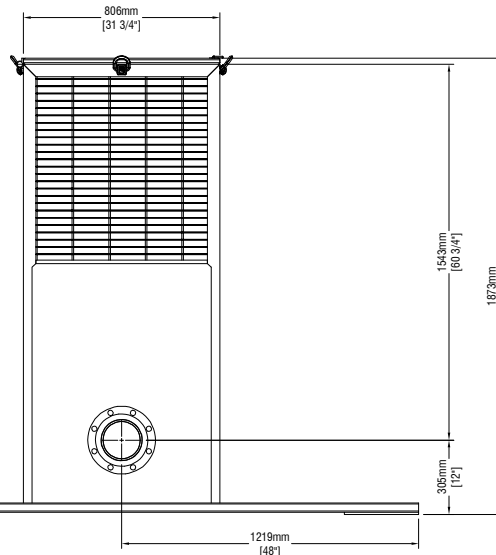
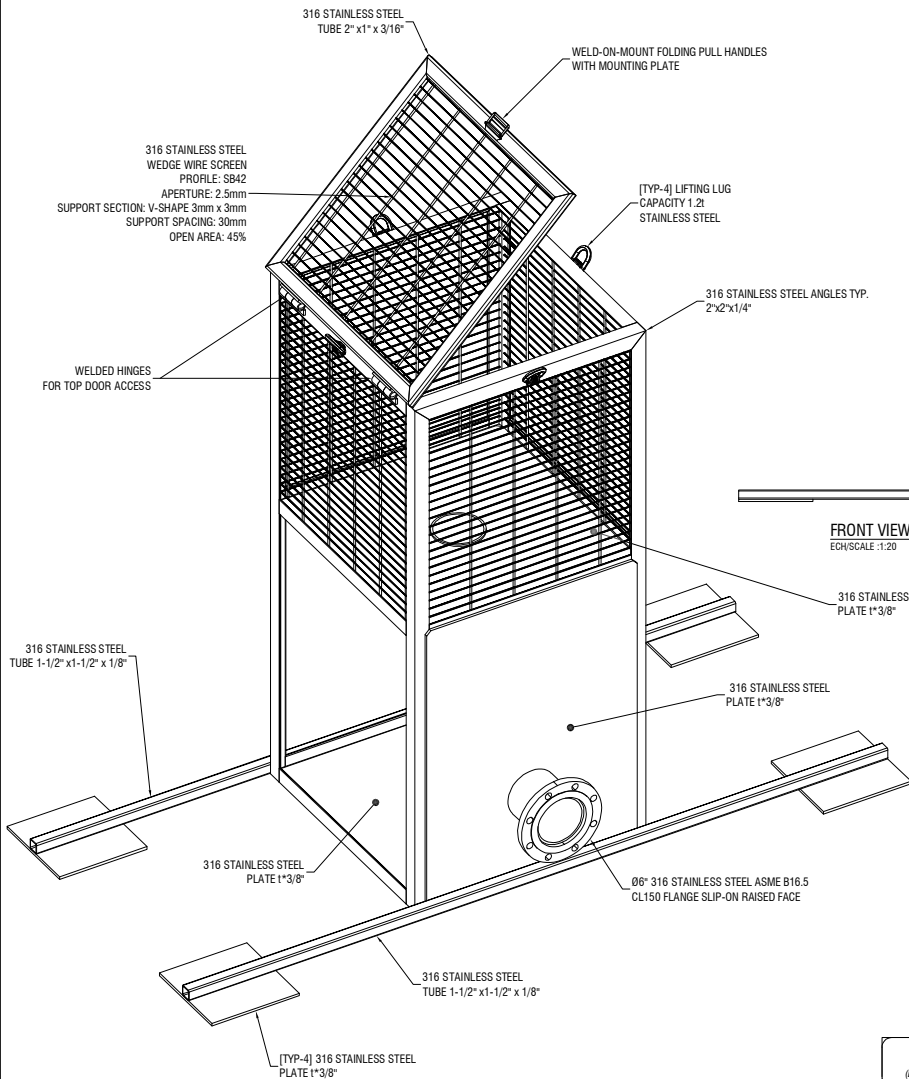
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1	2026-06-10	ISSUED FOR PERMITTING	P.A.	M.A.
0	2026-06-08	ISSUED FOR TENDER	P.A.	M.A.



DATE / TITLE  
AGNICO EAGLE - HOPE BAY DIVISION  
692 - FRESH WATER PUMPING STATION  
270 - PIPING  
PIPING DETAILS  
WINDY LAKE NORTH SUCTION PIPE

PERMIT TO PRACTICE  
ATKINSRÉALIS CANADA INC.  
Signature: *M. Nguyen*  
Date: 2026-06-15  
PERMIT NUMBER: P 260  
NFTM (Association of Professional Engineers and Geoscientists)

NO. DESIGN DRAWING NO.	62-692-270-002
NO. PROJECT	6212
REVISION	2 / 2



**NOTE:**  
1- TOTAL ESTIMATED WEIGHT 338kg (745 Lbs)  
2- DO NOT USE FOR CONSTRUCTION. DIMENSIONS ARE SUBJECT TO MINOR CHANGE UNTIL STRUCTURAL DESIGN HAS BEEN COMPLETED

**NE PAS UTILISER POUR CONSTRUCTION**  
(DO NOT USE FOR CONSTRUCTION)

**PRELIMINAIRE**  
(PRELIMINARY)

REV	DATE	DESCRIPTION	INT.	J.P.
A	2026-04-13	ISSUED FOR COMMENTS	I.G.	J.P.

**TechnoSub**

1188 AVENUE LAWRENCE  
ROCHER, QUEBEC, QC  
CANADA J3L 4K3

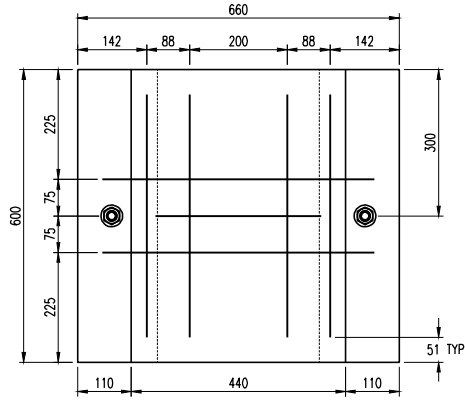
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F: 514 797-3300  
R: 514 797-2800  
W: WWW.TECHNOSUB.NET

PROJET/PROJECT: 1.20  
CONCEPTION/DESIGN: J.PEPIN; Eng. I.GUARO  
VERIFICATION/REVIEW: J.PEPIN; Eng. A.-P.MALTAIS; P.Eng.

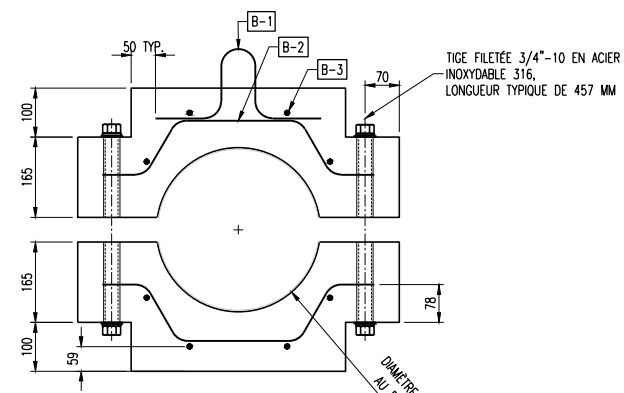
CLIENT	AEM-HOPE BAY		
TITRE / TITLE	PUMPING STATION - WATER MANAGEMENT WATER INTAKE CAGE		
ECHELLE / SCALE	1:20	# DESSIN / DRAWING #	P2603231-0010
REVISION	A		



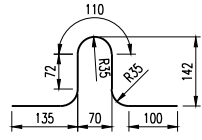
NOTE:  
-BÉTON 35 MPa



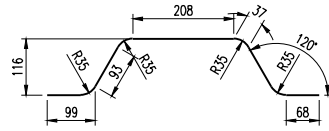
VUE EN PLAN



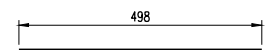
VUE D'ÉLEVATION



**B-1**  
MAT.: 10M GALVANISÉ  
QTÉ REQUISE UN ASSEMBLAGE: 1



**B-2**  
MAT.: 10M GALVANISÉ  
QTÉ REQUISE UN ASSEMBLAGE: 4



**B-3**  
MAT.: 10M GALVANISÉ  
QTÉ REQUISE UN ASSEMBLAGE: 8

52 UNITÉS

**AUDET & KNIGHT**  
SOCIÉTÉ DE PRECO-MISE

140 Rue Jacques-Bébeau, Rouyn-Noranda, Qc  
J9Y 0A3  
Tél: 819-764-4666  
Courriel: info@audetknight.com

**TECHNOSUB**

TITRE / TITLE  
AGNICO EAGLE - HOPE BAY  
FABRICATION BALLAST EN BÉTON ARMÉ  
DESSIN D'ATELIER

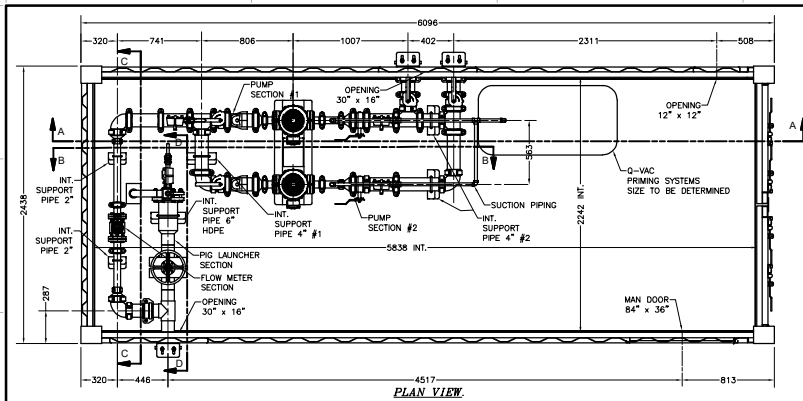
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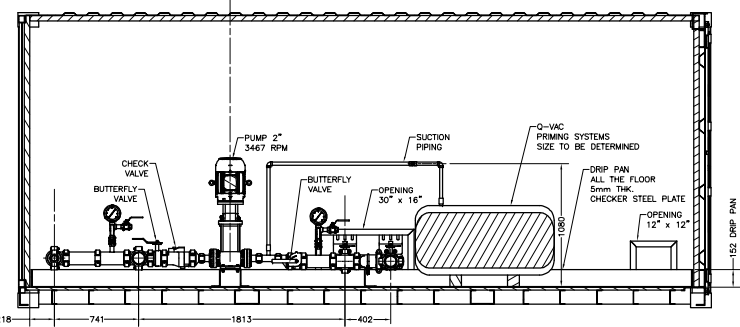
**REVISIONS**

DESSINÉ PAR: PATRICK GILBERT, TECH.  
 DRAWN BY:  
 VÉRIFIÉ PAR: PIERRE-LUC VIGNEAULT, ing.  
 CHECKED BY:  
 APPROUVÉ PAR: PIERRE-LUC VIGNEAULT, ing.  
 APPROVED BY:  
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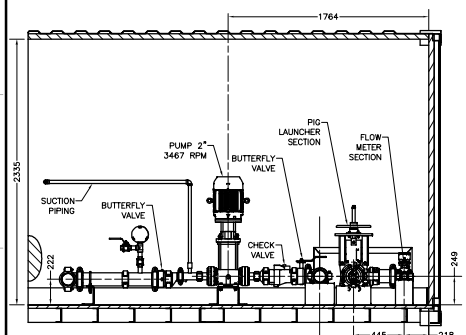
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 DATE: 2026-05-07  
 ÉCHELLE / SCALE: 1:10



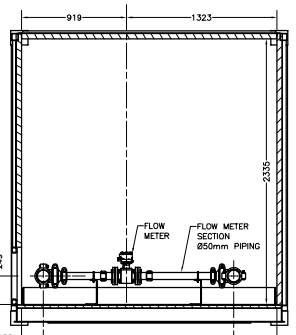
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SCALE: 1:20



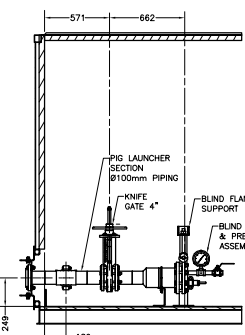
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**PUMP SECTION #1**  
SCALE: 1:20



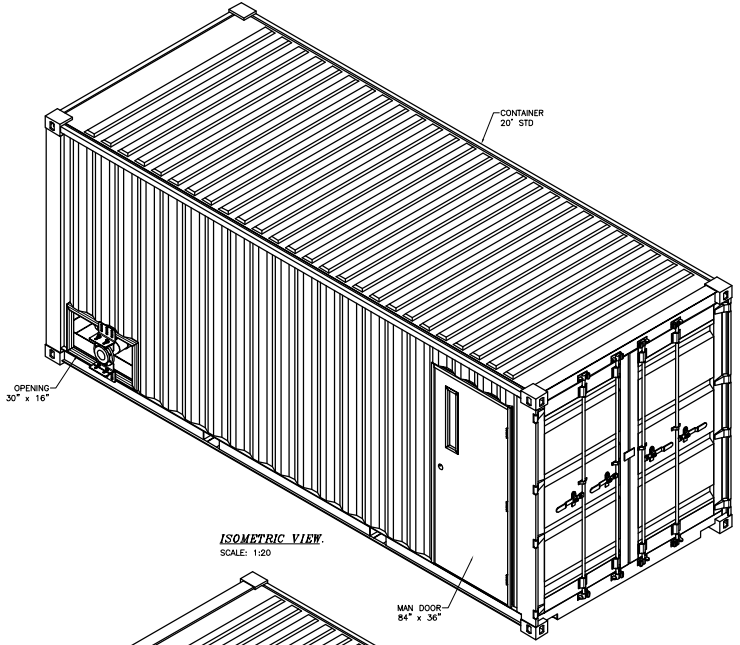
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**PUMP SECTION #2**  
SCALE: 1:20



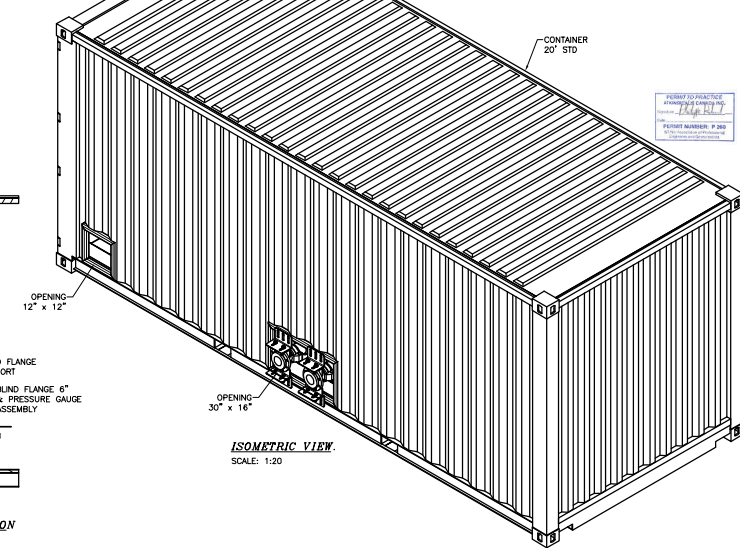
**SECTION C-C**  
**FLOW METER SECTION**  
SCALE: 1:20



**SECTION D-D**  
**PIG LAUNCHER SECTION**  
SCALE: 1:20



**ISOMETRIC VIEW**  
SCALE: 1:20



**ISOMETRIC VIEW**  
SCALE: 1:20

NO. PROJ. 62-692-210-001-1

**AtkinsRéalis**

Project #: 204148-0000-AR000-0000\_R0

NOTES GÉNÉRALES / GENERAL NOTES

**FOUR SOUMISSION FOR TENDER**  
DATE: 2026-02-06

DESIGNS IN REFERENCE / REFERENCE DRAWINGS

NO.	TITLE	DATE

**AGNICO EAGLE**

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK

AGNICO EAGLE - HOPE BAY  
692 - FRESH WATER PUMPING STATION  
210 - GENERAL ARRANGEMENT  
WINDY LAKE NORTH PUMP STATION  
PLAN, SECTION & DETAILS

DATE / DATE: 2026-02-03

DESIGN AND DRAWN BY: SAMEER BRAHMI SABB tech.

NO. PROJ. 62-692-210-001-1

NO. PROJ. 62-692-210-001-1

NO. PROJ. 62-692-210-001-1

SCALE: NTS

DATE: 2026-02-03

NO. DESIGN: 62-692-210-001-1

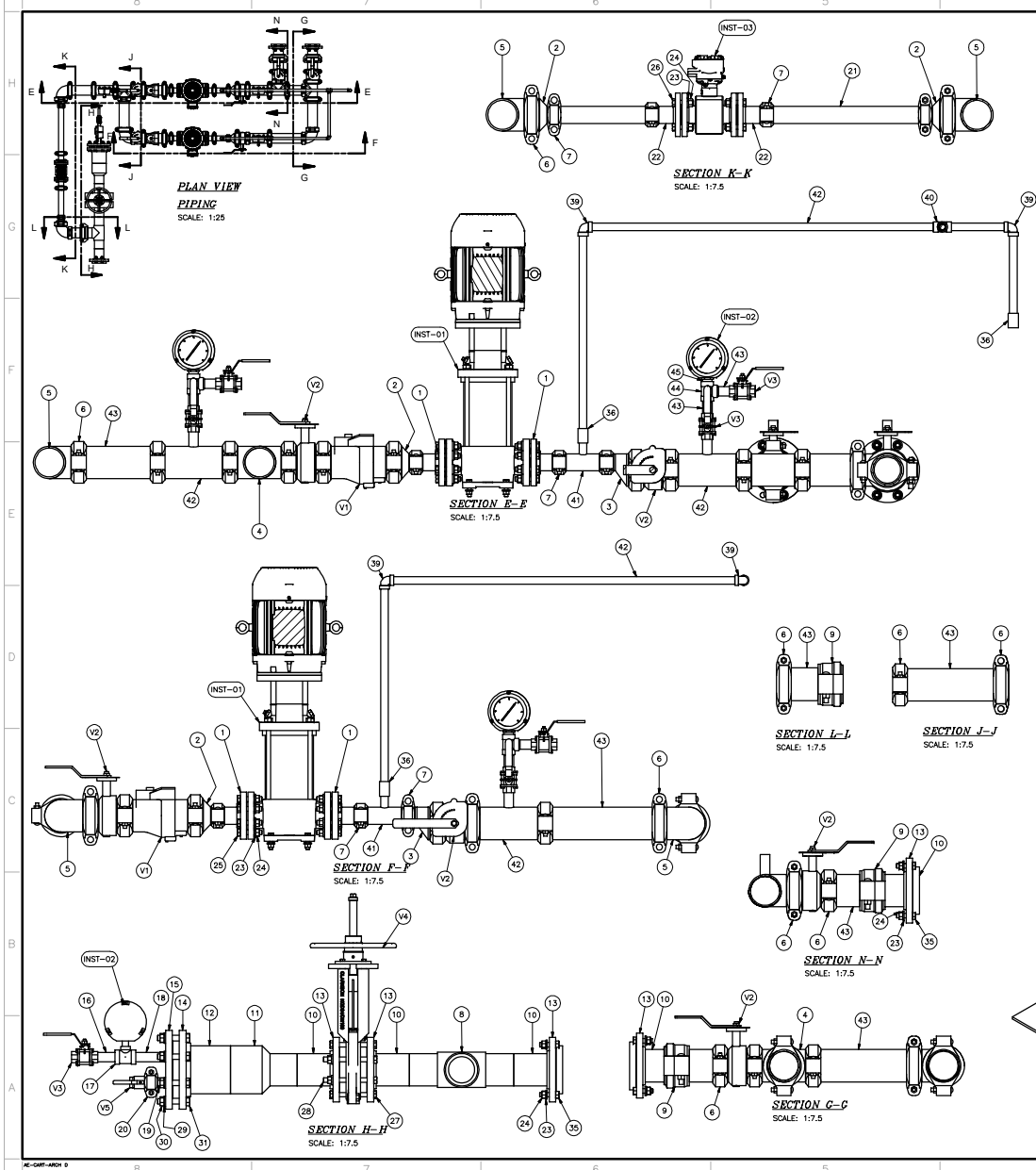
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NO. PROJ. 62-692-210-001-1

NO. PROJ. 6212

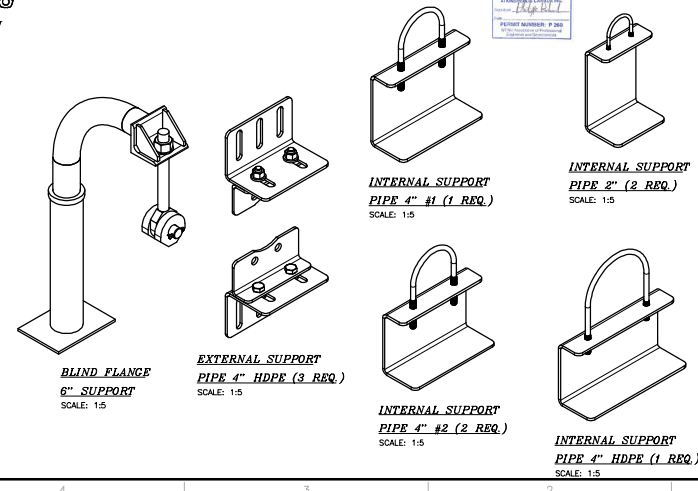
REVISION: 0

SCALE: 1/2



ITEM	DIA	DESCRIPTION	SPECIFICATION	QTY
1	50mm	VIC FLANGE ADAPTER #46R	DL GE X 150RF	4
2	50mm x 100mm	VIC REDUCER CONC. #50	DL GROOVED ENDS	2
3	50mm x 100mm	VIC REDUCER EOC. #51	DL GROOVED ENDS	2
4	100mm	VIC TEE #20	DL GROOVED ENDS	4
5	100mm	VIC 90 DEG. ELBOW #10	DL GROOVED ENDS	4
6	100mm	VIC FLEX COUPLING STYLE 77	DUCTILE IRON	23
7	50mm	VIC FLEX COUPLING STYLE 77	DUCTILE IRON	10
8	100mm	ISCO CUSTOM FABRICATED TEE, BARRED FOR PIGGING	DR11, 200PSI RATED	1
9	100mm	VICTAULIC 90T COUPLING	DUCTILE IRON	3
10	100mm	BUTT FUSION HOPE FLANGE ADAPTER PE 4710	DR 11	1
11	100mm	ISCO CONC. REDUCER	DR11, 200PSI RATED	1
12	150mm	BUTT FUSION HOPE FLANGE ADAPTER PE 4710	DR 11	1
13	100mm	BACKUP RING FOR HOPE FLANGE ADAPTER	DUCTILE IRON PP COATED	5
14	150mm	BACKUP RING FOR HOPE FLANGE ADAPTER	DUCTILE IRON PP COATED	1
15	150mm	FLANGE BLIND - CLASS 150	CARBON STEEL, RF	1
16	25mm	JIS B 2302 Long nipple 1 x 100	STEEL CARBON	1
17	25mm x 25mm x 12mm	B16.3 Reducing Tee - Class 300 1 x 1 x 1/2	STEEL CARBON	1
18	25mm	JIS B 2302 Long nipple 1 x 150	STEEL CARBON	1
19	25mm	VIC NIPPLE #40 1/2 x 1/2	DL GROOVED ENDS	1
20	25mm	VIC FLEX COUPLING STYLE 77	DUCTILE IRON	1
21	50mm	CARBON STEEL PIPE, ASTM A53 Gr.B	SCD - STD	A.R
22	50mm	VIC FLANGE ADAPTER #45R	DL GE x 150RF	2
23	50mm	CIRCULAR WASHER 3/8"	ZINC PLATED Gr. B7	56
24	5/8"	HEXAGON NUTS 5/8" - UNC	ASTM A 194 Gr. B7	56
25	5/8"	HEXAGON BOLTS 5/8" - UNC - 3 1/2"	ASTM A 193 Gr. B7	32
26	5/8"	HEXAGON BOLTS 5/8" - UNC - 2 1/2"	ASTM A 193 Gr. B7	8
27	5/8"	HEXAGON BOLTS 5/8" - UNC - 2 1/2"	ASTM A 193 Gr. B7	8
28	5/8"	HEXAGON BOLTS 5/8" - UNC - 3 1/2"	ASTM A 193 Gr. B7	4
29	3/4"	CIRCULAR WASHER 3/4"	ZINC PLATED Gr. B7	8
30	3/4"	HEXAGON NUTS 3/4" - UNC	ASTM A 194 Gr. B7	8
31	3/4"	HEXAGON BOLTS 3/4" - UNC - 4 1/2"	ASTM A 193 Gr. B7	8
32	1/2"	CIRCULAR WASHER 1/2"	ZINC PLATED Gr. B7	8
33	1/2"	HEXAGON NUTS 1/2" - UNC	ASTM A 194 Gr. B7	8
34	1/2"	HEXAGON BOLTS 1/2" - UNC - 2 1/4"	ASTM A 193 Gr. B7	8
35	1/2"	HEXAGON BOLTS 1/2" - UNC - 2 1/4"	ASTM A 193 Gr. B7	12
36	19mm	Threaded Coupling - Class 3000	CARBON STEEL	3
37	19mm	CARBON STEEL PIPE, ASTM A53 Gr.B	SCD - STD	A.R
38	100mm	CARBON STEEL PIPE, ASTM A53 Gr.B	SCD - STD	A.R
39	19mm	90° ELBOW 3/4", SW, CL 3000, A350 Gr. LF2	CARBON STEEL	4
40	19mm	STRAIGHT TEE 3/4" x 3/4", SW, CL 3000, A350 Gr. LF2	CARBON STEEL	1
41	50mm	VIC TEE #20	DL GROOVED ENDS	2
42	76mm x 25mm	VIC #29 RED TEE GTX	DL GE X MNPT	3
43	25mm	90° ELBOW 3/4", SW, CL 3000, A350 Gr. LF2	STEEL CARBON	6
44	25mm	STRAIGHT TEE 1" x 1", SW, CL 3000, A350 Gr. LF2	STEEL CARBON	3
45	25mm x 12mm	HEX REDUCER 1" NPT X 1/2" FNPT, A350 Gr. LF2	STEEL CARBON	3

ITEM	DIA	DESCRIPTION	SPECIFICATION	QTY	SUPPLY BY
V1	100mm	CHECK VALVE 716H, DL EPDM	DL GROOVED ENDS	2	VENDOR
V2	100mm	BUTTERFLY VALVE LEVER HANDLE VIC-300 761 SERIES OGS, DL, EPDM	DL GROOVED ENDS	6	VENDOR
V3	25mm	M.A. STEWART, TYPE GZE THREADED BALL VALVE	316 SS	7	VENDOR
V4	100mm	CLARKSON KGD SERIES WAFER KNIFE GATE VALVE, BEVEL GEAR	DL ASME B16.5 #150	1	VENDOR
V5	25mm	VIC IPS VALVE BALL SERIES 722	DL GROOVED ENDS	1	VENDOR
INST-01	50mm	CENTRIFUGAL PUMP	PUMP	2	VENDOR
INST-02	15mm	PRESSURE GAUGE 1/2" NPT, Ø 4 1/2" DIAL, -15 PSI TO 100 PSI	INSTRUMENT	4	VENDOR
INST-03	50mm	FLOW METER EMERSON	FLANGED	1	AGNICO EAGLE



Project #:  
TMA-000-000-000-000-00

NOTES GÉNÉRALES / GENERAL NOTES

**POUR SOUMISSION FOR TENDER**  
DATE : 2026-02-06

DESIGNS EN RÉFÉRENCE / REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION



NO.	DATE	DESCRIPTION

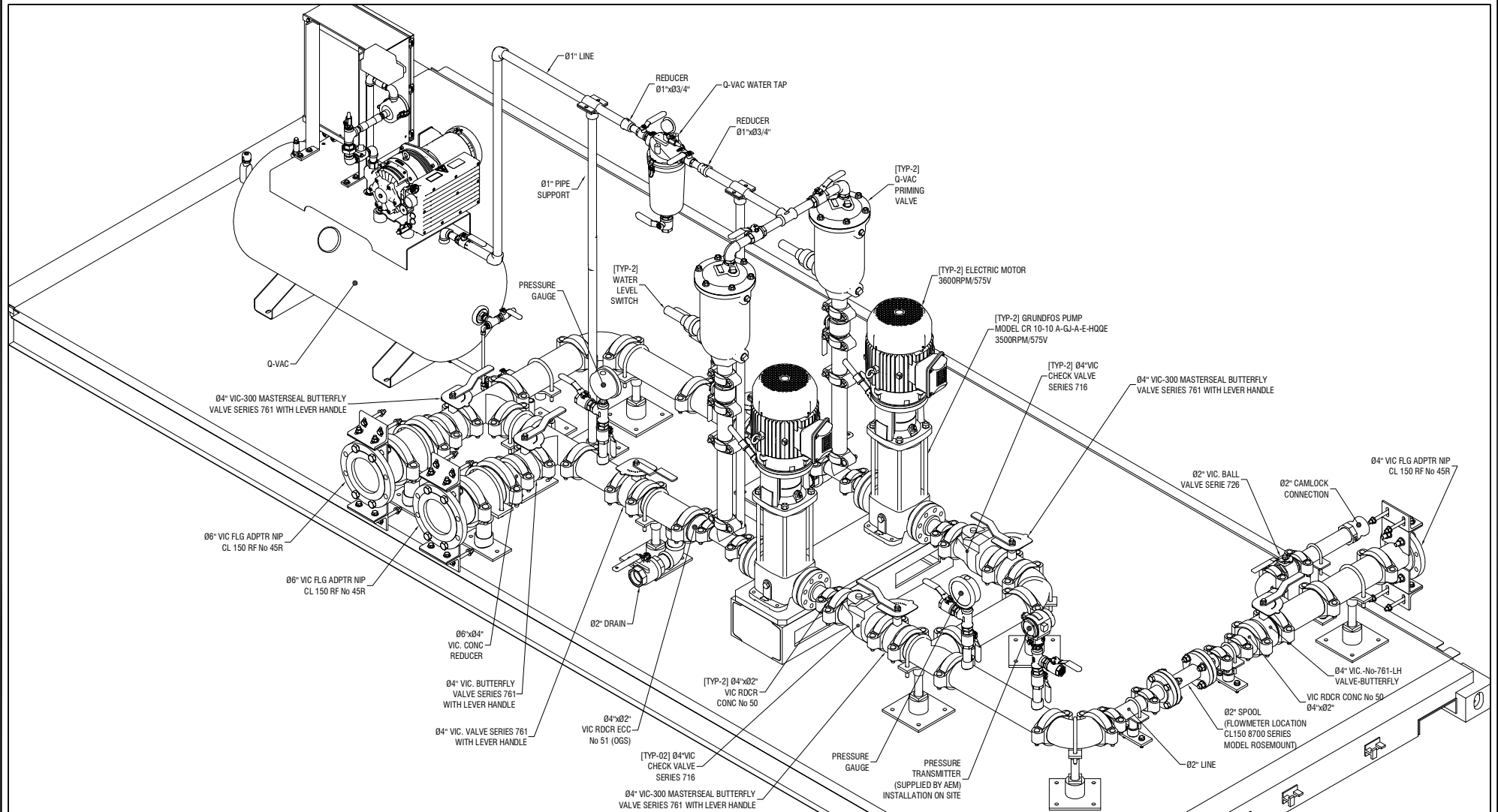


AGNICO EAGLE - HOPE BAY  
692 - FRESH WATER PUMPING STATION  
210 - GENERAL ARRANGEMENT  
WINDY LAKE NORTH PUMP STATION  
PLAN, SECTION & DETAILS


DESIGNED BY: SAMER IBRAHIM SAIB Tech. DATE: 2026-02-03  
 REVIEWED BY: PHILIPPE RICHARD P.Eng DATE: 2026-02-03  
 CHECKED BY: MATHEU RYLAND P.Eng DATE: 2026-02-03  
 SCALE: NTS DATE: 2026-02-03

NO. DRAWING: 62-692-210-001-2  
 NO. SHEET: 6212 REVISION: 0 FEUILLE / SHEET: 2 / 2





				<b>TechnoSub</b>				CLIENT: AEM-HOPE BAY	
				1180 AVENUE LAWRENCE BOULVARD, SUITE 100 CANADA, Q1M 4W3 TEL: 514 797-2800 FAX: 514 797-3300 WWW.TECHOSUB.NET				TITLE: PUMPING STATION- WATER MANAGEMENT PIPING ISOMETRIC VIEW	
0 2026-04-28 ISSUED FOR CONSTRUCTION I.G. J.P.				DESIGNED BY: I.GUARO CHECKED BY: J.PEPIN APPROVED BY: A.-P.MALTAIS, P.Eng.				SHEET: / SCALE: 1:100 # DESIGN / DRAWING #: P2603231-0002 REVISION: 0	

	<b>6212 – Hope Bay</b>	 <b>AGNICO EAGLE</b>
	DESIGN REPORT 6212-692-210-TCR-001 FRESH WATER INTAKE, PUMPING STATION AND PIPELINES AT WINDY LAKE NORTH	

## **APPENDIX B:**

# **WINDY LAKE BATHYMETRIC SURVEY**

## Appendix V5-3N

Bathymetric Surveys: Hope Bay Project,  
Hope Bay, Nunavut

**Golder Associates Ltd.**

500 – 4260 Still Creek Drive  
Burnaby, British Columbia, Canada V5C 6C6  
Telephone (604) 296-4200  
Fax (604) 298-5253



**REPORT ON**

**BATHYMETRIC SURVEYS  
HOPE BAY PROJECT  
HOPE BAY, NUNAVUT**

Submitted to:

SRK Consulting Canada Inc.  
#800, 1066 West Hastings Street  
Vancouver, BC  
V6E 3X2

**DISTRIBUTION:**

6 Copies - SRK Consulting Canada Inc.  
2 Copies - Golder Associates Ltd.

October 20, 2006

06-1419-007



## EXECUTIVE SUMMARY

Golder Associates Ltd. (Golder) was retained by SRK Consulting Canada Inc. (SRK) to conduct bathymetric surveys for the proposed development of the Hope Bay Gold Project. This report is carried out in accordance with our proposal 06-1419-007, dated March 7, 2006. The field investigations were completed during a period extending from July 31 to August 29, 2006.

The objective of the site investigation was to provide single-beam bathymetric data on selected lakes in the area of the Hope Bay Project. Low-density bathymetric coverage was required on Doris, Windy, Patch, and Spyder Lakes and high-density coverage was required in Tail Lake, two areas of Roberts Bay, and approximately one-third of each of Windy, Patch and Spyder Lakes.

In particular, high-density information is required at specific areas of various lakes to aid the design of docking facilities, volume calculations and general mine design. The detailed bathymetric data can also provide a visual aid for the evaluation of potential faults and possible sediment flows. To complete this work single-beam bathymetry with real-time sub-metre positioning was used. In addition, low-resolution sidescan sonar imaging was observed during bathymetric fieldwork on selected lines for qualitative evaluation that the chosen density coverage was sufficient to map the terrain.

The bathymetry data provided good resolution of subsurface features. All of the lakes presented a non-uniform topography similar to surface topography in the areas. Many lineaments, including probable bedrock ridges are seen to extend into the lakes.

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## **1.0 INTRODUCTION**

Golder Associates Ltd. (Golder) was retained by SRK Consulting Canada Inc. (SRK) to conduct bathymetric surveys for the proposed development of the Hope Bay Gold Project. This report presents the results from these investigations.

The objective of the site investigation was to provide single-beam bathymetric data on selected lakes in the area of the Hope Bay Project. Low-density bathymetric coverage was required on Doris, Windy, Patch, and Spyder Lakes and high-density coverage was required in Tail Lake, two areas of Roberts Bay, and approximately one-third of each of Windy, Patch and Spyder Lakes.

In particular, high-density information is required at specific areas of various lakes to aid the design of docking facilities, volume calculations and general mine design. The detailed bathymetric data can also provide a visual aid for the evaluation of potential faults and possible sediment flows.

## 2.0 SCOPE OF WORK

The proposed scope of work was as follows:

- General bathymetry of Doris, Windy, Patch and Spyder Lakes at 50-m line spacing;
- Detailed bathymetry (10-m line spacing) of approximately one-third of the survey areas of Windy, Patch and Spyder Lakes;
- Detailed bathymetry of Tail Lake;
- Detailed bathymetry of two areas within Roberts Bay;
- Global positioning system (GPS) positioning with 1-m to 2-m accuracy presented in NAD83 datum; and
- Preparation of bathymetric drawings based on supplied AutoCAD base maps.

In consultation with SRK, (the prime consultant to Miramar Hope Bay Ltd. for the mine design) the following techniques were selected to achieve the stated objectives in the survey area:

- Single-beam echo sounding;
- Low-resolution sidescan sonar to evaluate density coverage; and
- Real-time differential navigation utilizing the Canadian Differential Global Positioning System (CDGPS) with tide monitoring and tie-in to locally provided reference locations.

### **3.0 INSTRUMENTATION AND FIELD OPERATIONS**

The surveys were carried out using a winterized Zodiac inflatable boat powered by a 15-horsepower outboard motor supplied by Miramar Hope Bay Ltd. This provided a lightweight boat that was moveable by helicopter and also provided relatively rapid surveying and good access and maneuverability to the frequent shallow areas encountered during the surveys.

The work was completed during the period July 31 to August 29, 2006. The sea state was generally good during data collection. As the survey progressed, the weather conditions deteriorated. In all, there were three days with no data collection due to adverse weather conditions affecting GPS quality, bathymetry accuracy (due to wave height) and safety. On these days, data processing and equipment maintenance was undertaken. The geophysical instruments and navigation system all operated within specification throughout the course of the entire survey. No reportable health and safety incidents occurred during the fieldwork.

The vessel position was acquired with a single-frequency code-based Trimble DGPS (Ag132) which in good GPS conditions can be accurate to approximately +/-0.5 m (see Section 3.2).

The bathymetry was measured using an ODOM® Hydrotrac Survey Echo Sounder with a 200-kHz transducer. This provided high-resolution bottom detection at a rate of 10 Hz. Velocity calibrations were completed at each of the lakes for accurate determination of sound velocity in water.

To ensure good coverage of lake-bottom features, especially for 50-m line spacing, we operated a low-resolution sidescan sonar during data collection. The sidescan sonar provides qualitative images (seismically) of bottom topographical variations to indicate whether additional bathymetric coverage should be completed.

The sidescan sonar was recorded using an Imagenex digital dual sidescan sonar (SportsScan). The SportScan utilizes two transducers of 330 kHz to provide a low resolution image of the lake bottom up to 60 m from the sensor in each direction. The data was recorded in conjunction with the GPS stream from the Ag 132 using the Imagenex software, Win881SS. The sonar was braced to the side of the boat at a depth of 1.2 m.

#### **3.1 Survey Coverage**

The boundaries of the survey were outlined and SRK requested coverage of all the selected lakes at a minimum of 50-m intervals. This line spacing ensured adequate

coverage for volume calculations and identification of any unusual topographical features on the lake floors. Higher density areas were required in the following areas:

- the northern half of Patch Lake;
- the southern third of Windy Lake;
- all of Tail Lake and both Roberts Bay areas; and
- the western half of the Spyder Lake survey area.

Sidescan sonar data were obtained at Roberts Bay, Windy, Patch, and Tail Lakes. The survey lines were profiled on multiple traverses to provide a good overview of the lakebed features. Due to time constraints and adverse weather conditions, no sidescan data were obtained on Doris and Spyder Lakes.

### **3.2 Navigation**

Positioning of the survey vessel and the sonar equipment was provided by Trimble Differential Global Positioning System (DGPS) receivers. Real-time corrections were obtained using industry-standard Canadian Differential GPS (CDGPS) corrections, and Wide-Area Augmentation System (WAAS) system as a backup. Vessel navigation data were acquired with a single-frequency code-based Trimble DGPS (Ag132) accurate to approximately +/-0.5 m. The navigation GPS antenna was installed directly above the bathymetry transducer to minimize offset errors. The onboard receiver provided differentially corrected WGS84 latitude and longitude values at 5 Hz to both the navigation computer and SportScan sonar.

Hypack Max software produced by Coastal Oceanographics was used for navigation. During the survey, the vessel position was continuously plotted on a chart showing the planned and actual survey lines. This information was displayed to the helmsman on a LCD monitor along with additional navigation parameters. The vessel position and single-beam bathymetric data were acquired digitally and stored on the navigation computer. Fix marks were recorded at 60-second intervals.

### **3.3 Datum and Tidal Corrections**

At each of the sites, a stake was driven into the lake and water levels were recorded daily. Each of the stakes was surveyed by the on-site surveyor to the Miramar Hope Bay datum. All horizontal positioning was recorded internally as latitude and longitude using the WGS84 datum, then displayed as UTM Zone 13 coordinates using the NAD83 datum. All coordinates given in this report use the NAD83 datum, and UTM coordinates are plotted on the relevant deliverable figures.

Tidal corrections were obtained at Roberts Bay by observations of water levels noted on a wooden tidal post, placed in a sheltered cove at Area A. Our tidal measurements have confirmed that predicted tides from Canadian Hydrographic Service (CHS) models have similar phases and peak values to predicted tides. To convert the observed water level readings to the mine datum, the tidal post was surveyed in by Miramar Hope Bay surveyors.

## 4.0 RESULTS AND INTERPRETATION

This section summarizes the results of the bathymetric surveys. The data coverage and the interpreted bathymetry data are presented in Figures 2 to 8, in combination with the land topography. The water depths are contoured to 1-m intervals and blue-shaded to enhance visualization. The actual survey tracklines are presented on Figures 9 through 15. All figures are provided in electronic format on CD and were provided on an FTP site for downloading. The bathymetric data are also provided on CDs contained in each hardcopy report.

### 4.1 Positioning

Due to continued excellent satellite coverage, the Trimble DGPS positioning equipment provided high quality location fixes continuously throughout the surveys.

Real-time CDGPS corrections provided differential correction during most of the survey. Occasional loss of this differential signal occurred during the survey, due to rough water conditions or blocking of the satellite signal behind nearby topographical highs. During these periods, the system was set to utilize the WAAS corrections which still provided sub-metre differential corrections.

In post-processing, the navigation data are automatically filtered for any non-differential, high Horizontal Dilution of Precision (HDOP), or anomalous GPS data. This occurred in rare cases but not for any long time periods. When weather conditions were too rough to reliably gain a differential fix, a standby day was required.

The position in NAD83 coordinates and water elevation (at the time of surveying) of each of the survey stakes as provided by Miramar Hope Bay Ltd. are summarized below:

Survey Area	Easting	Northing	Elevation (m)
Patch	433893.3	7552217.8	26.28
Windy	432569.5	7550525.0	18.24
Doris	433800.0	7559050.0	21.42
Roberts Bay	432221.7	7563305.5	temporary mark = 0.92 m
Spyder	441135.5	7505824.0	65.63
Tail	435263.0	7557635.5	28.12

To record the tidal fluctuations at Roberts Bay, a stake was placed in the shallows at the coordinates mentioned above. A temporary depth scale was drawn on the stake and referenced each hour whilst surveying. The surveyors then calculated a true elevation for the temporary scale marked on the stake. True tidal elevations were calculated using the corrected information.

## **4.2 Bathymetric Results**

The single-beam bathymetric data were of high quality and provide reliable depth data for the required lakes and ocean areas. The data have been combined, filtered, and contoured using AutoCAD and Surfer by Golden software.

The bathymetric results are presented in Figures 2 to 8 and have been provided in electronic format to SRK for incorporation into engineering drawings. For interpretation and planning purposes, we have also combined the bathymetric data with land topographical data that were provided by Miramar Hope Bay Ltd. through SRK.

Post-processing of the data included tidal corrections, removal of outliers and erroneous GPS positions.

### **4.2.1 Roberts Bay**

The two areas within Roberts Bay were surveyed over two days during extremely calm weather, which provided reliable data and consistent tidal matches between days. Area A bathymetry data (Figure 2) indicate that water depths gradually increase to more than 7 m at the mouth of the cove. A shallow gradient shelf extends from shoreline to approximately 100 m into the cove. The water depths deepen rapidly from 3 m to 6 m at the edge of this shelf. The eastern side of Area A indicates a very shallow area which limited surveying due to insufficient draft for boat operation.

The data from Area B (Figure 3) shows the sea floor topography to be consistent with the shoreline trend. The near-shore area is characterized by shallow gradients. At 3 m depth, the gradient increases and depths increase to beyond 13 m at the edge of the survey area. Both areas within Roberts Bay were surveyed in a grid with a 20-m line spacing.

### **4.2.2 Doris Lake**

The Doris Lake data (Figure 4) indicate water depths ranging up to 20 m. Notable features are a steep cliff at shoreline on the eastern shore of the lake which deepens to more than 16 m within a few metres from shore. The southern third of the lake is characterized by a relatively flat, shallow lake bottom, with depths not in excess of 6 m. Doris lake was surveyed at 50-m line spacing.

### **4.2.3 Tail Lake**

Tail Lake (Figure 5) was surveyed at 10-m line spacing and indicates water depths of up to 7 m. Two north-south channels are present in the centre of the lake which are both approximately 1.5 m deeper than the surrounding area.

### **4.2.4 Windy Lake**

The Windy Lake data (Figure 6) indicates water depths in excess of 22 m at a deep bowl located in the area of 431400E, 7553900N. An isolated shallow ridge occurs in the centre of Windy Lake with depths slightly less than 5 m encountered. The southern third of the lake was surveyed at 10-m line spacing, and indicates a gradual shoaling of water depth to the south with no major anomalies.

### **4.2.5 Patch Lake**

The Patch Lake data (Figure 7) indicate a shallow lake of approximately 5 m in depth with three significant deep bowls of up to 16 m in depth. These depressions are indicated by the darker colours on the contour plan. The northern half of Patch Lake was surveyed at 10-m line spacing which delineated a number of smaller features such as a steep cliff down to 6 m in depth, located at 434500E, 7550800N.

A smaller lake (centered on 433700E, 7551400N) was attempted on three separate occasions. However, no GPS lock could be gained, due to the large cliff on the southwest shoreline obstructing the view of the satellites. This effect was also noticed in the northernmost area of Patch Lake where CDGPS correction could not be gained and the WAAS system was exclusively used. The depths observed in the small lake were all less than 4 m and a shallow area of under 1 m in depth occurs at the northeastern shore. Unfortunately due to lack of GPS signal, we did not record any data at this lake.

### **4.2.6 Spyder Lake**

The Spyder Lake data shown on Figure 8 indicate water depths up to 19 m. The western half of the survey area reveals a deep, irregular channel which was surveyed with a line spacing of 25 m to provide extra delineation of the features. The eastern half of the survey area is generally flat with water depths of less than 5 m. Due to extremely low water conditions at the time of surveying, a few areas were too shallow and could not be surveyed. This includes; south of 7503300N and the small inlet near camp, centered at 441600E, 7505600N. A shallow reef is present at 440600E, 7505700N which broke the surface at the time of surveying and may also present a hazard to boats during times of higher water levels.

## 5.0 DISCUSSION AND SUMMARY OF INTERPRETED RESULTS

The bathymetry data provides accurate resolution of the underwater topography, especially in the high-resolution areas where 10-m line spacing was undertaken. The GPS data was consistently within sub-metre accuracy and multiple velocity calibrations were completed at each site to ensure using accurate sound velocity values.

Low-resolution sidescan sonar was conducted whilst surveying to help identify any major anomalies or highly variable lake bottom, that would require additional survey lines. This data was reviewed at the end of each day to ensure adequate coverage at the time of surveying. In general, this data presented few reflectors and anomalies in the centre of the lakes and significant boulders in near-shore areas.

All of the surveying was undertaken during a particularly dry summer which produced low water levels, especially in the case of Spyder Lake. We note that Spyder Lake at the time of surveying had an elevation of 65.63 m (approximately 1.5 m lower than springtime water levels) which resulted in many drill casings being partially exposed creating a safety hazard. The low water levels created problems entering certain bays (Figure 8) and also slowed survey progress due to frequent shallows. If more detail is required in these areas, it is recommended to conduct extra bathymetry during the high-water levels in the springtime or alternatively conduct an over-ice program, utilizing ground-penetrating radar.

In general, the strike and shape of the lake bottom topography reflects lineaments present on land, which may aid visual interpretation of faults and possible landslides.

No specific sediment or rock information can be gained from the bathymetry data. However, shape and gradient of slope may be useful in identifying areas of possible bedrock exposure. In all of the shallow areas encountered during the survey where bottom characteristics could be viewed by field personnel, the lake bottom consisted of soft silts interspersed with medium-sized boulders.

## 6.0 CLOSURE

This report has been prepared based on the information obtained for the purposes outlined above.

We trust that this report meets your immediate requirements. Please contact the undersigned should you have any questions or concerns.

### **GOLDER ASSOCIATES LTD.**

**ORIGINAL SIGNED BY**

John Woods, E.I.T.  
Geophysicist

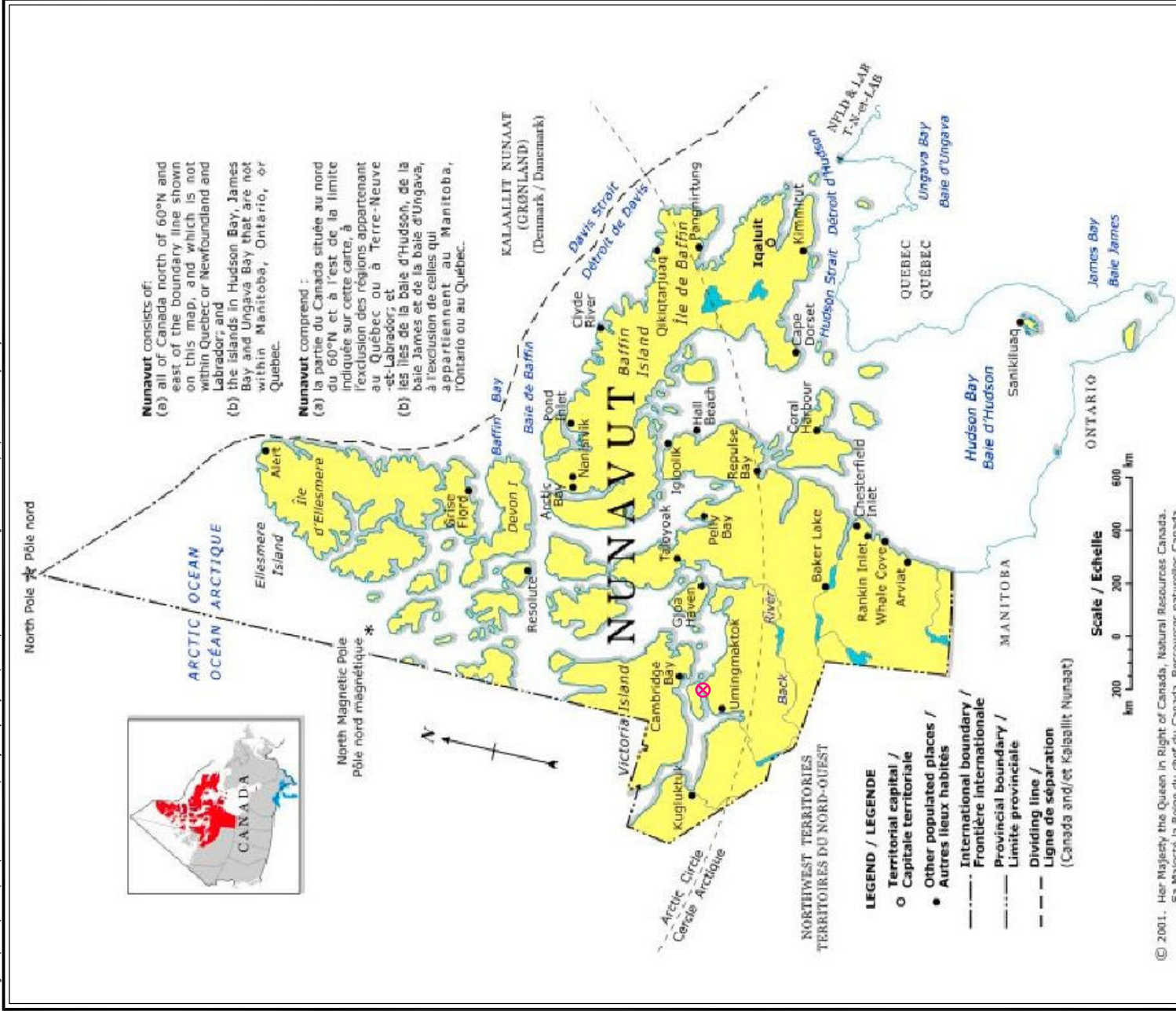
**ORIGINAL SIGNED BY**

Michael Maxwell, Ph.D.  
Senior Geophysicist, Principal

JKW/MGM/vee

06-1419-007

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Reference:  
 Location image provided by SRK.

Legend:  
 ⊗ Survey Area Location

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 Hope Bay, NT

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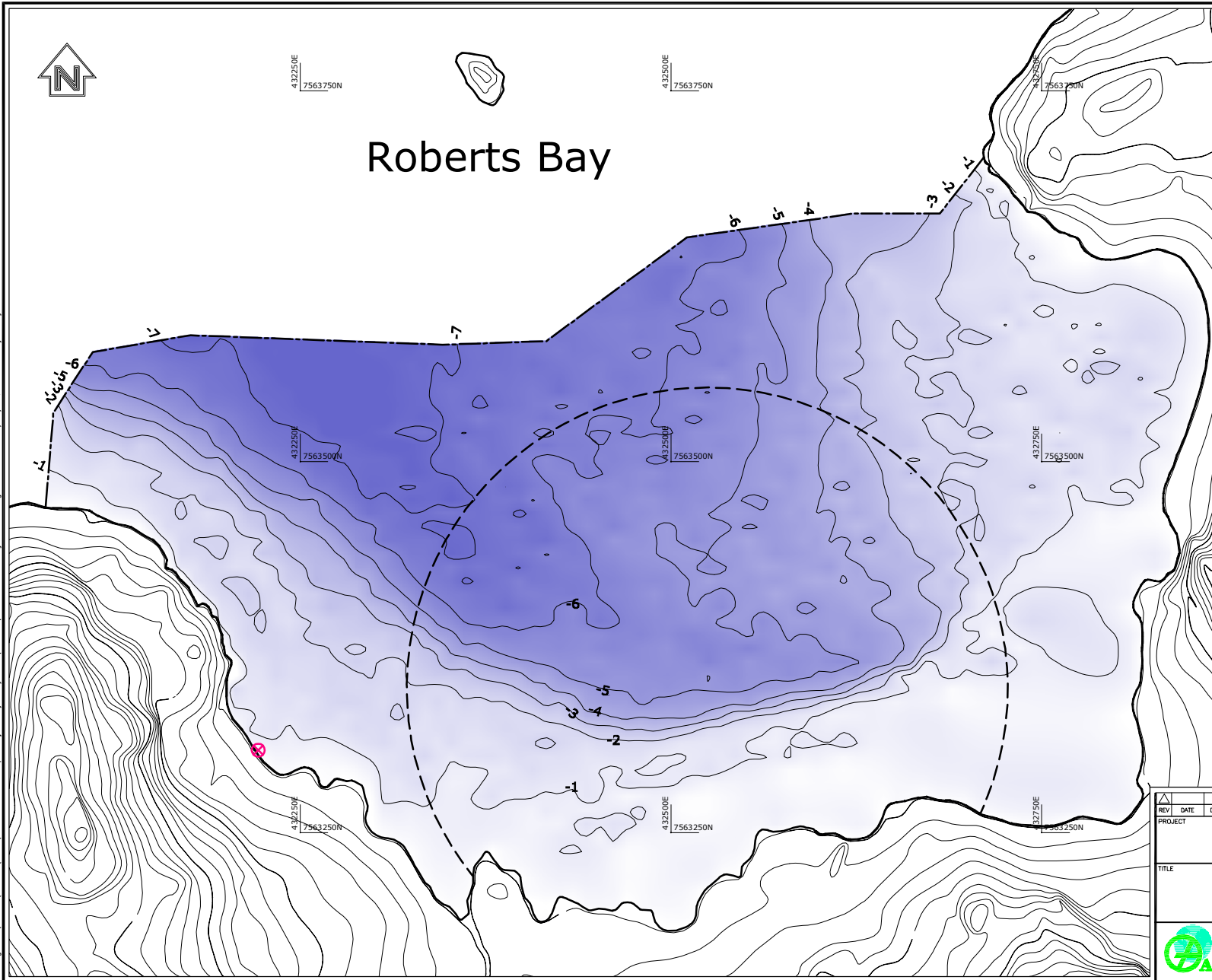
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CHECK	JW	20061019	
REVIEW	MM	20061019	

Figure 1



© 2001. Her Majesty the Queen in Right of Canada, Natural Resources Canada. Sa Majesté la Reine du chef du Canada, Ressources naturelles Canada.

Drawing: C:\Active\2006\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_bathy\_rb-a.dwg Plot: 2006/10/20, 14:38 By: ntaylor



**Reference:**  
 Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHBL.

- Legend:**
- Sea-bed Contour, Major
  - Sea-bed Contour, Minor
  - Shoreline
  - SRK Survey Area
  - Golder Survey Limit
  - Survey Stake

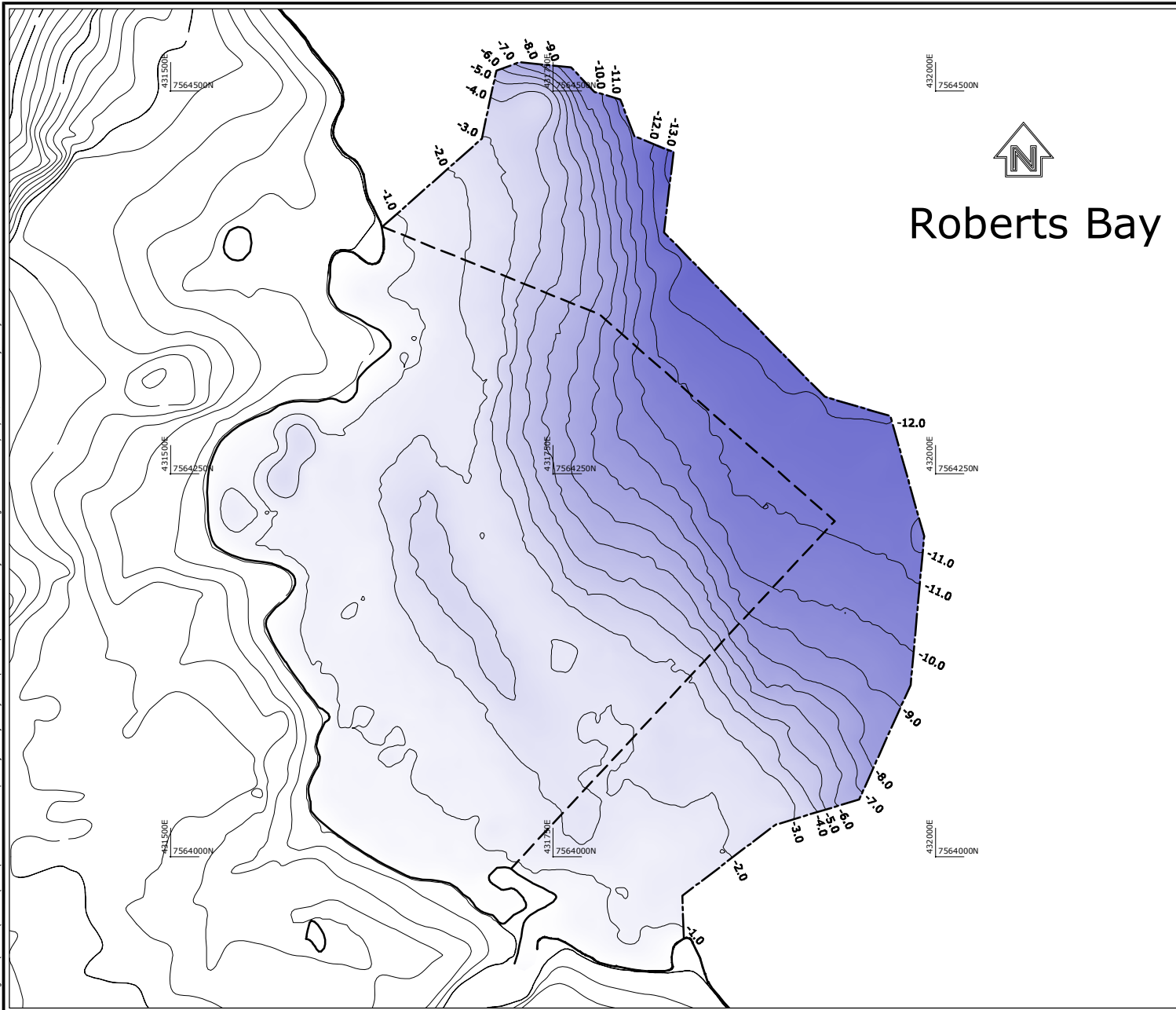
- Note:**
1. Sea-bed contours are at geodetic elevation are shown at 1m intervals.
  2. Grid coordinates are NAD83, Zone 13N.
  3. Topographic contour intervals are 1m.
  4. Roberts Bay shoreline is shown at -0.05m elevation in topographic base map.
  5. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

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REVIEW	MM	20061004				



Figure 2

Drawing: C:\Active\2006\1419\06-1419-007 Hope Bay Bathymetry SRK\9-Cad\06119007\_bathy ROB-B.dwg Plot: 2006/10/20, 14:37 By: ntaylor



## Roberts Bay

**Reference:**  
Topographic information (NAD83, Zone 13N)  
generated by BHP 1997 and provided by MHBL.

**Legend:**

- Sea-bed Contour, Major
- Sea-bed Contour, Minor
- Shoreline
- - - SRK Survey Area
- Golder Survey Limit
- ⊗ Survey Stake

**Note:**

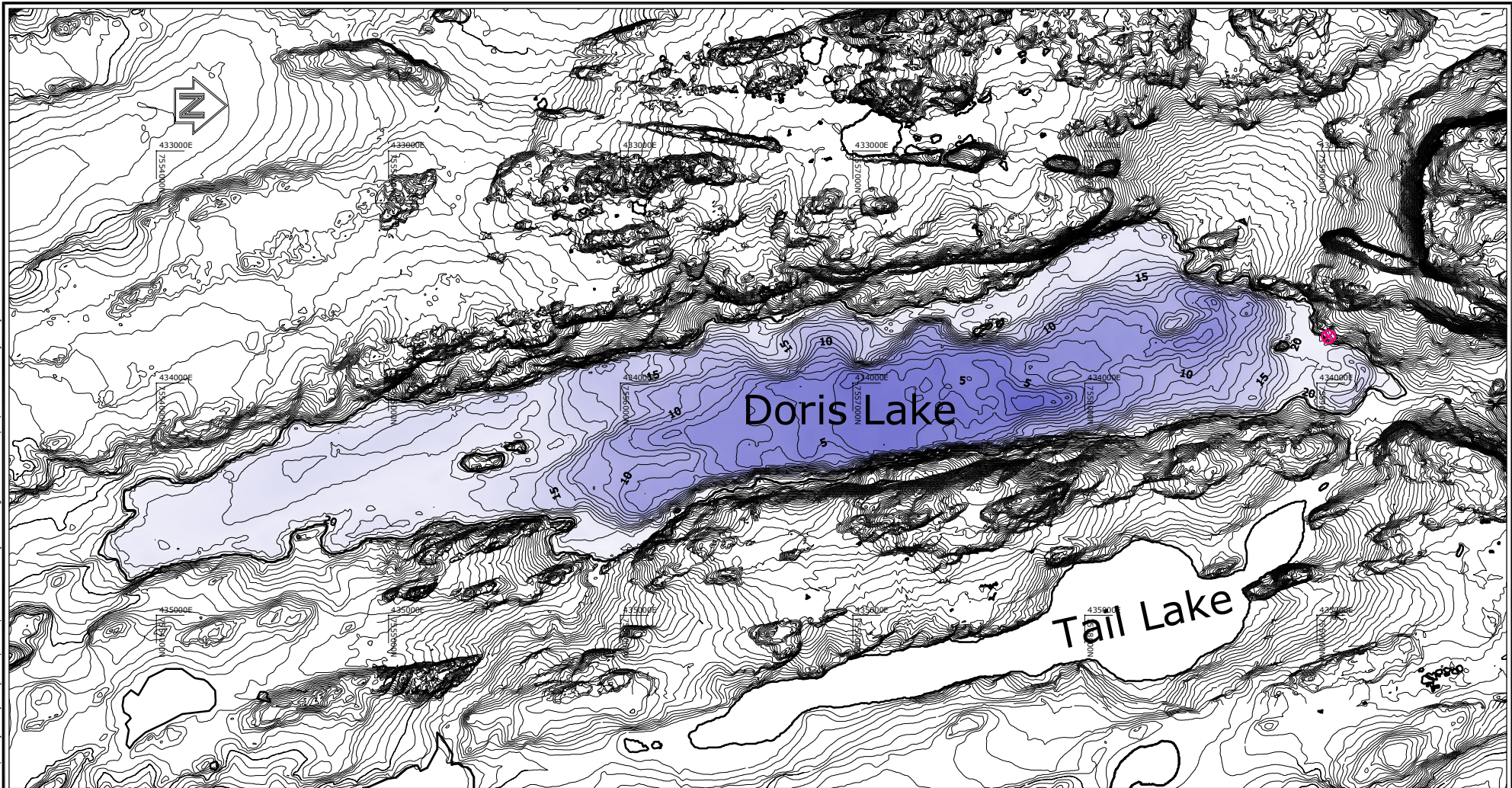
1. Sea-bed contours at geodetic elevation are shown at 1m intervals.
2. Grid coordinates are NAD83, Zone 13N.
3. Topographic contour intervals are 1m.
4. Roberts Bay shoreline is shown at -0.05m elevation in topographic base map.
5. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

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TITLE						
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Figure 3

Drawing: G:\Active\2006\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_bathy\_doris.dwg Plot: 2006/10/20, 14:36 By: mtaylor



**Legend:**

- Lake-bed Contour, Major
- Lake-bed Contour, Minor
- Shoreline
- Survey Stake

**Note:**

1. Lake-bed contours at geodetic elevation are shown at 1m intervals.
2. Grid coordinates are NAD83, Zone 13N.
3. Topographic contour intervals are 1m and 2m.
4. Doris Lake shoreline at +21.42m elevation geodetic interpolated from topography and survey data.
5. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

**Reference:**

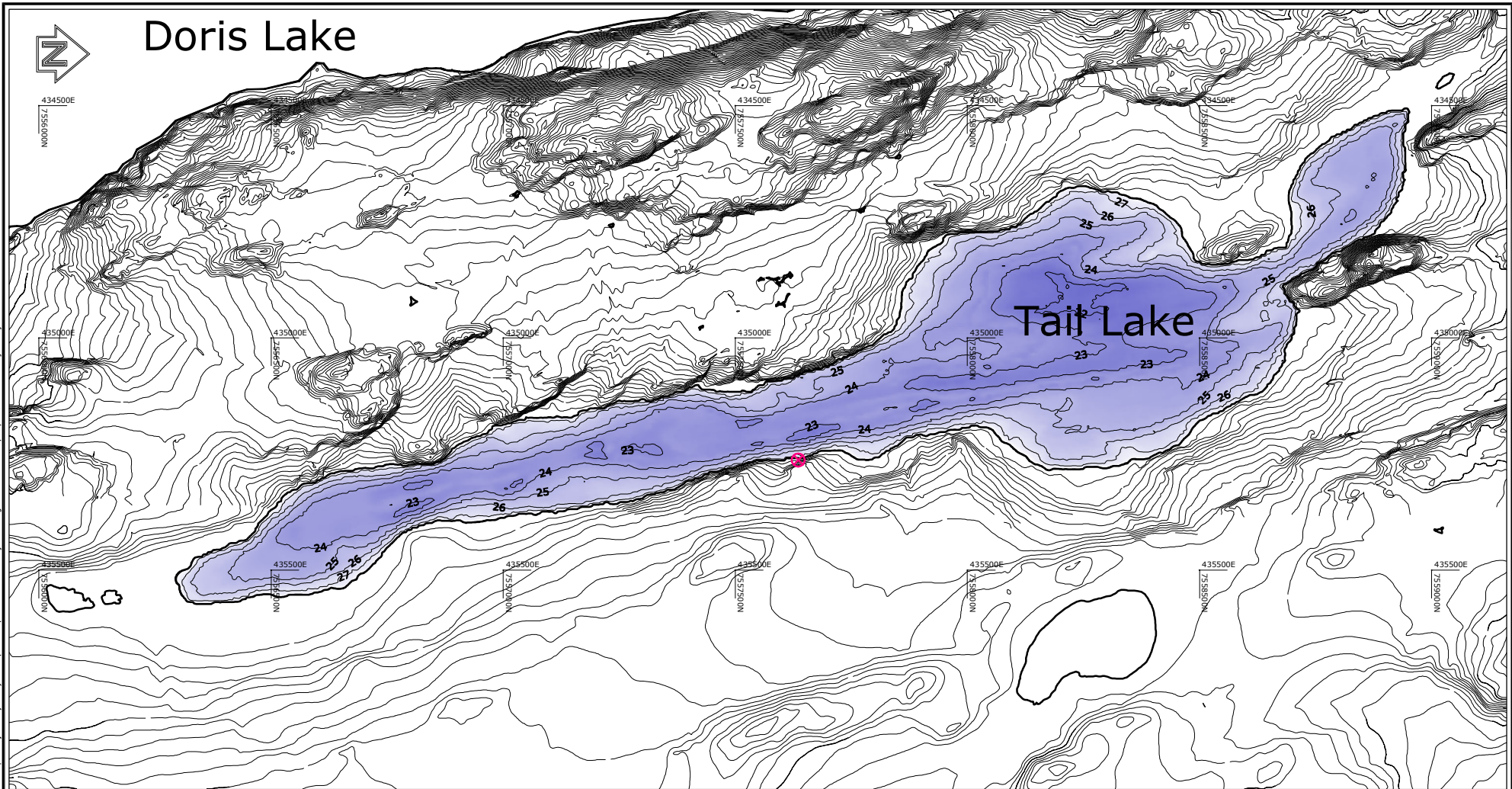
Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHL.

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TITLE						
DORIS LAKE LAKE-BED ELEVATIONS						
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CHECK	JW	20061005				
REVIEW	MJ	20061005				



Figure 4

Drawing: C:\Active\2006\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_bathy\_dtd.dwg Plot: 2006/10/20, 14:36 By: ntaylor



**Legend:**

- Lake-bed Contour, Major
- Lake-bed Contour, Minor
- Shoreline
- ⊗ Survey Stake

**Note:**

1. Lake-bed contours at geodetic elevation are shown at 1m intervals.
2. Grid coordinates are NAD83, Zone 13N.
3. Topographic contour intervals are 1m and 2m.
4. Tail Lake shoreline at +28.12m elevation geodetic interpolated from topography and survey data.
5. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

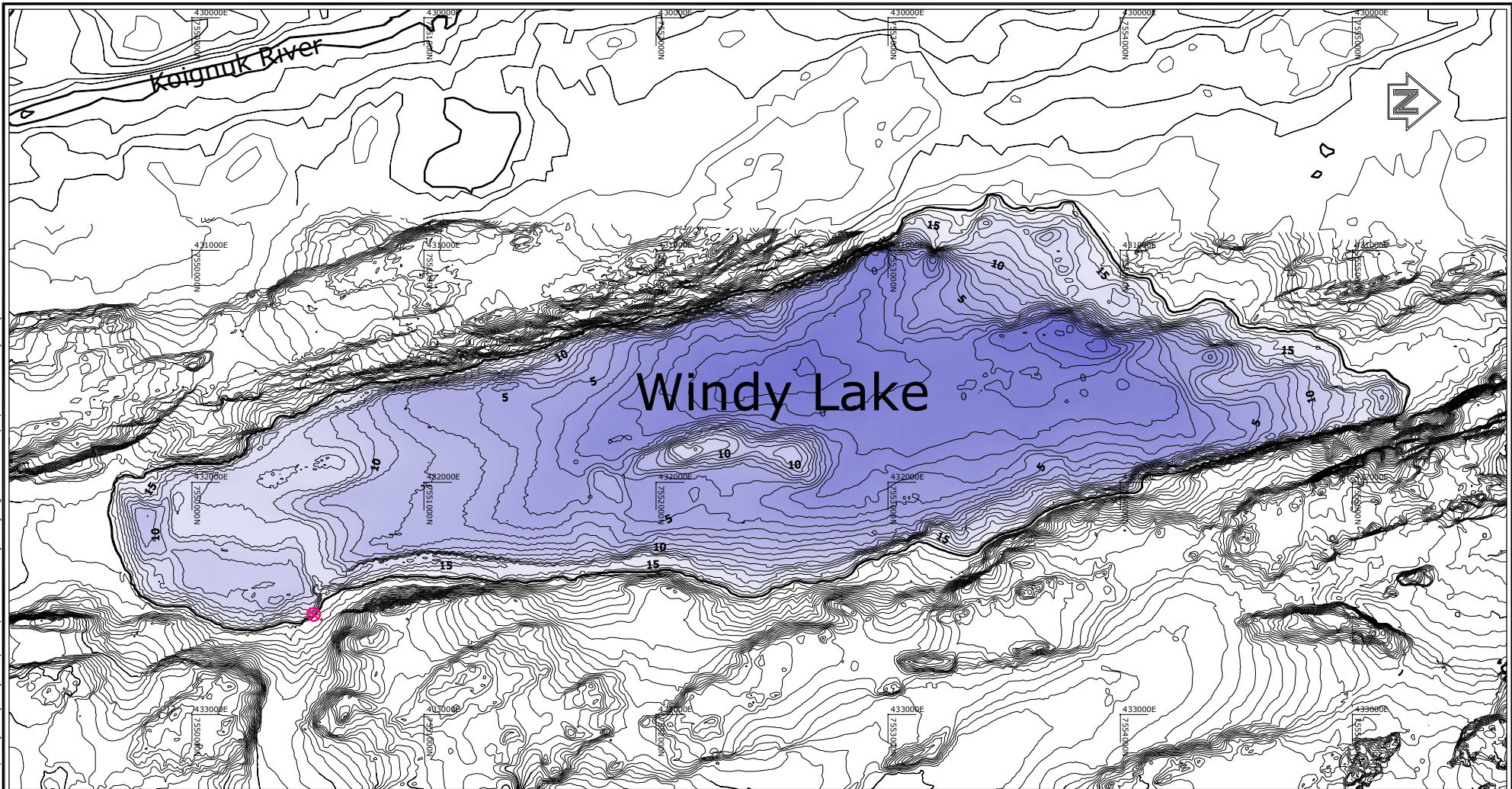
**Reference:**

Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHL.

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TITLE						
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PROJECT No. 06-1419-007			FILE No. 061419007_bathy_tal			
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CHECK	JW	20061004				
REVIEW	MM	20061004				



Drawing: C:\Active\2006\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_bathy-windy.dwg Plot: 2006/10/20, 14:35 By: mtoyer



**Legend:**

- Lake-bed Contour, Major
- Lake-bed Contour, Minor
- Shoreline
- ⊗ Survey Stake

**Note:**

1. Lake-bed contours at geodetic elevation are shown at 1m intervals.
2. Grid coordinates are NAD83, Zone 13N.
3. Topographic contour intervals are 2m, except for coarse topography to west of lake at 10m intervals.
4. Windy Lake shoreline at +18.235m elevation geodetic interpolated from topography and survey data.
5. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

**Reference:**

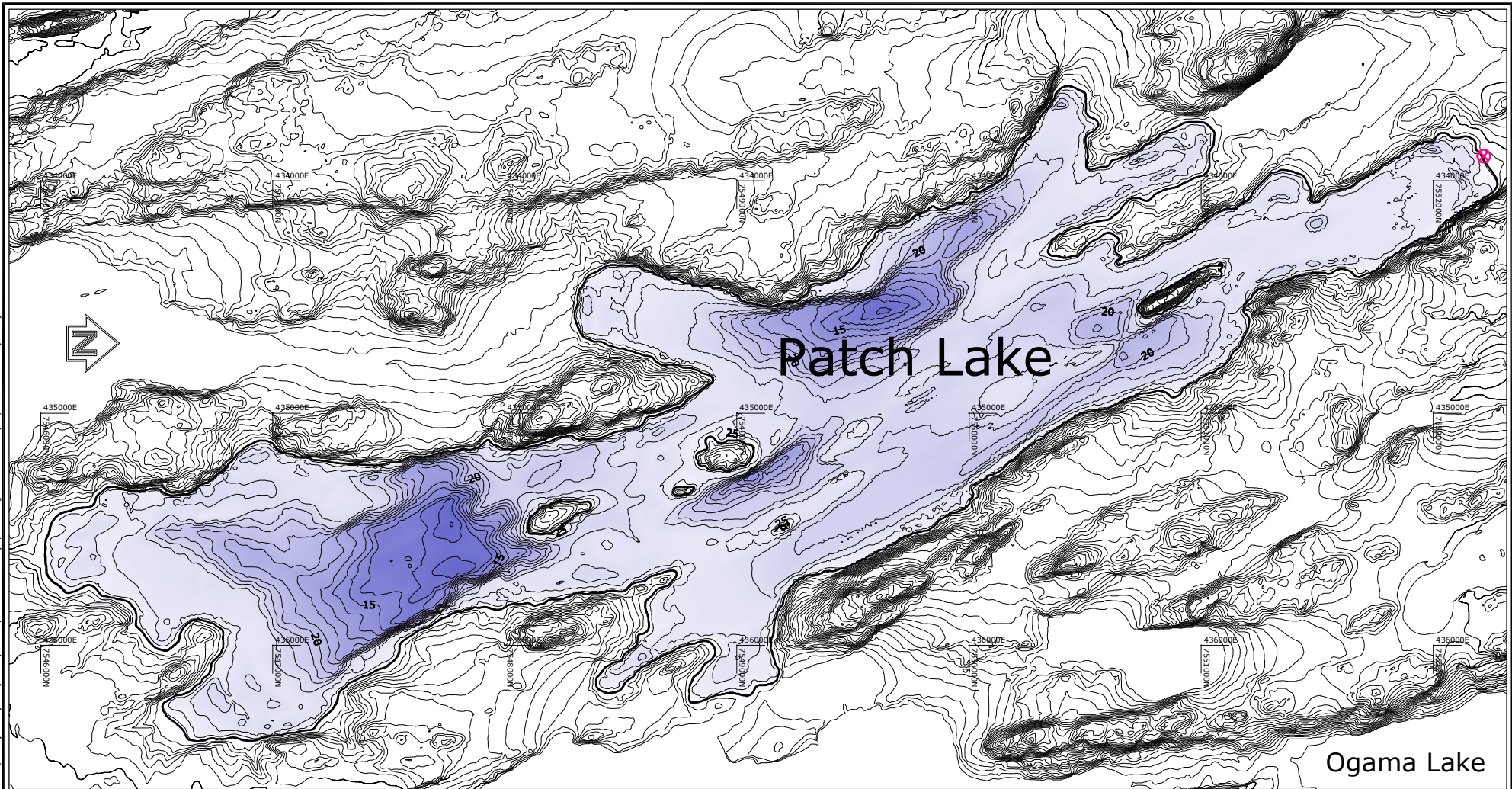
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PROJECT No. 06-1419-007			FILE No. 061419007_bathy_windy			
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CADD			REV. 0			
CHECK						
REVIEW						



Figure 6

Drawing: C:\Active\2006\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\06119007\_bathy-patch.dwg Plot: 2006/10/20, 14:34 By: ntaylor



**Legend:**

- Lake-bed Contour, Major
- Lake-bed Contour, Minor
- Shoreline
- ⊗ Survey Stake

**Note:**

1. Lake-bed contours at geodetic elevation are shown at 1m intervals.
2. Grid coordinates are NAD83, Zone 13N.
3. Topographic contour intervals are 2m.
4. Patch Lake shoreline at +26.275m geodetic elevation interpolated from topography and survey data.
5. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

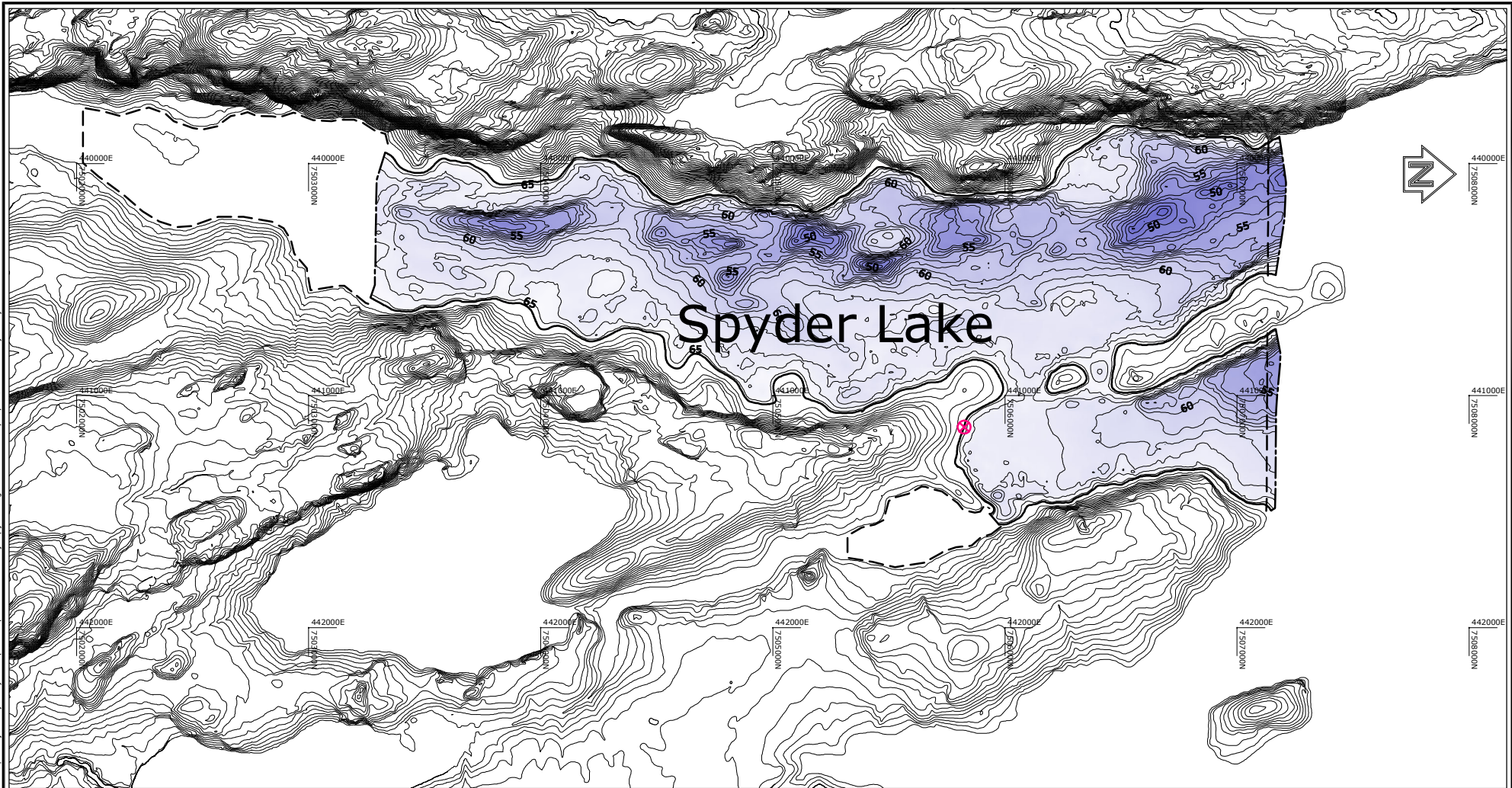
**Reference:**

Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHLB.

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CHECK	JW	20061004				
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Figure 7						0



Drawing: O:\Active\2006\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_bathy=spyder.dwg Plot: 2006/10/20 14:33 By: ntaylor



**Legend:**

- Lake-bed Contour, Major
- Lake-bed Contour, Minor
- Shoreline
- - - SRK Survey Area
- - - Golder Survey Limit
- ⊗ Survey Stake

**Note:**

1. Lake-bed contours at geodetic elevation are shown at 1m intervals.
2. Grid coordinates are NAD83, Zone 13N.
3. Topographic contour intervals are 1m.
4. Spyder Lake shoreline at +65.625 geodetic elevation interpolated from topography and survey data.
5. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

**Reference:**

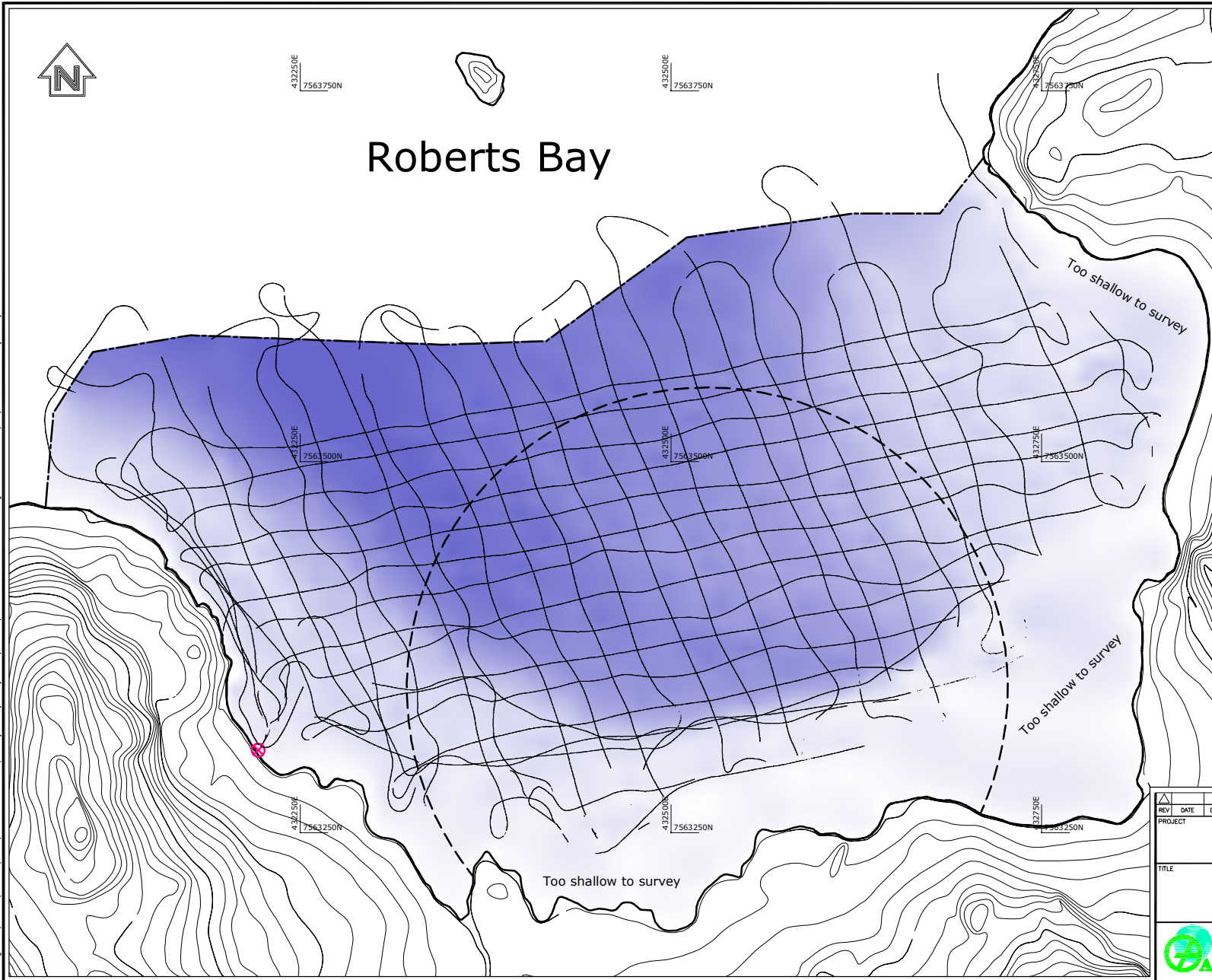
Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHL.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RWN
PROJECT						
SRK Hope Bay, NT						
TITLE						
SPYDER LAKE LAKE-BED ELEVATIONS						
PROJECT No. 06-1419-007			FILE No. 061419007_bathy_spyder			
DESIGN			SCALE As Shown   REV. 0			
CADD	NFT	20061004				
CHECK	JW	20061004				
REVIEW	MJ	20061004				



Figure 8

Drawing: C:\Active\2006\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_track\_rb-s.dwg Plot: 2006/10/20, 14:30 By: ntaylor



# Roberts Bay

**Reference:**  
 Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHL.

- Legend:**
- Shoreline
  - - - SRK Survey Area
  - · - · Golder Survey Limit
  - ⊗ Survey Stake

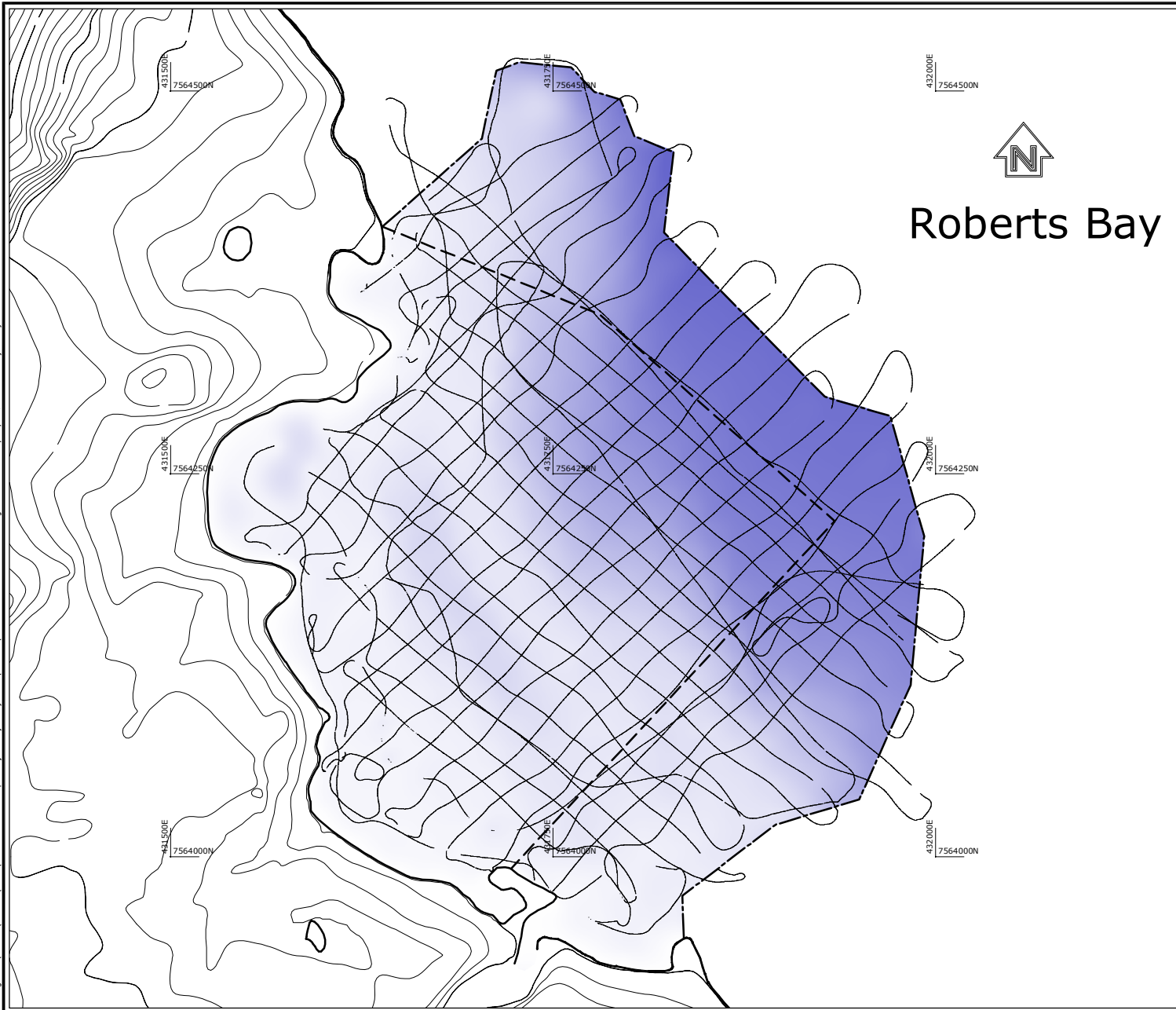
- Note:**
1. Grid coordinates are NAD83, Zone 13N.
  2. Topographic contour intervals are 1m.
  3. Roberts Bay shoreline is shown at -0.05m elevation in topographic base map.
  4. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	R/W
PROJECT						
SRK Hope Bay, NT						
TITLE						
ROBERTS BAY, AREA A SURVEY TRACKLINES						
PROJECT No. 06-1419-007			FILE No. 061419007_track_rb-s			
DESIGN			SCALE As Shown			
CADD	NFT	20061016				
CHECK	JW	20061016				
REVIEW	MJ	20061016				



Figure 9

Drawing: C:\Active\2006\1419\06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_track-rob-b.dwg Plot: 2006/10/20, 14:29 By: ntaylor



# Roberts Bay

**Reference:**  
 Topographic information (NAD83, Zone 13N)  
 generated by BHP 1997 and provided by MHBL.

- Legend:**
- Shoreline
  - SRK Survey Area
  - Golder Survey Limit
  - Survey Stake

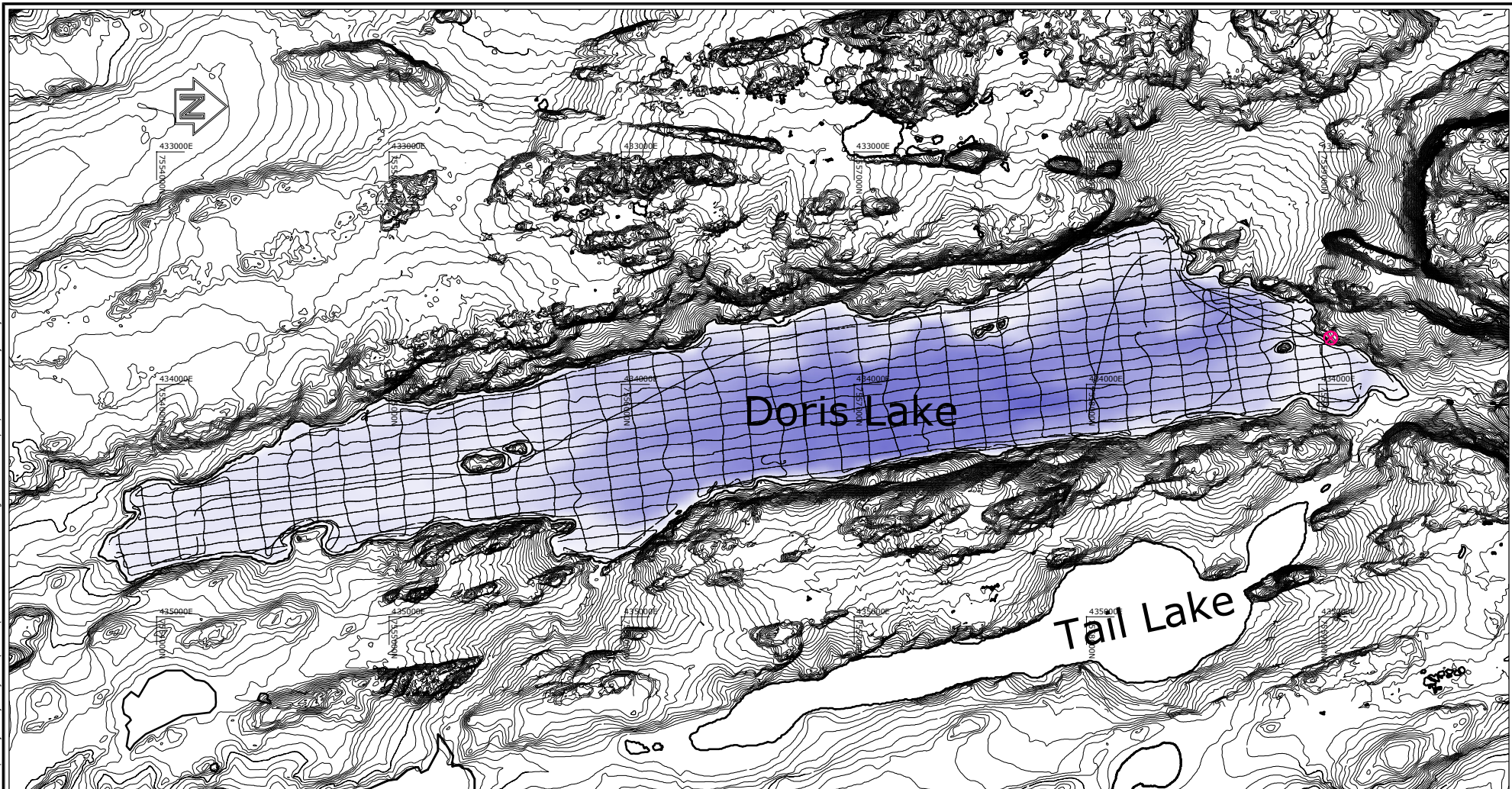
- Note:**
1. Grid coordinates are NAD83, Zone 13N.
  2. Topographic contour intervals are 1m.
  3. Roberts Bay shoreline is shown at -0.05m elevation in topographic base map.
  4. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RWH
PROJECT						
SRK Hope Bay, NT						
TITLE						
ROBERTS BAY, AREA B SURVEY TRACKLINES						
PROJECT No. 06-1419-007			FILE No. 061419007_track-rob-b			
DESIGN			SCALE As Shown			
CADD	NFT	20061016	REV. 0			
CHECK	JW	20061016				
REVIEW	MJ	20061016				



Figure 10

Drawing: C:\Active\2006\1419\06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_track-doris.dwg Plot: 2006/10/20, 14:28 By: mtaylor



**Legend:**

- Shoreline
- ⊗ Survey Stake

**Note:**

1. Grid coordinates are NAD83, Zone 13N.
2. Topographic contour intervals are 1m and 2m.
3. Doris Lake shoreline at +21.42m elevation geodetic interpolated from topography and survey data.
4. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

**Reference:**

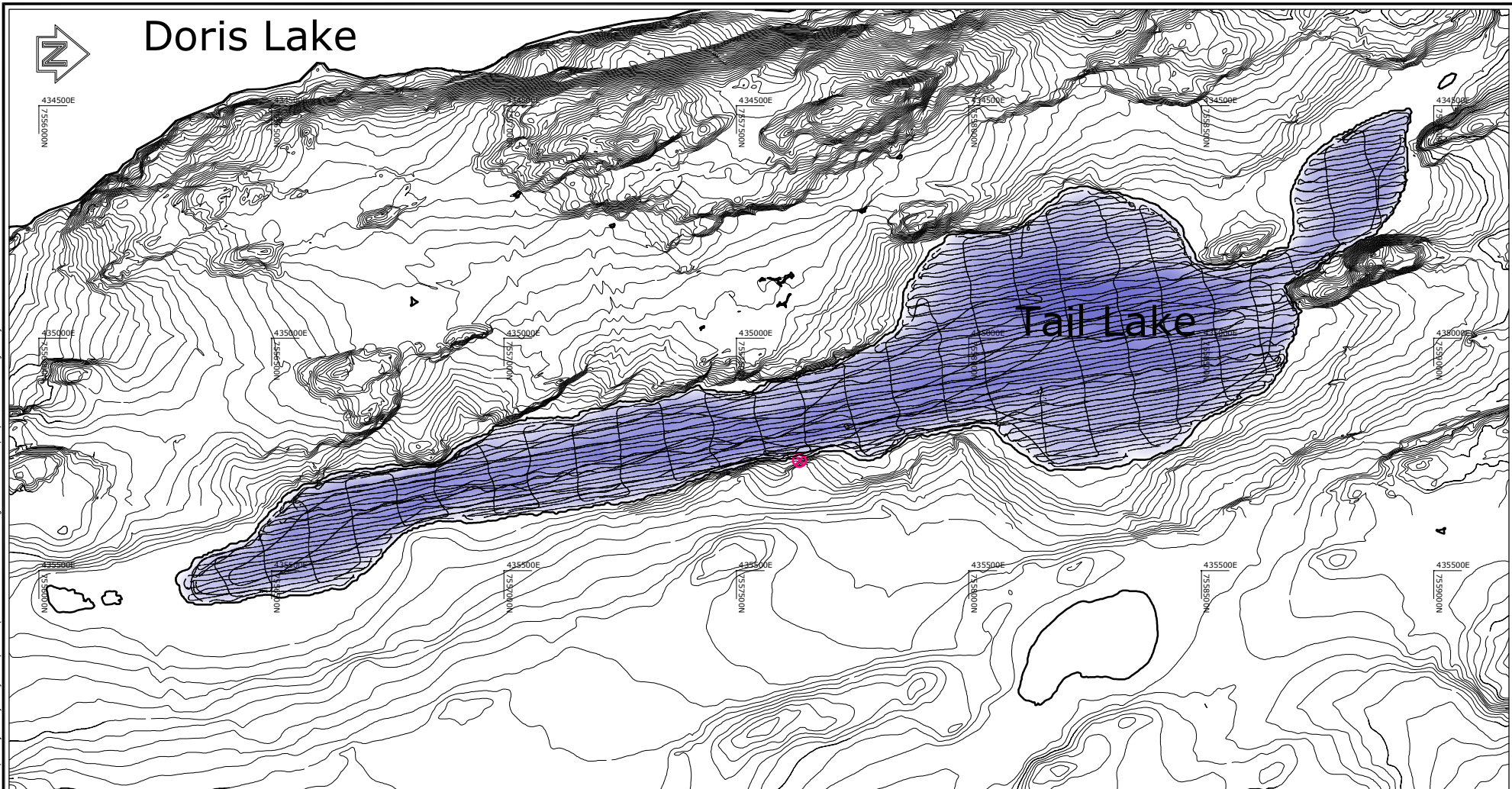
Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHL.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RWN
PROJECT						
SRK Hope Bay, NT						
TITLE						
DORIS LAKE SURVEY TRACKLINES						
PROJECT No. 06-1419-007			FILE No. 061419007_track_doris			
DESIGN			SCALE As Shown			
CADD	NFT	20061016				
CHECK	JW	20061016				
REVIEW	MM	20061016				





Figure 11

Drawing: C:\Active\2006\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_track\_lal.dwg Plot: 2006/10/20, 14:26 By: mtoyar



**Legend:**

-  Shoreline
-  Survey Stake

**Note:**

1. Grid coordinates are NAD83, Zone 13N.
2. Topographic contour intervals are 1m and 2m.
3. Tail Lake shoreline at +28.12m elevation geodetic interpolated from topography and survey data.
4. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

**Reference:**

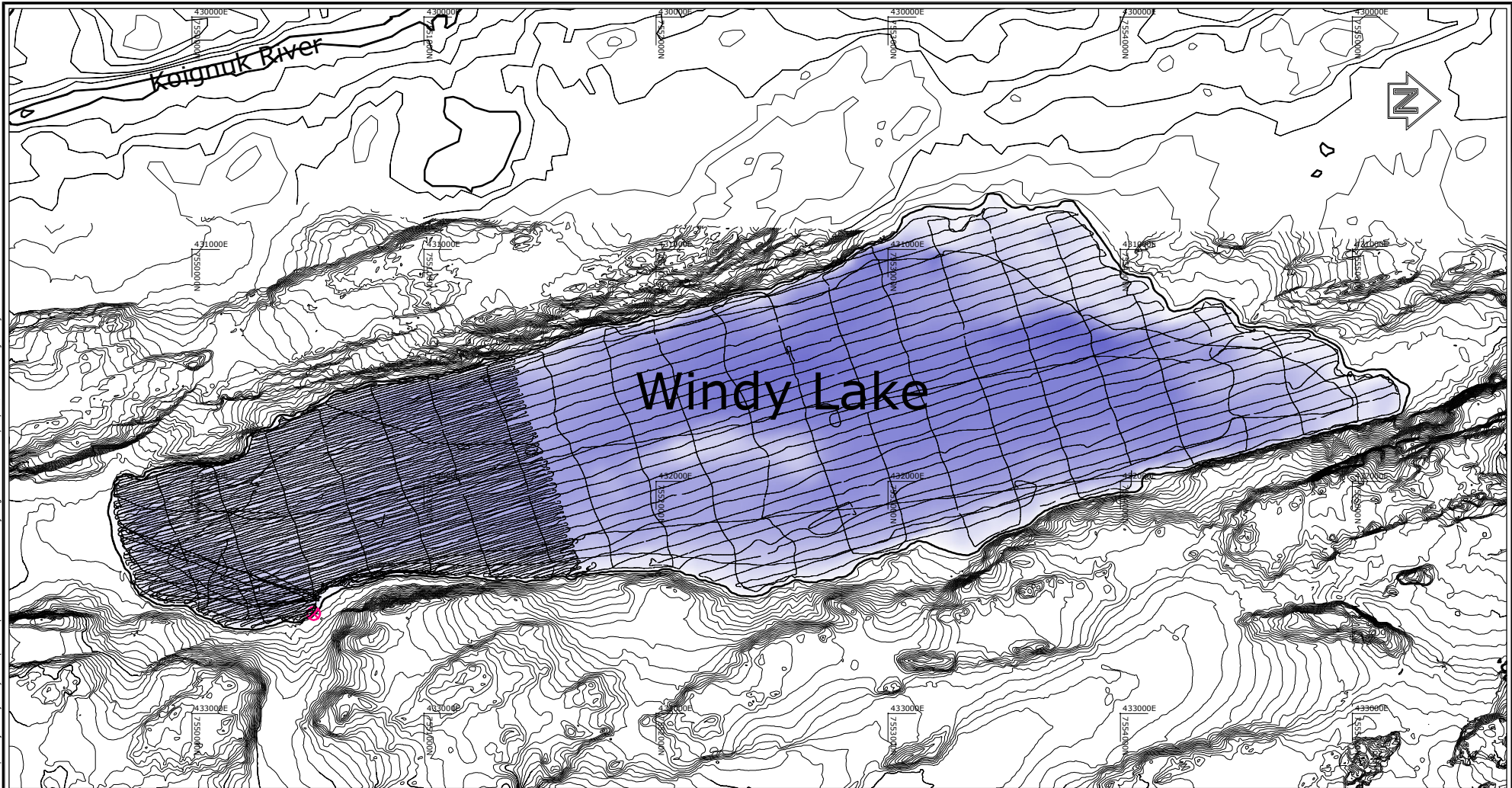
Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHL.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RWN
PROJECT						
SRK Hope Bay, NT						
TITLE						
TAIL LAKE SURVEY TRACKLINES						
PROJECT No. 06-1419-007			FILE No. 061419007_track_lal			
DESIGN			SCALE As Shown			
CADD	NFT	20061016				
CHECK	JW	20061016				
REVIEW	MM	20061016				



Figure 12

Drawing: C:\Active\2006\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\061419007\_track-windy.dwg Plot: 2006/10/20, 14:23 By: mtoyer



**Legend:**

- Shoreline
- ⊗ Survey Stake

**Note:**

1. Grid coordinates are NAD83, Zone 13N.
2. Topographic contour intervals are 2m, except for coarse topography to west of lake at 10m intervals.
3. Windy Lake shoreline at +18.235m elevation geodetic interpolated from topography and survey data.
4. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

**Reference:**

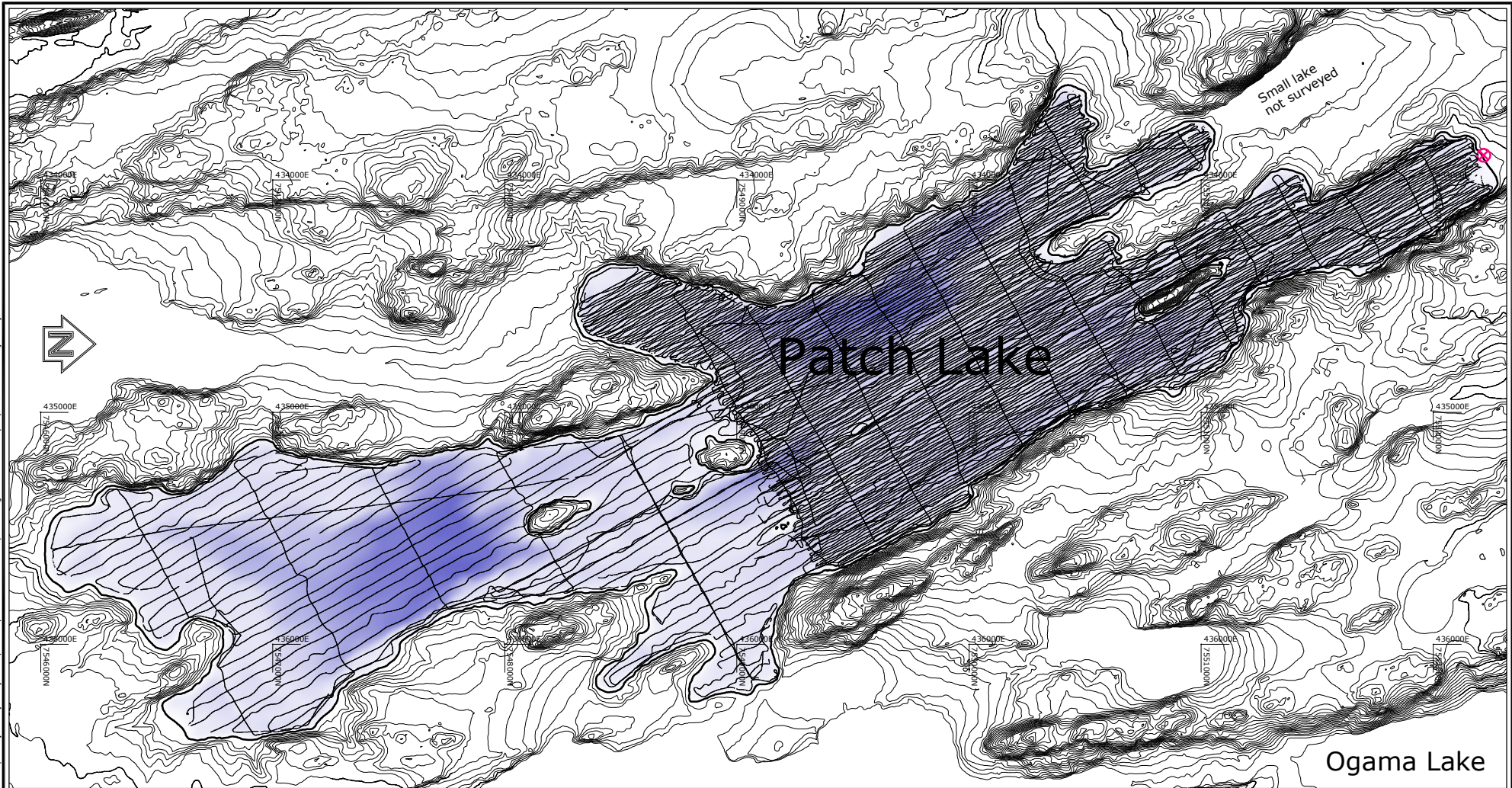
Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHL.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RWN
PROJECT						
SRK Hope Bay, NT						
TITLE						
WINDY LAKE SURVEY TRACKLINES						
PROJECT No. 06-1419-007			FILE No. 061419007_track_windy			
DESIGN			SCALE As Shown   REV. 0			
CADD	NFT	20061016				
CHECK	JW	20061016				
REVIEW	MM	20061016				



Figure 13

Drawing: C:\Active\2008\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\06119007\_track-patch.dwg Plot: 2006/10/20, 14:17 By: mtylor



**Legend:**

- Shoreline
- Survey Stake

**Note:**

1. Grid coordinates are NAD83, Zone 13N.
2. Topographic contour intervals are 2m.
3. Patch Lake shoreline at +26.275m geodetic elevation interpolated from topography and survey data.
4. Small lake at NW end of Patch Lake was not surveyed due to cliff blocking GPS signal.
5. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

**Reference:**

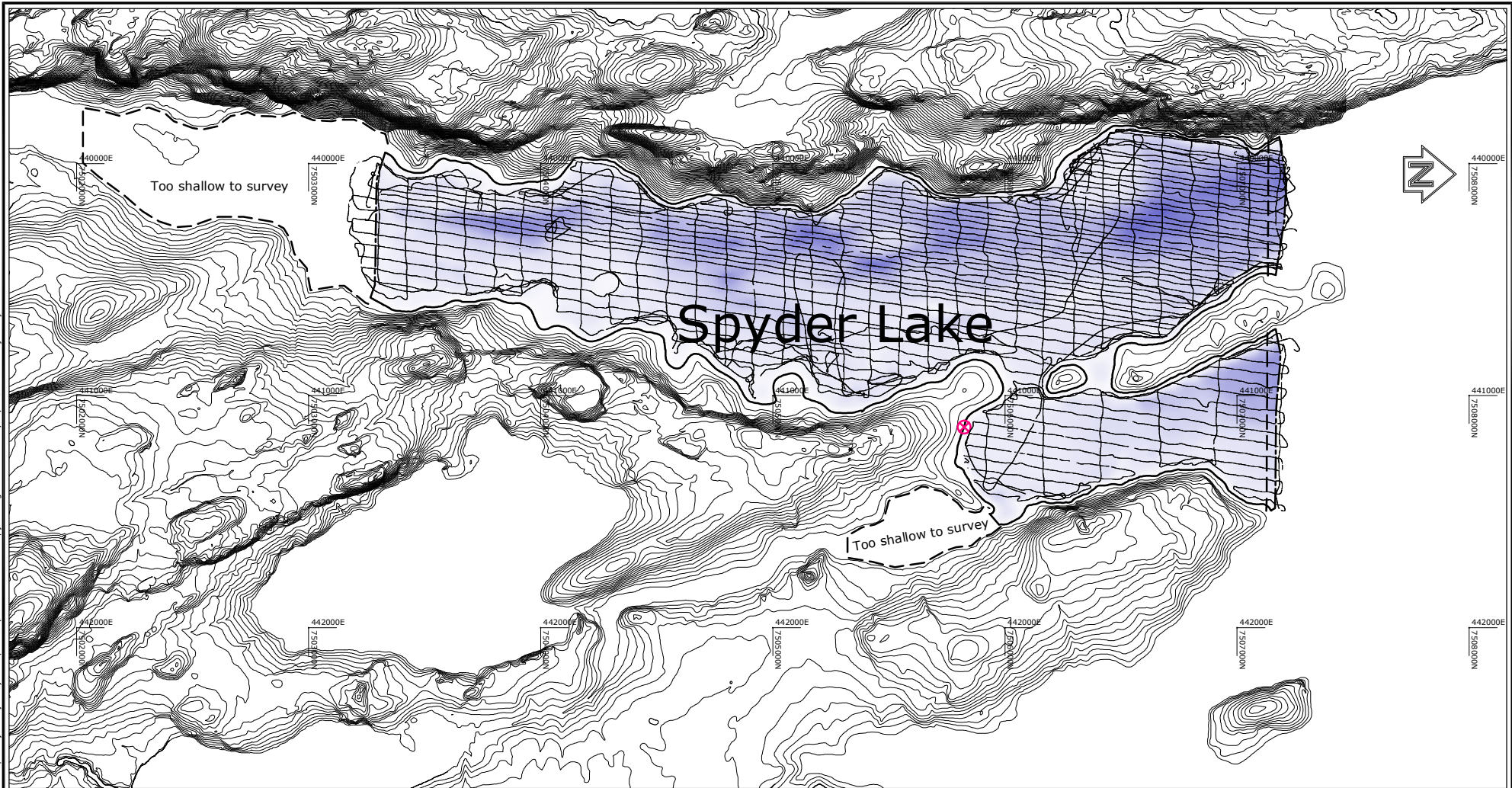
Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHL.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RWN
PROJECT						
SRK Hope Bay, NT						
TITLE						
PATCH LAKE SURVEY TRACKLINES						
PROJECT No. 06-1419-007			FILE No. 06119007_track_patch			
DESIGN			SCALE As Shown			
CADD	NFT	20061016				
CHECK	JW	20061016				
REVIEW	MM	20061016				



Figure 14

Drawing: C:\Active\2008\1419\_06-1419-007 Hope Bay Bathymetry SRK\9-Cad\06119007\_track-spyder.dwg Plot: 2008/10/20, 14:14 By: ntaylor



**Legend:**

- Shoreline
- - - SRK Survey Area
- - - Golder Survey Limit
- ⊗ Survey Stake

**Note:**

1. Grid coordinates are NAD83, Zone 13N.
2. Topographic contour intervals are 1m.
3. Spyder Lake shoreline at +65.625 geodetic elevation interpolated from topography and survey data.
4. Figure to be read in conjunction with Golder report "Rpt1019\_06 - SRK - Hope Bay Bathymetry".

**Reference:**

Topographic information (NAD83, Zone 13N) generated by BHP 1997 and provided by MHL.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RWN
PROJECT						
SRK Hope Bay, NT						
TITLE						
SPYDER LAKE SURVEY TRACKLINES						
PROJECT No. 06-1419-007			FILE No. 06119007_track_spyder			
DESIGN			SCALE As Shown			
CADD	NFT	20061016				
CHECK	JW	20061016				
REVIEW	MJ	20061016				

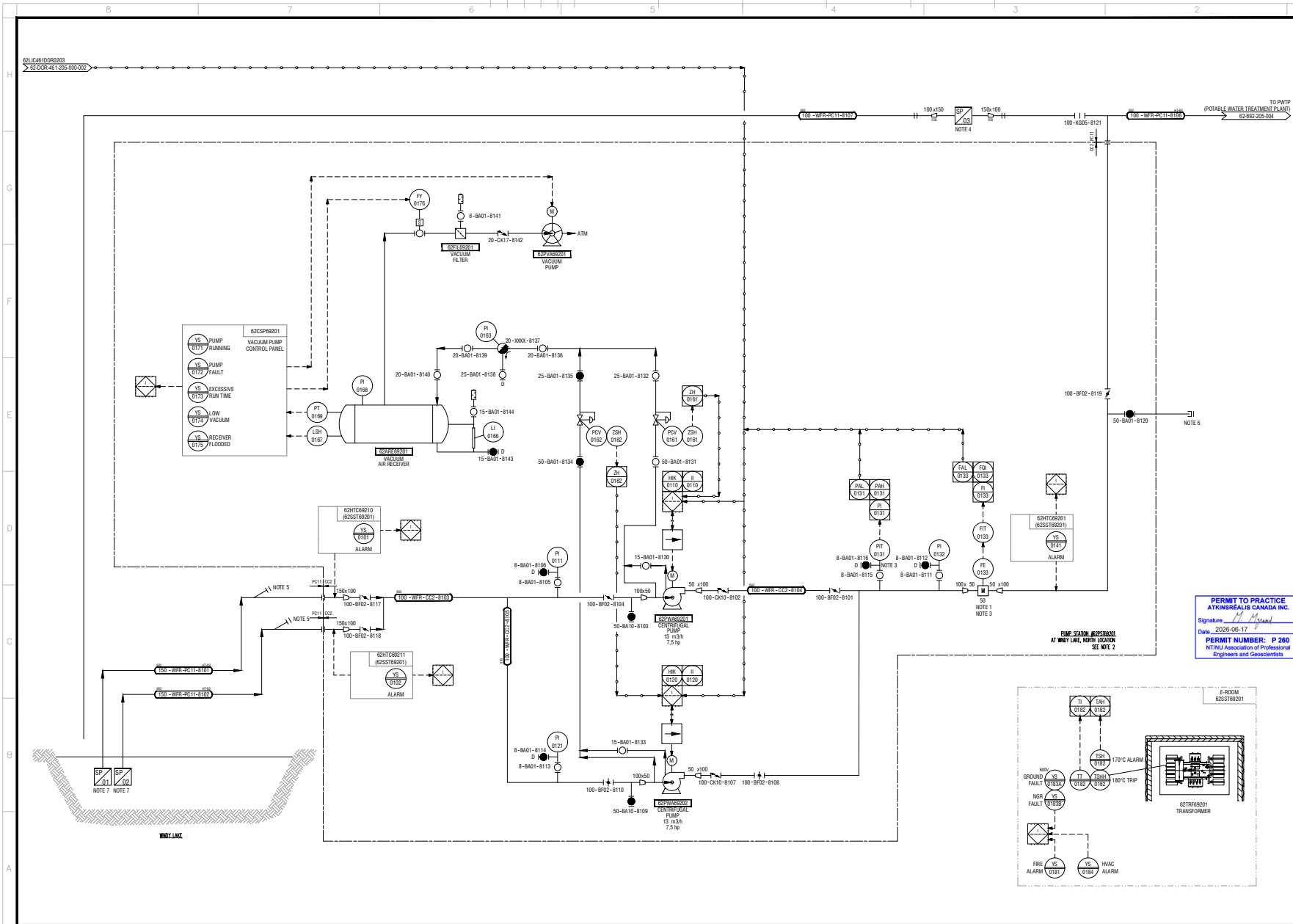


Figure 15

	<b>6212 – Hope Bay</b>	 <b>AGNICO EAGLE</b>
	DESIGN REPORT 6212-692-210-TCR-001 FRESH WATER INTAKE, PUMPING STATION AND PIPELINES AT WINDY LAKE NORTH	

## **APPENDIX C:**

## **P&ID DRAWINGS**



PLAN SIZE  
REV PLAN



Drawn No.: 104148-0000-602010-0001\_01

NOTES GÉNÉRALES / GENERAL NOTES

- NOTE :
1. NO FITTINGS WILL BE INSTALLED AT 50 UPSTREAM AND 30 DOWNSTREAM FROM THE FLOW METER.
  2. PUMP HOUSE IS HEATED AND VENTILATED.
  3. SUPPLIED BY AEM.
  4. IN-LINE PIG CATCHER (SEE 62-695-270-014).
  5. BLIND FLANGES FOR STEAMER.
  6. CAMLOCK FITTING TO CONNECT TO FRESH WATER TRUCK.
  7. WATER INTAKE (SEE 62-692-270-002)



THIS DRAWING IS THE PROPERTY OF ATKINSREALIS CANADA INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF ATKINSREALIS CANADA INC.

DESIGNS EN REFERENCE / REFERENCE DRAWINGS

NO.	FILE / TITLE	# REV.



PERMIT TO PRACTICE  
ATKINSREALIS CANADA INC.  
Signature: *M. Khoudja*  
Date: 2026-06-17  
PERMIT NUMBER: P 260  
NTNU Association of Professional Engineers and Geoscientists

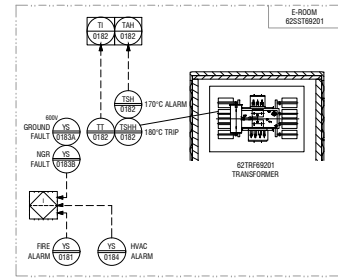
REVISIONS

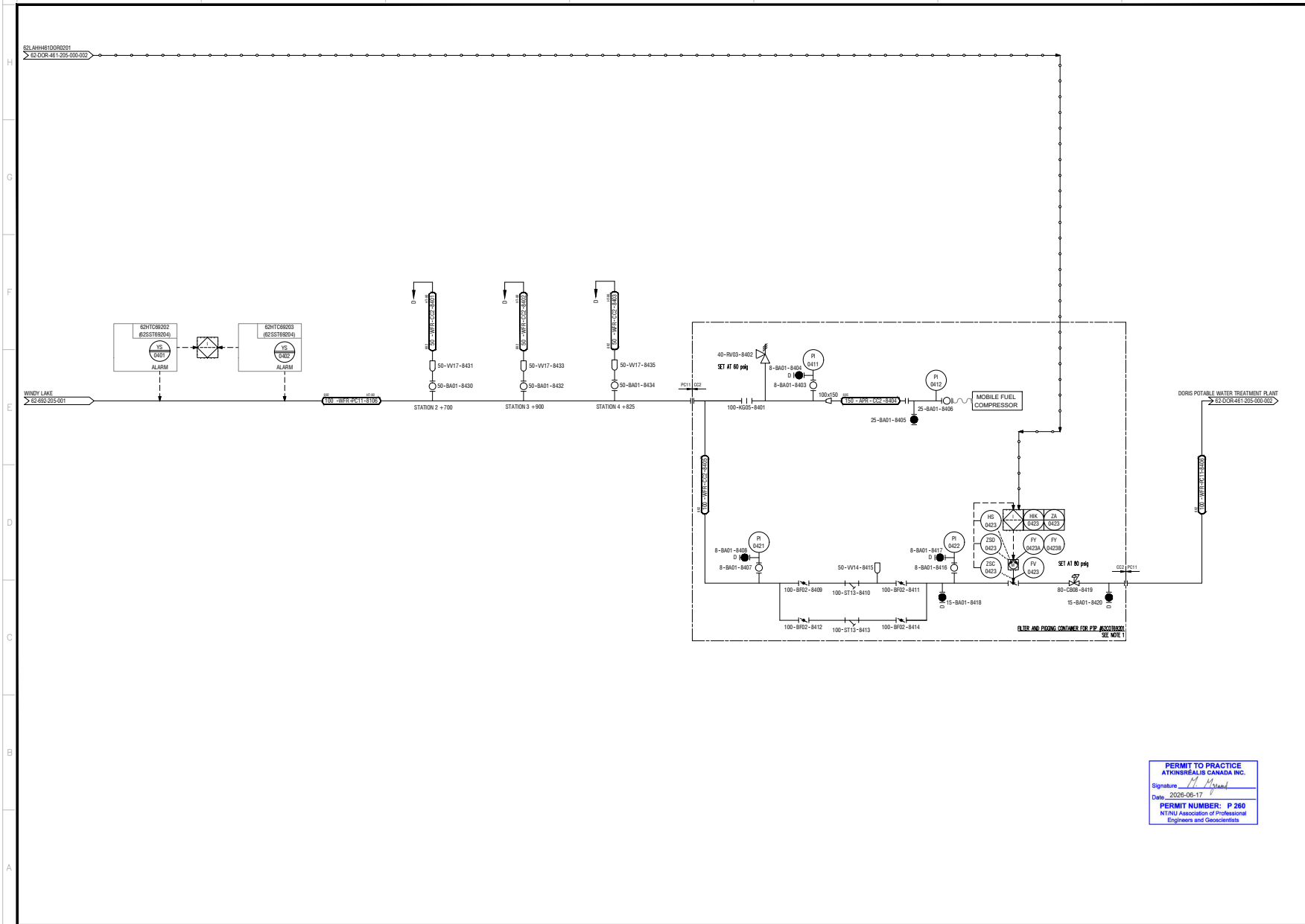
NO.	DATE	DESCRIPTION	BY	CHKD.

FILE / TITLE  
AGNICO EAGLE - HOPE BAY  
692-FRESH WATER PUMPING STATION  
205-PIPING & INSTRUMENTATION DIAGRAM  
WINDY LAKE NORTH  
PUMP STATIONS AND PIPELINES  
FIELD

ISSUED FOR	DATE
DESIGN BY: YASSINE KHOUDJA	2025-10-27
REV. AND APPROVED BY: MATHEU MYRAND	2025-10-27
CHECKED AND VERIFIED BY: ANH-LONG NGUYEN	2025-10-27
SCALE: NO SCALE	DATE: 2025-10-27

NO. DESIGN DRAWING NO. 62-692-205-001  
NO. PROJECT PROJECT NO. 6212  
NO. SHEET SHEET / NO. 1 / 1





**PLAN 522  
 KEY PLAN**

**AtkinsRéalis**

Drawn No. : 104148-0000-48D16-0000\_00

**NOTES GÉNÉRALES / GENERAL NOTES**

NOTE :

1. CONTAINER IS HEATED AND VENTILATED.

**POUR CONSTRUCTION  
 FOR CONSTRUCTION**  
 DATE : 2026-06-16

**AGNICO EAGLE**

NO.	DATE	DESCRIPTION	BY	CHK
0	2025-04-16	FOR CONSTRUCTION	Y.K.	M.W.

**REVISIONS**

DATE / TITLE

NO. / DATE / DESCRIPTION

1/16/2025

DATE / TITLE

AGNICO EAGLE - HOPE BAY  
 692 - FRESH WATER PUMPING STATION  
 205 - PIPING & INSTRUMENTATION DIAGRAM  
 WINDY LAKE NORTH  
 TO DORS PTP  
 P&ID

ISSUED FOR DRAWN BY: YASSINE KHOUIDJA DATE: 2025-10-31  
 REV. AND APPROVED BY: MATHEU MYRAND 2025-10-31  
 CHECK FOR REVISED BY: ANH-LONG NGUYEN 2025-10-31

SCALE: NO SCALE DATE: 2025-10-31

NO. DESIGN DRAWING NO. 62-692-205-004

NO. PROJECT PROJECT NO. 6212

REVISION / TITLE / NO. 0 / 1 / 1

**PERMIT TO PRACTICE  
 ATKINSRÉALIS CANADA INC.**  
 Signature: *M. Myrand*  
 Date: 2026-06-17  
**PERMIT NUMBER: P 260**  
 NTRU Association of Professional  
 Engineers and Geoscientists