



QUARRY MANAGEMENT AND MONITORING PLAN

HOPE BAY, NUNAVUT

February 2017

PLAIN LANGUAGE SUMMARY

This Plan describes the management and monitoring requirements for quarries at the Hope Bay Project. Construction of many of the facilities at the Hope Bay Project site require rock for fill material. This rock is to be sourced from various approved quarry sites. The material from all of the quarries is considered to have a low potential for acid rock drainage generation and low sulphur content. Accordingly, material from these quarries is suitable to be used as construction material. The quarrying, infrastructure and road construction activities consist of drilling, blasting, mucking crushing, haulage to usage locations (e.g. the advancing road limit), end dump and levelling. Each activity is to be conducted in accordance with this Plan and the various water licenses for the specific sites.

REVISION HISTORY

Revision #	Date	Section	Summary of Changes	Author	Approver
1	April 2010	Throughout		SRK	HBML
2	December 2014	Throughout	Inclusion of Quarries 2, 3 and 4. Update to license requirements. TMAC as current licensee for the Hope Bay region.	SRK	TMAC
3	February 2017	Throughout	Changes to document structure for operational suitability and efficiency	TMAC with contributions from SRK	TMAC

GLOSSARY AND ACRONYMS

TERM	DEFINITION
AN	ammonium nitrate
ANFO	ammonium nitrate + fuel oil
ARD	acid rock drainage
BTEX	benzene, toluene, ethylbenzene and xylene
CALA	Canadian Association for Laboratory Accreditation Inc.
CCME	Canadian Council of Ministers of the Environment
CWS	Canada Wide Standards
EC	electrical conductivity
EPD	Environmental Protection Division of the Nunavut Department of Environment
ESR	Environmental and Social Responsibility
HDPE	high density polyethylene
INAC	Indigenous and Northern Affairs Canada
ML	metal leaching
NWB	Nunavut Water Board
QA/QC	Quality Assurance and Quality Control
SAR	sodium adsorption ratio
TIA	Tailings Impoundment Area
TMAC	TMAC Resources Inc.

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1. INTRODUCTION

This Hope Bay Quarry Management and Monitoring Plan (the Plan) has been prepared by TMAC Resources Inc. (TMAC) in accordance with various water licences and the Kitikmeot Inuit Association (KIA) Framework Agreement held by TMAC associated with developments throughout the Hope Bay region.

The Plan is intended primarily for use by TMAC and its contractors to ensure that best practices for minimizing potential environmental impacts and potential environmental liabilities with respect to quarrying are followed, and that the conditions of water licences and KIA agreement are met.

This Plan is structured in a manner such that one document pertaining to quarrying is approved and implemented across all TMAC Hope Bay Project sites, while still addressing site and licence-specific needs. The main document outlines TMAC's approach to quarrying as it pertains to all TMAC Hope Bay developments. Subsequent modules will be added if new quarries are proposed with specific management requirements. This is intended for consistency and efficiency across operations and for compliance management.

1.1. OBJECTIVES

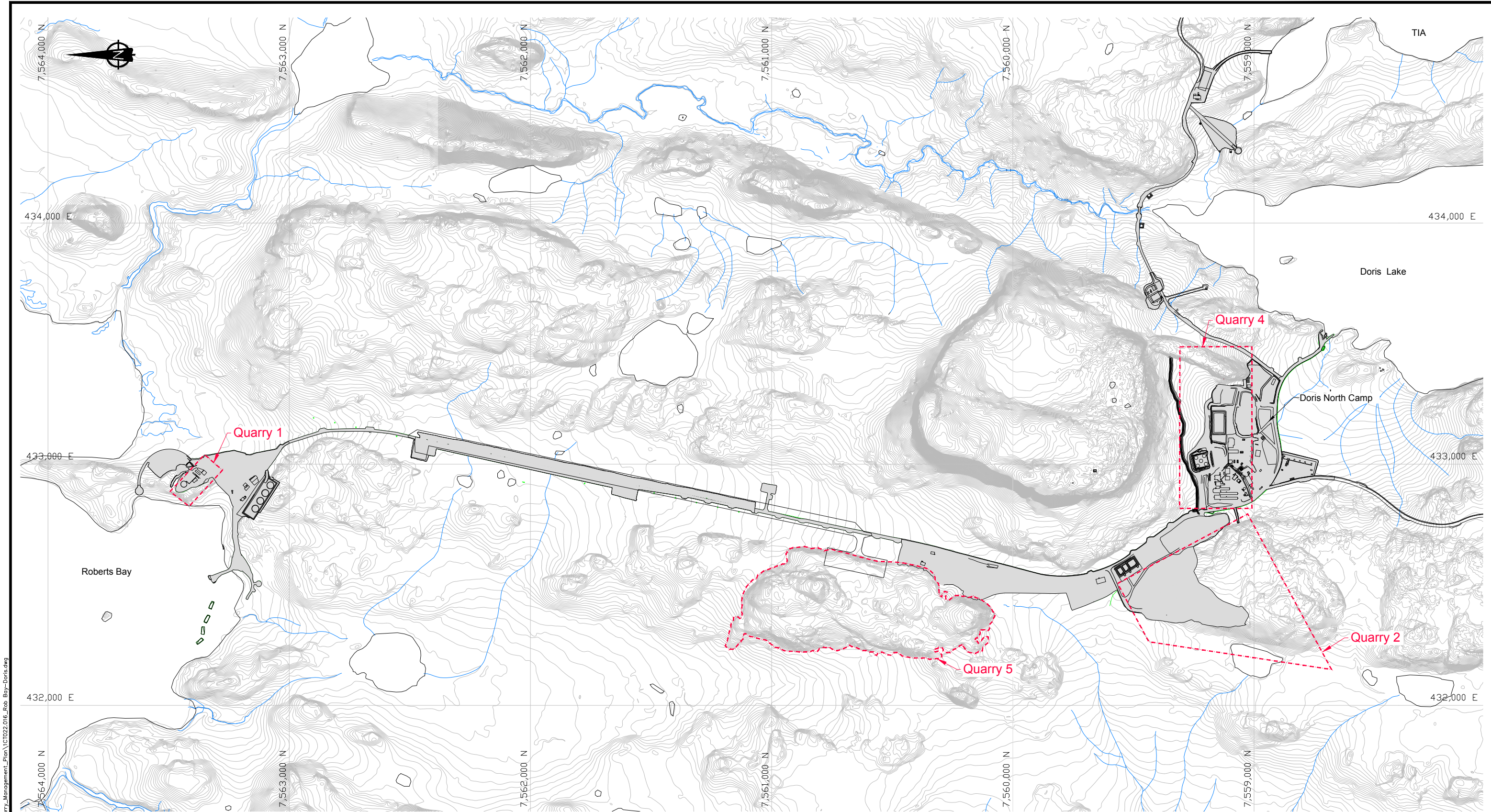
Construction of many of the facilities at the Hope Bay Project site require rock for fill material. This rock is to be sourced from various approved quarry sites. The material from all of the quarries is considered to have a low potential for acid rock drainage generation and low sulphur content. Accordingly, material from these quarries is suitable to be used as construction material. The quarrying, infrastructure and road construction activities consist of drilling, blasting, mucking crushing, haulage to usage locations (e.g. the advancing road limit), end dump and levelling. The objective of this Plan is to outline how these activities will be managed and monitored.

1.2. QUARRY LOCATIONS


The quarries covered under this Plan are listed in Table 1 and briefly described below. Quarry locations are presented in Figures 1 to 3.

Table 1: Location and Status of Hope Bay Quarries

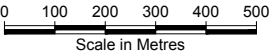
Quarry	Description
1	Site is currently used for the Fuel Tank Farm.
2	Located west of the Doris Camp.
3	Located east of Tail Lake. Material will be required for construction of the South Dam.
4	Doris Camp is located on the former quarry site.
5	Located at the south apron of the Doris North Airstrip Expansion.
A	Located at the northern end of the Doris Windy Road. Site is currently used for storage of explosives.
B	Located on the Doris Windy Road. Site has been proposed for storage of explosives.
D	Site has been approved for construction of a new camp.
G	Located on the proposed Madrid South All-weather Road.
H	Located on the proposed Madrid South All-weather Road at the Madrid South Portal.
I	Located at Proposed Doris Central Vent Raise.



LEGEND

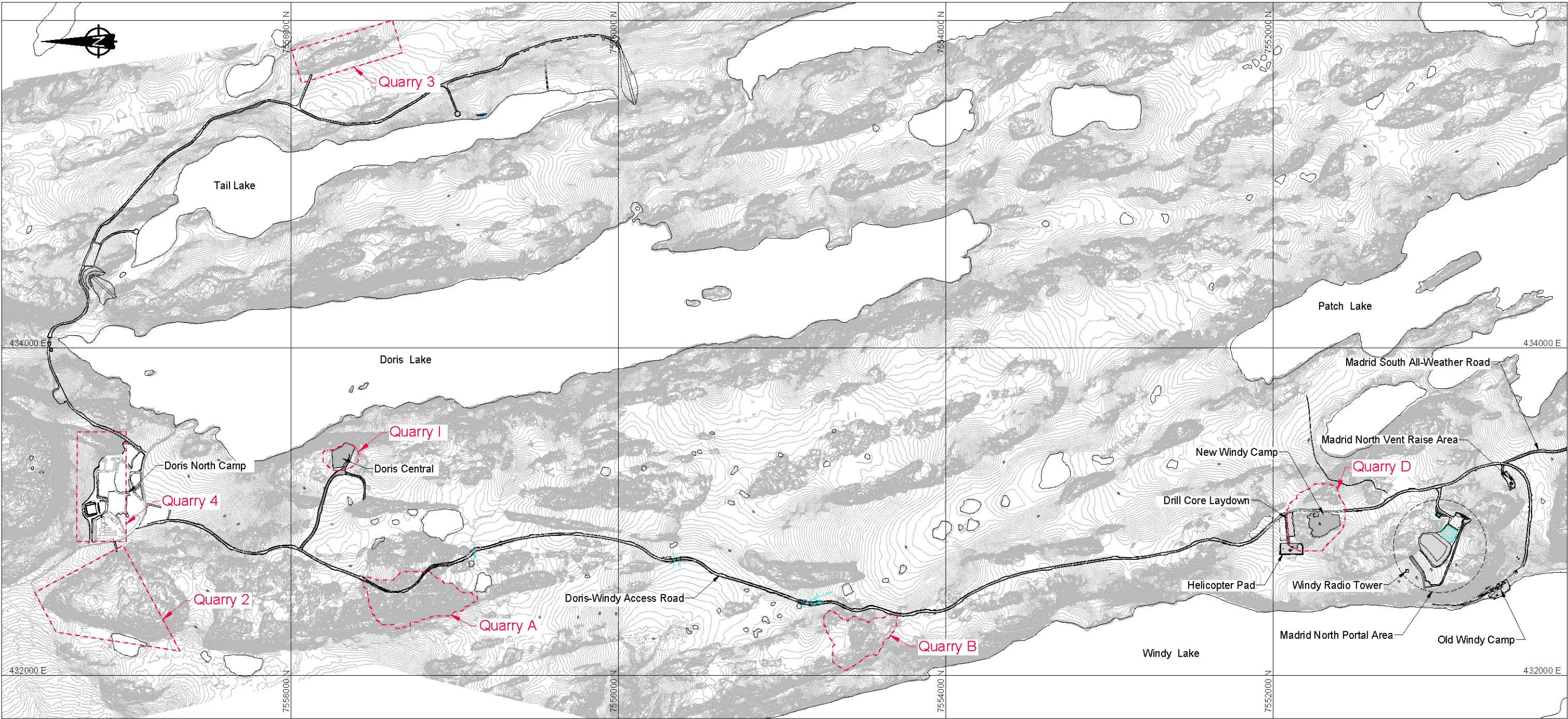
 Existing Approved and Permitted Quarry

- NOTES**
1. Topographic contour data for the terrain model were provided by Hope Bay Mining, and is based on 2007 Aerial Photography. Contour intervals are 1m.
 2. The co-ordinate system is UTM NAD 83, Zone 13.
 3. All dimensions are in metric units, unless specifically mentioned.



 SRK JOB NO.: 1CH022.016 FILE NAME: 1CT022.016_Rob Bay-Doris.dwg	 HOPE BAY PROJECT	Quarry Management Plan		
		Quarry 1 ,2, 4, and 5 Locations		
		DATE: Feb. 2017	APPROVED: LW	FIGURE: 1

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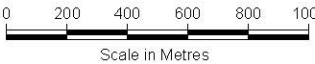


LEGEND

 Existing Approved and Permitted Quarry

NOTES

1. Topographic contour data for the terrain model were provided by Hope Bay Mining, and is based on 2007 Aerial Photography. Contour intervals are 0.5m.
2. The co-ordinate system is UTM NAD 83, Zone 13.
3. All dimensions are in metric units, unless specifically mentioned.



				Quarry Management Plan	
SRK JOB NO.: 1CH022.016		HOPE BAY PROJECT		Quarry 2, 3, 4, A, B, D, and I Locations	
FILE NAME: 1CT022.016_Doris-Windy.dwg				DATE: Feb. 2017	APPROVED: LW
				FIGURE: 2	