Dominion Diamond Corporation

Jay Project Developer's Assessment Report

Archaeology

Overview

Overview of Archaeological Assessment

- General Overview of Presentation
  - Introduction
  - DAR Sections for Archaeology/Heritage Resources
  - Assessment Approach for *Impacts to Cultural Aspects from Project Components*
- Existing Environment
  - Cultural Setting
  - Recorded Archaeological Sites
- Archaeological Assessment
  - Methods
  - Results
  - Summary
- Assessment Conclusions

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Introduction

Purpose

- Address the *Impacts to Cultural Aspects from Project Components* (specifically archaeological/ heritage resources)

- *Impacts to Cultural Aspects from Project Components* was identified as a Subject of Note (SON) in the Terms of Reference (TOR) for the Developer's Assessment Report (DAR)

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Assessment Sections - DAR

Heritage Resource/Archaeology Components found in the DAR

Section/Annex Number	Section Title
Section 15	Cultural Aspects
Annex 16	Archaeology Baseline Report for the Jay Project

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Assessment Approach

Valued Components, Assessment Endpoints, and Measurement Indicators

Valued Component	Assessment Endpoint	Measurement Indicator
Heritage Resources	Continued protection or presence of archaeological or historic sites, burial sites, artifacts, and other objects of historical, cultural, or religious significance, and their presence on the landscape	• Intact/undisturbed heritage resources

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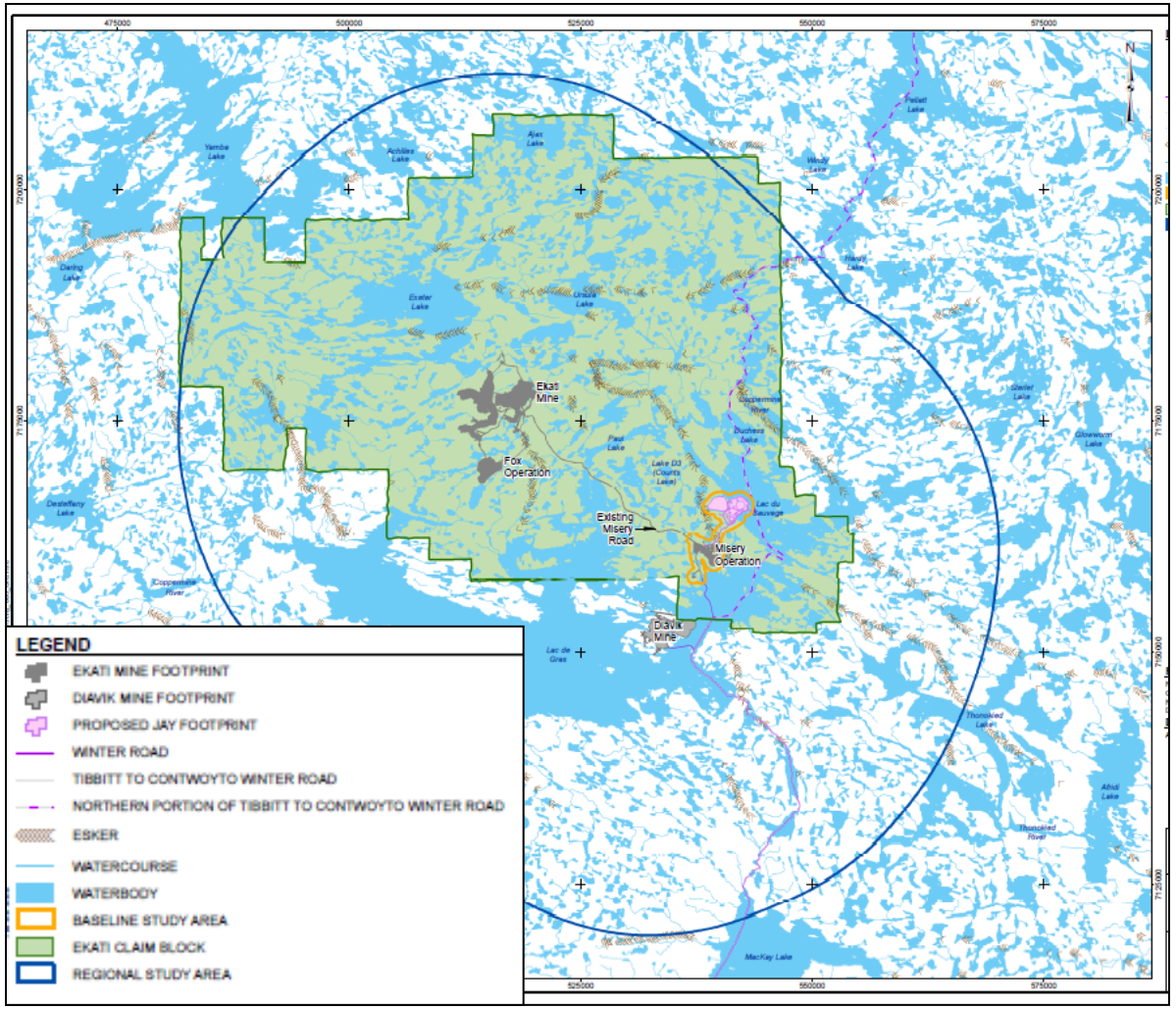
Assessment Approach

Study Area – Archaeology

- The Regional Study Area (RSA) encompasses all existing and proposed developments in the Lac de Gras region plus a 20-km buffer

- The Baseline Study Area (BSA) included the Project footprint plus a 500 m buffer



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Assessment Approach

Assessment Cases

Base Case		Application Case	Reasonably Foreseeable Development Case
Reference Condition	2014 Baseline Conditions		
No or minimal human development	Conditions from all previous, existing, and approved developments before the Project	Base Case plus the Project	Application Case plus reasonably foreseeable developments

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Assessment Approach

Project Component	Pathway
Physical Disturbance from Project Footprint	Construction of the Project may cause disturbance or destruction of heritage resources
Site Water Management	Changes in water levels may affect physical heritage resources
General Construction and Operation Activities	Activities such as embankments, shoulder stabilization on eskers, or new borrow sources, if required, may affect physical heritage resources
General Closure and Decommissioning Activities	Closure and Reclamation and post-closure activities, such as, scarifying roads, breaching of dikes, removal of buildings, and monitoring access that affects physical heritage resources
Accidents and Malfunctions	Accidents and malfunctions may have the potential to affect physical heritage resources

Existing Environment - Cultural Setting

- People have lived in and travelled across portions of the NWT since the end of the last ice age, approximately ***10,000 years Before Present (BP)***

- The earliest known inhabitants of the central District of Mackenzie have been dated to approximately ***7,000 BP*** and are known as ***Palaeoindians or Northern Plano (plains) tradition***

- The earliest cultural remains identified on the Ekati claim block are from the ***Palaeoeskimo or Arctic Small Tool tradition (ASTt)***

Existing Environment - Cultural Setting

- The ***Taltheilei tool tradition***, found throughout the Athabasca, Great Slave Lake, and north to the Lac de Gras regions, is representative of early use and occupation of the land by the ancestral Athapascan or sub-Arctic Dene (Noble 1981)

- Evidence of more recent, ***ongoing Traditional Use*** of the Lac de Gras region has been identified through physical remains, oral traditions, and the accounts of early European travelers

Existing Environment

Previous Archaeological Studies

- Previous archaeological work in the Ekati claim block has been conducted over several years by Bussey (1994, 1995, 1997, 2007, 2008)

Recent Archaeological Studies

- Recent archaeological work in response to the Jay Project has been conducted by Ross and Allerston (Hayden) (2013, 2014)

Recorded Archaeological Sites

- 451 sites have been recorded in the Heritage Resources RSA
- 8 sites have been recorded in the Heritage Resources BSA

Existing Environment - Recorded Archaeological Site Summary

Attribute Characteristic	Number of Sites in the RSA	Number of Sites in the BSA
Classification		
Prehistoric	442	8
Historic	3	0
Indigenous Historic	2	0
Undetermined	3	0
Natural	1	0
Cultural Affiliation		
ASTt/Palaeoeskimo	7/2	0
Pre-Dorset	1	0
Taltheilei	1	0
Pre-contact Dene	44	4
Undetermined	396	4

Existing Environment - Recorded Archaeological Site Summary

Attribute Characteristic	Number of Sites in the RSA	Number of Sites in the BSA
Site Type		
Lithic Scatter	350	6
Isolated Find	63	1
Burial	2	0
Campsite	11	0
Tool Manufacture / Workshop	1	0
Lookout	9	0
Cairn	2	1
Quarry	104	0
Hearth	1	0
Undetermined	8	0

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Assessment Methods

Assessment Locations

- Locations were identified for assessment using topographic maps and complete flyover of the Project area by helicopter

- Locations identified for assessment were investigated using surface investigation techniques including:
  - pedestrian reconnaissance
  - visual inspection of subsurface exposures
  - shovel testing

Site Evaluation

- Site evaluation is based on:
  - physical attributes, including site size, depth and character of deposits
  - assemblage density and diversity
  - current condition
  - traditional significance reported by local community representatives

Assessment Methods

Community Involvement

- NWT Archaeologist's Permit Application Process
- 2013 AIA - Tłı̨chǫ and YKDFN community members assisted Golder archaeologists
- 2014 AIA - A Tłı̨chǫ summer student and a YKDFN summer student assisted Golder archaeologists

Site Visits

- Representatives of the YKDFN participated in an archaeological site visit in 2014
- In previous years, Ekati hosted archaeological tours for community members from all communities

Assessment Results

Roads

- The entire length of the Jay roads was assessed through pedestrian reconnaissance and *no previously unrecorded archaeological sites were identified*
    - LdNs-3 and LdNs-4 are the only previously recorded sites within 150 m of proposed infrastructure
        - LdNs-3 was previously mitigated
        - Portions of LdNs-4 were mitigated and the remaining material culture is over 100 m from the proposed development and will be avoided

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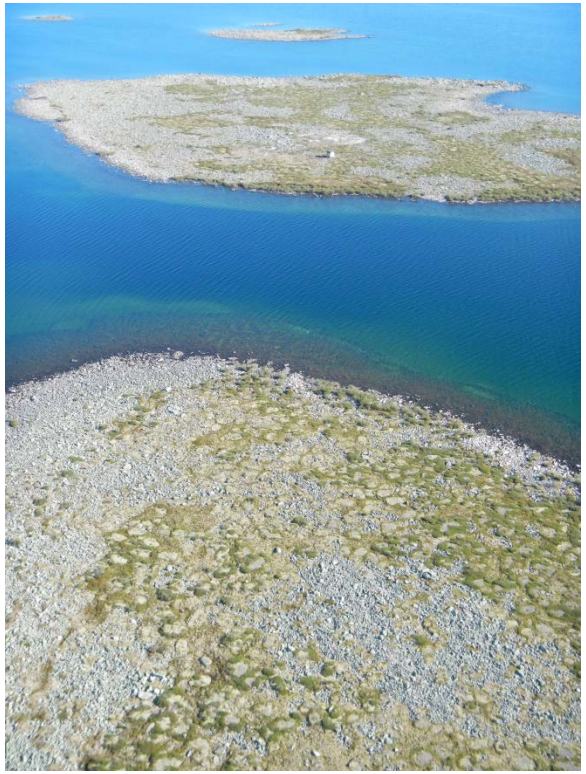
Assessment Results

Jay Dike Alignment

- This area was assessed by a combination of helicopter and pedestrian reconnaissance surveys; the terrain is low and consists of boulder fields that were likely still underwater in prehistoric times
  - *No heritage sites were recorded*

- The 1997 Traditional Knowledge Study of Ek'ati report (Weledeh Yellowknives Dene 1997) identifies the small bay in Lac du Sauvage where the Jay kimberlite pipe is located as a good spawning area

- The traditional knowledge resulted in an assessment of high archaeological potential for portions of the shoreline



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Assessment Results

Ore Stockpile and Transfer Pad, and Misery Camp Expansion

- This area was assessed through pedestrian reconnaissance; the terrain is an undulating heath tundra with boulder outcrops and areas that are poorly drained
- The archaeological potential in this proposed development area is considered low and *no heritage resources sites were recorded*

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Assessment Results

Jay Waste Rock Storage Area (WRSA)

- This area was assessed using a combination of helicopter and pedestrian reconnaissance, and was interpreted as having low to moderate archaeological potential

- Transects approximately 10 m apart were walked across the proposed WRSA resulting in the identification of *two previously unrecorded heritage sites (LdNs-52 and LdNs-53)*

- Both sites were recorded on the south edge of the boulder field, overlooking the adjacent low, wet drainage area of Lac du Sauvage

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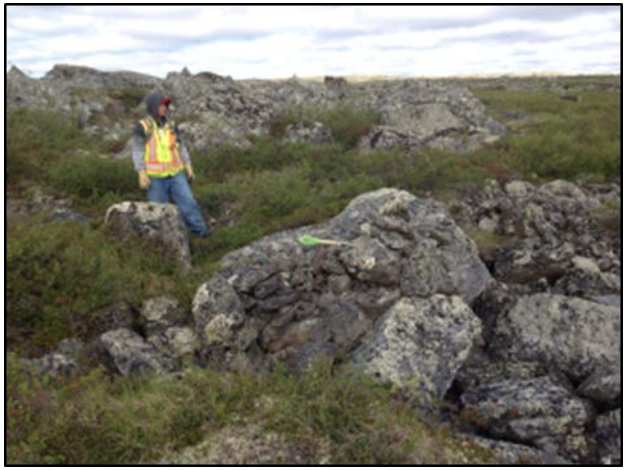
Assessment Results

LdNs-52

- Consists of two stone cache features on the southern edge of a boulder field within the proposed Jay WRSA
- Located approximately 400 m west of Lac du Sauvage
- The location of the site was documented, measurements of the features were taken, site type was assessed, and photographs were taken
- No further archaeological work is recommended



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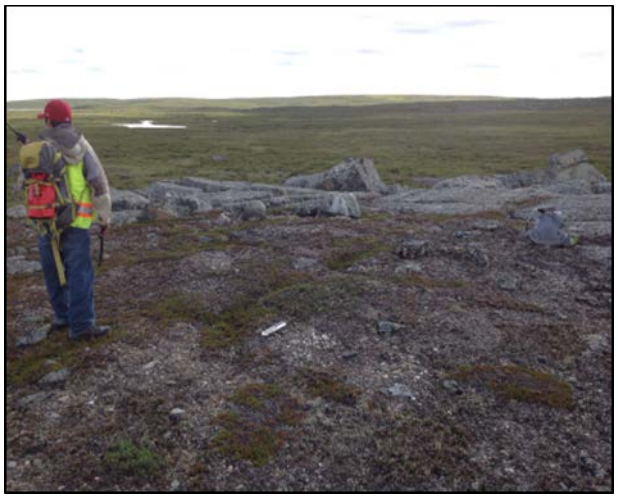
Assessment Results

LdNs-53

- Dense quartz lithic scatter - possible a tool manufacturing workshop on a flat section of bedrock which juts out from the southern edge of a boulder field within the Jay WRSA
- Located and approximately 900 m west of Lac du Sauvage
- It is recommended that scientific data are collected at this site and a surface collection and proportional excavation be completed before the proposed Jay WRSA is developed



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Assessment Results - Heritage Management Plan

Mitigation

- Preferred mitigation strategies include:
  - avoidance (i.e., relocate Project component), and protection (erection of barrier) of heritage resources

  If neither strategy can be implemented:
  - Scientific documentation of heritage resources should take place:
    - recording locations
    - mapping or measuring features
    - taking photographs, describing, and
    - excavating
  - Surveillance and monitoring may be applied as part of a mitigation strategy

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Assessment - Summary

Archaeological Sites

- Nine previously recorded archaeological sites were revisited:
  - LdNs-2, LdNs-3, LdNs-4, LdNs-5, and LdNs-16 due to their proximity to the proposed Project
  - LdNs-8, LdNs-11, LdNs-30, and LeNs-4 were revisited during a YKDFN archaeological site visit

- Two previously unrecorded sites were recorded:
  - LdNs-52 and LdNs-53
    - LdNs-52 was mitigated during the 2014 field work
    - LdNs-53 will require mitigation before development

- No recent Traditional Use sites were recorded during the 2014 field work

Assessment Conclusions

- The Project resulted in an additional seven heritage resource sites being added to the heritage resources record in 2013 and 2014, but only two are within the currently proposed Project area
- Where possible, mine infrastructure will be placed to avoid known archaeological sites; where avoidance or protection is not possible, scientific documentation of heritage resources will be implemented
- Negligible residual effects on the Heritage Resources relative to Base Case
- Awareness training completed by staff and contractors involved with the Project, including information about what archaeological resources look like, that these resources are protected by law, and what actions need to be taken should Project activities come into conflict with a heritage site
- Heritage resource sites will be monitored when Project activities occur near heritage resources

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Thank You