Denison Mines

Wheeler River Project

Final Environmental Impact Statement

November 2024

Powering
PEOPLE, PARTNERSHIPS AND PASSION.

November 2017

Permit No. 17-091

Denison Mines Corporation

Wheeler River Project
Heritage Baseline Study

Submitted to:

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Denison Mines Corporation
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Saskatoon, SK S7K 0E9

REPORT

A world of capabilities delivered locally

Report Number: 1660579/P100
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Golder Associates

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Executive Summary

Golder Associates Ltd. conducted a Heritage Resources Baseline study for Denison Mines Corporation's Wheeler River Project in northern Saskatchewan. The project was submitted to the Heritage Conservation Branch (Ministry of Parks, Culture and Sport) for heritage screening and it was determined that portions of the proposed infrastructure sites and access road corridors will impact hilly terrain and prominent uplands that are in proximity to permanent water sources.

The Heritage Resources Baseline study was initiated on July 5, 2017 by Golder Associated Ltd. under Archaeological Resource Investigation Permit 17-091. Heritage sensitive areas were assessed through a combination of pedestrian reconnaissance and visual inspection field programs, complimented by the excavation of 258 shovel probes and 5 shovel tests. The assessment resulted in the identification of HiNi-6, an Artifact Find site of an unknown Precontact cultural affiliation that was identified on the western terrace of a lake adjacent to the Phoenix 2 access road option. The site has limited interpretive potential and there are no further concerns attached to the site in the context of the current study. No additional heritage concerns were identified during the course of the remainder of the assessment.

It is recommended that a Section 63 approval be issued for the project. This Final Report fulfils the permitting requirements necessary for the completion of this Heritage Resources Impact Assessment.

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1.0 INTRODUCTION

Denison Mines Corporation (Denison) is conducting baseline studies for the proposed Wheeler River Project (the Project) in northern Saskatchewan. The Project is located approximately 35 kilometres (km) northeast of Cameco Corporation's (Cameco) Key Lake Operations and 35 km southwest of Cameco's McArthur River Operation. The Project is situated along the eastern edge of the Athabasca Basin and is an advanced exploration stage uranium Project. When operational, the Project will consist of infrastructure required to mine the Gryphon and Phoenix deposits as a single underground mine, with milling of ore taking place off-site at an existing facility. Access to the proposed mining operations will be provided by an access road that will connect the operation to Highway 914. The right-of-way (ROW) for the access road has not been established and Denison is considering several options. The proposed options are 500 metres (m) wide and the access road will be contained within the corridor (Figure 1).

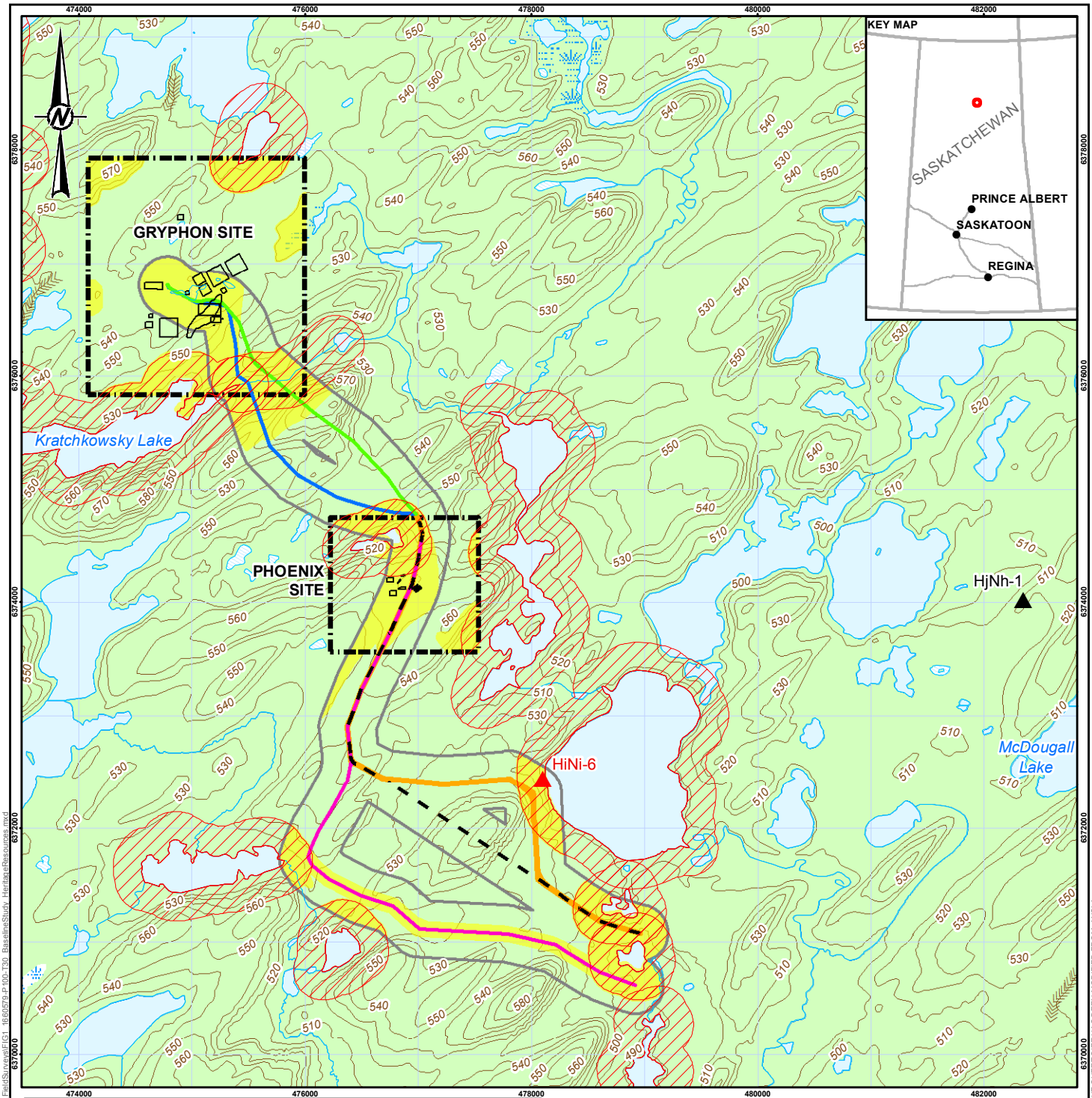
The Project was submitted to the Heritage Conservation Branch (Ministry of Parks, Culture and Sport) for heritage screening and it was determined that portions of the proposed infrastructure and access road options will impact hilly terrain and prominent uplands located within heritage sensitive areas (Heritage Conservation Branch File No. 16-2102; Table 1). Accordingly, a Heritage Resource Impact Assessment (HRIA) requirement was attached to the Project, pursuant to Section 63 of *The Heritage Property Act* (1979-80). The HRIA was restricted to the heritage sensitive areas within the 500 m wide corridors. The determination of heritage sensitive areas is further discussed under Section 4.1.1.

Table 1: Wheeler River Project Details

Project Component	Option	Total Length (km)	Heritage Sensitivities
Access Road	Phoenix 1	5.31	■ Portions of Access Road Options and Infrastructure sites in heritage sensitive terrain. ■ Potential to impact heritage resources.
	Phoenix 2	5.77	
	Phoenix 3	6.47	
	Gryphon 1	3.37	
	Gryphon 2	3.10	
Infrastructure	Phoenix Site	1.31 x 1.19	
	Gryphon Site	1.91 x 2.10	

m = metre; km = kilometre.

The HRIA was initiated on July 5, 2017, under Archaeological Resource Investigation Permit No. 17-091 issued to Tam Huynh (Archaeologist, Golder Associates Ltd [Golder]) to identify, record, and assess any heritage resources that may be impacted by the proposed project. This report contains the results of the HRIA. Section 2 describes the potential impacts and local environment for the Project. Section 3 will provide an overview of previous archaeological research. The methods and results of the assessment will be contained in Section 4 while a summary of the HRIA and associated recommendations will be contained in Section 5. A glossary of technical terms is located in Appendix A, shovel probe and test locations are contained in Appendix B and an artifact catalogue is contained in Appendix C. A map showing the Traditional Territory of the English River First Nation is contained in Appendix D.



LEGEND

- ELEVATION CONTOUR
- ESKER
- WATERCOURSE
- INTERMITTENT WATERBODY
- WATERBODY
- WETLAND
- WOODED AREA
- KNOWN HERITAGE RESOURCE
- NEW HERITAGE RESOURCE

ACCESS ROAD OPTIONS

- PHOENIX-1
- PHOENIX-2
- PHOENIX-3
- GRYPHON-1
- GRYPHON-2
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA
- SELECTED WATER 250m BUFFER

0 1,000 2,000

1:50,000 METRES

REFERENCE(S)

1. INFRASTRUCTURE PROVIDED BY THE CLIENT AUGUST 25, 2016. FILE NAME: 1CD019-011-DENSION-WR-ROADALIGNMENT_20160825_EPK.DXF
2. HERITAGE RESOURCES OBTAINED FROM HERITAGE CONSERVATION BRANCH, MINISTRY OF PARKS, CULTURE AND SPORT, 2017.
3. CANVEC BASE DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
4. ROADS OBTAINED FROM NATIONAL ROAD NETWORK.

PROJECTION: UTM ZONE 13 DATUM: NAD 83

CLIENT
DENISON MINES CORPORATION

PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
LOCATION OF BASELINE STUDY AND HERITAGE RESOURCES

CONSULTANT
Golder Associates

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PREPARED	SBM/LMS
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APPROVED	BN

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2.0 PROJECT SPECIFIC DETAILS AND ENVIRONMENT

2.1 Potential Impacts

The developments of the infrastructure and access roads required to mine the Gryphon and Phoenix uranium deposits all have the potential to impact heritage resources located within the Study Area, if present. Heavy vehicular traffic can impact surface features. In boreal forest environments where soil development is limited, heritage resources typically occur at or near the ground surface and can be easily disturbed. Surface features such as cabins or hearths could be damaged or destroyed by clearing, heavy machinery traffic and equipment. Disturbance to subsoils and sediments through compression and removal could also negatively impact buried Precontact sites such as campsites, lithic reduction areas, or human burials. In buried sites such as these, context is important and the value of the archaeological resource may be significantly reduced once it has been impacted. Impacts to heritage resources are permanent and irreversible.

2.2 Local Environment

The Project is located within the Wheeler Upland Ecodistrict of the Athabasca Plain Ecoregion of Saskatchewan. This Ecodistrict represents a large area extending from Creek Lake to Hatchet and Wollaston Lakes and primarily consists of drumlinoid moraine landscapes covered in undulating glaciofluvial outwash deposits (Acton et al. 1998). Prominent eskers, some extending 100 km or more, cross the area from northeast to southwest. Drainages in this region of Saskatchewan tend to be weakly developed and normally consist of small creeks which drain one lake into another. Vegetation here is diverse and consists of forests of Jack Pine and black spruce, with lichen, Canada blueberry, and lichen as the understory. Brunisolic soils dominate the well-drained slopes in the region, within Gleysols and Organics, and local Cryosols in small, poorly drained swales and flats (Acton et al. 1998). Habitat is available for many wildlife species including moose (*Alces alces*), woodland caribou (*Rangifer tarandus groenlandicus*), red fox (*Vulpes vulpes*), snowshoe hare (*Lepus americanus*), wolf (*Canis lupus*), black bear (*Ursus americanus*) lynx (*Felis lynx*), beaver (*Castor canadensis)*, upland birds, waterbirds and amphibians.

The Project area is within the area of the province claimed to be the traditional territory of the English River First Nation. In addition to this, residents of Ile a la Crosse and Pinehouse First Nation have also indicated verbally they have recent and historical traditional ties to the region hosting the proposed Project (Appendix D).

Within heritage sensitive portions of the Project area, the terrain primarily consists of Jack Pine forests over well drained, rolling to undulating uplands (Photo 1). Large escarpments were also noted throughout various parts of the Project area (Photo 2). There are several lakes and creeks in proximity to the Project area (Photo 3); however, only two of these are named. The largest water source in the Project area is Russel Lake, which is located south of the Project. The second largest water source is Kratchkowsky Lake, which parallels the southern and western extent of the Gryphon site (Photo 4).

Photo 1: View of upland adjacent to Phoenix 3 access road corridor, looking southwest.

Photo 2: View of upland intersected by Phoenix 1 access road corridor, looking northwest.

Photo 3: View of lake located between Phoenix 1 and 3 access road corridor, looking northwest from Highway 914.

Photo 4: View of Kratchkowsky Lake in proposed Gryphon infrastructure heritage survey area, looking south.

3.0 PREVIOUS ARCHAEOLOGICAL RESEARCH

The database for previously recorded heritage resources was queried to determine if previously recorded heritage resources occur in areas within or adjacent to the immediate Project area. The results indicated that nine previously recorded heritage resources are located on the same 1:50,000 National Topographic System (NTS) Mapsheets (74H/11 and 74H/6) as the Project (Table 2). This includes artifact scatter sites (n=2), artifact find sites (n=5), one artifact/feature combination site, and one recurrent feature site. Three sites are of unknown cultural affiliation, five originate from the Precontact period, and at least one has been identified as originating from the Post-Contact period.

Table 2: Previously Recorded Heritage Resources on 1:50,000 NTS Mapsheet 74N/7

Site Type	Definition	No. of Sites
Artifact Find	Sites consisting of five or fewer artifacts.	2
Artifact Scatter	Sites consisting of six or more artifacts.	5
Artifact/Feature Combo	Sites consisting of a combination of features and artifacts.	1
Recurrent Feature	Sites consisting of two or more features of the same kind.	1
Total		**9**

Of the 9 heritage sites, only one (HjNh-1) is located within 5 km of the proposed Project area. This site consists of an artifact find site of unknown cultural affiliation which was identified during an HRIA survey conducted for the McArthur River access road construction project (Golder 1994).

A map illustrating the traditional territories of the English River First Nation was also reviewed as part of the overview (Appendix D). The map indicates that the Project is located within the estimated Caribou range and is also intersected by a winter trail. Accordingly, there is the potential to encounter remnants of activities associated to the traditional territories.

4.0 ARCHAEOLOGICAL FIELDWORK

4.1.1 Methods

The heritage baseline study targeted areas of the Project located within heritage sensitive areas. For the northern parklands and boreal forest of Saskatchewan, the Heritage Conservation Branch considers lands to be archaeologically sensitive if they are:

- within 500 m of a Site of Special Nature or other significant heritage resource;
- within 250 m of permanent watercourses and lakes greater than 1 km in length;
- along dry, upland margins of a major bog or fen greater than 1 km in size;
- within 50 m of historic trails;
- within 250 m of strandlines; and
- on prominent uplands, escarpments and hills/ridges within 500 m of a water source.

The objectives of the HRIA flow from the principles outlined in *The Heritage Property Act.* More specifically, studies were completed with the following objectives:

- identification of heritage sensitive areas within the project area;
- complete appropriate levels of inspection within the project area;
- identify and record heritage resources within heritage sensitive areas (if present); and
- recommend appropriate mitigation measures to deal with any recorded heritage resources in conflict.

To satisfy the regulatory requirements of the Heritage Conservation Branch, the HRIA was completed using a pedestrian reconnaissance and visual inspection program complemented with sub-surface testing. These field techniques, combined with the information collected from previous archaeological research were used in identifying any potential Precontact and historic-era heritage resources that may be present in the Project area. Pedestrian surface reconnaissance is the most common method used by archaeologists to identify archaeological sites (i.e., surface features) within a Project area (Ruppé 1966). Conversely, visual inspection of the ground is particularly effective in areas with good surface visibility, such as regions of limited soil development and sparse vegetation (Schiffer et al. 1978). Archaeological sites such as surficial artifact finds and scatters are commonly found through visual inspections. Shovel probes were excavated in judgementally selected areas to determine the presence (or absence) of subsurface cultural deposits. Not only are shovel probes commonly used by archaeologists to locate and identify subsurface cultural deposits, but they can also provide important information on the integrity, dimensions, and density of cultural materials found at archaeological sites (Krakker et al. 1983; Nance and Ball 1986; Kintigh 1988).

The pedestrian reconnaissance, visual inspection and subsurface testing program for the Project was carried out by the permit holder, an assistant and a member of the English River First Nation. Detailed field notes and digital photographs were taken to document the Project environment while hand-held Global Positioning System (GPS) units were used to document surveyed areas and relevant Project features. The Universal Transverse Mercator (UTM) location of each shovel probe was also recorded with the GPS units (Appendix B). All shovel probes measured approximately 40 centimetres (cm) by 40 cm. Excavated soils from these shovel probes were hand sorted with a trowel for cultural materials and wall profiles were examined for intact paleosol horizons beneath the sod level. Upon identification of a heritage resource, shovel tests (i.e., shovel probes in which the excavated matrix is screened through a quarter inch mesh) would be excavated at, and in areas adjacent to the heritage resource. Shovel tests measure approximately 50 cm by 50 cm and the wall profiles examined for intact paleosols. After recording the pertinent site information, digital photographs were taken and a site sketch was created. The results of the assessment are discussed below.

4.1.2 Fieldwork Results for Access Road Options

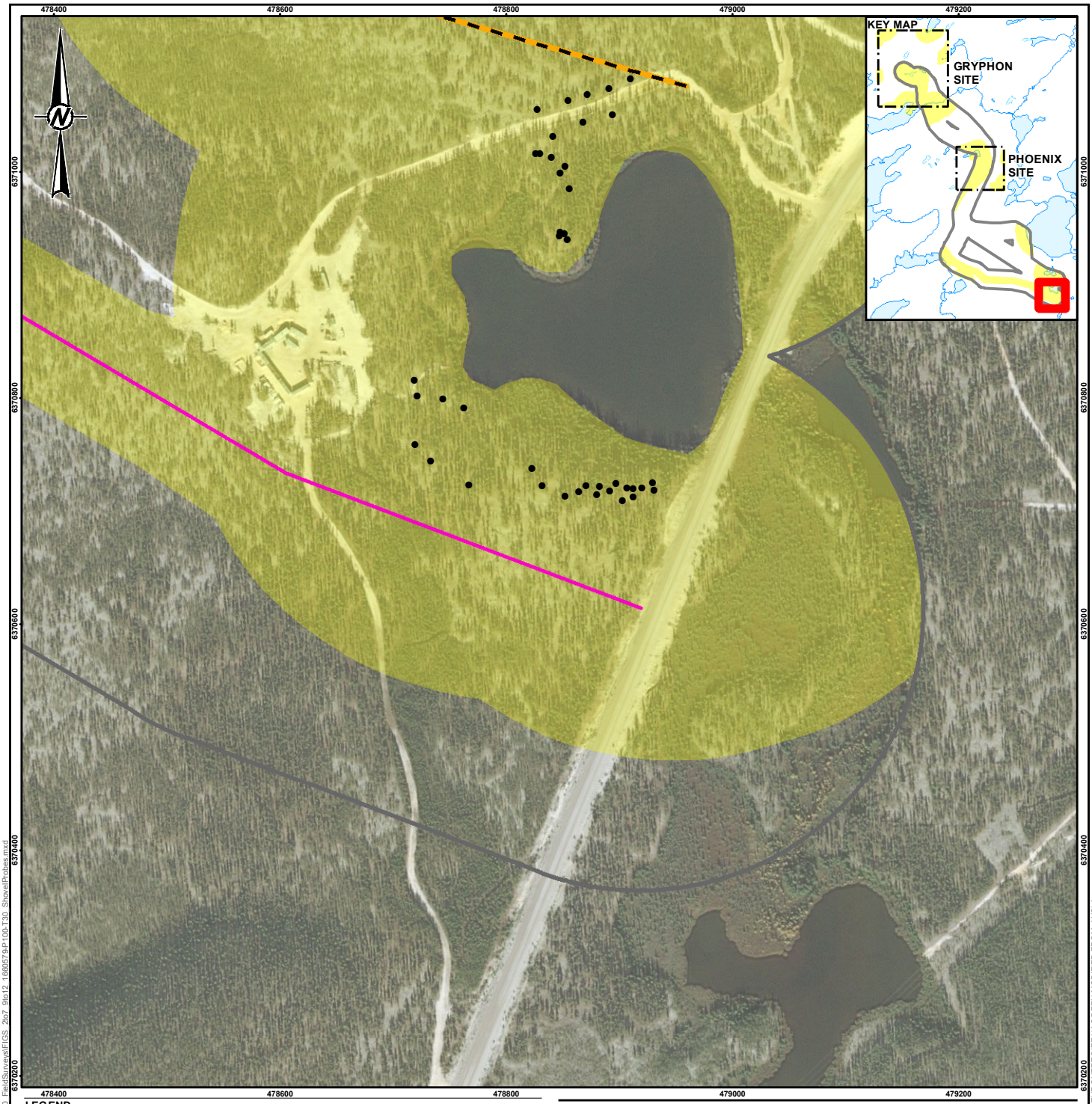
Only heritage sensitive portions of the five, 500 m wide access road options were assessed during the HRIA. Three of these (e.g., Phoenix 1, 2 and 3) will connect the Phoenix site to Highway 914 while the remaining two (e.g., Gryphon 1 and 2) will connect the Phoenix site to the Gryphon site. Using the criteria listed in Section 4.1.1, a combination of Geographic Information System (GIS) data, NTS mapsheets and aerial imagery reviews were used to identify potential heritage sensitive lands, while in-field inspections were used to confirm, or identify additional heritage sensitive locales.

The HRIA consisted of a pedestrian reconnaissance, visual inspection and subsurface testing programs of portions of the Project located in heritage sensitive areas (Figures 2, 3, 4, 5, 6 and 7). With the exception of an approximate 2,300 m stretch that extends through the Phoenix heritage survey area and an approximate 200 m stretch within the Gryphon heritage survey area, all road options have different trajectories and primarily traverse non-heritage sensitive boreal forests, with only isolated portions of the access roads located within heritage sensitive lands. In-field assessments confirmed the presence of numerous locales of surficial disturbances (i.e., access roads, clearings, gravel pits, terrace and sandy exposures) throughout various portions of the road options. This was particularly significant along the Phoenix 3 option, which overlapped an existing access road for most of its route and traverses an existing gravel pit (Photos 5 and 6). All exposures located within heritage sensitive portions of the road options were visually inspected for cultural materials that could pertain to partially intact sites (if present), while pedestrian reconnaissance was used in areas adjacent to these disturbances to identity any surficial features that may have been present (Photo 7). An old exploration camp comprised of several mobile office trailers was identified adjacent to the western extent of a small lake immediately north of the Phoenix 3 road option (Photo 8); however, this camp does not meet the criteria to be classified as an archaeological resource as pertains to a recent exploration event. Accordingly, there are no further concerns. No heritage resources were identified during the pedestrian reconnaissance and visual inspection programs of the access roads.

The excavation of shovel probes and tests were confined to elevated, well drained landforms with defined topographic edges, located within 250 m of waterbodies with shorelines greater than 1 km in length. There were some prominent landforms beyond the 250 mheritage screening criteria buffer; however, a brief inspection confirmed that these landforms were extensively sloped with poorly defined edges and limited soil deposition, confirming that it is unlikely for archaeological sites to be found in these areas. A total of 206 shovel probes and 5 shovel tests were judgementally excavated throughout heritage sensitive portions of the four road options. (Photos 9 and 10; Appendix B). This count includes shovel probes excavated within portions of the access roads that traverse through the Gryphon and Phoenix heritage study areas. Although there were some variations, the general stratigraphic profile can be summarized as follows:

- 0 to 3 cm organic duff;
- 3 to 25 cm grey sand; and
- 25 to 40 cm tan sand.

The shovel testing program resulted in the identification of one heritage resource (HiNi-6). This heritage resource will be discussed in the subsequent section of this HRIA report. No additional heritage resources were identified during the course of the assessment.



LEGEND

- SHOVEL PROBE

ACCESS ROAD OPTIONS

- PHOENIX-1
- PHOENIX-2
- PHOENIX-3
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA

0 100 200

1:5,000 METRES

REFERENCE(S)

1. INFRASTRUCTURE PROVIDED BY THE CLIENT AUGUST 25, 2016. FILE NAME: 1CD019-011-DENSION-WR-ROADALIGNMENT_20160825_EPK.DXF
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CLIENT
DENISON MINES CORPORATION

PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
LOCATION OF BASELINE STUDY AND HERITAGE RESOURCES

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-11-15
DESIGNED	TH
PREPARED	SBM/LMS
REVIEWED	TH
APPROVED	BN

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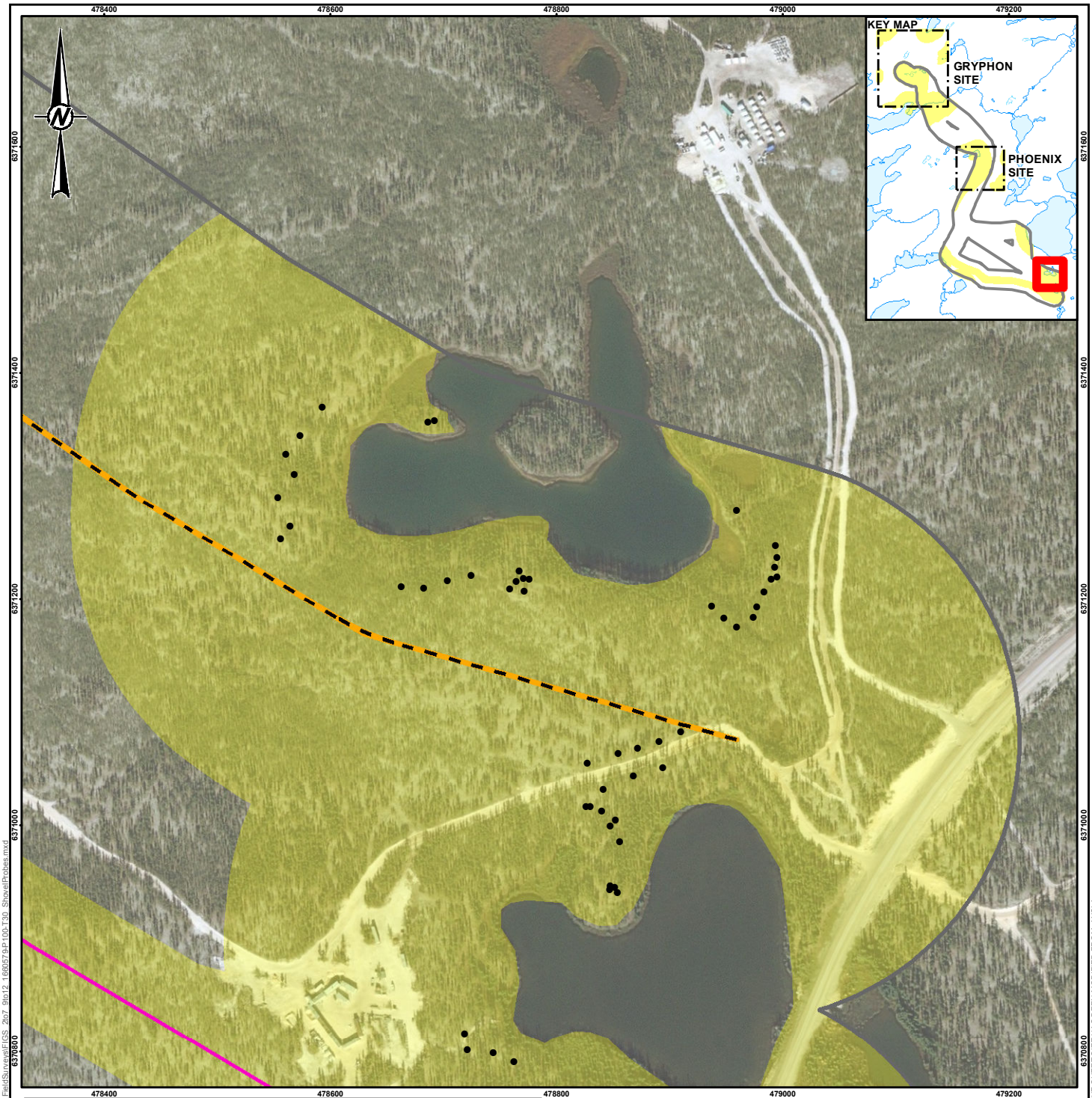

LEGEND

- SHOVEL PROBE

ACCESS ROAD OPTIONS

- PHOENIX-1
- PHOENIX-2
- PHOENIX-3
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA

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PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
LOCATION OF BASELINE STUDY AND HERITAGE RESOURCES

CONSULTANT
Golder Associates

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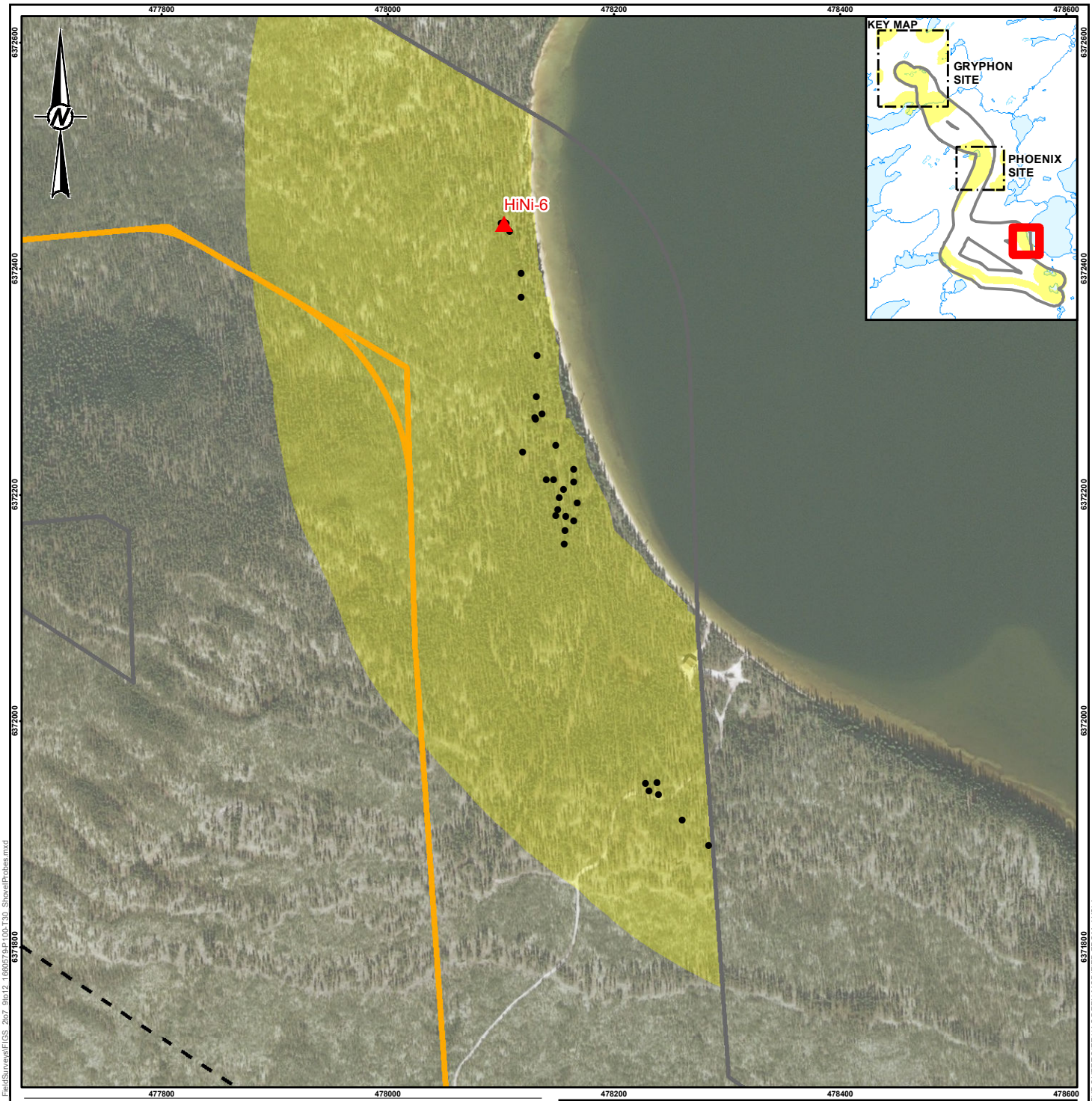

LEGEND

- NEW HERITAGE RESOURCE
- SHOVEL PROBE

ACCESS ROAD OPTIONS

- PHOENIX-1
- PHOENIX-2
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA

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PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
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CONSULTANT
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YYYY-MM-DD	2017-11-15
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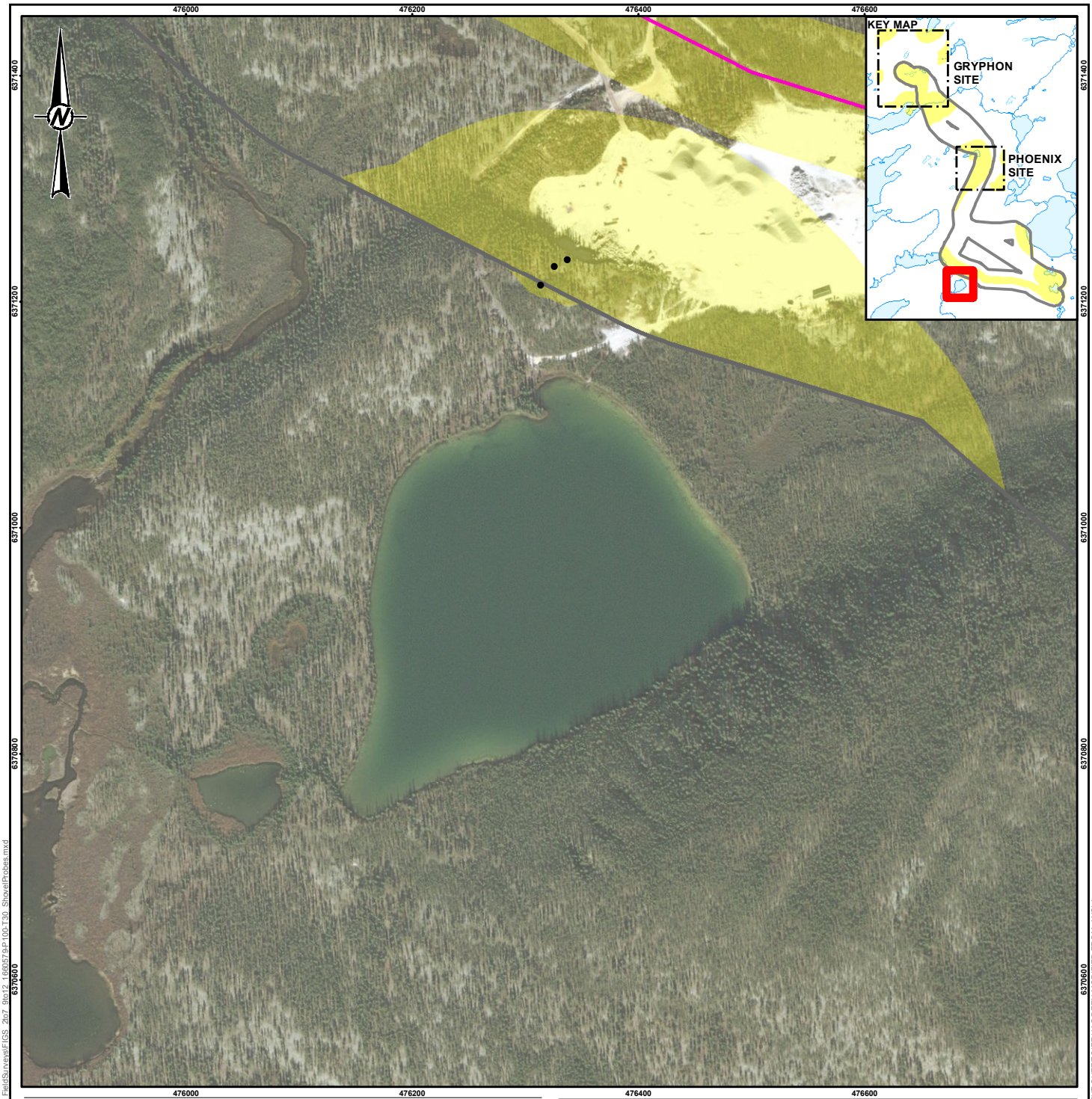

LEGEND

- SHOVEL PROBE

ACCESS ROAD OPTIONS

- PHOENIX-3
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA

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WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

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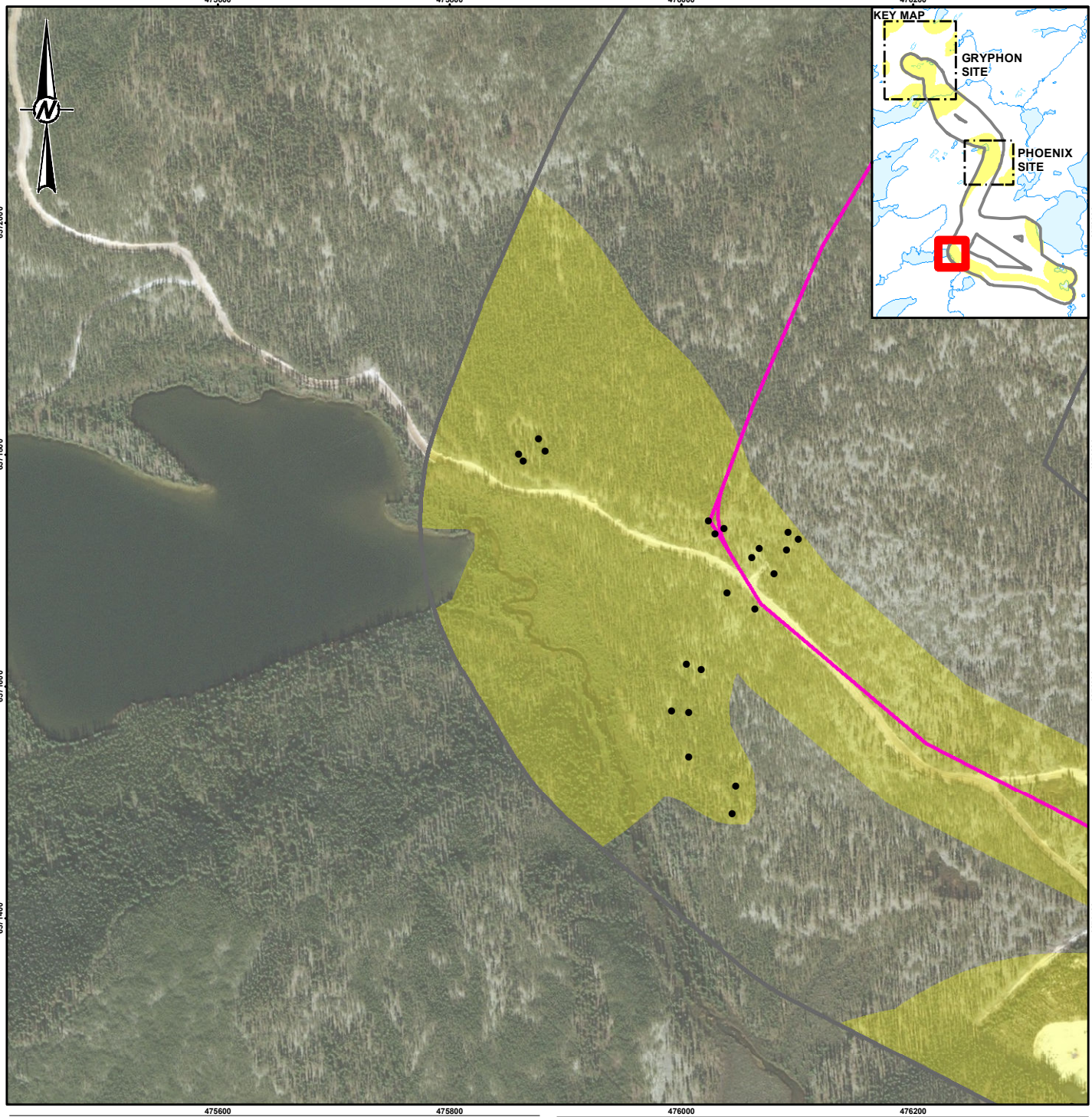

LEGEND

- SHOVEL PROBE

ACCESS ROAD OPTIONS

- PHOENIX-3
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
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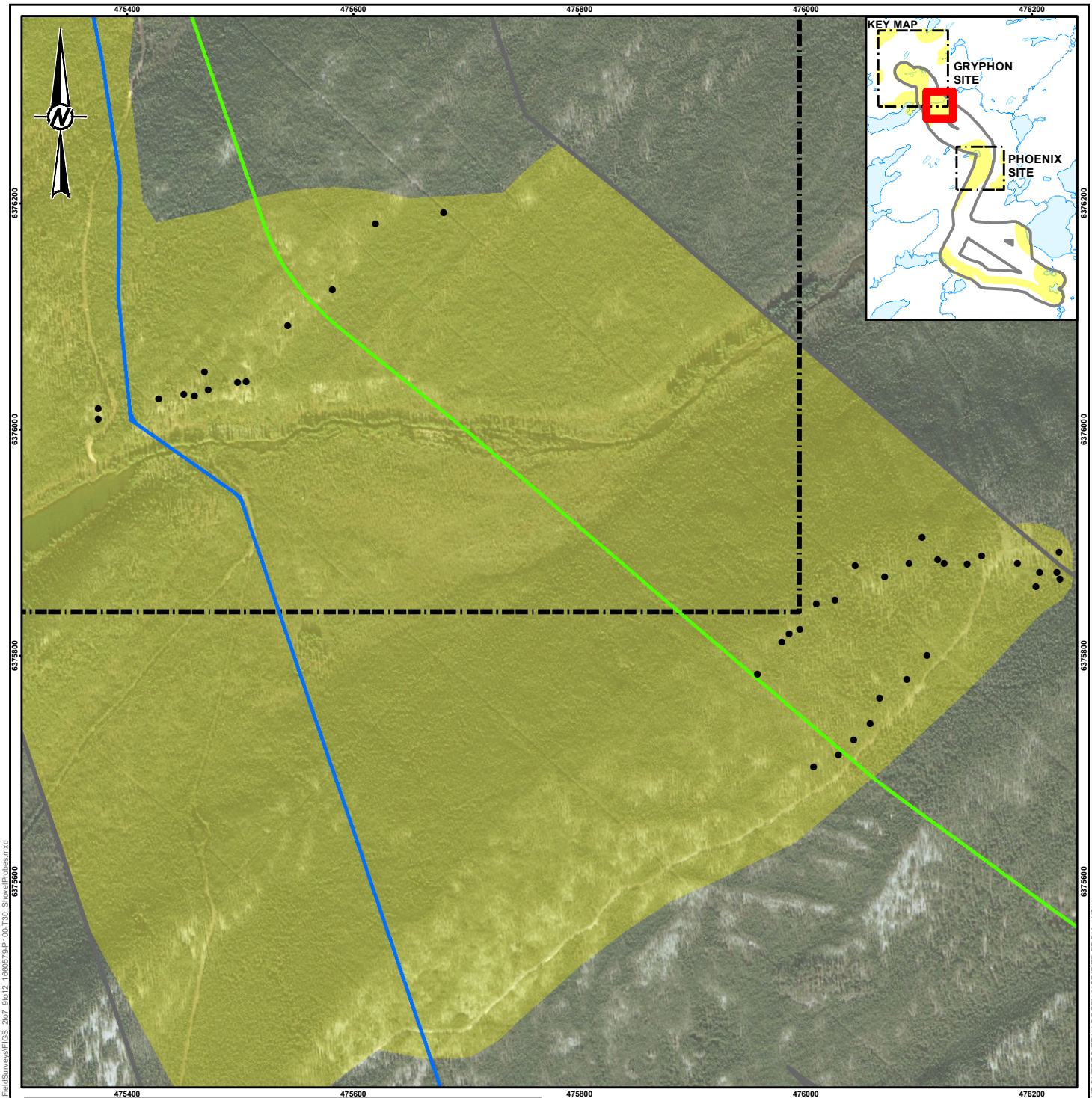

LEGEND

- SHOVEL PROBE

ACCESS ROAD OPTIONS

- GRYPHON-1
- GRYPHON-2
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA

0 100 200

1:5,000 METRES

REFERENCE(S)

1. INFRASTRUCTURE PROVIDED BY THE CLIENT AUGUST 25, 2016. FILE NAME: 1CD019-011-DENSION-WR-ROADALIGNMENT_20160825_EPK.DXF
2. HERITAGE RESOURCES OBTAINED FROM HERITAGE CONSERVATION BRANCH, MINISTRY OF PARKS, CULTURE AND SPORT, 2017.
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PROJECTION: UTM ZONE 13 DATUM: NAD 83

CLIENT
DENISON MINES CORPORATION

PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
LOCATION OF BASELINE STUDY AND HERITAGE RESOURCES

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-11-15
DESIGNED	TH
PREPARED	SBM/LMS
REVIEWED	TH
APPROVED	BN

PROJECT NO.	PHASE	REV.	FIGURE
1660579	P100	1	7

PATH: G:\CLIENTS\DENISON MINES\Wheeler River\Figures\1660579 Heritage Baseline\P100 Heritage\T30 Field\Survey\FIGS 2to7 9to12 1660579-P100-T30 ShovelProbes.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

25mm

0

Photo 5: View of existing road within Phoenix 1 access road option, looking northwest.

Photo 6: View of existing road within Phoenix 3 access road option, looking northwest.

Photo 7: View of existing gravel pit intersected by Phoenix 3 access road option, looking northeast.

Photo 8: View of abandoned exploration camp within Phoenix 3 access road option, looking southwest

Photo 9: Shovel testing in Phoenix 1 access road option, looking north.

Photo 10: Shovel testing in Phoenix 3 access road option, looking north.

4.1.2.1 HiNi-6

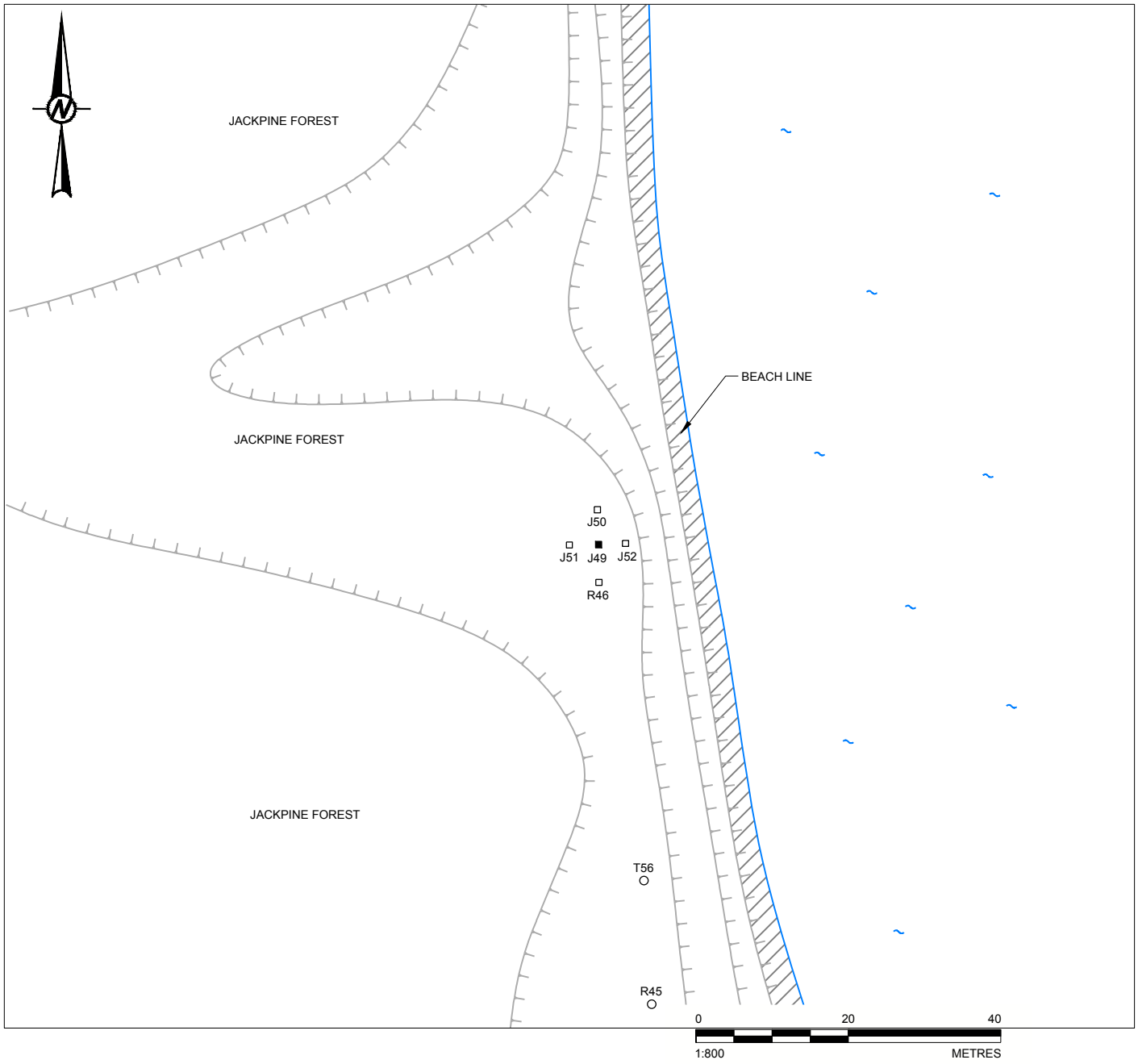
HiNi-6 is an Artifact Find site of an unknown Precontact cultural affiliation (Figure 8). The site is located on a terrace edge that overlooks a large lake to the east (Photo 11). The landform is flat, backed by undulating terrain to the west and bordered by a small drainage to the north. The eastern edge of the landform abruptly slopes down to a sandy beach that parallels the edge of the lake.

A large, grey quartzite secondary flake was identified in shovel probe J49 at approximately 15 cm depth below surface (Photo 12; Appendix C). It exhibits unifacial retouch along the left lateral edge (concave). Upon its discovery, the shovel probe was converted to a shovel test and four additional shovel tests were excavated in areas immediately adjacent to the positive test. Although there were some variations, the general stratigraphic profile can be summarized as follows:

- 0 to 3 cm organic duff;
- 3 to 15 cm grey sand; and
- 15 to 35 cm tan brown sand.

No additional cultural materials or features were identified during the shovel testing program at HiNi-6. The shovel testing program determined that the site has limited interpretive potential; as such, there are no further concerns attached to the site.

Photo 11: HiNi-6, arrow indicates location of positive shovel test J49, looking east.



LEGEND

- POSITIVE SHOVEL PROBE
- NEGATIVE SHOVEL PROBE
- POSITIVE SHOVEL TEST
- NEGATIVE SHOVEL TEST
- SLOPE
- WATERBODY

CLIENT
DENISON MINES CORPORATION

PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
SKETCH MAP OF HiNi-6

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-08-29
PREPARED	JMC
DESIGN	TH
REVIEW	TH
APPROVED	BN

PROJECT No.	PHASE	Rev.	FIGURE
1660579	P100	0	8

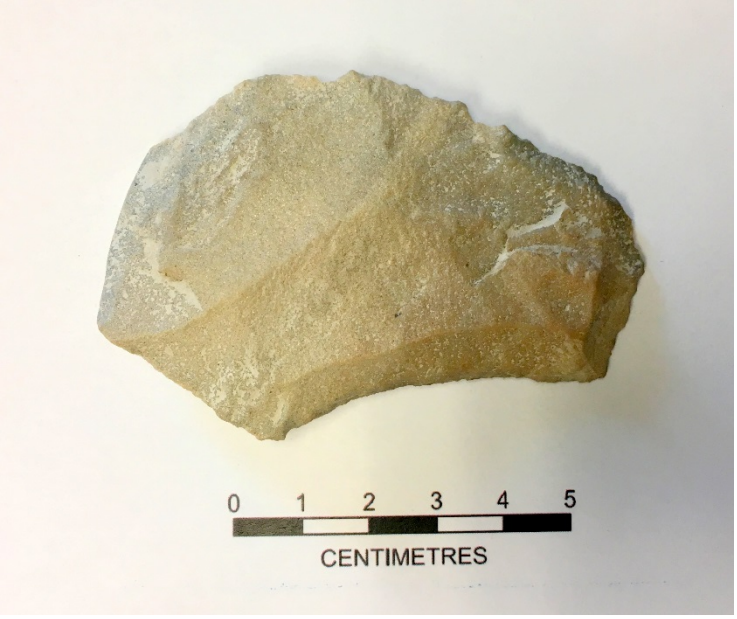
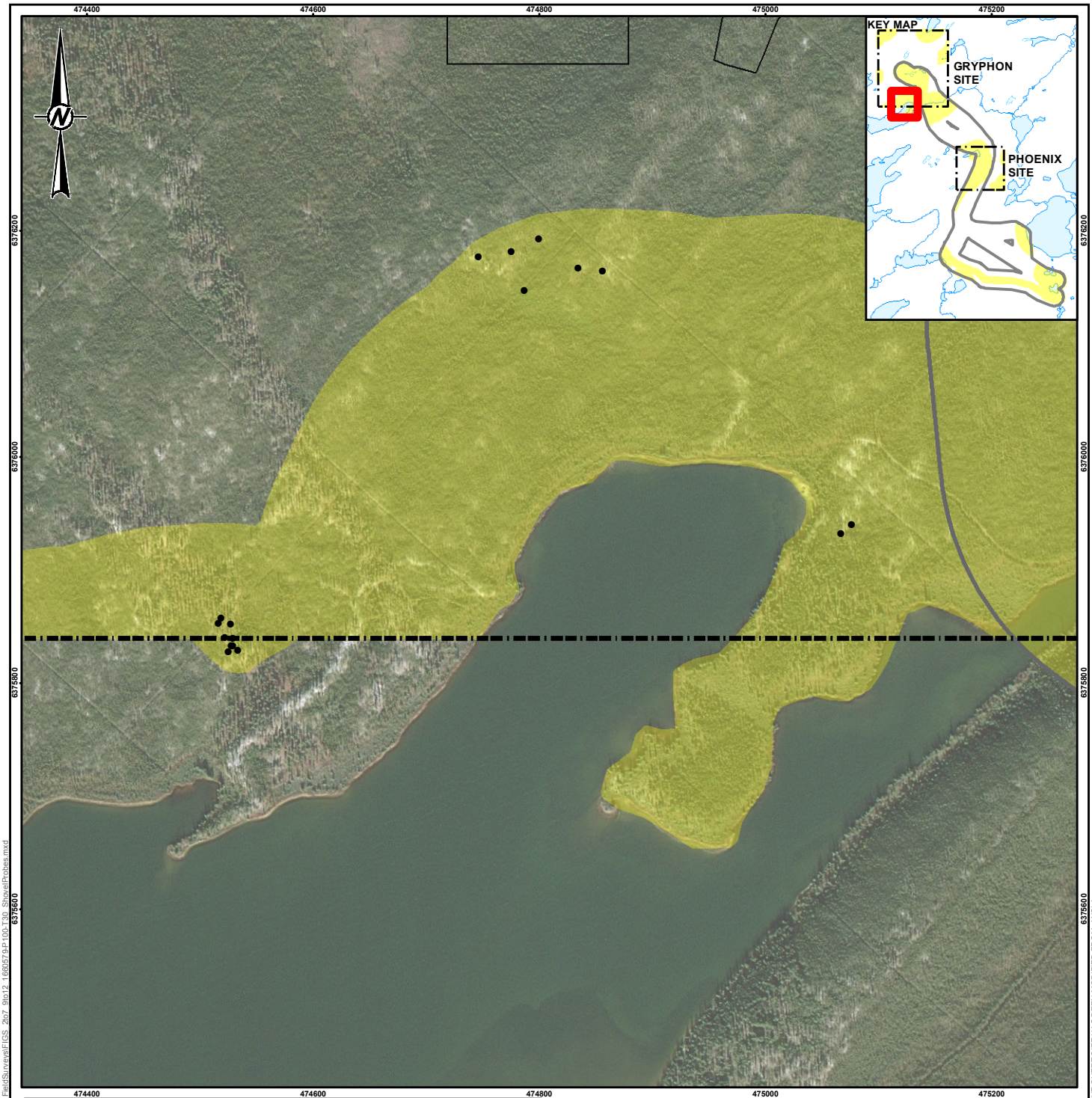


Photo 12: HiNi-6, Retouched Flake.

4.1.3 Fieldwork Results for Gryphon Infrastructure Heritage Survey Area

The heritage survey area is an area of land surrounding the proposed infrastructure sites in which the HRIA will be contained in (Figure 1). Heritage sensitive areas assessed in the Gryphon heritage survey area were targeted through a combination of GIS, NTS maps and aerial imagery analysis, coupled with in-field inspections. Within the Gryphon heritage survey area, numerous access roads, trails and disturbed areas from previous and ongoing drilling activities were present. Many of these areas traversed prominent uplands within the proposed infrastructure locations (Photo 13), as well as paralleling the northern shoreline of Kratchkowsky Lake (Photo 14). Surficial exposures within these disturbed areas were excellent and were visually inspected for cultural materials and features while pedestrian reconnaissance was used in adjacent areas to identify any surficial heritage features that could have been present (e.g., historic cabins, etc.). No heritage resources were identified during the pedestrian reconnaissance and visual inspection programs.

In-field assessments determined that a majority of the prominent uplands within the Gryphon heritage survey area consists of extensively sloped, poorly defined bedrock outcrops with limited soil deposition. However, the assessment did identify several testable areas (e.g., defined terrace edges backed by level terrain with sufficient soil development). These areas were confined to terraces overlooking Kratchkowsky Lake at the southern extent of the heritage survey area, and adjacent to a small lake at the northeast extent of the heritage survey area (Figures 7, 9 and 10). A total of 43 shovel probes were judgementally excavated in the aforementioned areas (Photos 15 and 16; Appendix B). This count includes 13 shovel probes excavated within portions of the access road options that traverse through the Gryphon heritage survey area. Although there were some variations, the general stratigraphic profile can be summarized as follows:



LEGEND

- SHOVEL PROBE
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA

0 100 200

1:5,000 METRES

REFERENCE(S)

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PROJECTION: UTM ZONE 13 DATUM: NAD 83

CLIENT
DENISON MINES CORPORATION

PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
LOCATION OF BASELINE STUDY AND HERITAGE RESOURCES

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-11-15
DESIGNED	TH
PREPARED	SBM/LMS
REVIEWED	TH
APPROVED	BN

PROJECT NO.	PHASE	REV.	FIGURE
1660579	P100	1	9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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PATH: G:\CLIENTS\DENISON MINES\Wheeler River\Figures\1660579_Heritage_Baseline\P100_Heritage\T30_FieldSurvey\FIG9_2in7_9to12_1660579-P100-T30_ShovelProbes.mxd

Photo 13: View of drilling activities at Gryphon infrastructure site, looking north.

Photo 14: View of existing road adjacent to Kratchkowsky Lake, looking south.

Photo 15: Shovel testing on terrace edge adjacent to Kratchkowsky Lake, looking south.

Photo 16: Shovel testing adjacent to lake at northeast corner of Gryphon infrastructure heritage survey area, looking east.

- 0 to 3 cm organic duff;
- 3 to 13 cm grey sand; and
- 13 to 30 cm tan/orange sand.

No heritage resources were identified within the Gryphon heritage study area.

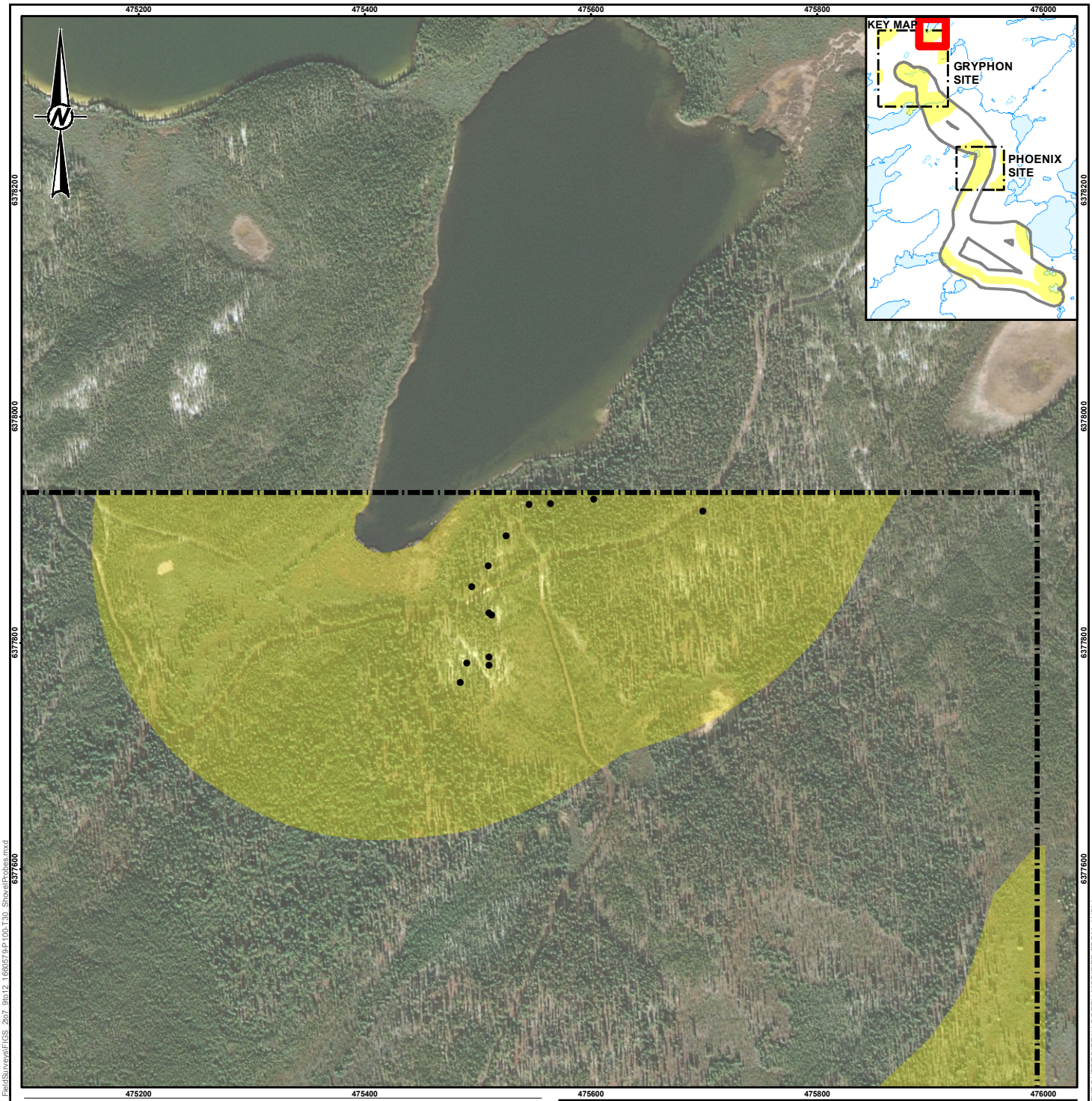
4.1.4 Fieldwork Results for Phoenix Infrastructure Heritage Survey Area

Similar to the Gryphon heritage study area, surficial disturbances resulting from various access roads, trails and clearings from drilling activities were present throughout the Phoenix heritage study area (Figures 11 and 12; Photos 17 and 18). Disturbances associated to drilling activities were located around the proposed infrastructure for the Phoenix site while the access roads and trails traversed various areas within the heritage study area (Photos 19 and 20). These areas were visually inspected for cultural materials and features while terrain immediately adjacent to these areas were inspected for any cultural features that may have been present (e.g., historic cabins, etc.). No heritage resources were identified.

Areas selected for subsurface testing within the Phoenix heritage study area were focused along the terrace edges of a lake located at the northwestern corner of the area (Photo 21), as well as a remnant terrace edge overlooking a large lake at the eastern extent of the area (Photo 22). In total, 63 shovel probes were judgementally excavated within the Phoenix heritage study area (Appendix B). This count includes 41 shovel probes excavated within portions of the access road options that traverse through the Phoenix heritage survey area. Although there were some variations, the general stratigraphic profile can be summarized as follows:

- 0 to 2 cm organic duff;
- 2 to 20 cm light grey sand; and
- 20 to 35 cm tan/orange sand.

No heritage resources were identified within the Phoenix heritage study area.



LEGEND

- SHOVEL PROBE
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA

0 100 200

1:5,000 METRES

REFERENCE(S)

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PROJECTION: UTM ZONE 13 DATUM: NAD 83

CLIENT
DENISON MINES CORPORATION

PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
LOCATION OF BASELINE STUDY AND HERITAGE RESOURCES

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-11-15
DESIGNED	TH
PREPARED	SBM/LMS
REVIEWED	TH
APPROVED	BN

PROJECT NO.	PHASE	REV.	FIGURE
1660579	P100	1	**10**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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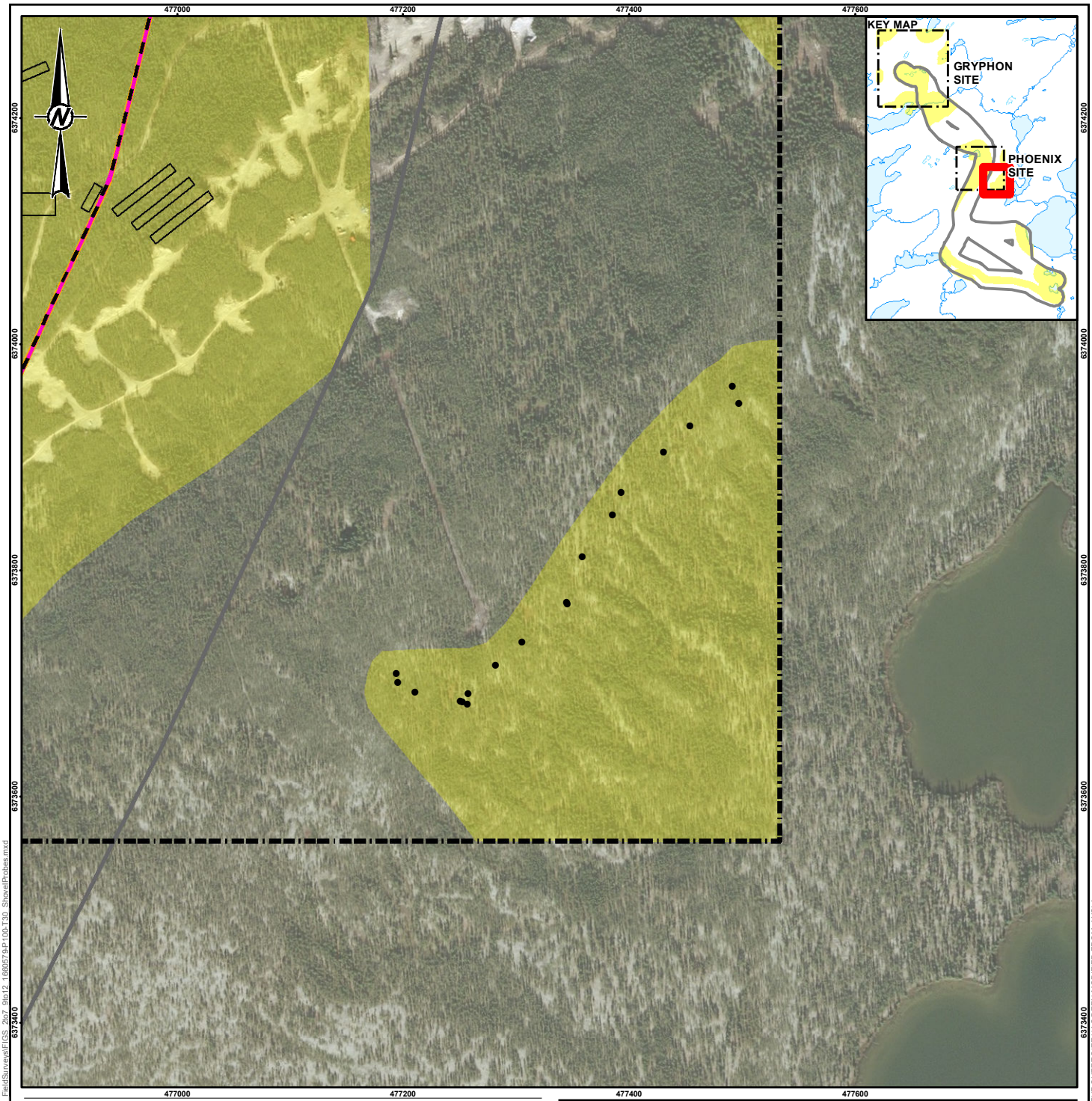
PATH: G:\CLIENTS\DENISON MINES\Wheeler River\Figures\1660579 Heritage Baseline\P100 Heritage\T30 FieldSurveyFIGS 2to7 9to12 1660579-P100-T30 ShovelProbes.mxd



LEGEND

- SHOVEL PROBE

ACCESS ROAD OPTIONS

- PHOENIX-1
- PHOENIX-2
- PHOENIX-3
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA

0 100 200

1:5,000 METRES

REFERENCE(S)

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PROJECTION: UTM ZONE 13 DATUM: NAD 83

CLIENT
DENISON MINES CORPORATION

PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
LOCATION OF BASELINE STUDY AND HERITAGE RESOURCES

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-11-15
DESIGNED	TH
PREPARED	SBM/LMS
REVIEWED	TH
APPROVED	BN

PROJECT NO.	PHASE	REV.	FIGURE
1660579	P100	1	**11**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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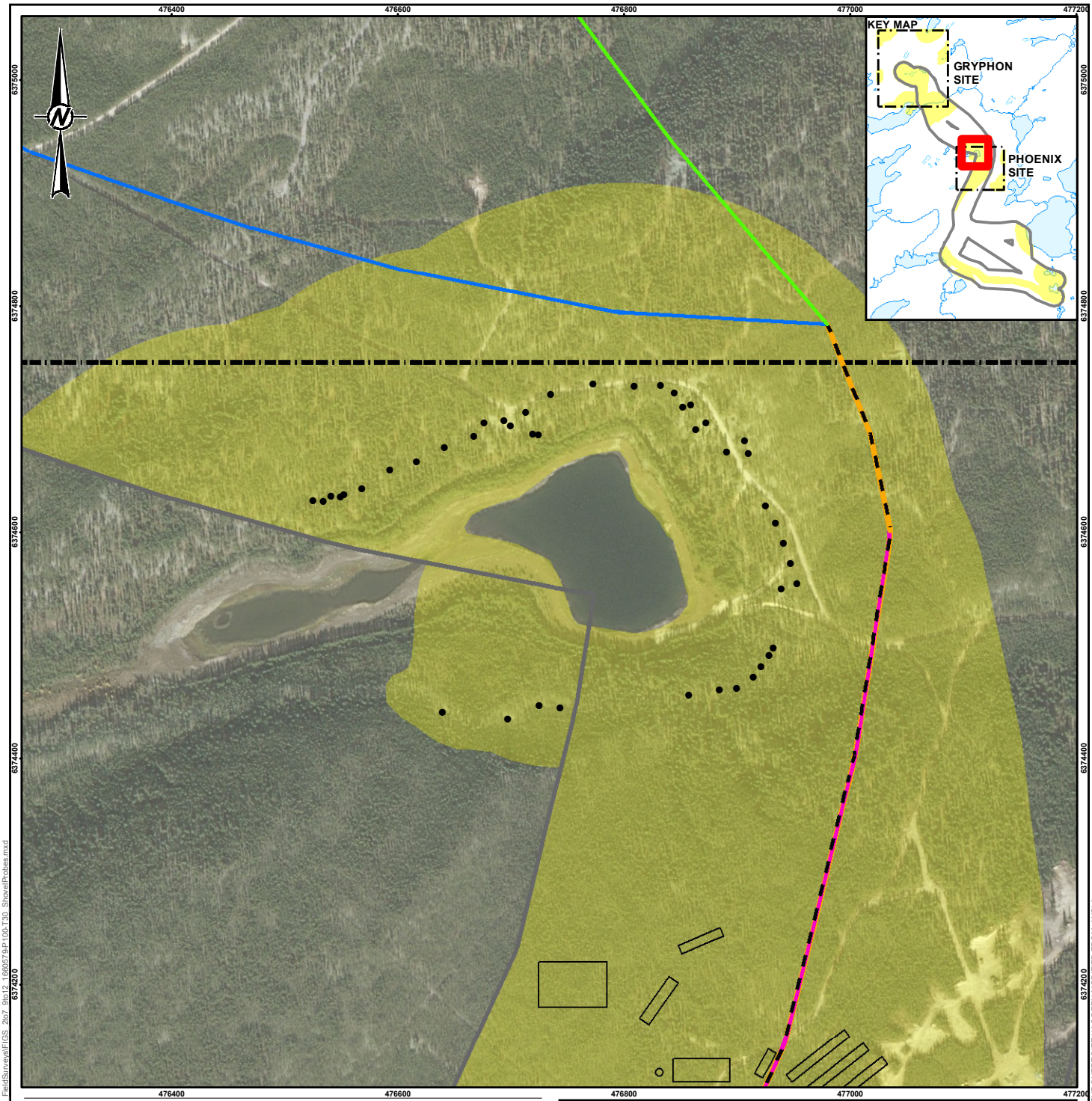
PATH: G:\CLIENTS\DENISON MINES\Wheeler River\Figures\1660579 Heritage Baseline\P100 Heritage\T30 FieldSurveyFIGS 2to7 9to12 1660579-P100-T30 ShovelProbes.mxd



LEGEND

- SHOVEL PROBE

ACCESS ROAD OPTIONS

- PHOENIX-1
- PHOENIX-2
- PHOENIX-3
- GRYPHON-1
- GRYPHON-2
- ACCESS ROAD OPTION CORRIDOR BOUNDARY
- ASSESSED AREA
- PROPOSED INFRASTRUCTURE
- PROPOSED INFRASTRUCTURE HERITAGE SURVEY AREA

0 100 200

1:5,000 METRES

REFERENCE(S)

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PROJECTION: UTM ZONE 13 DATUM: NAD 83

CLIENT
DENISON MINES CORPORATION

PROJECT
WHEELER RIVER PROJECT HERITAGE BASELINE STUDY

TITLE
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CONSULTANT
Golder Associates

YYYY-MM-DD	2017-11-15
DESIGNED	TH
PREPARED	SBM/LMS
REVIEWED	TH
APPROVED	BN

PROJECT NO.	PHASE	REV.	FIGURE
1660579	P100	1	**12**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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PATH: G:\CLIENTS\DENISON MINES\Wheeler River\Figures\1660579_Heritage_Baseline\P100_Heritage\T30_FieldSurveyFIGS_2to7_9to12_1660579-P100-T30_ShovelProbes.mxd

Photo 17: View of Phoenix infrastructure site and drilling location, looking east.

Photo 18: Road paralleling terrace edge of lake in the Phoenix infrastructure heritage survey area and Phoenix 1, 2, 3 access road option, looking south

Photo 19: View of terraces along a lake in the Phoenix infrastructure heritage survey area, looking north.

Photo 20: View from southeast corner of Phoenix infrastructure heritage survey area, looking southeast.

Photo 21: View of terrace along a lake in the Phoenix infrastructure heritage survey area, looking north.

Photo 22: Shovel testing in the Phoenix infrastructure heritage survey area, looking east.

5.0 SUMMARY AND MANAGEMENT RECOMMENDATIONS

Golder conducted a heritage baseline study on behalf of Denison for the proposed Wheeler River Project in northern Saskatchewan. The study was completed using a pedestrian reconnaissance and visual inspection program, complimented by the excavation of 258 shovel probes and 5 shovel tests (Table 3). The assessment resulted in the identification of HiNi-6, an unknown Precontact Artifact Find that was identified on a terrace overlooking a large lake adjacent to the Phoenix 2 road option. The site was assessed and determined to have limited interpretive potential. No additional heritage concerns were identified during the course of the HRIA.

Table 3: Heritage Resource Impact Assessment Summary

Project Component	Option	Approximate Area Assessed (ha)	Documented Heritage Resources	Recommendations
Access Road	Phoenix 1	54	N/A	No Further Concerns
	Phoenix 2	66	HiNi-6	
	Phoenix 3	76	N/A	
	Gryphon 1	45	N/A	
	Gryphon 2	34	N/A	
Infrastructure	Phoenix Site	48	N/A	
	Gryphon Site	70	N/A	

ha = hectare; N/A = not applicable.

Based on the results of the HRIA, it is recommended that Denison be provided with regulatory approval per Section 63 of *The Heritage Property Act* for the project described. This Final Report fulfils the permitting requirements necessary for the completion of this HRIA.

Even the most thorough investigation may not identify all archaeological materials that may be present. Denison is advised that a Heritage Resource Management Plan be developed before construction commences. This plan should include a Chance Find Procedure, so that if unanticipated archaeological materials or features (including but not limited to, hearth features, lithic, ceramic and faunal artifacts, and human remains) are encountered as a result of construction activities, the materials or features can be suitably protected and preserved, while minimizing disruption to construction. The Heritage Conservation Branch and a qualified archaeologist will need to be contacted as soon as unanticipated archaeological materials or features are encountered.

6.0 CLOSURE

We trust the above meets your present requirements. If you have any questions or require additional details, please contact the undersigned.

GOLDER ASSOCIATES LTD.

Tam Huynh, M.A.
Archaeologist

Brad Novecosky, M.A.
Principal, Senior Archaeologist

TH/BN/crm/jlb

7.0 REFERENCES

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APPENDIX A

Glossary of Technical Terms

Archaeology	The study of past cultures through the scientific investigation of their material remains.
Artifact	Any object used or modified by people.
Artifact Find	A category for archaeological sites consisting of five or fewer artifacts.
Artifact Scatter	A category for archaeological sites consisting of more than five artifacts.
Artifact/Feature Combo	A category for archaeological sites consisting of a combination of both artifacts and features (e.g., stone circles and debitage).
B.P.	Before present. 1,000 B.P. = 1,000 years before 1950 A.D. or approximately 1,000 A.D.
Cairn	A mound of cobbles, often constructed on a hilltop usually functioning as a burial cover, cache cover, drive line, or landscape marker.
Ceramics	Clay artifacts, such as vessels, that have been intentionally fired.
Core	A stone from which flakes have been intentionally removed.
Debitage	Waste by-products from stone tool manufacture. This includes flakes and shatter.
Faunal Remains	Bones and other animal parts found in archaeological sites. If modified by human activities, they are considered artifacts (e.g., bone awl).
Feature	The remains of any non-portable human activity that can not be removed from a site without disturbing it (e.g., hearth or pit).
Fire Broken Rock	Rock which has been discoloured, cracked or otherwise altered by exposure to fire. This is frequently characteristic of prehistoric occupation sites and can be associated with hearth features.
Flake	A stone fragment intentionally detached from a source rock during tool manufacture. Three flake types are generally recognized: primary flakes represent early stages of reduction where the original cortex is present on the dorsal surface; secondary flakes represent later stages of reduction where no cortex is present; and tertiary flakes represent the final stages of reduction where small pressure flakes are removed to produce the cutting or scraping edge of a tool.
Hearth	A feature containing ash, charcoal, burned rock, or other evidence of fire created by people.
Heritage Resource	Any human or natural artifact or feature that is of interest for its architectural, historical, cultural, environmental, archaeological, palaeontological, aesthetic or scientific value.
Lithics	A general term used to refer to stone artifacts such as tools, cores or debitage.
Multiple Feature	A category for archaeological sites consisting of several features of different kinds (e.g., a cluster of stone circles and cairns).
Petroglyph	A rock art site formed by pecking a figure or symbol into a rock face.
Projectile Point	An inclusive term for a hafted arrow, spear or dart point.
Recurrent Feature	A category for archaeological sites consisting of several features of the same kind (e.g., a cluster of two or more stone circles).

Shatter	A stone fragment unintentionally detached from a core during stone tool manufacture. Shatter is often less well defined than the more purposefully removed flakes.
Shovel Probe	A 40 cm by 40 cm subsurface test where the excavated soils and sediments are hand trowelled for cultural materials.
Shovel Test	A 50 cm by 50 cm subsurface test where the excavated soils and sediments are passed through a 6 mm mesh screen.
Site	Any location with detectable evidence of past human activity.
Single Feature	A category for archaeological sites consisting of one feature, (e.g., a single stone circle).
Stone Circle	A Feature consisting of stone cobbles set out in a roughly circular outline. They are generally thought to have resulted from the use of stones to secure the edges of circular hide dwellings (tipis), although the stones may also have been used in constructing ceremonial structures.
Stratigraphy	The depositional layers within a site.

APPENDIX B

Shovel Probes and Tests

Location of Shovel Probes

Probe	Zone (NAD 83)	Easting	Northing	Cultural Materials	Palaeosols
J01	13V	476091	6371718	n/a	n/a
J02	13V	476093	6371734	n/a	n/a
J03	13V	476068	6371719	n/a	n/a
J04	13V	476037	6371737	n/a	n/a
J05	13V	475860	6371800	n/a	n/a
J06	13V	475877	6371814	n/a	n/a
J07	13V	476005	6371620	n/a	n/a
J08	13V	475992	6371579	n/a	n/a
J10	13V	476314	6371214	n/a	n/a
J11	13V	478910	6371082	n/a	n/a
J12	13V	478872	6371068	n/a	n/a
J13	13V	478855	6371063	n/a	n/a
J14	13V	478830	6371016	n/a	n/a
J15	13V	478848	6370999	n/a	n/a
J16	13V	478848	6370946	n/a	n/a
J17	13V	478854	6370940	n/a	n/a
J18	13V	478765	6371216	n/a	n/a
J19	13V	478759	6371208	n/a	n/a
J20	13V	478561	6371328	n/a	n/a
J20	13V	478663	6371211	n/a	n/a
J21	13V	478686	6371357	n/a	n/a
J22	13V	478720	6370758	n/a	n/a
J23	13V	478767	6370723	n/a	n/a
J24	13V	478852	6370714	n/a	n/a
J25	13V	478871	6370722	n/a	n/a
J26	13V	478892	6370718	n/a	n/a
J27	13V	478907	6370721	n/a	n/a
J28	13V	478931	6370719	n/a	n/a
J29	13V	477385	6373849	n/a	n/a
J29	13V	477195	6373701	n/a	n/a
J30	13V	477492	6373963	n/a	n/a
J31	13V	477393	6373869	n/a	n/a
J32	13V	477345	6373772	n/a	n/a
J33	13V	477257	6373682	n/a	n/a
J34	13V	476910	6374670	n/a	n/a
J35	13V	476907	6374681	n/a	n/a
J36	13V	476859	6374713	n/a	n/a
J37	13V	476852	6374711	n/a	n/a
J38	13V	476833	6374730	n/a	n/a
J39	13V	476809	6374730	n/a	n/a
J40	13V	476735	6374721	n/a	n/a

Location of Shovel Probes

Probe	Zone (NAD 83)	Easting	Northing	Cultural Materials	Palaeosols
J41	13V	476719	6374687	n/a	n/a
J42	13V	476725	6374686	n/a	n/a
J43	13V	476677	6374697	n/a	n/a
J44	13V	476668	6374685	n/a	n/a
J45	13V	476593	6374655	n/a	n/a
J47	13V	476925	6374623	n/a	n/a
J48	13V	476948	6374572	n/a	n/a
J53	13V	478131	6372267	n/a	n/a
J54	13V	478120	6372238	n/a	n/a
J55	13V	478156	6372205	n/a	n/a
J56	13V	478152	6372198	n/a	n/a
J57	13V	478158	6372181	n/a	n/a
J58	13V	478157	6372169	n/a	n/a
J59	13V	478156	6372157	n/a	n/a
J60	13V	478239	6371935	n/a	n/a
J61	13V	478238	6371946	n/a	n/a
J62	13V	476188	6375882	n/a	n/a
J63	13V	476204	6375861	n/a	n/a
J64	13V	476225	6375868	n/a	n/a
J65	13V	476108	6375801	n/a	n/a
J66	13V	476066	6375763	n/a	n/a
J67	13V	476058	6375741	n/a	n/a
J68	13V	476008	6375702	n/a	n/a
J69	13V	475067	6375932	n/a	n/a
J70	13V	474747	6376177	n/a	n/a
J71	13V	474800	6376193	n/a	n/a
J72	13V	474835	6376167	n/a	n/a
J73	13V	474525	6375828	n/a	n/a
J74	13V	474522	6375841	n/a	n/a
J75	13V	474516	6375853	n/a	n/a
J76	13V	475525	6377895	n/a	n/a
J77	13V	475510	6377827	n/a	n/a
J78	13V	475513	6377825	n/a	n/a
J79	13V	475510	6377781	n/a	n/a
J80	13V	475460	6376030	n/a	n/a
J81	13V	475469	6376052	n/a	n/a
J82	13V	475498	6376042	n/a	n/a
J83	13V	475582	6376124	n/a	n/a
J84	13V	478990	6371218	n/a	n/a
J85	13V	478984	6371206	n/a	n/a
J86	13V	478974	6371184	n/a	n/a

Location of Shovel Probes

Probe	Zone (NAD 83)	Easting	Northing	Cultural Materials	Palaeosols
J87	13V	478948	6371183	n/a	n/a
R01	13V	476101	6371727	n/a	n/a
R02	13V	476080	6371697	n/a	n/a
R03	13V	476061	6371711	n/a	n/a
R04	13V	476030	6371732	n/a	n/a
R05	13V	475883	6371803	n/a	n/a
R06	13V	476017	6371614	n/a	n/a
R07	13V	476007	6371578	n/a	n/a
R08	13V	476007	6371539	n/a	n/a
R09	13V	476326	6371231	n/a	n/a
R10	13V	478891	6371074	n/a	n/a
R11	13V	478828	6371055	n/a	n/a
R12	13V	478826	6371016	n/a	n/a
R13	13V	478856	6370985	n/a	n/a
R14	13V	478847	6370943	n/a	n/a
R15	13V	478852	6370945	n/a	n/a
R16	13V	478771	6371207	n/a	n/a
R17	13V	478776	6371217	n/a	n/a
R18	13V	478682	6371209	n/a	n/a
R19	13V	478692	6371358	n/a	n/a
R19	13V	478554	6371289	n/a	n/a
R20	13V	478734	6370745	n/a	n/a
R21	13V	478832	6370722	n/a	n/a
R22	13V	478882	6370721	n/a	n/a
R23	13V	478897	6370724	n/a	n/a
R24	13V	478920	6370720	n/a	n/a
R25	13V	478930	6370725	n/a	n/a
R27	13V	477194	6373709	n/a	n/a
R28	13V	477497	6373948	n/a	n/a
R30	13V	477345	6373771	n/a	n/a
R31	13V	477250	6373685	n/a	n/a
R32	13V	476891	6374671	n/a	n/a
R33	13V	476873	6374697	n/a	n/a
R34	13V	476863	6374691	n/a	n/a
R35	13V	476845	6374723	n/a	n/a
R36	13V	476773	6374731	n/a	n/a
R37	13V	476713	6374706	n/a	n/a
R38	13V	476700	6374694	n/a	n/a
R39	13V	476694	6374699	n/a	n/a
R40	13V	476617	6374662	n/a	n/a
R41	13V	476541	6374632	n/a	n/a

Location of Shovel Probes

Probe	Zone (NAD 83)	Easting	Northing	Cultural Materials	Palaeosols
R42	13V	476549	6374631	n/a	n/a
R43	13V	476934	6374608	n/a	n/a
R44	13V	476953	6374555	n/a	n/a
R45	13V	478119	6372375	n/a	n/a
R46	13V	478108	6372433	n/a	n/a
R46	13V	478131	6372287	n/a	n/a
R47	13V	478149	6372244	n/a	n/a
R48	13V	478140	6372213	n/a	n/a
R49	13V	478147	6372214	n/a	n/a
R50	13V	478151	6372187	n/a	n/a
R51	13V	478149	6372182	n/a	n/a
R52	13V	478231	6371938	n/a	n/a
R53	13V	478228	6371945	n/a	n/a
R54	13V	476208	6375874	n/a	n/a
R55	13V	476222	6375874	n/a	n/a
R56	13V	476225	6375892	n/a	n/a
R57	13V	476090	6375779	n/a	n/a
R58	13V	476043	6375726	n/a	n/a
R59	13V	476030	6375712	n/a	n/a
R60	13V	475076	6375940	n/a	n/a
R61	13V	474776	6376182	n/a	n/a
R62	13V	474856	6376164	n/a	n/a
R63	13V	474529	6375833	n/a	n/a
R64	13V	474529	6375840	n/a	n/a
R65	13V	474527	6375852	n/a	n/a
R66	13V	475509	6377868	n/a	n/a
R67	13V	475495	6377850	n/a	n/a
R68	13V	475510	6377788	n/a	n/a
R69	13V	475428	6376027	n/a	n/a
R70	13V	475506	6376043	n/a	n/a
R72	13V	475620	6376183	n/a	n/a
R73	13V	478995	6371219	n/a	n/a
R74	13V	478977	6371193	n/a	n/a
R75	13V	478959	6371175	n/a	n/a
R76	13V	478937	6371194	n/a	n/a
T01	13V	476064	6371667	n/a	n/a
T02	13V	476040	6371681	n/a	n/a
T03	13V	476024	6371743	n/a	n/a
T04	13V	475864	6371795	n/a	n/a
T05	13V	476047	6371515	n/a	n/a
T06	13V	476044	6371490	n/a	n/a

Location of Shovel Probes

Probe	Zone (NAD 83)	Easting	Northing	Cultural Materials	Palaeosols
T08	13V	476337	6371237	n/a	n/a
T09	13V	478894	6371051	n/a	n/a
T10	13V	478868	6371044	n/a	n/a
T11	13V	478841	6371032	n/a	n/a
T12	13V	478841	6371013	n/a	n/a
T13	13V	478853	6371005	n/a	n/a
T14	13V	478771	6371218	n/a	n/a
T15	13V	478767	6371224	n/a	n/a
T16	13V	478725	6371221	n/a	n/a
T17	13V	478703	6371216	n/a	n/a
T18	13V	478565	6371265	n/a	n/a
T19	13V	478557	6371253	n/a	n/a
T20	13V	478569	6371310	n/a	n/a
T21	13V	478574	6371344	n/a	n/a
T22	13V	478593	6371370	n/a	n/a
T23	13V	478722	6370802	n/a	n/a
T24	13V	478719	6370816	n/a	n/a
T25	13V	478744	6370799	n/a	n/a
T26	13V	478763	6370791	n/a	n/a
T27	13V	478823	6370737	n/a	n/a
T28	13V	478864	6370717	n/a	n/a
T29	13V	478880	6370715	n/a	n/a
T30	13V	478903	6370709	n/a	n/a
T31	13V	478913	6370712	n/a	n/a
T32	13V	478913	6370720	n/a	n/a
T33	13V	477211	6373693	n/a	n/a
T34	13V	477258	6373692	n/a	n/a
T35	13V	477454	6373928	n/a	n/a
T36	13V	477431	6373905	n/a	n/a
T37	13V	477359	6373812	n/a	n/a
T38	13V	477305	6373737	n/a	n/a
T39	13V	477282	6373716	n/a	n/a
T40	13V	477253	6373684	n/a	n/a
T41	13V	476640	6374441	n/a	n/a
T42	13V	476697	6374435	n/a	n/a
T43	13V	476725	6374446	n/a	n/a
T44	13V	476744	6374445	n/a	n/a
T45	13V	476857	6374456	n/a	n/a
T46	13V	476885	6374460	n/a	n/a
T47	13V	476900	6374462	n/a	n/a
T48	13V	476915	6374471	n/a	n/a

Location of Shovel Probes

Probe	Zone (NAD 83)	Easting	Northing	Cultural Materials	Palaeosols
T49	13V	476922	6374481	n/a	n/a
T50	13V	476929	6374491	n/a	n/a
T51	13V	476932	6374497	n/a	n/a
T52	13V	476642	6374674	n/a	n/a
T53	13V	476568	6374638	n/a	n/a
T54	13V	476525	6374628	n/a	n/a
T55	13V	476534	6374627	n/a	n/a
T56	13V	478118	6372396	n/a	n/a
T56	13V	476941	6374590	n/a	n/a
T57	13V	476939	6374550	n/a	n/a
T57	13V	478132	6372323	n/a	n/a
T58	13V	478130	6372269	n/a	n/a
T59	13V	478137	6372272	n/a	n/a
T60	13V	478164	6372223	n/a	n/a
T61	13V	478165	6372211	n/a	n/a
T62	13V	478168	6372193	n/a	n/a
T63	13V	478164	6372177	n/a	n/a
T64	13V	478284	6371890	n/a	n/a
T65	13V	478261	6371913	n/a	n/a
T66	13V	476156	6375889	n/a	n/a
T67	13V	476143	6375882	n/a	n/a
T68	13V	476123	6375882	n/a	n/a
T69	13V	476117	6375886	n/a	n/a
T70	13V	476103	6375905	n/a	n/a
T71	13V	476092	6375882	n/a	n/a
T72	13V	476070	6375870	n/a	n/a
T73	13V	476044	6375880	n/a	n/a
T74	13V	476026	6375850	n/a	n/a
T75	13V	476010	6375847	n/a	n/a
T76	13V	475995	6375824	n/a	n/a
T77	13V	475986	6375820	n/a	n/a
T78	13V	475979	6375812	n/a	n/a
T79	13V	475958	6375785	n/a	n/a
T80	13V	474787	6376147	n/a	n/a
T81	13V	474534	6375829	n/a	n/a
T82	13V	474528	6375833	n/a	n/a
T83	13V	474519	6375858	n/a	n/a
T84	13V	475545	6377923	n/a	n/a
T85	13V	475565	6377923	n/a	n/a
T86	13V	475602	6377927	n/a	n/a
T87	13V	475699	6377917	n/a	n/a

Location of Shovel Probes

Probe	Zone (NAD 83)	Easting	Northing	Cultural Materials	Palaeosols
T88	13V	475490	6377782	n/a	n/a
T89	13V	475485	6377765	n/a	n/a
T90	13V	475375	6376010	n/a	n/a
T91	13V	475375	6376018	n/a	n/a
T92	13V	475450	6376031	n/a	n/a
T93	13V	475472	6376036	n/a	n/a
T94	13V	475543	6376092	n/a	n/a
T95	13V	475680	6376192	n/a	n/a
T96	13V	478993	6371228	n/a	n/a
T97	13V	478995	6371237	n/a	n/a
T98	13V	478994	6371248	n/a	n/a
T99	13V	478959	6371278	n/a	n/a

NAD = North American Datum; n/a = not applicable.

Location of Shovel Tests

Probe	Zone (NAD 83)	Easting	Northing	Cultural Materials	Palaeosols
J46	13V	476552	6374634	n/a	n/a
J49	13V	478104	6372440	n/a	n/a
J50	13V	478104	6372442	n/a	n/a
J51	13V	478101	6372441	n/a	n/a
J52	13V	478105	6372440	n/a	n/a

NAD = North American Datum; n/a = not applicable.

APPENDIX C

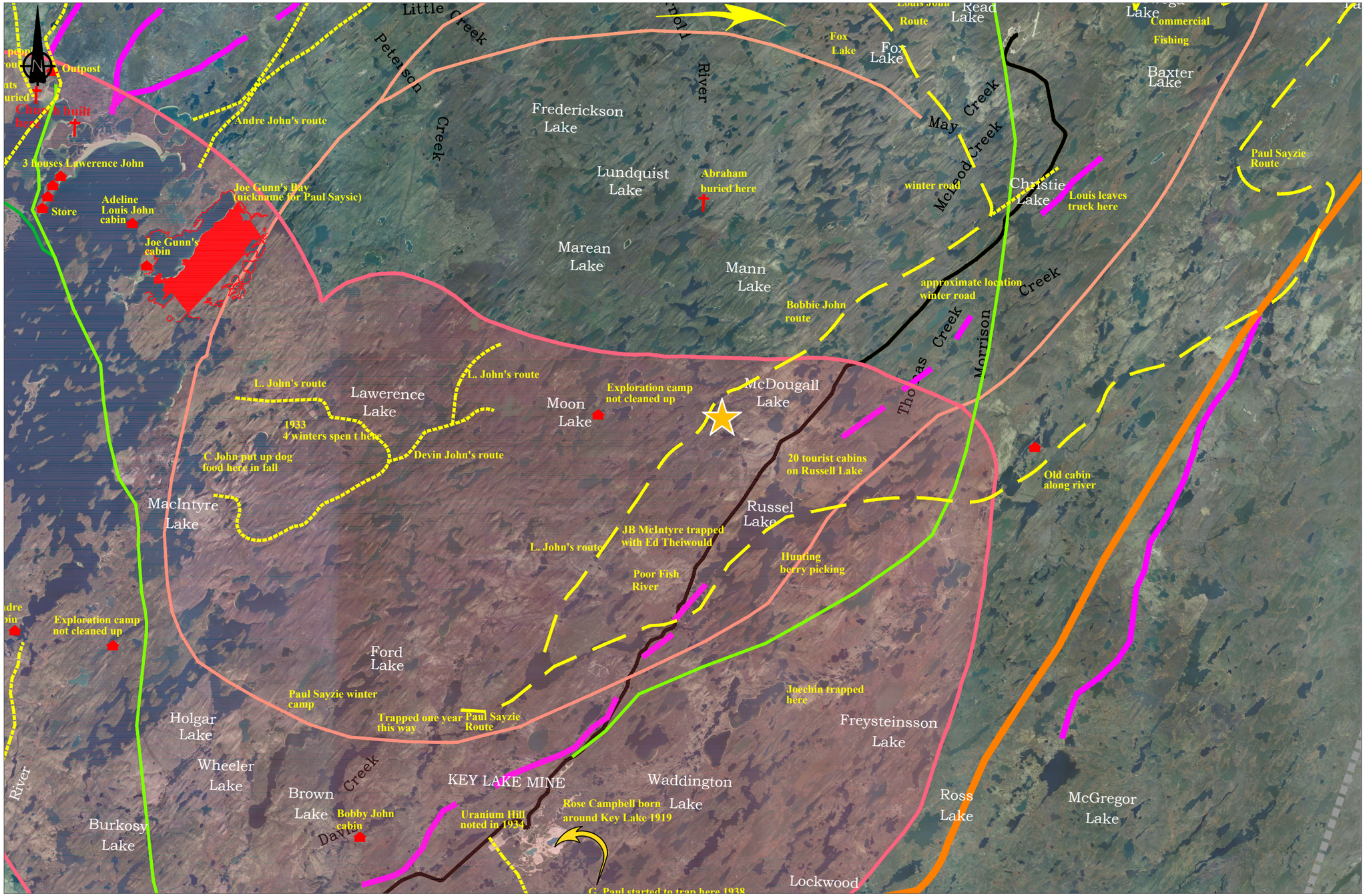
HiNi-6 Artifact Catalogue

Project No. 1660579
Permit No. 17-091
Borden No. HiNi-6

Catalogue #	Class	Description	Material	Notes	Freq.	Mass (g)	Length (mm)	Width (mm)	Thick. (mm)	Wpt	UTM Coordinates (NAD 83)
HiNi-6:1	Lithic	Retouched Flake	Quartzite	Left lateral edge unifacial retouch; 15 cm dbs	1	25.1	71.6	49.6	9.4	J49	13U 478104E 6372440N

APPENDIX D

Map Showing Traditional Territory of the English River First Nation



LEGEND

- Burial / Sacred
- Cabin
- Eskers
- Winter Trails
- Traditional Trails
- Provincial Highway
- ERFN Traditional Land Boundry
- Winter Road
- ERFN Boundry
- Reserve Land
- Estimated Caribou Range
- Wheeler River

srk consulting	Denison Mines	-
-		SUBSET OF ENGLISH RIVER FIRST NATION TRADITIONAL TERRITORIES DETAILED VIEW
2017TT_EnglishRiver_March2_2017[1].dwg	WHEELER RIVER PROJECT	DATE: 03/10/17 | APPROVED: | FIGURE:

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