



Archaeological and Heritage Consulting

**Heritage Resources Overview Assessment and Preliminary
Field Reconnaissance of ATAC Resources Ltd. Rackla
Gold Property Conducted Under Permit 11-11ASR.**

Prepared by: Matrix Research Ltd.

Prepared for: ATAC Resources Ltd.

April, 2012

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Heritage Resources Overview Assessment and Preliminary Field Reconnaissance of ATAC Resources Ltd. Rackla Gold Property Conducted Under Permit 11-11ASR.

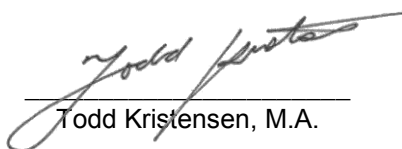
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Joella Hogan, Manager of Heritage and Culture, First Nation of Na-Cho Nyak Dun, assisted the project by providing traditional land use and heritage information. Joella also helped arrange the participation of a Na-Cho Nyak Dun representative during field work and arranged meetings with Elders and knowledgeable staff at the First Nation of Na-Cho Nyak Dun Cultural Centre prior to fieldwork. Thank you to Jimmy Johnny for providing insight on traditional activities in the area.

Ruth Gotthardt and Chris Thomas at the Cultural Services Branch, Department of Tourism and Culture, Government of Yukon, discussed the project with us and provided information on past heritage resources work in the study area. We thank them for their input and comments.

The opinions, recommendations, omissions, and / or errors in this report are those of Matrix Research Ltd. alone and do not necessarily reflect the positions held by ATAC Resources Ltd., the First Nation of Na-Cho Nyak Dun, or the Government of Yukon.

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MANAGEMENT SUMMARY

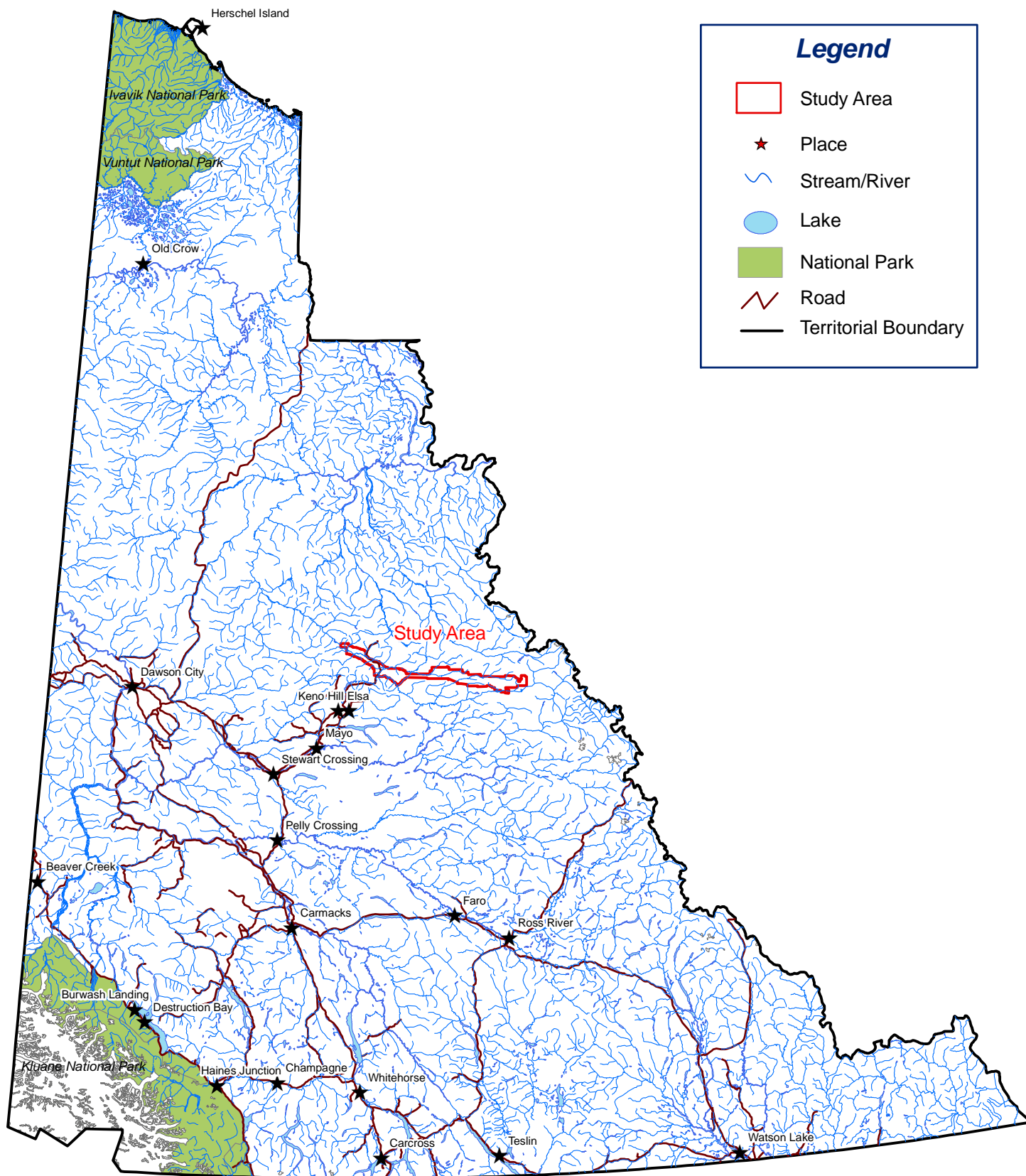
This report details the results of a Heritage Resources Overview Assessment (HROA) and Preliminary Field Reconnaissance (PFR) for proposed mineral exploration in the Rackla Gold Property in central Yukon (Map 1). The HROA and PFR were anticipated to be required as part of the Yukon Environmental and Socio-economic Assessment Board (YESAB) proposed development review process. The general objectives of this heritage study were to determine heritage potential within the proposed mineral exploration area, refine zones of heritage potential during aerial overview flights and pedestrian transects, and document above- and below-ground heritage resources during PFR fieldwork. Additional objectives are to assess degrees of impact on any heritage resources identified during the PFR and provide management recommendations.

As a result of a pre-field HROA, the entire study area was classified into zones of heritage resources potential, either high, moderate, or low. The classification scheme was refined in-field during helicopter overview flights prior to ground-truthing in 2011. Further heritage resources investigations were recommended for moderate and high heritage resources potential areas prior to any potentially ground-altering development activities. PFR fieldwork was conducted from July 6th to July 21st, 2011. Fieldwork consisted of visual inspection of moderate and high potential zones on foot for above-ground heritage resources and, if deemed necessary, shovel testing to identify below-ground heritage resources. Fourteen pre-contact heritage sites and one post-contact heritage site (Table 1) were identified during the PFR. If the heritage sites cannot be avoided with a 100 m buffer, a Heritage Resources Impact Assessment (HRIA) is recommended to determine full spatial extent of the sites prior to any ground disturbance. In the event of unavoidable impact, mitigation options including possible systematic data recovery can be provided.

Heritage resources are protected from non-permitted alterations or disturbance by the *Historic Resources Act* (Government of Yukon 2002) and the *Archaeological Sites Regulations* (Government of Yukon 2003). To ensure that the discovery of any unanticipated heritage resources is addressed, it is recommended that ATAC Resources Ltd. inform their personnel and contractors that, in the event that heritage resources are encountered, all development activities in the vicinity of the heritage resources must be suspended immediately. In such cases the Cultural Services Branch, Department of Tourism and Culture, Government of Yukon and the First Nation of Na-Cho Nyak Dun must be contacted immediately with information on the heritage remains and the nature of the disturbance. Information on the identification of heritage resources can be found in a publication entitled *Handbook for the Identification of Heritage Sites and Features* (Gotthardt and Thomas 2005).

This study was designed as a heritage resources overview assessment and preliminary field reconnaissance and was not intended to evaluate or comment on traditional Aboriginal use of

the areas in which development is proposed. The results of this study, therefore, should not be considered valid for that purpose.



MAP 1: STUDY AREA LOCATION

Table 1: Archaeological Sites Recorded Under Permit 11-11ASR.

Temporary Site Number	Site Classification	Site Type	NTS Mapsheet
Borden Number			
M11-ATAC-1	Prehistoric	Cultural material, subsurface, lithics	106 C/3
LbTp-1			
M11-ATAC-2	Prehistoric	Cultural material, subsurface, lithics	106 C/1
LaTn-1			
M11-ATAC-3	Prehistoric	Cultural material, subsurface, lithics	106 C/3
LbTp-2			
M11-ATAC-4	Prehistoric	Cultural material, subsurface, lithics	106 C/4
LbTq-1			
M11-ATAC-5	Prehistoric	Cultural material, subsurface, lithics	106 C/4
LbTq-2			
M11-ATAC-6	Prehistoric	Cultural material, subsurface, lithics	106 C/4
LbTq-3			
M11-ATAC-7	Prehistoric	Cultural material, subsurface, lithics	106 C/3
LbTq-4			
M11-ATAC-8	Historic	Habitation, structure, log cabins (3)	106 D/6
LcTv-1			
M11-ATAC-9	Prehistoric	Cultural material, subsurface, lithics	106 D/6
LcTv-2			
M11-ATAC-10	Prehistoric	Cultural material, subsurface, lithics	106 D/6
LcTv-3			
M11-ATAC-11	Prehistoric	Cultural material, subsurface, lithics	106 D/6
LcTv-4			
M11-ATAC-12	Prehistoric	Cultural material, subsurface, lithics	106 D/1
LbTs-1			
M11-ATAC-13	Prehistoric	Cultural material, subsurface, lithics	106 C/3
LbTq-5			
M11-ATAC-14	Prehistoric	Cultural material, subsurface, lithics	106 C/3
LbTq-6			
M11-ATAC-15	Prehistoric	Cultural material, subsurface, lithics	106 C/3
LbTp-3			

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1.0 INTRODUCTION

This report details the results of a Heritage Resources Overview Assessment (HROA) and Preliminary Field Reconnaissance (PFR) for proposed mineral exploration in the Rackla Gold Property. This study was conducted at the request of ATAC Resources Ltd.

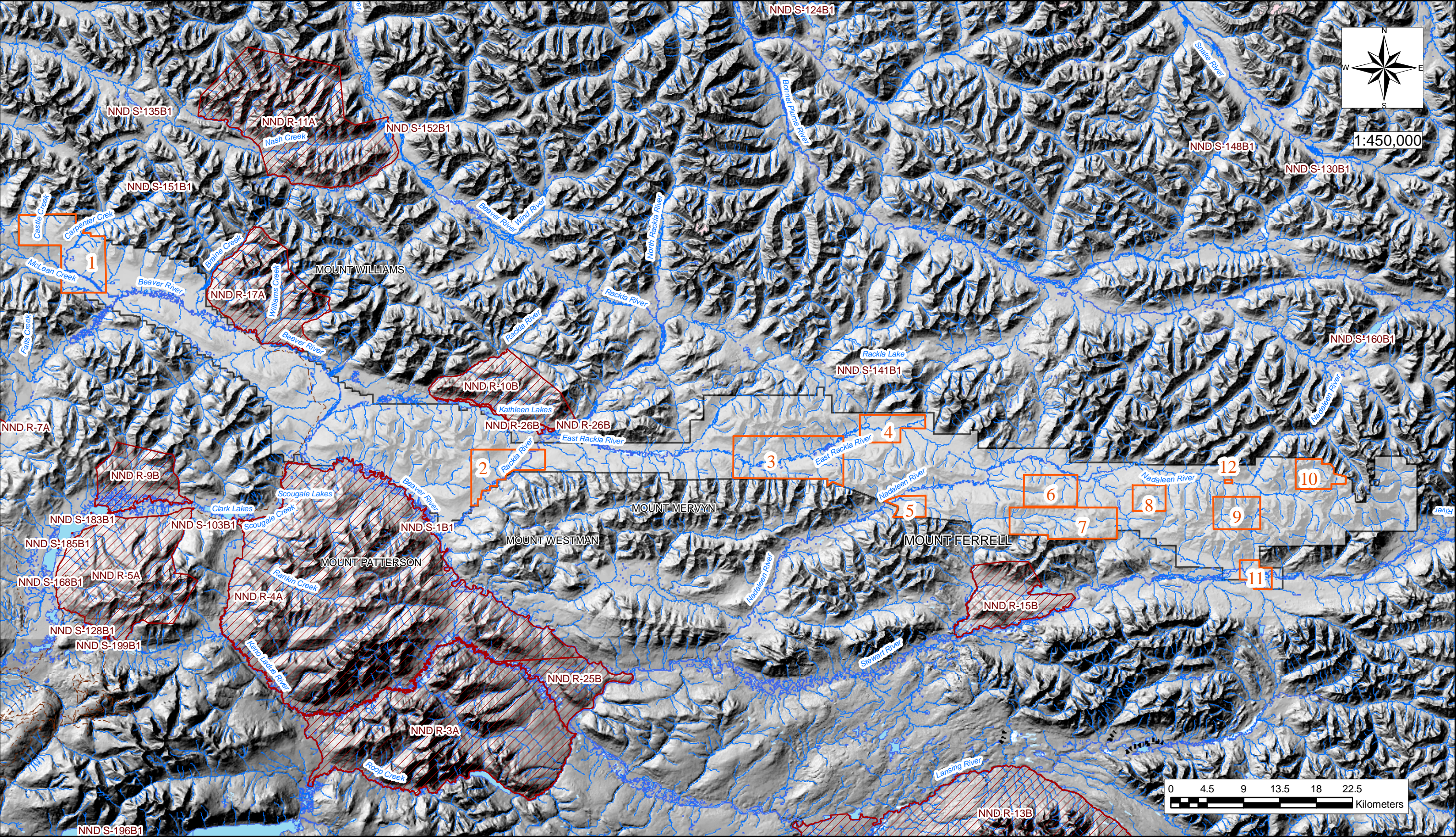
The Rackla Gold Property is located approximately 370 km north-northeast of Whitehorse and 30 km northeast of Keno City in central Yukon (Map 1). The proposed development area is located between the Wernecke Mountains and the Nadaleen Range north of Stewart River. The property encompasses valleys and tributaries of Rackla, East Rackla, Beaver, Nadaleen, and Stewart Rivers as well as surrounding uplands (Map 2). Claims within the Rackla Gold Property extend for approximately 170 km east-west by 10 km north-south.

ATAC Resources Ltd. is conducting gold and silver exploration in the Rackla Gold Property, which is a component of its Rau Project begun in 2006. Exploration activities in 2011 were proposed in 11 major exploration areas (Map 2) in which heritage assessments were conducted in addition to one small proposed camp location. The proposed developments include diamond drilling, geophysical surveys, soil and silt geochemical sampling, and camp/airstrip construction. Up to 1000 diamond drill holes and 300 trenches totaling an area of 10 000 m³ were proposed. Camps and exploration areas were largely accessed by helicopter or fixed wing plane with limited construction of access trails. The existing Rackla Gold airstrip will be utilized for air transportation in addition to a new airstrip near Stewart camp. The Rackla Gold project operates four major camps: Nadaleen camp (adjacent to the Osiris Exploration Area), Stewart camp (in the southeast portion of the Rackla Gold Property), Rau camp (north of the Beaver River) and the Rackla camp (adjacent to the existing Rackla airstrip). A new camp was proposed immediately north of Nadaleen River in the northwest portion of the Rackla Gold Property. Camps consist of tent frames and core shacks with a limited number of wooden sheds for machinery and food storage.

The HROA and PFR were anticipated to be required as part of the Yukon Environmental and Socio-economic Assessment Board (YESAB) proposed development review process. The HROA was also requested for the purposes of managing potential conflicts with heritage resources during future mining related development in the study area. The objectives of this heritage study were as follows:

- 1) Classification of the study area land base into zones of heritage potential and refinement of those zones through an aerial overview and ground-truthing during the PFR,
- 2) Identification and documentation of above- and below-ground heritage resources during the PFR of the proposed mineral exploration areas in the Rackla Gold Property.

Fieldwork was conducted by Todd Kristensen and James Guy of Matrix Research Ltd. from July 6th to July 21st, 2011 with the assistance of Kissel Reid of the First Nation of Na-Cho Nyak Dun on July 6th to 16th.



Rackla Property

River/Lake

Area of Detailed Work

FN Settlement Lands

Trail

Stream

Road

MATRIX

Research Ltd

MAPSHEETS:

NTS: 106 B/4, 106 C/1-8
106 D/1, D/2, D/6, D/7, D/8

LOCATION: Rackla River

UTM: E 574254 N 7119878
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources

JOB #: Y11-015-Rackla

1.1 Report Format and Distribution

This report is divided into seven sections and five appendices.

Section 1: Introduction

This section introduces the heritage assessment study and discusses the work undertaken, duration of the study, relevant legislative references and definitions, and a summary of correspondences made with First Nations.

Section 2: Heritage Assessment Description

This section discusses the intent of the heritage assessment in relation to the proposed development.

Section 3: Study Area

This section describes the geographic location and natural setting of the study area. A brief overview of cultural history and previous archaeology within the vicinity of the development area is also presented.

Section 4: Methodology

This section discusses the methods used while conducting the heritage assessment.

Section 5: Results

This section describes the results of the HROA and PFR of the proposed developments in the Rackla Gold Property. A map is provided that shows refined heritage potential zones, survey transects, shovel tests, and heritage sites. Fifteen heritage sites were recorded during the PFR and descriptions of each site are provided. Maps of each site are provided in Appendix B.

Section 6: Recommendations

This section provides recommendations for the management of heritage resources and heritage potential identified during the HROA and PFR.

Section 7: References Cited

This section lists bibliographic information for all references cited in this report.

Appendices

Included with this report are five appendices containing a glossary of archaeological terms, heritage site maps, pre-contact artifact photographs, heritage assessment photographs, and catalogues of pre-contact lithic artifacts analyzed during the study.

1.2 Legislative References

The *Historic Resources Act* (Government of Yukon 2002) and *Archaeological Sites Regulations* (Government of Yukon 2003) contain legislation that ensures the management and protection of Yukon archaeological and historical resources. This legislation applies to archaeological and historical sites older than 45 years whether they are located on public or private land. The permit for this Heritage Resources Overview Assessment and Preliminary Field Reconnaissance (11-11ASR) was issued and administered by the Manager of Heritage Resources Unit, Cultural Services Branch, Department of Tourism and Culture. To ensure that the discovery of any unanticipated heritage resources is addressed, it is recommended that ATAC Resources Ltd. inform their personnel and contractors that, in the event that heritage resources are encountered, all development activities in the vicinity of the heritage resources must be suspended immediately. In such cases the Cultural Services Branch, Department of Tourism and Culture, Government of Yukon, and First Nation of Na-Cho Nyak Dun must be contacted as soon as possible with information on the heritage remains and nature of disturbance. Information on the identification of heritage resources can be found in a publication entitled *Handbook for the Identification of Heritage Sites and Features* (Gotthardt and Thomas 2005).

1.3 First Nations Referral and Correspondence

The area assessed during this study is located within the traditional territory of the First Nation of Na-Cho Nyak Dun (NND). Information on the proposed development was referred to NND as part of the Yukon Environmental and Socio-economic Assessment Board (YESAB) proposed development review process. Matrix Research Ltd. contacted NND to initiate discussion concerning the heritage resources overview assessment, the preliminary field reconnaissance, and any existing traditional land use information or oral history pertinent to the study area. The First Nation of Na-Cho Nyak Dun was also provided a copy of the Yukon Archaeological Sites Regulations permit application for review prior to the heritage assessment. A representative from NND was requested to assist with fieldwork and Kissel Reid participated from July 6th to 16th.

2.0 HERITAGE ASSESSMENT DESCRIPTION

The aim of a Heritage Resources Overview Assessment (HROA) is to assess the potential for heritage resources (such as archaeological or historic sites) within a proposed development area and to make recommendations concerning the need and scope for further heritage studies. An HROA is intended to classify the land base within a development area into zones of heritage potential, either high, moderate, or low. No further heritage studies are recommended in zones identified as low potential. In the event that zones of moderate and / or high heritage resources potential are identified within the development area, recommendations are provided for further heritage studies (a preliminary field reconnaissance or heritage resources impact assessment).

The objectives of a preliminary field reconnaissance (PFR) are as follows:

- 1) To support the HROA by providing baseline field data that is not available from extant sources,
- 2) To ground-truth predictions of heritage potential made during the HROA through aerial overview flights and pedestrian transects, and
- 3) To provide information necessary to design further heritage assessments

Additional objectives include the identification and documentation of any heritage resources encountered in the project area and provision of recommendations for managing future impacts to those resources.

3.0 PROPOSED DEVELOPMENT AREA

3.1 Natural Setting

The proposed development is located within the Yukon Plateau-North ecoregion of central Yukon in the Boreal Cordillera ecozone (Smith *et al.* 2004). The claims of the Rackla Gold Property encompass valleys and uplands of the Rackla and Nadaleen Ranges surrounding Rackla, East Rackla, Beaver, Stewart, and Nadaleen Rivers. The elevation in the study area generally ranges from approximately 700 m above sea level (asl) to 1600 m asl.

The Yukon Plateau-North ecoregion is characterized by a series of plateaus and valleys located northeast of the Tintina Trench. Forest cover is comprised mainly of lodgepole pine and black and white spruce up to elevations of 1500 m. Shrub birch, scattered pine, white spruce, and subalpine fir form the forest cover at higher elevations with an understory dominated by lichens. Temperatures in the ecoregion are the most extreme of the Yukon ranging from -62°C to +36°C in the valley areas, with higher terrain experiencing less extreme ranges in temperature. Annual average precipitation of the ecoregion is ~ 300 mm with areas in the east receiving upwards of 600 mm of precipitation (Smith *et al.* 2004).

Discontinuous permafrost is present in most of the ecoregion with areas on southern slopes experiencing thaw during summer months. The ecoregion was covered by the McConnell glaciations during the latter part of the Late Pleistocene with some evidence for the presence of Reid and pre-Reid glaciations (from up to 3 million years ago) found above and beyond the western limit of the McConnell glaciations. Deglaciation occurred approximately 10,000 years ago, leaving extensive areas of kettle kame topography and glacial lakes in the many valleys of the region (Smith *et al.*, 2004).

Sediments in higher elevations consist of thin blankets of weathered bedrock, with till found at middle to low elevations. Valley floors contain variable thicknesses of glaciofluvial sand and gravel that typically form stable surfaces. Valleys also contain glaciolacustrine deposits that can be upwards of 18 m thick in areas such as the Keno-Ladue River (Smith *et al.* 2004). Soil types include brunisols (consisting of immature soils with notable B horizons) and cryosols (consisting of silty colluvium and wind-blown loess that are influenced by permafrost conditions). Eutric brunisols are associated with aspen stands (formed on coarse moraine and river cobble deposits) and organic cryosols and gleysolic turbic cryosols are associated with lowlands and valley wetlands. Permafrost areas are characterized by orthic turbic cryosols. Upland areas often contain turbic cryosols that form on poorly drained sediments and eutric brunisols in well-drained areas.

3.2 Post-contact History

The Mayo area was rarely written about until the discovery of gold in the region in 1883. Early prospectors of the Stewart River area included Poplin, McCoskey, Beach and Marks who received help from men who had been trapping and running trading posts in the area for years such as McQuesten, Harper, and Mayo (Mayo Historical Society 1990:22). In 1885, news of gold found on Stewart River spread quickly and attracted 75 men to work the river that summer. In 1886, McQuesten, Harper, and Mayo set up a post, Fort Nelson, at the mouth of the Stewart River to sell supplies. Mayo ran the store and soon, a small town of 32 cabins was established. The area was quite profitable and produced an estimated \$300,000 in gold between 1885 and 1886 but production declined quickly and in March of 1887, Fort Nelson was abandoned with the news of a gold strike near Fortymile. The store was packed up and relocated (Mayo Historical Society 1990:26). When it was discovered that the larger gold deposits at Fortymile were much more difficult to mine, some miners returned to the Stewart River area. Fort Nelson saw a brief revival during the Klondike gold rush as it served as a resting point, wintering ground after freeze up, and a place to gather wood for riverboats. Another influx of miners occurred in the area in 1901 when men from Duncan Creek in the Mayo area discovered large gold placer nuggets (Bleiler *et al.* 2006:33).

By 1901, McQuesten Village (an abandoned supply post on McQuesten River) served as an annual meeting ground for the First Nation of Na-Cho Nyak Dun (NND). In 1902, Frank Braine and Percival Nash established Lansing Post, at the confluence of the Stewart and Lansing Rivers and invited First Nations trappers to settle neighbouring land and bring in furs. The post exchanged hands three times until it was eventually abandoned in 1940 (Mayo Historical Society 1990:212).

The town of Mayo, or Mayo Landing, was established in 1903 and attracted people from older settlements on McQuesten River (Mayo Historical Society 1990:9). On July 10th, 1903, Jacob A. Davidson became the first man to find and stake a silver-lead ore claim in the area (Hell's Gate claim). He did not stay to mine it, however, and the claim lapsed until it was re-staked in 1913 by McWhorter, Alverson, Huffman, and Evans, which marks the beginning of the area's silver mining industry. More accessible roads and bridges were established from 1903 to 1917. Shortly after 1913, 59 tons of ore were stacked on the Mayo docks to be shipped to San Francisco (Mayo Historical Society 1990: 61). News of smelter returns caused an immediate stampede to the area which became known as the Silver King District, near Galena Creek, approximately 45 km north of Mayo. By 1915, the population of Mayo Landing was 234, with 80 First Nations residents living nearby at the Old Village (Bleiler *et al.* 2006:102).

In 1915, Julius Kendi and Rev. Frank Buck from the Anglican Church arrived to baptize and help the NND people establish a town of their own at a location 3.2 km below the village of

Mayo, on the banks of the Stewart River. The “Old Village” was occupied for over 40 years but was abandoned after 1958. The village still has some standing cabins and associated buildings. There were many areas in the region mined by companies and individuals during the early 20th century, the most notable of which include Keno City, Wernecke Camp, and Elsa Camp. Keno City was established in 1919 when John Kinman discovered galena above Lightning Creek: within three years cabins, hotels, roadhouses, and a post office were built. Keno Hill Limited operated the mine and in 1920 the population was estimated at just under 1000 people (Mayo Historical Society 1990:72). Wernecke Camp was a large settlement in the area that had the first working mill in the area in 1925. The camp was run by Treadwell Yukon Company and housed a recreation hall, bowling alley, library, silent movies, and a laundry service. In 1929, the mine decreased in productivity and slowly people left for more profitable areas (Mayo Historical Society 1990:76). Elsa camp was established in 1928 by Treadwell Yukon, and consisted of a 30 man camp. In 1935, it evolved into a town when the mill was built nearby. Shortly thereafter, a machine shop, bunkhouse, store, poolroom, school and post office were established (Mayo Historical Society 1990:82).

By 1942, most large mining operations had dissolved until a mining boom in the 1950's when United Keno Hill Mines Limited reopened many of the areas that Treadwell Yukon had closed (Mayo Historical Society 1990:89). Twenty other companies began to open large-scale mines in the area. A road was built to connect Mayo to Whitehorse in 1950, allowing year-round shipment of goods and ores (Bleiler *et al.* 2006:116). Silver mining continued to be a profitable business into the latter half of the 20th century.

3.3 Ethnography and Traditional Use

The area surrounding the Rackla Gold Property is within the traditional territory of the First Nation of Na-Cho Nyak Dun (NND), who are members of the Northern Tutchone. The following brief review of Northern Tutchone ethnography and material culture is taken from McClellan (1981). Emphasis has been placed on the seasonal round and subsistence strategies as they relate to activities most likely to have left physical evidence of past human use.

The Northern Tutchone are members of the Athapaskan language family. In the vicinity of the study area, Northern Tutchone people practiced a seasonal subsistence round that involved summer aggregation at fishing camps chosen for the availability of migrating salmon. Settlement near these locations involved several families who used the same fishing location each year. Berry gathering, medicinal plant harvesting, and meat preservation were also carried out at this time of year. A variety of berries and roots were available and constituted an important food source. By late summer, people dispersed into the upland region to capture game that could be dried for winter caches. Caribou, moose, mountain goat, sheep, and bear were among the large game animals taken while hare and beaver were also trapped / hunted for fur and food (McClellan

1981). In December and January, people usually regrouped and shared stored foods before dispersing again by late winter to find game. Food was generally dried or smoked on racks and storage was accomplished through the use of caches near main dwellings (McClellan 1981).

The Northern Tutchone generally built conical or rectangular lean-tos with a tied pole framework and brush walls with a roof of moss, bark or skin. These structures would often house several families sharing a central fireplace. Near the main dwellings, meat and fish drying racks would be erected, as well as racks for boat frames and toboggans, frames for skin tanning and smoking, and small huts for use during spiritually important events. Main foundations were not excavated, therefore, the primary features associated with these structures that are most likely to be found in the archaeological record are postholes and central hearths. During the winter when groups dispersed, domed winter tents of caribou or moose hide were stretched over sapling frameworks and insulated with moss and / or snow.

A wide variety of implements were used for hunting, fishing, and plant food gathering. Stone tools (projectile points, knives, scrapers, and flaking debris) are implements commonly recovered in archaeological contexts. In some cases these hunting / fishing implements were made from antler, bone and native copper, which are sometimes recovered at archaeological sites depending on preservation conditions. During historic times, many kinds of traps, snares, corrals and hunting blinds were used and still can be seen on the landscape today. Box and funnel traps were used in conjunction with weirs to catch salmon, trout, pike, and large whitefish. Dip nets, gill nets, leisters (pronged spears), hooks, gaffs, spears, and lines were also used to catch fish (McClellan 1981).

Oral history from the Germaine family indicates that they trapped and hunted in the area surrounding Keno Hill and McQuesten Lakes for generations as the valley is rich in moose, beaver, martin, and lynx. They also stated that the McQuesten Lakes have lingcod, whitefish, pike and inconnu, and that the family set nets in the narrows of an emptying creek. The area was also a good source of blueberries in the summer. Later, after the prospectors started to settle, the Germaines provided fish and wild game to the mining camps (K-L Services 2004). Currently, members of the First Nation of Na-Cho Nyak Dun have cabins in and around McQuesten Lakes and Clark Lakes. The region is known for good hunting and fishing (Joella Hogan, pers. comm.).

According to oral tradition members of the Fort Selkirk Nation traditionally travelled the Stewart River country to trap and hunt. Mayo Elder Sam Peter stated that from Fort Selkirk, they travelled up the McQuesten River (Et'O Nyak) to the Beaver River (Mayo Historical Society 1990).

3.4 Previous Heritage Work

There have only been two documented heritage surveys conducted in the vicinity of the proposed development area. Richard MacNeish identified the first archaeological site in 1957 under Permit 57-2ASR. The site (**LaTw-1**) is located at the south end of McQuesten Lake and

consists of lithic artifacts, debitage, bone, and charcoal. No further work beyond initial recording has been undertaken on this site to date.

Matrix Research Ltd. conducted a Heritage Resources Impact Assessment in 2010 for the proposed Rau road corridor, Rau airstrip, and Osiris mineral exploration zone within the Rackla Gold Property (Permit 10-25ASR; Kristensen and Heffner 2011). A total of 21 heritage sites were identified (Table 2) along the 87 km proposed road and associated airstrip. All 21 sites yielded pre-contact artifacts and two also had associated 20th century camps (**LaTu-1** and **LaTu-3**).

Table 2: Archaeological Sites Recorded Under Permit 10-25ASR.

Borden Number	Site Type	Artifacts	Location
KITv-1	Pre-contact, subsurface	<10 stone flakes	SE of the confluence of Keno Ladue River and Ladue Lake
KITv-2	Pre-contact, subsurface	<5 stone flakes	SE of the confluence of Keno Ladue River and Ladue Lake
KITv-3	Pre-contact, subsurface	<5 stone flakes	SE of the confluence of Keno Ladue River and Ladue Lake
KITv-4	Pre-contact, subsurface	<10 stone flakes	ESE of the confluence of Keno Ladue River and Ladue Lake
LaTt-1	Pre-contact, subsurface	<5 stone flakes	N of the confluence of Rackla Gold River and Beaver River
LbTt-1	Pre-contact, subsurface	<5 stone flakes	E of the confluence of Scougale Creek and Beaver River
LaTs-1	Pre-contact, surface	<5 stone flakes 1 stone tool	NE of the confluence of Rackla Gold River and Beaver River
LbTu-1	Pre-contact, subsurface	1 stone tool	NW of the confluence of Scougale Creek and Beaver River
LaTu-1	Pre- and post-contact, surface and subsurface	<5 stone flakes, <5 bone fragments, and a historic camp	SW of the confluence of Scougale Creek and Beaver River
LaTu-2	Pre-contact, subsurface	<5 stone flakes <10 bone fragments	SW of the confluence of Scougale Creek and Beaver River
LaTu-3	Pre- and post-contact, subsurface	<5 stone flakes historic camp	NE of the confluence of Scougale Creek and Scougale Lake
LaTu-4	Pre-contact, subsurface	<5 stone flakes	NE of the confluence of Scougale Creek and Clark Lakes
LaTu-5	Pre-contact, subsurface	<10 stone flakes	N of the confluence of Rankin Creek and Keno Ladue River
LaTu-6	Pre-contact, subsurface	<5 stone flakes <5 bone fragments	N of the confluence of Rankin Creek and Keno Ladue River
KITv-5	Pre-contact, subsurface	<5 stone flakes	NE of the confluence of Barney Creek and Keno Ladue River
KITv-6	Pre-contact, subsurface	<5 stone flakes	NW of the confluence of Barney Creek and Keno Ladue River
LaTu-7	Pre-contact, subsurface	<5 stone flakes	SSE of the confluence of Scougale Creek and Clark Lakes
LaTu-8	Pre-contact, subsurface	<5 stone flakes	SSE of the confluence of Scougale Creek and Clark Lakes
KITv-7	Pre-contact, subsurface	<5 stone flakes	NE of the confluence of McKay Gulch and Keno Ladue River
KITv-8	Pre-contact, subsurface	<25 stone flakes	S of the confluence of Keno Ladue River and Ladue Lake
KITw-2	Pre-contact, subsurface	<5 stone flakes	N of Christal Creek and south of Hanson Lakes

The pre-contact sites were identified on lake terraces, knolls, ridges, and river terraces. The majority of sites are low density lithic scatters confined to small micro-topographic features that represent short term camps and/or stone tool maintenance areas.

4.0 METHODOLOGY

The following section describes the methods used for the heritage resources overview assessment (HROA) and subsequent preliminary field reconnaissance (PFR). Background information was combined with aerial and ground observations to produce a preliminary assessment of heritage resources potential in the study area. Moderate and high potential areas were then inspected for surface and/or subsurface features during the PFR. Results of the HROA and PFR are presented in Section 5.0.

4.1 Heritage Resources Overview Assessment

All available maps, digital elevation models, satellite imagery, air photographs, ethnographies, histories, and archaeological reports for the study area were examined. Criteria used to determine potential for heritage resources included: proximity to streams and water bodies, known heritage sites, known Aboriginal or historic trails, topography, vegetation cover, and presence of fish and wildlife habitat based on Wildlife Key Area (Yukon Department of Environment 2010).

4.2 Limitations of the HROA

Our current understanding of past settlement patterns and land use of the area is significantly limited by the lack of ethnographic data, the relative scarcity of heritage studies and recorded sites in the area, and the lack of detailed information on environmental and geomorphological changes throughout the glacial and post-glacial periods.

When viewing the HROA results it is important to note that low potential does not mean **no** potential. It is possible for heritage sites to be located outside of areas identified as having moderate or high heritage resources potential. To ensure that the discovery of any unanticipated heritage resources is addressed, it is recommended that ATAC Resources Ltd. inform their personnel and contractors that, in the event that heritage resources are encountered, all development activities in the vicinity of the heritage resources must be suspended immediately. In such cases, the Cultural Services Branch, Department of Tourism and Culture, Government of Yukon, and the First Nation of Na-Cho Nyak Dun must be contacted immediately with information on the heritage remains and nature of the disturbance.

4.3 Field Procedures

Aerial Survey

The first stage of the PFR was a series of short aerial surveys of the study areas, which consisted of flying along proposed mineral exploration areas at an elevation of approximately

150 m. Flight paths were recorded with a handheld GPS unit and are shown on Maps 3, 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, and 4.7. During the flight, moderate or high heritage resources potential zones were refined and charted on a map, as were all above-ground heritage features visible from the air. Delineation of moderate and high potential areas was based primarily on topographic and hydrological characteristics. Distinct topographic features, well-drained sediments, and proximity to major hydrological features were all determining criteria for heritage resources potential. Many of the topographic features were prominent on the landscape while well-drained sediments were identifiable based on distinct changes in vegetation cover. Potential zones were subsequently digitized and transposed over available digital imagery of the study area. The use of the imagery helped to ensure that areas deemed to be of elevated heritage resources potential were accurately plotted.

Pedestrian Survey

During the aerial survey, several locations were selected for pedestrian survey to confirm observations made from the air and / or to further assess the heritage resources potential of these locations. Pedestrian survey was judgmental in design and the brief traverses targeted notable topographic features (e.g., saddles, knolls, and ridge tops) and surface exposures (e.g., tree throws, cut banks, wind exposures, and areas with limited soil development). A GPS unit was used to record all pedestrian transects and the location of these are indicated on Maps 3, 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, and 4.7.

Visual inspection during the PFR resulted in the identification of several moderate and high potential areas, 49 of which were subjected to subsurface testing. The intent of testing during a PFR is to determine the presence of subsurface heritage resources when none are visible on the surface or to determine the presence of a subsurface component when heritage resources are identified on the surface. Subsurface tests were excavated by shovel and measured approximately 30 cm square and were excavated to sterile sediment, generally weathered bedrock located no more than 30 cm below surface. Sediments were passed through ¼ inch steel mesh screen. Subsurface testing was deemed unnecessary in low potential areas or in areas of moderate potential where surface exposures were considered adequate and intensive examinations failed to produce any indication of past human activity.

5.0 RESULTS

5.1 HROA Results

The land base in the study area has been classified into zones of heritage potential. Heritage potential is rated as high, moderate, or low. It is important to note that the classification scheme is a predictive tool and that low potential does not mean no potential as it is possible for heritage resources to be encountered anywhere in the study area. Zones of heritage potential are portrayed as polygons on the enclosed maps (Maps 3, 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, and 4.7). GIS shapefiles are provided so that these HROA polygons can be overlaid onto development planning maps.

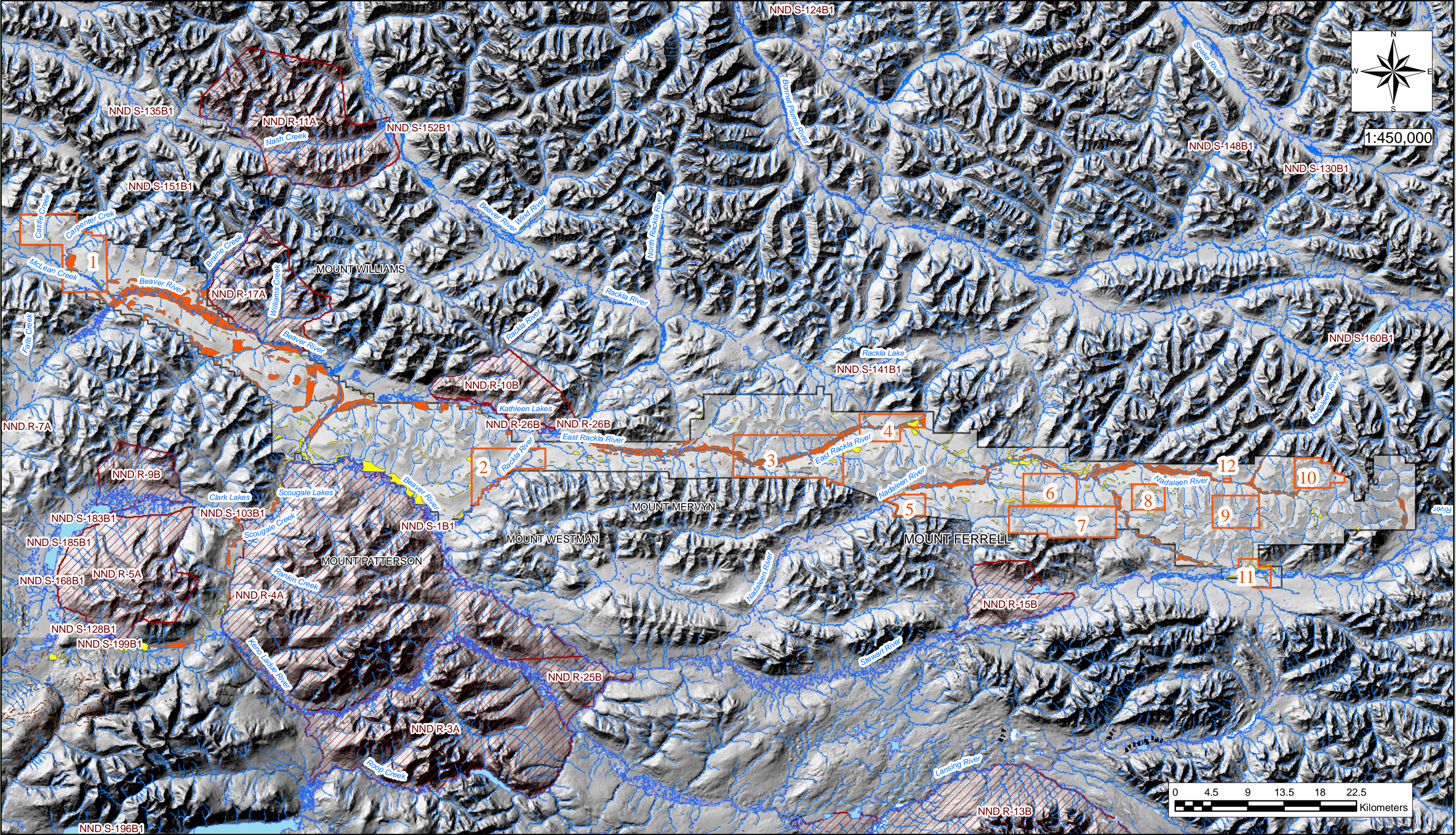
The proposed developments are spread over uplands of the Rackla and Nadaleen Ranges and intervening valleys of East Rackla, Rackla, Beaver, Stewart, and Nadaleen Rivers and their tributaries. The HROA results are tailored to this varied topography and the range of potential pre- and post-contact human activities within it. Section 6.0 discusses general patterns regarding the assignment of heritage resources potential and provides recommendations specific to each classification.

5.2 PFR Results

This section contains descriptions of the 15 heritage sites identified within the study area and results of shovel testing (Table 2). Maps 3, 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, and 4.7 depict locations of the sites. Individual maps of each site are provided in Appendix B and photographs of all sites identified during this study are provided in Appendix D.

Table 3: Shovel Test Results

Testing Zone	Number of Tests	Results	Testing Zone	Number of Tests	Results
MPZ1	0 (shovel tests not necessary)	Negative	HPZ12	5	LbTq-1
MPZ2	0 (shovel tests not necessary)	Negative	MPZ14	6	Negative
MPZ3	0 (shovel tests not necessary)	Negative	HPZ13	14	LbTq-2
MPZ4	0 (shovel tests not necessary)	Negative	HPZ14	6	LbTq-3
HPZ1	2	LbTp-1	HPZ15	8	LbTq-4
MPZ5	0 (shovel tests not necessary)	Negative	HPZ16	10	Negative
MPZ6	10	Negative	HPZ17	16	Negative
HPZ2	6	LaTn-1	HPZ18	3	LcTv-2
HPZ3	5	Negative	HPZ19	3	LcTv-3
MPZ7	10	Negative	HPZ20	10	Negative
MPZ8	9	Negative	HPZ21	3	LcTv-4
MPZ9	10	Negative	MPZ15	6	Negative
MPZ10	8	Negative	MPZ16	5	Negative
HPZ4	10	Negative	HPZ22	2	LbTs-1
HPZ5	10	Negative	HPZ23	12	Negative
MPZ11	0 (shovel tests not necessary)	Negative	HPZ24	10	Negative
MPZ12	10	Negative	HPZ25	9	LbTq-5
HPZ6	14	Negative	HPZ26	3	LbTq-6
HPZ7	15	Negative	HPZ27	12	Negative
HPZ8	15	Negative	HPZ28	10	Negative
MPZ13	8	Negative	HPZ29	6	LbTp-3
HPZ9	5	Negative	HPZ30	14	LbTp-2
HPZ10	20	Negative	MPZ17	0 (shovel tests not necessary)	LcTv-2
HPZ11	10	Negative	MPZ18	6	Negative
			Total Tests	390	



Rackla Property

High Potential

Moderate Potential

Area of Detailed Work

First Nation Settlement Area

Trail

Stream
River/Lake

Road

MATRIX

Research Ltd

MAPSHEETS:

NTS: 106 B/4, 106 C/1-8
106 D/1, D/2, D/6, D/7, D/8

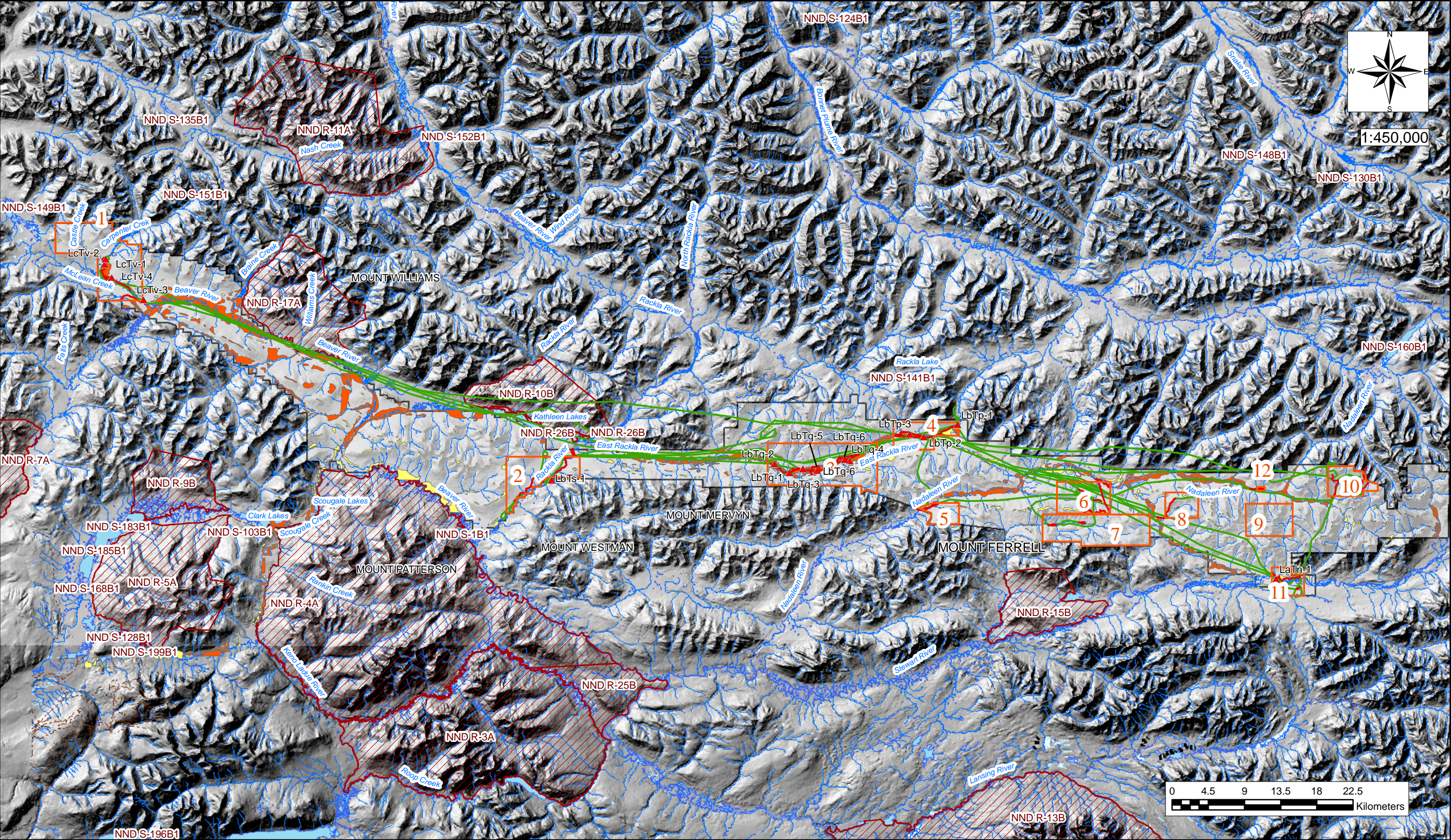
LOCATION: Rackla River

UTM: E 574254 N 7119878
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources

JOB #: Y11-015-Rackla

MAP 3: Rackla Property HROA Results



	Helicopter Transect		Road
	Ground Transect		Stream
	Area of Detailed Work		Rackla Property
	FN Settlement Lands		River/Lake
	Moderate Potential		High Potential

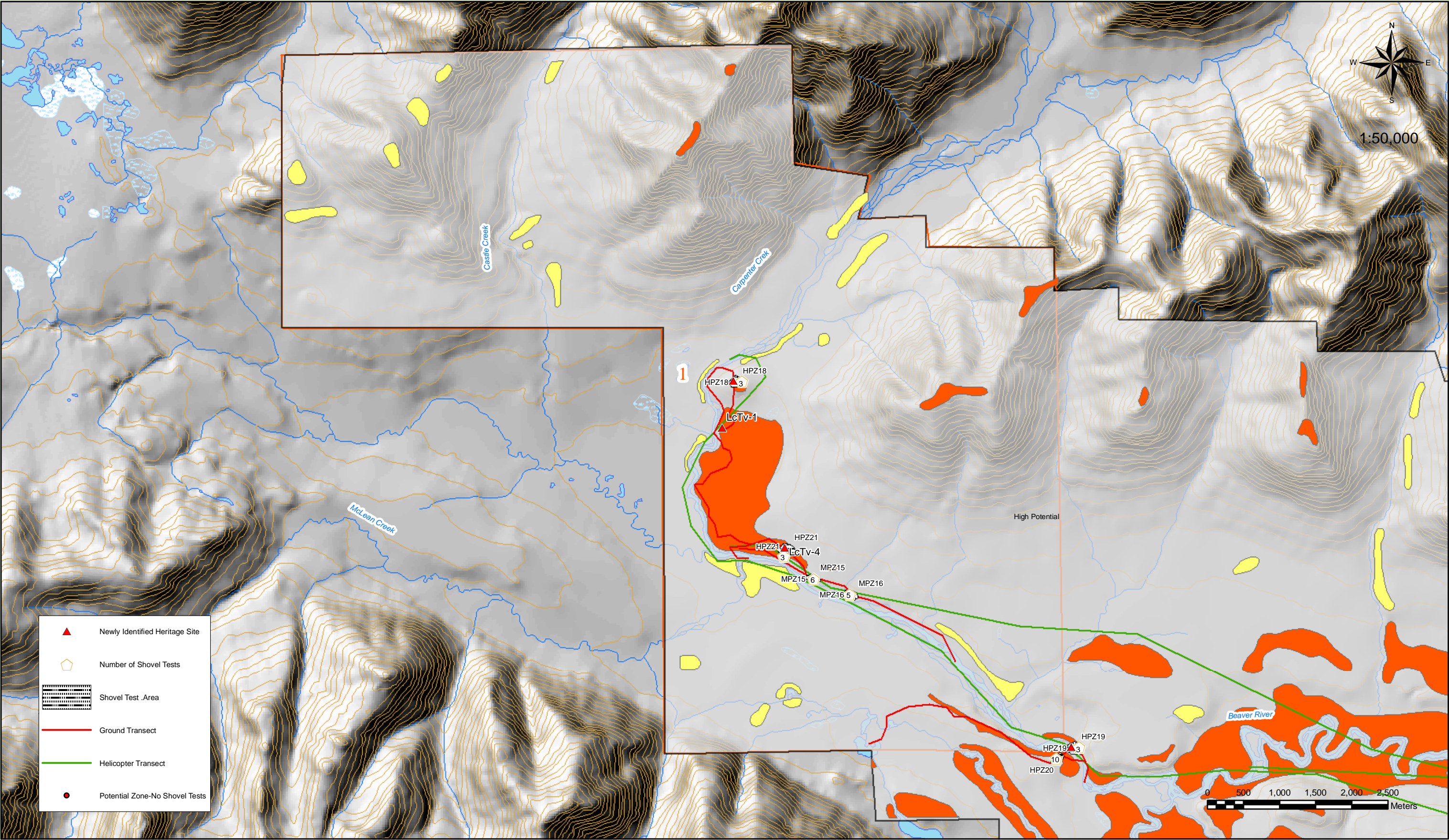
MAP 4: Rackla Gold HRIA Results



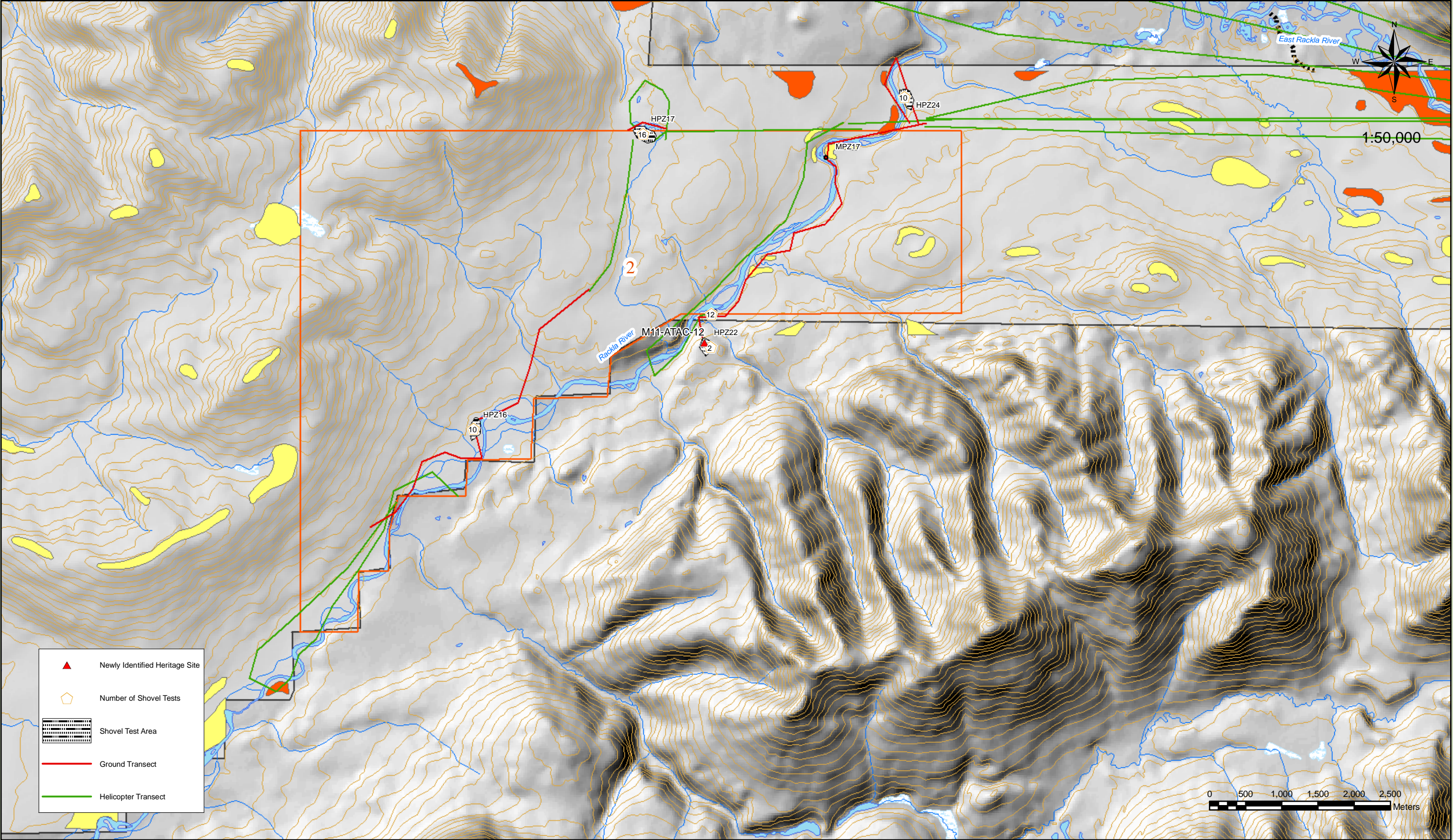
MAPSHEETS:
NTS: 106 B/4, 106 C/1-8
106 D/1, D/2, D/6, D/7, D/8

LOCATION: Rackla River
UTM: E 574254 N 7119878
PROJECTION: NAD83 Zone 8

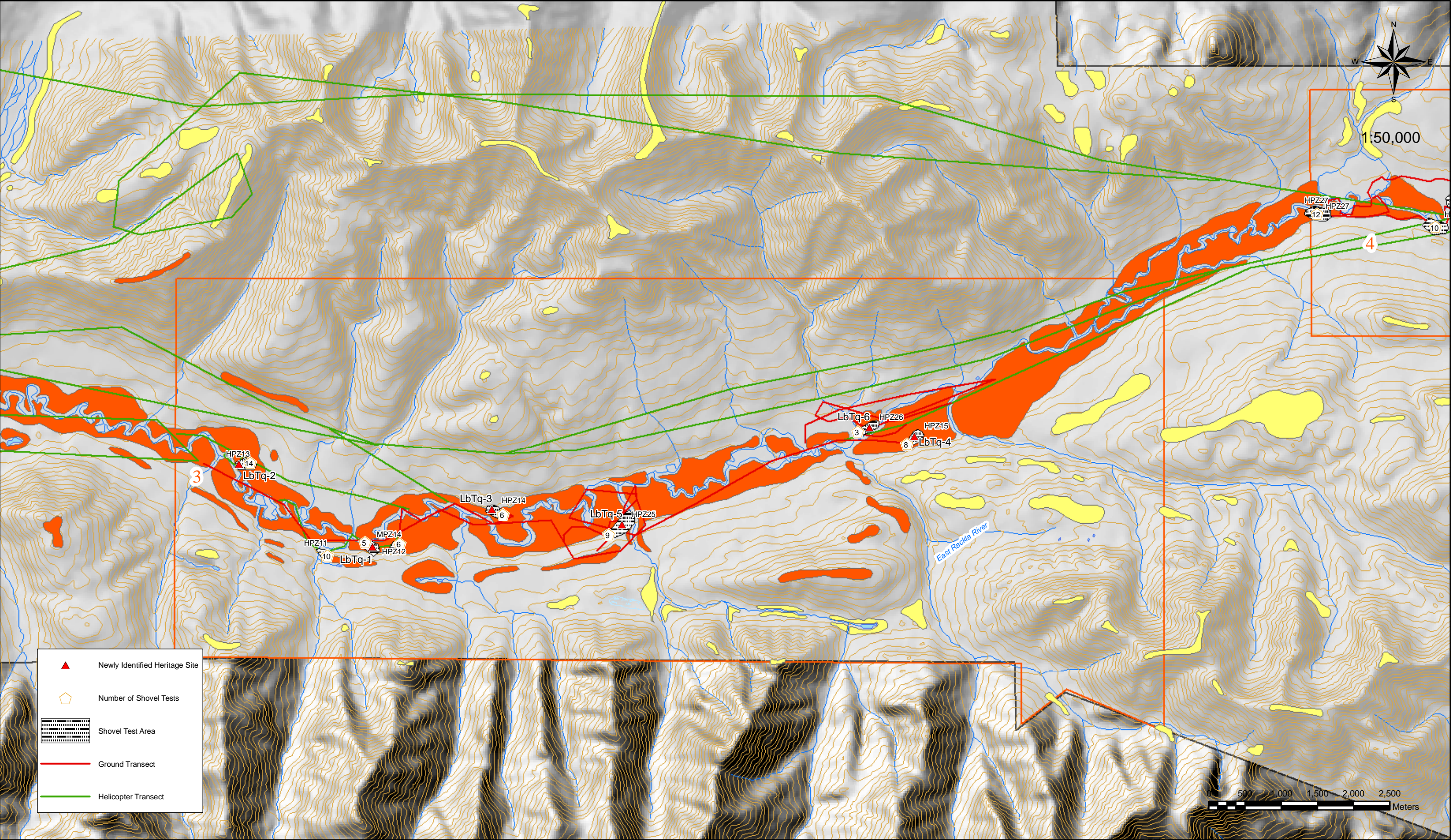
PROONENT: ATAC Resources
JOB #: Y11-015-Rackla



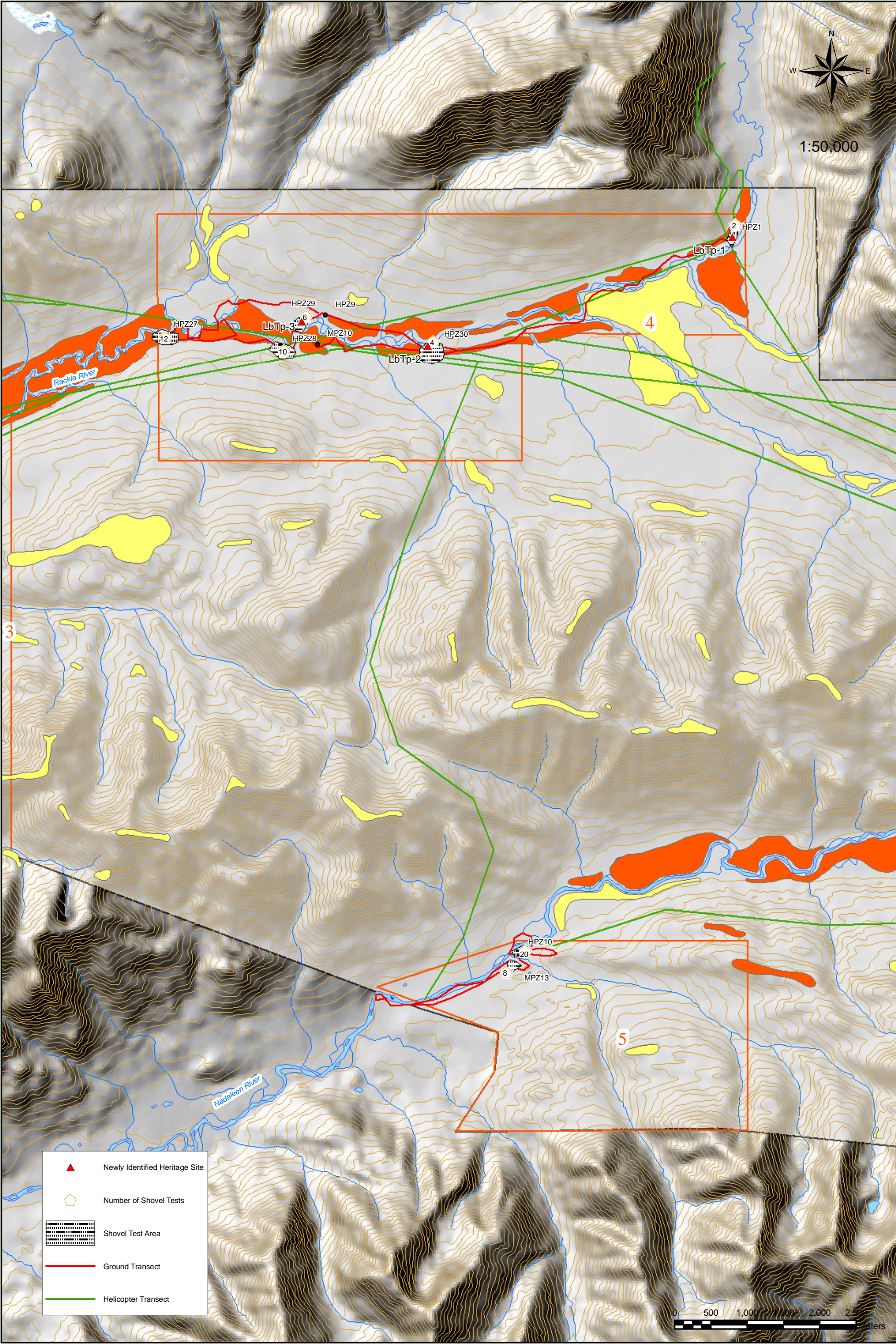
<div><div><div><div></div><div>Rackla Property</div></div><div><div></div><div>River/Lake</div></div><div><div></div><div>Area of Detailed Work</div></div><div><div></div><div>Moderate Potential</div></div></div><div><div><div></div><div>Trail</div></div><div><div></div><div>Stream</div></div><div><div></div><div>30m Contour</div></div><div><div></div><div>High Potential</div></div></div></div>		MAP 4.1: Rackla Gold HRIA Results- Area of Detailed Work 1	
<div><div><div></div><div>MATRIX</div><div>Research Ltd</div></div></div>		<div>MAPSHEETS:</div> <div>NTS: 106 D/6</div>	<div>LOCATION: Beaver River</div> <div>PROJECTION: NAD83 Zone 8</div>
		<div>PROPOSER: ATAC Resources</div> <div>JOB #: Y11-015-Rackla</div>	



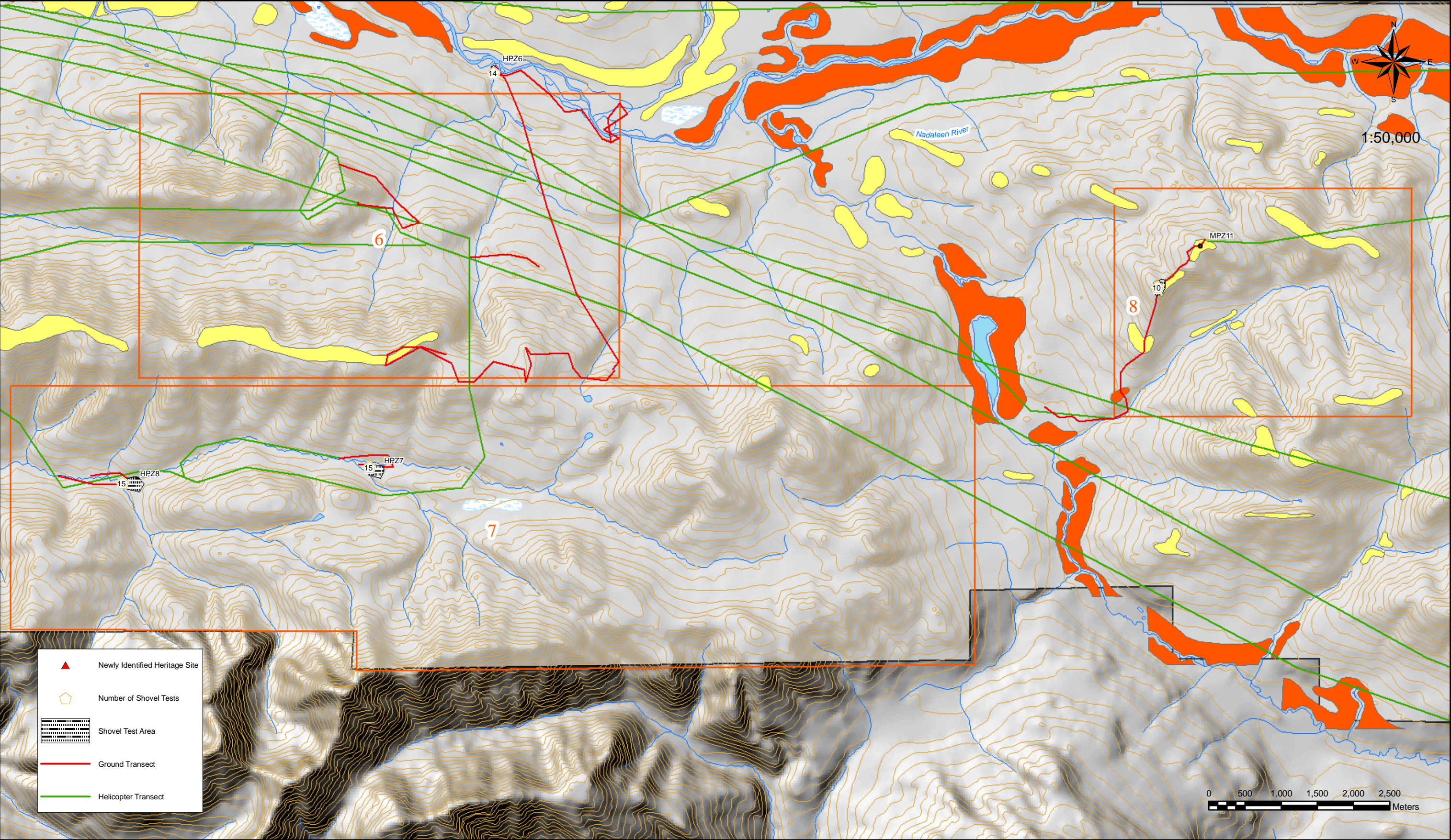
<div><div><div></div><div>Rackla Property</div></div><div><div></div><div>River/Lake</div></div><div><div></div><div>Area of Detailed Work</div></div><div><div></div><div>Moderate Potential</div></div></div> <div><div><div></div><div>Trail</div></div><div><div></div><div>Stream</div></div><div><div></div><div>30m Contour</div></div><div><div></div><div>High Potential</div></div></div>	MAP 4.2: Rackla Gold HRIA Results- Area of Detailed Work 2		
<div><div><div></div><div>MATRIX</div><div>Research Ltd</div></div></div>	MAPSHEETS:	LOCATION: Rackla River	PROPONENT: ATAC Resources
	NTS: 106 D/1	PROJECTION: NAD83 Zone 8	JOB #: Y11-015-Rackla



<div> <div></div> Rackla Property <div></div> River/Lake <div></div> Area of Detailed Work <div></div> Moderate Potential </div>	<div> <div></div> Trail <div></div> Stream <div></div> 30m Contour <div></div> High Potential </div>	MAP 4.3: Rackla Gold HRIA Results- Area of Detailed Work 3	
		<div> <div>MATRIX Research Ltd</div> <div>MAPSHEETS:</div> <div>NTS: 106 C/3, C/4</div> </div>	<div> <div>LOCATION: Rackla River</div> <div>PROJECTION: NAD83 Zone 8</div> <div>PROONENT: ATAC Resources</div> <div>JOB #: Y11-015-Rackla</div> </div>



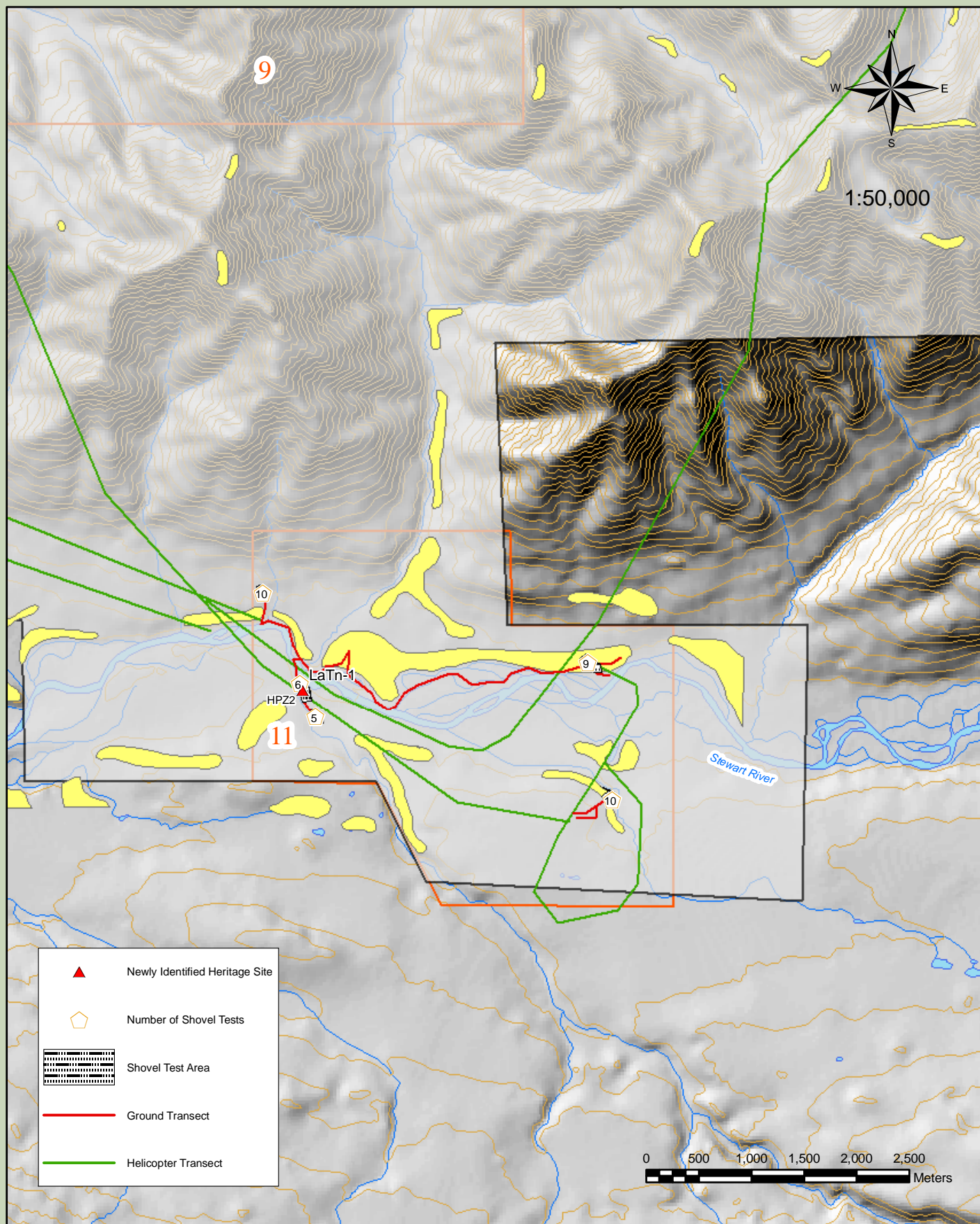
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MAPSHEETS:		LOCATION: Rackla River	PROPONENT: ATAC Resources
NTS: 106 C/3		PROJECTION: NAD83 Zone 8	JOB #: Y11-015-Rackla



<div><div></div><div>Rackla Property</div></div> <div><div></div><div>River/Lake</div></div> <div><div></div><div>Area of Detailed Work</div></div> <div><div></div><div>Moderate Potential</div></div>	<div><div></div><div>Trail</div></div> <div><div></div><div>Stream</div></div> <div><div></div><div>30m Contour</div></div> <div><div></div><div>High Potential</div></div>	MAP 4.5: Rackla Gold HRIA Results- Areas of Detailed Work 6, 7 & 8	
<div><div></div><div>MATRIX Research Ltd</div></div>		<div>MAPSHEETS: NTS: 106 C/2</div>	<div>LOCATION: Nadaleen River</div> <div>PROJECTION: NAD83 Zone 8</div>
		<div>PROPOSITOR: ATAC Resources</div>	<div>JOB #: Y11-015-Rackla</div>



<div></div> Rackla Property <div></div> River/Lake <div></div> Area of Detailed Work <div></div> Moderate Potential	<div></div> Trail <div></div> Stream <div></div> 30m Contour <div></div> High Potential	MAP 4.6: Rackla Gold HRIA Results- Areas of Detailed Work 9, 10 & 12		
<div>MATRIX</div> Research Ltd		MAPSHEETS: NTS: 106 C/1	LOCATION: Nadaleen River PROJECTION: NAD83 Zone 8	PROPONENT: ATAC Resources JOB #: Y11-015-Rackla



Rackla Property	Trail
River/Lake	Stream
Area of Detailed Work	30m Contour
Moderate Potential	High Potential

MAP 4.7: Rackla Gold HRIA Results- Area of Detailed Work 11



MAPSHEETS:

NTS: 106 C/1

LOCATION: Nadaleen River

PROJECTION: NAD83 Zone 8

PROPOSER: ATAC Resources

JOB #: Y11-015-Rackla

5.2.1 Heritage Resource Site Summaries

Fifteen newly recorded heritage sites were identified within the study area during this project. The following is a summary of all of these sites.

LbTp-1 (Temporary Site Number M11-ATAC-1)

LbTp-1 is a pre-contact site located approximately 8.4 km southeast (144°) of Rackla Lake, 674 m northeast (66°) of the confluence of an unnamed creek and East Rackla River, and 60 m northwest (312°) of East Rackla River. The site is situated at the tip of a ridge feature overlooking black spruce muskeg and East Rackla River to the southeast. The site consists of sub-surface cultural material including two pre-contact stone flakes identified in one of two shovel test locations. Natural topography and artifact types suggest short term tool maintenance at the site. The topographic feature on which the site is located represents a dry, sandy locale elevated approximately 8-10 m above adjacent muskeg and a wetland margin around East Rackla River to the southeast. A complete site assessment was not conducted and the dimensions are unknown but the site is surrounded by steep terrain and is likely confined to the ridge feature. The site may extend west. The location of other pre-contact sites along the East Rackla River (**LbTp-2** and **LbTp-3**) in proximity to a distinct trail that lies approximately 30 m west of **LbTp-1**, suggests the trail has pre-contact origins although it has been used into modern times for outfitting. Disturbance to the site is minimal and is limited to tree throws and minor wind erosion along the ridge slopes. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce and black spruce forest cover with understory and ground cover that includes grass, lupin, blueberry, Labrador tea, reindeer lichen, moss, and toadflax.

LaTn-1 (Temporary Site Number M11-ATAC-2)

LaTn-1 is a pre-contact site located approximately 10 km southwest (245°) of Mount Stenbraten and 75 m southwest (231°) of Stewart River. The site is situated on a pointed terrace feature overlooking a tributary creek to the southwest and Stewart River to the north. The site consists of sub-surface cultural material including a pre-contact stone tool and flakes identified in one of six shovel test locations. Artifact types suggest tool maintenance and use at the site. The topographic feature on which the site is located represents a flat topped terrace feature elevated 20-30 m above a tributary of Stewart River. The area may have served as a fish camp based on its proximity to a major creek confluence with Stewart River. A complete site assessment was not conducted and the dimensions are unknown. The site is surrounded by steep terrain to the north, east, and west but likely extends to the south along the terrace feature. Disturbance to the site is minimal and is limited to tree throws and minor erosion along the terrace edge. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce and black spruce forest cover with understory and ground cover that includes willow, scrub birch, fireweed, lupin, grass, blueberry, bunchberry, moss, and reindeer lichen.

LbTp-2 (Temporary Site Number M11-ATAC-3)

LbTp-2 is a pre-contact site located 8.8 km southwest (244°) of Nadaleen Mountain and 81 m south (183°) of the East Rackla River. The site is situated immediately north and south of the Rackla airstrip cleared over 20 years ago. The site lies on a flat terrace feature overlooking East Rackla River to the north. The site consists of surface cultural material including a stone tool and flakes identified in three surface find locations. Artifact types suggest general purpose activities at the site such as tool maintenance and use. The topographic feature on which the site is located represents a flat and dry terrace along what appears to be a heritage trail that follows East Rackla River. Sites **LbTp-1**, **LbTq-6**, and **LbTp-3** also appear to be associated with this trail. A complete site assessment was not conducted and the dimensions are unknown. The site is surrounded by

steep terrain to the north and muskeg to the south but likely extends east and west along the terrace feature. Disturbance due to previous airstrip clearing is likely significant. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white and black spruce forest cover with understory and ground cover that includes willow, scrub birch, young spruce, Labrador tea, grass, moss, and reindeer lichen.

LbTq-1 (Temporary Site Number M11-ATAC-4)

LbTq-1 is a pre-contact site located approximately 24.9 km north (9°) of the confluence of Stewart and Nadaleen Rivers, 303 m west (274°) of the western tip of a small unnamed lake, and 85 m southeast (130°) of the confluence of an unnamed creek and East Rackla River. The site is situated on a flat topped knoll feature overlooking East Rackla River to the north. The site consists of sub-surface cultural material including four stone flakes identified in one of five shovel test locations. Artifact types and the small topographic feature suggest short term tool maintenance at the site. The knoll on which the site is located is elevated 12-15 m above surrounding terrain and represents a small, sandy, dry, elevated area bordered by black spruce lowlands along the East Rackla River valley. A complete site assessment was not conducted and the dimensions are unknown but the site is surrounded by steep terrain and is likely confined to the small knoll. Shovel tests on knoll features in the vicinity failed to yield cultural material. Disturbance to the site is minimal and is limited to tree throws. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce and black spruce forest cover with understory and ground cover that includes Labrador tea, blueberry, kinnikinnick, bearberry, toadflax, moss, grass, and reindeer lichen.

LbTq-2 (Temporary Site Number M11-ATAC-5)

LbTq-2 is a pre-contact site located approximately 14.1 km southeast (154°) of Rusty Mountain and 84 m east (75°) of East Rackla River. The site is situated on a prominent knoll feature overlooking East Rackla River to the south and west. The site consists of sub-surface cultural material including four pre-contact stone flakes identified in one of fourteen shovel test locations on the top and gently sloping margins of the knoll. Low artifact density and artifact types suggest short term tool maintenance was performed at the site. The topographic feature on which the site is located represents a sandy, dry, elevated site along the black spruce lowlands of East Rackla River valley. A complete site assessment was not conducted and the dimensions are unknown but the site is surrounded by steep terrain and is likely confined to the top of the knoll feature. Disturbance to the site is minimal and is limited to tree throws. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white and black spruce forest cover with understory and ground cover that includes willow, young spruce, scrub birch, Labrador tea, blueberry, kinnikinnick, toadflax, moss, and reindeer lichen.

LbTq-3 (Temporary Site Number M11-ATAC-6)

LbTq-3 is a pre-contact site located approximately 16.5 km southeast (144°) of Rusty Mountain and 216 m north (357°) of the confluence of an unnamed creek and East Rackla River. The site is situated on a large knoll and adjacent ridge feature overlooking a wetland and East Rackla River. The site consists of sub-surface cultural material including four pre-contact stone flakes identified in two of six shovel test locations on top of the ridge and knoll. Artifact types suggest short term tool maintenance at the site. The topographic feature on which the site is located represents a sandy, dry, elevated feature with good views of an adjacent wetland and bend in the East Rackla River. A complete site assessment was not conducted and the dimensions are unknown but the knoll and ridge are surrounded by steep terrain and the site is likely confined to the tops of these two features. Disturbance to the site is minimal and is limited to tree throws and erosion along the knoll edge. All artifacts were collected for recording purposes and will be forwarded to the Yukon

Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce forest cover with understory and ground cover that includes young spruce, rose, juniper, Labrador tea, lupin, kinnikinnick, toadflax, grass, moss, and reindeer lichen.

LbTq-4 (Temporary Site Number M11-ATAC-7)

LbTq-4 is a pre-contact site located approximately 12.6 km southwest (213°) of Rackla Lake, 732 m east (91°) of the confluence of an unnamed creek and East Rackla River, and 105 m northeast of the western tip of a small unnamed lake. The site is situated on a large ridge feature overlooking muskeg lowlands along East Rackla River. The site consists of sub-surface cultural material including five stone flakes identified in two of eight shovel test locations. Low artifact density and artifact types suggest short term tool maintenance at the site, which may have served as a game lookout. The topographic feature on which the site is located is elevated 20-25 m above surrounding wetlands and East Rackla River to the north. A complete site assessment was not conducted and the dimensions are unknown but the site is surrounded by steep terrain and is likely confined to the ridge top. Disturbance to the site is minimal and is limited to tree throws and erosion along the ridge edge. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of black spruce forest cover with understory and ground cover that includes scrub birch, rose, young spruce, juniper, soopallalie, Labrador tea, lupin, kinnikinnick, toadflax, grass, moss, and reindeer lichen.

LcTv-1 (Temporary Site Number M11-ATAC-8)

LcTv-1 is an historic site located approximately 7.9 km northwest (313°) of the confluence of Carpenter Creek and Beaver River and 167 m east (92°) of Carpenter Creek. The site is situated on flat black spruce lowlands east of a creek terrace. The site consists of surface cultural material including three historic cabins, two frames, one platform cache, a tin drum, wash pan, rusted fuel drum, historic debris, and a stove pipe. Butchered moose bones were found near one cabin and remains of an old trail with several blaze marks were detected along portions of the terrace margin south of the cabins. The cabins are all partially collapsed with saddle notch corner joints, unhewn logs with saw cut ends, and moss chinking. Roofs are single beam and gabled and no internal cellars were detected although a notable depression in the vicinity of one cabin may have been for storage. An elevated cache with a high platform and four corner posts lined with tin metal was found adjacent to one cabin. Estimated age of the cabins is 50-60 years based on wood decay and refuse (such as sanitary cans). Artifact types and site location suggest the cabins were likely used for winter trapping. Shovel tests were not excavated. Based on the extent of surface features, the site is approximately 300 m north-south by 150 m east-west. A complete site assessment was not conducted and the dimensions are unknown but the site perimeters were extensively surveyed for surface remains. Disturbance to the site is minimal although the cabins and cache feature will continue to collapse. No cultural material was collected but the site was extensively photographed. Site vegetation consists of white spruce and black spruce forest cover with an understory and ground cover consisting of willow, young spruce, soopallalie, scrub birch, Labrador tea, blueberry, kinnikinnick, crowberry, clubmoss, and reindeer lichen.

LcTv-2 (Temporary Site Number M11-ATAC-9)

LcTv-2 is a pre-contact site located approximately 8.4 km northwest (313°) of the confluence of Carpenter Creek and Beaver River, and 304 m south (181°) of Carpenter Creek. The site is situated on a prominent hill overlooking Carpenter Creek to the north and west. The site consists of sub-surface cultural material including seven stone flakes identified in two of three shovel test locations. Artifact types suggest general purpose activities at the site such as tool maintenance and use. The topographic feature on which the site is located represents a dry, sandy area elevated 40 m above surrounding terrain with excellent views north, south, and east at Carpenter Creek valley. A complete site assessment was not conducted and the dimensions are unknown but the site is surrounded by steep slopes and is likely confined to the flat hill top. Disturbance is

minimal and is limited to tree throws. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce and aspen forest cover with understory and ground cover that includes willow, soopallalie, young spruce, Labrador tea, kinnikinnick, blueberry, grass, crowberry, moss, and reindeer lichen.

LcTv-3 (Temporary Site Number M11-ATAC-10)

LcTv-3 is a pre-contact site located approximately 5.4 km southeast (160°) of Grey Copper Hill and 35 m northeast (35°) of Carpenter Creek. The site is situated on a high bedrock bluff feature overlooking Carpenter Creek to the west. The site consists of sub-surface cultural material including stone flakes identified in two of three shovel test locations. Artifact types suggest short term tool maintenance at the site. The topographic feature on which the site is located represents a dry, flat topped area with a good view of the valley and easy access to a notable constriction along Carpenter Creek. A complete site assessment was not conducted and the dimensions are unknown but the site is surrounded by steep slopes and irregular terrain and is likely confined to flat ground on top of the bluffs. Adjacent bluffs across Carpenter Creek were tested for cultural material but nothing was found. Disturbance in the form of tree throws and wind erosion along the bluff edge is minimal. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce and black spruce forest cover with understory and ground cover that includes willow, juniper, scrub birch, Labrador tea, blueberry, kinnikinnick, crowberry, potentilla, and reindeer lichen.

LcTv-4 (Temporary Site Number M11-ATAC-11)

LcTv-4 is a pre-contact site located approximately 3.1 km southwest (223°) of Grey Copper Hill and 206 m northwest (339°) of the confluence of an unnamed creek and Carpenter River. The site is situated on a sandy bluff overlooking Carpenter Creek to the south. The site consists of sub-surface cultural material including stone flakes and unidentifiable calcined mammal bone fragments found in one of three shovel test locations. Artifact types suggest general purpose activities at the site such as tool maintenance, use, and food processing. The topographic feature on which the site is located represents a dry, sandy bluff eroded by a bend of Carpenter Creek. The bluff lies along an intermittent terrace feature on the east side of the creek. A complete site assessment was not conducted and the dimensions are unknown. The site is bordered by steep slopes to the east but may extend north and south along flat ground on top of the bluff feature. Disturbance to the site is minimal and limited to tree throws and erosion along the bluff edge. All pre-contact artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce with understory and ground cover that includes willow, scrub birch, soopallalie, Labrador tea, blueberry, lupin, moss, grass, and reindeer lichen.

LbTs-1 (Temporary Site Number M11-ATAC-12)

LbTs-1 is a pre-contact site located approximately 11.9 km northeast (54°) of the confluence of Rackla and Beaver Rivers, 5.8 km south (202°) of the eastern tip of Kathleen Lakes, and 295 m east (94°) of Rackla River. The site is situated on a high hill feature overlooking Rackla River valley to the southwest and northeast. The site consists of sub-surface cultural material including two stone flakes identified in one of two shovel test locations on the hill top. Natural topography and artifact types suggest use of the site as a game lookout with tool maintenance. The topographic feature on which the site is located represents a small, prominent location with excellent views up and down Rackla River. A complete site assessment was not conducted and the dimensions are unknown but the site is surrounded by steep terrain and is likely confined to a small patch of flat ground on top of the hill feature. Disturbance to the site is minimal. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce forest cover

with understory and ground cover that includes willow, young spruce, rose, soopallalie, toadflax, lupin, fireweed, moss, and grass.

LbTq-5 (Temporary Site Number M11-ATAC-13)

LbTq-5 is a pre-contact site located approximately 16.1 km southwest (223°) of the western tip of Rackla Lake, 560 m south (175°) of the confluence of an unnamed creek and East Rackla River, and 167 m west (274°) of an unnamed tributary of East Rackla River. The site is situated on a low ridge feature overlooking black spruce lowlands and the East Rackla River to the west. The site consists of sub-surface cultural material including two pre-contact stone flakes identified in one of nine shovel test locations. Natural topography and artifact types suggest the site was used for short term tool maintenance. The topographic feature on which the site is located represents a series of small knolls along a low ridge surrounded by gently sloping terrain and black spruce lowlands. The area would have provided a dry camping location along the East Rackla River valley. A complete site assessment was not conducted and the dimensions are unknown but the site is surrounded by sloping terrain and is likely confined to the relatively narrow ridge feature. Disturbance to the site is minimal and is limited to tree throws and wind erosion along the ridge edges. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce forest cover with understory and ground cover that includes scrub birch, soopallalie, young spruce, toadflax, lupins, blueberry, Labrador tea, kinnikinnick, grass, and reindeer lichen.

LbTq-6 (Temporary Site Number M11-ATAC-14)

LbTq-6 is a pre-contact site located approximately 12.9 km southwest (223°) of the western tip of Rackla Lake and 170 m northeast (43°) of the confluence of an unnamed creek and East Rackla River. The site is situated on a high bluff at the end of a long sloping ridge feature overlooking East Rackla River to the south. The bluff is elevated approximately 25 m above the river. The site consists of sub-surface cultural material including stone flakes and mammal bone fragments identified in three of three shovel test locations. Artifact types and proximity to East Rackla River suggest general purpose activities at the site such as tool maintenance and food processing. A quartz crystal artifact recovered from the site appears to be an exhausted core used for some form of tool production. A complete site assessment was not conducted and the dimensions are unknown but the site is surrounded by steep terrain and is likely confined to the small patch of flat ground at the edge of the bluff. A well-worn trail is located immediately north of the site. The trail is used in modern times by outfitters but likely has pre-contact origins because of the identification of several associated pre-contact sites further to the east (**LbTp-1**, **LbTp-2**, and **LbTp-3**). Disturbance to the site is minimal and is limited to tree throws and wind erosion along the edge of the bluffs. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white spruce forest cover with understory and ground cover that includes scrub birch, willow, young spruce, willow, toadflax, lupins, blueberry, Labrador tea, bearberry, kinnikinnick, and reindeer lichen.

LbTp-3 (Temporary Site Number M11-ATAC-15)

LbTp-3 is a pre-contact site located approximately 7.5 km south (175°) of the western tip of Rackla Lake and 60 m north (0°) of the East Rackla River. The site is situated on a bluff along a high terrace feature elevated 20 m above East Rackla River to the south. The site consists of sub-surface cultural material including two pre-contact stone flakes identified in one of eight shovel test locations along the relatively flat terrace feature. Low artifact density and artifact types suggest short term tool maintenance was performed at the site. The topographic feature on which the site is located represents a sandy, dry, elevated area above the floodplain and black spruce lowlands along East Rackla River valley. A complete site assessment was not conducted and the dimensions are unknown. The site is surrounded by steep terrain to the south and west but may

extend further east along the terrace edge. Disturbance to the site is minimal. All artifacts were collected for recording purposes and will be forwarded to the Yukon Archaeology Program after cataloguing and analysis is complete. Site vegetation consists of white and black spruce forest cover with understory and ground cover that includes willow, young spruce, scrub birch, soopallalie, lupins, Labrador tea, kinnikinnick, and reindeer lichen.

6.0 HERITAGE RESOURCE MANAGEMENT RECOMMENDATIONS

This section provides recommendations resulting from this study, including a discussion of gaps in heritage data, a prediction of the type and number of sites expected, and a discussion of options for managing identified heritage sites during development planning.

6.1 Gaps in the Heritage Resources Record of the Study Area

Only one systematic archaeological survey has been undertaken within the Rackla Gold Property, which was conducted primarily along the proposed Rau road corridor that followed valley bottoms (Kristensen and Heffner 2011). Relatively little is known about heritage resources in the smaller tributaries, uplands, and lakes of the region. Additionally, there is a minimal amount of First Nations traditional land use information recorded for the study area. Therefore, regional site density / distribution and potential relationships of pre-contact sites to traditional activity areas are relatively unknown.

6.2 Heritage Resource Potential and Resource Values

A significant portion of the study area is considered to have low pre-contact heritage resources potential. Areas considered to have high to moderate pre-contact heritage resources potential are typically near hydrological resources on distinct, well-drained topographic features or are in upland areas on prominent landforms that provide good vantage points or strategic hunting positions. These topographic features include knolls, ridges, and saddles that represent favourable locations for camping while moving through the area and / or favourable hunting grounds for large mammals moving along the uplands. Moderate and high potential landforms also include terrace features along fish-bearing streams and rivers. Generally, moderate and high potential areas are more frequent along the valleys of rivers and major tributaries of the study area. This is based on heritage assessments conducted in the Rackla Gold Property in 2010 which revealed 21 pre-contact heritage sites in the valley bottoms of Keno-Ladue, Beaver, and Rackla Rivers. These sites were generally located on small elevated landforms (knolls, ridges, and eskers) that represent dry camping locales surrounded by spruce muskeg and wetlands. Initially, several moderate and high potential zones were also located in upland areas that would have provided easier travel and access to hunting locations than the steeply sloped upper valley walls and v-shaped valley bottoms of minor tributaries. Subsequent PFR fieldwork failed to yield cultural material in upland areas and the heritage potential zones have been refined accordingly. From the archaeological record, it is inferred that larger, more permanent pre-contact sites will be positioned adjacent to the major hydrological features (*i.e.*, Stewart, East Rackla, and Nadaleen Rivers). Short term camps with low artifact densities are likely to occur along smaller tributaries or at greater distances from major rivers. The remains of structures are not expected to be readily

visible in this area given the regularity of forest fires. Cultural depressions associated with pre-contact semi-subterranean dwellings may be present.

Post-contact heritage resources potential is highest along gold-bearing creek beds and along old trap lines. Drainage valleys in the study area have not been subjected to extensive dredging operations and therefore there is a high likelihood that if early mining and trapping sites (cabins and mining equipment) were located in the area, they are still preserved. Heritage resource sites in the region may also relate to more recent hunting and trapping in the 20th century as these activities are still being conducted in the study area. Brush structures, historic drying racks, tent remains, and trapping equipment may be present in the area.

6.3 Heritage Resource Management Options

The HROA is intended to facilitate the management of heritage resources and provide planning options for future mineral exploration or mine developments. For this study, areas of low heritage resources potential are characterized by significant distances from natural resources and / or have terrain characteristics that are not commonly associated with heritage sites. Developments proposed for these areas are not anticipated to have an impact on heritage resources, therefore, pre-construction heritage assessments are not recommended in low potential zones.

Conversely, those areas identified as having moderate or high heritage resources potential can be managed to avoid having an impact on heritage sites. The preferred management option for areas with moderate to high potential is avoidance. Preliminary Field Reconnaissance surveys (PFRs) and/or Heritage Resources Impact Assessments (HRIAs) are recommended in moderate and high heritage resource zones in order to ground-truth heritage resources potential and negate or confirm the presence of heritage resources. In the event that heritage resources are discovered in the development area that cannot be avoided, mitigation options can be provided. Specific recommendations regarding heritage resources identified in the Rackla Gold Property are outlined in the following section.

6.4 Recommendations

Several areas within the Rackla Gold Property exhibit moderate to high heritage potential. A PFR was recommended and conducted resulting in refinement of heritage resource potential zones and the discovery of 14 pre-contact and one historic heritage site (**LbTp-1**, **LaTn-1**, **LbTp-2**, **LbTp-3**, **LbTq-1**, **LbTq-2**, **LbTq-3**, **LbTq-4**, **LbTq-5**, **LbTq-6**, **LcTv-1**, **LcTv-2**, **LcTv-3**, **LcTv-4**, and **LbTs-1**). The refined zones of moderate and high heritage resources potential are shown on Map 3 (Section 5).

The majority of the 14 pre-contact heritage sites appear to be low density, sub-surface lithic scatters that are spatially confined by surrounding steep slopes. The historic site also

appears to be spatially confined to a small stretch of terrain along Carpenter Creek. Based on these site types and topographic setting, site-specific management recommendations in order of preference are:

- 1) Avoidance. If the site areas and appropriate buffers (100 m) around the sites can be avoided then no further heritage assessments of these sites are recommended.
- 2) If the site areas cannot be avoided, then detailed site assessments, and possibly systematic data recovery, are recommended prior to any potentially ground-altering development activities.

Heritage resources are protected from non-permitted alterations or disturbance by the *Historic Resources Act* (Government of Yukon 2002) and the *Archaeological Sites Regulations* (Government of Yukon 2003).

Several moderate and high potential zones were down-graded to low potential during aerial overview flights and pedestrian surveys but for the remaining moderate and high potential zones, it is recommended that additional Heritage Resources Impact Assessment (HRIA) fieldwork is conducted prior to development. If mineral exploration activities can be relocated to avoid moderate and high heritage resource potential zones, no further heritage assessments are required in the study areas surveyed in 2011. Additional HRIA fieldwork to negate or confirm the presence of heritage resources is recommended in those areas where future mineral exploration cannot avoid intersecting moderate or high potential zones.

The initial HROA and subsequent PFR were designed solely for the management of heritage resources. They should not be considered applicable to studies of traditional or contemporary land use by First Nations. It is recommended that concerns regarding traditional Aboriginal use in the proposed mineral exploration areas of the Rackla Gold property are discussed with the First Nation of Na-Cho Nyak Dun.

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APPENDIX A

Glossary of Archaeological Terms

ABORIGINAL; INDIGENOUS: Pertaining to the original occupants of a given region.

A-HORIZON: the uppermost, often dark-coloured natural level in a soil profile characterized by roots, humus, and a lack of clay, iron, carbonates and soluble salts which have leached to lower levels.

ARCHAEOLOGY: The science concerned with the recovery, analysis, description, and explanation of the remains of past human cultures.

ARCHAEOLOGICAL SURVEY OR SITE INVENTORY: Examination of a locality for evidence of past human activity and the recording of that evidence to produce an inventory of sites in that locality.

ARTIFACT: Any manually portable product of human workmanship. In its broadest sense includes tools, weapons, ceremonial items, art objects, all industrial waste, and all floral and faunal remains modified by human activity. In the Yukon, an artifact is an object that is older than 45 years and has been abandoned.

BARK-STRIPPED TREE: A tree which has had bark removed by First Nations people for a number of possible purposes (e.g., fibre, food, medicine)

BASALT: A fine-grained volcanic rock used for the manufacture of chipped stone artifacts. Colour ranges from black to grey; texture granular to glass like.

B-HORIZON: That natural level within a soil profile which directly underlies the surficial A-horizon and which contains the clay, iron oxides and carbonates which have leached down from it.

BIFACE: A stone artifact flaked on both sides.

BORDEN NUMBER: A standardized number consisting of four letters and one number assigned to each archaeological site which identifies it and denotes its general location in Canada.

BORDEN SYSTEM: A code of 4 letters and a number used to designate archaeological sites in Canada (e.g., GtRx 7; FIJr 10). Proposed by Charles E. Borden, University of British Columbia, in 1954. The alphabetic prefix refers to a block of 10 minutes by 10 minutes within a grid system that covers all of Canada south of 62° N latitude. The numerical suffix indicates the site within this block in numerical order of registration.

CACHE: A deliberate store of equipment, food, furs or other resources placed in, or on the ground (perhaps protected by a rock CAIRN), or raised above the ground on a platform.

CACHEPIT: Small circular depressions (less than 3 m) that were used to store food.

CHALCEDONY: A semi-translucent silicate (quartz) rock with a wax-like luster and a great range of colours, used as raw material for the manufacture of chipped stone artifacts. Commonly called agate.

CHERT: A mainly opaque, fairly granular, silicate rock with a dull shiny luster and a great range of colours, used as raw material for the manufacture of chipped stone artifacts. Varieties include jasper and flint.

CONCHOIDAL FLAKE: A type of spall resulting from the fracture of fine-grained, or glassy rocks. Characterized by a bulb of percussion, striking platform remnant, and extremely sharp edges. A predictable fracture pattern that allows the manufacture of predetermined tools from these materials.

CONTACT: The time of first prolonged direct contact between First Nations peoples and Europeans. The term is synonymous with the Historic period which is characterized by contemporary written works.

CONTEXT: The spatial relationships of archaeological items and samples within a site. "Primary Context" refers to materials found in their original position; "Secondary Context" refers to materials which have been displaced and redeposited by disturbance factors; "Geological Context" is the relationship of the archaeological finds to geological strata.

CONCENTRATION: A notable accumulation of archaeological materials in a small area, such as a "concentration of flakes" etc.

CORE: (1) A blocky nucleus of stone from which flakes or blades have been removed (see MICROBLADE CORE). (2) A column or lineal sample of materials obtained by "coring" the ground, trees, etc.

CORTEX: The naturally weathered outer surface of a pebble.

CULTURE: The distinctive lifeway – including language, technology, sustenance, social organization, customs, beliefs and rituals – practiced by a people. This term can also be used to refer to the culture of particular groups of people at a particular point in time. In an archaeological context, the term culture refers to materials or objects of human origin, in contrast to natural.

CULTURAL DEPOSIT: Sediments and materials laid down by, or heavily modified by, human activity.

CULTURAL DEPRESSION: A pit excavated by people into natural sediments. Pits have been excavated for a variety of reasons including: houses (pithouses, house pit), food storage (cache, cache pit), food cooking (roasting pit, berry trenches, hearth) and burials.

CULTURALLY MODIFIED TREE (CMT): A tree that had been intentionally altered in some way. CMTs usually consists of bark-stripped trees, that is, trees that have had the bark to access the cambium for eating, for extracting tree sap, for manufacture, or for medicinal purposes, by First Nations people. Blazed trees may also be referred to as CMTs.

CULTURE SEQUENCE: The chronological succession of cultural traits, phases or traditions in a local area.

CULTURE TYPE: A chronologically limited cultural unit within a local culture sequence, characterized by sufficient descriptive traits to set it apart from all other units. A phase is generally represented by 2 or more components in several sites and is the basic classification of archaeological "cultures".

DACITE: Volcanic rock (or lava) that characteristically is light in color and contains 62% to 69% silica and moderate amounts of sodium and potassium.

DATUM: A fixed reference point on an archaeological site from which measurements are taken.

DEBITAGE: Waste by-products from tool manufacture.

DETRITUS: Waste by-products from tool manufacture. Most frequently applied to chips and fragments resulting from stone flaking.

DISTURBANCE: A cultural deposit is said to be disturbed when the original sequence of deposition has been altered or upset by post-depositional factors. Agents of disturbance include natural forces such as stream or wind erosion, plant or animal activity, land-slides etc.; and cultural forces such as later excavations.

ETHNOGRAPHIC ANALOGY: Interpretation of archaeological remains by comparison to historical cultures.

ETHNOGRAPHY: That aspect of cultural anthropology concerned with the descriptive documentation of living cultures.

ETHNO-HISTORY: The study of ethnographic cultures through historical records.

ETHNOLOGY: The aspect of cultural anthropology concerned with the comparative and processional analysis of ethnographic cultures.

FAUNAL REMAINS: Bones and other animal parts found in archaeological sites. Important in the reconstruction of past ecosystems and cultural subsistence patterns (see: MICROFAUNAL REMAINS).

FEATURE: A non-portable product of human workmanship. Usually clusters of associated objects; pit houses, structures, hearths, cache pits, mining activities, cooking ovens, etc.

FLAKE: A fragment removed from a core or nucleus of cryptocrystalline or fine-grained rock by percussion or pressure. May be used as a tool with no further deliberate modification, may be RETOUCHE, or may serve as a PREFORM for further reduction.

FLINT: A microcrystalline silicate rock similar to CHERT, used for the manufacture of flaked stone tools. Colour most commonly grey, honey-brown, or black.

GROUND STONE: Stone artifacts shaped by sawing, grinding, and/or polishing with abrasive materials (e.g., "ground slate knives", "polished soapstone pendants").

HEARTH: A fireplace, often circular and may be unlined, rock or clay-lined, or rock-filled. Minimally consists of fire-altered rock and charcoal.

HERITAGE RESOURCES IMPACT ASSESSMENT (HRIA): A study undertaken for a proposed development project to determine whether it will adversely affect historical, archaeological, or paleontological remains, generally indicated by the presence of shovel tests.

HERITAGE SITE: A location of archaeological or historical interest that contains evidence of past human activities. Heritage sites may consist of artifacts or features.

HISTORIC ARCHAEOLOGY: The archaeological investigation of POST-CONTACT sites.

HISTORIC PERIOD: The time after European contact or the beginning of written recording. In the Yukon, this period dates to the past 100 to 150 years.

HORIZON: Layers typical of the soil profile in a particular region.

HOUSE-PIT: An aboriginally excavated house floor. See PITHOUSE.

IN SITU: Archaeological items are said to be "*in situ*" when they are found in the location where they were last deposited.

LITHIC: Of/or pertaining to stone. A lithic artifact is one manufactured from stone.

LITHIC INDUSTRY: That part of an archaeological artifact assemblage manufactured of stone.

LITHIC SCATTER: An archaeological site consisting of two or more stone artifacts.

LITHIC TECHNOLOGY: The process of manufacturing tools etc., from stone. Most frequently refers to stone flaking.

LOCALITY: A very large site or site-area composed of 2 or more concentrations or clusterings of cultural remains.

MATRIX: An inclusive term for the natural and cultural sediments of an archaeological site.

MICROFAUNAL REMAINS: Very small animal remains, such as rodent bones, tiny bone fragments, insects, small molluscs, etc., discovered in an archaeological site.

MIDDEN: A deposit of camp refuse associated with human occupational sites. Most frequently refers to coastal SHELL-MIDDENS.

MUNSELL COLOUR CODE: A system of describing colours by a code of letters and numbers defining "hue", "value" and "chroma". Important in accurately describing the colours of archaeological soils and sediments.

OBSIDIAN: Natural volcanic glass. Colour ranges from nearly translucent through black, red and green. The most easily flaked raw material for the manufacture of flaked stone tools.

PALEOSOL: "Old Soil." Buried soil horizons indicative of past soil conditions different from that presently prevailing.

PETROGLYPH: Pictures, symbols, or other artwork pecked, carved or incised on natural rock surfaces.

PICTOGRAPH: Aboriginally painted designs on natural rock surfaces. Red ochre is the most frequently used pigment and natural or abstract designs may be represented.

PITHOUSE: A semi-subterranean "earth-lodge" winter dwelling. Usually consisted of an earth-covered log framework roof over a circular to rectangular excavation. The archaeological feature is called a housepit.

POST-CONTACT PERIOD (Also "Historic Period"): Refers to the period following the first arrival of Europeans.

POT-HUNTER: An "amateur archaeologist" who vandalizes and destroys sites to add to his private collection, or for monetary gain.

PRE-CONTACT: Refers to the period before the first arrival of Europeans in a given area.

PREHISTORIC: The period prior to written records for any given area. In North America synonymous with PRE-CONTACT.

PRELIMINARY FIELD RECONNAISSANCE (PFR): A study undertaken for a proposed development project to determine whether it will adversely affect heritage remains, generally indicated by the lack of need for shovel tests.

PROJECTILE POINT: An inclusive term for arrow, spear or dart-points. Characterized by a symmetrical point, a relatively thin cross-section and some element to allow attachment to the projectile shaft. Flaked stone projectile points are usually classified by their outline form: triangular, leaf-shaped, lanceolate, stemmed, corner-notched, and side-notched.

PROVENIENCE: The horizontal and/or vertical position of an object in relation to a set of spatial coordinates.

QUARTZ CRYSTAL: Pure silicate rock-crystal. Usually perfectly clear with six crystal surfaces. May be used as a raw material for lithic tool manufacture.

RETOUCH: The removal of small secondary flakes along the edge of a lithic artifact to improve or alter the cutting properties of that edge. Retouch flaking may be BIFACIAL or UNIFACIAL.

RETOUCHED FLAKE: A stone flake which has had one or more edges modified by the deliberate removal of secondary chips.

ROCK-SHELTER: A shallow cave or rock overhang large enough to have allowed human occupancy at some time.

SCRAPER: A tool presumably used in scraping, scouring, or planing functions. Most frequently refers to flaked stone artifacts with one or more steep UNIFACIALLY RETOUCHED edge(s).

SETTLEMENT PATTERN: The spatial distribution of cultural activities across a landscape at a given moment in time.

SHOVEL-SCREENING: A rapid excavation procedure in which the site matrix is shoveled directly through a screen (usually 1/4" mesh).

SHOVEL TEST: a small scale, generally informal test excavation to ascertain the nature of the deposits, to determine the presence or absence of a heritage site, or to delimit the boundaries of a known site.

SITE: Any location with detectable evidence of past human activity. Includes HISTORICAL SITES, HABITATION SITES, KILL-SITES, QUARRY SITES, ROCK-ART SITES, BURIAL SITES, etc. See HERITAGE SITE.

SITE SURVEY: The process of searching for and describing heritage sites in a given area.

SOIL-SAMPLE: A quantity of soil, site matrix, or sediments collected for physical, or chemical analysis.

STORAGE-PIT (Also called CACHE-PITS): Circular excavations usually less than 3 m in diameter assumed to have aboriginally functioned as storage "cellars".

STRATA: Depositional units or layers of sediment distinguished by composition or appearance. (Singular: "stratum").

STRATIGRAPHY: The study of various deposits, built up over time, which form delineated layers (such as ash, charcoal or crushed shell) in the earth walls of a pit.

SURVEY(ING): (1) In Archaeology, the process of locating archaeological sites. (2) More generally, the process of mapping and measuring points on the ground surface.

SURVEY AREA: The region within which heritage sites are to be located.

TOOL: An artifact that has been intentionally modified or formed for a specific purpose (e.g., projectile point, knife, scraper).

TYPE: A distinctive formal artifact class restricted in space and time, e.g., the "Folsom Point" is a projectile point "type".

TYPOLOGY: The classification of artifacts according to analytical criteria, to determine and define significant trends or variations in time and space.

UNIFACE: A stone artifact flaked only on one surface.

USE-WEAR: Polish, striations, breakage, or minor flaking which develop on a tool's edge during use. Microscopic examination and study of the wear may indicate the past function of tools.

WETLAND: Areas of land that are inundated by surface water or ground water sufficient to support the growth and reproduction of vegetative and aquatic life.

WORKED: Having chips, flakes, scratches or other evidence of deliberate modification on stone, bone, antler, shell, etc.

ZOOARCHAEOLOGY: The study of faunal remains found in archaeological sites and their cultural significance.

Modified from:

A Glossary of Terms: Artifacts BC.

<http://www.for.gov.bc.ca/archaeology/glossary.htm>

A Glossary of Manitoba Archaeology

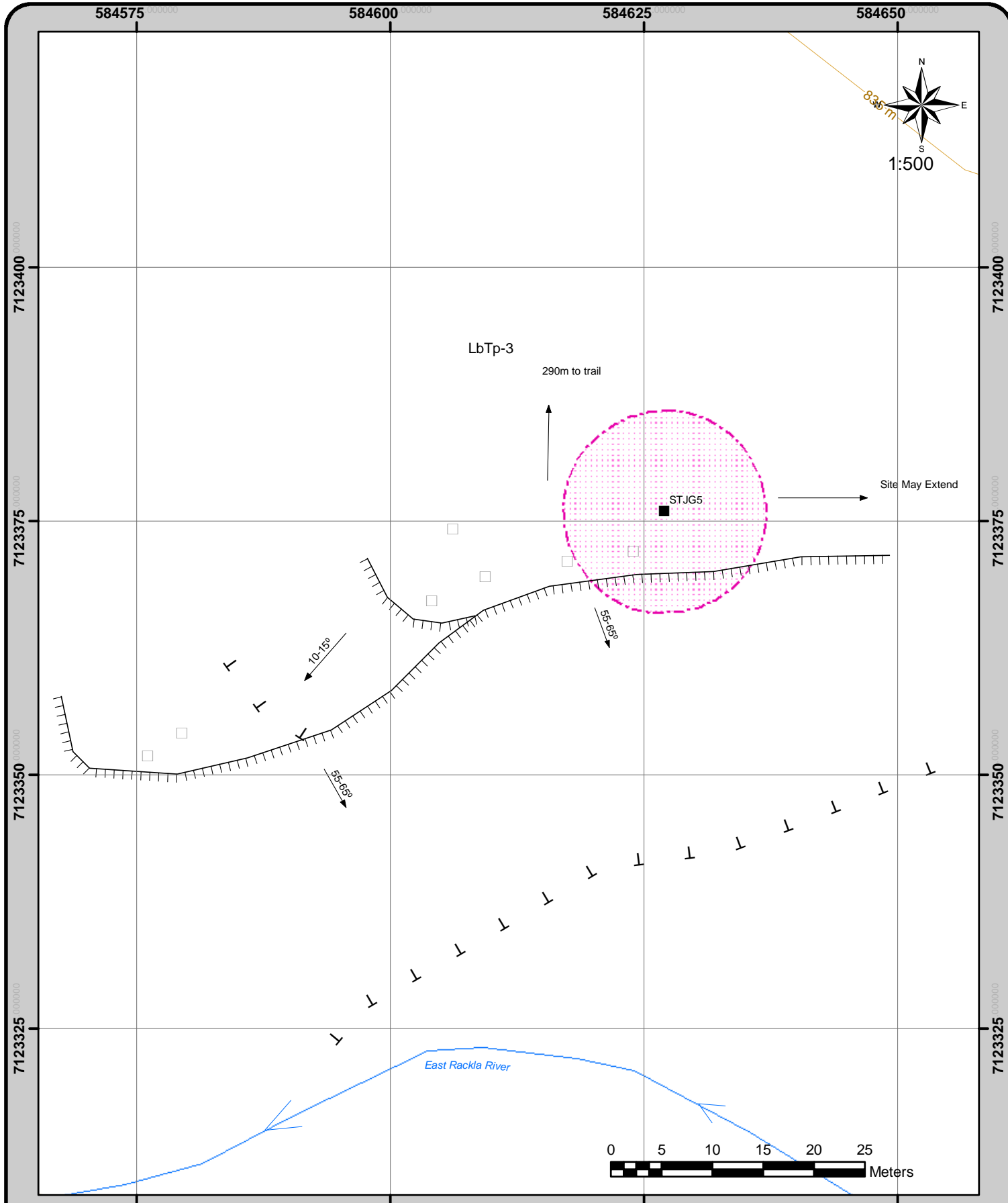
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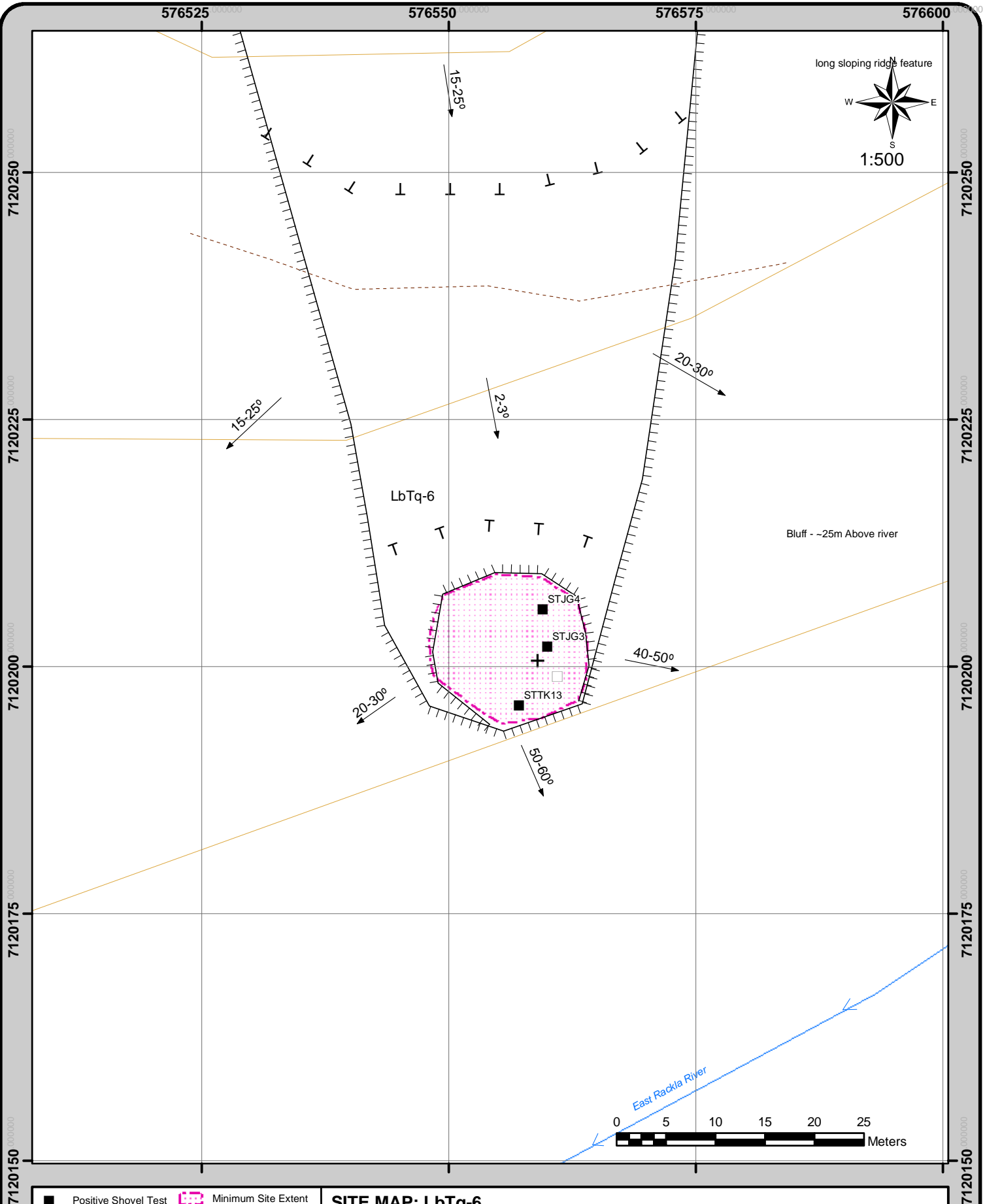
APPENDIX B

Heritage Site Maps



- Positive Shovel Test
- Negative Shovel Test
- ⊥ Base of Slope
- ⌄ Terrace
- ⬢ Minimum Site Extent
- ⊕ Site Center
- ↗ Slope
- ⌄ 5m Contour

SITE MAP: LbTp-3			
	MAPSHEETS:	LOCATION: East Rackla River	PROPONENT: ATAC Resources Ltd.
	NTS: 106 C/3	UTM: E 584628 N 7123376	JOB #: Y11-015-Rackla
		PROJECTION: NAD83 Zone 8	



- Positive Shovel Test
- Negative Shovel Test
- ⊥ Base of Slope
- ⊥ Terrace
- Historic Trail
- Minimum Site Extent
- ⊕ Site Center
- ↗ Slope
- 5m Contour

SITE MAP: LbTq-6



MAPSHEETS:

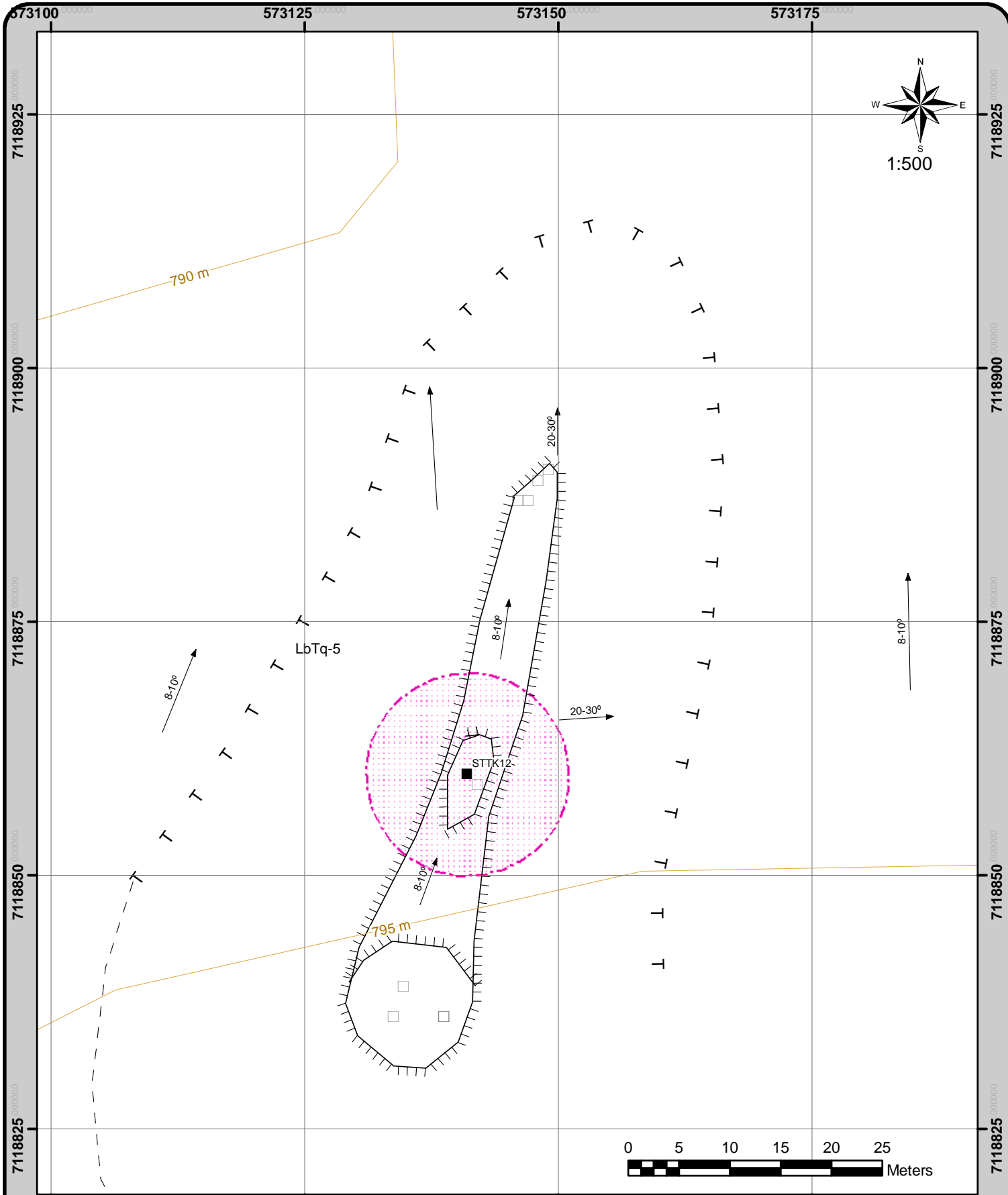
NTS: 106 C/3

LOCATION: East Rackla River

 UTM: E 576559 N 7120200
 PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.

JOB #: Y11-015-Rackla



- | | |
|------------------------|---------------------|
| ■ Positive Shovel Test | Minimum Site Extent |
| □ Negative Shovel Test | + Site Center |
| ⊥ Base of Slope | ↗ Slope |
| ▤ Terrace | 5m Contour |

SITE MAP: LbTq-5



MAPSHEETS:

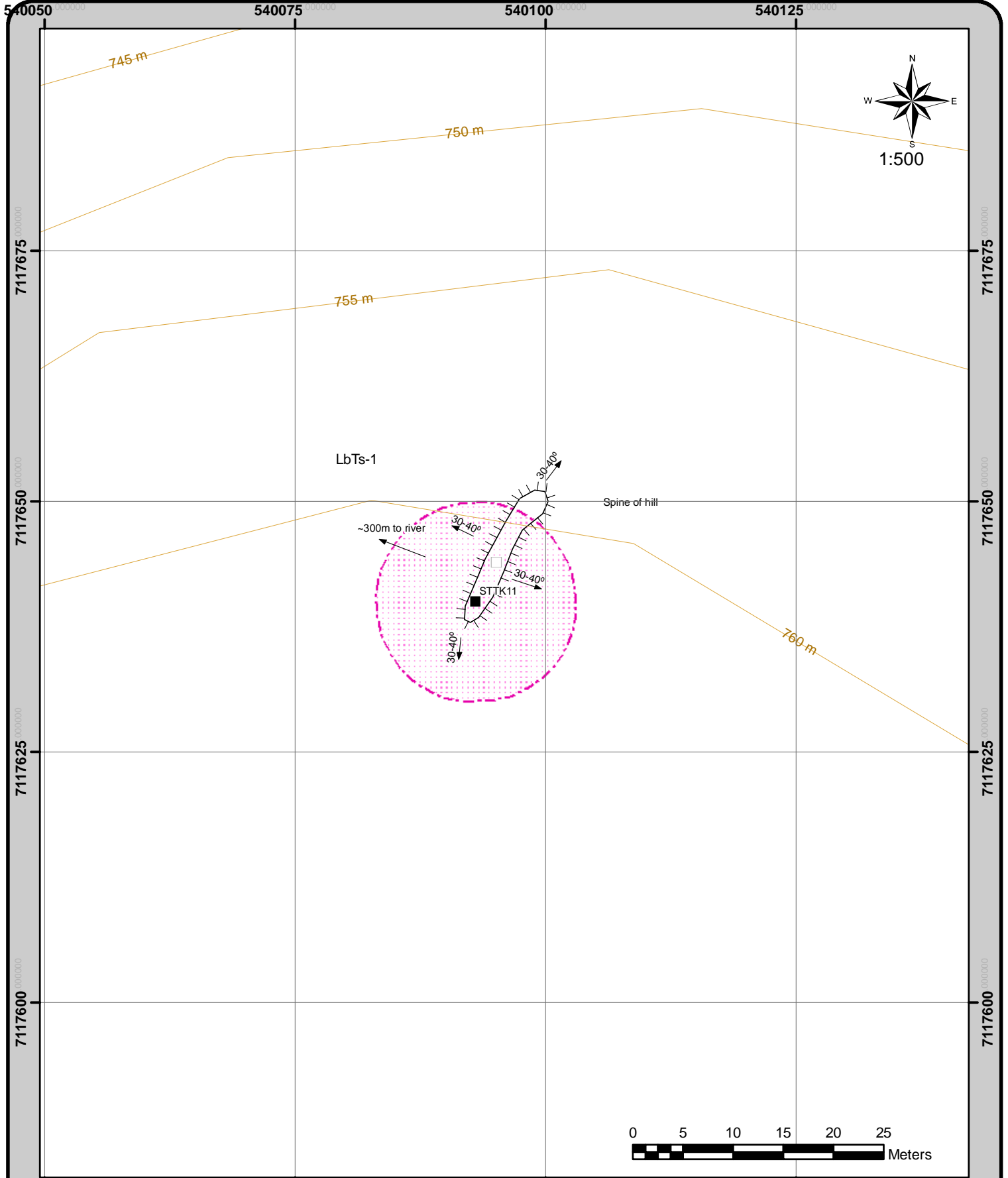
NTS: 106 C/3

LOCATION: East Rackla River

UTM: E 573142 N 7118860
PROJECTION: NAD83 Zone 8

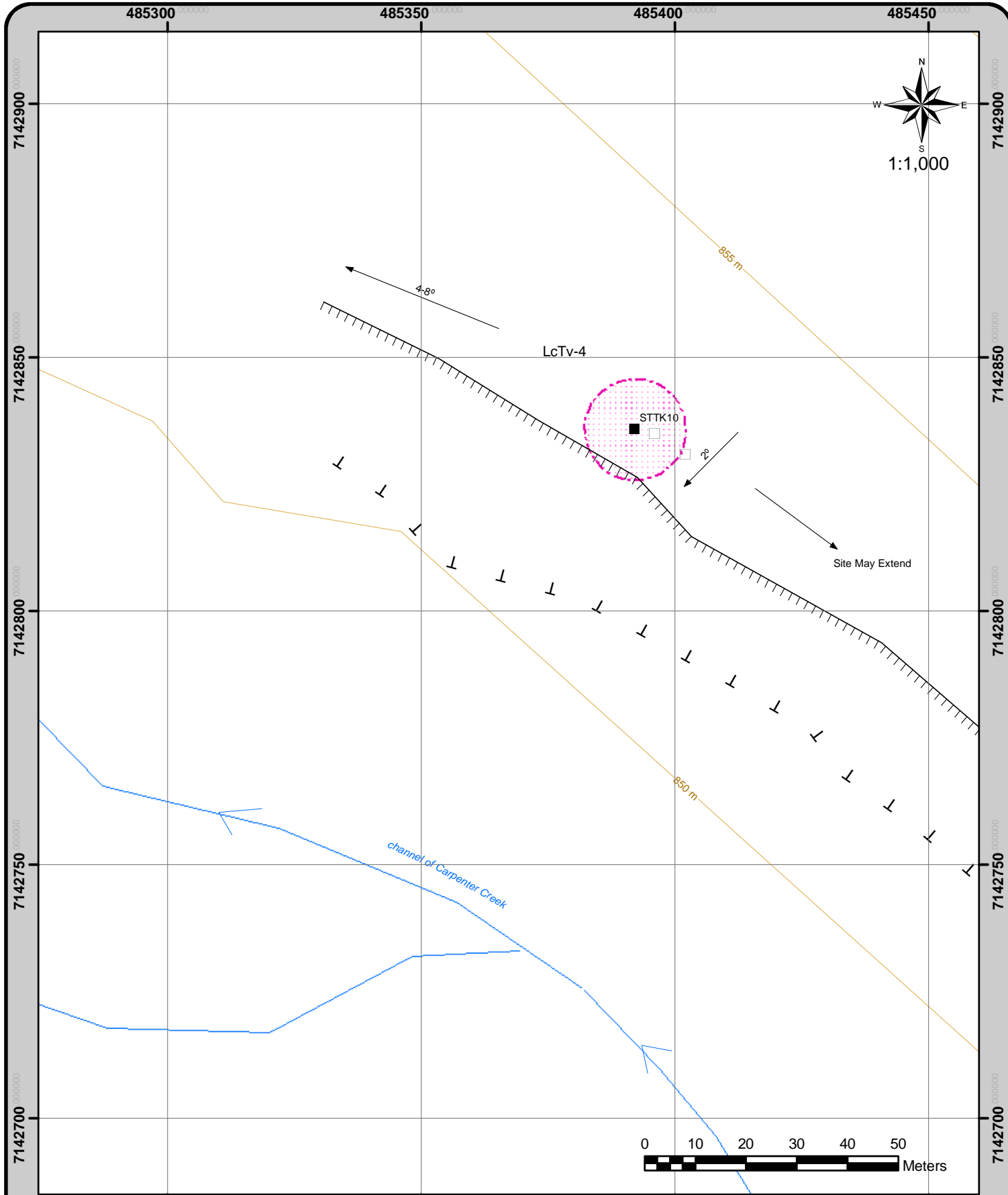
PROPONENT: ATAC Resources Ltd.

JOB #: Y11-015-Rackla



- Positive Shovel Test
- Negative Shovel Test
- TTTT Terrace
- Minimum Site Extent
- + Site Center
- Slope
- 5m Contour

SITE MAP: LbTs-1			
	MAPSHEETS:	LOCATION: Rackla River	PROPONENT: ATAC Resources Ltd.
	NTS: 106 D/1	UTM: E 540093 N 7117640 PROJECTION: NAD83 Zone 8	JOB #: Y11-015-Rackla



- Positive Shovel Test
- Negative Shovel Test
- TTTT Terrace
- ⊥ ⊥ Base of Slope
- Minimum Site Extent
- Stream
- Slope
- 5m Contour

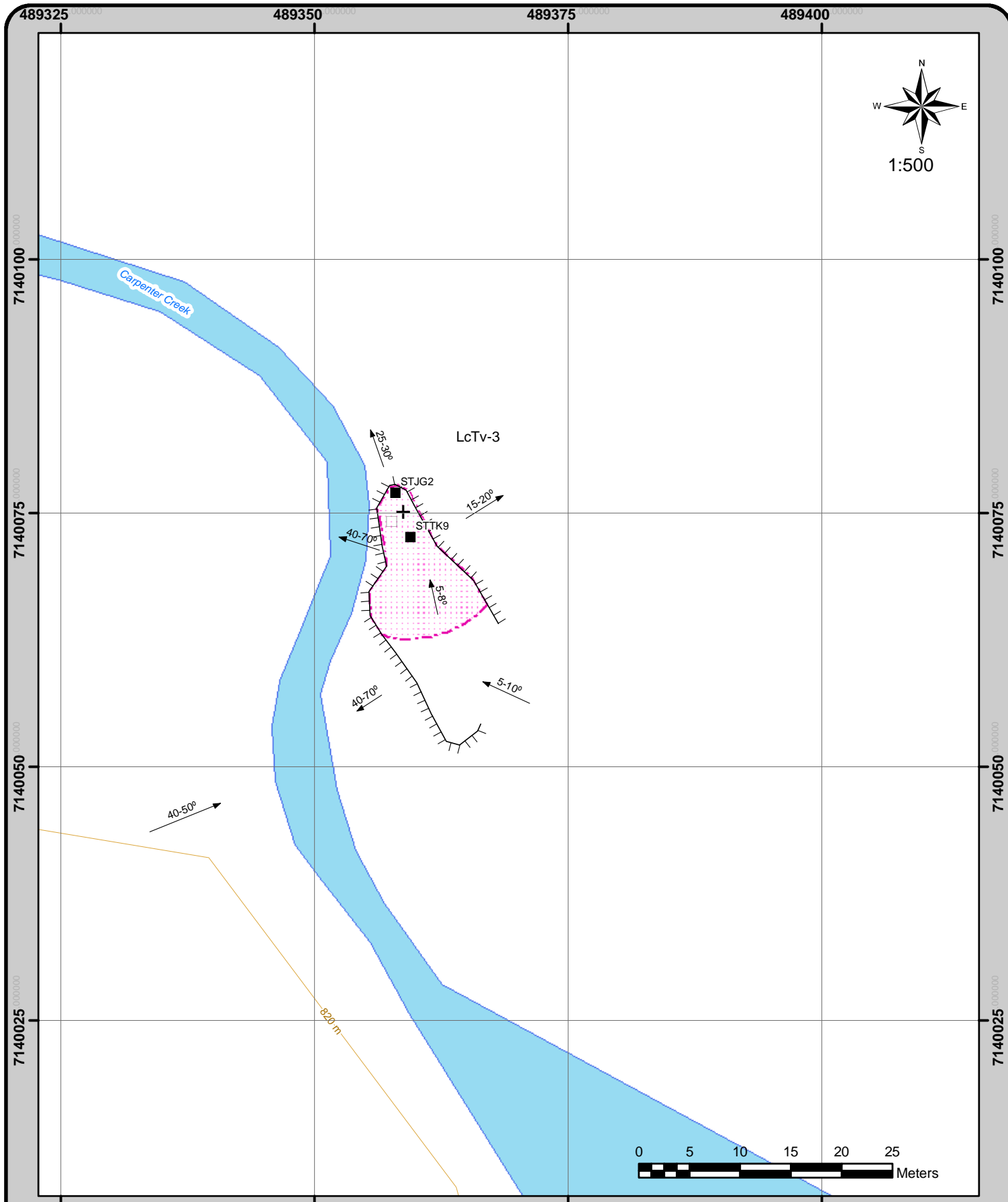
SITE MAP: LcTv-4



MAPSHEETS:
NTS: 106 D/6

LOCATION: Carpenter Creek
UTM: E 485392 N 7142836
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.
JOB #: Y11-015-Rackla



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|------------------------|---------------|
| ■ Positive Shovel Test | ■ River/Lake |
| □ Negative Shovel Test | + Site Center |
| ■ Minimum Site Extent | ▤ Terrace |
| — 5m Contour | → Slope |

SITE MAP: LcTv-3



MAPSHEETS:

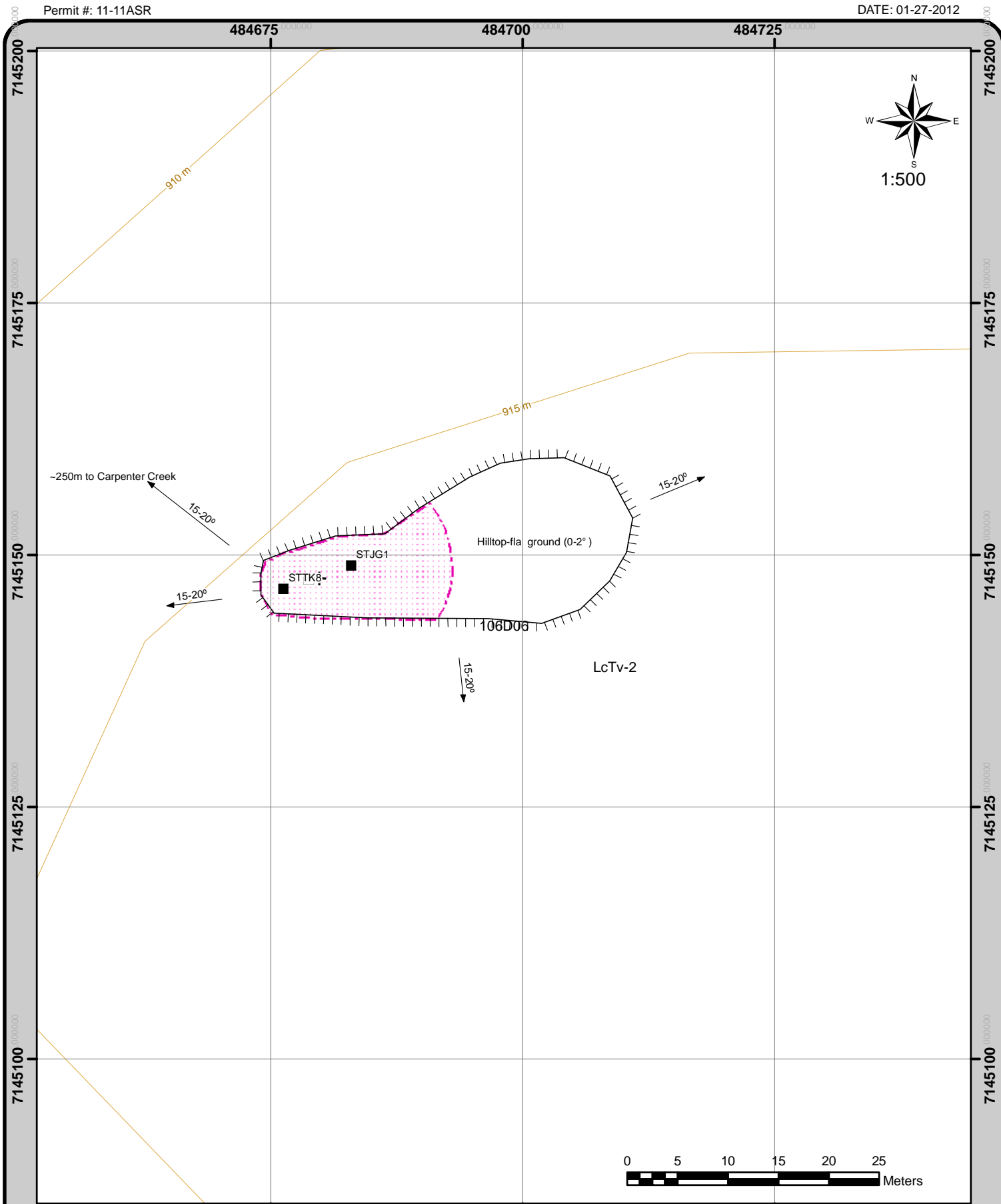
NTS: 106 D/6

LOCATION: Carpenter Creek

UTM: E 489360 N 7140076
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.

JOB #: Y11-015-Rackla



- Positive Shovel Test
- Negative Shovel Test
- ~ 5m Contour
- Minimum Site Extent
- + Site Center
- Terrace
- Slope

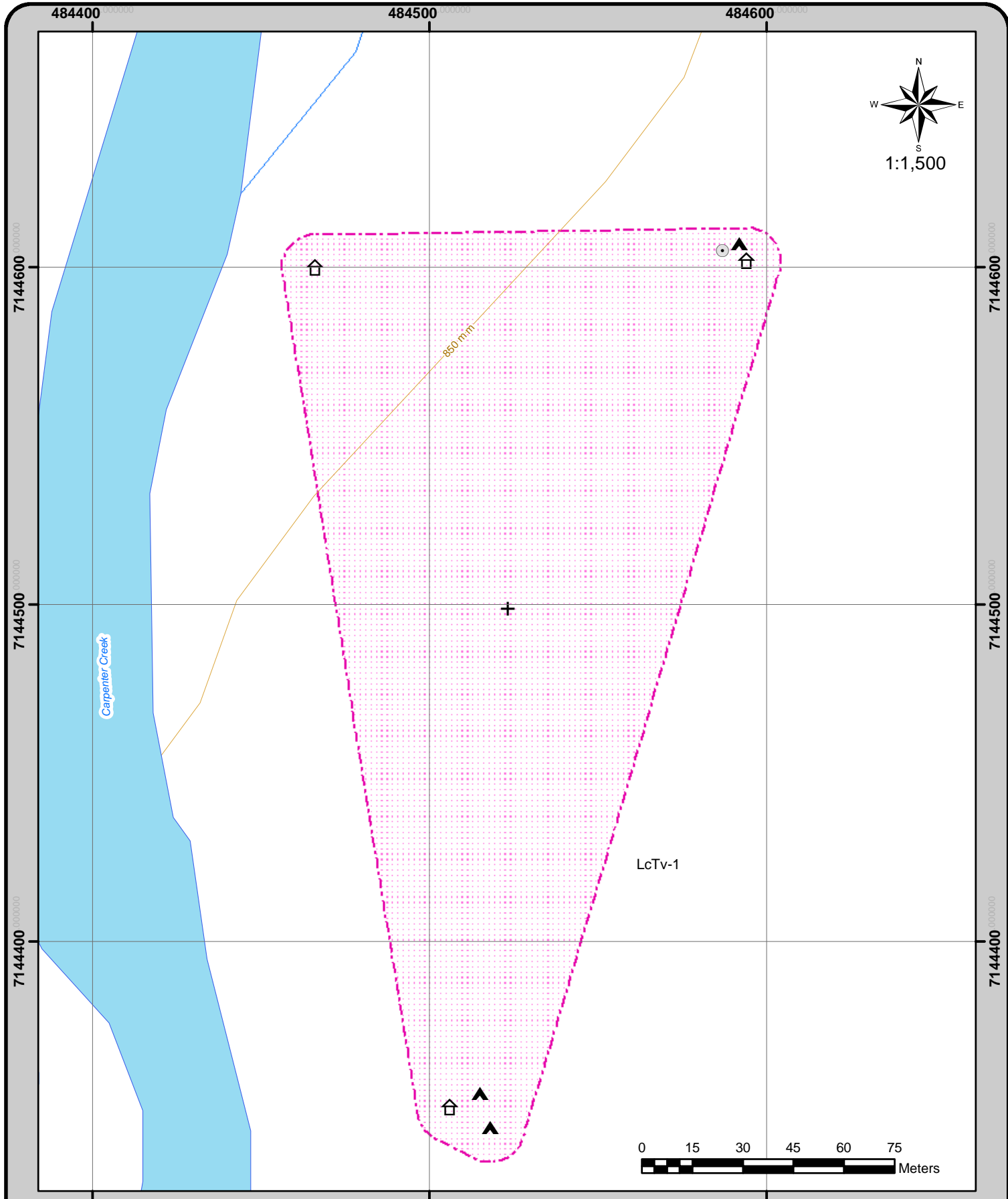
SITE MAP: LcTv-2



MAPSHEETS:
NTS: 106 D/6

LOCATION: Carpenter Creek
UTM: E 484679 N 7145149
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.
JOB #: Y11-015-Rackla



- | | | | |
|--|------------|--|---------------------|
| | Stream | | Minimum Site Extent |
| | Cabin | | Site Center |
| | Can Midden | | 5m Contour |
| | Platform | | |

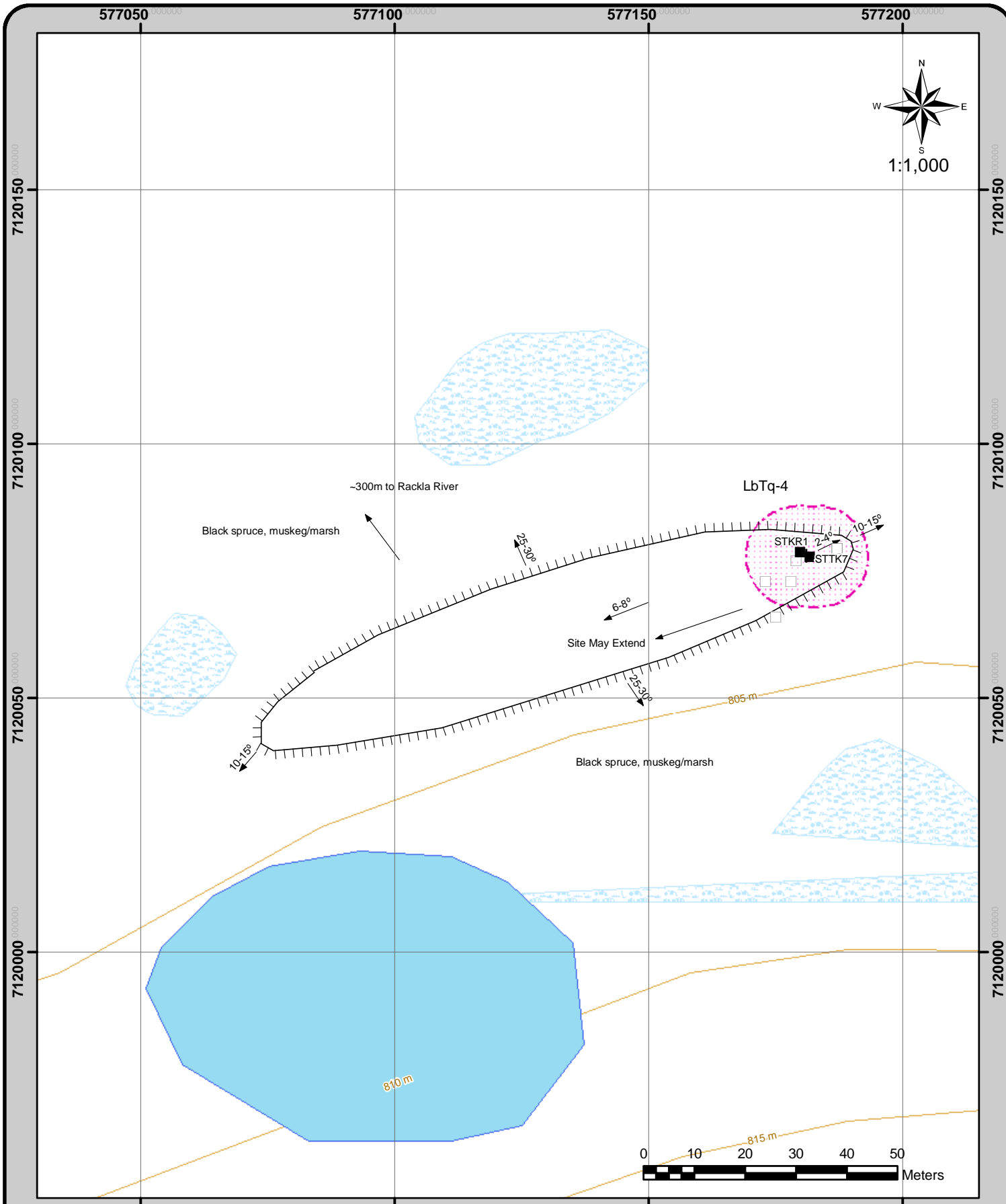
SITE MAP: LcTv-1



MAPSHEETS:
NTS: 106 D/6

LOCATION: Carpenter Creek
UTM: E 484523 N 7144498
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.
JOB #: Y11-015-Rackla



- Positive Shovel Test
- Negative Shovel Test
- 5m Contour
- Terrace
- Minimum Site Extent
- + Site Center
- Wetland
- Slope

SITE MAP: LbTq-4



MAPSHEETS:

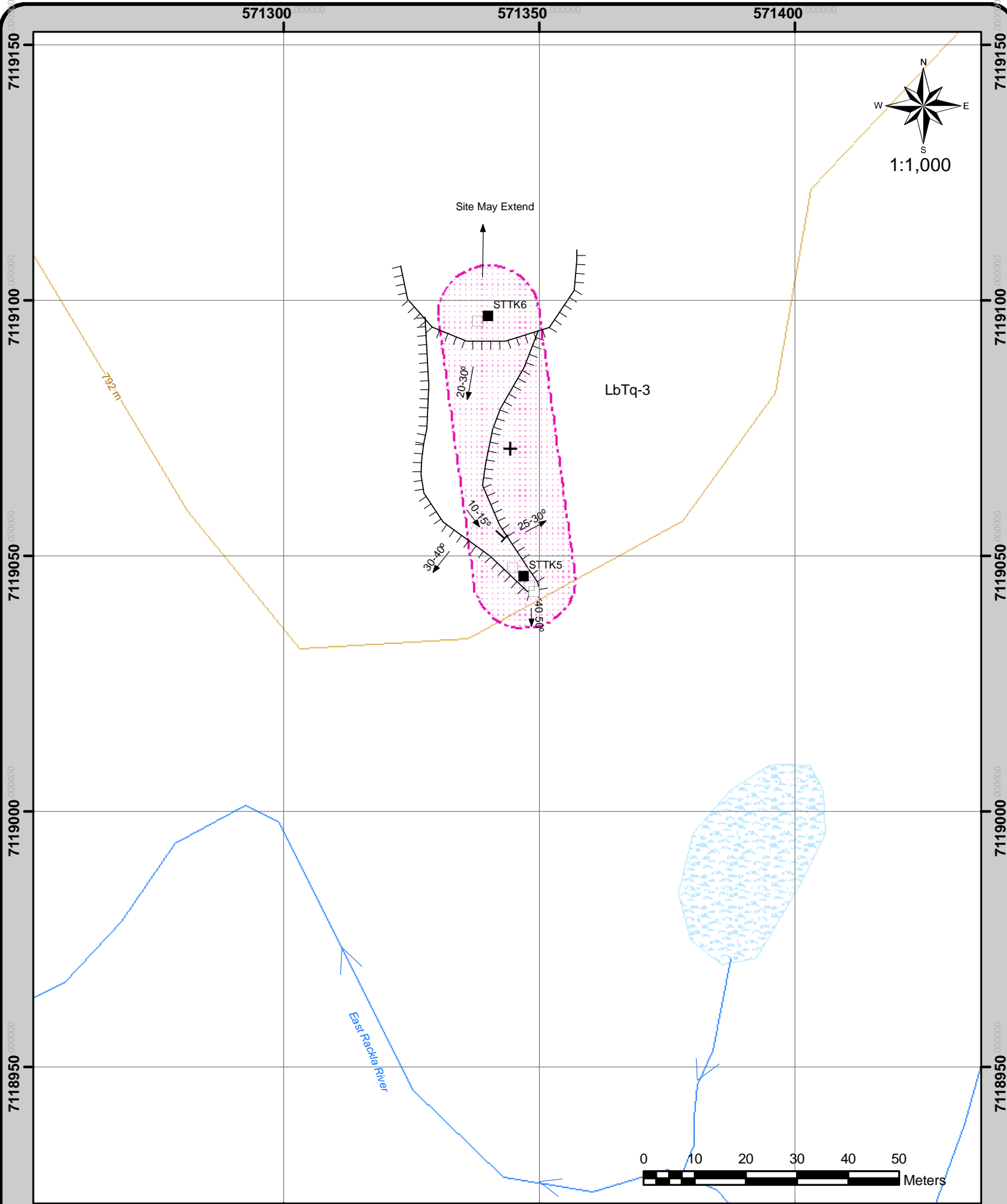
NTS: 106 C/3

LOCATION: East Rackla River

 UTM: E 577181 N 7120078
 PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.

JOB #: Y11-015-Rackla



- Stream
- Positive Shovel Test
- Negative Shovel Test
- Wetland
- Minimum Site Extent
- Site Center
- Terrace
- 5m Contour
- Slope

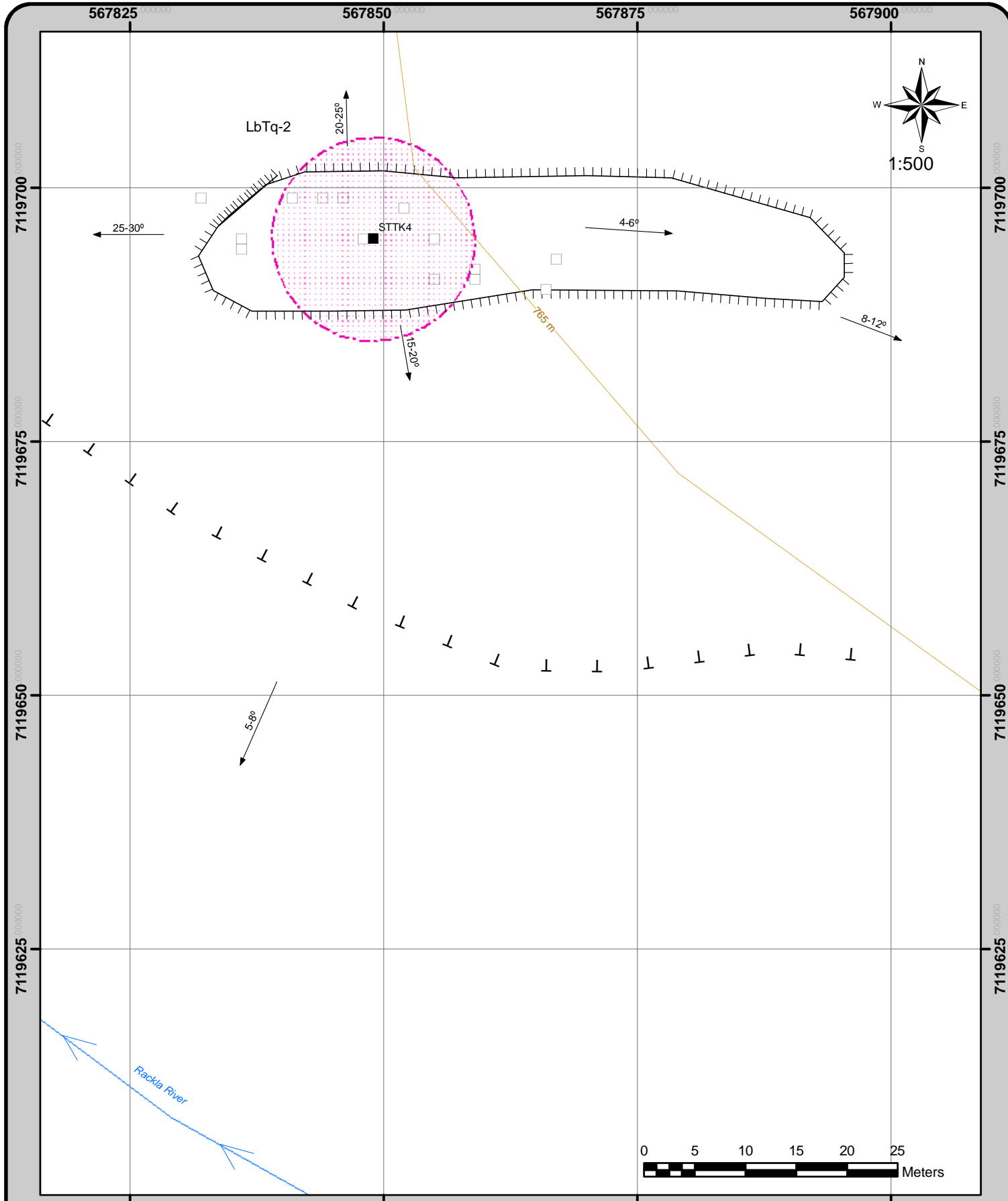
SITE MAP: LbTq-3











MAPSHEETS:
NTS: 106 C/4

LOCATION: East Rackla River
UTM: E 571344 N 7119071
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.
JOB #: Y11-015-Rackla



-  Minimum Site Extent
-  Stream
-  Positive Shovel Test
-  Negative Shovel Test
-  Terrace
-  Base of Slope
-  Slope
-  5m Contour

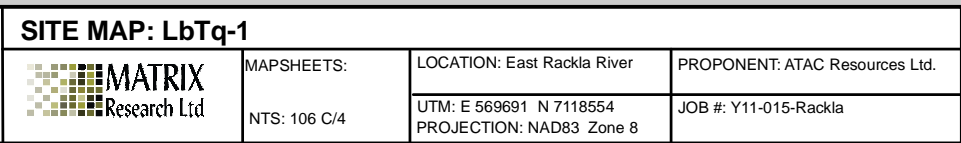
SITE MAP: LbTq-2

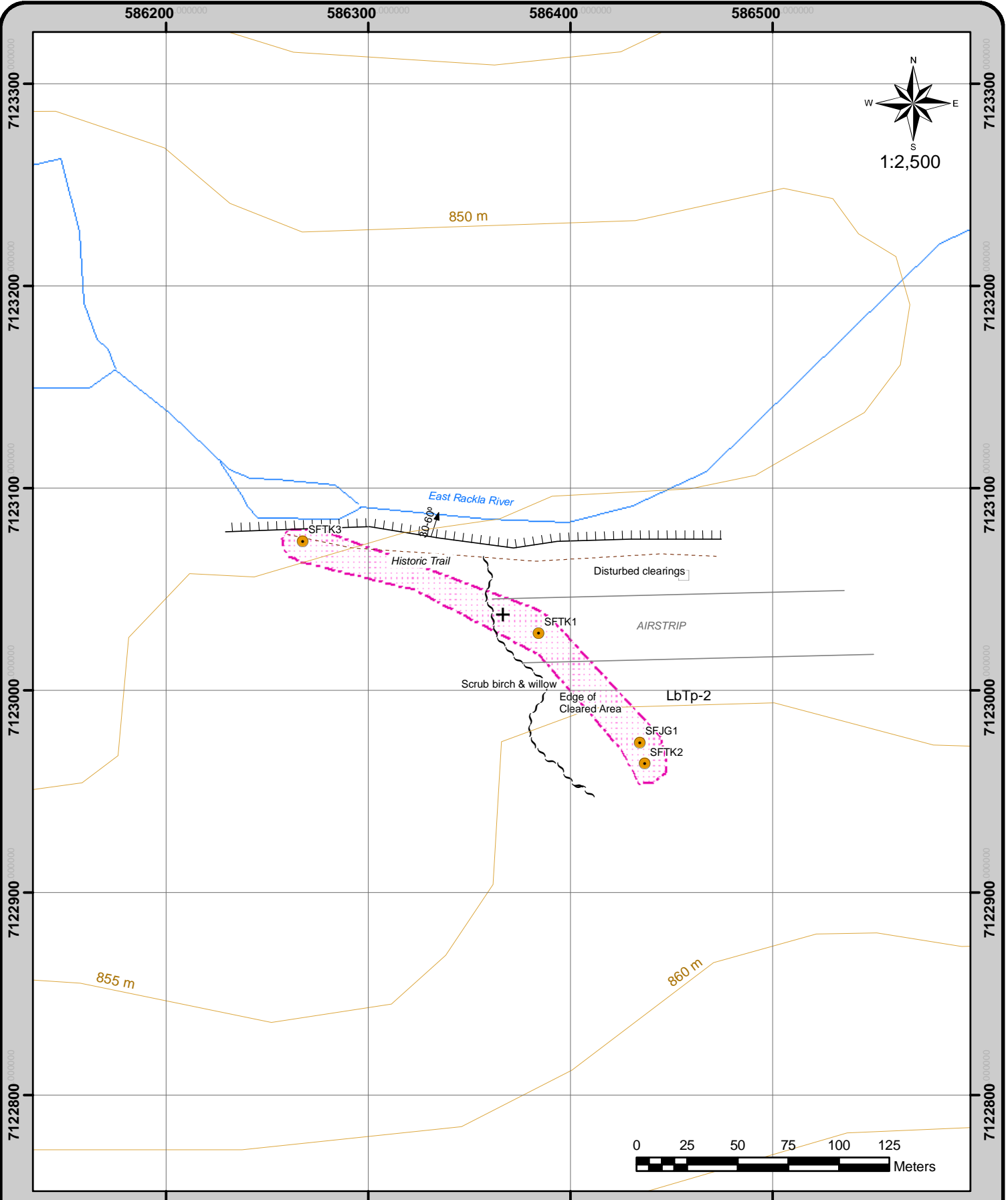


MAPSHEETS:
NTS: 106 C/4

LOCATION: East Rackla River
UTM: E 567848 N 7119695
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.
JOB #: Y11-015-Rackla





- | | | | |
|--|---------------------|--|------------|
| | Minimum Site Extent | | Terrace |
| | Stream | | Trail |
| | Surface Find | | Slope |
| | Site Center | | 5m Contour |
| | Edge of Forest | | |

SITE MAP: LbTp-2



MAPSHEETS:

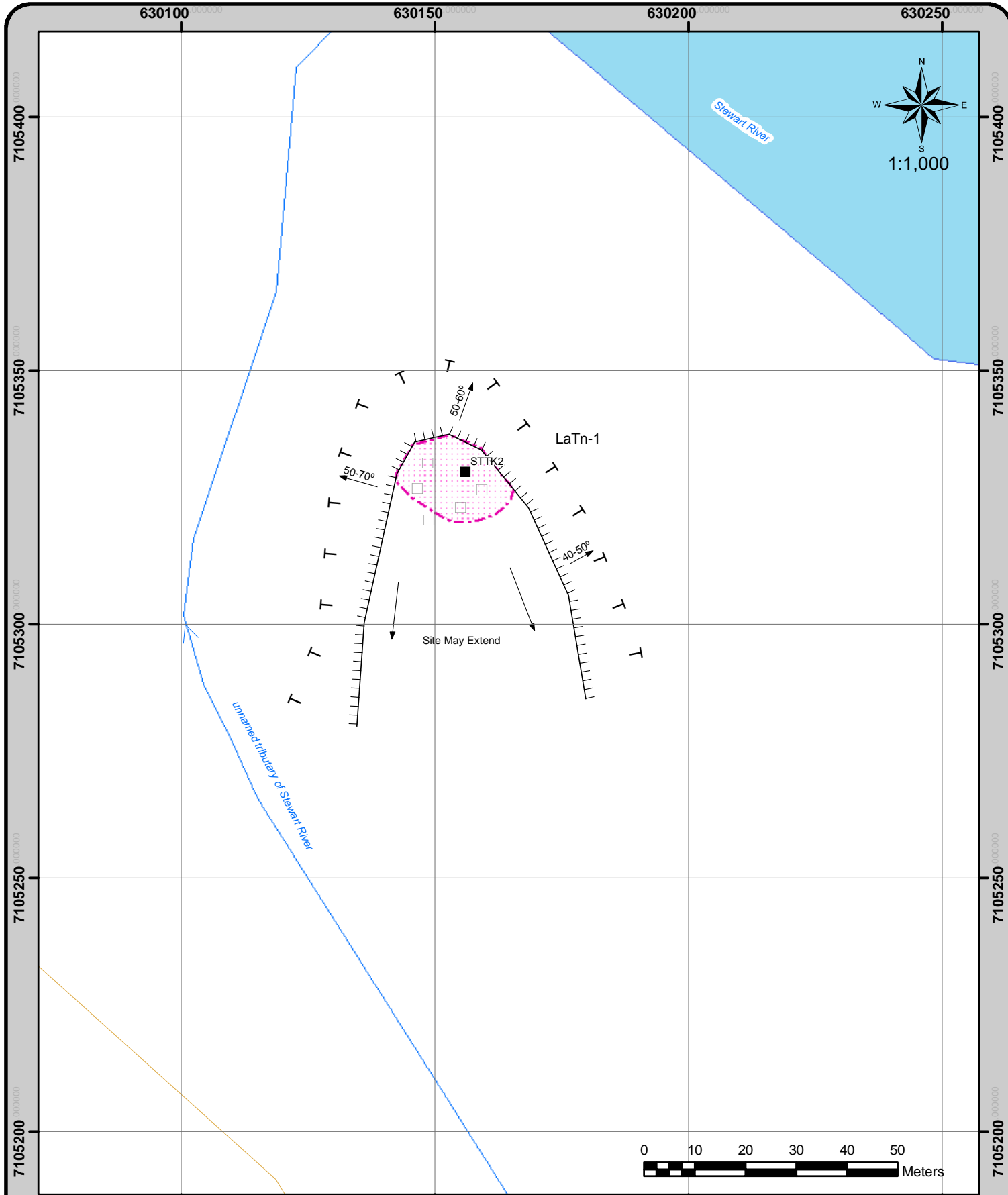
NTS: 106 C/3

LOCATION: East Rackla River

UTM: E 586366 N 7123039
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.

JOB #: Y11-015-Rackla



- Positive Shovel Test
- Negative Shovel Test
- Base of Slope
- Terrace
- River/Lake
- Minimum Site Extent
- Slope
- 5m Contour

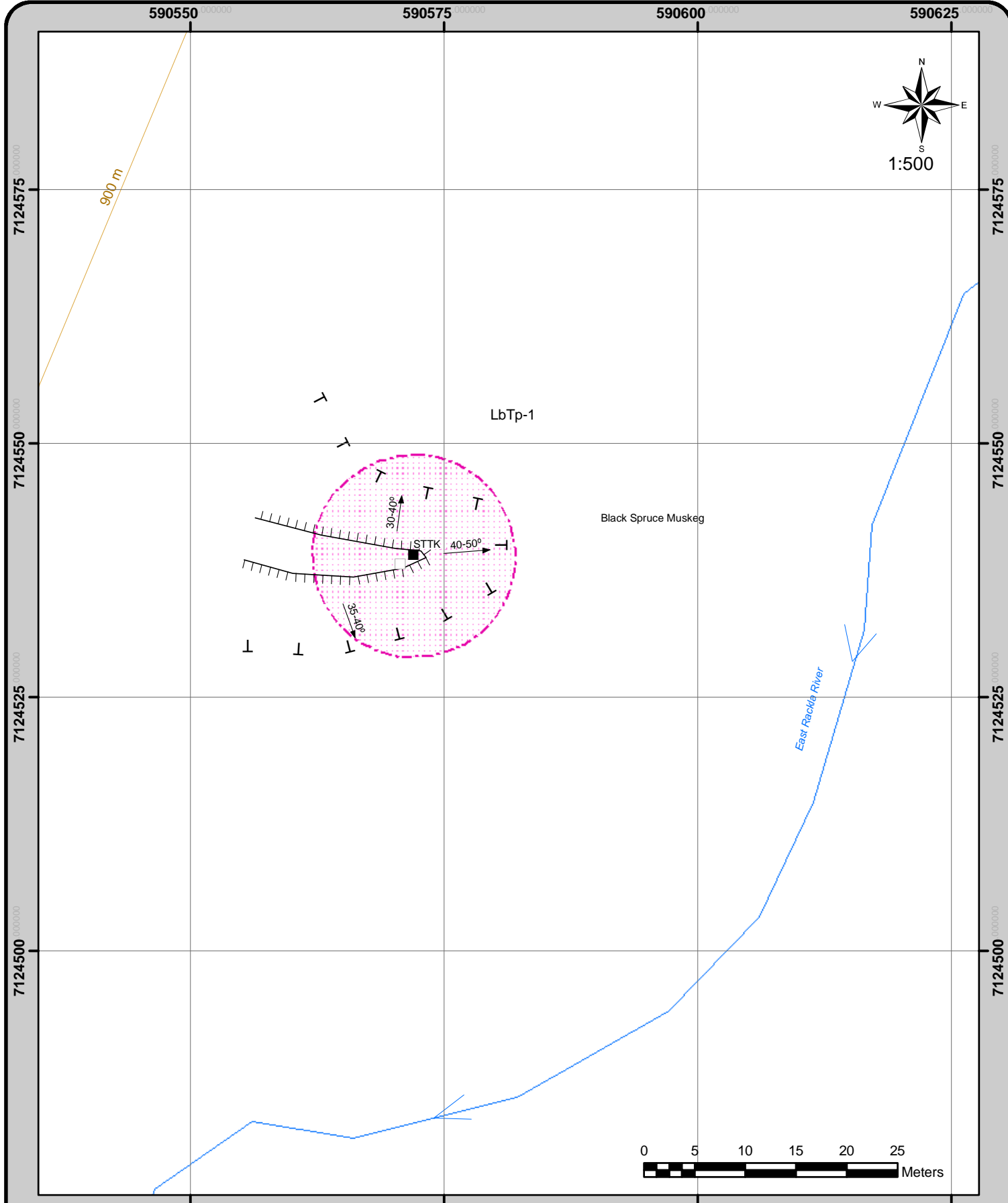
SITE MAP: LaTn-1



MAPSHEETS:
NTS: 106 C/1

LOCATION: Stewart River
UTM: E 630155 N 7105330
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.
JOB #: Y11-015-Rackla



- Minimum Site Extent
- Stream
- Positive Shovel Test
- Negative Shovel Test
- Terrace
- Base of Slope
- Slope
- 5m Contour

SITE MAP: LbTp-1



MAPSHEETS:
NTS: 106 C/3

LOCATION: East Rackla River
UTM: E 590572 N 7124539
PROJECTION: NAD83 Zone 8

PROPONENT: ATAC Resources Ltd.
JOB #: Y11-015-Rackla

APPENDIX C

Pre-contact Artifact Photographs



Plate 1: Chert microblade identified at shovel test STTK1, at heritage site **LbTp-1** (Artifact # LbTp-1:1)



Plate 2: Chert scraper, identified at shovel test TK2, at heritage site **LaTn-1** (Artifact # LaTn-1:1)



Plate 3: Broken chert biface midsection, identified at surface find TK1, at heritage site **LbTp-2** (artifact # LbTp-2:1)



Plate 4: Chert microblade fragment, identified at shovel test KR1, at heritage site **LbTq-4** (artifact # LbTq-4:1).



Plate 5: Chert burin, identified at shovel test JG1, at heritage site **LcTv-2** (artifact # LcTv-2:1).



Plate 6: Retouched quartzite flake, identified at shovel test JG1, at heritage site **LcTv-2** (artifact # LcTv-2:2).



Plate 7: Retouched quartzite flake, identified at shovel test JG1, at heritage site **LcTv-2** (artifact # LcTv-2:3).



Plate 8: Quartz crystal, identified at shovel test JG4, at heritage site **LbTq-6** (artifact # LbTq-6:1).

Appendix D

Project Photographs



Plate 1: View east at STTK1 at heritage site **LbTp-1**.



Plate 2: View southeast at STTK2 at heritage site **LaTn-1**.



Plate 3: View northwest at SFTK1 discovered on existing airstrip at Rackla Camp at heritage site **LbTp-2**.



Plate 4: View west at STTK3 and Rackla River valley at heritage site **LbTq-1**.



Plate 5: View north at STTK4 at heritage site **LbTq-2** along Rackla River.



Plate 6: View east at Kissel and STTK5 at heritage site **LbTq-3**.



Plate 7: View north at STTK7 and small lake near Rackla River at heritage site **LbTq-4**.



Plate 8: View southwest at collapsed cabin 1 at heritage site **LcTv-1**.



Plate 9: View south at James, Kissel, and collapsed east wall of cabin 2 at heritage site **LcTv-1**.



Plate 10: View south at collapsed platform cache at heritage site **LcTv-1**.



Plate 11: View north at STTK8 and STJG1 on prominent hill at heritage site **LcTv-2**.



Plate 12: View north at STJG2 and Carpenter Creek at heritage site **LcTv-3**.



Plate 13: View northeast at STTK10 and Carpenter Creek at heritage site **LcTv-4**.



Plate 14: View northeast Rackla River valley from STTK11 at heritage site **LbTs-1**.



Plate 15: View north at East Rackla River valley STTK12 at heritage site **LbTq-5**.



Plate 16: View southwest at STTK13 and East Rackla River at heritage site **LbTq-6**.



Plate 17: View west along terrace edge at James testing at heritage site **LbTp-3**.

Appendix E

Modified Artifact and Debitage Catalogues

Modified Artifact Catalogue									
Borden Number	Artifact #	Shovel Test / Surface Find	Depth Below Surface (cm)	Raw Material	Artifact Type	Count	Excavator	Date	Comments
LbTp-1	LbTp-1:1	STTK1	0-5	Chert	Microblade fragment	2	Todd Kristensen	2011/07/06	
LaTn-1	LaTn-1:1	STTK2	10-15	Chalcedony	End scraper/burin	1	Todd Kristensen	2011/07/07	Re-fits with LaTn-1:2
LaTn-1	LaTn-1:2	STTK2	10-15	Chalcedony	Burial spall	1	Todd Kristensen	2011/07/07	Re-fits with LaTn-1:1
LbTp-2	LbTp-2:1	SFTK1	0	Chert	Biface fragment	1	Todd Kristensen	2011/07/11	
LbTq-4	LbTq-4:1	STKR1	5-10	Chert	Microblade fragment	1	Kissel Reid	2011/07/14	
LcTv-2	LcTv-2:1	STJG1	0-5	Chert	Possible burin	1	James Guy	2011/07/16	
LcTv-2	LcTv-2:3	STJG1	0-5	Chert	Retouched flake	1	James Guy	2011/07/16	
LcTv-2	LcTv-2:2	STJG1	0-5	Chert	Utilized flake	2	James Guy	2011/07/16	
LbTq-6	LbTq-6:1	STJG4	5-10	Quartz crystal	Polyhedral core	1	James Guy	2011/07/20	

Debitage Catalogue									
Borden #	Artifact #	Shovel Test / Surface Find	Depth Below Surface (cm)	Raw Material	Artifact Type	Count	Excavator	Date	Comments
LbTp-1	LbTp-1:2	SFJG1	0	Chert	Secondary flake	1	James Guy	2011/07/17	
LbTp-2	LbTp-2:3	SFTK2	0	Chert	Secondary flake	1	Todd Kristensen	2011/07/21	
LbTp-2	LbTp-2:4	SFTK3	0	Obsidian	Secondary flake	1	Todd Kristensen	2011/07/21	
LbTq-1	LbTq-1:1	SFTK3	5-10	Chert	Billet flake, and fragments	3	Todd Kristensen	2011/07/13	
LbTq-2	LbTq-2:1	STTK4	5-10	Chalcedony	Billet flake, and fragments	4	Todd Kristensen	2011/07/14	
LbTq-3	LbTq-3:1	STTK6	0-5	Chert	Billet flake	1	Todd Kristensen	2011/07/14	
LbTq-3	LbTq-3:2	STTK5	0-5	Chalcedony	Billet flakes	3	Todd Kristensen	2011/07/14	
LbTq-4	LbTq-4:2	STTK7	5-10	Obsidian, chert	Billet and secondary flakes	3	Todd Kristensen	2011/07/14	
LcTv-2	LcTv-2:4	STTK8	0-5	Chert, dacite	Billet flake and fragments	5	Todd Kristensen	2011/07/16	
LcTv-3	LcTv-3:1	STJG2	0-5	Chert	Billet flakes and secondary flake	3	James Guy	2011/07/17	
LcTv-3	LcTv-3:2	STTK9	5-10	Chert	Flake fragment	1	Todd Kristensen	2011/07/17	
LcTv-4	LcTv-4:1	STTK10	0-5	Chert	Shatter, billet, and secondary flakes	6	Todd Kristensen	2011/07/18	
LbTs-1	LbTs-1:1	STTK11	0-5	Chert, chalcedony	Billet flakes	2	Todd Kristensen	2011/07/19	
LbTq-5	LbTq-5:1	STTK12	0-5	Chert	Flake fragments	2	Todd Kristensen	2011/07/20	
LbTq-6	LbTq-6:2	STJG3	15-20	Chalcedony	Flake fragment	1	James Guy	2011/07/20	
LbTp-3	LbTp-3:1	STJG5	5-10	Chalcedony, chert	Billet and flake fragment	2	James Guy	2011/07/21	