

Report 2009:19

# Special archaeological inquiry

## Kaunisvaara

Kaunisvaara S:2, 16:3, 16:5, 16:6, 16:7  
and 28:1. Pajala parish and municipaly  
Province of Västerbotten, County of Norrbotten



**Norrbottens museum**  
Olof Östlund

Dnr 188-2009  
Lst dnr 431-5594-09

## Technical Information

County Administrative Board's Register Number:	431-5594-09
County Museum of Norrbotten's Register Number:	188-2009
Assigner/financier:	Northland Resources Inc.
Ancient remains number:	Newly registered: 2 tar pits (numbers 1 and 2) Known remains: <i>Information of a camp ground</i> (Raä 442:1), <i>Stone-cleared area</i> (Raä 442:2) and a <i>Reindeer enclosure</i> (Raä 443:1)
Municipality:	Pajala
Parish:	Pajala
Province:	Västerbotten
County:	Norrbotten
Property:	Kaunisvaara S:2, 16:3, 16:5, 16:6, 16:7 and 28:1
Type of assignment:	Special archaeological inquiry, steps 1 and 2
Dating:	Tar pits 20 <sup>th</sup> century, camp ground and stone-cleared surface 20 <sup>th</sup> century (Raä 442) and reindeer enclosure 20 <sup>th</sup> century also (Raä 443) Information about older settlement exists but can't be proven.
Type of ancient remains:	All remains except Raä 442:2 ends up in the category 'other cultural-historical remain'. Raä 442:2 should be omitted from the ancient remains register.
Field days and duration:	4 work days (15-18 <sup>th</sup> September 2009), (60 work hours (30 x 2 persons)
Time for writing report:	10 work days, (81 work hours 1 person)
Managing of finds:	-
Project leader:	Olof Östlund
Responsible for report:	Olof Östlund (translation to english: Nils Johansson)
Field personnel:	Mirjam Jonsson
Underconsultants:	-
Investigated area:	The area of inquiry corresponds to: 335200 m <sup>2</sup> . Out of these about 16 m <sup>2</sup> are excavated by hand as test pits.
Height above sea level:	160-170 meters
Coordinates:	The area of inquiry lies within the coordinates x 7495459 – 7496837 and y 1823012 – 1824223. Measured with GPS, User grid / RT 90 2,5 gon V The newly registered remains' coordinates are: Number 1: x7486589 / y1823037 ± 6,5 meters Number 2: x 7595776 / y1823604 ± 6,7 meters
Economic map:	26M 9 e (economic map, the Swedish Surveying Office's digital mapping) 28M 8-9 e-f Kaunisvaara NW (according to the old economic maps)
Documentationmaterial:	All originals, in this case written notes and digital photos, are kept at the County Museum of Norrbotten's corresponding (acts-, picture-) archive. This applies to analogue as well as digital material. Photo Acc number 2009:101:01-19, (19 pictures) appendix 2
Digital documentationmaterial:	The digital basic data for decision exists in shapeformat in RT90 2,5 gon V. It's stored at the museum's servers. Back-up-copies are created daily by the County Council's personnel on all material that is stored on server. In the meantime recommendations for long time storage of digital archaeological material are awaited for from the Swedish National Heritage Board.
Digital software:	Microsoft Office (XP), ArcPad 7.0.1, ArcGIS 9.2, Adobe PhotoShop Elements 4.0.
Archaeological finds:	No finds were taken care of. Recent finds as sheet metal buckets, barbed wire and cans came to light at the camp ground and at the site for the reindeer enclosure.
Photo:	Digital, Acc number 2009:101:01-19, appendix 2
Drawings:	-
	Photo on front page: Tar pit number 1 and Mirjam Jonsson on its outer edge. acc nr 2009:101:01, © Norrbottens museum, Olof Östlund.

# REPORT

Special Archaeological Inquiry

Kaunisvaara

Properties Kaunisvaara S:2, 16:3, 16:5, 16:6, 16:7 och 28:1

Pajala parish and municipality

Province of Västerbotten

County of Norrbotten

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# Introduction

## Background

The County Museum of Norrbotten performed a special archaeological inquiry during the period 15-18<sup>th</sup> of September 2009 on the earlier mentioned properties. This was commissioned by Northland Resources Inc. after decision by the County Administrative Board of Norrbotten.

The inquiry was compelled by Northland Resources' plans for mining activities in Pajala municipally, near the village of Kaunisvaara, 17 km N of Pajala. Among other things these plans require relocations of roads and constructions of some new road connections. In the study area it is preliminary planned to relocate the "Honkavaara road, which then would get a more northerly stretch into the area of inquiry.

The archaeological work was performed by Olof Östlund and Mirjam Jonsson, County Museum of Norrbotten.

## Summary

The inquiry led to the discovery of two new other cultural-historical remains (Tar pits, "Chemical industry"). These were registered and marked with red ribbons.

Two (or three if you count the subdivided numbers) other cultural-historical remains, known since earlier, within the area of inquiry were also marked with red ribbons. These were Raä 443:1 registered as a reindeer enclosure, Raä 442:1 registered as "information about camp ground" and finally Raä 442:2 registered as "stone-cleared surface". The camp ground that was supposed to lie within the stone-cleared surface, could not be found in the form of physical remains, and the stone-cleared surface was not in fact cleared of stones. The clearing cairns that are mentioned in the ancient remains register in connection with the stone-cleared surface are likely to stem from the construction of the forest motor road that stretches through Raä 442:1-2.

## Aim

The aim of the inquiry was to investigate if possible ancient remains are affected by the planned exploitation, i.e. decide if there is fixed ancient remains in the area of inquiry decided by the County Administrative board, of the possible new stretch of the Honkavaara road. Included in the aim are also a description of possible ancient remains and marking of these in the field so it will be easier to identify them. Other cultural remains in the area of inquiry will also be registered.

Yet another aim with the inquiry is to leave point of views on whether or not the status for the three registered remains in the area of inquiry could be regarded as correct, this is important with regard to future decisions of the County Administrative Board.

## Direction and Problem formulation

During an inquiry the main direction is to find and register ancient and cultural remains. With starting point in the topography and the general picture of ancient remains the assessment before the inquiry was that it was probable that remains such as hearths, carvings, and remains of saami reindeer husbandry could occur within the area of inquiry. Apart from ancient remains there could also occur remains from forestry and remains from more modern reindeer husbandry within the area.

Deeper problem formulations of the remains are not included in the aim of this inquiry.

## Prerequisites of the area

### Topography and natural landscape

The area of inquiry is situated about 20 kilometres north to north-west of Pajala (appendix 1:1) and has a total area of about 0,33 km<sup>2</sup> (335200 m<sup>2</sup>). It is approximately 1800 meters long and at its widest 300 meters. It stretches from the north of the village to the east of the village Kaunisvaara. The area of inquiry lies at the same time south and south-southwest of the lake Kaunisjärvi. (Appendix 1:3)

When it comes to the topography there is two main features in the area of inquiry. Along the whole stretch of the area of inquiry there is a more or less visible edge towards a slope that faces the lake in the north-east. This means that it is mainly the south-western lengthways half of the area that is somewhat flat and dry. The other main feature mentioned is the moraine height that lies immediately east of the gravel pit in the village of Kaunisvaara's eastern outskirts. The ground there consists of stony moraine with elements of bigger boulders that are more or less overgrown with vegetation. It is on this moraine height that Raä 442:1-2 lies (appendix 1:3). The rest of the area of inquiry consists of mainly sandy grounds, with more elements of silt the closer to the lake you get in the north-east.

The vegetation consists mainly of coniferous forest (pine forest with elements of spruce, as well as birch and other deciduous tree) on the driest areas farthest from the lake. The ground vegetation consists of a thick layer with berry sprigs on the drier areas, which together with the element of deciduous trees and spruce shows that the ground even on these places is quite moist. The only area which is a bit drier is at the position for Raä 442:1-2. There, nearly all vegetation consists of pine forest and a thick coat of berry sprigs.

In the lower areas close to the lake there is abundance with deciduous forest and yet more water demanding ground vegetation, for example moss, different kinds of grasses and osier.

The area mentioned lies between 160 and 170 meters above sea level, this means it is on the limit for the maximum of the sea level in this area of Norrbotten.

### History and ancient remains environment

There are two places with remains registered since earlier in the area of inquiry. These remains are Raä 442:1 (Camp ground), Raä 442:2 (Stone-cleared surface) and Raä 443:1 (Reindeer enclosure). The two latter ones has been registered as "other cultural-historical remain", while the former mentioned camp ground has been registered as a remain with "information of" in the ancient remains register (FMIS). All remains accounted for in this report lies within Pajala parish.

In the vicinity of the area of inquiry, a distance less then 1 kilometre, there are "other cultural-historical remains" with the following attributes: Area with fossil fields (Raä 444:1, area with recent clearing cairns), Lapp cot (Raä 445:1 recent remains), Tar pit (Raä 474:1), Lapp cot (Raä 440:1 Recent, but with a tradition of more ancient use). There is nothing within 3 kilometres distance from the area of inquiry registered as fixed ancient remain.

However there are registered fixed ancient remains more than 3 kilometres from the area of inquiry, these are positioned on the drier sand grounds east and west of the village of Kaunisvaara. These remains are (Stone Age) settlements, occurrence of fire-cracked stone, settlement banks, settlement pits, hearths and trapping pits. There are also a site for finds more than 3 kilometres south, in the village of Sahavaara, where two Nordbottniska tools have been recovered.

When the sea level were at its maximum for about 10 500 years ago (Lindén 2006:12), the highest coast line went through the area of inquiry at about 165 meters above present sea level (Appendix 1:2). The lake Kaunisjärvi was at this time a part of a 2-5 kilometres wide, but shallow bay that connected with the sea via a narrow strait in the north-east. The strait were placed in the topography where the present Kaunisjoki winds east towards the river

Muonio. The most part of the area of inquiry were covered in water. Only the south-western parts of the area of inquiry, the parts were the present stretch of the Honkavaara-road is as well as the earlier mentioned moraine height, were above sea level. However the dry areas are not ideal for Stone Age settlements, this is due to that they either consist of moraine mixed with a lot of stones and boulders or low and flat terrain with fine grain sand which gives a poor drainage. There are better settlement locations further inland, for instance 6 kilometres to the west of the area of inquiry, this were then Kaunisjoki's outlet in the bay, where there are suitable and good sand grounds. Due to the fast accelerating elevation of land – up to 8 metres per century (Lindén 2006:12) – the more coarse sand grounds and finer areas at Kaunisjoki 3 kilometres to the east are above sea level in about 1 or 2 centuries. These are more appropriate for settlement than the earlier mentioned areas. In this area there are also several settlement sites registered.

## Research history

The area of inquiry and the areas around it, has been surveyed by the Swedish National Heritage Board in 1992, the discovered remains has been described earlier in the text.

The County Museum of Norrbotten did a survey in the areas around Kaunisvaara, Pajala and Tärendö in 2006. The specific aim of this survey was to search for Norrbotten's oldest settlement, the survey was a part of the so called "Between ice and sea-project". During that survey no settlements were found in the immediate vicinity of the area of inquiry, however another settlement was found at Kaunisjoki 3 kilometres to the east. The aim was mainly to revisit known settlement locations and to collect burnt bone for carbon-dating of settlements that could be up to 10 000 years old. None of the three settlements that were dated at Kaunisjoki (Raä 452, Raä 1267 and Raä 456:1) were of that age however. Raä 452 was about 3000 years old, Raä 1267 was about 5000 years old and Raä 456 merely 1300 years old (Östlund 2006).

In a cultural environment-plan for Pajala municipality from 1991 Kaunisvaara is mentioned. Under the headline *Prehistory* it is said that the mountains Kaunisvaara and Sahaavaara could be possible origins for the raw material to the green stone-tools that are found in Torneå valley from the Stone age and onwards. Under the headline *Saami culture* it is mentioned a winter settlement Känterova/Kaunisvaara (Algotsson & Sturk 1991:108), which in FMIS (ancient remains register) has been connected with Raä 442:1-2. Känterova lies however, according to the economical maps, 3 kilometres east at Kaunisjoki. The ending "-rova" (dry land between running water, a still water or a marsh) fits better with this area than the area of inquiry.

## Starting points of the inquiry

The work was executed according to the County Museum of Norrbotten's work plan (Nbm dnr 263-2009, dated 2009-06-16) on which the County Administrative Board based their decision.

## Work plan

The inquiry of the possible new stretch of the Honkavaara-road at Kaunisvaara was planned as archival and literature-studies as well as field work in two steps.

Step 1 was planned as an ocular inspection with a soil probe.

Step 2 was planned as excavation of test pits with shovels and manpower, and removing ground vegetation with the help of an excavator on places where topography and type of ground made reason to believe that settlements without visible constructions could be found. Excavator-trenches would foremost be laid out in the stone-cleared surface (Raä 442:2) and between that surface and the reindeer enclosure (Raä 443:1). A maximum of 7 trenches were considered. Excavation with machine on these places would not be executed if it during step 1 was judged that the carrying capacity of the ground was too weak to carry the machine, or that the area of inquiry was impassable for an excavator in any other way.

In that case the work hours for the machine trenches would be transferred to manual digging of test pits.

The County Museum of Norrbotten also planned for the possibility to use metal detector in areas where uncertain remains were found, for situations when the topography was good from the perspective of potential ancient remains and finally in areas with dense ground vegetation. Metal detector can help to find material for example in relation to hearths, which greatly facilitates the assessment of uncertain constructions.

The documentation would be done through photography and written journals. Measurement would be done with the help of GPS/Hand held computer. New remains would be marked with either blue-yellow ancient remains ribbons or red ribbons for cultural remains.

## Method and execution

The inquiry at Kaunisvaara was performed through preparations in the form of planning, archival and literature studies and through field work in two steps.

The preparations encompassed map studies, searching for information about older uses of the grounds in the area of inquiry in the museum's archives and a general survey of literature. The preparations gave however only information about the cultural remains and ancient remains already known from the area.

The field work itself was divided into two steps. Step 1 meant an ocular inspection of the whole area of inquiry with the help of soil probes. A soil probe is used to examine visible structures in the ground, it is a simple and effective method for discovering ancient remains. The soil probe is also an effective tool for assessing uncertain remains, interpreting the different layers of soil and for tracing construction details within these layers. During step 1 of the field work the archaeologists went with 5-15 metres distance between each other. It came to be clear then that large areas of the inquiry area was very moist, moister than the impression the economical and vegetation map gave.

After finishing step 1 the assessment was that step 2 was necessary on the two areas with known remains, Raä 442:1-2 och RAÄ 443:1. These were areas where ancient remains could be found but not seen above ground, for example hearths or remainders of foundations. The earlier mentioned camp ground could not be found during step 1, and the locals told us that tradition placed the village's first resident at the place of the reindeer enclosure during the beginning of the 19<sup>th</sup> century. The resident's house had, according to tradition, been burnt to the ground in a conflict. Any such remains could not be found during step 1 and therefore step 2 of the survey was motivated.

Step 2 was performed through the digging of test pits with use of shovel and manual labour in order to clear the ground from ground vegetation and to decide whether or not there were ancient remains on the mentioned areas. Metal detector was used as an aid in the attempts to find something that could be described as ancient remains. During step 2 a total of 16 test pits were dug. Out of these 13 were dug in the stone-cleared surface (Raä 442:2) in the search for traces of the camp ground (Raä 442:1). On Raä 442:2 the test pits were dug where the metal detector had left readings (6 places), and then a further 7 test pits were dug in between earlier dug test pits in order to cover the whole surface with an even spread of trenches. The test pits were laid out on the top of the moraine height on the most plane surface, the place most probable for the camp ground. On the spot for the reindeer enclosure (Raä 443) 3 test pits were dug where the metal detector had left readings. The remaining area was readily probed for coal or other indicators for remains of something other than those of a reindeer enclosure. The test pits measured approximately 1 x 1 metres with a depth of about 0,1 metres (Appendix 1:3 and Appendix 4). The test pits were restored before the field work was finished.

The field work was performed according to the work plan with the exceptions accounted for under the headline *deviations from the work plan* (see below).

All efforts and observations in the field were documented in writing and photograph. All new remains were registered (described and marked out on the economical map), their

positions were measured with handheld computer/GPS and marked with red ribbons for cultural remains. The photo documentation were undertaken in digital form. The new remains were registered on the Swedish National Heritage Board's form for registration in the ancient remains register (FMIS) and in accordance with the Heritage Board's guidelines for registration.

The results of the survey as well as the excavated areas were positioned with hand held computer/GPS. A digital map basis was created in ArcView in order to facilitate future planning for the County Administrative Board.

All originals, in this case journals and digital photographs, are kept and stored in the County Museum of Norrbotten's archive and picture archive.

## **Deviations from the work plan**

A Skellefte pike is a tool that consists of a thin metal rod which easier penetrates the ground than a soil probe. The pike is an effective aid in searching large areas for stone, both deeper down in the ground as well as in closer intervals. The Skellefte pike was not used during this inquiry because the ground allowed the use of a regular soil probe, except on earlier mentioned moraine height which contained large amounts of natural rock, which made the use of Skellefte pike harder. The areas that we felt important to search with penetrating tools wasn't that large and the soil probe therefore sufficed to use within those confined surfaces.

The assessment of the area of inquiry after step 1 meant that an excavator was not to be used during step 2 of the inquiry. Excavator wasn't used because it was too narrow between the trees on Raä 442:2 and at Raä 443. Besides this, the ground between these two localities felt too moist and wet in several places, too instable to allow a heavy vehicle to drive on. The assessment was that it existed great risk for damages to the ground on these wetter areas considering the weight of the excavator. The excavator was replaced with further digging of test pits, combined with surveys with metal detector.

## **Results**

Two new cultural remains were discovered during the inquiry, both the remains of tar pits. The positions for the earlier registered remains Raä 442:1 (Information of camp ground), Raä 442:2 (Stone-cleared surface) and Raä 443:1 (Reindeer enclosure) was marked out, just as the tar pits, with red ribbons.

No ancient remains were found during the inquiry, neither during the ocular inspection at step 1 nor at the excavations during step 2.

The remains are described on the following pages. Their position can be seen in appendix 1:3.



## Description of remains

### Newly discovered: Number 1, Tar pit



Photo: Olof Östlund © County Museum of Norrbotten. Nbm accnr 2009:101:18

Type of remain:	Chemical industry
Type:	Tar pit
Antiq. assessm.:	Other cultural-historical remain
Categories:	Industrial activity and forestry
Description:	<p>Tar pit, round, 10 metres diameter, consisting of an internal pit, round, 5 metres diameter and 0,3 metres deep, surrounded by a bank, 2,5 metres wide and 0,2-0,5 metres high. One opening to the south-east. Outside this is a ditch, 6 metres long, 1,5 metres wide and 1 metre deep. On each side of the ditch there is a bank, 2 metres wide and 0,4 metres high. During probing in the midst of the tar pit coal emerged, it was found under a layer of filling, on 0,4-0,5 metres depth. The bank of the tar pit is cut in the north-west by a forest motor road.</p> <p>Overgrown with 8 large pines, deciduous bushes, young pines, berry sprigs and moss.</p>
Terrain:	Slightly eastward sloping moraine ground. Forest, mixed tree.
Orientation:	15 metres east of the asphalt road between Areavaara and Kaunisvaara
Coordinates (x/y):	7486589 / 1823037 ± 6,5 metres (RT 90 2,5 gon V)
Remarks:	–

**Newly discovered: Number 2, Tar pit**

Photo: Olof Östlund © County Museum of Norrbotten. Nbm accnr 2009:101:02

Type of remain:	Chemical industry
Type:	Tar pit
Antiq. assessm.:	Other cultural-historical remain
Categories:	Industrial activity and forestry
Description:	<p>Tar pit, round, 9 metres diameter, consisting of an internal pit, round, 4 metres diameter and 0,3 metres deep, surrounded by a bank, 2 metres wide and 0,1-0,6 metres high. Opening to the north-east. Outside this is a ditch, 3 metres long, 1,3 metres wide and 0,4 metres deep. On each side of the ditch is a bank, 1,0-1,5 metres wide and 0,4 metres high. During probing in the pit and the bank coal emerged. North of the tar pit is another pit of irregular shape, 5 x 3 metres and 0,3-0,5 metres deep. South to south-east of the tar pit is a secondary earth pile.</p> <p>Overgrown with about 10 pines, deciduous bushes, berry sprigs and moss.</p>
Terrain:	Moraine slope facing towards north to north-east. Forest, mixed tree.
Orientation:	7 metres north to north-east of gravel road. (Honkavaara road)
Coordinates (x/y):	7495776 / 1823604 ± 6,7 m (RT 90 2,5 gon V)
Remarks:	The tar pit is damaged. In the middle is an 3 x 2 metre large secondary trench (dug with excavator), as well as a dump pile east of the trench.

**Raä 442:1, Information of camp ground**

Moraine height, the position for Raä 442:1-2. To the right in the picture you see the edge of the gravel pit.

Photo: Mirjam Jonsson

© County Museum of Norrbotten.

Nbm accnr 2008:552:003

Extract from the description in the ancient remains register, FMIS:

Type of remain:	Camp ground
Antiq. assessm.:	Information of
Uncertain pos.:	Yes
Uncertain spread:	Yes
Categories:	Settlements and camp grounds
Description:	1) Saami camp ground, information of. According to information received and to Victor Sevä, Kaunisvaara, there used to be an old winter settlement and fishing grounds on the south-western shore of Kaunisvaara. During inventory in 1992 it was discovered on the site a 2) Cleared surface... (see continuation below under the headline Raä 442:2)
Terrain:	An elevation on a gravel plateau and slight slope towards east to north-east. Boundary between gravel pit in south-west, fields in the south-east and forest in the north-east (mixed forest with mainly pine).
Coordinates (x/y):	7495943 / 1823513 (RT 90 2,5 gon V)

Inquiry of 2009:

During the inquiry of 2009 no traces were found in Raä 442:1 of something that could be said to be ancient remains. We didn't find any hearths or anything else that could be given the status of fixed ancient remains. The only things we found were fairly recent such as sheet metal buckets, barbed wire and other scrap iron, dating to about the 1950's or later (Appendix 4). On the site today there are no grasses, no juniper bushes or osier that could be observed in 1992, neither gate nor fence could be observed either. The upper, plane, part of the moraine height were investigated with the help of soil probe and metal detector and hand dug test pits. The sloping parts of the height were investigated with ocular method and with soil probe. The height's top may be plane, and the camp ground (Raä 442:1) should according to the ancient remains register (FMIS) lie within a stone-cleared surface, (Raä 442:2), but the so called "stone-cleared surface" still retain a lot of stone. This makes it more lumpy than plane and do not invite to erect a saami cot on, except maybe on the edge of what today is a gravel pit, there it is somewhat less stony but not even there we could find traces of a camp ground. Traces that we searched for was for instance possible remains of hearth in a saami cot-construction. We didn't find remains of any other settlement construction on the site either.

Status Raä 442:1:

The status of the possible camp ground as other cultural-historical remain are rather doubtful according to the County Museum of Norrbotten, this due to the lack of physical evidence of any such remain on the site. Its status as other cultural-historical remain should be removed.

**Raä 442:2, stone-cleared surface**

The forest motor road that stretches over the moraine height and Raä 442:2. In the middle of the picture is one of the clearing cairns. Photo: Mirjam Jonsson © County Museum of Norrbotten. Nbm accnr 2009:101:05



Clearing cairn north of the forest motor road. Photo: Mirjam Jonsson © County Museum of Norrbotten. Nbm accnr 2009:101:06

Extract from the description in the ancient remains register, FMIS:

Type of remain:	Cleared surface
Antiq. assessm.:	Other cultural-historical remain
Categories:	Settlements and camp grounds. Other types of remains.
Description:	...2) Cleared surface, round, 57 metres diameter, partially surrounded by a bank, 1 metre wide and 1 metre high, consisting of three clearing cairns at the northern edge. In the south-west remains of a wooden gate and fence was observed. Overgrown with grass, juniper and osier bushes and young birch. The site is disturbed by later activity and waste.
Terrain:	Elevation on gravel plateau with a slight slope towards east to north-east. Boundary between gravel pit in south-west, fields in the south-east and forest in the north-east (mixed forest with mainly pine).
Coordinates (x/y):	7495946 / 1823507 (RT 90 2,5 gon V)

Inquiry of 2009

During the inventory 1992 the camp ground (Raä 442:1) was assessed to lie within a stone-cleared surface which according to the description in the ancient remains register (FMIS) was 57 metres in diameter. The upper part of the moraine height was thoroughly checked with soil probe, metal detector and test pits in the search for the camp ground. It soon was clear that what had been described as a large and round stone-cleared surface not actually was cleared from stones. Immediately under the blueberry and lingonberry sprigs the ground is quite lumpy due to large amounts of stone, except in the immediate vicinity of the gravel pit in the west. The cairns at the northern edge of Raä 442:2 are though too far away if it is this area at the gravel pit that has been cleared. It's quite unnecessary to carry the stones 50 metres away if you only need to clear a smaller surface. The most probable cause for these cairns occurrence is the forest motor road that stretches through the area; the stone probably comes from when the road was stone cleared. The cairns are not overgrown or disturbed by trees, and the stones in the cairns that are visible and not overgrown with sprigs or young mountain ash don't have any lichen on them which suggests that they haven't lain there for more than a few decades.

Status Raä 442:2

The stone-cleared surface should not be regarded as such and the County Museum of Norrbotten considers it necessary to remove its status as other cultural-historical remain.

**Raä 443:1, Reindeer enclosure**

Photo: Mirjam Jonsson © County Museum of Norrbotten  
Nbm acc nr 2009:101:08

Extract from the description in the ancient remains register, FMIS:

Type of remain:	Reindeer enclosure
Antiq. assessm.:	Other cultural-historical remain
Categories:	Settlements and camp grounds
Description:	Reindeer enclosure (?), 105 x 72 metres (North-South), consisting of eight clearings, irregularly rectangular or oval, 11-55 metres in length and 7-16 metres wide, separated from each other by trees. The vegetation consists of great amounts of moss, grass, fireweed, juniper bushes in the central northeast slope as well as mountain ash, birch, spruce and pine. This area can belong to the known tradition about a winter settlement on the south western shore of the lake.
Terrain:	Moist ground which softly slopes towards a lake in the north east.
Forest area (mixed forest):	
Coordinates (x/y):	7496199 / 1823448 (RT 90 2,5 gon V)

Results from the inquiry of 2009:

Raä 443:1 is described as a reindeer enclosure in the documents left by the ancient remains inventory of 1992. The open surfaces with differing vegetation are still there even if we couldn't find any juniper bushes. They are still visible in the same way they could be seen during the earlier inventory. By the locals we found out that other possible remains than the reindeer enclosure could be found on the site (see headline *Tradition* below). Raä 443:1 was investigated by metal detector and where the metal detector gave response test pits were dug. Besides these methods the area was thoroughly searched by the means of a soil probe in the search for layers of charcoal (signs of fire) and possible settlement remains. No such remains could be found on the site. The deposited soil layers consist of naturally deposited soils, and there is no occurrence of charcoal. The finds detected by metal detector was only modern metal scrap in the form of steel wire and cans (Appendix 4).

Status Raä 443:1

We didn't find any other remains on the site, but the difference in vegetation and the clearings in the forest suggests that the assessment of a reindeer enclosure on the site is correct as well as its status as other cultural-historical remain.

### **Tradition about Raä 442:1, Raä 442:2 och Raä 443:1**

#### Raä 442:1 and Raä 442:2

The camp ground was, according to partially contradictory information from different representatives of the saami village and the locals, founded 1901. It was abandoned when the village of Kaunisvaara expanded in the 1910's. It was used for a very short time. The year 1901 can just as well be connected with the remains of a saami cot, i.e. a camp ground (RAÄ 440), that lies east of Kaunisjärvi. There is also an account from the locals that the moraine height, the position of Raä 442:1, has been used as a reindeer enclosure and later on as a sheep enclosure. The camp ground would instead have lain on the spot for the most eastern farm at the Honkavaara road (outside the area of inquiry).

#### Raä 443:1

According to Edit Levisdotter Kostet's review of church journals, estate distribution acts and court protocols, the first resident in this area was Hans Mikkelsen Lahti Wänkkö, also called "Laukka-Hannu". He is supposed to have built a cabin at Kaunisjärvi in Kaunisvaara, but this first building was burnt to the ground by the villagers of Kieksi when he was away from home (Levisdotter-Kostet, 1997). According to unconfirmed information Lauka Hannu would first have built a house "down by the lake" before he moved and built a house on the modern day site for the village. Both these houses would have, according to our information, been burnt to the ground (From Kaunisvaara village society's 200-years jubileum-publication *Kaunisvaara 1800-2000*). Tradition states that one of the houses (the first maybe?) that were burnt down by the Kieksi villagers lay at the lake. A proposal from the locals about a possible location of this house is the site for the reindeer enclosure (Raä 443:1). If a building had been burnt there we should have found coal with the help of our soil probes but no such thing was found in the enclosure. No charcoal or other remains of buildings were found.

In the contradictory information we gathered from the locals it could also be this reindeer enclosure that later was used as a sheep enclosure.

## **Cultural-historical interpretation**

In the publication *Archaeology in Norrbotten* (1998), demands are raised for a better picture of the saami building-tradition. During this inquiry it wasn't possible to contribute to this task because of the lack of physical remains of the camp ground (1998:57).

During pre-history the areas investigated in this inquiry would have been rather unattractive for settlement due to ground type, topography and situation. When we reach historical times traces of human activity start to appear in the area in the form of physical remains (the tar pits and the reindeer enclosure later used for sheep) and also in traditions about the village's first inhabitants.

## **Conclusion/Further investigations**

The County Museum of Norrbotten regards the two tar pits encountered at the inquiry as fully documented for the future with both photography and written descriptions. The remains registered as RAÄ 442:1 and 442:2 are also regarded as fully documented, especially as the cairns probably are clearing cairns from when the road was built and as we didn't find any physical evidence of the camp ground. The documentation in the form of photography and written descriptions combined with earlier descriptions in the ancient remains register must be seen as more than adequate. This also encompasses the reindeer enclosure RAÄ 443.

The County Museum of Norrbotten concludes that there is no reason that RAÄ 442:1 and 442:2 should have the status as "other cultural-historical remain", this is because of the lack of physical remains in the inquiry to support this status.

The County Museum assessment is that there are no obstacles or obstructions for the planned exploitation. The final assessment of the area however is incumbent on the County Administrative Board of Norrbotten.

## Evaluation

The whole of the estimated field time for step 1 was used at the ocular inspection; 26 work hours out of 26. In step 2 the time planned with an excavator was removed but replaced with corresponding amount of manual digging of test pits and search with metal detector. Of the estimated time for step 2; 14 work hours out of 14 was used. The travel time was 18 hours, according precisely to plan, also the planned time for project management agreed with the estimated 2 hours in the work plan.

Luleå 2009-10-23

Olof Östlund  
Archaeologist

## References

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### Other literature

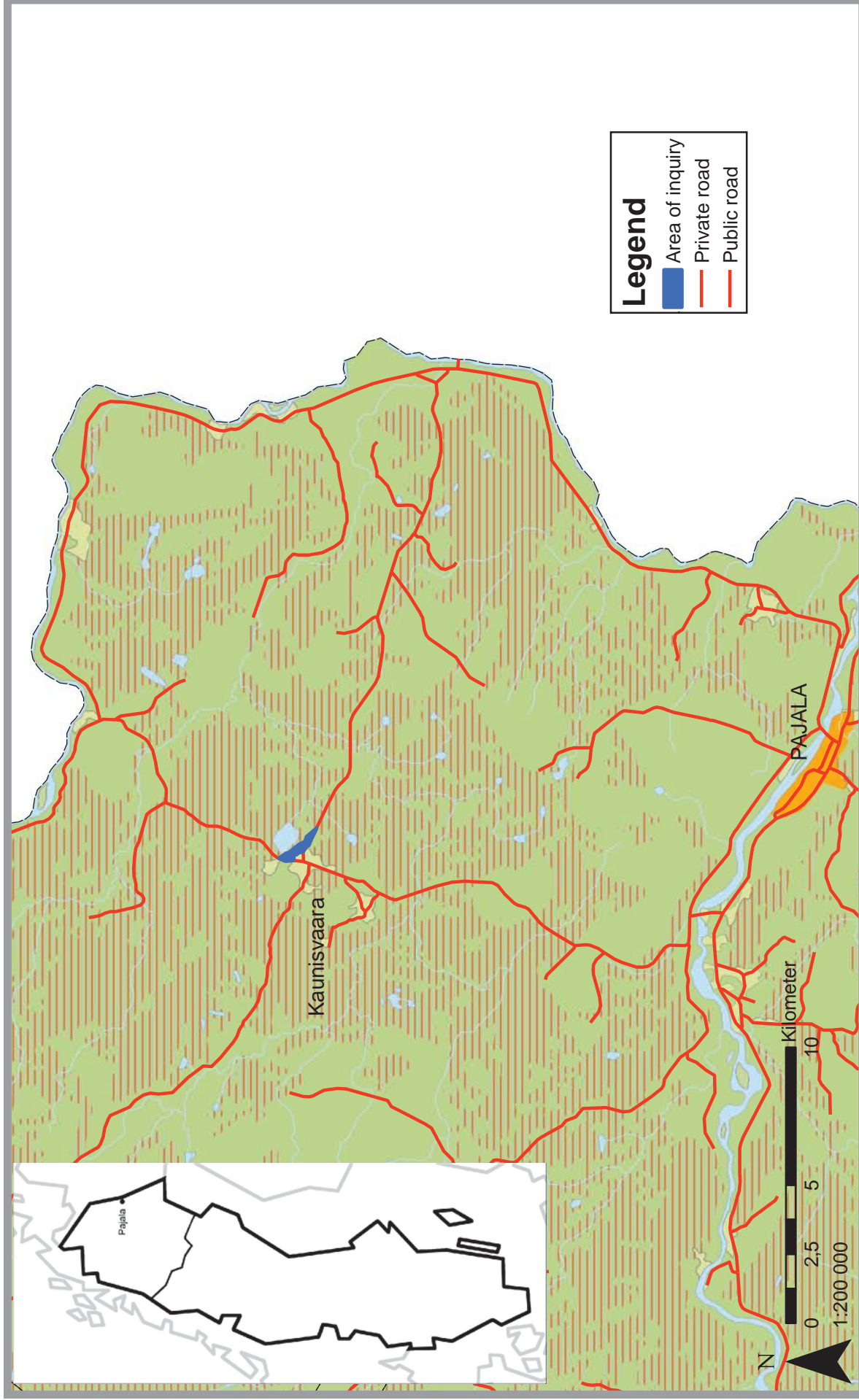
*Kaunisvaara 1800-2000*. Kaunisvaara byaförening. Kaunisvaara 2000.

Levisdotter Kostet, Edit (ca 1997). *Kaunisvaara. Vi var de första!*. Pajala.

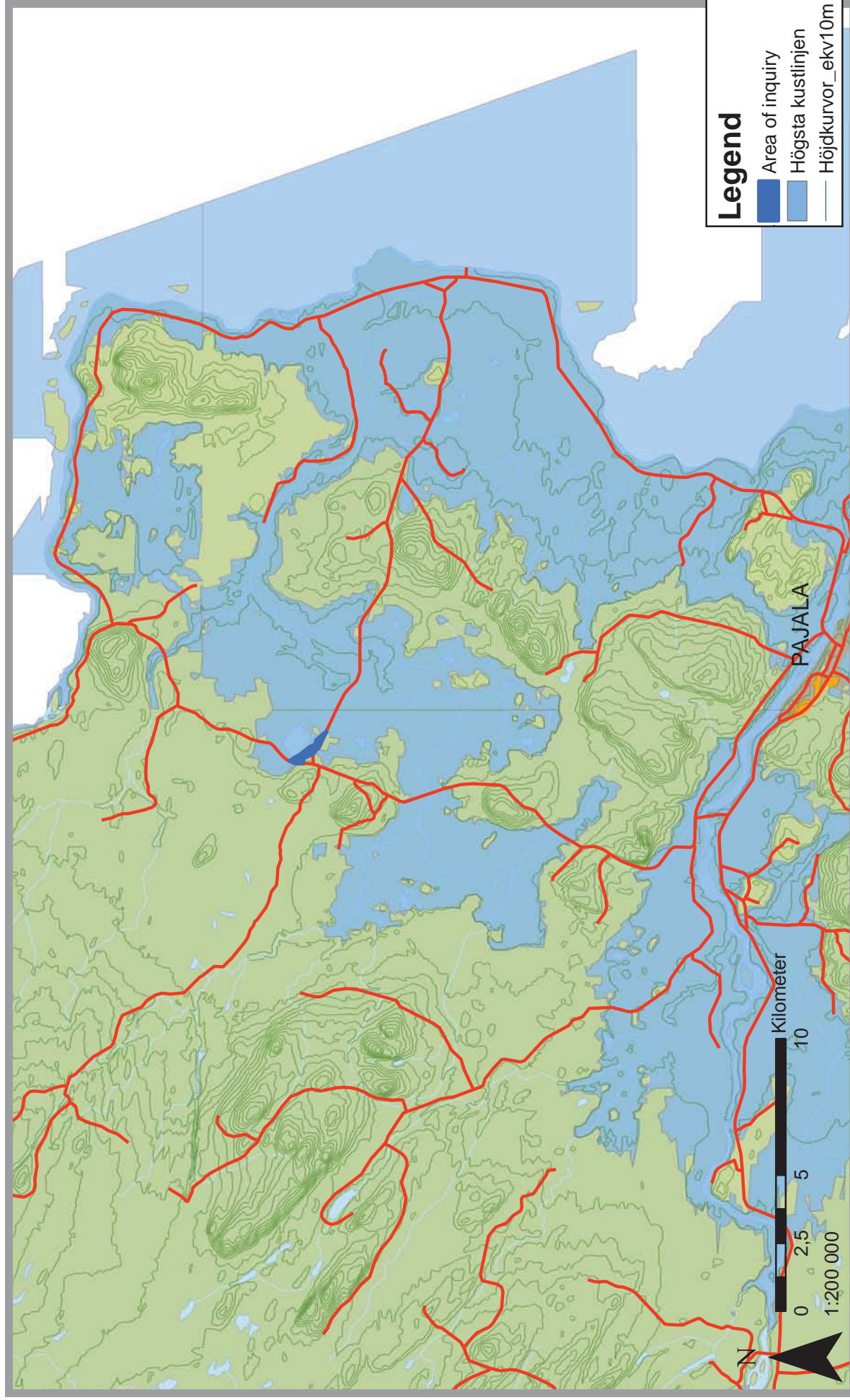
## Appendixes

1. Maps
  - 1.1 Oversight of the area of inquiry in Pajala municipality.
  - 1:2 Area of inquiry and the highest coast line.
  - 1:3 Ancient remains and newly registered remains.
2. Photo list
3. List of remains
4. List of test pits

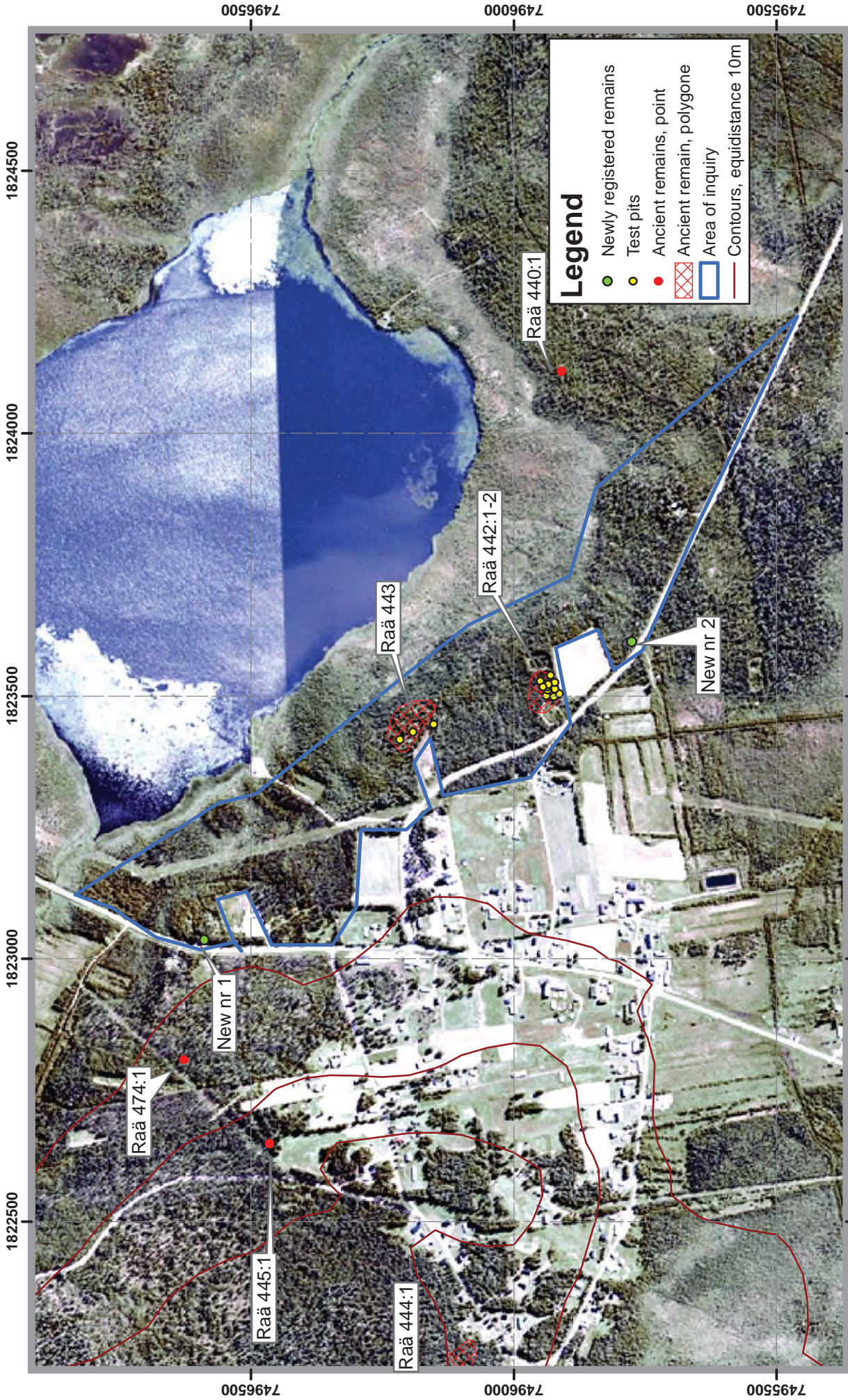
# Oversight of the area of inquiry in Pajala municipality



# Area of inquiry and the highest coast line



# Ancient remains and newly registered remains



RT90 2,5 gon V

© Lantmäterverket Gäddede, permission 1 2006/232.

## Photo list Kaunisvaara

Acc nr: 2009:101:01-19

Photographers: Olof Östlund (OÖ) and Mirjam Jonsson (MJ)

**Bold text in the list indicates which pictures that are in the report.**

<u>Acc nr</u>	<u>Motif</u>	<u>Direction from</u>	<u>Photo-graphers</u>
2009:101:01	<b>Tar pit. Newly discovered remain nr 2. The red and purple backpack is in the centre of the tar pit and Mirjam Jonsson is sitting on the pits bank.</b>	SSE	OÖ
2009:101:02	<b>Tar pit. Newly discovered remain nr 2. The red and purple backpack is in the centre of the tar pit and Mirjam Jonsson is standing on the pits bank.</b>	W	OÖ
2009:101:03	<b>Raä 442:1-2. "Information of Camp ground" and "Stone-cleared surface", the surface's highest part in the SW</b>	NW	MJ
2009:101:04	Raä 442:1-2. "Information of Camp ground" and "Stone-cleared surface", the surface's highest part in the SW	N	MJ
2009:101:05	<b>Raä 442:2. "Stone-cleared surface", the surface's lower part in the SE. One of the cairns is visible on the picture.</b>	NW	MJ
2009:101:06	<b>Raä 442:2. "Stone-cleared surface". Close-up on one of the cairns, at the surface' edge in the N.</b>	S	MJ
2009:101:07	Raä 442:2. "Stone-cleared surface". Close-up on one of the cairns in the cleared surface lower part in NE.	W	MJ
2009:101:08	Raä 443. "Reindeer enclosure". The southern part of Raä 443's central clearing. Moss and grass makes it different compared to the surrounding woodland. In the Picture: Olof Östlund.	WSW	MJ
2009:101:09	Raä 443. "Reindeer enclosure". Clearing in Raä 443's western outlines.	W	MJ
2009:101:10	Raä 443. "Reindeer enclosure". Clearing in Raä 443's southern outlines. Moss and grass makes it different compared to the surrounding woodland.	W	MJ
2009:101:11	Raä 443. "Reindeer enclosure". Clearing in Raä 443's east-north-east outlines. Moss and grass makes it different compared to the surrounding woodland.	S	MJ
2009:101:12	Raä 443. "Reindeer enclosure". Clearing in Raä 443's northern outlines. Moss and grass makes it different compared to the surrounding woodland.	E	MJ
2009:101:13	Raä 443. "Reindeer enclosure". Raä 443's Northern limit. Here the vegetation starts to go back to normal with different kinds of berry sprigs.	S	MJ
2009:101:14	Raä 442:1-2. "Information of Camp ground" and "Stone-cleared surface". On the left hand side of the picture is the gravel pit south of Raä 442. In the picture is also a small kennel or in direct translation from swedish "dog house" that have been discarded.	SSW	OÖ
2009:101:15	The woodland north Raä 442:1-2 in direction towards Raä 443. 175 m is separating the two objects, and the land is getting lower and damper in the area between them.	S	OÖ
2009:101:16	Power line clearing towards Kaunisjärvi. It is clearly visible how ground is getting lower when getting further to the north, closer to the lake.	S	OÖ
2009:101:17	Forest east of the power line clearing, between the clearing and Raä 443. On the left hand side of the picture the ground is starting to slope downwards to an area of mor damp land by the lake.	WNW	OÖ
2009:101:18	<b>Tar pit. Newly discovered remain nr 1. The forest road is cutting through the bank of the tar pit in NW. Mirjam Jonsson is standing on the outside of the bank.</b>	NNW	OÖ
2009:101:19	Tar pit. Newly discovered remain nr 1. Photo taken from the NW bank, aiming for the ditch in the SE. Mirjam Jonsson is standing in the ditch, outside of the bank.	NW	OÖ

## List of remains. Newly registered remains.

Archaeological survey in advance of connecting mining activities to existing road, the so-called Honkavaara road, in the real estates with property names: Kaunisvaara S:2, 16:3, 16:5, 16:6, 16:7 och 28:1, Pajala parish and municipally, Province of Västerbotten, County of Norrbotten.

Assigner: Northland Resources Inc.

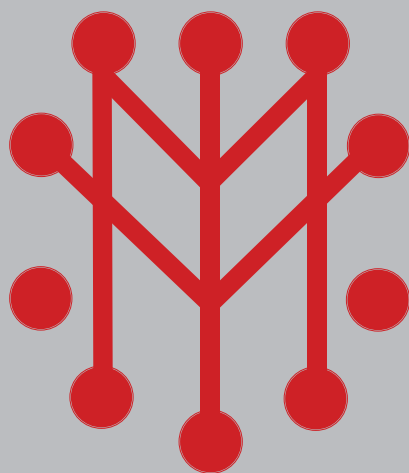
Nr	Type of remain	Description	Antiq. assessm	Action proposals
-1	Chemical industry	Tar pit, round, 10 metres diameter, consisting of internal pit, round, 5 meters diameter and 0,3 meters deep, surrounded by a bank, 2,5 metres wide and 0,2-0,5 metres high. One opening to the south-east. Outside this is a ditch, 6 metres long, 1,5 metres wide and 1 metre deep. On each side of the ditch there is a bank, 2 metres wide and 0,4 metres high. During probing in the midst of the tar pit coal emerged, it was found under a layer of filling, on 0,4-0,5 metres depth. The bank of the pit is cut in the north-west by a forest motor road. Overgrown with 8 large pines, deciduous bushes, young pines, berry sprigs and moss. GPS: x7496588,584 / y1823036,932	Other cultural-historical remain	No need for more documentation prior to possible exploitation
-2	Chemical industry	Tar pit, round, 9 metres diameter, consisting of an internal pit, round, 4 metres diameter and 0,3 metres deep, surrounded by a bank, 2 metres wide and 0,1-0,6 metres high. Opening to the north-east. Outside this is a ditch, 3 metres long, 1,3 metres wide and 0,4 metres deep. On each side of the ditch is a bank, 1,0-1,5 metres wide and 0,4 metres high. During probing in the pit and the bank coal emerged. North of the tar pit is another pit of irregular shape, 5 x 3 metres and 0,3-0,5 metres deep. South to south-east of the tar pit is a secondary earth pile. Overgrown with about 10 pines, deciduous bushes, berry sprigs and moss. GPS: x7495775,551 / y1823604,197	Other cultural-historical remain	No need for more documentation prior to possible exploitation

## Test pit list

Archaeological survey in advance of connecting mining activities to existing road, the so-called Honkavaara road, in the real estates with property names: Kaunisvaara S:2, 16:3, 16:5, 16:6, 16:7 och 28:1, Pajala parish and municipally, Province of Västerbotten, County of Norrbotten.

Assigner: Northland Resources Inc.

Test pit Nr	Pos. X and Y RT90 2,5 gon V	Findings	Metal detector
<u>Raä 443:1</u>			
1	X7495938 Y1823501	Buckshot cartridge casing	Yes
2	X7495027 y1823508	-	No
3	X7495924 Y1823499	-	No
4	X7495913 Y1823505	Buckshot cartridge casing	Yes
5	X7495922 Y1823513	-	No
6	X7495935 Y1823514	-	No
7	X7495936 Y1823513	-	No
8	X7495935 Y1823518	-	No
9	X7495922 Y1823526	Foil pouch	Yes
10	X7495930 Y1823523	Boulder (most likely containing high amount of iron ore)	Yes
11	X7495930 Y1823540	Barbed wire	Yes
12	X7495950 Y1823529	Iron beam, L-profile shape.	Yes
13	X7495944 Y1823518	Metal bucket	Yes
<u>Raä 442:2</u>			
14	X7496191 Y1823431	Steel wire	Yes
15	X7496217 Y1823417	Bottom of a tin	Yes
16	X7496152 Y1823447	Tin	Yes



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