

We are committed to providing [accessible customer service](#).
If you need accessible formats or communications supports, please [contact us](#).

Nous tenons à améliorer [l'accessibilité des services à la clientèle](#).
Si vous avez besoin de formats accessibles ou d'aide à la communication, veuillez [nous contacter](#).

CANADIAN MALARTIC CORPORATION

Report on Prospecting at Claim
4273901 on the Kirkland Lake North
Property Teck Township Larder Lake
Mining Division



Christopher Clarke M.Sc., P.Ge

11/17/2016

Table of Contents

Table of Contents	1
List of Figures	1
Introduction.....	2
Summary	2
Property Descriptions and Access.....	2
History	5
Property Geology	5
General Description of Sampled Rock Units	7
<i>Greenstone facies basalt</i>	7
Description of Recent Work.....	8
Conclusions and Recommendations.....	8
Data.....	9

List of Figures

FIGURE 1: LOCATION OF TECK TOWNSHIP RELATIVE TO THE PROVINCE OF ONTARIO; WHERE THE CLAIMS 4272931 AND 4273901 ARE LOCATED.	3
FIGURE 2: A 1:25,000 SCALE MAP SHOWING MNDM LISTED MINING CLAIMS FOR THE TECK AND LABEL TOWNSHIPS IN THE AREA OF THE MUNICIPALITY OF KIRKLAND LAKE. THE CLAIMS 4272931 AND 4273901 ARE HIGHLIGHTED, EACH HAVE A SEPARATE FILE FOR SUBMISSION.	4
FIGURE 3: LOCAL GEOLOGY IN THE CLAIM AREA NORTH OF KIRKLAND LAKE. THE MAP SHOWS THE BANDS OF TIMISKAMING META-SEDIMENTS INTRUDED WITH FELSIC-INTERMEDIATE INTRUSIVES AND KEEWATIN VOLCANICS IN CONTACT TO THE NORTH OF THE TIMISKAMING SEDIMENTS. THE MAP IS A REDRAFTED VERSION OF OGS PUBLICATION: M1945-01.	7
FIGURE 4: MAP SHOWING THE GPS TRACKS FOR THE WORKER'S TRAVERSES ON MAY 10, 2015 FOR CLAIM 4273901.....	11
FIGURE 5: A 1:1,000 SCALE SATELLITE MAP SHOWING ACCESS AND TRAVERSE TRACKS FOR CLAIM 4273901.....	12

Introduction

This report is written for submission to the Ministry of Northern Development and Mines to fulfill the assessment work requirements for part of the historic Kirkland Lake Basin property. This report summarizes the activities completed in the period of November 17, 2016 on the unpatented mining claim 4273901. This report was prepared by Christopher A. L. Clarke, M.Sc., P.Geol under supervision from Mark Masson, P.Geol, both of whom are employees of Canadian Malartic Corporation.

Summary

The claim 4273901 in Teck Township is associated with the historic Kirkland Lake camp, notably the Lakeshore and Teck-Hughes mines but it has mainly been known for being the site for historic mine tailings from several mines in the Kirkland Lake camp. The claim is held by Canadian Malartic Corporation and it is contiguous with several claims which Canadian Malartic also holds (1242952 & 1242943). Claim 4273901 was newly staked in 2013 and a previous prospecting report was submitted in 2015 by Canadian Malartic Corporation. Workers for Canadian Malartic conducted a prospecting and sampling program to fulfill the work requirements of the claim. Historically, the property has been the focus of extensive tailings deposition and subsequent tailings reprocessing.

Property Descriptions and Access

The property, claim 4273901, is situated along the northern edge of the Town of Kirkland Lake in Teck Township, District of Timiskaming, Larder Lake Mining Division, Ontario, Canada (Figure 2). Claim 4273901 can be accessed by exiting west from Goodfish Rd onto a dirt road/hydro line approximately 600m from the intersection of Duncan Ave and Goodfish Rd and proceeding 1.7km along the dirt road. The property is immediately north of the Kirkland Lake

Basin which was historically drained and used to store mine tailings. The claim is composed of one, un-patented unit roughly 16 hectares in size. The surface right owner (SRO claim # L2891) is the Town of Kirkland Lake. The claim incorporates part of the actual Kirkland Lake which was been remediated and now has been re-flooded.



Figure 1: Location of Teck Township relative to the Province of Ontario; where the claims 4272931 and 4273901 are located.

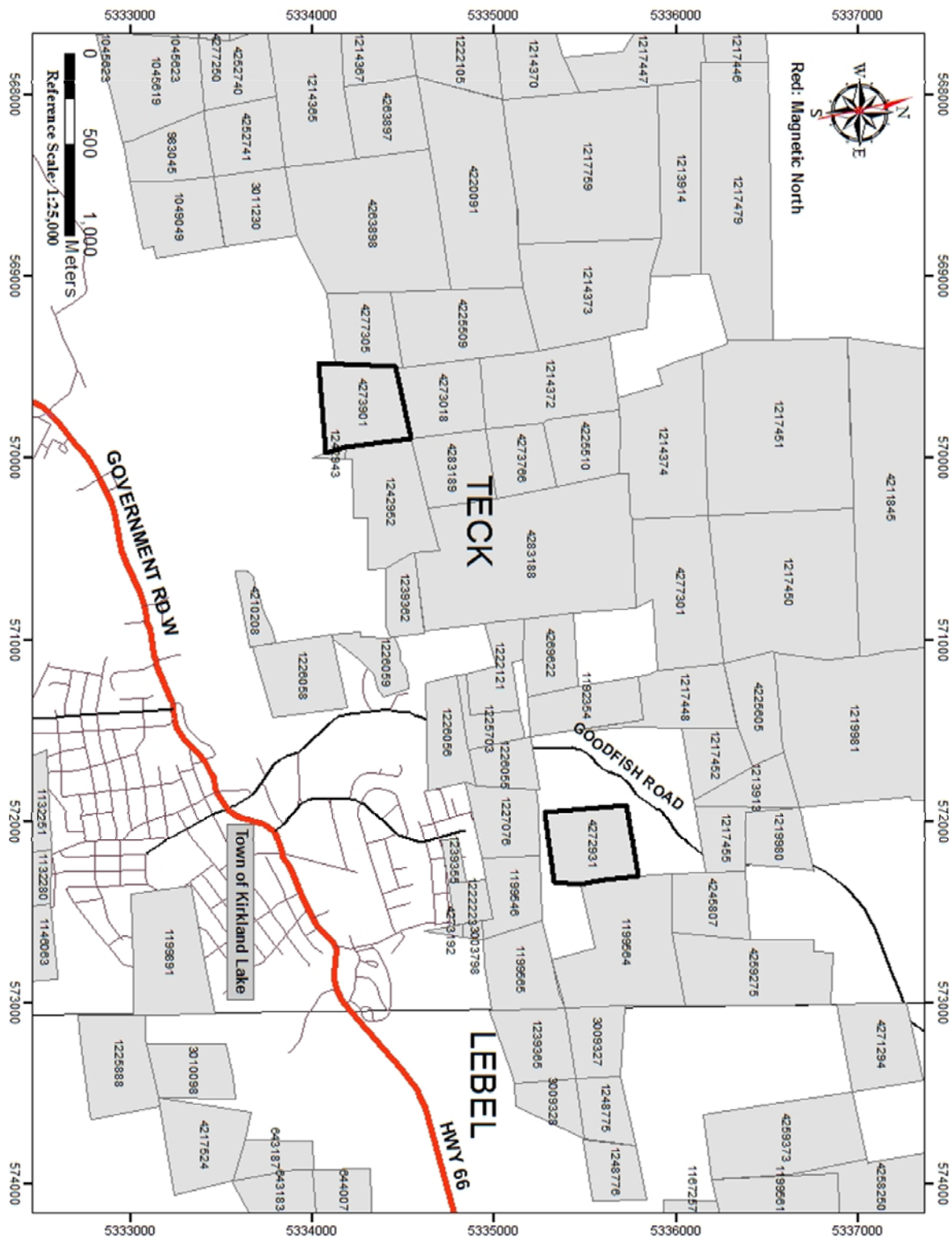


Figure 2: A 1:25,000 scale map showing MNDM listed mining claims for the Teck and Lebel Townships in the area of the Municipality of Kirkland Lake. The claims 4272931 and 4273901 are highlighted, each have a separate file for submission.

History

Claim 4273901 was staked on June 24, 2013. No previous assessment has been reported on the specific claim with the exception of the prospecting report submitted by Canadian Malartic Corporation in 2015. The claim has been part of an active mine tailings program resulting in extensive modification of the property in the 1980's. Prior to Canadian Malartic Corporation's existence the most recent work conducted in the area was immediately adjacent to claim 4279231 and was reported by Vault Minerals in 2006 and published in 2013 under assessment files AFRI# 20000001685 and 20000001686. The Vault Minerals work was designed to assess the Kirkland Basin and Federal Kirkland historic properties. Vault Minerals was 100% acquired by Queenston Mining Inc. which in turn was 100% acquired by Osisko Mining Ltd and was then acquired by a 50-50% agreement between Agnico Eagle and Yamana Gold who formed the Osisko properties into the Canadian Malartic Corporation. Vault Minerals conducted a mapping and sampling program on their claims on the Federal Mine property.

The historic mine tailings from the Lakeshore and Teck-Hughes mine were stored in the Kirkland Lake Basin. The tailings were re-processed in the 1980-90's by several companies, notably East Mac and Kirkland Lake Gold. The excavation of the mine tailings led to extensive reworking of the surface geography.

Drilling and prospecting is extensive in the area surrounding the claim and appears to have been primarily performed by the Harrington family.

Property Geology

The claim 4273901 is situated within the prolific Kirkland Lake gold camp which is part of the Abitibi Greenstone belt in the Superior Province. The Abitibi Greenstone belt is Archean in age and is composed of greenschist facies volcanic and sedimentary rocks with localized syn-

post tectonic intrusions of granitic to dioritic dykes to batholiths. The Abitibi Greenstone belt forms an east plunging synclinorium between the Abitibi batholith, northeast of Timmins and the Round Lake batholith, south of Kirkland Lake. Mesozoic aged kimberlitic dykes are also present in the Kirkland Lake Camp but are rare in occurrence. The Kirkland Lake Camp hosts Keewatin (2750-2700 Ma) and Timiskaming (2690-2670 Ma) aged assemblages associated with the Abitibi Greenstone belt. The Keewatin assemblages within the Kirkland Lake Camp are composed of the greenschist facies volcanoclastic-sedimentary lithologies of the: Pacaud, Deloro, Stoughton-Roquemaure, Kidd-Munro, Tisdale, Kinojevis, and Blake River groups. The Timiskaming assemblage within the Kirkland Lake camp is the Timiskaming group, noted for its non-marine, variably metamorphosed, pyroclastic and clastic-sedimentary (conglomerate) lithological units. Timiskaming group meta-sedimentary rocks form along the north facing side of the Larder Lake-Cadillac Deformation Zone (LLCDZ), a major east-west structural control associated with chemical alteration and sulphide mineralization. The LLCDZ length coincides with a folded and deformed sinuous belt of sedimentary rocks of Timiskaming age.

Local mapping conducted by the Ontario Geological Survey shows that the claim 4273901 hosts Timiskaming meta-sediments and a mafic intrusive suite (). The Timiskaming sediments are present in the south of the claim while the mafic intrusives (gabbro) are in the north of the claim. The contact appears to be striking northeast. The Teck township geology map (OGS publication: M1945-01) instead shows Algoman aged gabbro in the north and southwest corners, Keewatin aged greenstone basalt in the south/centre and a thin exposure of Timiskaming meta-sediments along the northern shore of the Kirkland Basin. To the North of the claim are a series of Keewatin aged basic volcanics (greenstone). To the south are a series of Timiskaming meta-sedimentary units and felsic-intermediate intrusives (syenite-diorite).

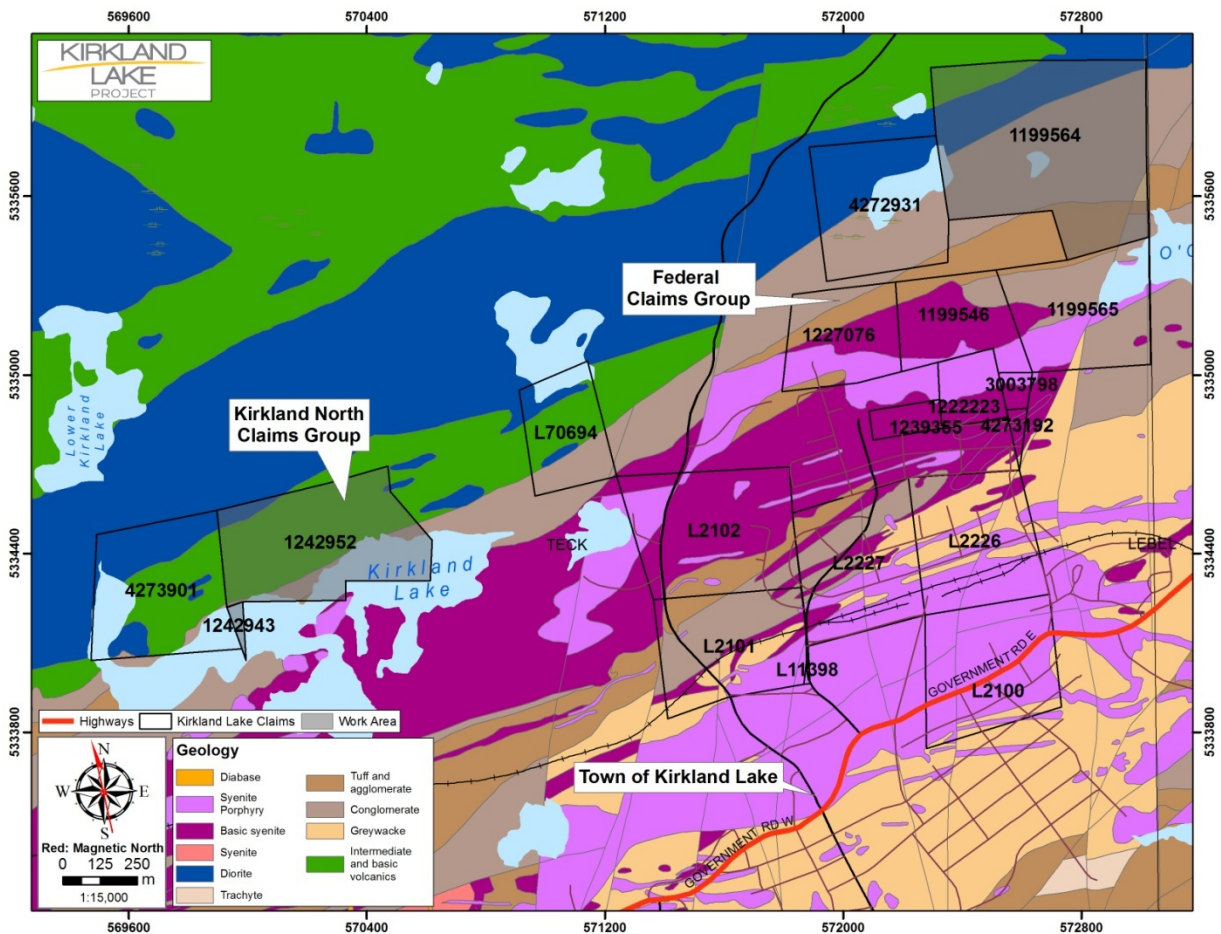


Figure 3: Local Geology in the Claim area north of Kirkland Lake. The map shows the bands of Timiskaming meta-sediments intruded with felsic-intermediate intrusives and Keewatin volcanics in contact to the north of the Timiskaming sediments. The map is a redrafted version of OGS publication: M1945-01.

General Description of Sampled Rock Units

Greenstone facies basalt

Grain Size: Fine, euhedral and equigranular

Texture: massive to flow banded

Alteration: Generally fresh with weak chlorite-carbonate alteration

Mineralization: trace abundant, <1-1mm anhedral pyrite disseminated within matrix and chlorite fracture-fill

Magnetism: weak

Veining: There are <1% abundant, <1-3mm thick, milky quartz-carbonate stringers and <1% abundant discontinuous black chlorite fracture-fill

Description of Recent Work

The work conducted by Canadian Malartic Corporation was prospecting, sampling and limited mapping. The goal of the work was to gain an understanding of the geology of the claim, identify historic trenches and pits, map outcrops, gather samples for gold abundances, and recording the locations using a GPS. By referring to the prospecting section; one can see that the geology of the ground covered was primarily greenstone facies basalt. The contact between the gabbro and basalt are hidden beneath the pond/swamp which dominated the centre and northeast of the claim. A total of 3 grab samples (plus a blank and standard for QA/QC purposes) were collected on the property and sent for gold assay to ALS Minerals (see attached certificates). A total of 20 soil samples from the B horizon were also collected and sent for fire assay to ALS Minerals. Soils were collected because outcrop exposure in the north portion of the claim was poor with the exposed areas of outcrop generally too glacially polished to easily break apart. The northeastern portion of the claim was chosen given the potential for contamination from tailings to the south. The rock assay results returned values which were below detection limits while the soil samples returned elevated gold values. The elevated gold values in the soil are most likely the result of tailings given the lack of gold values from the rock samples.

Conclusions and Recommendations

A grid should be established in a low impact manner to reduce disturbance of the environment and residents. Following the establishment of a grid stripping should be conducted pending the geochemical results of the grab sample analysis. The identification of any structures hidden by the overburden should be undertaken. Establishing the extent of gold values in the soil should also be pursued.

Respectfully Submitted,
Christopher A. L. Clarke, M.Sc., P.Geol

Data

The work was carried out as follows:

Field:

Prospecting November 18, 2016

Office:

Report November 21, 2016

Persons who carried out the work:

Prospecting:

Christopher A.L. Clarke Larder Lake, On

Leah Zapotochny Kirkland Lake, On

Report:

Christopher A.L. Clarke

Sample List (UTM zone 17 NAD 83)

Soils Samples

Waypoint	Northing	Easting
S140688	5334428	569880.8
S140689	5334407	569883.8
S140690	5334454	569877.8
S140691	5334472	569883.9
S140692	5334508	569880.5
S140693	5334525	569888.2
S140694	5334519	569864
S140695	5334494	569864.4
S140696	5334431	569858.4
S140697	5334410	569866.7

Waypoint	Northing	Easting
S140698	5334382	569838.1
S140699	5334404	569836.1
S140700	5334450	569829.3
S140701	5334468	569835.3
S140703	5334499	569812.9
S140704	5334481	569804.6
S140705	5334455	569813.1
S140706	5334431	569808.6
S140707	5334397	569808
S140708	5334378	569812.4

Rock Samples

Waypoint	Northing	Easting
S141079	5334460	569863.5
S141080	5334415	569826.1
S141081	5334372	569813

November 17, 2016 – 1 Day Prospecting

Workers: Christopher Clarke & Leah Zapotochny

Weather: Sunny/overcast (rained during the night), cold (5-8°C), drizzled for 10mins, feels like end of fall

We drove to the claim and parked the truck at the fork in the road where the road branches north to the hydro line and west towards the end of the spillway/shore of Kirkland Lake. We then walked to the eastern boundary of the claim along the road. Our traverse was defined by a 25x25m grid which was uncut and existed solely as a digital artifact. Our traverse went north, from the road to the northern boundary and back south; we repeated this pattern and covered four lines as a result. The southern portion of our grid was covered with balsam with a 5-15cm deep B soil horizon which over-laid a chloritic basalt ridgeline which had knobby protrusions before being starkly exposed along an east-northeast ridgeline 2-3m high. North of the ridgeline, the ground was generally swampy and flooded with isolated balsam stands and tag alders, the soil was generally black muck but there were areas near balsam stands where B horizon mixed with minor amounts of grey clay could be sampled. After completing the four lines we returned to the truck and left the claim.

Prospecting Diary for Christopher Clarke, B.Sc, M.Sc, P.Geo

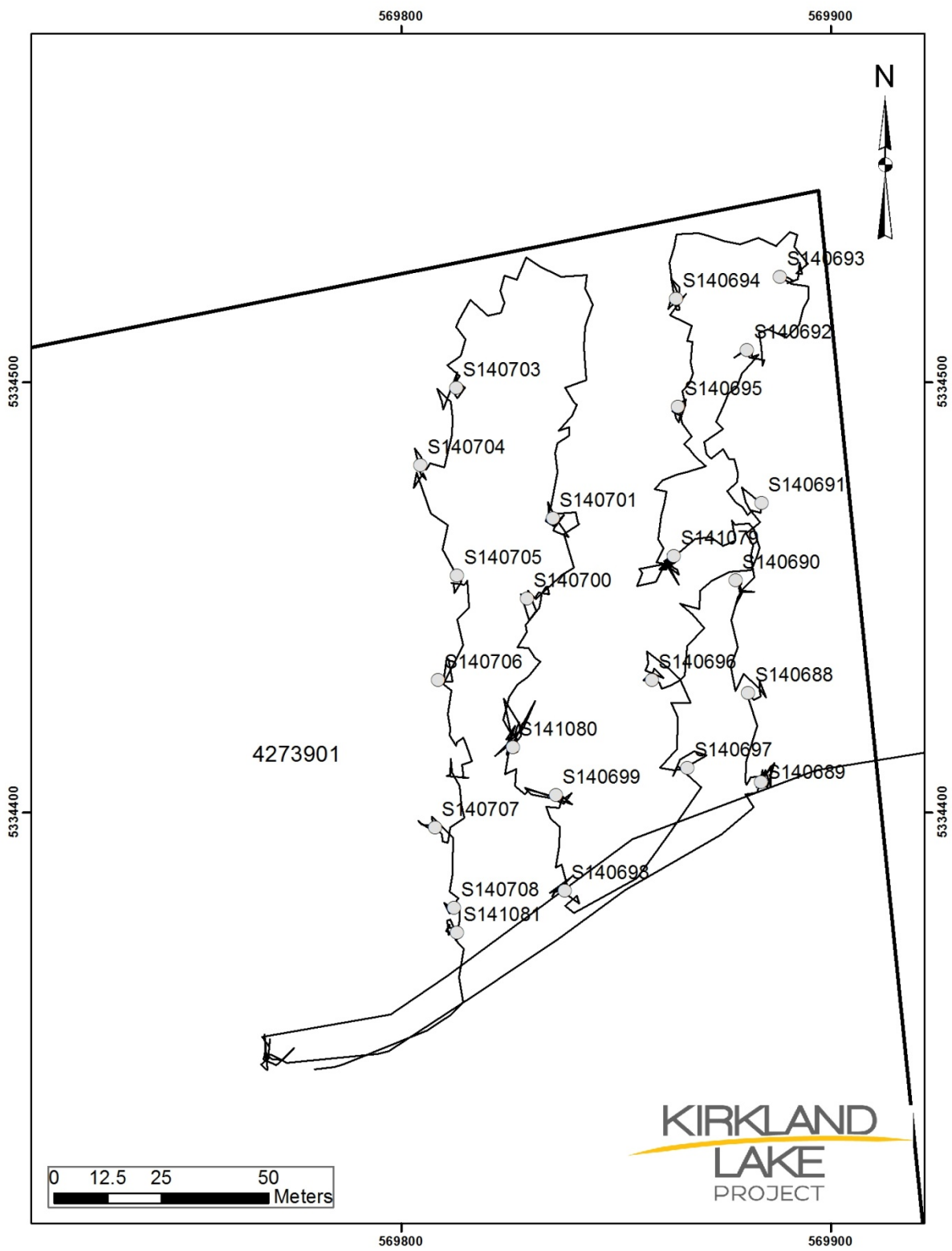


Figure 4: Map showing the GPS tracks for the worker's traverses on May 10, 2015 for claim 4273901.



Figure 5: A 1:1,000 scale satellite map showing access and traverse tracks for claim 4273901.

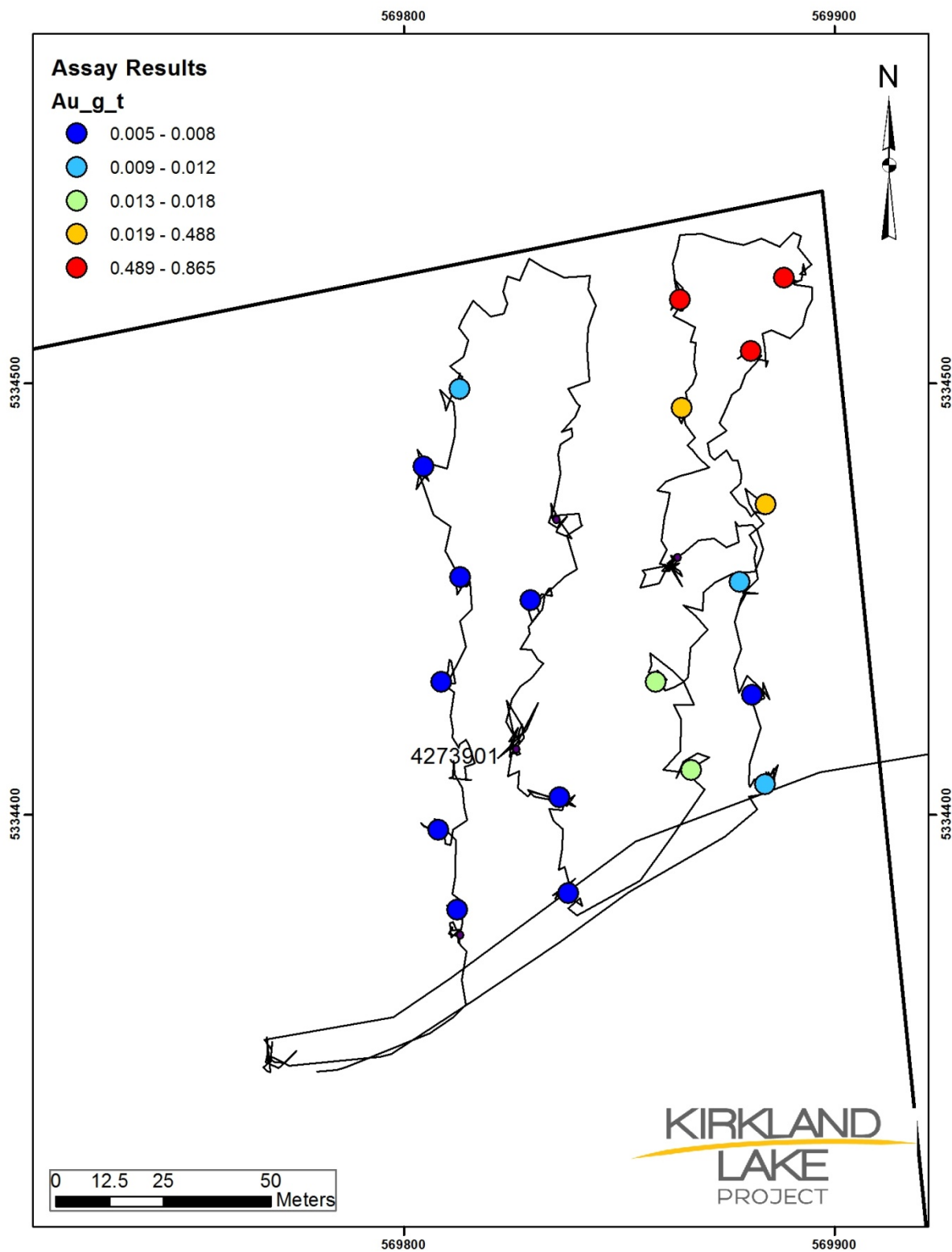


Figure 6: Map showing the assay values of the soil samples (rock samples were below detection limit and are not shown) collected on November 17, 2016. The highest soil gold values are concentrated in the northeast corner of the claim.