

2021 South Uchi Property Work Report

Report of Remote Sensing LIDAR Survey and Surficial Geological Interpretation on the South Uchi Property

NAD 1983 UTM Zone 15N

Red Lake Mining District

Ontario

Prepared By

V. MacLean, M.Sc, P.Geo

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1.0. Summary

The South Uchi property located in north-western Ontario centered around the coordinates 547685E/5646221N (NAD83 Zone 15N) is a 76,354 Ha land package composed of 3,757 single cell mining cells owned 100% owned by Kenorland Minerals and operated by Barrick Gold Corp as outlined in the earn-in and joint venture shareholders agreement issued September 17th, 2021.

KBM Resources Group was hired by Kenorland Resources to complete an 800km² aerial LIDAR acquisition survey over the South Uchi Property on June 2nd, and June 15th 2021. Post processing of this data was followed by interpretation to define the characteristics of the mapped terrains and surficial deposits which were suitable or detrimental to gold exploration. Ralph Stea Ph.D., P.Geo, of Stea Surficial Geology Services defined and created a surficial geological map of the property using the LIDAR DEM imagery, and satellite (BING) orthophotos over the period of June 30th- July 13th, 2021. Don Cummings Ph.D., P.Geo of DCGeo completed a subsequent 5 day (July 23rd - July 27th) field ground truthing check over the region to confirm and refine the surficial geology mapped from the LIDAR imagery. A final surficial report was completed by Ralph Stea on October 19th, 2021. Incurred expenditures of \$87,820 from this work are being submitted for assessment credit in this work report.

The overall objective reasoning for this work was to ascertain the likelihood of success for a follow-up overburden sampling campaign for property scale gold exploration. Results from this work concluded that bedrock and till (blanket and veneer) terrains constitute ~ 37% of the property and as a sampling medium till (and associated soils) provide the largest exploration targets of all available media. Overall, potential lode gold targets and their clastic dispersal fans may be intersected in enough upland surface till deposits in the area for at least a partial assessment of fan geometry avoiding problematic glaciolacustrine (52%), glaciofluvial (8.5%) and organic deposits (1.6%) filling much of the lowland areas. Till and soils cover enough of the bedrock areas to warrant sampling there as well. Sampling till and bedrock through thick mud cover may be required especially if a region is designated for follow-up detailed geochemical surveys.

Utilizing the surficial mapping completed, and the field work observations made during the summer of 2021 the following is recommended for future follow up.

- 1) Execute a property scale till sampling campaign utilizing the surficial geology map produced from this work program.
- 2) Locate and identify anomalous till samples and/or trains resulting from the sampling.
- 3) Complete a regional bedrock mapping and grab sample campaign utilizing the LIDAR imagery to locate and identify outcrop exposure on the property.
- 4) Complete a high-resolution Aeromagnetic survey to be combined and studied with the high resolution 30cm LIDAR survey to aid in target identification by refining structural and geological interpretation of the district.
- 5) Drill prospective targets as identified in anomalous overburden samples, grab samples and structural and geophysical targeting.

2.0. Introduction

The purpose of the work program performed during the summer of 2021 was to complete a first pass reconnaissance study over the South Uchi Property to better understand the terrain, surficial geology, outcrop exposure, and access to aid in subsequent design and execution of a property scale sampling campaign.

As the property has never been explored in its entirety, the 2021 work program was designed to ascertain whether a regional scale overburden sampling campaign could be executed with success. Objectives were to obtain detailed LIDAR imagery, surficial geological mapping, and complete field reconnaissance to confirm mapped units, and to better understand the nature of glaciation, deposition, and dispersion in the property.

3.0. Location, Access, Physiography, Vegetation and Climate

The South Uchi Property is located in north-western Ontario (Figure 1) and is centered around the coordinates 547685E/5646221N (NAD83 Zone 15N). The property can be reached by road from Ear Falls, Ontario by heading eastward on Highway 657/Wenasaga South Lake Road (Figure 2). Western access to the southern boundary of the property can be reached after traveling 35km from Ear Falls, with the northern boundary reached after traveling 70km. A network of maintained forest service roads allows for vehicle access off Wenasaga South Lake Road to more remote areas of the property. To access the eastern side of the South Uchi Property a longer 2.5hour or roughly 120km must be traveled by vehicle heading south and then eastward from the Wenasaga South Lake Road turn off (Figure 2). The central portion of the property can be accessed either by boat from launches at Badrock Lake or the Papaonga River, or by float plane or helicopter.

The physiography of the area is typical of north-western Ontario boreal forest consisting of black spruce, jack pine, poplar, birch, balsam and alders in the wetter regions. Low ridges are surrounded by marshes and wetland with abundant lakes and rivers throughout. Much of the western side of the property has been logged for decades, with patches of cleared land planted with seedlings at various stages of growth (Figure 3). The extensiveness of forestry activity within the western portion of the property permitted more access for ground checking the surficial interpretation during fieldwork.

Temperatures range from +30°C in the summer months (June-August) and can drop to below -40°C in the winter months (December-March).



Figure 1: South Uchi Property Location Map.

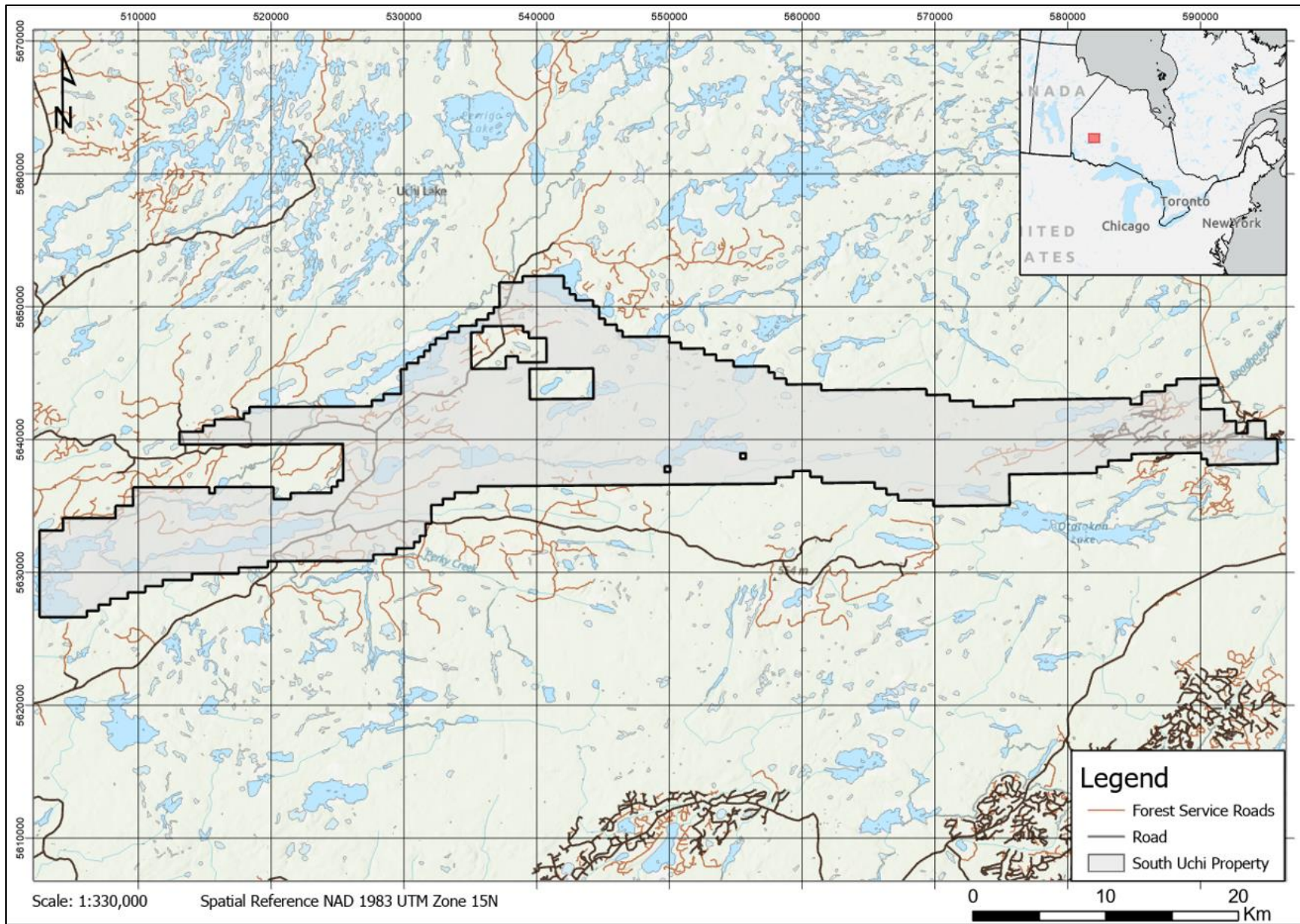


Figure 2: South Uchi Property Location Map with major roads and forest service road access.

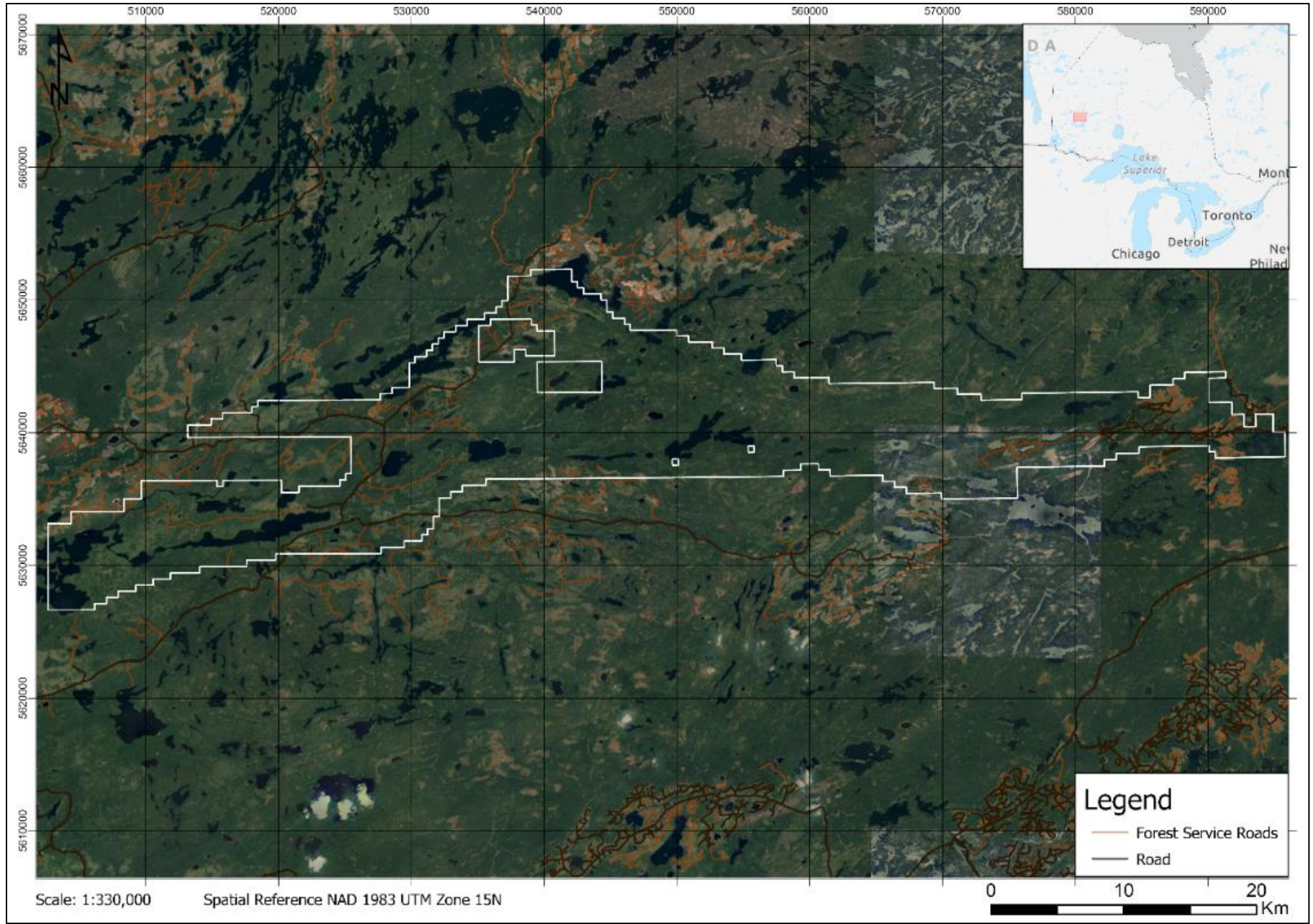


Figure 3: Satellite imagery of the property. Note deforestation on the western and eastern margins. Much of the central region of the property has never been logged

4.0. Claim Status

The South Uchi property consists of 3,757 contiguous unpatented single cell mining claims, for a total land area of 76,354 ha. Claims are located within the 15 townships of Birkett, Bowerman, Jubilee Lake, Fredart Lake, Slate Lake, Avis Lake, Root Lake, Curie Lake, Roadhouse River Area, Bluffy Lake Area, Whitemud lake Area, Perky Lake Area, Wesley Lake Area, Otatakan Lake in north-western Ontario (). Most of the cells are within the Avis Lake Area, Curie Lake Area, and Slate Lake Area (Figure 7).

A list of all claims within the project area are presented in Appendix C: Claim Cells within the South Uchi Property, with associated labeled claims associated with this report expenditure presented in Figure 5 and Figure 6. All are in good standing.

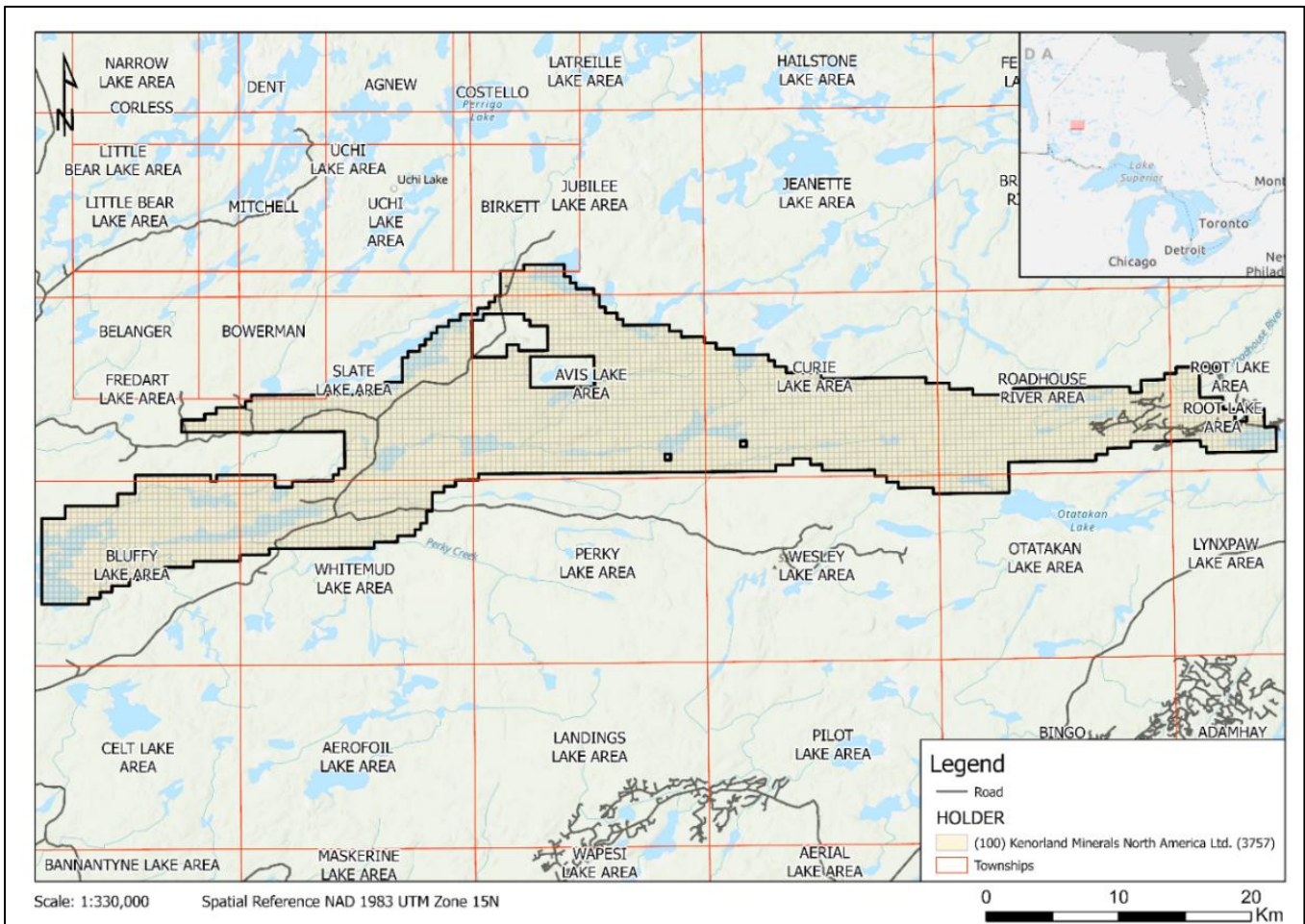


Figure 4: South Uchi Property – Townships and claim cells within the Property block.

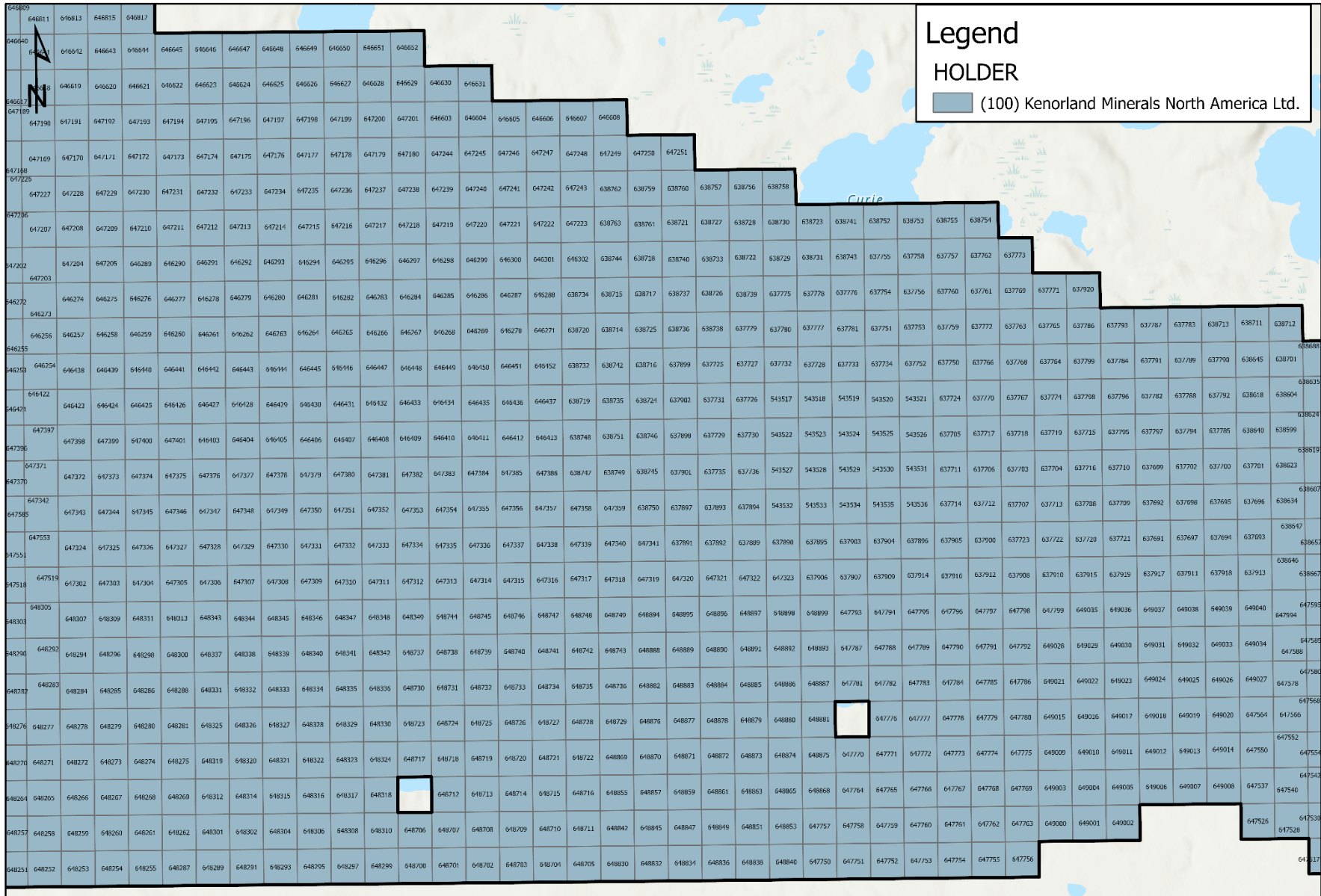


Figure 5: Central claims labeled - west

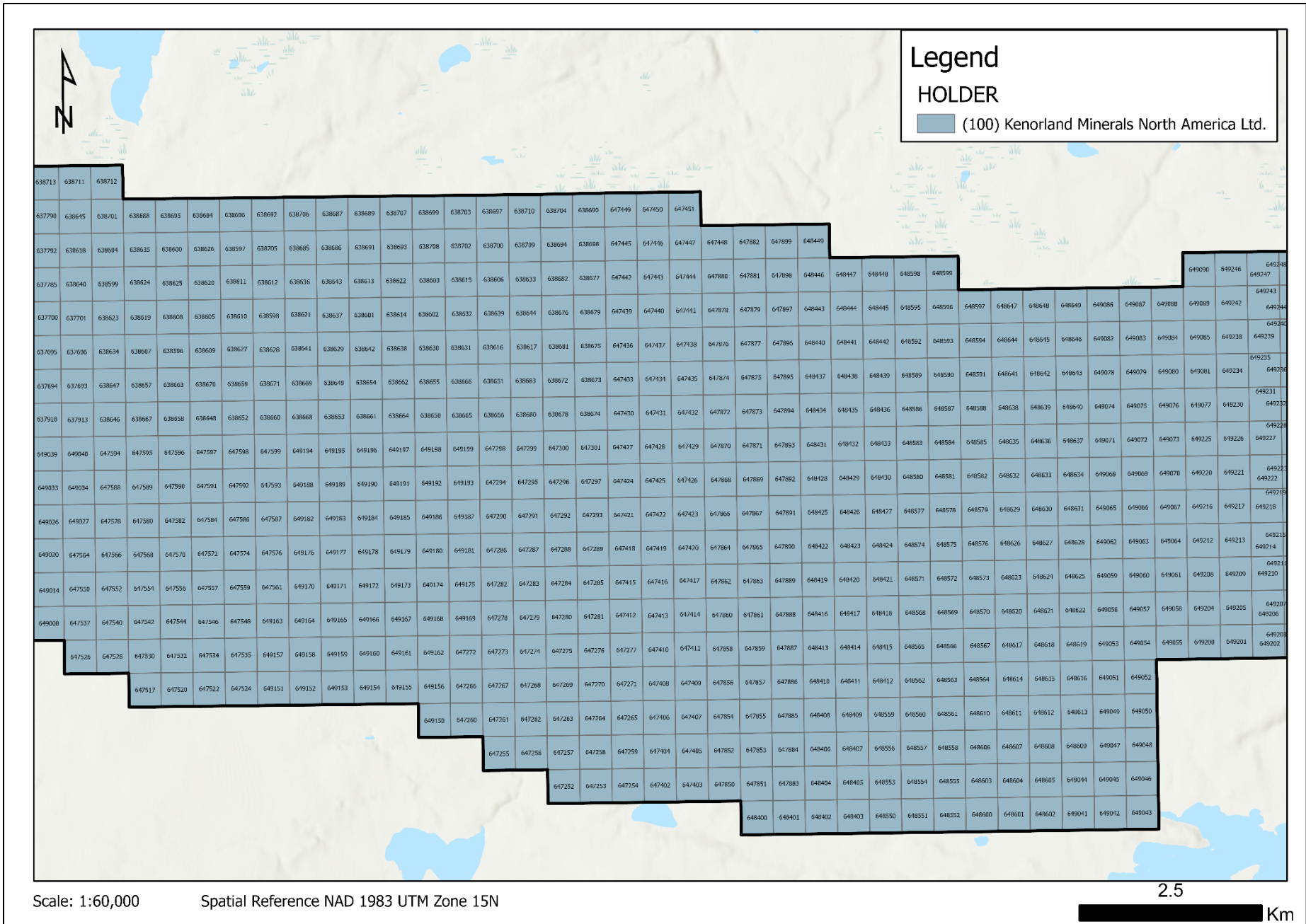


Figure 6: Central claims labeled - east

CLAIMS PER TOWNSHIP

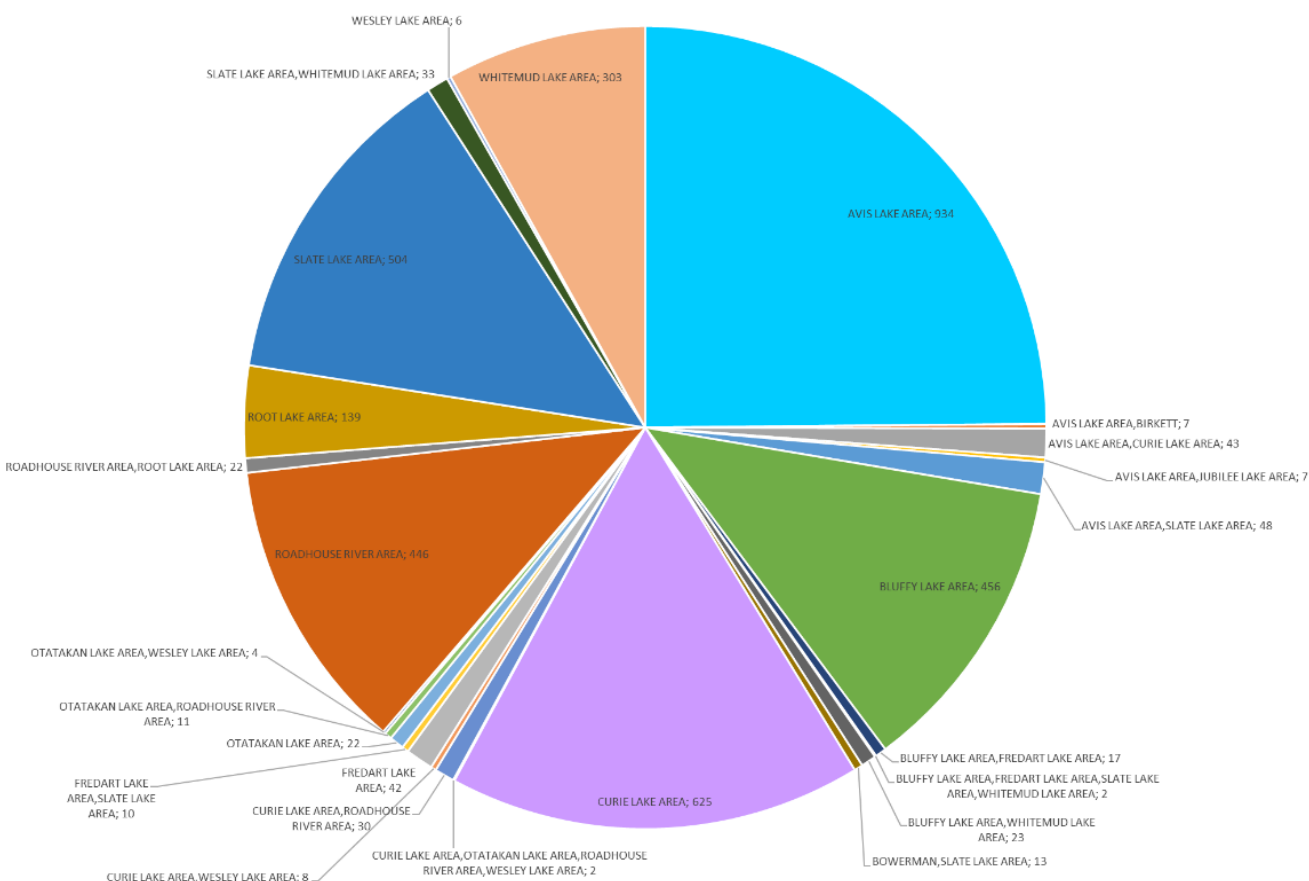


Figure 7: Value of claim cells per Township

5.0. History

The Uchi Greenstone belt has been prospected for gold and base metals for decades. Red Lake gold mine located approximately ~100km NW of the South Uchi Property is situated in one of the highest-grade Archean gold camps in Canada. Since production commenced in 1949, the combined Red Lake operation has produced more than 25Moz of gold at an average grade in excess of 20g/t. Red Lake hosts a large Mineral Resource of 11.1Moz and an Ore Reserve of 2.9Moz and has the third highest Ore Reserve grade of operating mines in Canada at 6.9g/t gold (<https://evolutionmining.com.au/red-lake>). Red Lake, along with most other significant deposits in the area, is located at the interpreted Meso-Neo Archean unconformity which often hosts polymictic conglomerates and major faults.

With the Cu-Zn-Ag South Bay Mine VMS deposit open and operating between 1971-1981 (producing 1.45 million tonnes of ore grading 2.3% copper, 14.7% zinc, and 120.0 g/t silver) located just 20km to the northwest of the property (Figure 8) much of the exploration efforts in the region have focused on targeting VMS style mineralization. Alternatively, many prospectors and junior companies have also targeted pegmatites for lithium prospects and iron formations within the South Uchi Project area. Although there have been 94 Assessment Files submitted within the Project area (Figure 8), only 70 drill

holes total have been reported. A brief summation of work completed in relation to the assessment reports filed is presented in Table 1.

There has been no active mining within the project area, however proximal gold showings including Papaonga Lake, Cliff northeast showing, and Wenasaga Road showing were discovered during ongoing exploration efforts since the 1950's. The most extensive gold exploration activity on the property occurred from 1983-1988 and was conducted by Getty Canadian Metals. The company focused on claims around the Papanoga Lake area (central within the South Uchi Property), and completed regional Heli-borne EM, ground magnetic surveys, lake sediment sampling, lithochemical surveys, geological mapping and a landsat lineament study (Table 1). They followed up much of their survey work by conducting localized trenching and drilling of 14 test holes at various targets. Disseminated arsenopyrite and trace gold were reported, however they discontinued work by 1989. From 1990 through to 2003 minor exploration occurred within the property, however a marginal resurgence occurred intermittently from 2007 through to 2015 with junior companies targeting localized areas for VMS style mineralization, lithium prospects, and iron ore formation within the project area.

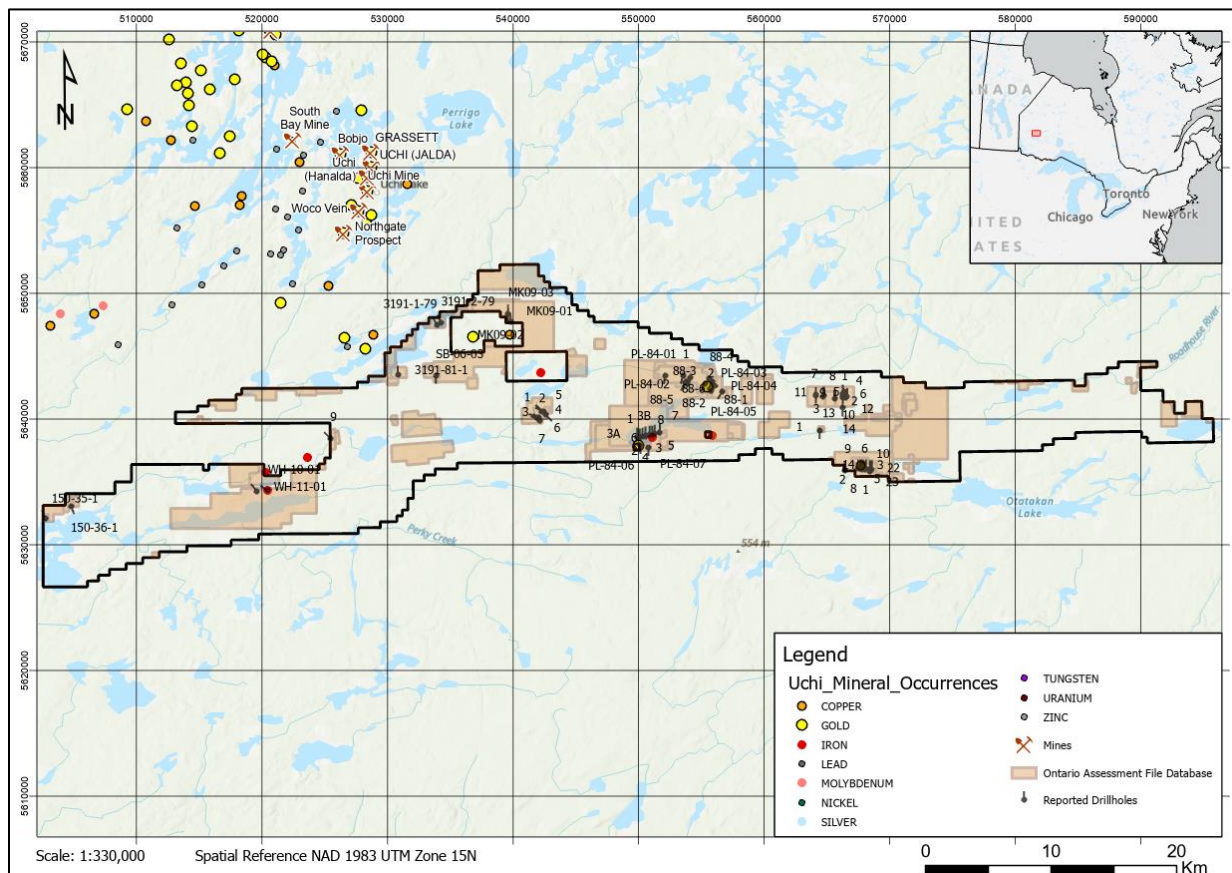


Figure 8: Assessment files and drill holes reported within the project area as provided by the Ontario Geological Survey.

Table 1: Assessment File summation for work completed within the South Uchi property area

AFRI_FID	YEAR	Company	TOWNSHIP_P	Work Description
52J13NE0007	1956	Three Brothers Mining Exploration	Root Lake Area	5 Diamond Drill holes -(TBL-1; TBL-2; TBL-3; TBL-4; TBL-5) no assays reported
52J13NE0009	1956	Capital Lithium Mines Ltd	Root Lake Area	2 Diamond Drill holes - (Hole 51; 54) no assays reported
52K16NW0032	1956	El-Sol Gold Mines Ltd, Newkirk Mining Corp Ltd	Avis Lake Area	Two Geological Maps over 67 claims - Focusing on Iron Formation targeting
52J13NE0005	1956	Capital Lithium Mines Ltd	Root Lake Area	Geological mapping survey over 12 claims. Lithium prospecting.
52J13NE0008	1956	Consolidated Morrison Exploration Ltd	Root Lake Area	16 Diamond Drill Holes. Lithium prospecting
52K16SE0002	1957	Brunhurst Mines Ltd	Wesley Lake Area	4 Diamond Drill Holes. No assay results describe massive pyrrhotite at depths of 180 metres.
52K16NW0030	1957	Continental Mining Expl	Avis Lake Area	Ground Magnetometer survey carried out over 50 claims - near Lake Papaonga
52K16SE0001	1957	Cheskirk Mines Ltd	Curie Lake Area	Magnetic and EM survey over 60 claims - near Lake Papaonga - concluding that there is ferro-mag mineralization
52K16NW0018	1957	Aumaque Gold Mines Ltd	Avis Lake Area	7 Diamond Drill holes - total footage of 2722.0ft - reported for 24 claim cells
52K15NE0032	1957	El-Sol Gold Mines Ltd	Slate Lake Area	Magnetometer survey over 156 claims - Focus on Iron formation
52K15NE0037	1957	Quebec Labrador Dev Co	Slate Lake Area	13 Diamond Drill holes - Logs present no assays
52J13SW0003	1957	Cheskirk Mines Ltd	Otatakan Lake Area	9 Diamond Drill holes - Logs present no assays
52J13NE0004	1957	Capital Lithium Mines Ltd	Root Lake Area	Magnetometer and Electrical resistivity survey over 34 claims to the north of Root Lake.
52K16NE0018	1957	Copper-Man Mines Limited	Curie Lake Area	Magnetometer Survey over 41 claims near Papaonga Lake. Targeting Iron-formation
52K16NW0019	1957	Continental Mining Expl	Avis Lake Area	10 Diamond Drill holes - Logs present no assays
52K16SE0005	1957	Cheskirk Mines Ltd	Wesley Lake Area	6 Diamond Drill holes - Logs present no assays
52K15NE0033	1957	Quebec Labrador Dev Co	Slate Lake Area	Magnetometer Survey identifying large magnetic iron-formation.
52J13SW0004	1957	Cheskirk Mines Ltd	Otatakan Lake Area	6 Diamond Drill holes - Logs present no assays
52K16NW0031	1957	Aumaque Gold Mines Ltd	Avis Lake Area	Magnetometer Survey and Resistivity survey over 24 claims.
52K16NE0019	1957	Brunhurst Mines Ltd	Curie Lake Area	Magnetometer Survey and Resistivity on 42 claims
52K16SE0003	1957	Brunhurst Mines Ltd	Wesley Lake Area	7 Diamond Drill holes over 42 claims
52K16NE0020	1957	El-Sol Gold Mines Ltd	Curie Lake Area	2 Dimond Drill holes over 18 claims
52K16NE0022	1957	Copper-Man Mines Limited	Curie Lake Area	11 Diamond Drill holes - Logs present and Iron % reported
52J13NE9633	1957	Continental Mining Expl	Roadhouse River Area	Compilation and Interpretation over 20 claims at Whitemud area. Electromagnetic and Magnetometer Survey. Suggest targeting just one zone by trenching
52K16SE0004	1957	Cheskirk Mines Ltd	Wesley Lake Area	3 Diamond Drill holes - Logs present no assays
52K16NE0021	1957	Valor Lithium Mines Ltd	Curie Lake Area	14 Diamond Drill holes - over 36 claims - Logs present - no assays
52K16NE0017	1957	El-Sol Gold Mines Ltd	Curie Lake Area	Magnetometer Survey - PDF missing

52K16NE0016	1957	Valor Lithium Mines Ltd	Curie Lake Area	Magnetometer Survey and Resistivity over 36 claims
52K16NE0023	1957	El-Sol Gold Mines Ltd	Curie Lake Area	1 Diamond Drill hole - 600 ft - Iron formation targeting
52K16NE0015	1957	El-Sol Gold Mines Ltd	Curie Lake Area	Magnetometer Survey over 18 claims
52K15NE0031	1969	Halren Mines Ltd	Slate Lake Area	Magnetometer Survey over the Slake Lake Property consisting of 65 claims - None of the mag findings are thought to have economic importance
52K16NW0033	1969	Noranda Exploration Co	Avis Lake Area	Electromagnetic and Magnetometer Survey to determine if there is any sulfide mineralization over 27 claims near Kosaka Lake. Isolated highs no trend
52K16NW0034	1969	Noranda Exploration Co	Avis Lake Area	Electromagnetic and Magnetometer Survey to determine if there is any sulfide mineralization over 12 claims at Maskootch Lake. Conductors identified e-w
52K15NW0002	1977	Selco Mining Corp Ltd	Bluffy Lake Area	Electromagnetic and Magnetometer Survey near Bluffy Lake recommended following up with drilling
52J13NW0007	1977	Noranda Exploration Co	Roadhouse River Area	Mapping to investigate the nature of airborne and VLF conductors covering 8 claims north of Shearpin lake - mapped sheared volcanics and felsic tuff. Conductor associated with rhyolite and pyrite
52K16NE0401	1977	Hudson Bay Expl & Dev Co Ltd	Slate Lake Area	Electromagnetic survey over Trout lake River Area. 4 claims - no further work was recommended
52K16NW0014	1978	St Joseph Exploration Ltd	Avis Lake Area	Electromagnetic and Magnetometer Survey over Virgin Lake property - 4 claim cells
52K16NW8895	1978	St Joseph Exploration Ltd	Avis Lake Area	Geological Survey Mapping - Identification of Felsic metavolcanics with pyrite and pyrrhotite. Two narrow gossans identified which may explain the airborne anomaly.
52K16NW0013	1978	St Joseph Exploration Ltd	Avis Lake Area	Electromagnetic and Magnetometer Survey - suggested there were several anomalous zones.
52K15SW0001	1978	Selco Mining Corp Ltd	Bluffy Lake Area	2 Diamond Drill holes - (150-35-1; 150-36-1) - very localized assays present - No gold
20000005438	1978	St Joseph Expl Ltd	Birkett	Electromagnetic Survey and Magnetometer Survey - single anomaly identified.
52K16NW0009	1979	St Joseph Exploration Ltd	Avis Lake Area	4 Diamond Drill Holes. Two assays presented - trace gold reported - no values
52K15NE0027	1979	St Joseph Exploration Ltd	Slate Lake Area	2 Diamond Drill Holes. (3191-1-79; 3191-2-79) Logs present - Assays are limited or 'nil' Gold.
52K16NW0010	1980	St Joseph Exploration Ltd	Avis Lake Area	Electromagnetic Magnetic and Magnetometer Survey on 6 claims. Suggest drill testing anomalies
52K05NE0021	1980	St Joseph Exploration Ltd	Slate Lake Area	Electromagnetic Magnetic and Magnetometer Survey on 6 claims - 13.4-line km
52K15NE0209	1981	St Joseph Exploration Ltd	Slate Lake Area	1 Diamond Drill Hole - 450ft "trace gold" at 335 ft
52J13NW0005	1983	Getty Canadian Metals Ltd	Roadhouse River Area	DIGHEM Survey - 2734km of survey was flown. 30% of anomalies related to bedrock conductors - black and white maps
52K16NE0009	1983	Getty Canadian Metals Ltd	Curie Lake Area	DIGHEM Survey - interpretation and definition on all anomalies identified - bedrock conductors
52K16NW0008	1984	Getty Canadian Metals Ltd	Avis Lake Area	Report on the bedrock geology of four claims at Papaonga Lake. Mapping at 1:5000 describe minor pyrite and silicification and carb alteration. Local qtz-tour veins
52K16NE0002	1984	Getty Canadian Metals Ltd	Curie Lake Area	4 Diamond Drill holes - Logs present. Gold mineralization is Trace up to 0.08oz/ton (2.5gpt in PL-84-05 within qtz-feldspar vein hosted in greywacke) - Correlates with the Cliff; North, Northeast showing
52K16NW8896	1984	Getty Canadian Metals Ltd	Avis Lake Area	3 Diamond Drill holes - Logs present. (PL-84-01; PL-84-06; PL-84-07) Gold mineralization from Trace up to 0.02 oz/ton
52K16NE0011	1984	Getty Canadian Metals Ltd	Curie Lake Area	Mapping report of 103 claims near Papaonga Lake. Mapping completed at 1:4800 scale. Mineralization described a pyrite, arsenopyrite and oxide facies iron formation. Minor chalcopyrite and pyrrhotite
52K16NE0008	1984	Getty Canadian Metals Ltd	Curie Lake Area	Geological survey mapping over 64 contiguous claims. Mineralization observed as pyrite, arsenopyrite, chalcopyrite and oxide facies iron formation.

52N02SE0026	1984	Getty Canadian Metals Ltd	Belanger	Geological mapping, trenching and humus soil results. Recommend lake sed sampling in Shabu Lake, prospecting and litho geochem sampling at 300m-500m spacing. Pickle Lake also warranted more follow up
20000005437	1984	Getty Canadian Metals Ltd	Avis Lake Area	Fly Lake Project. Included Geological mapping over three zones. Chip samples were non-economic. Au anomalous soils only returned over Grid FL-9. However no further follow up suggested for the property
52K16NE0004	1985	Getty Canadian Metals Ltd	Curie Lake Area	Winter airborne Geophysical program over the Papaonga Lake property. Targets were identified and a Asp-Au "showing" located on the shore of Papaonga Lake
52K16NE0006	1985	Getty Canadian Metals Ltd	Curie Lake Area	7 Diamond Drill holes (BQ) totaling 955 metres. South of Papaonga Lake minor gold up to 10 gpt over 0.5 metres (PL-84-2)
52K16NE0007	1985	Getty Canadian Metals Ltd	Curie Lake Area	Full report on assaying and analyses, Bedrock Trenching, geological mapping and geochem prospecting sample results on targeted grids around Papaonga Lake grab and chip sample assays
52K16NE0010	1985	Getty Canadian Metals Ltd	Curie Lake Area	Trenching program at Papaonga Lake with associated maps. Mineralization zones were stripped and blasted. Suggested following up with drilling
52K16NW0005	1986	Noranda Exploration Co	Avis Lake Area	Avis property compilation and Interpretation - 22 claims. Assay results for Au, Cu and Zn are present. Highest Au 90 ppb in QFP and 2.84gpt
52K16NE0001	1987	Buffalo Resc Ltd, Getty Resc Ltd	Curie Lake Area	IP over 192 claims near Papaonga lake
52K16NE8922	1988	Getty Resc Ltd	Curie Lake Area	6 Drill Holes - Logs but no Assays
52K16NE0024	1990	M J Michaud	Curie Lake Area	Electromagnetic Very Low Frequency VLF survey over deformation zone - it was designed to better prioritize EM conductors for future prospecting of gold
52N01SW0002	1992	J Williamson	Jubilee Lake Area	Maskooch Lake property - Stripping, blasting and sampling program on copper showings. Copper within sulfide iron formation. Recommended drilling.
52K15NE0004	1994	Cumberland Resources Ltd	Slate Lake Area	Compilation and Interpretation - Geology, Geochemical, Geological Survey / Mapping - VMS exploration
52K15NE2003	1994	Cumberland Resources Ltd	Slate Lake Area	Slate Lake Property - 9 claim cells explored for Cu-Zn rich massive sulfides (VMS) and proximal gold mineralization.
52K15NW0022	1997	Freewest Resc Can Inc	Fredart Lake Area	Fredart Lake Properties - Ground Geophysics and drilling - two 'archived anomalies'. Semi massive pyrrhotite in both drill holes adequately explains the EM and mag anomalies. No felsic volcanics - no VMS argued.
52J13NW2001	1998	Kenora Granite Co Ltd	Roadhouse River Area	Industrial Mineral Testing and Marketing
20000003842	2007	Amador Gold Corp	Avis Lake Area	Induced Polarization on the Maskootch Lake Property 9km long suggested to follow up with humus sampling
20000002902	2007	Amador Gold Corp	Avis Lake Area	Airborne Electromagnetic, Airborne Magnetometer - 759 line-km covering 71.2 km2
20000005539	2009	Kenneth George Fenwick	Witchwood Lake Area	Dorion South Property. 99 claim cells. Flown at 200metre line spacing for 126 line km. 7 Diamond Drill holes were drilled. Assayed magnetic gabbro with trace chalcopyrite - insignificant results
20000004697	2009	Amador Gold Corp, Perry Vern English	Avis Lake Area	Maskooch Lake Property - results of 5 hole - 1579.6 metres drill program (MK09-01; MK09-05). Tested sulfide rich iron ore. Looking for VMS style deposits. Did not follow up
20000006735	2010	Northern Iron Corp	Slate Lake Area	Whitemud Iron Project - Targeted BIF. They drilled one hole WH-10-01 . Assays of Fe are presented.
20000006554	2010	Northern Iron Corp, Plwl Inc	Avis Lake Area	Report on Papaonga Iron Project - Targeting magnetite oxide facies and banded iron Formation. Completed ground based geophysics and mapping.
20000006759	2011	Mainstream Minerals Corp	Slate Lake Area	The Slate Lake Property - comprised of 9 mining claims and one lease completed a soil geochem survey using MMI. Only small area within
20000006700	2012	Golden Dory Resources Corp	Root Lake Area	Root Lake Property 6 claims - small Mag survey - local mag highs attributed to iron formation and to identify pegmatites
20000008632	2012	Harold A Watts	Root Lake Area	Prospecting and Soil Sampling focus on lithium in pegmatites. Collected 13 rock samples and 73 soil samples. Samples returned low REE and Li values. Two 'anom' gold values (96ppb and 52 ppb)
20000008820	2013	877578 Ontario Limited	Ear Falls Area	Dimension stone quarry material review.

20000008490	2013	Goldcorp Canada Ltd, Goldcorp Inc	Fredart Lake Area	Ben Lake Project- Magnetic survey grid was 193 NW-SE lines spaced at 100metres
20000013938	2015	877578 Ontario Limited	Slate Lake Area	Dimension stone quarry material review.
52K15NE0034	1956 - 1957	Massberyl Lithium Co Ltd	Slate Lake Area	Property review discussing potential of Li, and Mo.
52J13NW0021	1977 - 1978	Noranda Exploration Co	Roadhouse River Area	Summarizes the results of magnetic and electro mag surveys conducted over 22 claims near Curie Lake.
52K16NW2001	1997 - 1998	Murgor Resc Inc	Avis Lake Area	Maskooch Lake trench sampling and compilation. Consists of five claims located in the Avis Lake area. 24 samples were collected, best results were from the lapilli tuff near Wenesage Road. Highest assay was 10.3 g/t
52K15NE2002	2001 - 2003	877578 Ontario Ltd	Slate Lake Area	Industrial Mineral Testing and Marketing
20000002691	2006 - 2007	Amador Gold Corp	Avis Lake Area	Magnetometer and VLF EM Survey over the Maskooch Property 33 km of grid lines spaced 100m
20000004119	2007 - 2008	Amador Gold Corp	Avis Lake Area	Maskooch Lake property - 34 claims completed two weeks of soil and rock sampling. 41 rocks sampled and 28 soils assayed. Copper values were up to 1.6% with elevated gold of 600 ppb in a qtz vein.
20000004117	2007 - 2008	Amador Gold Corp	Avis Lake Area	Maskooch Lake property - four trenches reexamined for VMS style hydrothermal alteration. Suggest that the bimodal environment is favorable to VMS
20000004098	2007 - 2008	Amador Gold Corp	Avis Lake Area	Maskootch Lake - Airborne Electromagnetic report - total of 761 line-km were flown.
20000006352	2008 - 2009	Perry Vern English	Avis Lake Area	El Sol Iron Project report - 429 samples were collected Assays on Fe content were presented. Some lithochemistry - no gold grades
20000005348	2010 - 2011	Perry English	Slate Lake Area	MMI Soil sampling Program over the Slate Lake Property consisting of 9 claim cells. Described anomalous Au, Ag, Cu and Zn on the property
20000006701	2011 - 2012	Northern Iron Corp	Whitemud Lake Area	Whitemud Iron Project - Assay certificates and exploration program description.
20000008683	2012 - 2013	Goldcorp Canada Ltd, Goldcorp Inc	Bowerman	Ben Lake Geochemistry program 1972 soil samples were collected - Mostly outside of the project area. Some minor anomalous gold.
20000008222	2013 - 2014	Goldcorp Canada Inc, Goldcorp Inc	Bowerman	Ben Lake Geochemistry program 671 soil samples were collected from the B horizon.

6.0. Regional Geology

The Neoproterozoic Uchi Subprovince of the Archean Superior Province is comprised mostly of intermediate to felsic intrusive rocks surrounding discrete greenstone belts. The central part of the Subprovince contains two jointed greenstone belts: the Red Lake and the Birch-Uchi belts (Figure 9), which are bounded to the west, north and east by batholiths and gneisses. These belts are in contact to the south with the English River Subprovince, dominated by sedimentary rocks metamorphosed at high grade and intruded by several plutons.

The Red Lake greenstone belt (2.99-2.9 Ma) is dominated by mafic and ultramafic volcanic flows and minor components of felsic volcanic rocks, clastic sedimentary rocks and stromatolites units (Sandborn-Barrie et al. 2001). This belt is renowned for hosting the Red Lake gold mining camp. The Birch-Uchi belt is comprised of mostly intermediate to felsic volcanoclastic rocks and mafic to intermediate volcanic flows (Confederation Assemblage 2.75-2.73 Ma) with minor components of clastic sedimentary rocks (Sandborn-Barrie et al. 2001). In comparison to the Red Lake belt, the Birch-Uchi has been the focus of VMS exploration. At a regional scale, both belts are intruded by numerous syn-volcanic to post-tectonic stocks.

Both belts are overprinted by an E-striking penetrative regional foliation resulting from N-S shortening. However, at a local scale the structural style is largely conditioned by the presence of intrusions.

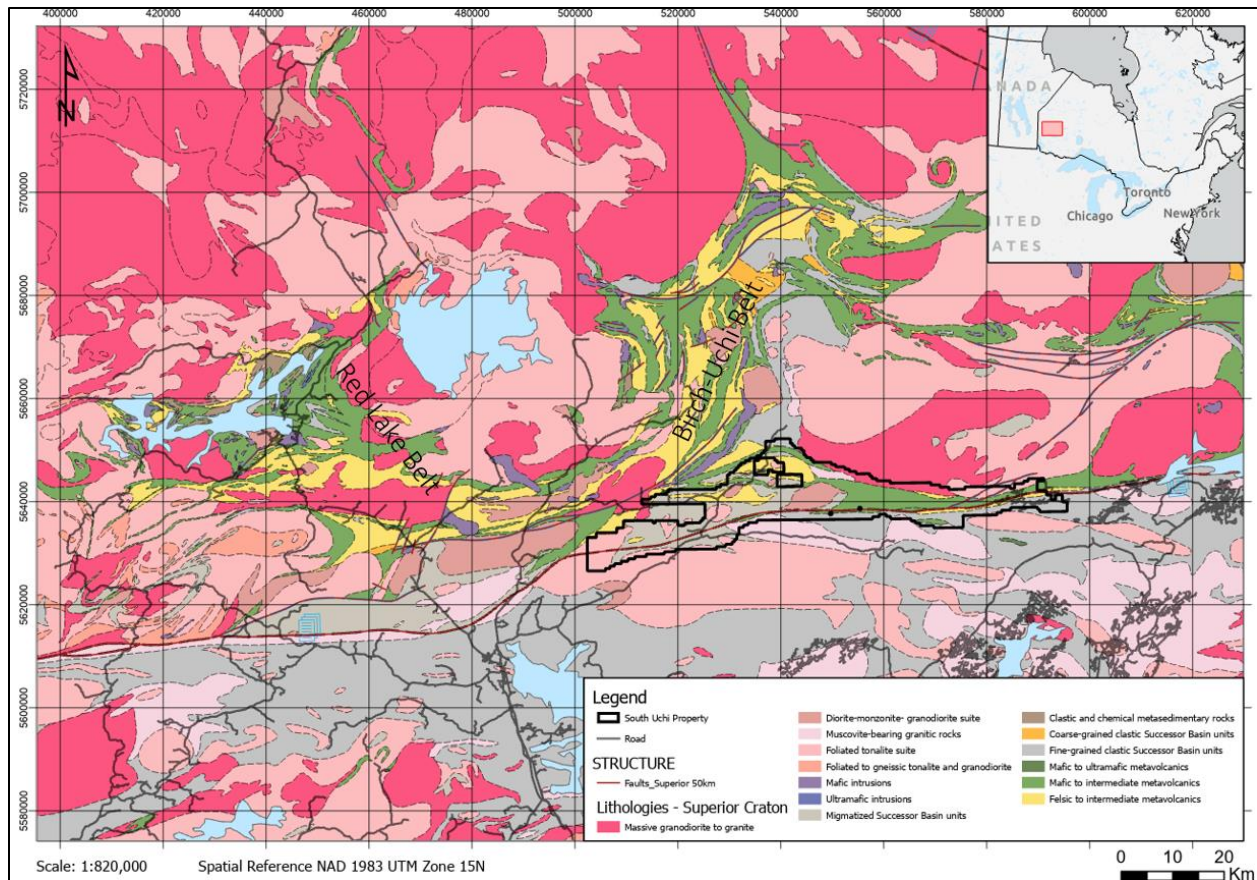


Figure 9: Regional Geology of the Superior Craton: Geological map source: OGS and MRD126 geology of the Superior Interpreted

7.0. Property Geology

The project, located within the southeastern portion of the Birch-Uchi greenstone belt, has seen limited mapping during the second half of the 20th century. Only a few historic maps cover the property in reasonable detail and include the work completed by Breaks 1976, and Bowen 1989. A more recent map published by Sandborn-Barrie et al. (2004) provides a larger regional compilation covering the area.

In general, the property has an elongated shaped of 15 by 80 km trending east-west. It is bounded to the west by the Confederation Assemblage (2.75-2.73 Ga), to the South by the English River Subprovince (2.70 Ga) and to the north by an unsubdivided assemblage similar in lithological makeup as the English River Subprovince. The volcanic units located on the property have not yet been subdivided into a particular assemblage (Figure 10).

On the property, volcanic and sedimentary rocks occur as east-west trending units in roughly equal proportions. Volcanic rocks occur mostly within the northern and eastern part of the property. They are composed of basaltic pillowed and massive flows and dacitic to rhyolitic volcanoclastic rocks (tuff breccia to tuff), the later restricted to the northern part of the property. A dacitic tuff unit has also been reported within the English River exposure on the property.

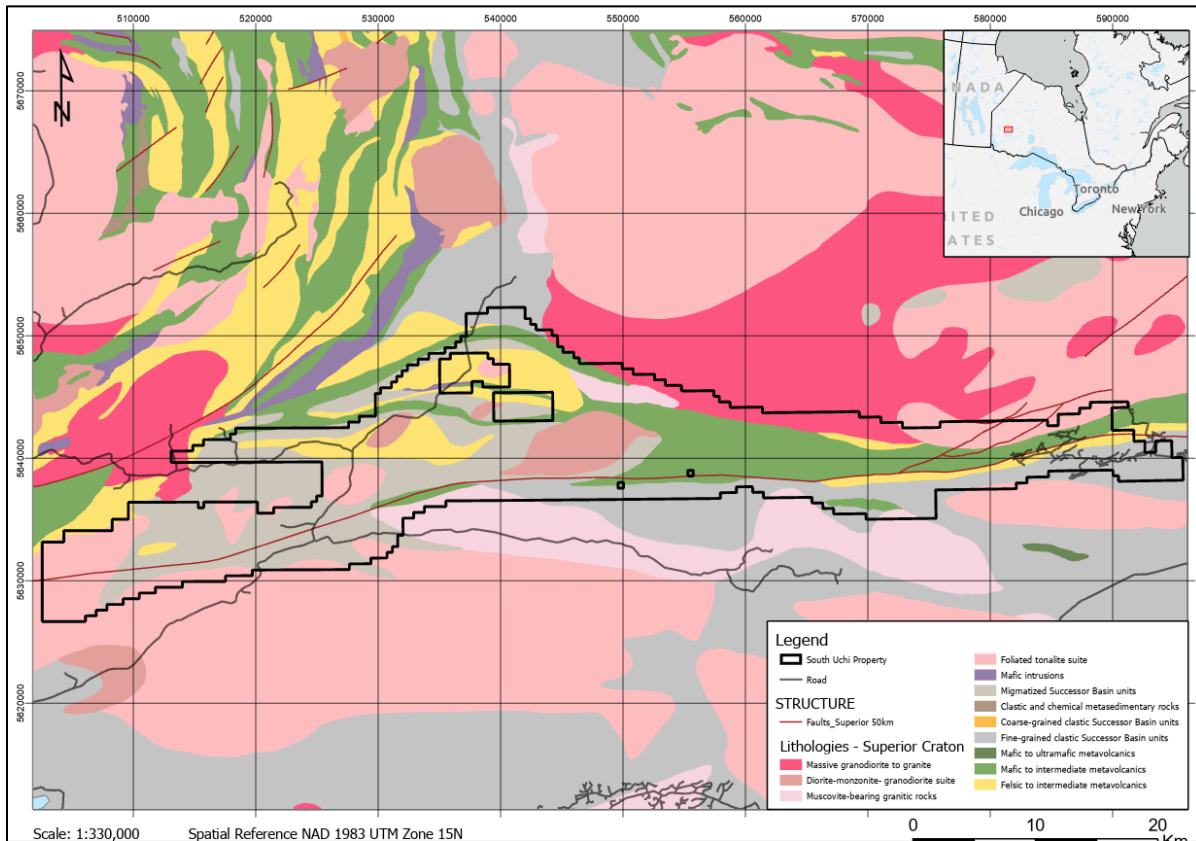


Figure 10: Birch Uchi Geology. Geological map source: OGS and MRD126 geology of the Superior Interpreted

Sedimentary rocks occur as two facies assemblages: turbiditic mudstone-sandstone and fluvial sandstone-conglomerate. The turbidites comprises most of the English River mapped in the property. Iron formations are locally observed interbedded with mudstone and wacke beds. Some similar units have been documented surrounding the felsic volcanoclastic rocks in the northern part of the property. The fluvially

derived units are more spatially-restricted and occur in the volcanic-dominated part of the property. The area lacks details about the architecture and stratigraphic relationships between these units, however folding has been reported in the northern part of the property and is supported by many younging direction inversions. The volcanic and sedimentary rocks are injected by several stocks with a diameter of approximately 1 km. Their composition ranges from tonalite to granite and granodiorite.

The South Uchi Property is overprinted by an east-west striking subvertical penetrative foliation. Previous mapping has lacked detailed information on faults, shear zones and fold identification. Metamorphism in the area is typical of greenstone belts as most volcanic rocks are overprinted by regional greenschist metamorphism. However, regional grade increase to the northeast and to the south into amphibolite closer to the English River. Sedimentary rocks into the English River show higher grade-related facies, ranging from amphibolite to granulite facies. Moving away from the contact with the Uchi Subprovince, sedimentary rocks quickly lose most protolith features as they gain gneissic fabric and partial melting start.

8.0. LIDAR Program and Data Acquisition

During the summer of 2021 KBM Resources, out of Thunder Bay, completed LIDAR and orthoimagery acquisition over the South Uchi Property. KBM was responsible for the capture, calibration, and processing of all photography and LIDAR data and produced georeferenced orthoimagery, point cloud and a digital elevation model (DEM).

The high-resolution survey was conducted with the specifications of 8 laser points per square metre and an absolute accuracy of 10cm vertical and 20cm horizontal. Flight lines were east west (Figure 11).



Figure 11: KBM Resources' plane used for LIDAR surveys and the planned flight lines across the property.

8.1. Equipment and Technology

KBM operates a fleet of 9 aircrafts and holds a Transport Canada Commercial Operators Certificate licensed for Aerial Work, and Air Taxi operations. All aircraft are owned, maintained, and operated by KBM. All aircraft types operated have been chosen specifically for aerial survey purposes and modified to suit KBM's operations. As a Transport Canada Approved Maintenance Organization (AMO) KBM also has full control over maintenance activities of their aircrafts.

All aerial survey and analysis work executed over the South Uchi claims were completed by qualified KBM personnel. Processing and quality control was performed in Thunder Bay where KBM has their head office. Parameters for the survey are presented in Table 2.

System Details include:

LIDAR (Riegl VQ-780II)

- Up to 2000 kHz laser pulse rate with full waveform digitization
- Absolute accuracy – 10 cm vertical, 20cm horizontal (with suitable ground control)
- 60-degree field-of-view
- High point density from fixed wing platform
- Typical raw point density ranging from 1-20 pts/m² in a single pass

Phase One Digital Mapping Camera

- 100 Megapixel, 3 channel (RGB) frame camera
- Fully calibrated 50mm lens
- Forward Motion Compensation FMC provides crisp Imagery

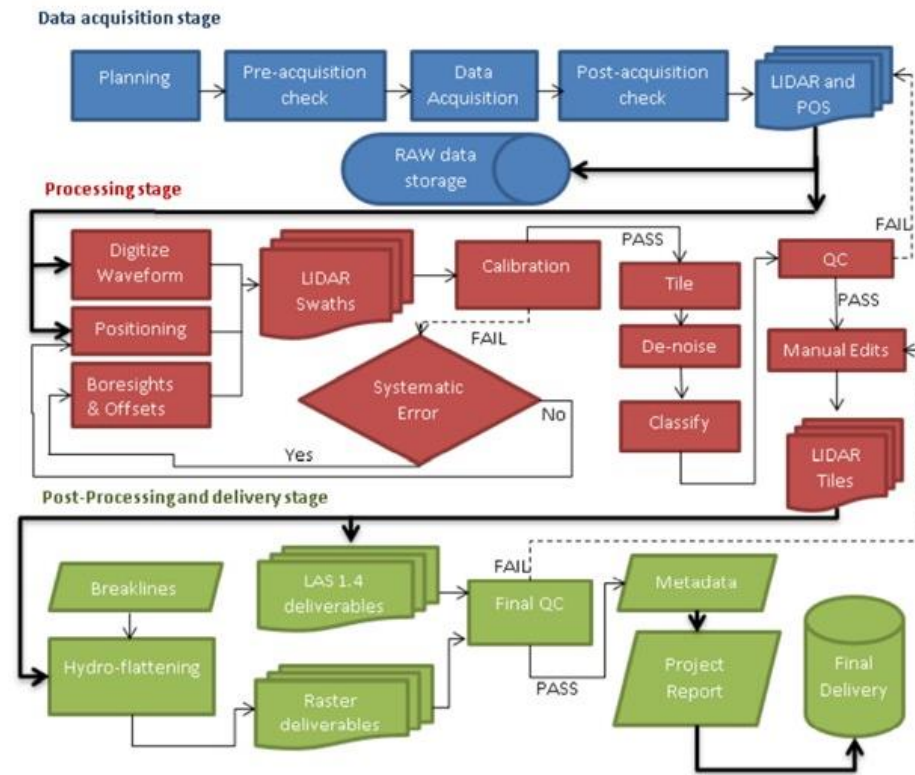
Table 2: Flight parameters for the LIDAR Survey:

Parameter	Detail
Point Density	8 pts/m ²
Altitude (AGL)	4730 ft
Field of View (FOV)	60°
Air Speed	135 knots
Pulse Rate	1450 Hz
Sidelap	25%

8.2. Methodology

The high-level workflow used for LIDAR and orthoimagery processing is presented in Figure 12 and Figure 13 as provided by KBM Resources.

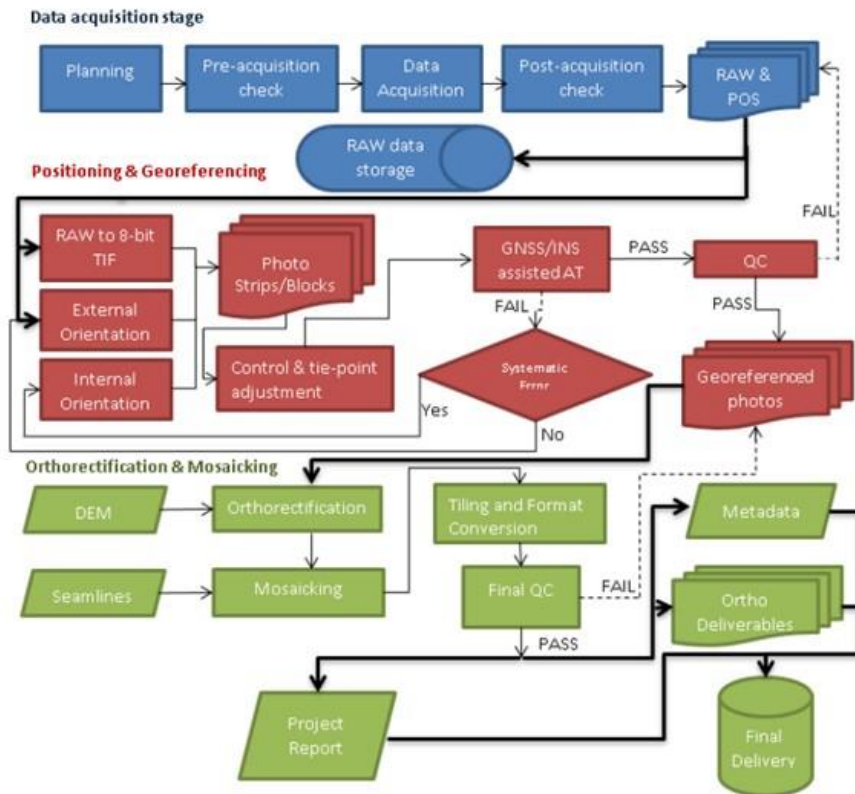
LIDAR



Processing Step	Software used
Flight plan creation, collection and raw data review	TrackAir
Position the aircraft trajectory by combining aircraft attitude (roll, pitch and heading). A smoothed best estimate of trajectory (SBET) is generated by applying LIDAR sensor offsets to processed kinematic solution.	Applanix PosPAC MMS
Extract discrete LIDAR returns from raw pulse data with range, precise timestamp and other attributes such as intensity and scan angle.	RIAnalyze
Combine ranges and SBET using timestamps to generate a globally referenced LIDAR point cloud, apply a CGVD2013 geoid correction to reference elevations as orthometric heights and export point cloud in LAS 1.4 format.	RIProcess
Data are checked for relative vertical (0.04 m) and rotational offsets (0.003°) and adjusted if necessary.	TerraMatch and RIProcess
Absolute offsets to control are checked and if necessary adjusted.	LASTools
Eliminate outliers such as multipath and mid-air returns, segment data into manageable tiles.	LASTools and custom KBM software.
Preliminary data classification progresses in the following order after moving all data to Unclassified (Class1). <ul style="list-style-type: none"> - First pass of the data identifies isolated points and moves such points to Low Noise (Class 7). - A second pass classifies ground (Class 2). - The third pass identifies above ground features such as buildings and vegetation to refine ground classification (Class 4). - A fourth pass densifies existing ground classified in the second pass using Unclassified (1) and Ground (2) only. 	LASTools, Terrascan and custom KBM software.
Thorough manual inspection and quality checks for relative accuracy, missing outliers or misclassification. Correct if required.	LASTools and Terrascan
Assess vertical accuracy and point density to control and project specifications.	LASTools
Clip LIDAR to the area of interest defined by the client.	GlobalMapper
Flatten open-water areas; Create DTM, DSM and hillshade deliverable TIFFs.	GlobalMapper
Compile final LIDAR report.	Microsoft word

Figure 12: Overview of the Lidar Acquisition, processing, QC and delivery workflow. (Provided by KBM Resources, 2021)

Orthoimagery



Processing Step	Software used
Flight plan creation, collection and raw data review	TrackAir
Position the aircraft trajectory by combining aircraft attitude (roll, pitch and heading). A smoothed best estimate of trajectory (SBET) is generated by applying LIDAR sensor offsets to processed kinematic solution.	Applanix PosPAC MMS
Develop digital imagery from the raw proprietary format into a readily accessible TIF format. Images are colour balanced and individually reviewed to ensure only images that meet specifications are kept.	CaptureOne
Set up a project-specific Inpho processing file, specifying sensors used, software margins of error and projection/datum (UTM 14 NAD 83).	Trimble Inpho
Generate initial photo exterior orientation (EO) information through referencing GPS timestamps in the photo log with the processed SBET and system specific calibration parameters. CGVD2013 geoid correction is applied to reference photo positions to convert to orthometric heights.	Trimble Inpho
Define contiguous photo blocks and refine EO alignment through aerial triangulation and post-processing adjustment using control points within the blocks. Results are checked for minor relative and absolute errors (RMSE <1 pixel) and adjusted if necessary.	Trimble Inpho (Match-AT)
Create a photo-derived DSM from the adjusted photo block.	Trimble Inpho (Match-T)
Ortho-rectify individual photos using the photo derived DSM.	Trimble Inpho (OrthoMaster)
An automated secondary round of balancing colour and contrast of the imagery ensures homogeneity throughout. Photos are mosaicked through an automated process designed to minimize the appearance of seamlines. Output mosaics are manually inspected to ensure high quality aesthetics throughout the imagery. All issues are identified and corrected as necessary.	Trimble Inpho (OrthoVista, OrthoVista SeamEditor)
Finalized image tiles are clipped to the area of interest and packaged as per the Kinross' specifications (GeoTIFF format).	ArcGIS 10.7.1, ArcPro 2.5 Global Mapper v20

Figure 13: Overview of the orthoimagery acquisition, processing, QC and delivery workflow (Provided by KBM Resources, 2021).

8.3. Deliverables

Upon completion of the Lidar Survey the following was provided.

LIDAR

- Average LIDAR point density of 8 pts/m²
- Calibrated and tiled LAS files with ground points classified
- Bare-earth DEM in various formats.

Imagery

- Average ground sample distance (GSD) of 15 cm.
- Imagery orthorectified and mosaicked. Uncompressed imagery in GeoTIFF format
- Compressed format (e.g. ECW or JPEG2000) will also be provided.

Final product is presented in Figure 14.

9.0. Surficial Geology Mapping Method from LIDAR

The high resolution (<1m) LIDAR digital elevation data (LAS format) and satellite (BING) orthophotos were utilized to interpretate glacial sediment types within the project area by Ralph Stea of Stea Surficial Geology Services. The LIDAR processing for the project included setting up a LAS formatted dataset from the source LAS files using ArcGIS. Filters were set to enable ground hits only for the creation of the final 2 metre DEM used as basis for thematic interpretation. Raster cell elevation assignment based on average LAS values and void fill by linear interpolation. This produced a float formatted raster with dimensions of 47098 by 13639, x and y respectively. Spatial reference was set to UTM Zone 15 (NAD83). The hillshade derived (Figure 14) from the DEM was given a vertical exaggeration of three (Stea, 2021).

Surficial geological units and landforms were defined by surface morphology evident on LIDAR hillshade 3/D models with varying sun angles used to enhance features with differing orientations. Previous assessment work served as some ground control, and additional information was gleaned from reconnaissance government surficial mapping conducted on the western part of the Property (52K; Sharpe and Russell, 1996, Zoltai, 1960) and a regional compilation (Barnett et al., 1991).

Contacts were digitized in ArcGIS and the polygonal surficial units further refined by dissolving overlapping units with the same designations and clipping-erasing-snapping overlapping surficial units. Linear (e.g., scarps, eskers, moraines, channels) data were digitized as well as point (ice flow directional indicators) with orientation azimuths and symbology (Figure 15). Detailed surficial maps can be viewed in Appendix B: Surficial Maps created over the South Uchi Property.

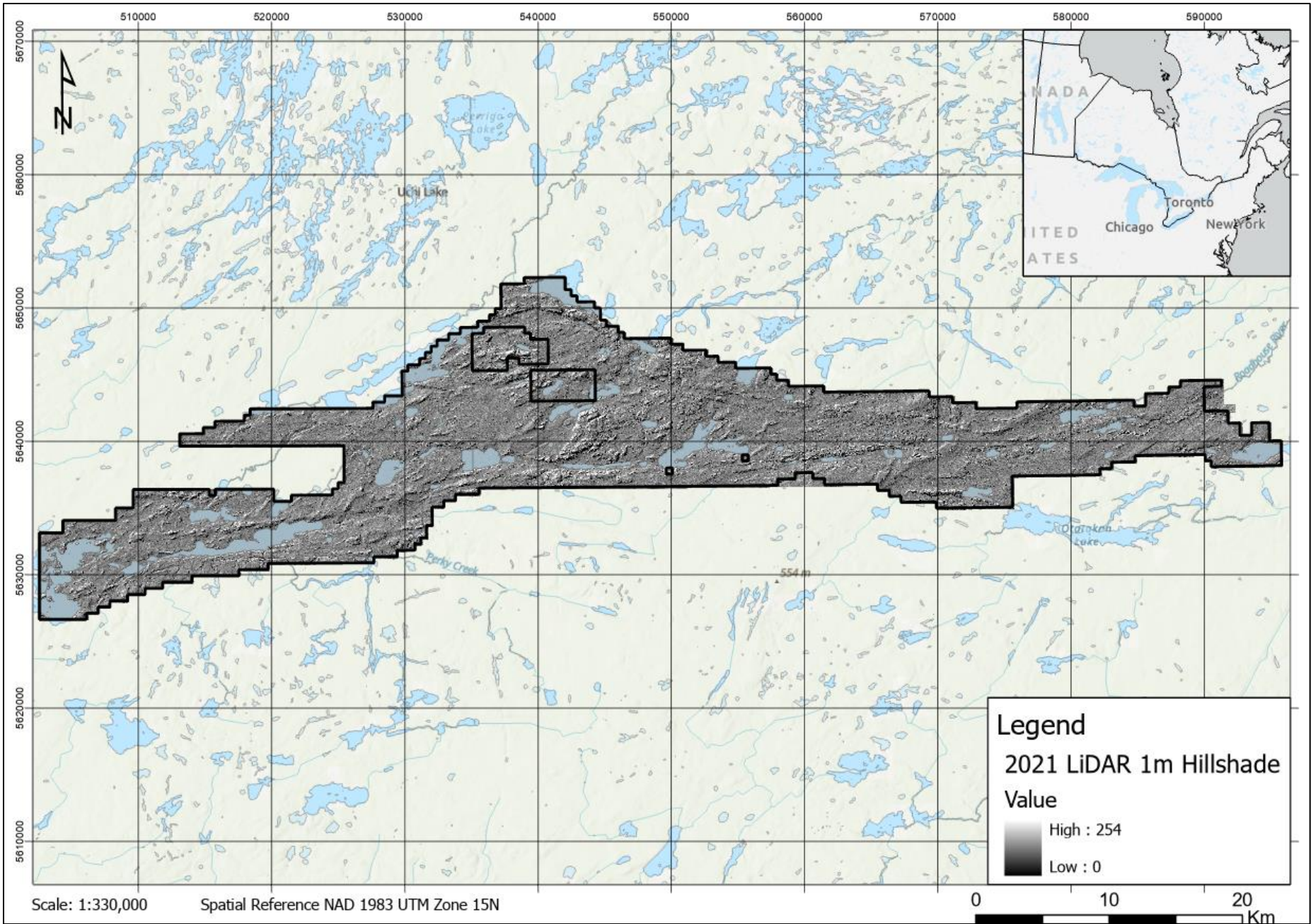


Figure 14: LIDAR imagery presented after processing.

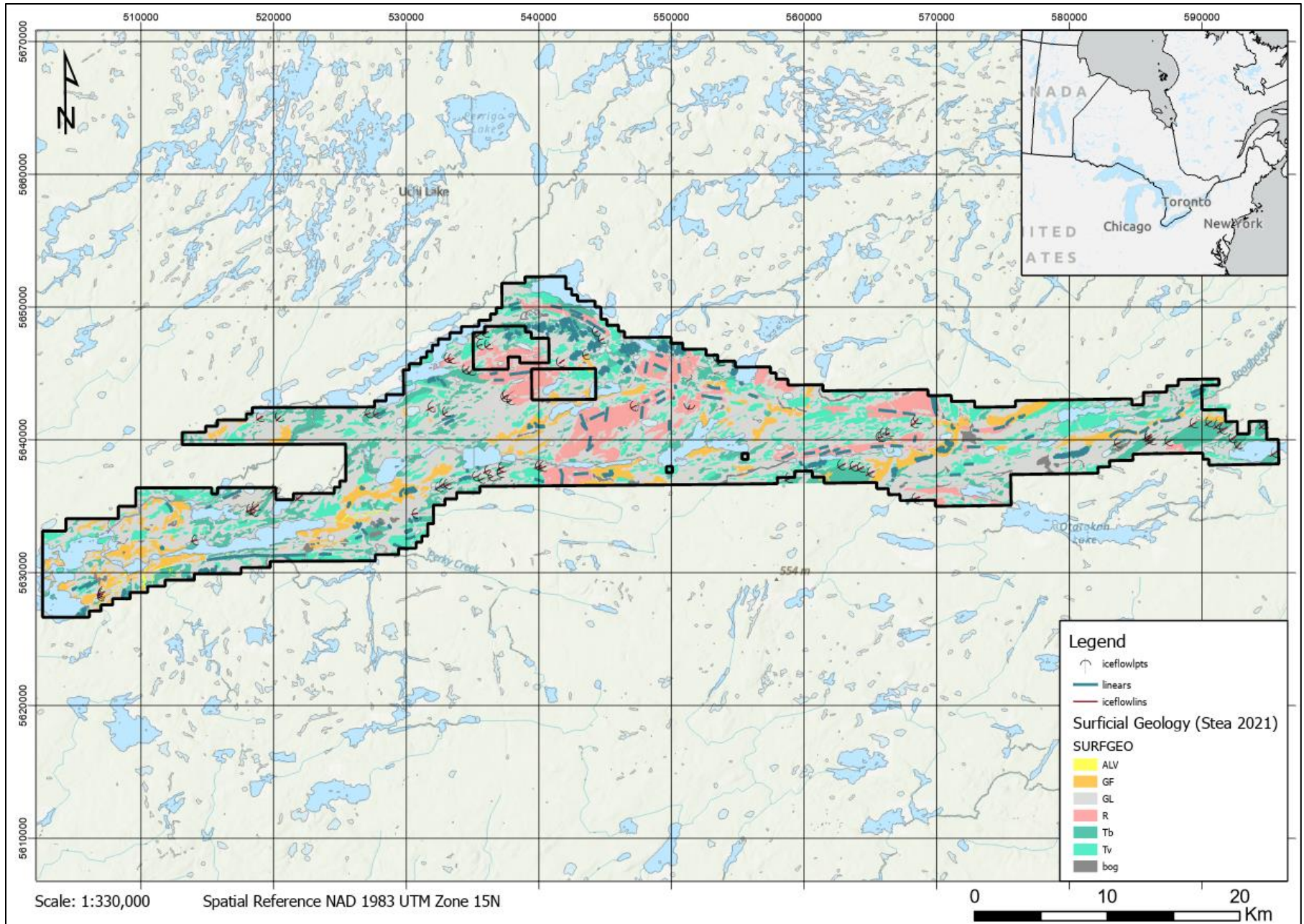


Figure 15: Surficial Geology as mapped by Stea, 2021 utilizing the <1m Lidar imagery.

10.0. Regional Surficial Geology History

The South Uchi Property comprises a part of the Severn Uplands subdivision of the James Physiographic Region (Bostock 1981) defined as broad rolling bedrock surfaces mantled by a thin cover of till, broken locally by a few sharp, fault-controlled scarps (Stea, 2021). Glaciolacustrine sediments infill low areas and form local areas of flat terrain.

Surficial materials in the South Uchi area were deposited during the Late Wisconsinan by the Labrador Sector of the Laurentide Ice Sheet (Figure 16). During this flow event large and small scale (striae) glacial directional indicator landforms indicate a uniform southwest flow pattern. This ice flow deposited variable thicknesses of sub-englacial till across much of the project area (Stea, 2021). The properties of this till are largely a reflection of the erosion of metamorphic and felsic intrusive bedrock terrain that underlies much of the area. Retreat of the ice sheet was toward the northeast. Ice-contact stratified drift and outwash were deposited as valley fills, recessional moraines and eskers (Stea, 2021). Distribution of these deposits is not widespread.

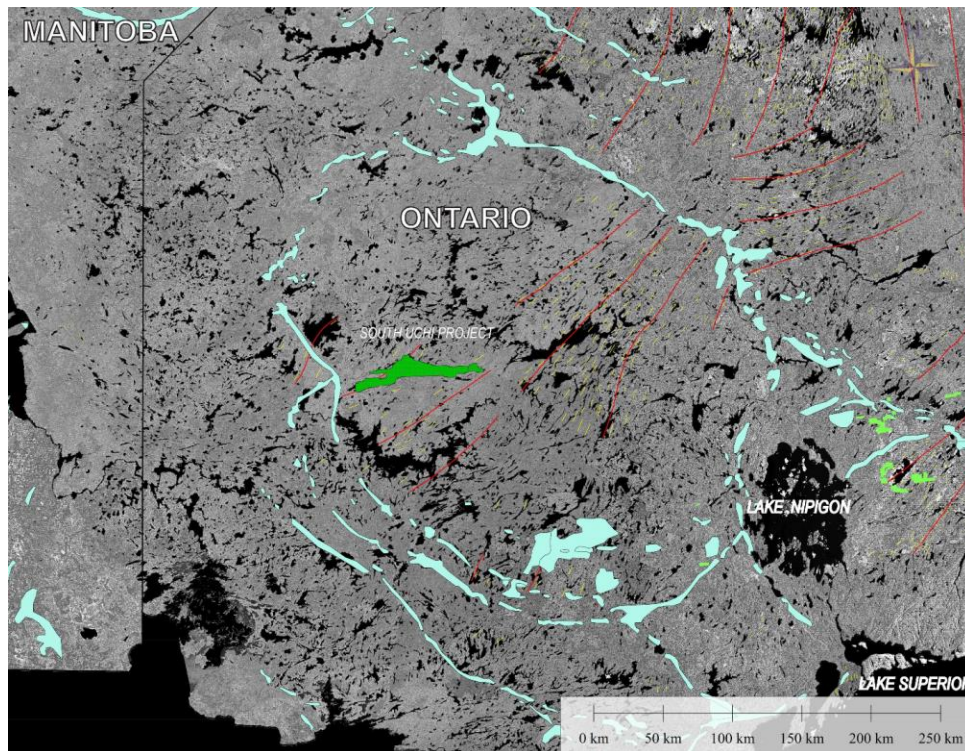


Figure 16: Location of the South Uchi Property area (dark green) in relation to regional ice flow patterns (after Prest et al., 1968; Shaw et al., 2010). Red lines-ice flow “tracks” comprising regionally mappable trends of streamlined drift. Yellow-lines-flutes, drumlines, streamlined features parallel to ice flow. Blue areas are end moraines (Stea, 2021).

During glacial retreat, the ice sheet was fronted by Glacial Lake Agassiz. Glaciolacustrine deposits include laminated, or varved, silt and clay and sand and gravel. The fine-grained material is largely restricted to topographically low areas (Stea, 2021).

11.0. Property Scale Mapped Terrain Units

Large scale glacial flow features show that the South Uchi Property area was affected by a unidirectional, pervasive southwestward (240°) Laurentide ice flow (Figure 15). Areas of attenuated flutes and drumlins suggest rapid, ice stream flow (Clark, 1993 in Stea, 2021). This main flow event trends subparallel to southwest-northeast trending bedrock strike and main fault structures. This geometry would tend to minimize the size of glacial dispersal fans as the width of these is defined by the amount of exposure of the lode source to glacial erosion.

The area is characterized by glacially eroded northeast-southwest trending ridges and adjacent lowlands and valleys with highly variable glacial sedimentation. Areas of highest topographic relief feature glacially scoured bedrock outcrop with a discontinuous veneer of glacial till. Lower ridges and hills feature thicker till deposits sometimes with abundant flutes, drumlins and crag and tail hills. Lowlands feature thick glacial lake (glaciolacustrine) deposits (Glacial Lake Agassiz), most commonly as a massive silty mud which effectively masks the underlying bedrock and locally derived till (Stea, 2021). Transverse DeGeer moraine ridges cored by till are found crossing ridges and lowland areas. Thick deposits of glaciofluvial sand and gravel form southwest-trending eskers, and terraced subaqueous outwash.

12.0. Field Work

Over the period of July 23rd- July 27th 2021, Don Cummings of DCGeo Applied Sedimentary Geology completed field checks of the surficial sediments mapped from the LIDAR-based map. A total of 223 observations were made on the property as presented in Appendix A: Field Work Stations. In addition, photos were collected, and a half hour of drone work was performed to gather images of the property to couple with field observations.

Bedrock observed in the field was highly smoothed, flat to gently undulating and lacking in metre scale irregularities (Figure 17). Striations were rare as many outcrops were highly weathered, however occasional striations measured confirmed southwesterly ice flow (Figure 18). Isolated boulders were occasionally present on the bedrock surface; however, bedrock was commonly overlain by diamicton (typical) or sand/gravel (rare).

The diamicton/till observed was loose and dry, matrix supported with clasts varying from angular to subrounded. Overall, the till was described as extremely sandy, with little to no cohesion. Mode is in the finer-sand fraction (0.1mm on average), but generally it was poorly sorted (Figure 19). The E horizon was well developed overlying the till with decent O/A and B soil profiles.

De Geer moraines identified were typically composed of sandy diamicton with local well sorted sand and gravel (Figure 20). The occasional De Geer moraine was quite bouldery, with boulders ranging from very angular to somewhat rounded.

Sand and gravel was primarily confined to esker-subaqueous outwash ridges as mapped by Stea, 2021. The material varied from well rounded, clast-supported gravel to well sorted sand bodies that are devoid of gravel. The later interpreted as outwash fans. Mud and organics observed in the property were seen in low-lying areas. It was also occasionally observed as thin, patchy, hard-to-map drape on uplands, including both till and esker outwash. The muds are silt rich with minor clays present. Appendix A: Field Work Stations



Figure 17: Bedrock observed at the South Uchi Property within forested cut block (Cummings, 2021)



Figure 18: Striations collected on outcrop exposure within the South Uchi Property (Cummings, 2021)



Figure 19: Excavated diamicton/Till as observed in field (Cummings, 2021)



Figure 20: De Geer Morains (Cummings, 2021)

13.0. Significance to Mineral Exploration

Glacial dispersal trains and fans are oriented in the direction of ice flow and an average dispersal fan in till from known gold deposits (across Canada) is 500m -2 km (Averill, 2001 in Stea, 2021). Dispersal fan shape and size vary widely depending on the size of the ore body, physiographic setting of the ore (topo high or low), glacier dynamics (fast flow-ice streams-long dispersal; ice rises and divides-slow flow or frozen base-short dispersal) and grain size/analytical methodology used (heavy minerals vs matrix fractions) (Averill, 2001, Coker and DiLabio, 1987; Bajc, 1996; Barnett, 2008, Madon, 2012; Plouffe, 1995 in Stea, 2021).

Bedrock and regolith (residual soils) are characterized by limited secondary dispersion haloes around mineralized rock, whereas mechanically dispersed stream sediments, tills (boulders-float) and their derived soils provide larger targets for reconnaissance scale exploration. Till deposits for the most part are crushed and milled local bedrock and as such can be considered a “first derivative of bedrock (Shilts, 1996 in Stea, 2021). Other glacial and post glacial deposits, such as glaciolacustrine, glaciofluvial, colluvial and organic deposits, may not be locally derived and have more complex depositional and diagenetic histories. These are considered second and third derivatives of local bedrock (Shilts, 1996 in Stea, 2021). Using standard geochemical prospecting techniques these deposits can “mask” local bedrock especially where sediments are thick and the stratigraphy is complex. Surficial mapping is crucial to sort out these areas and define glacial and post-glacial dispersal processes (Stea, 2021).

Bedrock constitutes 10% of the total Uchi claim area (704.7 km²) or 70.7 km² (Appendix B: Surficial Maps created over the South Uchi Property). These regions consist of >20% bare and vegetated outcrop with a ubiquitous but discontinuous, till, colluvial (till subjected to mass wasting processes) veneer (< 2m) over the rest of the area. Bedrock in these areas are smoothed and variously modified by glacial erosion (i.e. roches moutonnées) and also sculpted by glacial meltwater (Sharpe and Russell, 1996 in Stea, 2021).

Till deposits within the South Uchi property constitute 27.3% of the claims areas or 192 km². These areas vary from a discontinuous till veneer (Tv~1-3m) with percentages of bedrock outcrop highly variable from 3m over bedrock and much of the topography is controlled by these glacial deposits. The till (diamicton) is matrix-supported, with a sand dominated matrix and pebble to boulder sized clasts, angular to sub-rounded. Till sections can exhibit stratigraphy consisting of a lower more indurated facies formed near the base of glacier (lodgement till) with local bedrock debris overlain by a generally coarser, bouldery ablation facies derived from further travelled debris riding higher in the ice (Stea, 2021). Till lithology and texture is controlled for the most part by the nature of up-ice bedrock the glacier encountered at each locality.

Glaciofluvial deposits constitutes 8.5% of the claims, glaciolacustrine 52%, alluvial 0.2% and organic 1.6% (Appendix B: Surficial Maps created over the South Uchi Property). All of these materials are considered to be ‘second- or third derivatives’ as they were eroded from ‘first derivative’ sediments namely till (Shilts, 1984 in Stea,2021). Although there can be merit in prospecting at a regional scale with some of these sample mediums, local or property scale sampling is not suitable

Till is the preferred sediment for property-scale work. At a reconnaissance scale where the size of target is paramount, C-horizon or till sampling is recommended. Thin till areas and bedrock may require B horizon sampling as the B soil horizon may largely extend to the bedrock/till interface. Glacial till has the least complex source-transport depositional history as it can be considered a “first derivative” of

bedrock (Coker and DiLabio, 1987; Shilts, 1996 in Stea, 2021). Glacial dispersal of mineralized rock creates a much larger target than the ore body itself (Coker and DiLabio, 1987 in Stea, 2021).

14.0. Summary and Recommendations

Field reconnaissance confirmed the surficial geology as mapped from the LIDAR dataset. Surficial mapping of the property suggests that bedrock and till (blanket and veneer) terrains constitute ~ 37% of the property and as a sampling medium till (and associated soils) provide the largest exploration targets of all available media. Overall, potential lode gold targets and their clastic dispersal fans may be intersected in enough upland surface till deposits in the area for at least a partial assessment of fan geometry avoiding the problematic glaciolacustrine, glaciofluvial and organic deposits filling much of the lowland areas (Stea, 2021).

A recommended follow up work program for the South Uchi property would include completing a property scale till (C horizon) or B horizon soil sampling campaign. Samples should be gridded perpendicular to the ice flow direction (~240°) with a property scale spacing of 250x1000m. The sample grid should be modified utilizing the lidar and surficial mapping to offset samples when necessary to topographic highs and areas mapped as till.

Sample sizes based on the sandy nature of the till observed should be between 2-3kg to ensure that the fine fraction is abundant enough to obtain 30g required for testing. A sampling campaign with suggested spacing over the property area would constitute an approximate sample count of 2800 samples. Depending on personnel, timeframe, and assay costs, the approximate expenditures to execute a follow up sampling campaign of this size would be between \$300,000 to \$500,000 CAN. The remote access of much of the sample area would require helicopter, float or boat access which will lend to logistical considerations and additional cost.

Some underlying observations and recommendations for a field program include:

- 1) The surficial maps provide a good baseline for making sample grids.
- 2) If mud is suspect at surface target De Geer Morains and other adjacent high areas (knoll and ridges) for sampling tills and soils.
- 3) Samplers should aim to sample from high areas if till cannot be found
- 4) Till is generally very sandy within the project area, so it may be prudent to determine if 1 kg samples yield the requisite 30g fine fraction for gold assay.
- 5) Mud in lows is too thick to auger through by hand. A field portable drill or alternative will be required if samples are to be collected from these areas.
- 6) Field crews should be equipped with both the LIDAR and surficial map in hand while sampling. If poor material is encountered while sampling.

Anomalous samples should be followed up with a detailed sampling campaign over targeted areas. Employment of a field portable drill rig may be required if anomalous samples are located down ice of glaciolacustrine or fluvial sediments. A bedrock mapping campaign to better refine the property scale geology and understand the structural architecture is advised to be executed in tandem with the sampling campaign.

15.0. Statement of Costs

The total cost incurred during this work program are described in Table 3.

Table 3: Incurred expenses from the 2021 field program.

South Uchi Summer 2021 Field Program					
Item	Company	Description	Sub Total	Tax	Total
Lidar Acquisition and Processing	KBM Resources Group	Aerial Acquisition and Processing of approximately 800 km ²	60,050.00	7,806.50	67,856.60
DEM Lidar Interpretation an	Stea Surficial Geology Services	Surficial Mapping of the Property utilizing the LIDAR and Orthoimagery, Production of a 1:20,000 colorful map	7000	1050	8,050.00
Report	Stea Surficial Geology Services	Summary report for the geological interpretation of Imagery	3500	525	4025
Fieldwork	DCGeo	Field inspection of surficial material and report documenting access and material type.	7726.27	162.50	7,888.77
Subtotal			78,276.27	Total	87,820.27

16.0. Qualifications of Author

I, **Vanessa MacLean**, do hereby certify that:

1. I hold a Bachelor of Science Degree in Geology (2013) from Simon Fraser University Vancouver, British Columbia.
2. I hold a Master of Science Degree in Geology (2020) from Laurentian University Sudbury, Ontario.
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (EGBC, P.Geo Registration #52601)
4. I have practiced my profession since graduating university in 2013 and have been employed directly by several large and junior mining and exploration companies.
5. I am presently an employee of Barrick Gold Corporation, reporting to head office at 3700-161 Bay Street Toronto, Ontario. Working in the position of Project Geologist for the company
6. I have supervised numerous projects similar to that presented by the South Uchi Project. I am a "Qualified Person" in the context of National Instrument 43-101, and professionally assuming my duties as such. I consider this report to be accurate in all respects.
7. I have no personal interests in any of the mining claims pertaining to this report.

Date: October 30th, 2021, in Vancouver, British Columbia.



The image shows a red circular professional seal for the Province of British Columbia Geoscientists. The seal contains the text: "PROFESSIONAL PROVINCE OF V. L. MacLEAN # 52601 BRITISH COLUMBIA GEOSCIENTIST". To the right of the seal is a handwritten signature in black ink and the date "30/10/2021" written in black ink.

Vanessa MacLean, M.Sc. P.Geo.
Project Geologist
Barrick Gold Corp

17.0. References

Averill, S. A., 1988. Regional variations in the gold content of till in Canada, *in* MacDonald, D.R. and Mills, K.A., (eds.), *Prospecting in areas of glaciated terrain—1988: Canadian Institute of Mining and Metallurgy*, 271-284.

Averill, S. A., 2001. The application of heavy indicator mineralogy in mineral exploration with emphasis on base metal indicators in glaciated metamorphic and plutonic terrains; *in* B. McClenaghan, M. B. Bobrowski, P. T. Hall, and Cook, S. J., (eds.), *Drift Exploration in Glaciated Terrain: Geological Society of London Special Publications 185*: p. 69-113.

Barnett, P.J. 2008. Till signature of the Caribou Lake greenstone belt area, Armstrong, Ontario; Ontario Geological Survey, Open File Report 6223, 43p.

Barnett, P.J., Henry, A. P. and Babuin, D. 1991. Quaternary geology of Ontario, west-central sheet: Ontario Geological Survey, Map 2554, scale 1 :1 000 000.

Bajc, A. F., 1996. Regional distribution of gold in till in the Peterlong Lake—Radisson Lake area, southern Abitibi subprovince; potential exploration targets: Ontario Geological Survey, Open File 5941.

Benn, D. I., and Evans, D. J. A., 1998. *Glaciers and glaciation*; Arnold, London 734p.

Bowen, R.P, 1989. Slate Lake Area, District of Kenora (Patricia Portion); Ontario Geological Survey, Map 2517, Precambrian Geology Series, scale 1:31 680. *Geology* 1980

Breaks, F.W., Bond, W.D., Stone, Denver, Harris, N., and Desnoyers, D.W. (1976) Operation Kenora-Ear Falls, Papaonga-Wapesi Lakes Sheet, District of Kenora; Ontario Div. Mines, Prelim. Map P.1200, Geol. Ser., scale 1:63 360. *Geology* 1975

Chapman, R., Curry, G., and Sopuck, V., 1990. The Bakos deposit discovery—a case history; *in* Beck, L.S. and Harper, C.T., (eds.), *Modern exploration techniques: Saskatchewan Geological Society, Special Publication v.10*, p. 195-212.

Clark, C.D. 1993. Mega-scale glacial lineations and cross-cutting ice flow landforms. *Earth Surface Processes and Landforms*, 18, 1-29.

Coker, W. B., and DiLabio, R. N. W., 1987. Geochemical Exploration in Glaciated Terrain: Geochemical Responses; *In. Proceedings of Exploration 87*: ed. G. D., Garland, Ontario Geological Survey, Special Volume 3, p. 336-382.

Cummings, D.I., Kjarsgaard, B.A., Russell, H.A.J. and Sharpe, D.R. 2011. Eskers as mineral exploration tools. *Earth Science Reviews*, v. 109, p. 32-43.

Cummings, D, 2021. Surficial geology field check, Uchi. Red Lake Region Ontario. DCGeo Applied Sedimentary Geology.

DiLabio, R. N. W., 1990. Classification and interpretation of the shapes and surface textures of gold grains from till on the Canadian Shield, *in* *Current Research, Part C, Geological Survey of Canada Paper 90-1C*, p. 323-32.

Garrett, R.G., 1971. The dispersion of copper and zinc in glacial overburden at the Louvem deposit, Val d'Or, Quebec, In *Geochemical Exploration*; Canadian Institute of Mining and Metallurgy, Special Volume 11, p. 157-158

Geoffroy, J.; Wignall, T. K., 1971. A probabilistic appraisal of mineral resources in a portion of the Grenville Province of the Canadian Shield; *Economic Geology*. 66 (3): 466–479.

Hirvas, H. and Nenonen, K., 1990. Field methods for glacial indicator tracing. Chapter 12 In: Kujansuu, R. and Saarnisto, M. (ed.) *Glacial Indicator Tracing*. Balkema, Rotterdam, 217-247.

Hellakoski, A. 1931. On the transportation of materials in the esker of Laitila. *Fennia*, v. 52, p. 3-7.

Larsen, E., Longva, O, Follestad, B. A., 1991. Formation of De Geer moraines and implications for deglaciation dynamics; *Journal of Quaternary Science*, Volume6, Issue4 December 1991 Pages 263-277

Levinson, A. A., 1974. *Introduction to Exploration Geochemistry*; Applied Publishing Ltd., Wilmette, Illinois, 614p.

Madon, Z., 2012. Report on the 2010 Exploration Activities, Hammond Reef Property, Thunder Bay, Ontario, Ontario MINISTRY OF NORTHERN DEVELOPMENT AND MINES, Assessment Report, 43p.
McClenaghan, M. B., 1994. Till geochemistry in areas of thick drift and its application to gold exploration, Matheson area, northeastern Ontario: *Exploration and Mining Geology*, v3, p. 17-30.

McClenaghan, M. B., 2001. Regional and local-scale gold grain and till geochemical signatures of lode Au deposits in the western Abitibi Greenstone Belt, central Canada; *in*: McClenaghan, M.B., Bobrowsky, P.T., Hall, G.E.M., Cook, S.J. (eds.), *Drift Exploration in Glaciated Terrain*, Geological Society of London Special Publication 185: p. 83– 123

McClenaghan, M. B., and Kjarsgaard, B. A., 2001. Indicator mineral and geochemical methods for diamond exploration in glaciated terrain in Canada; *in* McClenaghan, M. B., Bobrowsky, P. T., Hall, G. E. M., Cook, S.J. (eds.), *Drift Exploration in Glaciated Terrain*, Geological Society of London Special Publication 185: p. 83– 123.

McMartin, I., 2009. Till Composition Along the Meliadine Trend Near Rankin Inlet, Nunavut: Applications to Gold Exploration in Permafrost Terrain.; *in* Application of till and stream sediment heavy mineral and geochemical methods to mineral exploration in western and northern Canada; McMartin, I. and Paulen, R. C., (eds.), Geological Association of Canada, Short Course Notes, V 18, p. 153-166.

Moon, C. J., Whateley, M. K. G., and Evans, A. M (eds), 2006. *Introduction to Mineral Exploration*; Blackwell Publishing.

Plouffe, A., 1995. Geochemistry, lithology, mineralogy, and visible gold grain content of till in the Manson River and Fort Fraser map areas, central British Columbia: Geological Survey of Canada, Open File 3194. 41p

Prest, V. K., Grant, D. R., and Rampton, V. N., 1968. The glacial map of Canada, Geological Survey of Canada, Map 1253A Scale- 1:5,000,000.

Sandborn-Barrie, M., Rogers, N., Skulski, T., Parker, J., McNicoll, V. and Devaney, J., 2004. Geology and Tectonostratigraphic Assemblages, East Uchi Subprovince, Red Lake and Birch-Uchi belts, Ontario; Geological Survey of Canada, Open File 4256; Ontario Geological Survey, Preliminary Map P.3460, scale 1:250 000.

Sandborn-Barrie, M., Skulski, T., Parker., 2001. Three hundred million years of tectonic history recorded by Red Lake greenstone belt, Ontario; Geological Survey of Canada, Current Research 2001-C19, 19 p

Sarala, P., Pulkkinen, E., Juhani Ojala V., and Peltoniemi-Taivalkoski, A., 2009. Gold exploration using till at Petäjälehto, northern Finland, *Geochemistry: Exploration, Environment Analysis*, v. 9, p. 247–255.

Sauerbrei, J. A., Patterson, E. F., and Averill, S. A., 1986. Till sampling in the Casa Berardi gold area, Quebec: a case history in orientation and discovery; *Journal of Geochemical Exploration*, v.28, p. 297-314.

Shelp G. S., and Nichol, I., 1987. Distribution and dispersion of gold in glacial till associated with gold mineralization in the Canadian Shield; *Journal of Geochemical Exploration*, v. 28: p.315-336.

Sharpe, D. R., and Russell, H. A. J., 1996. Quaternary Geology of the Red Lake/Confederation Lake Area. Geological Survey of Canada. Open File Map 2876, Scale 1:100,000.

Shaw, J.; Sharpe, D.; and Harris, J., 2010. A flowline map of glaciated Canada based on remote sensing data; *Canadian Journal of Earth Sciences*, v.47 p. 89-101.

Shilts, W. W., 1996. Drift Exploration; *In* Chapter 15 Menzies, J., (ed.) 1995. *Modern Glacial Environments, Processes, Dynamics and Sediments*, Butterworth-Heinemann, p. 411-438.

Shilts, W. W.; Aylsworth, J. M.; Kaszycki, C. A.; Klassen, R. A., 1987. "Canadian Shield". *Geomorphic Systems of North America*: 119–161. DNAG volume 2.

Sopuck, V., Schreiner, B., and Averill, S. A., 1986. Drift prospecting for gold in Saskatchewan use of heavy mineral concentrates in tills; *in* Clark E. L. (ed.). *Gold in the western Shield* Canadian Institute of Mining and Metallurgy, Special Volume 38. p. 435- 469

Stea, R., 2021. Surficial Geology and Gold Exploration on the South Uchi Property, Northern Ontario. Internal Report - Stea Surficial Geology Services

Stea, R. R. and Finck, P. W., 2001. An evolutionary model of glacial dispersal and till genesis in Maritime Canada; *In* McClenaghan, B., Bobrowski, M.B., Hall, P.T. and Cook, S.J. (eds) *Drift Exploration in Glaciated Terrain*, Geological Society of London Special Publications 185: 237-265

Tsuyoshi Iizuka, et al., 2007. Geology and Zircon Geochronology of the Acasta Gneiss Complex, *Precambrian Research*, 153 (2007) pp. 179 - 208

Wheeler, J. O., 1961. Whitehorse map-area, Yukon Territory. Geological Survey of Canada, Memoir 312.

Zoltai, S. C., 1960. Surficial Geology of the Kenora-Rainy River area, Western Ontario, Ontario Department of Lands and Forests, Map s165, scale 1 :500,000.

Appendix A: Field Work Stations

Station	Sampler	Latitude WGS84	Longitude WGS84	date	Material At Surface	material at surface Descriptor	notes
KNL_001	DCummings	50.83653522	-92.70255307	2021-07-24	Mud	Silt rich	Light grey silt rich mud. Low cohesion (can't roll into string). Very hard to dig. At least 50 cm deep.
KNL_002	DCummings	50.84690718	-92.66185274	2021-07-24	Bedrock		Small outcrop
KNL_003	DCummings	50.85554274	-92.55581771	2021-07-24	Bedrock		Small outcrop
KNL_004	DCummings	50.85555253	-92.56754725	2021-07-24	Mud	Silt rich	Light grey silt rich mud. Hard to dig. Cannot roll into string. At least 50 cm thick. One cobble sized clast encountered at around 25 cm (dropstone??) but otherwise no sand no gravel, just hard to dig silty mud. Low area on flank of (what I think) Ralph has interpreted as a De Geer moraine. Vegetation changes moving up into ridge (lose the alters, lillies).
KNL_005	DCummings	50.85539909	-92.56779847	2021-07-24	Diamicton	Sandy	Sandy diamicton. Height of land (crest of the ridge). A few boulders poke through O horizon here (see photos).
KNL_006	DCummings	50.85547898	-92.56766965	2021-07-24	Diamicton	Sandy	Sandy diamicton. Non cohesive; little in the way of fines. At base of ridge. Lillies replaced by small evergreen like shoots on forest floor. At least one large boulder at surface, beneath O horizon (had to move initial hole bc of it).
KNL_007	DCummings	50.8558958	-92.55573477	2021-07-24	Diamicton	Sandy	Sandy diamicton. Loose; easy to dig. Very little in the way of fines/cohesion. Layer of subangular cobbles at surface beneath O horizon moss (some kind of armour?) that was difficult to dig, but once through it was easy going. Well developed 20 cm O (moss), 20 cm E (white grey) and 20 cm plus B (orange) soil horizons. Open coniferous forest. Moss, Labrador Tea, mature spruce. Good till sample site. NOTE: (1) A fair amount of anthropogenic disturbance on both sides of road (within 10 m of road), some of it old and moss covered. Need to be careful not to sample this stuff. (2) Till is pretty sandy. Might need to collect a bit more than 1 kg to be on the safe side so we get the requisite 30 g of fine fraction for AR ICMS
KNL_008	DCummings	50.8553523	-92.56789494	2021-07-24	Mud	Silt rich	Light grey silt rich mud. Very hard to dig. At least 50 cm thick. A few pebble sized clasts, which surprised me bc this is MUD, not diamicton (there are no sand particles (0.063-2 mm) or granules...everything is <0.063 mm...see photo). (Are these pebbles dropstones?). On flat-ish ground off the ridge. Forest floor changed again; no more little evergreen shoots, lillies are back. No more birch. Lots of poplar, some spruce.
KNL_009	DCummings	50.85483279	-92.59002543	2021-07-24	Mud	Silt rich	Light grey silt rich mud. O/A horizon 30 cm thick (well developed). Poplar forest. New growth (lots of big rotten stumps around—old poplars that must have been cut down 15-30 years ago).
KNL_010	DCummings	50.85376976	-92.58977506	2021-07-24	Mud	Silt rich	Light grey silt rich mud. No clasts. A bit moist and therefore not completely impossible to dig. Also allows myd to be rolled into string (see photo). At least 75 cm thick. Deciduous forest; 100% poplar. O horizon is 15 cm thick
KNL_011	DCummings	50.84995021	-92.61394612	2021-07-24	Bedrock		Small 2 x 3 m bedrock outcrop. This is an isolated thing; we're mainly in till here.
KNL_012	DCummings	50.85010229	-92.61379426	2021-07-24	Diamicton	Sandy	Sandy diamicton. Easy ish to dig. Well developed O (10 cm), E (5 cm) and B (>30 cm) soil horizons.

KNL_013	DCummings	50.84850357	-92.62181397	2021-07-24	Diamicton	Sandy	Sandy diamicton, same as elsewhere
KNL_014	DCummings	50.84835798	-92.62168656	2021-07-24	Diamicton	Sandy	Moss covered road cut (must be quite old). Same sandy diamicton here as in nearby sample. So sign of bedrock exposed road cut—it's all diamicton. Diamicton is at least 3 m thick here. Some fairly large (1.5 m) boulders poking out through moss here.
KNL_015	DCummings	50.84562393	-92.62422385	2021-07-24	Diamicton	Sandy	
KNL_016	DCummings	50.84498223	-92.62482624	2021-07-24	Bedrock		Large 50 x 25 m bedrock outcrop
KNL_017	DCummings	50.84306674	-92.62733077	2021-07-24	Bedrock		Small 3 x 3 m bedrock outcrop
KNL_018	DCummings	50.85183907	-92.62957033	2021-07-24	Mud	Silt rich	This is almost very fine sand.
KNL_019	DCummings	50.85618286	-92.64956192	2021-07-24	Sand	Medium	Well sorted medium sand (grain size mode is approx 0.3 mm). No clasts. Smooth shovel penetration, easy to dig. Pit is on the lower flank of the small valley the post-glacial stream has incised. It is approx 3 m from stream, and 2 m above water level.
KNL_020	DCummings	51.02787509	-92.44608442	2021-07-24	Bedrock		Small bedrock outcrop (5 x 5 m). Perched boulder on bedrock
KNL_021	DCummings	51.01314964	-92.45586353	2021-07-24	Bedrock		Bedrock outcrop at height of land. Landform clearly bedrock controlled
KNL_022	DCummings	50.99985851	-92.46675205	2021-07-24	Bedrock		10 x 20 m outcrop
KNL_023	DCummings	50.99810981	-92.47011456	2021-07-24	Bedrock		Same outcrop as adjacent point
KNL_024	DCummings	50.99407309	-92.46934703	2021-07-24	Sand		Interp: subaqueous outwash
KNL_025	DCummings	50.9844046	-92.46600048	2021-07-24	Sand	Medium	Well sorted medium sand . Lots of ants
KNL_026	DCummings	50.98555557	-92.46620402	2021-07-24	Mud		
KNL_027	DCummings	50.98754461	-92.46714415	2021-07-24	Mud	Silt rich	At least 3 m of light grey silt rich mud exposed in ditch. Exposure is at top of hill, though not quite at pinnacle of hill
KNL_028	DCummings	50.98124216	-92.46471707	2021-07-24	Sand	Medium	Well sorted medium sand. Monster boulder standing on its end at surface (interp: dropstone). Pine forest
KNL_029	DCummings	50.97814855	-92.46365621	2021-07-24	Mud	Silt rich	Hard to dig
KNL_030	DCummings	50.97496856	-92.46613027	2021-07-24	Sand	Medium	Well sorted medium sand. No clasts, very easy to dig. Well developed E horizon at this location. Interp: subaqueous outwash.
KNL_031	DCummings	50.97359893	-92.46831795	2021-07-24	Sand	Medium	Well sorted. Was expecting mud bc of mixed forest
KNL_032	DCummings	50.97255919	-92.47063048	2021-07-24	Sand	Medium	Well sorted. Again, was expecting mud bc of mixed forest
KNL_033	DCummings	50.97176342	-92.47262948	2021-07-24	Bedrock		5 x 5 m outcrop
KNL_034	DCummings	50.97097397	-92.4735806	2021-07-24	Bedrock		Small outcrop. On both sides of road.
KNL_035	DCummings	50.96960387	-92.47558765	2021-07-24	Bedrock		Large 25 x 25 m outcrop. On both sides of road. Height of land.
KNL_036	DCummings	50.97213106	-92.48100518	2021-07-24	Sand		
KNL_037	DCummings	50.97304205	-92.48079124	2021-07-24	Mud	Silt rich	Hard to dig. At least 2 m of mud here.
KNL_038	DCummings	50.972925	-92.4807582	2021-07-24	Sand	Medium	Well sorted. At least 2 m of sand exposed in ditch. Mud contact is within meters here (see adjacent site).
KNL_039	DCummings	50.97446861	-92.4823627	2021-07-24	Mud	Silt rich	Mud exposed at base of ditch
KNL_040	DCummings	50.97586718	-92.48296548	2021-07-24	Diamicton	Sandy	Diamicton exposed in ditch
KNL_041	DCummings	50.97841623	-92.48197996	2021-07-24	Diamicton		
KNL_042	DCummings	50.97580515	-92.48526044	2021-07-24	Diamicton	Sandy	
KNL_043	DCummings	50.97696701	-92.48741706	2021-07-24	Bedrock		Small outcrop
KNL_044	DCummings	50.97730991	-92.48778564	2021-07-24	Mud	Silt rich	Mud in ditch
KNL_045	DCummings	50.97890985	-92.48929742	2021-07-24	Diamicton	Sandy	
KNL_046	DCummings	50.98143002	-92.49087366	2021-07-24	Diamicton	Sandy	

KNL_047	DCummings	50.98156262	-92.49096048	2021-07-24	Bedrock		
KNL_048	DCummings	50.95984875	-92.51423292	2021-07-24	Sand	Medium	
KNL_049	DCummings	50.94047987	-92.53452702	2021-07-24	Bedrock		Small rusty outcrop
KNL_050	DCummings	50.94062604	-92.53670769	2021-07-24	Mud	Silt rich	Mud in ditch
KNL_051	DCummings	50.94128348	-92.5433421	2021-07-24	Bedrock		Small outcrop
KNL_052	DCummings	50.93956951	-92.55859249	2021-07-24	Bedrock		10 x 20 m outcrop
KNL_053	DCummings	50.92352197	-92.59038469	2021-07-24	Bedrock		Small outcrop
KNL_054	DCummings	50.90564236	-91.76328474	2021-07-25	Bedrock		5 x 5 m outcrop. Thin diamicton (till veneer) all around.
KNL_055	DCummings	50.90703358	-91.77845968	2021-07-25	Diamicton	Sandy	Sandy diamicton. Matrix similar but slightly finer than in Ralph's field check sites on E end of claim block (particle size distribution mode is very fine sand (0.1 mm), not fine sand). Hard-ish to dig bc of clasts, but loose and dry. Basically no cohesion. Tight young-ish pine forest.
KNL_056	DCummings	50.90490354	-91.78465154	2021-07-25	Diamicton	Sandy	Sandy diamicton. Same as last stop: cohesionless, loose-ish, basically devoid of fines, matrix mode is fine sand.
KNL_057	DCummings	50.90179693	-91.78580512	2021-07-25	Diamicton	Sandy	Head scratcher. (DC note: But see last sentence.) I'm pretty sure this is till. But it's weird. It's a sandy diamicton devoid of fines, with a matrix particle-size mode squarely in finer sand (little coarser sand in matrix). What's weird, beyond the paucity of coarser sand in the matrix, is the paucity of clasts, and in particular larger (>2 cm) clasts. However, when you look at the sediment up close, the clasts that to exist are pretty angular (see photo). The clasts prob account for 5% by volume. I would tentatively interpret this as till. There's nothing here that screams "glaciofluvial". (ADDENDUM: ok, quite sure this is till based on fresh ditch excavation down the road to the west—see next site along this road.)
KNL_058	DCummings	50.90063823	-91.78687613	2021-07-25	Diamicton	Sandy	Sandy diamicton. Pile of diamicton from a big, freshly dug ditch. Pretty sure this is representative of till veneer in this upland map polygon.
KNL_059	DCummings	50.89949849	-91.7882805	2021-07-25	Diamicton	Sandy	Exposed in ditch
KNL_060	DCummings	50.89705403	-91.79340705	2021-07-25	Diamicton	Sandy	In ditch
KNL_061	DCummings	50.89644014	-91.79591609	2021-07-25	Diamicton	Sandy	In ditch
KNL_062	DCummings	50.89528018	-91.79889773	2021-07-25	Diamicton	Sandy	In ditch
KNL_063	DCummings	50.89242887	-91.79509901	2021-07-25	Bedrock		Very large bedrock outcrop. Very well exposed due to burn
KNL_064	DCummings	50.89412405	-91.79810214	2021-07-25	Diamicton	Sandy	In ditch
KNL_065	DCummings	50.89361214	-91.80281677	2021-07-25	Diamicton	Sandy	In ditch
KNL_066	DCummings	50.89249084	-91.80677369	2021-07-25	Diamicton	Sandy	In ditch
KNL_067	DCummings	50.89133454	-91.81293014	2021-07-25	Diamicton	Sandy	In ditch
KNL_068	DCummings	50.9068839	-91.78768333	2021-07-25	Mud	Silt rich	This is borderline between mud (silt) and sand (very fine sand). No cohesion, dry. Poplar forest. A few rare small spruce
KNL_069	DCummings	50.91006844	-91.79158867	2021-07-25	Gravel	Cobble	Gravel pit, occupied by trailers, First Nations people living here. From truck, it's obvious that there's a mix of gravel (R channel/proximal outwash) and sand (subaqueous outwash) being mined here. The gravel is associated with the main ridge on Ralph's map.
KNL_070	DCummings	50.90909727	-91.7974502	2021-07-25	Sand	Very fine	Very fine sand (mode 0.1 mm). Might consider mapping this in esker complex polygon.
KNL_071	DCummings	50.90896084	-91.8004759	2021-07-25	Sand	Very fine	Exposed in ditch
KNL_072	DCummings	50.90878183	-91.80325975	2021-07-25	Sand	Very fine	In ditch
KNL_073	DCummings	50.90960145	-91.80542416	2021-07-25	Sand	Very fine	In ditch
KNL_074	DCummings	50.91246338	-91.80576706	2021-07-25	Gravel	Pebble	Cobble pebble gravel with coarse sand matrix. Exposed in ditch
KNL_075	DCummings	50.91664289	-91.79842348	2021-07-25	Mud	Silt rich	In ditch
KNL_076	DCummings	50.9166864	-91.79541796	2021-07-25	Mud	Silt rich	In ditch
KNL_077	DCummings	50.91683088	-91.79356613	2021-07-25	Diamicton	Sandy	In ditch. Thin (till veneer)

KNL_078	DCummings	50.90725419	-91.80542886	2021-07-25	Sand	Very fine	Easy to dig. Non cohesive. Well exposed in ditch along this entire road
KNL_079	DCummings	50.90488961	-91.80651163	2021-07-25	Diamicton	Sandy	Exposed in ditch
KNL_080	DCummings	50.90388197	-91.80952824	2021-07-25	Bedrock		Small (4 x 2 m) outcrop surrounded by Tv
KNL_081	DCummings	50.90391845	-91.8092056	2021-07-25	Diamicton	Sandy	In ditch
KNL_082	DCummings	50.9032676	-91.8107163	2021-07-25	Diamicton	Sandy	In ditch
KNL_083	DCummings	50.90249195	-91.81222153	2021-07-25	Diamicton	Sandy	In ditch
KNL_084	DCummings	50.90698345	-91.81544739	2021-07-25	Sand	Very fine	In ditch
KNL_085	DCummings	50.90602548	-91.8199585	2021-07-25	Sand	Very fine	In ditch
KNL_086	DCummings	50.90585205	-91.82433933	2021-07-25	Sand	Very fine	In ditch
KNL_087	DCummings	50.90528741	-91.83641186	2021-07-25	Sand	Medium	Medium sand. Didn't encounter any gravel while digging, but there's some at surface, including a large boulder (see photos)
KNL_088	DCummings	50.90471412	-91.84296179	2021-07-25	Gravel	Pebble	Gravel pit. Mostly gravel here, a little flanking sand. Gravel is pebbly, clast supported, and organized into steep (15 deg) cross stratification (a single set? Can't tell because of junk at base of pit face) that dips toward 300 deg (no mag decl correction).
KNL_089	DCummings	50.90554842	-91.86183138	2021-07-25	Gravel	Pebble	Gravel pit. No active faces. They're got a mix of sand and gravel in deposit here.
KNL_090	DCummings	50.89850529	-91.89972256	2021-07-25	Mud	Silt rich	Light grey silt rich mud. Just slightly cohesive. Fresh pile of it from a new ditch excavation.
KNL_091	DCummings	50.89557143	-91.90197781	2021-07-25	Diamicton	Sandy	Thin diamicton; bedrock at or within 10s of cm from the surface here
KNL_092	DCummings	50.89457699	-91.90467516	2021-07-25	Mud	Clay rich	Cohesive moist brownish mud beneath thick (50 cm) well developed moist O/A horizon. Can roll mud into a string. Spruce only forest. Thick hard-to-walk in moss and Labrador Tea. First site where it would have been (much) easier with Dutch auger (vs my shovel)
KNL_093	DCummings	50.89261796	-91.91411953	2021-07-25	Mud	Silt rich	Light grey silt rich mud. Moist. Can't roll into string. Recently clear cut area. Was prob spruce forest prior to clear cut (that's what is all around)
KNL_094	DCummings	50.8904197	-91.92175193	2021-07-25	Diamicton	Sandy	In ditch
KNL_095	DCummings	50.89945831	-91.90506314	2021-07-25	Bedrock		Little outcrop surrounded by Tv
KNL_096	DCummings	50.89946857	-91.90721284	2021-07-25	Bedrock		Little outcrop with Tv
KNL_097	DCummings	50.89953616	-91.91017057	2021-07-25	Bedrock		Small bedrock outcrop in Tv
KNL_098	DCummings	50.90107379	-91.91739586	2021-07-25	Bedrock		Small outcrop
KNL_099	DCummings	50.9015619	-91.91760237	2021-07-25	Bedrock		Outcrop
KNL_100	DCummings	50.89868697	-91.92030706	2021-07-25	Diamicton	Sandy	Sandy diamicton. Clear it with in past decade
KNL_101	DCummings	50.89822352	-91.92373908	2021-07-25	Bedrock		Small outcrop in Tv
KNL_102	DCummings	50.89696924	-91.92599562	2021-07-25	Sand	Fine	Inactive aggregate pit. Fine sand (interp: subaqueous outwash) exposed in pit wall. One or two isolated gravel clasts (interp: dropstones). There's also a fair amount of pebble-cobble gravel with coarse sand (interp: proximal subaqueous outwash/R channel) that pit operator has piled up here, but none exposed in active face. (But gravel must have cone from here, also.)
KNL_103	DCummings	50.89778787	-91.92895824	2021-07-25	Bedrock		Small outcrop
KNL_104	DCummings	50.89756309	-91.93077184	2021-07-25	Bedrock		Small outcrop
KNL_105	DCummings	50.89750999	-91.93245664	2021-07-25	Bedrock		10 x 10 m outcrop
KNL_106	DCummings	50.89661804	-91.9355682	2021-07-25	Bedrock		Small outcrop
KNL_107	DCummings	50.89642729	-91.936539	2021-07-25	Diamicton	Sandy	Tv exposed in ditch
KNL_108	DCummings	50.89521439	-91.94245918	2021-07-25	Bedrock		Small outcrop
KNL_109	DCummings	50.89434253	-91.94621084	2021-07-25	Bedrock		Small outcrop
KNL_110	DCummings	50.8928333	-91.95256198	2021-07-25	Bedrock		Small outcrop

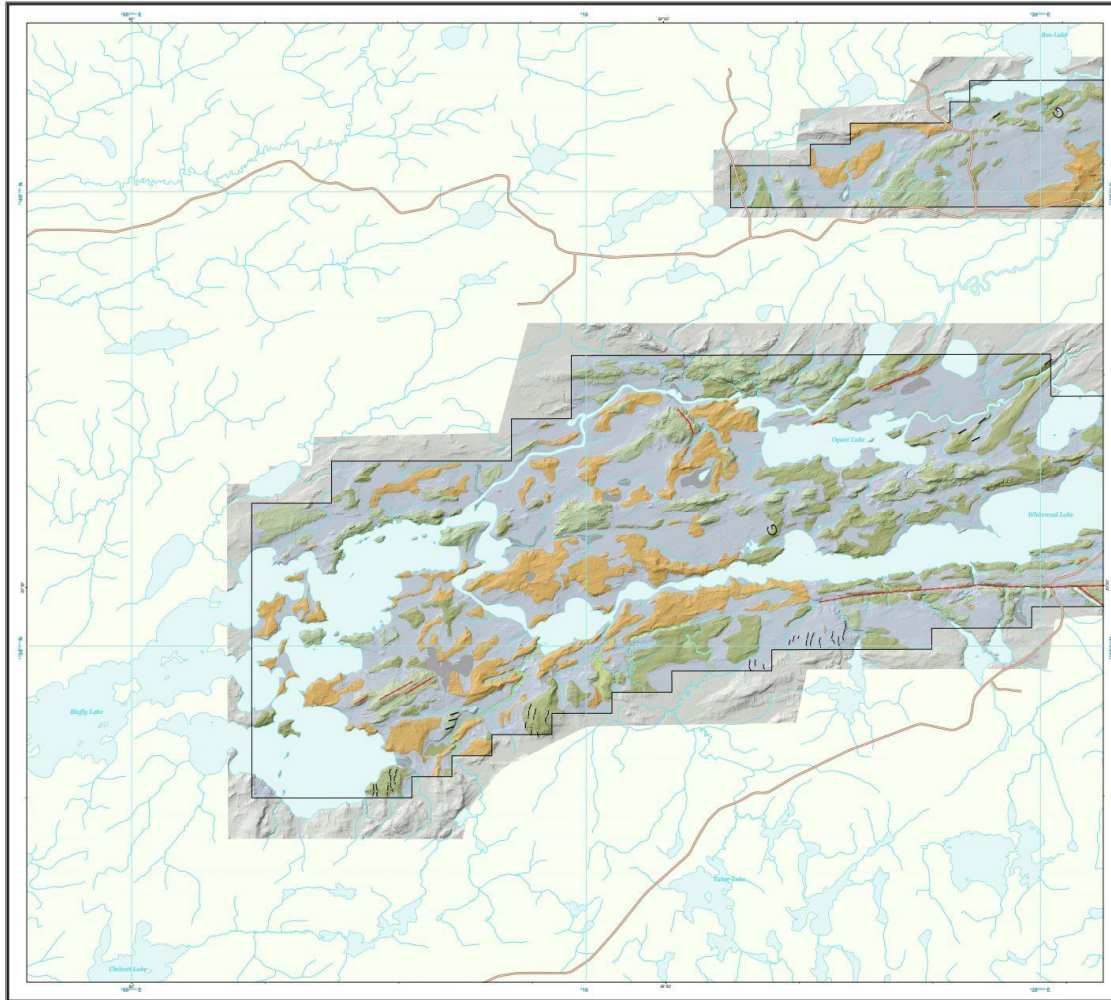
KNL_111	DCummings	50.89210554	-91.95524001	2021-07-25	Diamicton	Sandy	Sandy diamicton, just above bedrock at this location. Exposed in excavation. Mud also exposed in sane excavation just a few m away; I presume it stratigraphically overlies the till, even though contact is not clear
KNL_112	DCummings	50.89722247	-91.92602267	2021-07-25	Bedrock		Small, striated bedrock outcrop. Striations trend 260 degrees (no mag decl correction). At base of aggregate pit.
KNL_113	DCummings	51.0058773	-92.46520016	2021-07-24	Sand		Sand pit. Well sorted medium sand (mode = 0.3 mm) (interp: subaqueous outwash). Several large boulders, some angular (interp: dropstones). No gravel being mined here; none observed in exposures.
KNL_114	DCummings	51.0211395	-92.45129355	2021-07-24	Sand		Exposed in road cut
KNL_115	DCummings	50.92658987	-92.58563348	2021-07-24	Mud	Silt rich	Exposed at side of road
KNL_116	DCummings	50.83049483	-92.71010876	2021-07-26	Mud	Silt rich	Light grey silt rich mud. Can't roll into string. Hard to dig. Mature, open poplar forest.
KNL_117	DCummings	50.83166129	-92.71218133	2021-07-26	Bedrock		Small outcrop
KNL_118	DCummings	50.83324201	-92.71245904	2021-07-26	Bedrock		Small outcrop
KNL_119	DCummings	50.83518132	-92.7060812	2021-07-26	Mud	Silt rich	Hard to dig. Mixed forest
KNL_120	DCummings	50.84151804	-92.69252986	2021-07-26	Bedrock		Small outcrop
KNL_121	DCummings	50.84252964	-92.68807951	2021-07-26	Bedrock		Small outcrop
KNL_122	DCummings	50.9582822	-92.49921028	2021-07-26	Diamicton	Sandy	Exposed in small shallow (>1 m deep) excavation. Tv (bedrock exposed in excavation).
KNL_123	DCummings	50.96299936	-92.49118027	2021-07-26	Diamicton	Sandy	Exposed beneath roots of overturned tree. Tv: bedrock exposed several m away. Spruce forest, mossy forest floor
KNL_124	DCummings	50.96291971	-92.49107389	2021-07-26	Bedrock		Small outcrop
KNL_125	DCummings	50.96579475	-92.48282521	2021-07-24	Bedrock		Small outcrop. Beautiful polymictic pebble-cobble conglomerate. Striations at 240 deg (no mag decl correction)
KNL_126	DCummings	50.98148184	-92.4624657	2021-07-26	Diamicton	Sandy	Nice sandy diamicton; same as sites immediately to the W. A few cobbles and small boulder poking through moss at surface. Well developed E horizon (10 cm thick). Crest of small hill. Spruce forest, mossy floor, rare birch.
KNL_127	DCummings	50.98153562	-92.46330397	2021-07-26	Diamicton	Sandy	Nice diamicton. Loose, sandy, hard to dig due to clasts. Well developed E horizon. Flank of NE sloping hill. Spruce forest, mossy floor. Labrador Tea.
KNL_128	DCummings	50.98125258	-92.46388944	2021-07-26	Diamicton	Sandy	Nice diamicton. Loose, sandy, hard to dig due to clasts. Well developed E horizon. On E facing flank of a hill. Spruce forest, mossy floor.
KNL_129	DCummings	50.98205214	-92.46179514	2021-07-26	Diamicton	Sandy	Crest of small ridge (2 m high, 3 m wide—a minor DeGeer?). A few boulder at surface
KNL_130	DCummings	50.98277694	-92.45986766	2021-07-26	Diamicton	Sandy	Crest of broad hill
KNL_131	DCummings	50.98358404	-92.45702217	2021-07-26	Mud	Silt rich	Weird...was not expecting this here, but this is definitely silt rich mud. Hard to dig, no clasts. Flank of hill. I suspect this is an aberration, just a small patch in what is otherwise a diamicton polygon.
KNL_132	DCummings	50.98378186	-92.45722603	2021-07-26	Diamicton	Sandy	Crest of larger hill. Nice diamicton. Cobbles and boulders poking through moss here and there. I suspect this is an unmapped De Geer.
KNL_133	DCummings	50.98383557	-92.44987775	2021-07-24	Gravel	Sandy	Reclaimed aggregate pit. There is a fair amount of gravel here (particle size mode is perhaps 5 mm) and the sand is generally coarse to very coarse. Rounded pebbles and cobbles common (approx 30% of sediment here). Sand in the gravelly piles (presumably matrix) is coarser and brownish grey, not fine. Some piles of pure yellowish sand, also. So I'd interpret this to be proximal subaqueous outwash or possibly R channel (i.e., ice contact glaciofluvial). Not esker related, maybe a little fan body associated with De Geer moraine generation.
KNL_134	DCummings	50.98428698	-92.44501047	2021-07-26	Gravel	Pebble	Small old pit. Loose, clast supported pebble gravel. Rounded clasts. Another small DeGeer related fan body perhaps?
KNL_135	DCummings	50.98515169	-92.44361412	2021-07-26	Gravel	Pebble	Pebble gravel, clast supported. Loose. Exposed in road cut. A skiff (<20 cm) of light grey mud here and there at surface,

							which has washed down over gravel (see photo). Mud thickens eastward along cut.
KNL_136	DCummings	50.98547795	-92.44322648	2021-07-26	Mud	Silt rich	In ditch. At least 1 m thick here. Hard to dig.
KNL_137	DCummings	50.98616676	-92.44135441	2021-07-26	Diamiction	Sandy	Sandy loose diamiction. Small ridge exposed in old road cuts on both sides of road. Boulderiness, cobbly at surface. As is typical of the diamiction to date, the matrix is sandy, with a mode in the vf sand range. A skiff (<5 cm) of mud locally at surface.
KNL_138	DCummings	50.98641782	-92.44091288	2021-07-26	Mud	Silt rich	Hard to dig
KNL_139	DCummings	50.98677463	-92.4398286	2021-07-26	Sand	Pebble	This one is tricky...it's more like pebbly sand or a sandy pebble gravel...the matrix is a bit coarser than the typical diamiction on property (mode is med sand, approx 0.5 mm), and the road is very sand here, whereas road is not that sandy in next De Geer to the west. However, I still suspect this is till given the presence of some "outsized" clasts (boulders). Clasts not that well rounded; they vary from ang to sub rounded.
KNL_140	DCummings	50.98756308	-92.43890072	2021-07-26	Diamiction		Exposed in ditch
KNL_141	DCummings	50.98864157	-92.43903567	2021-07-26	Mud	Silt rich	Hard to dig. In clearing. Base of hill.
KNL_142	DCummings	50.98413796	-92.43702942	2021-07-26	Diamiction	Sandy	Exposed in small old excavation
KNL_143	DCummings	50.98430696	-92.43607828	2021-07-26	Bedrock		Big rusty outcrop
KNL_144	DCummings	50.98637026	-92.43237489	2021-07-26	Mud	Silt rich	Hard to dig. Exposed beneath overturned tree. Clear cut area.
KNL_145	DCummings	50.98704857	-92.42279884	2021-07-26	Mud	Silt rich	Hard to dig
KNL_146	DCummings	50.98718012	-92.42255717	2021-07-26	Diamiction	Sandy	Small diamiction ridge covered in angular boulders (interpretation: De Geer moraine). Almost clast supported boulders, at least at surface. Mixed forest
KNL_147	DCummings	50.98769508	-92.41761528	2021-07-26	Diamiction	Sandy	Crest of larger hill/ridge. Diamiction exposed in shallow road cut. Sparse boulders at surface. Pine forest
KNL_148	DCummings	50.98924694	-92.41503572	2021-07-26	Mud	Silt rich	
KNL_149	DCummings	50.98933057	-92.41224152	2021-07-26	Diamiction	Sandy	Exposed in shallow road cut. Flank of hill. Pine forest
KNL_150	DCummings	50.98965089	-92.41123003	2021-07-26	Bedrock		Small outcrop
KNL_151	DCummings	50.98982656	-92.41048314	2021-07-26	Diamiction		Crest of hill. Exposed on side of road
KNL_152	DCummings	50.99010504	-92.40967292	2021-07-26	Bedrock		Small outcrop
KNL_153	DCummings	50.98970225	-92.4035141	2021-07-26	Diamiction	Sandy	Exposed in road cut. Near crest of hill.
KNL_154	DCummings	50.98049594	-92.46566238	2021-07-26	Sand	Medium	Well sorted medium sand (mode = 0.3 mm). Smooth, easy shovel penetration. Sparse pine forest, reindeer lichen. Rare angular to rounded cobbles scattered about at surface (but zero clasts in the pit I shoveled).
KNL_155	DCummings	50.9806162	-92.46621382	2021-07-26	Sand	Medium	
KNL_156	DCummings	50.9858059	-92.46516936	2021-07-26	Diamiction	Sandy	Crest of small ridge. Lots of boulders, cobbles at surface. Sandy diamiction, loose.
KNL_157	DCummings	50.98578792	-92.46528612	2021-07-26	Mud	Silt rich	Light grey silt rich mud. Hard to dig. Base of ridge (De Geer moraine).
KNL_158	DCummings	50.98571428	-92.4648842	2021-07-26	Mud	Silt rich	On flat on other side of De Geer ridge. Back into the mud. Hard to dig.
KNL_159	DCummings	50.98558926	-92.4653986	2021-07-26	Organics		Edge of swamp (organic map polygon)
KNL_160	DCummings	50.99590387	-92.46418472	2021-07-26	Bedrock		Little tiny bedrock outcrop
KNL_161	DCummings	50.99467913	-92.46746331	2021-07-26	Gravel	Pebble	Clast supported, rounded pebble gravel with a coarse sand matrix. Small old pit. Flank of hill, rises Eward
KNL_162	DCummings	50.99754501	-92.45654682	2021-07-26	Bedrock		Small outcrop
KNL_163	DCummings	50.99591476	-92.464375	2021-07-26	Gravel	Pebble	Same pebble gravel as last site to the W. loose, clast supported, no larger clasts (boulders), just loose pebble gravel. Well rounded clasts, coarse sand matrix. Clear cut area. Small plateau on this large Wward slope I'm driving up.
KNL_164	DCummings	50.99663258	-92.45802686	2021-07-26	Gravel	Pebble	Aggregate pit. Plateau on this hill I've been driving up. I think they're pulling mostly pebble gravel with brownish grey coarse sand matrix out of here—ice contact glaciofluvial/r channel/proximal subaqueous outwash type stuff. No obvious sand units (that I'd interpret was subaqueous outwash).
KNL_165	DCummings	50.99845291	-92.45194369	2021-07-26	Bedrock		Smallish outcrop. Crest of this major hill.

KNL_166	DCummings	50.99970706	-92.4427093	2021-07-26	Diamicton	Sandy	Crest of next big hill. Sandy diamicton, quite stone rich (and thrfr hard to dig). A few m sized boulders here and there. Clasts ang to subr
KNL_167	DCummings	51.0005212	-92.44171532	2021-07-26	Bedrock		Small outcrop
KNL_168	DCummings	51.00062631	-92.43551999	2021-07-26	Bedrock		Small outcrop surrounded by diamicton
KNL_169	DCummings	51.00061139	-92.43546849	2021-07-26	Diamicton	Sandy	End of the road. Diamicton
KNL_170	DCummings	51.00075126	-92.43737525	2021-07-26	Bedrock		Small outcrop in Tv
KNL_171	DCummings	51.00207316	-92.44348807	2021-07-26	Diamicton	Sandy	In ditch
KNL_172	DCummings	51.00285033	-92.44562142	2021-07-26	Bedrock		Small outcrop in Tv. Crest of hill. End of road.
KNL_173	DCummings	50.9818149	-92.46533504	2021-07-26	Mud	Silt rich	In ditch
KNL_174	DCummings	50.97667178	-92.46407371	2021-07-26	Mud	Silt rich	In ditch
KNL_175	DCummings	50.96880469	-92.47353569	2021-07-26	Bedrock		Small outcrop
KNL_176	DCummings	50.967077	-92.4730727	2021-07-26	Bedrock		Small outcrop with Tv
KNL_177	DCummings	50.96667734	-92.47364582	2021-07-26	Bedrock		Small oc
KNL_178	DCummings	50.96573335	-92.47369226	2021-07-26	Bedrock		Small oc
KNL_179	DCummings	50.96521001	-92.47265209	2021-07-26	Bedrock		Small oc with Tv
KNL_180	DCummings	50.96466639	-92.46893445	2021-07-26	Bedrock		Small oc
KNL_181	DCummings	50.96567939	-92.46354137	2021-07-26	Bedrock		Small bedrock oc with Tv
KNL_182	DCummings	50.96727812	-92.46347309	2021-07-26	Bedrock		Small oc
KNL_183	DCummings	50.96780739	-92.46154111	2021-07-26	Diamicton	Sandy	Dismicton exposed in road cut (1 m thick or more)
KNL_184	DCummings	50.96796312	-92.45996958	2021-07-26	Diamicton	Sandy	Road cut
KNL_185	DCummings	50.9683003	-92.45743196	2021-07-26	Diamicton	Sandy	Road cut
KNL_186	DCummings	50.96833348	-92.45712228	2021-07-26	Bedrock		Small oc
KNL_187	DCummings	50.96843185	-92.45669827	2021-07-26	Diamicton	Sandy	Road cut
KNL_188	DCummings	50.96933568	-92.45323215	2021-07-26	Bedrock		Small oc
KNL_189	DCummings	50.96905916	-92.45204147	2021-07-26	Bedrock		Small oc
KNL_190	DCummings	50.96889927	-92.45003181	2021-07-26	Bedrock		Small oc
KNL_191	DCummings	50.96861123	-92.44787546	2021-07-26	Diamicton	Sandy	Roast cut, nice exposure
KNL_192	DCummings	50.96811747	-92.44590735	2021-07-26	Diamicton	Sandy	Same road cut as last site to the W
KNL_193	DCummings	50.96760293	-92.46307458	2021-07-26	Diamicton		Till veneer exposed on clear cut hill flank. From this point eastward down road, there's more diamicton on the hills; I'd suggest these hills could be classified as Tv (unless it's obvious there's lots of bedrock on crest in LIDAR).
KNL_194	DCummings	50.96798976	-92.44373417	2021-07-26	Diamicton	Sandy	Road cut. Might consider making the hills on either side of this valley Tv as opposed to bedrock, but either would work. Pretty much end of road here.
KNL_195	DCummings	50.9655181	-92.48427276	2021-07-26	Bedrock		Small oc
KNL_196	DCummings	50.96269767	-92.51141542	2021-07-26	Diamicton	Sandy	Small excavation
KNL_197	DCummings	50.96257502	-92.51158269	2021-07-26	Bedrock		Small oc
KNL_198	DCummings	50.96548752	-92.51133836	2021-07-26	Diamicton	Sandy	In ditch
KNL_199	DCummings	50.96873959	-92.51099378	2021-07-26	Diamicton	Sandy	In ditch
KNL_200	DCummings	50.96984076	-92.51098841	2021-07-26	Diamicton	Sandy	Despite what it looks like on Google, this is the end of the road
KNL_201	DCummings	50.96903948	-92.51104591	2021-07-26	Bedrock		Small oc
KNL_202	DCummings	50.94617452	-92.5108465	2021-07-26	Bedrock		Small oc
KNL_203	DCummings	50.94796544	-92.505531	2021-07-26	Mud	Silt rich	Exposed in small cut on side of hill
KNL_204	DCummings	50.9163342	-92.60402168	2021-07-26	Bedrock		Small oc
KNL_205	DCummings	50.91785771	-92.60980675	2021-07-26	Bedrock		Small oc. This and last oc look streamlined
KNL_206	DCummings	50.92046079	-92.61844092	2021-07-26	Sand		Road cut
KNL_207	DCummings	50.92136193	-92.6277823	2021-07-26	Sand		
KNL_208	DCummings	50.9220221	-92.63480089	2021-07-26	Diamicton		
KNL_209	DCummings	50.92364922	-92.64418391	2021-07-26	Sand		Small pit. Sand, no obv gravel being mined here
KNL_210	DCummings	50.9229085	-92.65284124	2021-07-26	Mud	Silt rich	In ditch
KNL_211	DCummings	50.92265643	-92.6578146	2021-07-26	Bedrock		Small oc

KNL_212	DCummings	50.92010979	-92.66919303	2021-07-26	Mud	Silt rich	Weird...pine forest. But this is def mud. Maybe not too thick??
KNL_213	DCummings	50.91466389	-92.683778	2021-07-26	Bedrock		Small oc
KNL_214	DCummings	50.90971925	-92.69505012	2021-07-26	Bedrock		OC
KNL_215	DCummings	50.9109981	-92.69234545	2021-07-26	Mud	Silt rich	Poplar forest away from road
KNL_216	DCummings	50.90848945	-92.60230273	2021-07-26	Mud	Silt rich	Pines? Planted? (I suspect yes. There's a mixed poplar dominated forest right across main road. And the grader operator told me they don't make any money on poplar, which is what might naturally establish in mud like this. So my guess is they planted pine here. Otherwise makes no sense.)
KNL_217	DCummings	50.89829251	-92.60495468	2021-07-26	Mud	Silt rich	Hard to dig
KNL_218	DCummings	50.889042	-92.60692798	2021-07-26	Mud	Silt rich	Hard to dig. Mixed forest
KNL_219	DCummings	50.88284436	-92.6185691	2021-07-26	Bedrock		Small oc
KNL_220	DCummings	50.88342444	-92.62081715	2021-07-26	Diamicton	Sandy	
KNL_221	DCummings	50.87946945	-92.61879764	2021-07-26	Gravel	Cobble	Gravel pit. No well sorted sand bodies. BIG gravel: a few piles of rounded small boulders and large cobbles, and active faces have a mix of openwork cobble gravel and sandy pebble gravel. Matrix is brownish grey coarse to very coarse sand. We're in the heart of the beast here—the most "proximal", most high energy glaciofluvial facies observed. Note that we're also at the upflow end of this landform as well.
KNL_222	DCummings	50.87700976	-92.62755661	2021-07-26	Sand	Fine	Well sorted, dry, easy to dig. Pine forest
KNL_223	DCummings	50.87533651	-92.62356871	2021-07-26	Sand	Pebble	Pebbly fine-medium sand.

Appendix B: Surficial Maps created over the South Uchi Property



Map 1 of 5

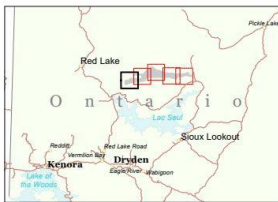


Stea Surficial Geology Services

Surficial Geology of the Kenorland Minerals Ltd. South Uchi Project Area Western Ontario

Universal Transverse Mercator
Zone 18 MAD 83
Claim geology (LIDAR interpretation) by RR Stea

Additional information from:
Barnett, P.J., Henry, A. P. and Babun, D. 1991. Quaternary geology of Ontario, west-central sheet: Ontario Geological Survey, Map 2594, scale 1:100,000.
Sharpe, D. R. and Russell, H. A. J. 1996. Quaternary Geology of the Red Lake/Condebaron/Lake Area. Geological Survey of Canada, Open File Map 2876, Scale 1:100,000.
Zubik, S. C., 1960. Surficial Geology of the Kenora-Bainy River area, Western Ontario. Ontario Department of Lands and Forests, Map #165, scale 1:300,000.



SYMBOLS GLACIAL LANDFORMS

- G** DRUMLINS: Ice flow parallel, streamlined hills, with blunt, up-glacier facing sides and tapered down-glacier extensions. Can be mostly bedrock (rock drumlins), bedrock cored, or mostly till.
- I** ROCHE MOUTONNEES AND CRAG AND TAIL HILLS: Ice flow parallel, streamlined bedrock hills with smoothed up-glacier sides (talus) and rough, plucked lee sides (RMS). Streamlined hills consisting of an up-ice rock knob and down-ice tapering ridge made of till (CT).
- ~** DEGENER MORAINE: Narrow ridges, evenly spaced, trending parallel to a former ice front, 50-300 m apart and up to 10 m high. Each ridge consists typically of a till core, capped by boulders and covered by a veneer of glaciolacustrine sediment. These moraines formed beneath the grounded part of an ice sheet that extended into Glacial Lake Agassiz.
- ~** ESKERS: Curving ridges of sand and gravel deposited on, adjacent to, or underneath the former ice sheet.
- ~** WAVE-CUT TERRACES: Terraces and accompanying ridges, formed by erosion and deposition (beach) during lake level lowering stages during the draining of Glacial Lake Agassiz. Generally found in easily eroded glacioluvial ridges.

BEDROCK LANDFORMS

- STRIKE RIDGES and LINEAMENTS: Resistant bedrock ridges (SR). Faults and grabens forming linear valleys and depressions. (L)
- Claims

LEGEND

HOLOCENE SEDIMENTS

- ORGANIC SEDIMENT: Materials formed by the accumulation and decay of vegetative matter. Includes forest bog, blanket bog, slope bog, basin bog, and stream flood plains (fens). Consists of sphagnum and sedge-woody peat overlying lake muck and sand/gravel till. Peat thicknesses vary from ~ 2-5m depending on bog type.
- ALLUVIAL SEDIMENT: Waterlain materials formed in stream channels and as overbank flood deposits. Sand and gravel.

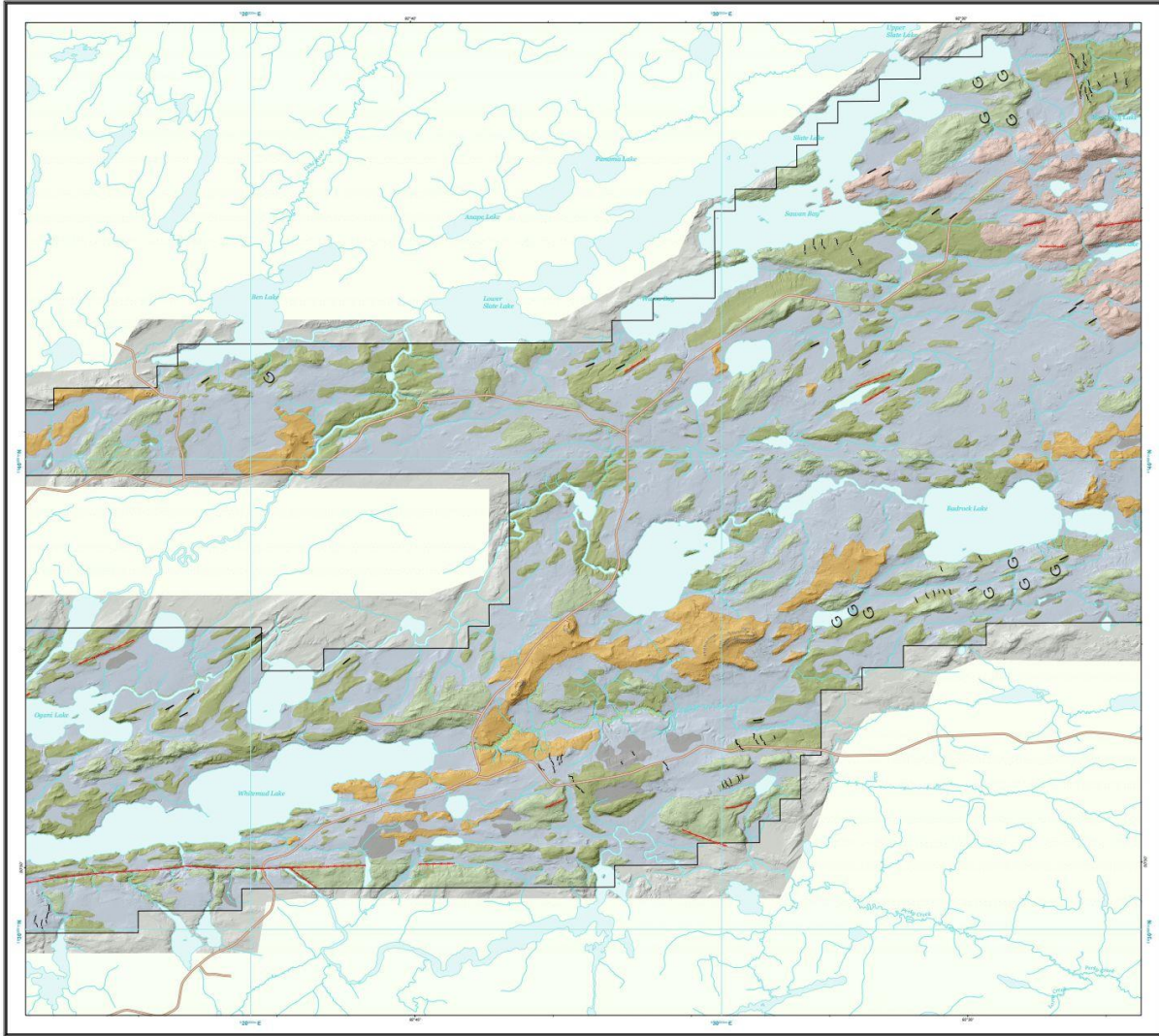
PLEISTOCENE SEDIMENTS

- GLACIOLACUSTRINE SEDIMENT: Sediments deposited into the deep water of Glacial Lake Agassiz predominantly as high density underflows stemming from the retreating ice margin. Consists of laminated clays, silt and fine sand. Mainly occupies depressions and LIDAR morphology is that of flat, featureless plains. During the waning phases of Glacial Lake Agassiz water levels fell and produced gravelly-sand beach ridges and terraces on pre-existing topographic highs and a sporadic cover of coarse (sand, gravel) littoral sediment over deeper water sediments.
- GLACIOLUVIAL SEDIMENT: Material that was transported and deposited by glacial meltwater streams in front of the ice sheet into Glacial Lake Agassiz. Consists of water sorted, sand and gravel. LIDAR morphology of these deposits is characterized by terraced, flat-topped ridges that are highly dissected at the edges.

- Tv** GLACIAL TILL: Material that was transported and deposited directly from glacier ice. Forms a thin discontinuous or continuous veneer (Tv ~1-3m) or thick blanket (Tb ~3-30m) over bedrock with a sporadic, thin cover of lacustrine sand, clay or reworked till. Consists of boulder-pebble sized, angular to subangular clasts, in a silty-sandy matrix (diamiction). Till thickness generally decreases with increasing elevation. In till veneer areas >20% of the area can be exposed or concealed bedrock (vegetation or soil cover). LIDAR maps in till veneer areas show rugged, bedrock-controlled topography. LIDAR in thick till areas (Tb) can display evenly spaced, linear ridges (DeGeer Moraine) perpendicular to ice flow, streamlined drift parallel to ice flow (SW) or knobs and mounds without any orientation.

BEDROCK

- BEDROCK: Exposed and concealed bedrock outcrop, 25-100% with a thin, discontinuous veneer of till (<1m) mainly in lee side depressions, and thin glacial lake stratified sediments. Bedrock is exposed mainly on higher ground but can be concealed by thin soils, tree or brush cover. LIDAR imagery shows rugged bedrock-controlled topography with strike ridges in metavolcanic/metasedimentary rock units. Linear fault and other structural lineaments are also common in this bedrock terrain.



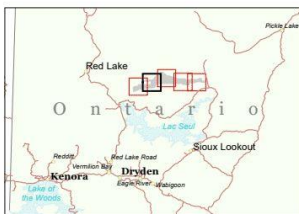
Map 2 of 5



Surficial Geology of the Kenora Minerals Ltd. South Uchi Project Area Western Ontario

Universal Transverse Mercator
Zone 15 NAD 83
Claim geology (LIDAR interpretation) by RR Stea

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SYMBOLS
GLACIAL LANDFORMS

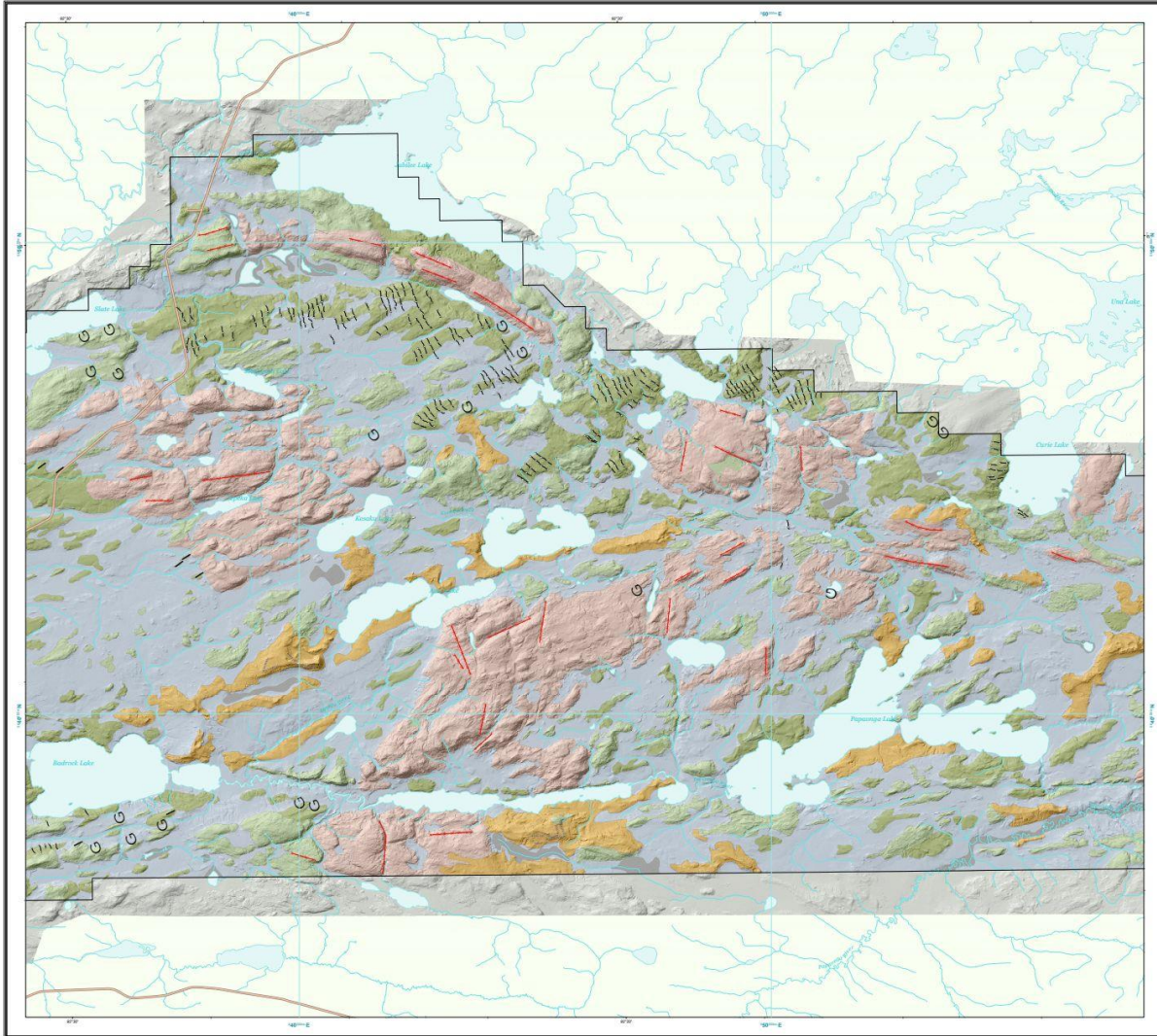
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BEDROCK LANDFORMS

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- Claims

LEGEND

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Map 3 of 5



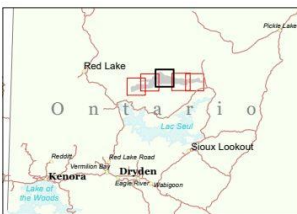
Stea Surficial Geology Services

Surficial Geology of the Kenora Minerals Ltd. South Uchi Project Area Western Ontario

Universal Transverse Mercator Zone 15 NAD 83

Claim geology (LIDAR interpretation) by RR Stea

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SYMBOLS
GLACIAL LANDFORMS

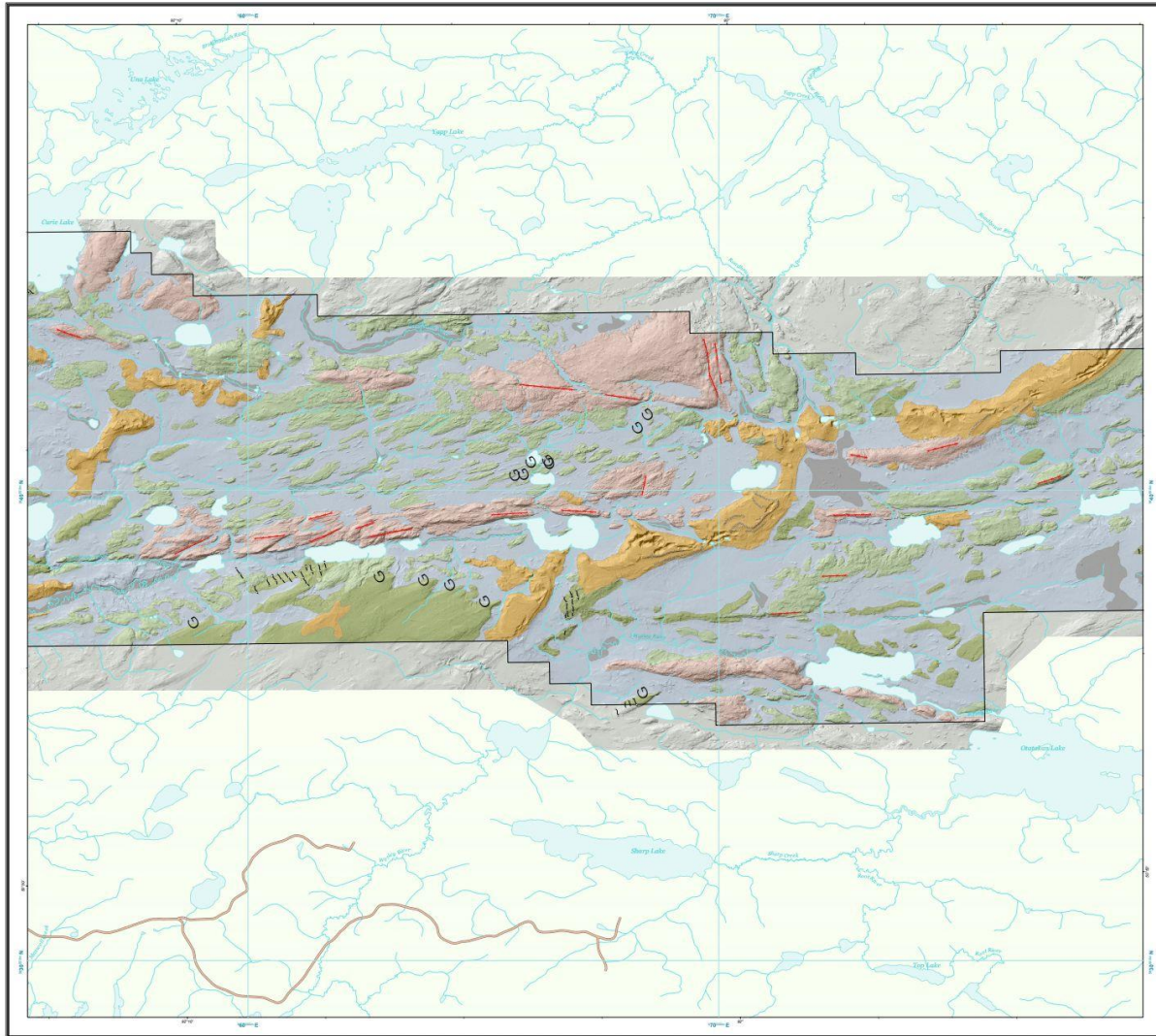
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BEDROCK LANDFORMS

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Map 4 of 5

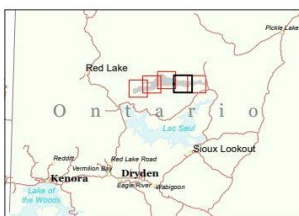


**Surficial Geology of the Kenora-Uchi Project Area
Western Ontario**

Universal Transverse Mercator
Zone 15 NAD 83

Claim geology (LIDAR interpretation) by RR Stea

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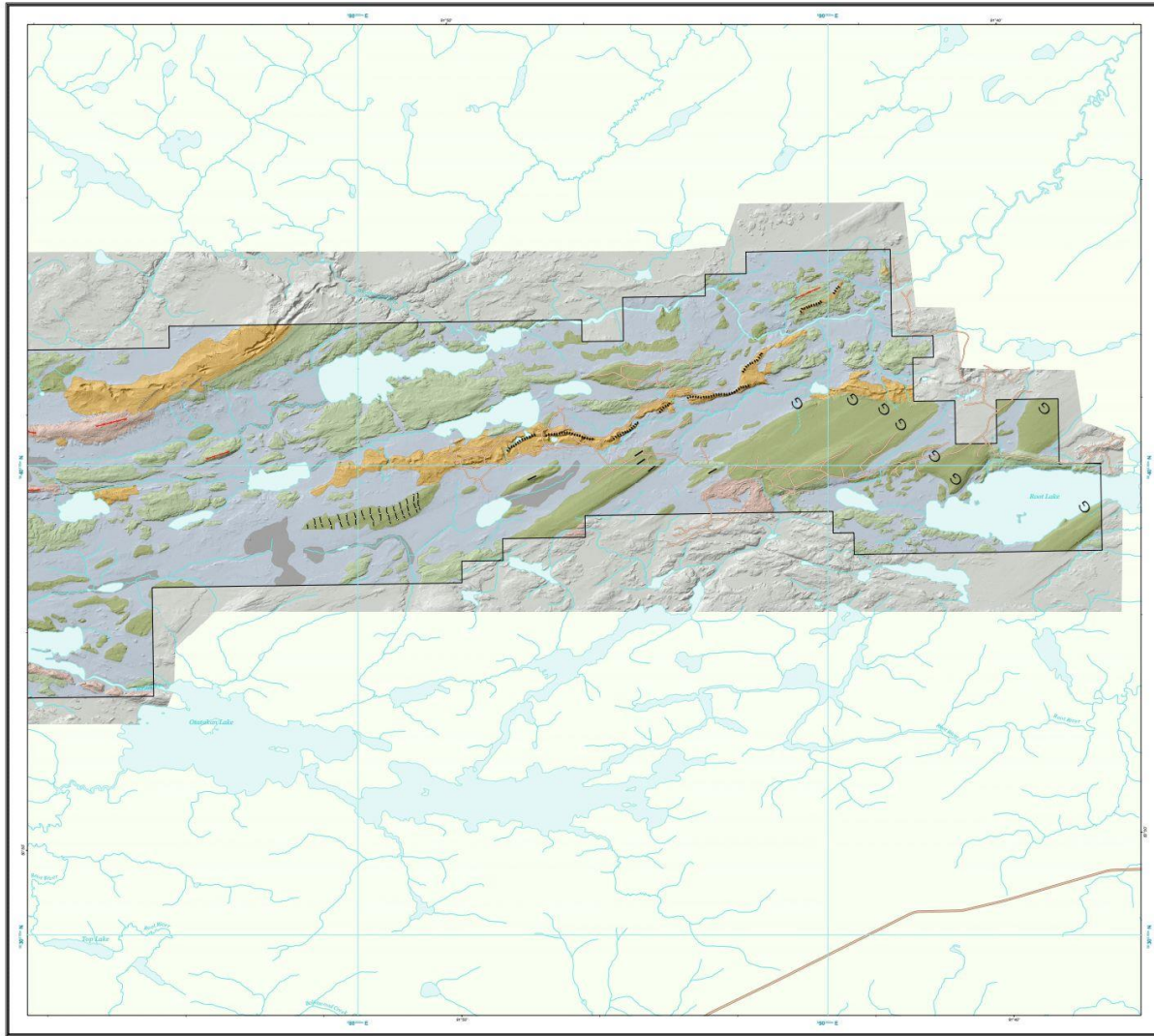
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Map 5 of 5

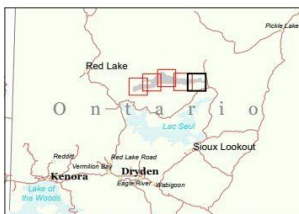


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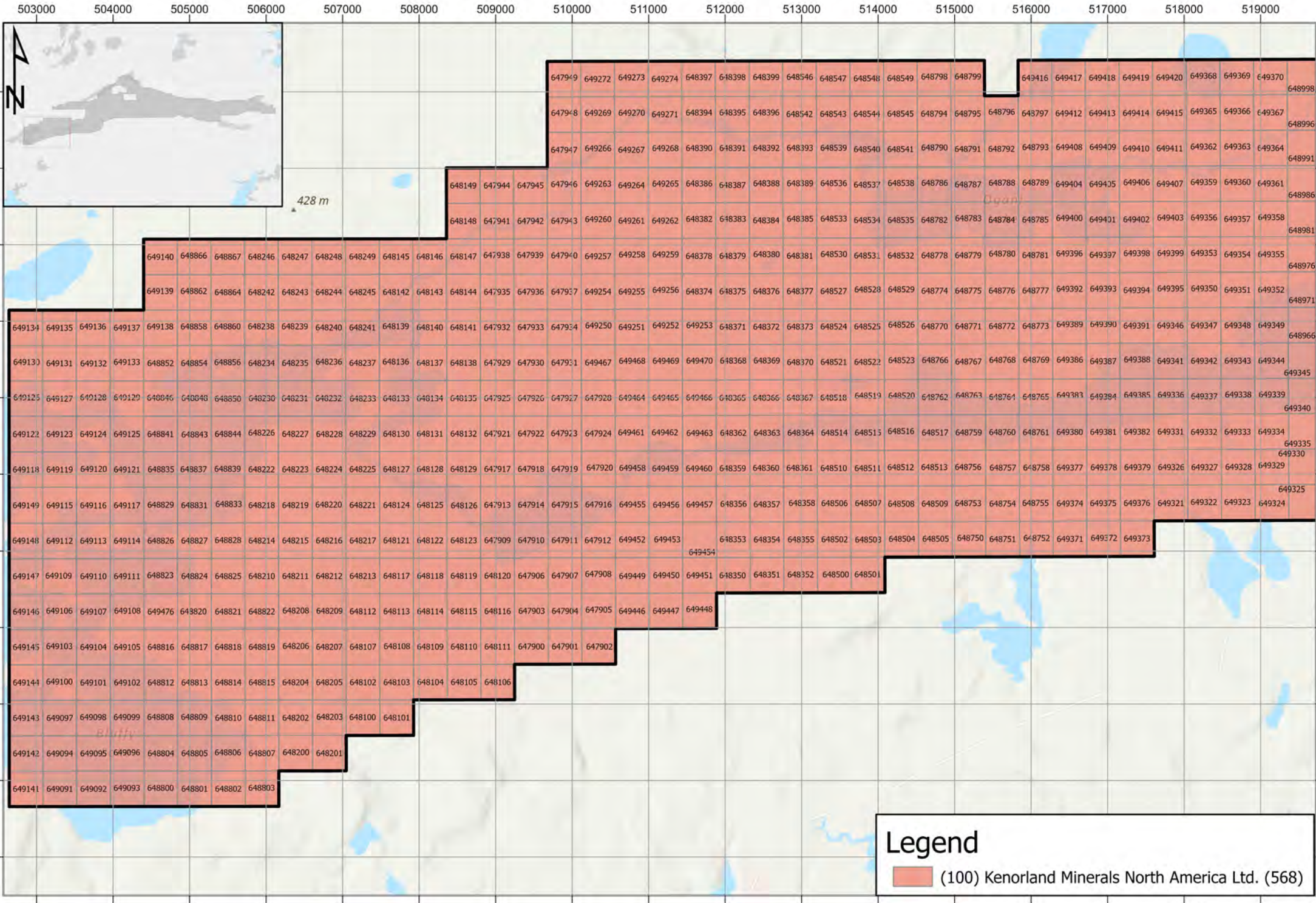
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Appendix C: Claim Cells within the South Uchi Property



Scale: 1:60,000

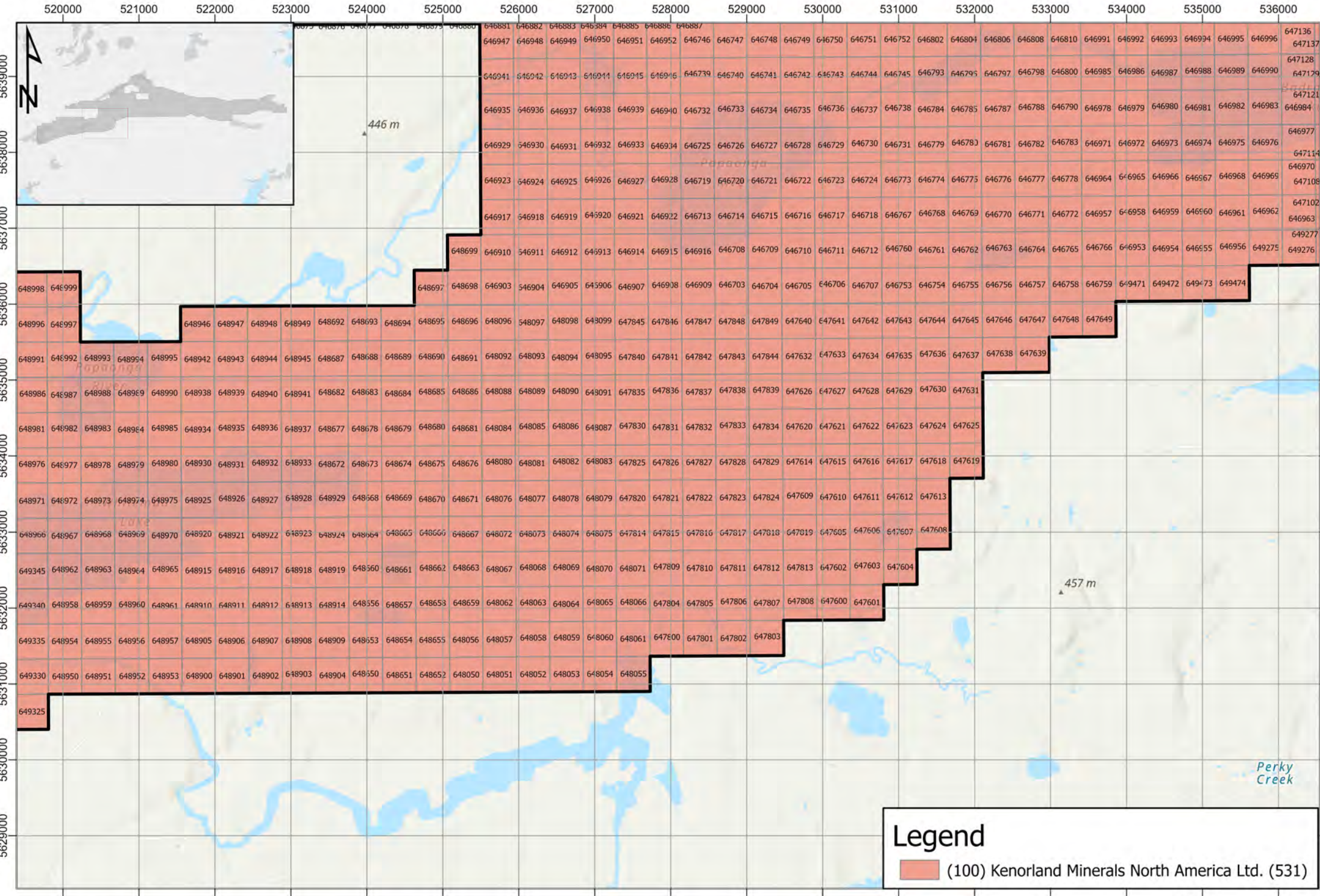
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2.5

Km

Legend

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Scale: 1:60,000

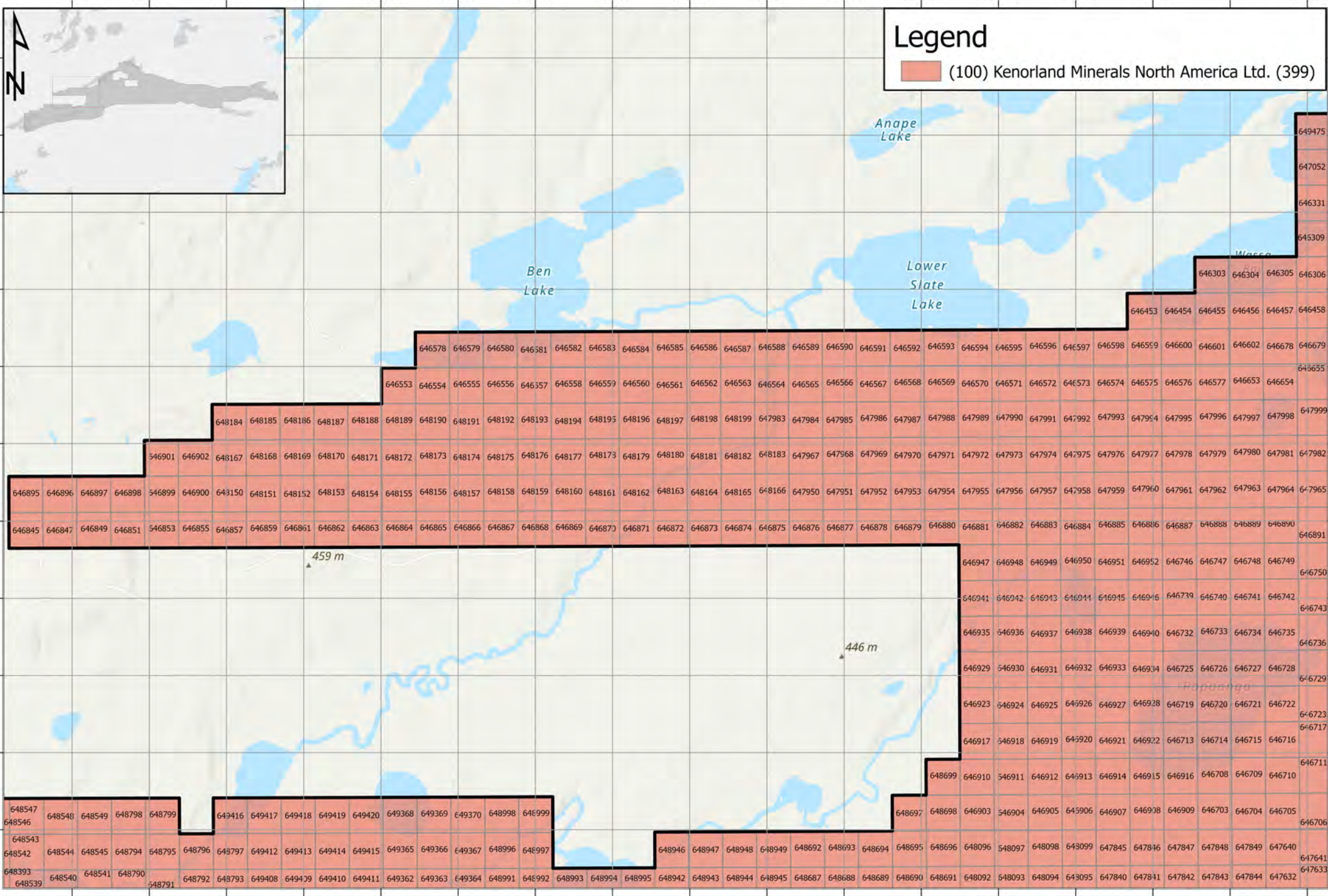
Spatial Reference NAD 1983 UTM Zone 15N

2.5 Km

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Legend

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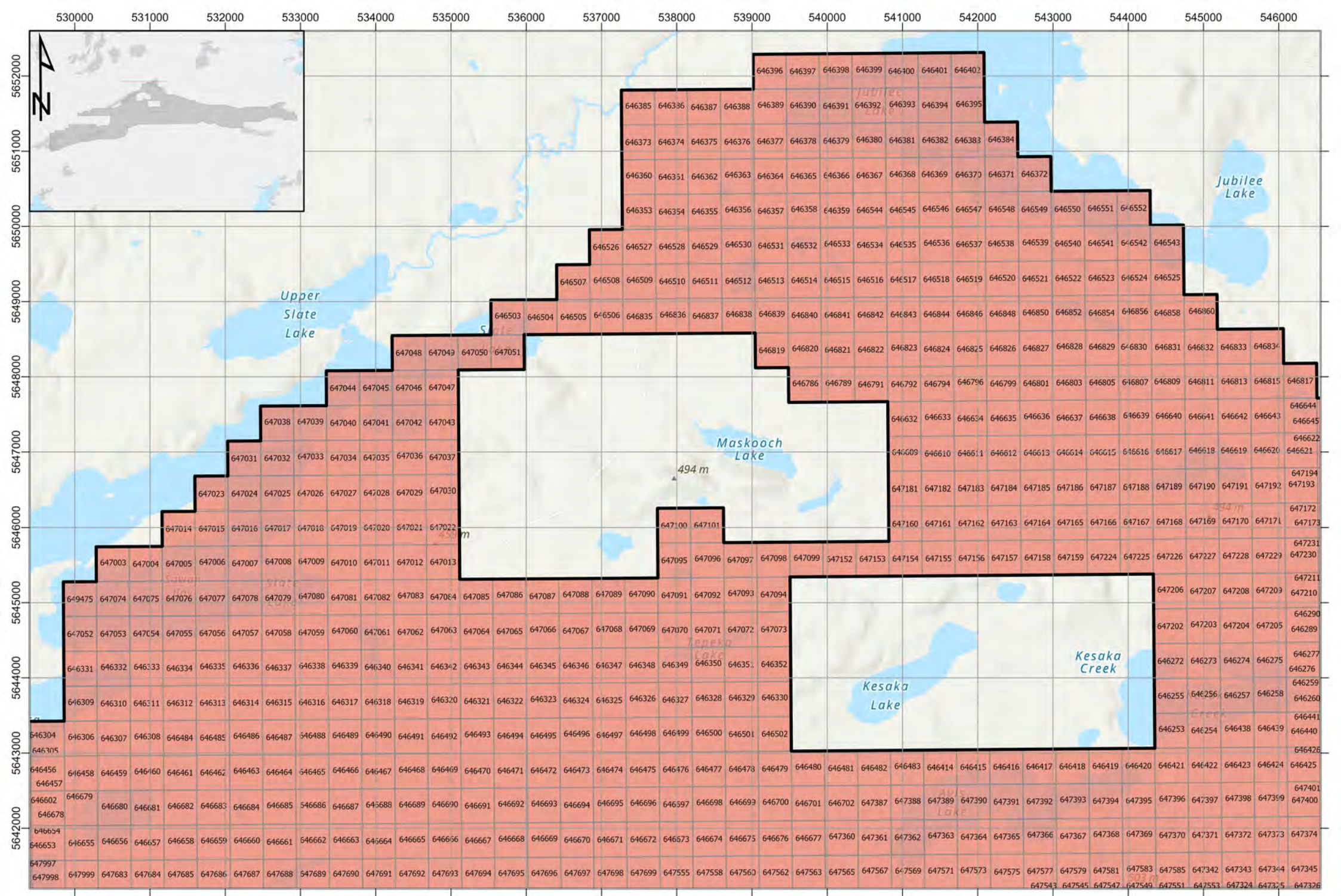
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Spatial Reference NAD 1983 UTM Zone 15N

2.5



Km



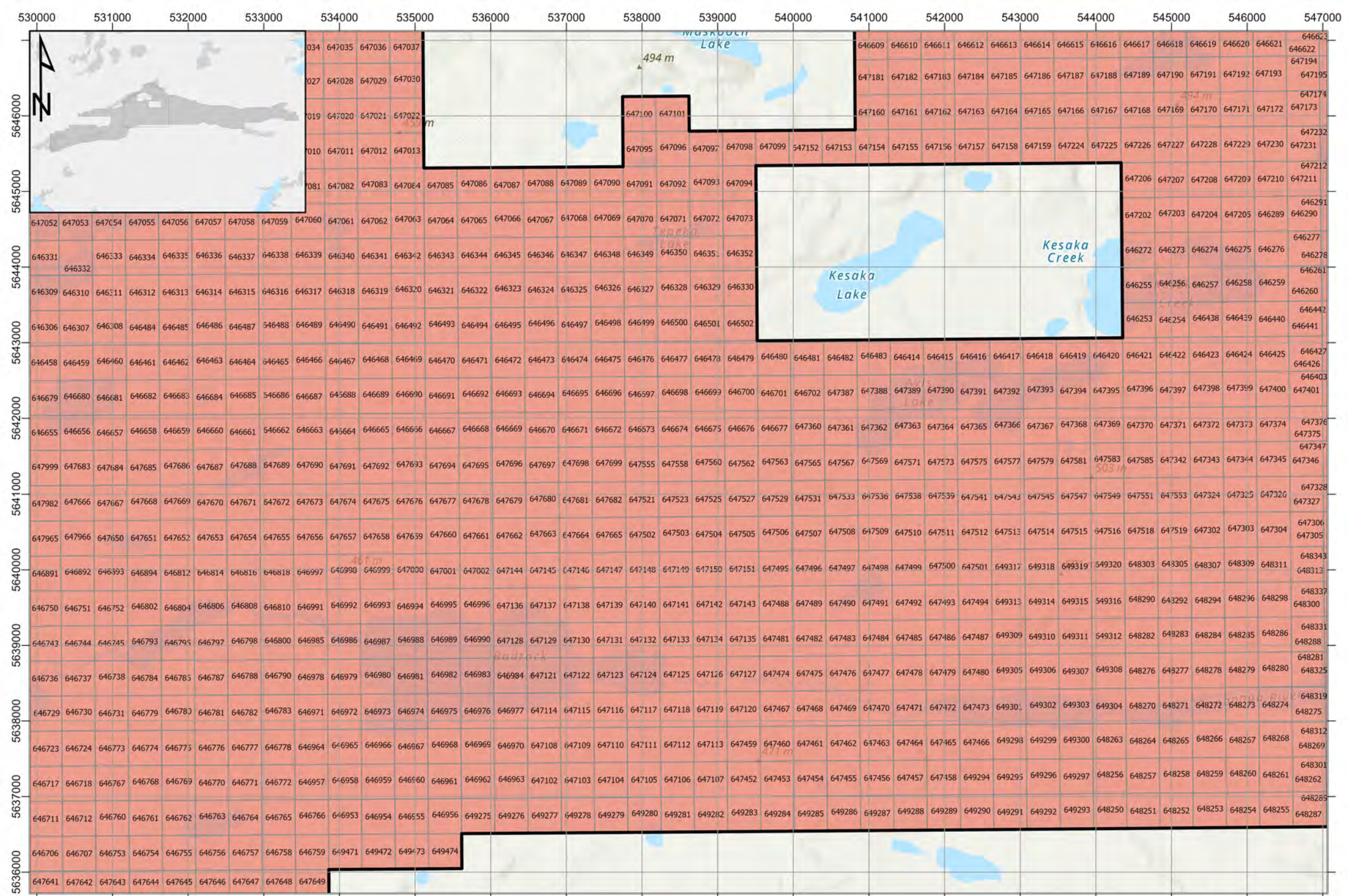
Scale: 1:60,000

Spatial Reference NAD 1983 UTM Zone 15N

(100) Kenorland Minerals North America Ltd. (592)

2.5

Km

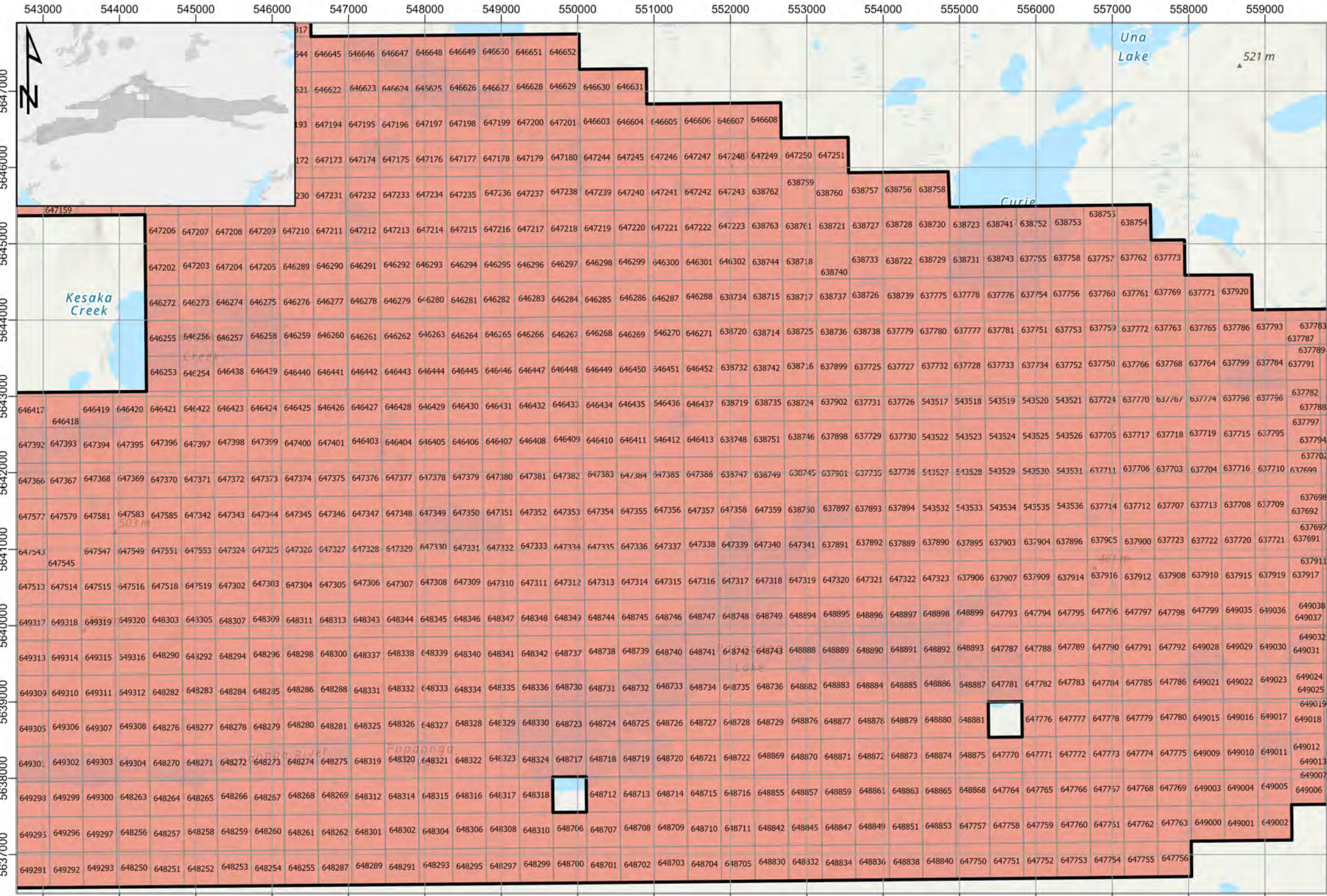


Scale: 1:60,000

Spatial Reference NAD 1983 UTM Zone 15N

(100) Kenorland Minerals North America Ltd. (831)

2.5 Km

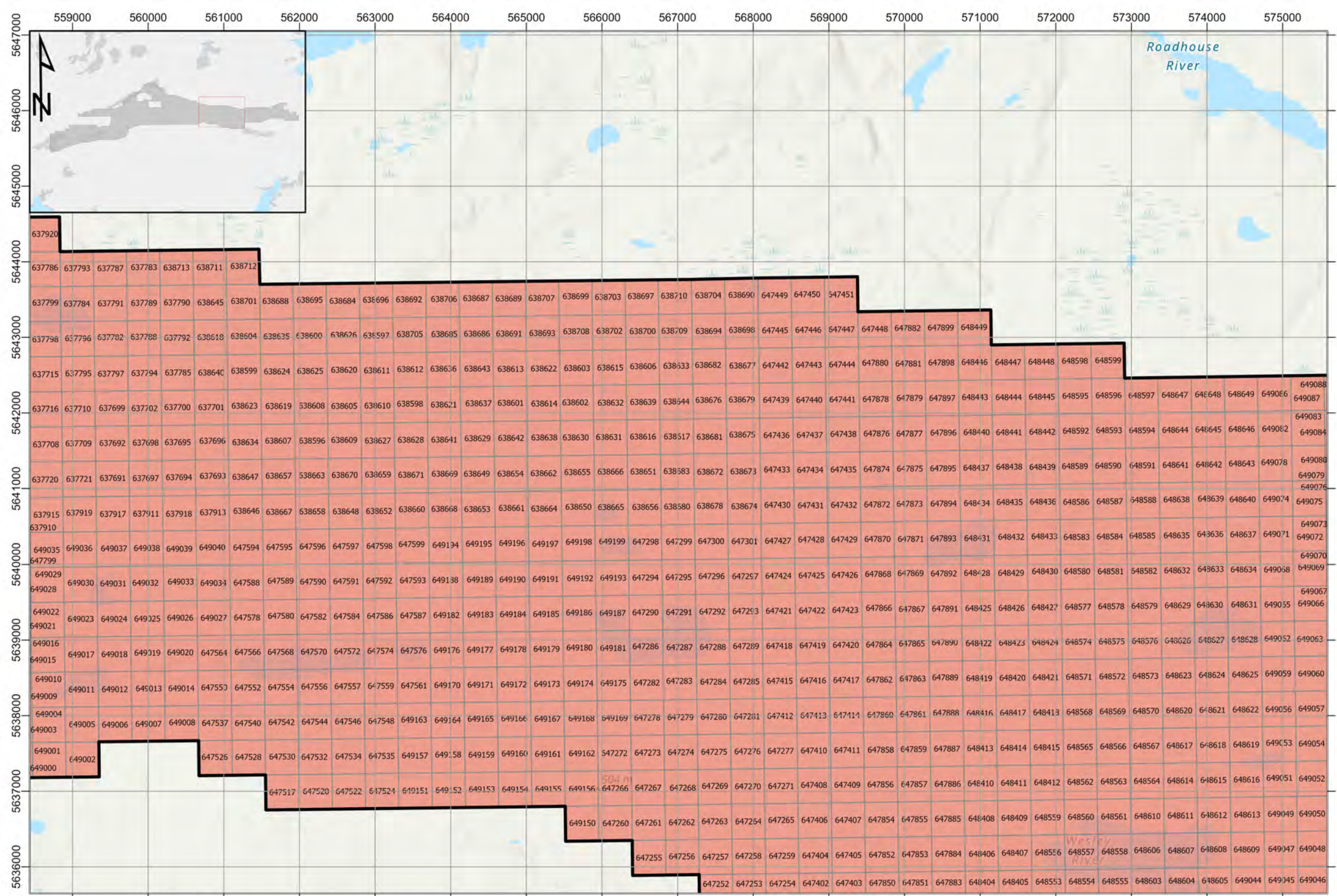


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Spatial Reference NAD 1983 UTM Zone 15N

(100) Kenorland Minerals North America Ltd. (838)

2.5 Km



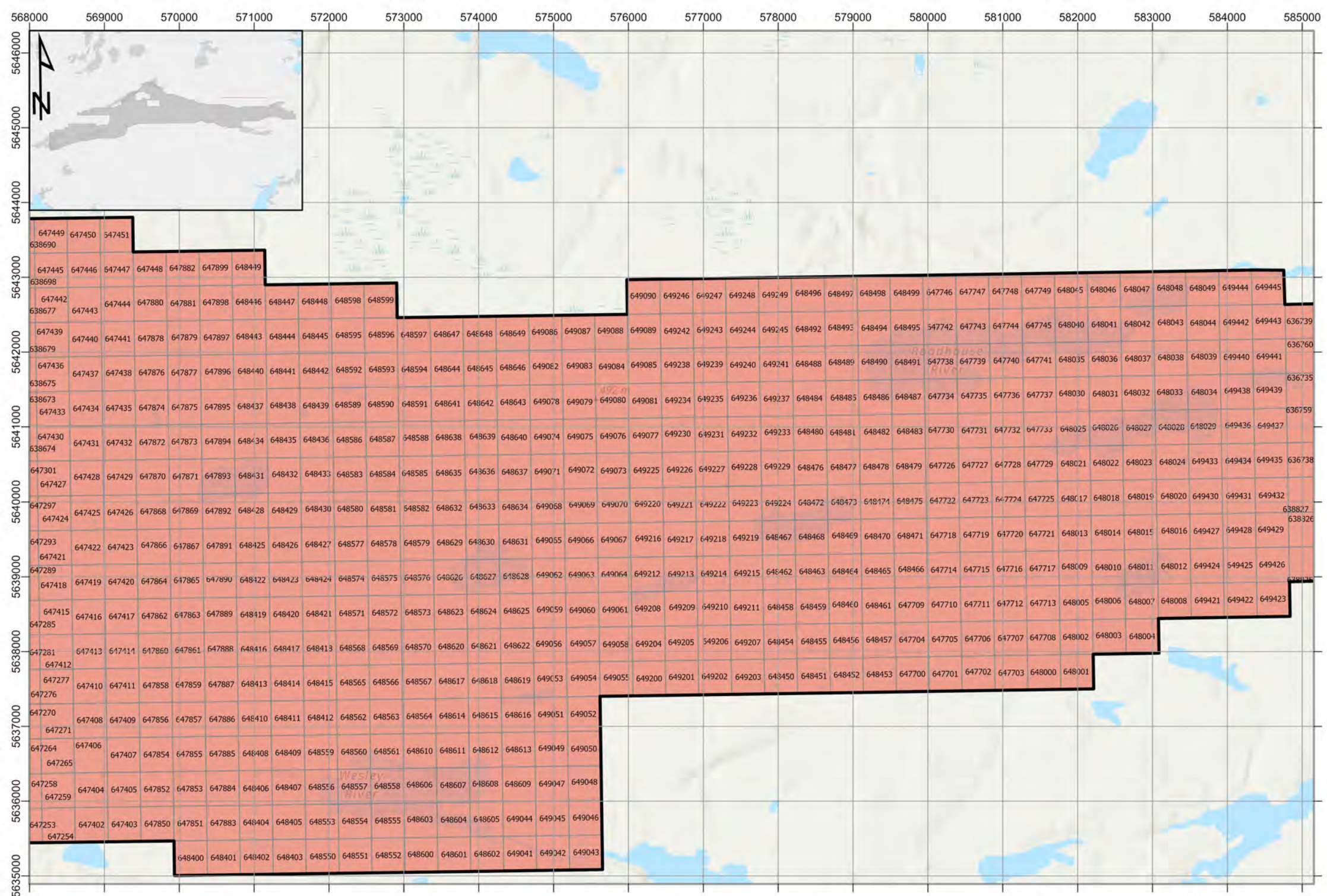
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Spatial Reference NAD 1983 UTM Zone 15N

(100) Kenorland Minerals North America Ltd. (631)

2.5

Km

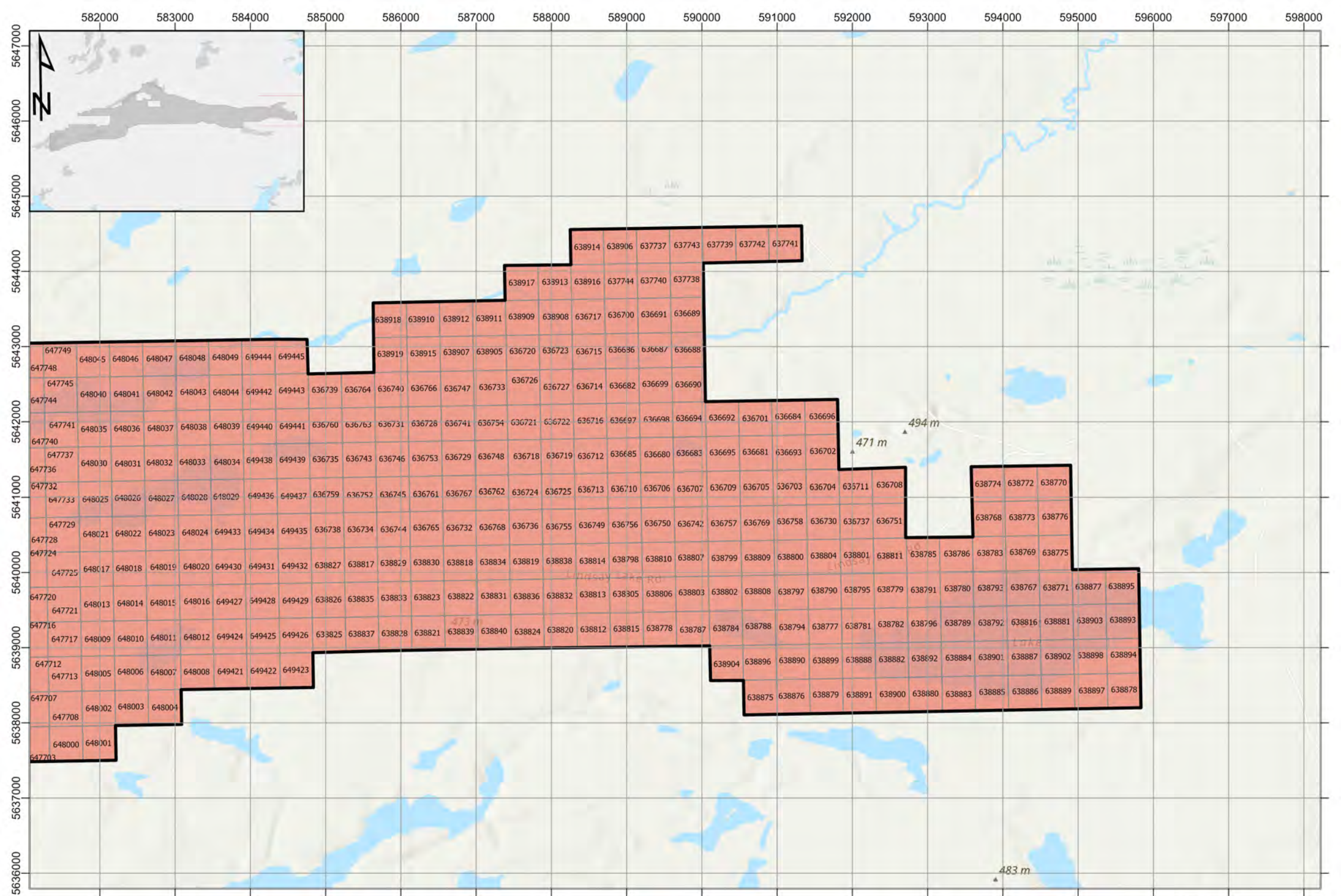


Scale: 1:60,000

Spatial Reference NAD 1983 UTM Zone 15N

(100) Kenorland Minerals North America Ltd. (556)

2.5 Km



Scale: 1:60,000

Spatial Reference NAD 1983 UTM Zone 15N

(100) Kenorland Minerals North America Ltd. (315)

2.5 Km