L3006776

Larder Lake Mining Division Dokis Township District of Cochrane

NTS 32D/5 79°36′24"W 48°24′57½"N

> Prepared for J Tinney Submission : Fall 2014

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Kirkland Lake Resident Geologists District

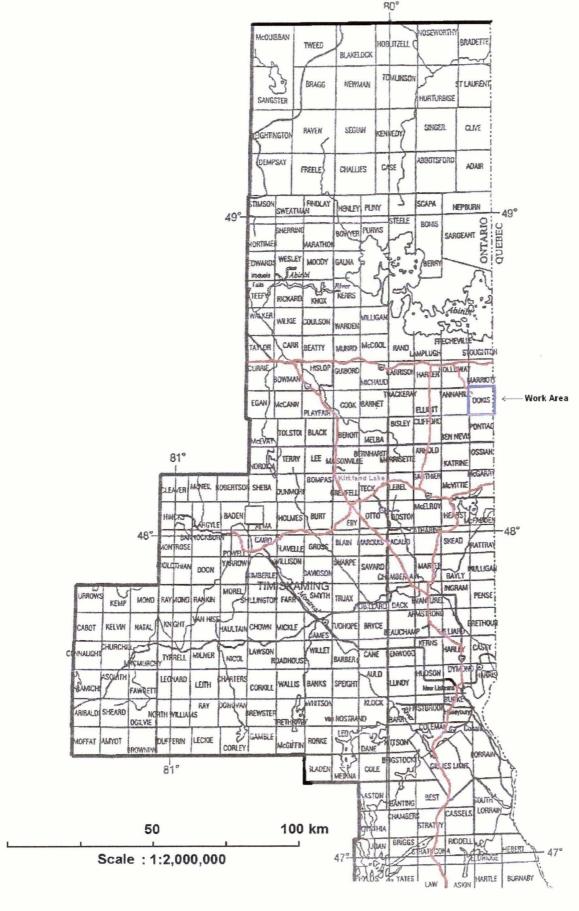
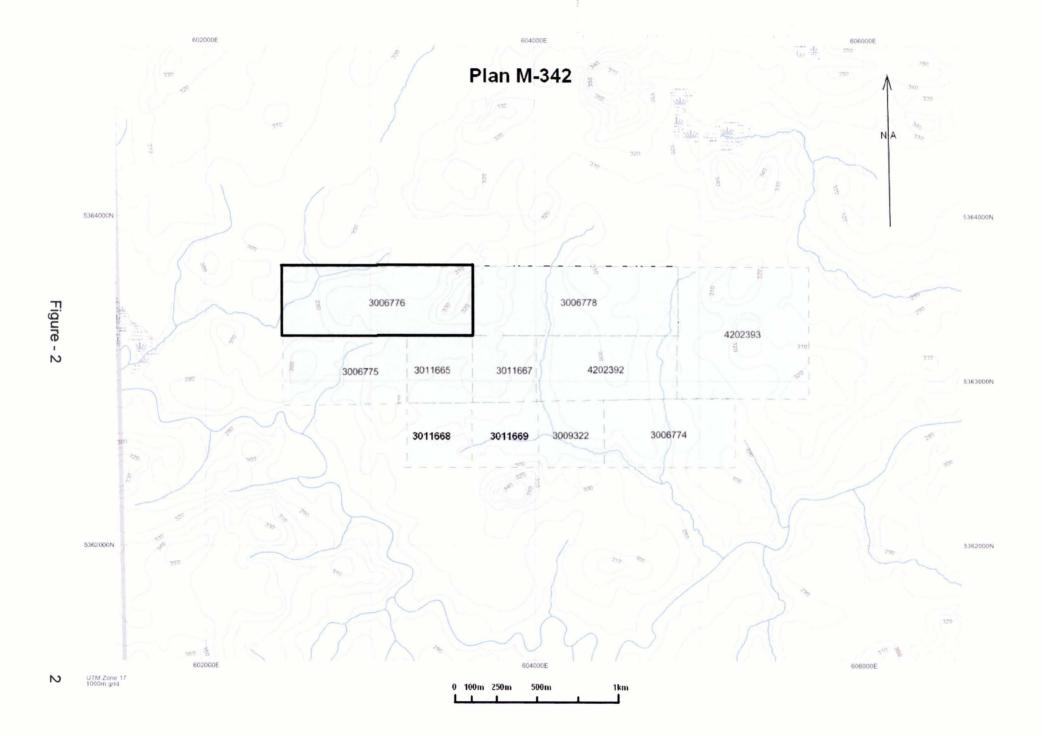


Figure - 1



Property Location

This property is located in the Larder Lake Mining Division and is part of the Kirkland Lake Resident Geologist District. The claim is located in the west central part of Dokis Township and can be found on map sheet NTS 32 D/5, with the geographic center of the claim being at approximately 48° 24′57½"N and 79°36′24"W. The eastern boundary of the claim lays about 6 kilometers west from the Ontario-Quebec interprovincial border.

Access

To get the claim, one would drive east from the historic gold producing town of Kirkland Lake on Highway # 66 for 13 kilometers then turn north on Highway #672 (locally known as Esker Park Road). Driving north for about 46 kilometers will bring you to a reasonably well surfaced highway 101. Following this east for 10½ kilometers takes you to a logging Road #46, which continues southeasterly. Staying on this branch for 10½ kilometers brings you to the start of Logging Road # 52 which continues to trend in a south-west direction. Following this for about 8 kilometers will put you just under the south bounbary of the claim the claim between the #4 post and #3 post.. Former winter logging roads and skid ways give reasonable access to areas around the property.

Claim

L3006776 is a 48 hectacre, 3 unit staked mining claim recorded on plan M-342 of Dokis Township.

General/Claim Geology

This property lies in the Blake River Group of the Abitibi Greenstone Belt. To the north of the claim about 10 kilometers is the Porcupine-Destor Deformation Zone, which is a prolific host to gold deposits in the region. The Holt McDermott and Teddy Bear mines being only 12 kilometers north of this claim and the Ross, Glimmer and Stock mines further to the west of this claim. Literally tens of advanced stage projects and defined resources also occur along this corridor. South-west trending splays of the PDDZ are proven to be gold bearing and are being mined at both Holloway Twp. mines about 12 kilometers to the north north west of L3003776.

To the south and south west, about 10 and 13 kilometers respectively are what have been interpreted to be two volcanic vental areas, which may be the source of some of the Blake River rocks. The rocks in the surrounding region are folded in a series of synclines and anticlines, which tend to reflect these domal areas. Mafic intrusives are present through out the area and limited drilling by previous companies on these mafic plugs(sub cropping mag features were tested as kimberlitic targets) has inadvertently defined at least one gabbro exhibiting chlorite/serpentine/sulphide altered layering with related anomalous Ni Cu Au values and in retrospect anomalous Pd.(ref.KL3401 assessment file, Grid "B")

Ryolitic rocks, though quite abundant in the vental areas mentioned above, are limited to only two mapped exposures in Dokis Twp. One is directly to the east of the claim near a possible side vent area in the center of the township which also has associated local copper/sulphide showings. The second is about two kilometers due north and is around 1km long by 400m thick.

About 2 kilometers east of claim L3003776, the calc-alkaline basalt and andesite which have been intruded by a small rhyolite body, cut in turn by a granodiorite stock. The volcanic rocks to the west of the granodiorite surrounding the rhyolite are metamorphosed to hornblende hornfels. In places, fractures 1mm to 2cm wide filled with quartz, epidote, calcite and hornblende are present in the volcanic rocks. Sulphide minerals including pyrite, pyrrhotite, and minor chalcopyrite also occur as fracture fillings in some veins. The sulphide minerals range from massive to disseminated in the veins and are mainly concentrated immediately west of the rhyolite. Finely disseminated sulphide minerals of less than 3 percent are present in unfractured parts of the altered volcanic rocks. No sulphide minerals were noted in the rhyolite body or the granodiorite stock." Numerous strike faults, possibly PDDZ splays dominantly at 60° to 65° cross the area. Many of these appear to begin at the PDDZ and run all the way to the Larder-Cadillac Break, a regional feature similar to the PDDZ, about 30 miles to the south and running parallel allong a sinuous belt of Temiskaming sediments.

General Geology of the Kirkland Lake Area

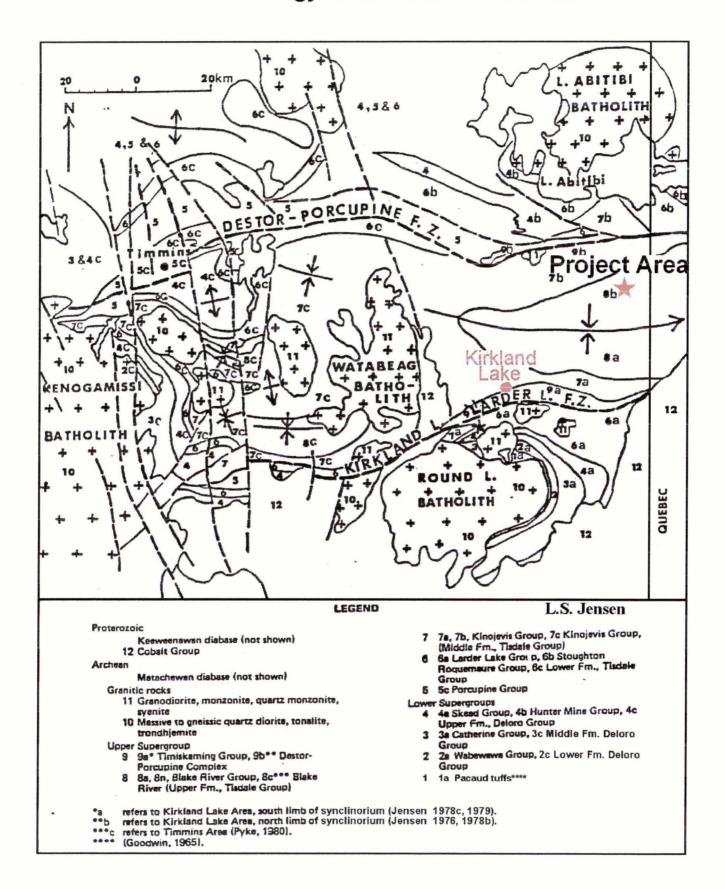


Figure - 3

The discovery by Noranda Inc. of the Lightning gold zone in Holloway Township—with the top of the deposit being nearly 300 m below surface—is a major breakthrough for the exploration of "blind" gold deposits. Noranda identified a geological setting favourable for gold deposits and diamond-drill tested, to a greater depth, a previously known sericite-carbonate-rich alteration zone. The alteration zone which comes to surface is apparently in the same plane as the gold-bearing zone and locally contains minor sections of silicified rock containing small amounts of pyrite and anomalous gold values. The gold zone is characterized by silicification and the formation of pyrite which apparently contains most of the gold. Undoubtedly, the Archean lode-gold deposits were formed by high temperature hydrothermal systems. At a specific temperature-pressure range (possibly the boiling point), silica and gold precipitated forming the gold zones. Such a hydro thermal system would require either a permeable medium, such as hyaloclastite, pumice, conglomerate or similar lithology prior to complete diagenesis, or open fractures, breccia zones, shear zones or similar such environment. In the case of open fractures, quartz veins would develop from the walls inwards and reaction with the wall rocks would be minimal. Where hydrothermal solutions pass through rock via a maze of minute conduits, extensive hydrothermal alteration occurs. A complex interaction between the hydrothermal solutions, which them selves have differred in chemistry from one site to another, and the chemistry, mineralogy, permeability and solubility of the host rock determine the final ore type formed. The gold zones in this type of deposit are characterized by silicification and preservation of some original rock textures. Of greatest significance, for exploration purposes, is the recognition of continued hydrothermal alteration above and in the general plane of such gold-mineralized zones. At the Lightning Zone, this alteration zone requires thorough research to determine other diagnostic mineralogical and geochemical features which might indicate a favourable zone for blind gold mineralization. The favourable temperature-pressure range for hydrothermal gold deposition must have been related to the earth's surface. With subsequent deformation and given the present erosion surface, some gold deposits would have been eroded away while others would occur at or below the present erosional surface. (from:Lightning Zone MP158 1992, p275-6)

Numerous cross faults trending slightly west of north are also present. The eastern most of these, roughly central township in both Tannahill and Dokis Twps., appear to be on strike of the Quinze Dam Fault, a feature belonging to the Timiskaming Rift System. On strike in the province of Quebec this fault has spatially associated diamondiferous kimberlitic rock which doubtless adds to the diamond appeal of the area. In fact, earlier exploration work by Charles Fipke/DiaMet Minerals resulted in the discovery the diamond bearing C-14 kimberlite in Clifford Township at a location 19 kilometers S-E of the claim group. The Quinze Dam Fault, the most easterly recognized fault of the extensive scaleTemiskaming Rift system of faults, should pass just to the west of the claim area.

Gold mineralization to the south of L3006778 may possibly be associated with the several north-east or north-west striking fault/shear zones crossing the area. One of the principal targets historicaly was the north-east striking Murdock Creek-Kennedy Lake fault currently the focus of significant Au, Cu, and Zn exploration on properties along its length to the south-west in Pontiac, Ben Nevis, Clifford, and Arnold townships. The north-east extension of the fault passes in proximity to the Iso-Magusi massive sulphide deposit in Quebec, about 18 kilometers to the south south-east. This fault system may have had some connection to the mineralizing fluid conduit system.

"Mafic" intrusions in the Blake River Group volcanics have been either host to, or related to, gold deposits in the Beauchastel, Dasserrat, and Montbray townships of Quebec, two of these being the Francoeur (diorite in the hanging wall) and El Coco (mineralized shear zone through the dioritic intrusion).

This property is located approximately 18 km due west-southwest of the Magusie and Fabie Bay Deposits, and on strike with the Magusie-Fabie Bay geological trend, as well as 10 km south of the Destor-Porcupine Fault. This area has received very little attention regarding mineral exploration, and therefore archived data is limited.

Previous Work

The earliest published information on the area was written in 1901 by W.J. Wilson. He had examined the rocks and topography along the canoe route from Webster Lake along the Magusi River to the interprovincial border.

MAFIC INTRUSIVE ROCKS



9 Diabase, quartz diabase.

INTRUSIVE CONTACT

EARLY PRECAMBRIAN

FELSIC INTRUSIVE ROCKS

SYENITIC INTRUSIVE ROCKS



Unsubdivided.

8a Fine-grained red magnetic syenite.t

8b Feldspar perphyry.t

Bc Monzonite, syenodiorité (dikès).

8d Syenite. Bo Pegmatite.

8/ Lamprophyre.f

INTRUSIVE CONTACT

GRANITIC INTRUSIVE ROCKS



7a Granodionite, trandhjemite.

7b Quartz diorite.

7c Feldspar purphyry dikes. 7d Hybrid rocks.

INTRUSIVE CONTACT

MAFIC INTRUSIVE ROCKS

Unsubdivided.

6a Gabbro, quartz gabbro.

6b Diorite, quartz diorite. 6c Hornblende gabbro.t

6d Anorthesitic gabbre.

6e Metagabbro (greenschist facies). 6f Metagabbro (amphibolite facies).

INTRUSIVE CONTACT

VOLCANIC ROCKS

RHYOLITIC AND DACITIC VOLCANIC ROCKS

Calc-Alkalic Suite



Unsubdivided rhyolitic and dacitic rocks,t

5a Massive sills.

5b Massive dikes.

5c Breccia, flow-breccia.

5d Pyroclastic breccia.

5e Tuff, crystal tuff. 5f Feldspar porphyry.

5g Quartz porphyry.

BASALTIC AND ANDESITIC VOLCANIC ROCKS

Calci Alkalic Suite



3 Unsubdivided arev to green andesitic and basaltic rocks.

3a Massive flows.

3b Pillowed flows.

3c Isolated pillow-breccia.

3d Broken pillow-breccia.

3e Pyroclastic breccia.

31 Tuff, lapilli-tuff.

3g Amygdaloidal flows.

3h Porphyry feldspar flows. Sj Metabasalt, meta-andesite (greens-

chist facies).

3k Metabasait, meta-andesite (amphibolite facies).

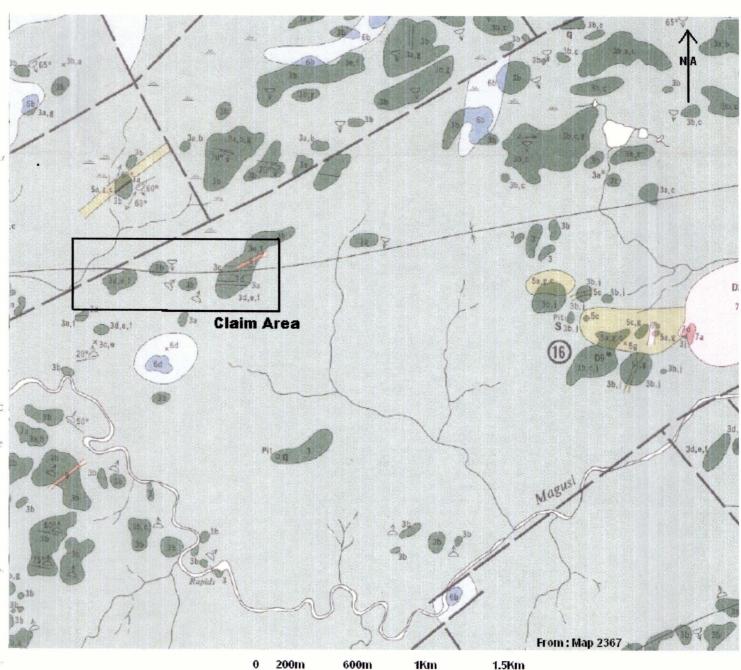


Figure -4 In 1919, C.W. Knight did a reconnaissance of the area for the Ontario Department of Mines. Geological map No. 29e of the Ben Nevis Gold Area was produced from this work.

A second map of the Ben Nevis Gold Area, map No. 37g was produced by T.L. Gledhill in 1928. In 1960, Southwest Potash corporation geologically mapped the central part of Dokis Township. This map can be found in the Kirkland Lake assessment files.

In 1968, a geochemical study of the volcanic rocks surrounding area, including Dokis Township was conducted by W.H. Barager and published in the Canadian Journal of Earth Sciences.

In 1971, L.S. Jensen performed mapping and geochemical studies in Thackery, Elliott, Tannahill and Dokis with the Ontario Geological Survey and produced geological Report #165, accompanied by colored maps at a scale of 1 inch to a half mile. Of the geochemical work done by Jensen on this project, a sample of the granodiorite is from this claim area. Sample data for sample D-21 is found on page 45 of his report. The 62% silica rock is described as a quartz diorite. "The stock in central Dokis Township consists of fine grained pink to light grey granodiorite which has rough, light colored, weathered surfaces. The granodiorite is composed of the following: 40 to 45 percent plagioclase 2 to 4mm in size, 20 to 25 percent quartz; 20 to 25 percent hornblende; 3 to 5 percent chlotite; and 1 to 2 percent magnetite. Orthoclase, biotite, and apatite form the accessory minerals. Anhedral grains of quartz, 0.1 to 0.5 mm in size, occur interstitially to subhedral laths of plagioclase and hornblende 0.1 to 2 mm long. In most places, the plagioclase ggains have been deuterically replaced by clinozoisite, albite, and chlorite. The granodiorite is very similar in composition and texture to the granodiorites that are present in Clarice Lake in Pontiac Township *km to the south and in Clifford Township 19 km to the southwest. Like the stocks in Pontiac Township and Clifford Township, the granodiorite cuts a massive subvolcanic rhyolite body."

Between 1972 and 1988, several small sampling and stripping programs were performed around the township but the limited programs yielded low values. No roads or logging trails existed in the township at thistime. The expense of helicopter access for larger programs likely disuaded further investigation.

In 1988, three sonic drill hole were put down by the Ontario Geological Survey as part of an extensive initiative to promote and explore the Black River - Matheson area This program (BRIM). covered the area north of the height of lands to Lake Abitibi from the Quebec border on the east, to Highway 11 on the west. This program involved many sonic drill holes, basil till, and back hoe trenching and a complete analysis and compilation of the results. Of the three holes performed in Dokis Township, (88-38, 88-39 & 88-40) hole 88-39 encountered a bedrock section of unknown affinity, completely altered to a clay-sericte-iron carbonate rock. This hole may be about 900 meters south south-east of claim L3006776, being about 1200 meters north of the Magusi River. Sonic hole 88-40 appears to have been located along the grassy creek flood plain that begins about 750 meters south of L3006778 and continues in a east-south-east direction. Subsequent core drilling in about 1999 and 2005 in two drill holes DO-3 and DO-5 did encounter a 50 to 70 meter wide fault controlled carbonate-sericite alteration zone. If related and contiguous, this defines an east-west structure which may be an acute conjugate splay to local major E-NE faults and shears within the Lower Blake River Group. The nature of the type of low-sulphide alteration hosting anomalous gold content is generally geophysical blind with respect to standard geophysical exploration methods. DO-5 would be located just off off the claim in the extreme south west corner area. Gold may be present as 30-50 micron blebs in occasional pyrite grains, or as 2-5 micron flakes within sericite cleavage planes. The zone is open along strike and down-dip. DO-6 would hve been located in the region about 500 meters south of L3006776. This hole was not completed and did not reach the target depth.

No submitted assessment work anywhere in this township was filed at the Resident Geologists office prior to 1972. Various staked claim groups on older claim maps would indicate that some activity was present.

Interest in the base metal potential of this area was high in the early 1970's after the discovery of the 4 million ton Copperfields-Iso copper zinc gold silver deposit in the adjoining Hebecourt Township(Quebec) which is just over 7 kilometers south east of this claim. The rocks in this "Ben Nevis" area are of the same geologic sequence as those hosting the Rouyn-Noranda base metal mines. Before this, only minimal exploration had been conducted.

In 1972 grid work, magnetometer and sampling by Magusi River Explorations was performed covering the part of the township about 1 kilometer to the east and north east of L3006776 by Magusi

River Exploration. No cause for the magnetic anomolies were determined. Grab sampling of an area about 800 meters east of L3006778 gave scattered high copper values on select samples of finely divided chalcopyritic mineralization in volcanic rocks. Drilling on geophysics and soil anomolies was suspended after three short drill holes failed to encounter encouraging results. No cause of the soil anomolies has been determined.

Staking activity has always been light historically due mostly to poor rugged access and over the last 15 to 20 years, scarcely four dozen claims have been staked in the whole township. Consequently much of the area is underexplored. Being in the same geology as the productive Rouyn-Noranda base metal and gold camp, only about 30 miles as the crow flies, one would have expected a more intense assessment over the township.

After acquiring a larger group of claims around the L3006778 property in the late 1990's, a ground based geophysical survey involving VLF and I.P. methods was initiated in 1997 and 1999 on a north-northwest grid, and executed by Remy Belanger. Data interpretation was performed by Gerard Lambert. Although several very weak conductor axes were surmised, the data appears to more accurately represent conductive overburden thicknesses. While follow up trenching did show rare thin quartz calcite veining and some weak carbonate alteration, no signifigant mineralization was exposed in any of the half dozen locations where bedrock was reached.

In about 2004, a ground magnetometer survey was perpormed on a portion of the previous grid in attempts to define the area of possible alteration encountered in the OGS sonic drilling. Attempts to drill a possible mag survey defined target were hampered by deep overburden cover at that site. The later hole in 2005 DO-5 encountered a target as a broad area of carbonate alteration which should in theory underlie the claim area at depth.

Due to the geomorphological context of the exploration target in question, it was postulated that specialized geophysical methods and diamond drilling are necessarily the only viable exploration tools that can be applied in order to evaluate the economic gold potential of the general area south of and around L3006776.

No other submitted assessment work is vailable on record in the Kirkland Lake Assessment Files for the area covered by L3006778.

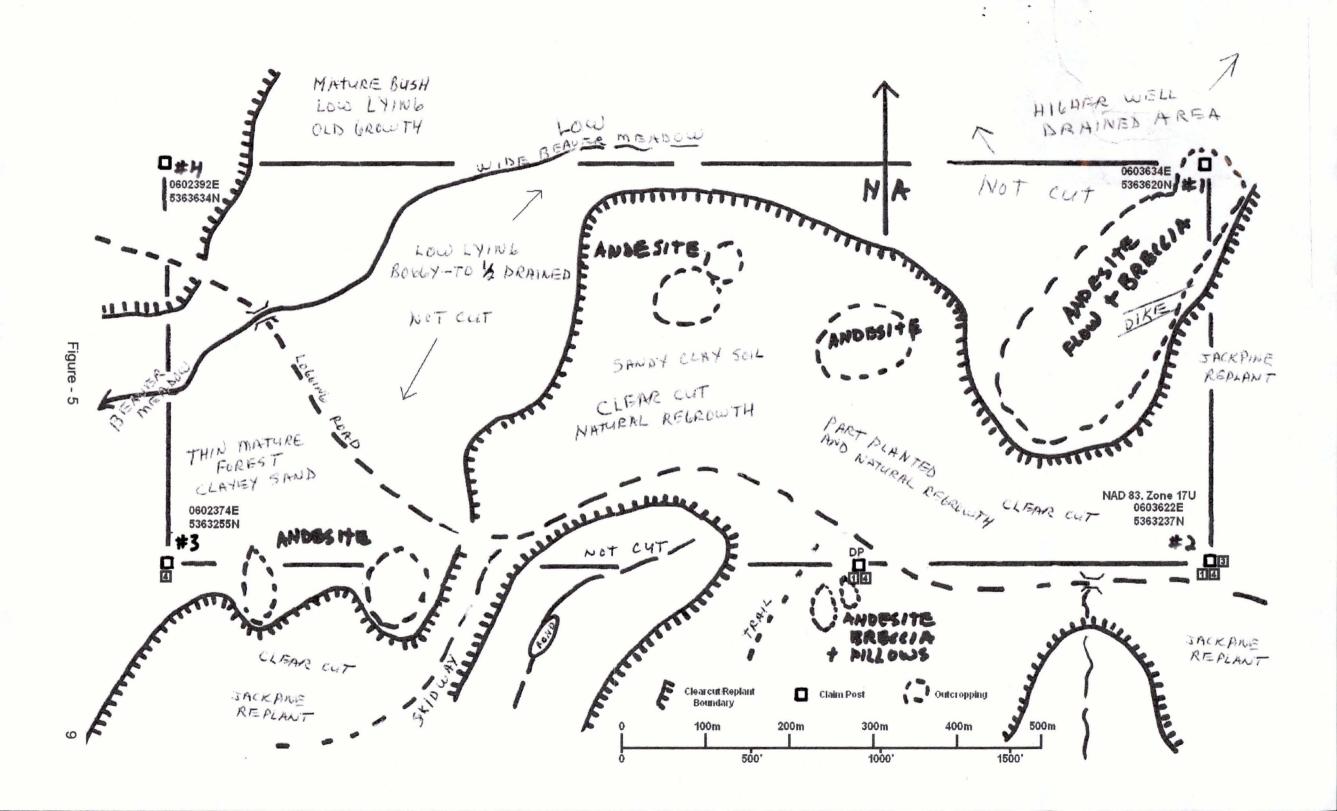
Present Work/Rationale

On an August weekend of 2014 mapping and prospecting/traverses were done by the author as helper to the claim holder to correlate and tie previous claim work and information to the current claim fabric. Almost all the sought for features were field located Clear cuts and regrowth cover about 60% of the claim. Areas of outcrop newly exposed by logging activity were the primary target areas.

Results/Conclusions

L 3006778 is a 3 unit claim staked as an east west oriented strip about 1200 meters long and about 400 meters wide. Much of the south east claim area has been clear cut about 12 years ago. Large areas of the west halw are still covered with mature forest growth. Much of the clearcut has very thick jackpine replantation mixed with poplar/alder regrowth on both sides of the previous east-west logging road which cuts diagonally across the claim from north-west to south-east. The north west 1/4 and the north central area of the claim have mature preserved forest composed of spruce-balsam forest with minor poplar, bambagalia, and alder-moose maple undergrowth. A drainage creek starts to the north of the mid claim area and flows to the west for about 500 meters before swinging to the south west cutting the north west corner of the claim. For much of the length of the creek there is a 30 to 50 meter wide grassy beaver meadow which closes up as the creek swings south west. At this point the creek has forest up to the banks and the water channel is generally less than 1 meter wide with steep cut clayey sand sides about 1/2 a meter deep. No minnows of any sort were noted in the foggy clayey water of this creek or any of the small pools. It is very unlikely that this is habitat for any fish of any sort. No beavers were noted. Dams older than about 10 years are noted on the two creeks but none were seen active. No fresh clipping or chewing were evident suggesting that they are on another location or water system at this time or that the local trappers have removed this population.

The claim area is a mostly clay mix with little sand, likely procglacial Barlow-Ojibway sediments.



Varves can be seen with light digging along some spots along the steeper side banks to the grassy flood plain. Evidence of larger game habituating the area was quite abundant. Moose tracks of various age and bears markings are frequently seen. Smaller game such as rabbits and grouse were frequently heard and seen several times. As in the surrounding claim areas, there is a marked paucity of rocks or boulders exposed on this claim. No float was observed other than the talus in the region of the rock ridge, and smaller outcroppings, presumably formed by the spalling action of freezing and thaw.

The claim gently slopes to the south, and towards the drainage creeks. A prominant outcrop in the region of the #1 post rises rather sharply from the surrounding elevation to form a 6 to 8 meter high treed rock ridge running at N-NE to S-SW and about 150 meters in length.

Six calc-alkaline andesitic outcroppings were encountered on the claim area. The rock is generally fine to aphinitic grained, light to medium green to grey, non magnetic flow and breccia. The cal-calkaline rocks are hard, light coloured rocks with conchoidal fracturing which makes them appear more felsic than they actually are. Fracturing and jointing at various orientations were observed. Wispy to 2 cm cream to vaguely yellowish, felspathic stringers occur randomly throughout. Very little pyrite is evident. Quartz occurs in wisps, stringers and veinlets to 1cm at various orientations, randomly throughout but there may be a N-E to S-W tendency. On outcrop the andesite weathers to a light greyish with quartz stringers and fillings raised from relief.

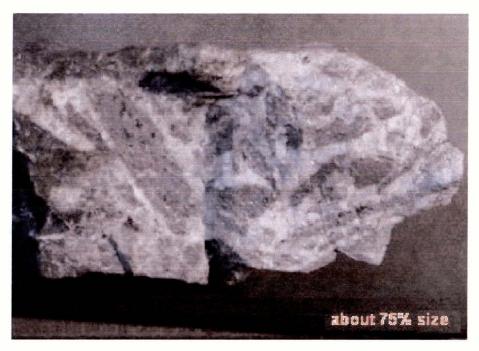
Some areas under fresh rolled back organics and root mat shows a light brownish color likely due to slight increase in iron minerals. Odd pyrite stringers and small masses occur randomly on all the outcropping encountered but generally less than 1% overall. Chloritic alteration and replacement is common on all outcrops and is likely regional in nature. On the outcrop in the region of the #1 post, past mapping shows a dike of diabasic texture as occuring about mid-way along the exposure. Field visit encountered a diabasic textured rock probably of andesitic nature. This appears to be a thicker flow in the andesite pile and may or may not be the feature previously mapped. No magnetic rocks were encountered during the field mapping.

These pillows, flows and breccia consist of green to grey aphanitic rock that has a smooth medium to light grey green weathered surface, and range in thickness from 1 to 30 m. Dark green chilled margins up to 2.cm (0.8 inch) thick occur around pillows. In the centre of the thicker flows and larger pillows, grain size is up to 1.5 mm which gives the rock a diabasic or gabbroic appearing texture though lighter in colour. Amygdules 1 to 10 mm in diameter are evident near contacts of flows and close to pillow margins and are filled with quartz, calcite, chlorite and a epidote? colored mineral.

The lapilli-tuff and breccias are composed of volcanic fragments of calc-alkaline basalt and andesite in fine-grained tuff matrix. The volcanic fragments form a large percent of the rock, and show up on the outcrop as light grey, to light green, angular, to subrounded fragments against the slightly darker, finer grained, more strongly weathered matrix. The fragments are I to 20 cm in size, and are without chilled margins. Many appear to be fragments of broken pillows, because some have parts of pillow selvages still attached to them. In individual tuff units, the fragments tend to be monolithic and unsorted.

Further hand stripping and sampling is planned for areas around the mapped outcroppings. Drilling would be an option for continued exploration. The altered structural features encountered to the south likely undercut this claim area at a depth of 900 to 1100 meters so priority targets for this depth of drilling would be an option to assess these specific features. Geochemical and geophysical prospecting may generate better defined targets for further stripping.





Fine grain andesite fragments in breccia cemented with quartz typical of the map area. Specimen from south west of the #1 post, as above.

Figure - 6 11

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