

Casson Lake Intrusion- Sudbury Region. Macdonald Mines.

Summary of data and previous work

Location

Curtin Twp., (geology extends into Mongowin and Roosevelt Townships). approximately 55 km southwest of Sudbury ON.

Property

Macdonald Mines has optioned 13 claims (45 units), 1 mining and surface rights patent and 2 mining rights only patents from Mr. Dan Brunne and Mr. Roger Stringer. All claims are in good standing. Access is fair to good via Hwy 6 south from Espanola to Willisville and along Lake Charlton by boat, access to the property is then gained through a series of trails and tertiary roads.

Introduction

The Casson Lake Project is a relatively advanced property with fair access and good showings. It is most likely a 2230 Ma Nipissing Diabase sill or dike. The property contains numerous showings and includes the historic Bousquet gold mine. PGE Cu- Ni mineralization is associated with sulfides adjacent to and near the contact of the gabbro intrusive and Gowganda Formation (a favourable footwall e.g. Janes Twp. property of PFN). Mineralization also occurs in pods of chromite rich gabbro and diabase. The intrusion is over 12 km long and between 200 and 600m wide.

Research

Geological compilation report by Harron and Associates. Some research has been conducted on mineralization of Nipissing Gabbro in general, Lightfoot and Naldrett 1996, Jobin-Bevans, 1999, etc.

Prospecting and development

BP completed geophysics, drilling and trenching (see below), the core is available and the digital geophysics may be as well. There has been a lot of stripping, trenching, sampling, etc. by Brunne and Stringer over ~12 years.

Geology

Nipissing Diabase intrusions are ~2230 Ma, f.g.- c.g. gabbronorite sills and dikes with strikingly similar geochemistry to East Bull Lake type intrusions. These intrusions generally occur as sills, ring dikes, and dikes intruding Superior Province rocks and the Huronian Supergroup package. They are found intruding mostly as dikes in the Superior Province granitoids and gneisses and as sills within various stratigraphic horizons of the Huronian Supergroup. Commonly 50 to 500m thick, some of the sills are layered and differentiated with Ni, Cu, Co, Au, Ag, PGE, mineralization often occurring within the lower section of the stratigraphy.

Mineralization appears to be regionally zoned with higher Ag, and Co in the east and more Cu, Ni, PGE in the central and western areas. These intrusions are formed by slightly variable magmas which are S-undersaturated and PGE Cu- Ni fertile (second stage melts). Some of the best results in Nipissing Diabase intrusions occurs in the PFN **Janes property (8.7m @ 3.35g/t TPM + 0.57% Cu, 0.33% Ni including 3m @ 8.1g/t TPM + 1.14% Cu, 0.89% Ni)**. Other results in the Rathbun Intrusion (Flag Resources), and Porter Syncline (Ursa Major) areas are very encouraging.

The **Casson Lake intrusion** lies on the north limb of the La Cloche Syncline, where Nipissing Gabbro intrudes Gowganda formation (argillaceous dropstone conglomerate) sediments of the Huronian Supergroup. Regional north and northwest trending faults and Sudbury Breccia crosscut and complicate the geology. The Casson Lake intrusion is a differentiated gabbro-norite intrusion with highly variable texture, grain size, and mineralogy. The base of the intrusion is in brecciated igneous contact with footwall sediments. Above the breccia is a unit of equigranular norite, followed by c.g. gabbro, and variably textured gabbro to pegmatitic gabbro near the top of the intrusion. Mineralization is hosted within the basal breccia and the overlying equigranular norite.

Geophysics

BP 1987, airborne VLF-EM, and Mag flown with 125m spacings. IP/RES survey 1974, by Mattagami Lake Mines over western 2/3 of property. BP also did IP. All surveys showed some coincidence with mineralization.

Mineralized Zones

The BP-8, BP-9, BP-10, and BP-11 zones were not visited but do contain significant mineralization over a strike length of over 1 km in the western most section of the property appear to tie in with mineralization at the BP-1 zone.

The BP-1 zone showing is located near the eastern edge of the property and consists of a roughly 90 x 30m stripped area where mineralization is well exposed over the entire length. Mineralization is seen in numerous gossans with roughly 2-5% disseminated to blebby cpy + po. The intrusive at the BP-1 zone is a heterogeneous gabbro/ diabase with very coarse grained to pegmatitic patches and more mafic patches. Mattagami Lake Mines Ltd. drilled 3 holes (no assays available). Curtin Mines tested the zone in 1979 with DDH 79-2, intersecting .51% Cu and 0.2% Ni over 23.5m (no assays for PGE). BP drilled 6 scissor holes from the north and from the south, none of the holes were drilled with proper stratigraphic control, although one hole did intersect 3m @ 2.09 g/t TPM. This zone is set to be channel sampled but needs a 1 x 1-m grid sampling and detailed mapping before further drilling.

The BP-G zone is a small (15 x 30m) stripped area with some visible gossans and heterogeneous gabbro, located approx. 850m east of the BP-1 zone. This area is a newly stripped area and will be channel sampled in the coming months.

The North Bousquet Zone is a freshly stripped area located 1.5km east of the BP-1 Zone. Stripping has identified a large area of gossan not sampled by the surface or drilling program of BP. BP grab samples indicate mineralization up to 3.2 g/t TPM.

BP Zones 5, 6, and 7 located 2.4- 3 km east of the BP-1 zone. These are showings that expose mineralization on an apparent trend over 600m. These zones show mineralization of large blebby sulfides in a qtz and fragment bearing heterogeneous gabbro. A distinctive shear zone cutting these zones and associated gossan may be used to correlate geology along strike.

The AN-3 zone is a stripped area 40m x 70m located approximately 5km east of the BP-1 Zone near Casson Lk. This area contains a chromite rich gabbro overlain by fragment bearing pegmatitic gabbro. One 0.5m channel sample assayed at 10 g/t PGE, 0.3 % Cu and 0.1 % Ni.

The AN-1, AN-2, AN-4 and Malachite Pit zones are all stripped areas in the western portion of the property these zones show similar mineralization to other areas on the property.

Significant gold mineralization occurs at several showings on the property including the historic Bousquet Gold Mine.

Results

Grab Sample Assays

Some of the better samples from locations across the Casson Lk. gabbro.

Location	Pd (g/t)	Pt (g/t)	Au (g/t)	PGE (g/t)	Cu %	Ni %
BP-1	1.4	1.1	4.4	6.9	0.4	0.08
BP-5	2.1	0.8	0.3	3.2	0.9	0.09
BP-6	2.4	0.5	0.8	3.7	0.7	0.17
BP-7	3.6	0.7	0.7	5.0	0.3	0.06
BP-8	0.7	0.5	0.4	1.6	0.4	0.14
BP-9	0.9	0.8	0.7	2.4	0.3	0.07
BP-10	2.1	0.5	0.9	3.5	0.8	0.28
BP-12	1.4	0.3	0.6	2.3	0.4	0.22
BP Bousquet N	2.5	0.4	0.3	3.2	0.3	0.05
AN-2	2.6	0.5	0.8	3.9	0.7	0.26
AN-3	4.5	3.4	0.9	8.8	0.3	0.12
AN-4	2.2	0.5	0.4	3.1	0.6	0.25
Bousquet Gold			119.2			

Note: showings BP-10 and AN-3 are 7 km apart along the gabbro with other showings (BP-5, BP-7) between.

Drill Core Assays

30 holes for a total of 3526m have been drilled on the property by BP and Curtin Mines. Some shorter holes have been drilled by Mr. Brunne mostly for gold. 2750 m of core is available for relogging and sampling. **Most drilling has been done without sufficient structural or geological control.** Best results were returned for holes BP 74-9 (14m @ 0.52 g/t PGE 0.14% Cu and 0.06% Ni) and BP 75-2 (3m @ 0.49 g/t PGE 0.14% Cu and 0.07% Ni).

Falconbridge Grab Samples

Samples from various showings visited during the property exam returned results similar to BP and Brunne/ Macdonald Mines samples. All mineralized samples returned highly anomalous PGE

Cu-Ni values, with a high value of **3.39 g/t Pd+Pt+Au, 0.76% Cu and 0.35% Ni** and all others over 0.5 g/t PGE. Two non- mineralized stratigraphic samples were taken and show depleted PGE and Cu Ni values relative to common Nipissing Gabbro background values.

Summary

The property consists of numerous PGE- Cu- Ni showings in a Nipissing Gabbro sill/ dike (Casson Lake Gabbro) which is 200-500m wide and exposed over an 8 km strike length on the property. The gabbro intrudes folded Gowganda Formation sediments of the Huronian Supergroup, numerous faults and dikes crosscut and disrupt the intrusive. This property and area have had a long exploration history including stripping, trenching, sampling, mapping, and geophysics by junior companies, major companies and prospectors. Assays of highly anomalous PGE occur over >7 km of strike length. The best assays to date are 8.8 g/t PGE and up to 0.8% Cu and 0.28% Ni in grab samples. Geophysics indicates minor to moderate anomalies coincident with showings on the property. Although the properties have received a vast amount of work very little proper geological, structural and geophysical interpretation has been applied. MacDonald Mines currently holds the property under option from Mr. Brunne and Mr. Stringer. More information is available in the Harron compilation.

The possibility exists for several low grade (2-5 g/t PGE), moderate tonnage (5-10 Mt.), near surface deposits on this property. This property represents one of the best PGE Cu- Ni occurrences in the region and the only significant advanced property not currently held by or in Joint Venture with a major company.

Observations

Geological and geophysical interpretation on the property has been inadequate at the level required for exploration and development of a property of this size and complexity. PGE Cu Ni mineralization appears to be related to the more dynamically emplaced and contaminated portions of the intrusive. The mineralization is similar to that seen at East Bull Lake and River Valley where a very small amount of sulfide occurs in variable gabbroic rocks. **One significant difference between Nipissing Gb and EBL type mineralization is the much higher Cu- Ni tenors in the former. Mineralization appears to be continuous at anomalous values along the strike of the intrusion.** The stripping on the property is well advanced and exposes wide areas to be sampled and mapped.

Concerns

Concerns on the property are 1) minor large equipment (drills, excavators, etc.) access problems, and 2) the threat of Provincial Park expansion. Access can be gained for large equipment across the Whitefish River and is not a major problem at least in the winter months. As long as the claims and patents are held in good standing they are valid as is any advanced exploration or development.

Recommendations

This property is the best PGE Cu Ni property evaluated thus far by the Regional PGE Project including current Falconbridge claims. **Besides possibly East Bull Lake and the PFN Dana Zone in the River Valley intrusion, no better grade, consistent PGE mineralization, has**

been documented. This property could be fully evaluated in less than a year, through surface mapping, stripping, sampling, geophysics, drilling and data compilation.

Preliminary exploration plan would include:

- Compilation and analysis of available data, maps, reports.
- Igneous contact and stratigraphic mapping.
- Detailed gridding and sampling of stripped areas.
- Re-logging of available drill core with sampling where necessary.
- Design and contract ~90km of grid @ 100m spacings.
- Analysis and compilation of geophysics with respect to known mineralization and contacts.
- Grid mapping and sampling.
- Possible, late winter drill program.