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Assessment report On the 2014 prospecting program

Onaman River property NTS 42 L/4

Thunder Bay, Ontario

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November 14, 2014



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SUMMARY

The group of claims reviewed in this assessment report comprises three contiguous claims and one isolated claim, all located on the Onaman River property which is owned by Jien Nunavik Mining Exploration Limited. The Onaman River property is located within the Thunder Bay Mining Division of north-western Ontario, at about 200 km North-East of Thunder Bay. The property is connected to the Trans-Canada Highway by a 60 km all-weather gravel road.

The Onaman River Property is located on the Onaman-Tashota granite-greenstone belt which hosts numerous mineral deposits and occurrences including Au, Ag, Cu, Pb, Zn, Co and Mo. The main rock types on the property are felsic and mafic volcanics trending NE-SW. The NE-SW striking shear zones dominate the property.

Since 1916, many companies carried out various exploration programs, such as prospecting, mapping, geophysical survey, trenching and drilling on the property and these exploration programs made some discoveries.

These claims seem to be prospective based on the results of the 2013 geophysical survey. Massive sulfides and strong favorable alteration have been observed in trenches located near the Onaman River property. Exploration work carried out on the four claims in 2014 consisted of ground truthing the nine VTEM anomalies identified during the 2013 geophysical survey and also some prospecting. But no anomaly was explained because of the lack of outcrop.

Detailed prospecting should be conducted over the property. Emphasis should be placed on ground truthing the geophysical anomalies (VTEM) as this was not possible to do during this field visit because of the lack of outcrop and also the presence of snow. A stripping program must be carried out and detailed geological mapping should be conducted.

1. INTRODUCTION

During November 2014, Jien Nunavik Mining Exploration Limited completed a seven-day prospecting program (1-7 November) on the Onaman River copper-gold property. This property is located in the Onaman-Tashota granite-greenstone belt which hosts numerous mineral deposits and occurrences.

This report was prepared primarily for the purpose of fulfilling assessment work requirements on a group of claims located in the southern part of the property. This group of claims consists of a total of four claims which cover an area of approximately 1.55 km².

The work was planned in order to do the ground truthing of the VTEM anomalies identified during the 2013 geophysical survey and also to do some prospecting. This work was conducted by Baba Kane (M.Sc, P.Geo) assisted by Kevin Loder (prospector). Nine VTEM anomalies were visited, two old trenches identified but no grab samples were taken.

2. LOCATION AND ACCESSIBILITY

The Onaman River property is located within the Thunder Bay mining division of north-western Ontario, at about 200 km North-East of Thunder Bay. The Trans-canada highway passes through former gold mining towns of Beardmore and Geraldton and the distance by road from the Onaman River property to Geraldton is 104 km (Fig. 1). The property is connected to the Trans-canada highway (Highway 11) by a 60 km all-weather gravel road which was originally built for forestry access and leads to a number of isolated settlements in the area, through a gravel road serving the Tashota-Nipigon mine (a former gold producer).

3. PROPERTY DESCRIPTION

The group of claims treated in this report comprises three contiguous claims and one isolated claim (table 1), all located on the Onaman River property (Fig. 2) owned by Jien Nunavik Mining Exploration Limited.

Township	Claim no.	Recorded date	Expiry date	Status	Work required \$	Unit	Area (km2)
CASTLEWOOD LAKE AREA	3018085	2014-Feb-19	2016-Feb-19	А	800	2	0.32
CASTLEWOOD LAKE AREA	4216279	2013-Dec-17	2015-Dec-17	А	1600	4	0.76
CASTLEWOOD LAKE AREA	4216377	2013-Dec-17	2015-Dec-17	А	400	1	0.15
COUGHLAN LAKE AREA	4216274	2013-Dec-17	2015-Dec-17	A	800	2	0.32

Table 1: Claim list



Figure 1: Location of the Onaman River property

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Figure 2: Claim map

4. GEOLOGICAL SETTING

4.1 Regional Geology

The regional geology (Fig. 3) is dominated by the granite-greenstone Onaman-Tashota belt comprising felsic to mafic metavolcanic (calc-alkaline and tholeiitic) sequence. Metavolcanic rocks of the Onaman-Tashota terrain are deformed into arcuate shapes by the emplacement of intervening granitic intrusions. Regional lineaments or faults trend north and north-east.

Mafic metavolcanics in the Onaman-Tashota Metavolcanic belt are intercalated with felsic pyroclastic rocks with minor quartz porphyry and rhyolitic flows. The mafic metavolcanics consist of massive to foliated, pillowed, porphyritic and amygdaloidal flows, chlorite schist, tuff, lapillistone, tuff breccia and agglomerate. Felsic metavolcanics consist of rhyolite to rhyodacite, rhyolite porphyry, crystal tuff, lapillituff, tuff breccia, rhyolitic quartz feldspar porphyry and pyroclastic breccia. Metasediments are also present as argillite, arkose, wacke, sandstone, conglomerate and minor chemical metasediments. The metamorphic grade is commonly greenschist but ranges to amphibolite grade.

Regionally, there are numerous mineral deposits including gold, silver, copper, lead, zinc, cobalt and molybdenum deposits, hosted by metavolcanics, mainly distributing in two areas. One is on or adjacent to Onaman River property, another is around 20 km north to Onaman River property.

4.2 Property Geology

The Onaman River property covers a part of the volcanic-sedimentary belt, within the Wabigoon subprovince of the Canadian Shield (Fig. 3). It stretches Northeast-Southwest and consists of an assemblage of volcanic rocks with a minimum width of 3 km between two large granitic batholiths which sandwiched the volcanic belt. To the South-East is the Onaman Lake batholith, which is over 50 km in diameter and is composed of granodiorite with a migmatite core. Another very large body of granodiorite called the Jackson Lake pluton occurs at the North-West.

For the detailed description of these felsic volcanics, two cycles of felsic volcanism have been interpreted by Osterberg. The two cycles of felsic volcanism is separated by a conglomerate unit. The lower cycle (Cycle I) consists mainly of bedded ash tuffs with a quartz crystal tuff unit at the top. It extends from the centre of the property to the South-West. Cycle II also consists mainly of bedded ash tuffs with apparently lenticular lava flows, and extends from the centre of the property to the North-East.



Figure 3: Regional geological map of Onaman River property

5. DEPOSIT TYPES

The data from mineral deposits inventory compiled by Ontario Geological Survey, and geological reports generated by exploration companies show that the mineral occurrences in Onaman River property or adjacent properties include gold, silver, copper, lead, zinc and molybdenum. The deposit types which have been discovered to date include:

5.1 Vein type deposits

This type mainly involves gold which is associated with quartz-carbonate veins hosted by felsic to intermediate metavolcanics, and often located marginal to felsic intrusions (dikes or stocks). The veins are typically sigmoidal or lenticular within the Onaman-Tashota belt. Sulphide content within such veins ranges from nil to 40%. Pyrite, pyrrhotite, chalcopyrite, sphalerite and galena may be present in the veins. Gold usually occurs in the vein as free gold, or as micro-inclusions in sulphides or more rarely within the sulphide crystal lattice. It may also occur in the sheared wall rocks. Some of these vein deposits may involve remobilization of base metal exhalative deposits described below.

5.2 Chemical metasediment type gold

This type of deposit is rare within the Onaman-Tashota belt. It is characterized by gold hosted in chemical metasediments such as chert and iron formation. Quartz stockwork or stringer zones related to the chert or distal exhalite horizons can also contain gold values.

5.3 Shear zones

Shear zones with disseminated pyrite, pyrrhotite and/or chalcopyrite and related gold mineralization cut felsic metavolcanic rocks, typically crystal tuffs, lapilli-tuffs, volcanic breccias, rhyolite, dacite and related quartz-feldspar porphyry.

5.4 Base metal exhalative deposits

Base metal deposits in the Onaman-Tashota belt include a number of base metal showings along a large arcuate shaped magnetic anomaly toward the eastern contact of the belt. Many of these showings are currently held by SAGE including Lynx, Cane Cu, Abitibi and Km 50.

6. PREVIOUS WORKS

The Onaman River property has a long history of previous exploration, which may be summarized as follows:

- 1916: Gregory Brennan, a prospector, panned free gold from lead-zinc mineralization in two showings, probably the Coulee Nos. 2 and 4 zones.
- 1922-1925: Brennan returned to the area and found a quartz vein system with free gold. Canadian Mines Syndicate and later South Onaman Mines were formed to develop the property, and carried out extensive stripping and trenching.

- Late 1930's: Percy Hopkins acquired claims covering roughly the area of the Headway-Coulee property. Middleton Vein was discovered, with high silver values. Canadian Mines Syndicate trenches cleaned and re-sampled. Johnson vein (rich gold tellurides in a very narrow quartz vein) was tested by six X-ray holes.
- 1949: Hopkins' claims acquired by Coulee Lead and Zinc Mines. Prospecting uncovered several Zn-Pb-Ag zones. Dip-needle survey and 5,018 ft, of drilling in 24 holes, 15 of which were on the Coulee No. 5 zone (with good gold values).
- 1949: Headway Red Lake Gold Mines acquired ground to the SW of Coulee. Prospecting located the Headway Main Zn-Pb-Ag Zone.
- 1950: Coulee property optioned to Mcintyre Porcupine Mines, through its subsidiary Carndesson Mines, which drilled 11,440 ft, in 26 holes.
- 1952: Mcintyre option on the Coulee claims dropped, and Coulee claims assigned to the Chubb-Stuart Syndicate, which held them till 1968, without doing any work.
- 1951-1952: Headway drilled 139 holes totalling 33,000 ft., of which 106 were on the Headway Main Zone, estimated to contain 739,400 tons of 3.15X Zn and 1 1 oz/ton Ag.
- 1972-1974: Noranda held Headway and Coulee claims under option, and staked a large surrounding area. Magnetic, vertical loop EM, and IP surveys, and 5,487 ft. was drilled in 17 holes.
- 1974: Local prospectors Nolan Cox and David Thorsteinson found malachite-cemented till near MacDonald Creek. They staked claims, which were optioned to Lynx- Canada Explorations.
- 1975-1976: Lynx, with partners Dejour Mines and Canadian Reynolds Metals, drilled in the area of the malachite- bearing till and located the No. I Cu-Au-Ag zone. They then optioned the Headway and Coulee claims, and commenced an extensive exploration programme. The bulk of the property was surveyed with HLEM and magnetometer, and prospecting and stripping carried out. 55 holes totalling 16,926 ft. were drilled. Some basal till sampling was also performed. Mineralization located included the No. I and No. 2 Zones, and other polymetallic stringer sulphide systems, as well as a molybdenite occurrence.
- 1976-1977: Interests of Lynx and Reynolds in the southern half of the property were assigned to the Dighem Syndicate, which, in JV with Dejour Mines, carried out magnetic and HLEM surveys and geological mapping. Dighem Syndicate re-assigned its interest to Lynx and Reynolds.
- 1978-1979: R. DiLabio of the GSC examined the property and described the glacial dispersion train down-ice from the No. 2 Zone.

- 1981-1982: Six claims south of the Headway Main Zone optioned to Mattagami Lake Mines, where 1951 drilling had reported Co values. Magnetic and HLEM survey and 5 holes totalling 2,008 ft. No Co values were found, and the option was dropped.
- 1982-1985: S. Osler berg carried out geological mapping and rock geochemical studies for a M. Se. thesis. His work gave an accurate description of the felsic vulcanism and demonstrated the existence of extensive hydrothermal alteration.
- 1988-1989: Goldbrook held an option to acquire *5ffi* interest in the property. An airborne magnetic and VLF survey was carried out, and a number of targets were examined by stripping. The 88-A Zn-Pb-Ag zone was discovered. Goldbrook acquired the Coulson-Kindla claims and the Goldbrook-Middaugh claims.
- 1990: Goldbrook and Castlewood carried out line cutting, magnetic and VLF-EM surveys on the Goldbrook-Middaugh claims.
- 1991: Goldbrook and Castlewood carried out line cutting, magnetic and VLF-EM surveys; an airborne EM/magnetic survey was flown, geological mapping was commenced, and a stripping program was done over the 91-A, 91 B, 91-C and 91-D zones.
- 2013: Jien Nunavik Mining Exploration Limited carried out a helicopter-borne geophysical survey over the Onaman River property (all the claims). A total of 244 line-kilometres of geophysical data were acquired during the survey. 43 targets were identified.

7. EXPLORATION WORK UNDERTAKEN IN 2014

Exploration work carried out on the Onaman River property in 2014 consisted of ground truthing the VTEM anomalies identified during the 2013 geophysical survey and also some prospecting (table 2).

Day	Date	Daily log
1	31-Oct-14	Flew from Montreal to Thunder Bay with stopover in Toronto. Then travel to Geraldton by truck
2	01-Nov-14	Ground truthing of VTEM targets 1, 41, 43, 2 and prospecting around these targets
3	02-Nov-14	Ground truthing of VTEM targets 4, 42, 40 and 5 and prospecting around these targets.
4	03-Nov-14	Prospecting around target 3
5	07-Nov-14	Report writting
6	08-Nov-14	Travelled back to Montreal

Table 2: Daily log of work on the four claims

Nine VTEM anomalies located on the group of claims (Fig. 4) were visited. Access to these anomalies was quite good from the gravel road. The topography of the area is relatively flat. Some ridges of outcrops may rise as high as 50 feet above adjoining muskeg.



Figure 4: Visited VTEM anomalies

All the VTEM anomalies are located in the muskeg and outcrops are rare (table 3). By the time we arrived there the property was covered by snow that made prospecting very challenging.

Despite all the efforts made in the field, no VTEM anomaly was explained because of the lack of outcrop and the presence of snow. A trenching program (stripping) is required in order to access the rocks.

Target	Х	Y	Description
1	452984	5537090	Covered by snow, no visible outcrop, overburden not thick 45 inches), anomaly not explained
2	453137	5537581	Covered by snow, muskeg, previous works have been done in this area, anomaly not explain
3	453506	5537587	V2 outcrop found, no mineralization,
4	453129	5537816	Covered by water and snow
5	452949	5538671	No outcrop, covered by snow, anomaly not explained
40	453105	5538409	Muskeg (no outcrop), anomaly not explained
41	452911	5537246	Flat terrane, no outcrop, some granite boulders, anomaly not explained
42	453028	5537995	Muskeg (no outcrop), Anomaly not explained
43	453109	5537364	Flat terrane, no outcrop, anomaly not explained

Table 3: Targets visited

Two old trenches were found along the eastern boundary of the property. These trenches are filled up with boulders and vegetation. They can be cleaned up and channel sampled.

8. CONCLUSION AND RECOMMENDATION

These claims deserve a small exploration program in order to define high priority drill targets. They seem to be prospective based on the results of the 2013 geophysical survey. Massive sulfides and strong favorable alteration (chloritization, hematization, silicification) have been observed in trenches located near the Onaman property. Prospecting and stripping works should be done during spring (after snow melting) or summer.

8.1 Prospecting

Detailed prospecting should be conducted over the property. Emphasis should be placed on ground truthing the geophysical anomalies (VTEM) identified during the 2013 airborne survey as this was not possible to do during this visit because the property was mostly covered by snow. Samples must be collected and send to the laboratory. Activation laboratories office in Thunder Bay can be a good option.

8.2 Stripping and channel sampling

As the claims are located in muskeg and outcrop is rare, a stripping program must be carried out. The old trenches discovered must be cleaned up and sampled (massive sulfides have been observed in all the old trenches located near the property). The overburden is not thick so it must be easy to strip.

New mineralized areas identified during the prospecting phase should be stripped also. Channel samples should be taken and send to the laboratory. Channel sample intervals must be selected based on the presence of geological contacts and degree of visible alteration and mineralization.

8.3 Geological mapping

Detailed geological mapping should be conducted. Outcrops and trenches should be mapped. Emphasis must be placed on the structural elements of the VMS system and all mapping data should be integrated into a GIS system.

9. REFERENCES

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10. CERTIFICATE

I, Baba Kane, certify that:

1. I am a Geologist employed by Jien Nunavik Mining Exploration Ltd. (JNMEL), located at the following address: 800 Boul. René-Lévesque Ouest, Montréal, Québec H3B 1X9.

2. I possess the following degrees: a Bachelor of Engineering (B.Eng.) with a specialization in Geological Engineering from the Earth Sciences Institute of Cheikh Anta Diop University, Senegal (2006), and a Master of Science (M.Sc.) in Earth Sciences from the University of Quebec at Montreal (2012).

3. I am a professional member of the Ordre des Géologue du Québec (OGQ #1783).

4. I have been working in the field of geology since 2006 for various exploration companies and for various commodities (Ni-Cu-PGE, Au, U and Gas).

5. I spent eight days during November 2014 on the Onaman River property, of which three days on the group of claims object of this assessment report.

6. I confirm reading and reviewing this report and that it accurately comprises all relevant field work conducted during the stated reporting period.

Signed in Montreal, Quebec, November 14, 2014

Baba Kane

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