# Assessment Report on
# 2015 Mapping, Prospecting and Davis Tube Magnetic Test Work
# Chrome-Puddy Property

Claims 4265987, 4265988, 4254343, 4254345, 4254346, 4244587, 4265978, 4265979, 4265980
Obonga Lake Area (G-0100)/Puddy Lake Area (G-0118)
Thunder Bay South District, Thunder Bay Mining Division
UTM WGS84 Zone 16U 319833 mE, 5538575 mN
Latitude 49$^{o}$ 58’ 20” N, Longitude 89$^{o}$ 30’ 46” W
NTS 52H 13/14

For:
Pavey Ark Minerals Inc.
Client number 411465

Prepared by:
Richard Sutcliffe, P.Geo. (Client # 225603),
100 Broad Leaf Crescent
Ancaster, ON, L9G 3R8

January 8, 2016

**Executive Summary**

This assessment report documents results of mapping, prospecting and Davis Tube magnetic test work on the Chrome-Puddy property, Thunder Bay Mining Divisions, Ontario. The work targets nickel, copper, chromium and platinum group metal (PGM) mineralization in the Archean Chrome-Puddy serpentinite intrusion. Field work for this report was carried out in September 2015 and analytical work in October 2015 to January 2016. Total expenditures were $19,274.

The Chrome-Puddy Property is located 179 km north of the city Thunder Bay, Ontario. Highway 527, a paved highway that extends north from Thunder Bay to Armstrong, is located 25 km west of the Property. Recent logging activity has created logging access roads to within 2 km from the east boundary of the Property. Access to the Property is also by float equipped aircraft that can be chartered in Armstrong.

The Chrome-Puddy Property is a contiguous property comprised of eleven patented claims covering 227 ha and 9 staked claims (4265987, 4265988, 4254343, 4254345, 4254346, 4244587, 4265978, 4265979, 4265980) totaling 51 claim units covering 816 ha. The Property is 100% owned by Pavey Ark Minerals Inc., a private Ontario Corporation.

A total of 30 samples were selected for assay. The samples were analyzed at Accurassay Laboratories in Thunder Bay for platinum, palladium and gold by fire assay (FA) using 30 g aliquots with an atomic absorption spectrometry (AAS) finish and for 30 additional elements using a multi-acid digestion procedure and inductively coupled plasma-optical emission spectrometry (ICP-OES). Two samples were over limit for Cr and were reanalyzed for major elements using a fused disk preparation procedure and X-Ray Fluorescence (XRF).

Assay results from the 2015 program document high-grade chromite values to 43% $Cr_2O_3$ from waste rock at the Chrome Lake minesite. A significant number of samples from the Chrome Puddy Serpentinite contain in excess of 20% Fe with Ni contents in the range of 2,000 ppm. Locally anomalous Cu values and weakly anomalous precious metal values were obtained in the serpentinite samples.

Davis Tube magnetic test work to evaluate a magnetic fraction in the Chrome Puddy serpentinite shows that a high-grade Fe concentrate with over 95% $Fe+FeO+Fe_2O_3$ can be magnetically separated from samples of the Chrome-Puddy Serpentinite. Several of the magnetic fractions contain in excess of 1% Ni. This suggests a relatively unique style of Fe-oxide/Ni mineralization occurs on the Chrome Puddy Property.

Further mineralogical test work is recommended to determine the mineral containing the Ni in the magnetic separates. Surface channel sampling and/or drilling of magnetically anomalous areas of the Chrome Puddy serpentinite is recommended to evaluate the potential scale of Fe-oxide/Ni mineralization in the intrusion. In addition, the Property has magmatic chromite and sulphide targets that were not evaluated in the current program.

**Table of Contents**

## 1.0 Introduction

This report describes the results of field mapping, prospecting, assaying and Davis Tube test work carried out on the Chrome-Puddy Property, located in the Thunder Bay Mining District, Northwestern Ontario. Field work for this report was completed by R.H. Sutcliffe, P.Geo. on September 12 to 15, 2015 and by Alex Pleson of Nipigon with 2 assistant prospectors from September 10 to 15, 2015. Assay work was carried out at Accurrassay Laboratories in Thunder Bay. Davis Tube magnetic test work and assaying was done at Agat Laboratories in Mississauga.

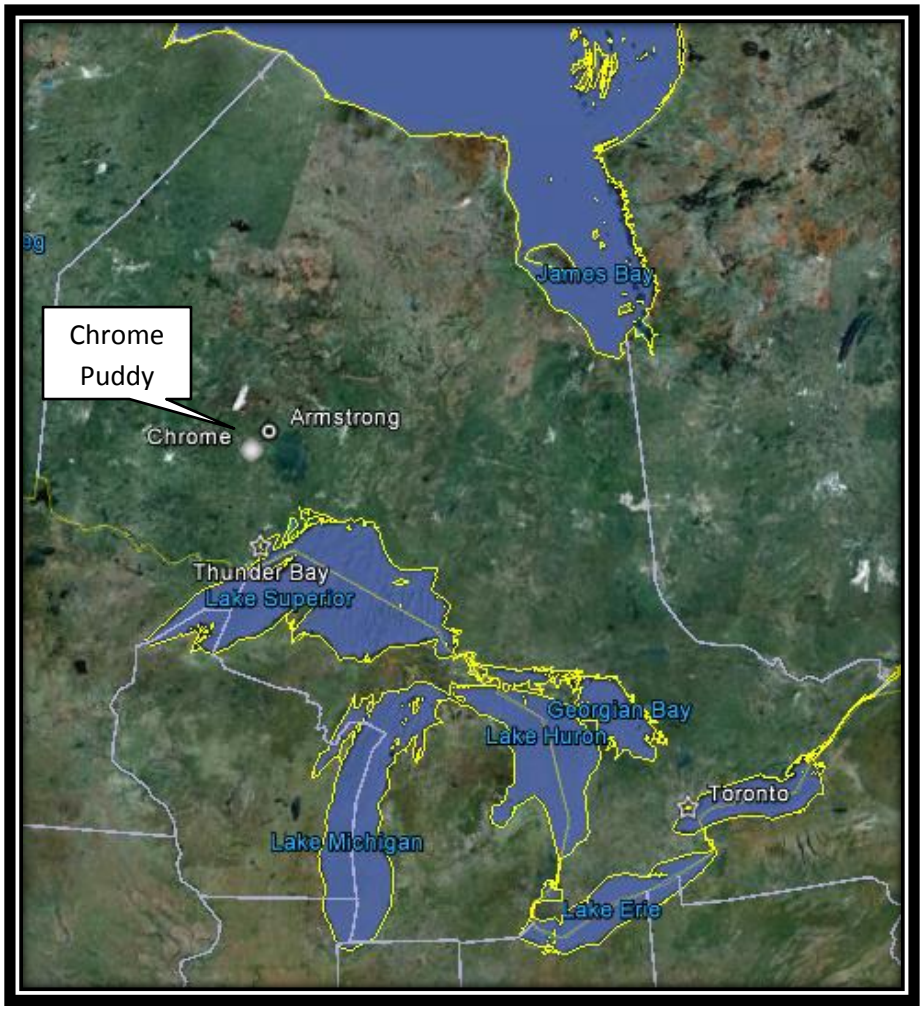
The work primarily targets iron-oxide/nickel mineralization in the Archean Chrome-Puddy serpentinite intrusion. In addition, the Property has magmatic chromite and sulphide targets that were not the focus of the current program.

## 2.0 Location and Access

The Chrome-Puddy Property is located in the Thunder Bay Mining District of northwestern Ontario. The property is 179 km north of the city Thunder Bay, 49 km southwest of the town of Armstrong Station, and 1,043 km northwest of Toronto, Ontario (Figure 1). Highway 527, a paved highway that extends north from Thunder Bay to Armstrong, is located 25 km west of the Property. Recent logging activity has created logging access roads to within 3.5 km of Chrome Lake and 2 km from the east boundary of the Property. The logging road access route to the property is from the "Obonga Lake Road" which is a signed gravel road west of highway 527 and located 30 km south of Armstrong Station. The logging roads are not maintained. A hiking trail has been established to connect the logging roads with Chrome Lake.

Access to the Property is also by float equipped aircraft that can be chartered in Armstrong. Puddy Lake on the west side of the property is best suited for aircraft landings. For this report, the logging roads and the trail system were used to access the property.

**Figure 1. Chrome-Puddy Property Location Map**




*Source Google Earth 2013*

## 3.0 Claim Holdings and Property Disposition

The Chrome-Puddy Property (Figure 2) is a contiguous property comprised of eleven patented claims covering 560.45 acres (226.81 ha) and 9 contiguous staked claims (4265987, 4265988, 4254343, 4254345, 4254346, 4244587, 4265978, 4265979, 4265980) totaling 51 claim units for a total of 2,016 acres (816 ha) as described in tables 1 and 2. The Property covers approximately 90% of the Chrome-Puddy Serpentinite and the major known mineral occurrences in the serpentinite. A claim map is provided as Map 1 and a sketch showing contiguity is shown in Figure 2.

In the present program a limited amount of work was completed on patents TB8814 and TB9294.

**Table 1. List of Patented Claims comprising the Chrome Property**

| Patent Number | Recorded Claim Number | Area (acres) | Area (hectares) |
|---|---|---|---|
| TB 8420 | TB 14414 & TB14413 | 88.55 | 35.84 |
| TB 8421 | TB 14415 | 50.91 | 20.60 |
| TB 8422 | TB 14412 | 33.90 | 13.72 |
| TB 8423 | TB 10835 | 66.41 | 26.88 |
| TB 8424 | TB 10836 | 69.24 | 28.02 |
| TB 8425 | TB 10826 | 44.63 | 18.06 |
| TB 8426 | TB 10827 | 41.87 | 16.94 |
| TB 8427 | TB 10828 | 31.88 | 12.90 |
| TB 8428 | TB 10883 | 17.83 | 7.22 |
| TB 8814 | TB 8814 | 74.67 | 30.22 |
| TB 9294 | TB 19207 | 40.56 | 16.41 |
| | | **Total 560.45** | **226.81** |

**Table 2 List of Staked Claims comprising the Puddy Property**

| Township/Area | Claim Number | Recording Date | Claim Due Date | Status | Percent Option | Work Required | Total Applied | Total Reserve | Claim Bank |
|---|---|---|---|---|---|---|---|---|---|
| OBONGA LAKE AREA | 4244587 | 2012-Oct-22 | 2016-Jan-12 | A | 100 % | $ 800 | $ 800 | $ 0 | $ 0 |
| OBONGA LAKE AREA | 4254345 | 2012-Nov-27 | 2016-Jan-27 | A | 100 % | $ 2,400 | $ 2,400 | $ 0 | $ 0 |
| OBONGA LAKE AREA | 4254346 | 2012-Nov-27 | 2016-Jan-27 | A | 100 % | $ 3,200 | $ 3,200 | $ 50 | $ 0 |
| PUDDY LAKE AREA | 4254343 | 2012-Nov-27 | 2016-Jan-27 | A | 100 % | $ 4,000 | $ 4,000 | $ 0 | $ 0 |
| PUDDY LAKE AREA | 4265978 | 2013-Mar-21 | 2016-Mar-21 | A | 100 % | $ 400 | $ 400 | $ 0 | $ 0 |
| PUDDY LAKE AREA | 4265979 | 2013-Mar-21 | 2016-Mar-21 | A | 100 % | $ 400 | $ 400 | $ 0 | $ 0 |
| PUDDY LAKE AREA | 4265980 | 2013-Mar-21 | 2016-Mar-21 | A | 100 % | $ 400 | $ 400 | $ 0 | $ 0 |
| PUDDY LAKE AREA | 4265987 | 2012-Oct-22 | 2016-Jan-12 | A | 100 % | $ 6,000 | $ 6,000 | $ 494 | $ 0 |
| PUDDY LAKE AREA | 4265988 | 2012-Oct-22 | 2016-Jan-12 | A | 100 % | $ 2,800 | $ 2,800 | $ 0 | $ 0 |

## 4.0 Previous Work

Historically, exploration and development in the eastern portion of the Chrome-Puddy serpentinite has targeted chromite, while the western portions of the intrusion have been explored for nickel and precious metals. Historic exploration activity on the property, as documented by Puumala et al. (2012) is summarized below.

Chromite was first discovered in the vicinity of Chrome Lake in 1928 by W.K. Keefe and R.A. MacDonald who staked the occurrence and transferred ownership to Golden Centre Mines Inc. of New York. In 1930 Consolidated Chromium Corporation, a subsidiary of Golden Centre Mines, began development work, including stripping, trenching, drilling and shaft sinking. The shaft was sunk to a depth of 350 feet, with levels at 100 and 225 feet. Operations ceased in late fall of 1930 and did not resume until 1933, when new owner Chromium Alloy Co. sent 70 tons of ore to Niagara Falls, New York, for beneficiation tests. Chromium Mining and Smelting Corp.

Ltd. was formed and took control of the property in 1934 and re-commenced operations in 1936. Underground work was discontinued in 1937 because of poor ore recovery, and all activities on the site ceased in 1938. The Chrome property has been inactive since 1938.

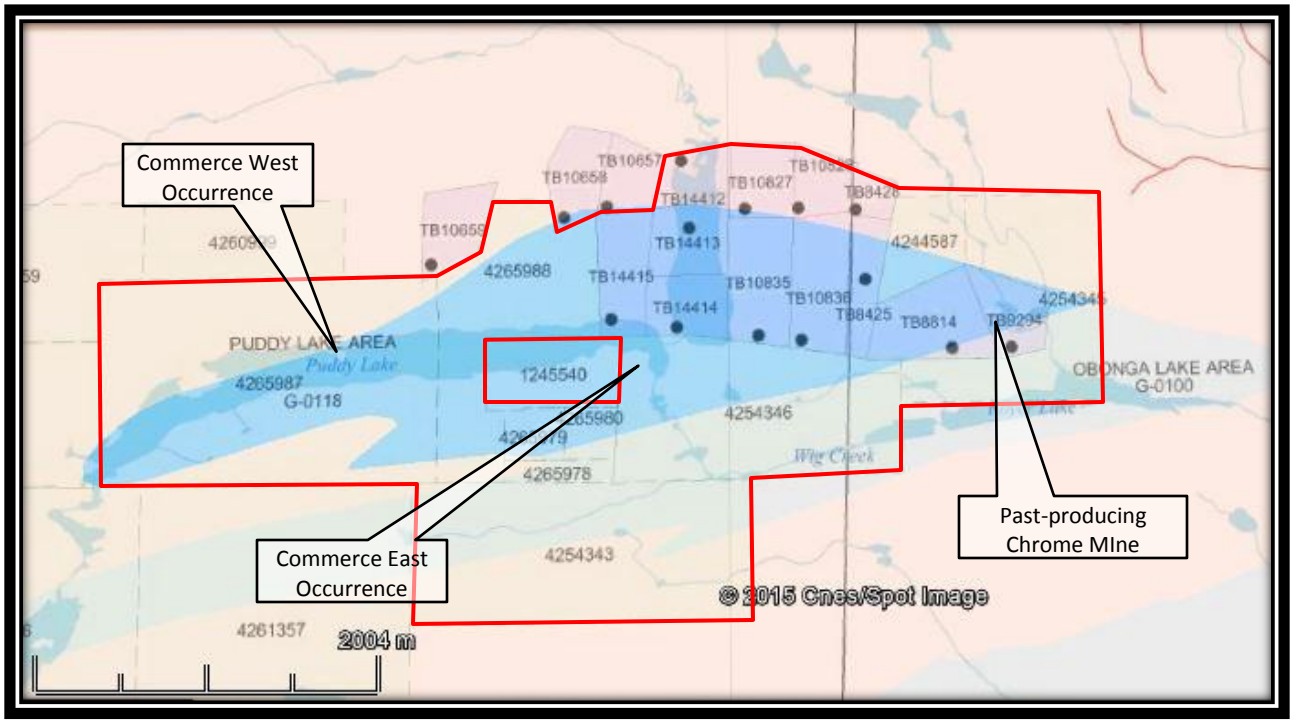
Between 1964 and 1967, Commerce Nickel Mines carried out the first significant exploration program targeting nickel in the western portion of the Puddy serpentinite, including trenching, geological mapping, geochemical and geophysical surveys and diamond drilling (24 diamond-drill holes, totalling 5,590 feet). Between 1967 and 1968, Newmont Mining Corp. of Canada completed trenching, electromagnetic surveying and diamond drilling (10 holes, totalling 3106 feet). By the mid- to late-1980s, the area began to receive attention for its PGE potential. Between 1985 and 1993, K. Kuhner carried out prospecting, outcrop stripping, surface sampling and ground geophysical surveys on claims located on the south side of Puddy Lake. The property was transferred to Obongo Precious Metals Ltd. in 1993, and Obongo completed approximately 20 diamond-drill holes between 1993 and 1996. Imperial Platinum Corp. carried out geological mapping, sampling and ground geophysical surveys in 1987 and 1988 over an adjacent property encompassing areas west, north and southeast of Puddy Lake. The most recent exploration activity includes ground magnetic and electromagnetic surveys conducted by Vale Inco Ltd. in 2007 over a property covering the western half of the Puddy Lake serpentinite that identified a number of east west trending conductors, particularly north of Puddy Lake. D. Plumridge has carried out prospecting and sampling of a claim near the southeast end of Puddy Lake since 2004. Pavey Ark Minerals Inc reported results of mapping, portable XRF analysis and prospecting in 2014.

Samples analyzed by the Government Resident Geologist's Office in Thunder Bay (Lavigne et al. 1991) revealed values as high as 5.02% Cu, 2.1% Ni, 0.42 g/t Au, 1.5 g/t Pt and 3.75 g/t Pd. Obonga Precious Metals also reports several high PGM values including up to 2.6 g/t Ru, 1.1 g/t Rh, 1.3 g/t Os, and 1.3 g/t Ir.

## 5.0 Geology

The Chrome-Puddy Property is located in the Obonga metavolcanic and metasedimentary greenstone belt of the Archean Superior Province. The Obonga greenstone belt is a relatively small (approximately 10 x 40 km) greenstone belt, situated between the Sturgeon-Savant belt on the west and the Onaman-Tashota belt to the east, and has been considered to be part of the Wabigoon Subprovince (Percival and Stott 2000).

**Figure 2. Chrome-Puddy Property Geology and Claims –**




*Pavey Ark Chrome Puddy Property outlined in red*
*Source: MNDM CLAIMaps, 2015*

The Chrome Puddy Property is underlain by the Chrome-Puddy Serpentinite Intrusion that is exposed for 7 km along strike and is approximately 1 km in width (Figure 2). Whittaker (1986) reports that rocks of the intrusion include dunite, peridotite, and minor pyroxenite, all of which are serpentinized. Medium-grained, biotite tonalite bounds the Serpentinite to the north. South of Puddy Lake, the Serpentinite intrusion is bound by mylonite and mixed metasedimentary and granitic rocks. North-striking and east-striking diabase dikes of probable middle Proterozoic age cut the Serpentinite.

The ultramafic rocks have been completely altered to serpentine, talc, chlorite, carbonate, magnetite, and amphibole. The alteration, metamorphism and deformation of the serpentinite has made the interpretation of protoliths in the intrusion difficult (Graham 1930; Hurst 1931; Simpson and Chamberlain 1967; Whittaker 1986). Although no ultramafic rocks with primary mineralogy remain, the original rock types in some areas can be inferred with some confidence by comparison with the results of studies on known types of serpentine pseudomorphs (Wicks and Whittaker 1977).

## 6.0 Mapping Program

Geological mapping (Map 2) was conducted by R.H. Sutcliffe during the period Sept 12 to 15, 2015. Mapping was done by bush traverses. Outcrop exposure is limited in the area of the serpentinite due to bouldery overburden and heavy vegetation but is enhanced along the lake

shores and along creek beds. Outcrops were located by a handheld Garmin Etrex GPS receiver and plotted on a digital map base map downloaded from the MNDM CLAIMaps application. http://www.geologyontario.mndmf.gov.on.ca/website/claimapsiii/viewer.asp

## 6.1 Amphibolite

Foliated amphibolite (Unit 1a) on the property consists of amphibolite that is probably derived from mafic metavolcanic rocks. Amphibolite outcrops are localized at the east end of the Chrome-Puddy serpentinite near Scalp Creek. Amphibolite also occurs as inclusions in foliated and gneissic tonalite.

## 6.2 Biotite Schist

Strongly foliated biotite schist (unit 2a) of possible metasedimentary origin occurs south of the Chrome-Puddy serpentinite south of Puddy Lake and at the east end of the serpentinite at Scalp Creek. This unit is "flaggy" weathering and may possibly be a mylonite zone that forms the southern contact of the serpentinite.

## 6.3 Chrome-Puddy Serpentinite

The Chrome Puddy intrusion (unit 3a) is highly serpentinized. The primary lithologies are difficult to determine due to the high degree of alteration, however, relict pegmatitic pyroxene grains were observed along the northern portion of the Commerce NW showing. Highly talcose outcrop located at the east end of the Serpentinite are interpreted to represent altered dunite. The identification of ultramafic rocks was generally easy as the weathering of the Puddy Lake intrusion commonly results in rusty outcrops with "elephant skin" texture.

The northern end of Chrome Lake has outcrops with distinct podiform chromite layers. Possible spinifex-like texture was observed along the northern shore of Puddy Lake at the Commerce East occurrence

## 6.4 Tonalite

Strongly foliated biotite tonalite (Unit 4a) occurs north of the Chrome-Puddy serpentinite in the vicinity of Scalp Creek.

## 6.5 Diabase Dikes

Diabase dikes intrude the Archean rocks. Based on a linear magnetic feature, a major $020^{o}$ trending dike is interpreted to intrude the serpentinite at Chrome Lake. A massive, brick-red, porphyritic felsite dike intrudes the sedimentary rocks at the east end of the serpentinite at Scalp Creek.

## 6.6 Structure

The data indicate that the east end of the Chrome-Puddy intrusion has a moderate (approximately 45$^{o}$) south-dipping orientation. North of the interpreted contact of the serpentinite, the host rocks are biotite tonalite with a strongly penetrative foliation that has a moderate to shallow, southwest dip. Underground workings at the #1 shaft of the Chrome Lake Mine also document that both the northern and southern contacts of the serpentinite dip south at approximately 45$^{o}$ (Hurst, 1931).

Approximately 100 m south of the Chome Lake mine waste dump, the serpentinite-tonalite contact appears to be truncated by an east-west trending mylonite zone that dips at approximately 45$^{o}$ south.

## 7.0 Assay Program Results

A total of 30 (thirty) samples were selected for assay. The samples were analyzed at Accurassay Laboratories in Thunder Bay. Sample locations and descriptions are provided in appendix 1 and Accurassay results are reported in appendix 2. Sample locations are also provided on Map 2.

All samples were dried, crushed, split and pulverized. All 30 samples were analyzed for platinum, palladium and gold by fire assay (FA) using 30 g aliquots with an atomic absorption spectrometry (AAS) finish. The samples were also analyzed for 30 additional elements using a multi-acid digestion procedure and inductively coupled plasma-optical emission spectrometry (ICP-OES).

Two samples (1192164 and 1192165) were overlimit for Cr using the ICP-OES technique. These samples were reanalyzed by Accurassay for major elements using a fused disk preparation procedure and X-Ray Fluorescence (XRF).

Noteable results included:

1) Samples 1192164 and 1192165 from the north and south waste piles, respectively, of the Chrome Mine that assayed 43.45% $Cr_2O_3$ and 34.64% $Cr_2O_3$ respectively;
2) A significant number of samples from the Puddy Serpentinite contain in excess of 20% Fe with Ni contents in the range of 2,000 ppm;
3) One serpentinite sample (1192154) contained anomalous Cu of 2,055 ppm;
4) Only weakly anomalous result for Au, Pt, Pd were obtained in the current program.

The present mapping and assaying program did not determine a cause of the EM conductor north of Puddy Lake that is observed in airborne and ground surveys.

## 8.0 Davis Tube Test Work Results

Ten samples of magnetite bearing serpentinite from the 2014 sampling program with nickel values greater than 1,600 ppm were selected for Davis Tube test work at Agat Laboratories in Mississauga. Davis Tube electromagnetic separators create a magnetic field which is able to

extract magnetic particles from pulverized rock. With this instrument the percentage of magnetic and non-magnetic material in a sample may be determined.

A 30g aliquot of pulp sample is gradually added to the cylindrical glass tube which oscillates at 60 strokes per minute. As the sample progresses down the inclined tube the magnetic particles are captured by the magnetic field. Wash water flushes the non-magnetic fraction out of the tube until only the magnetic fraction remains. Both the magnetic and non-magnetic fractions are dried and weighed to determine the percentage of magnetics in each sample.

After separation, the magnetic fraction was analyzed for metallic Fe, $Fe_2O_3$, FeO, Ni, Pt, Pd and Au. Metallic Fe and FeO were determined by titration, $Fe_2O_3$ was determined by inductively coupled plasma-mass spectrometry (ICP-MS), and Ni was determined by sodium peroxide fusion using an ICP-OES finish. Pt, Pd, and Au was determined by fire assay with ICP-OES finish. Results for Fe, $Fe_2O_3$, FeO, Ni are summarized in Table 3 and the assay certificate are provided in appendix 3.

**Table 3. Summary of Davis Tube test work and assays**

| | | Whole Rock Assay Results | | | Davis Tube Magnetic Fraction Assays | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample # | | Fe% | Mg% | Ni ppm | wt% magnetics | Metallic Fe | $Fe_2O_3$ | FeO | Ni % |
| CP-101 | | 48.77 | 5.14 | 9,376 | 77.90 | 0.15 | 69.10 | 27.60 | 1.21 |
| CP-104 | | 36.92 | 6.92 | 2,646 | 58.50 | 0.27 | 80.40 | 15.90 | 0.46 |
| CP-105 | | 33.14 | 7.47 | 1,785 | 57.20 | 0.19 | 77.30 | 15.60 | 0.28 |
| CP-107 | | 33.54 | 8.76 | 1,894 | 51.10 | 0.25 | 71.10 | 25.20 | 0.28 |
| CP-108 | | 42.35 | 6.20 | 4,601 | 49.40 | 0.21 | 72.50 | 23.50 | 1.03 |
| CP-109 | | 35.18 | 8.52 | 6,336 | 70.50 | 0.21 | 69.70 | 25.80 | 0.73 |
| CP-111 | | 60.87 | 3.37 | 13,903 | 87.80 | 0.15 | 67.40 | 26.80 | 1.65 |
| CP-112 | | 22.56 | 8.99 | 3,252 | 32.20 | 0.20 | 63.60 | 27.20 | 0.98 |
| CP-113 | | 40.96 | 6.91 | 8,196 | 64.90 | 0.14 | 63.00 | 27.20 | 1.34 |
| CP-114 | | 8.39 | >10 | 1,685 | 5.02 | 10.50 | 33.60 | 17.60 | 0.31 |

The Davis Tube test work shows that a Fe-rich magnetic concentrate with up to 1.65% Ni can be obtained from the magnetite bearing serpentinite. Samples CP-108 and -109 contained anomalous precious metals in the magnetic concentrate with combined Au+Pd+Pt of 0.346 g/t and 0.266 g/t respectively.

## 9.0 Conclusions and Recommendations

The western part of the Chrome Puddy Seprentinite is a pervasively altered ultramafic intrusion with elevated Fe and widespread magnetite content that occurs as veins and disseminations. The present mapping and assaying program did not determine a cause of the EM conductor north of Puddy Lake that is observed in airborne and ground surveys.

Assay results from the 2015 program document high-grade chromite values of 35% to 43% $Cr_2O_3$ from waste rock at the Chrome Lake minesite. A significant number of samples from the Chrome Puddy Serpentinite contain in excess of 20% Fe with Ni contents in the range of 2,000 ppm. Locally anomalous Cu values and weakly anomalous precious metal values were obtained in the serprentinite samples.

Davis Tube test work to evaluate a magnetic fraction in the Chrome Puddy serpentinite shows that a high-grade Fe concentrate with over 95% $Fe+FeO+Fe_2O_3$ can be magnetically separated from samples of the Chrome-Puddy Serpentinite. Several of the magnetic fractions contained in excess of 1% Ni. This suggests a relatively unique style of Fe-oxide/Ni mineralization occurs on the Chrome Puddy Property.

Further mineralogical test work is recommended to determine the mineral containing the Ni in the magnetic separates. Surface channel sampling and/or drilling of magnetically anomalous areas of the Chrome Puddy serpentinite is recommended to evaluate the potential scale of Fe-oxide/Ni mineralization in the intrusion.

Richard Sutcliffe
January 8, 2016

## 10.0 References

Graham, A.R., 1930, Obonga Lake Chromite Area, District of Thunder Bay, in the Thirty-Ninth Annual Report of the Ontario Department of Mines, Vol. XXXIX, Part II, pp. 51-60.

Hurst, M.E., 1931, Chromite Deposits of the Obonga Lake Area, District of Thunder Bay, in the Fortieth Annual Report of the Ontario Department of Mines, Vol. XL, Part IV, pp. 111-119.

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Parsons, C.S., 1937: Investigations in Ore Dressing and Metallurgy, January to June, 1937; Canada Department of Mines and Resources. Mines and Geology Branch, Number 785, 158p.

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Simpson, P.R., and Chamberlain, J.A., 1967: Nickel Distribution in Serpentinites from Puddy Lake, Ontario; Geo. Assoc. Canada Proceedings, Vol. 18, p.67-91.

Whittaker, P.J., 1986, Chromite Deposits in Ontario, Ontario Geological Survey, Study 55, 97p.

Wicks, F.J. and Whittaker, E.J.W., 1977, Serpentine Textures and Serpentinization, Canadian Mineralogist, Vol. 15, p.459-488.

## 11.0 Statement of Qualifications

I, Richard H. Sutcliffe, of 100 Broadleaf Crescent, Ancaster, Ontario, do hereby certify that:
I am a graduate of University of Toronto (B.Sc. Geology, 1977, M.Sc Geology 1980), and a graduate of University of Western Ontario (Ph.D. Geology, 1986) and I have been practising my profession as a geologist since.
I am a member with the Association of Professional Geoscientists of Ontario (#852).
I have direct knowledge of the exploration work performed for this assessment and I am indirectly the owner of the claims on which the work was performed.

*Signed*
*"R.H. Sutcliffe"*

Richard H. Sutcliffe, Ph.D., P.Geo.
January 8, 2016
Ancaster, Ontario

## Appendix 1 Sample Locations and Descriptions

| Sample ID | Sampler | Easting | Northing | Description |
|---|---|---|---|---|
| 1192153 | AP | 319615 | 5537936 | East Commerce occurrence, carbonate alteration, ultramafic pinkish purple, moderately fractured with magnetite blebs localized to fractures. Strongly magnetic |
| 1192154 | AP | 319412 | 5538016 | brownish with white carbonate (+talc?) alteration, moderately fractured with malachite staining on fractures, tr cpy in fractures |
| 1192155 | AP | 319432 | 5537918 | sampled Commerce East occurrence, magnetite veins next to previous sample tag 360, 40% massive magnetite with green, talcy serpentinite vein, main vein is 35cm wide but entire outcrop has propagating fractures throughout of magnetite |
| 1192156 | AP | 319456 | 5537925 | follow up on Au anomaly from 2014 sampling, green oxidixed serpentinite with v.f.g diss py up to 2%, massive serpentinite, not noteable structure other than late stage fractures |
| 1192157 | AP | 318791 | 5537530 | Area of EM conductor south of Puddy, metasediment, dark black, strongly foliated, with f.g. diss po up to 3% |
| 1192158 | AP | 319503 | 5538046 | blue tinge, altered ultramafic, with reddish purple inclusions of similar ultramafic tr po, 1% diss magnetite and 2% magnetic veinlets in up to 3mm wide fractures |
| 1192159 | AP | 319420 | 5537916 | serpentinite, green, with magnetite veins and stylolitic fracture workings, vein is 2cm wide with mm scale fractures that have propagated throughout, <8% magnetite in sample |
| 1192160 | AP | 319493 | 5538049 | green (serpentinite) ultramafic with strong fractures filled with magnetic crystal growth perp to vein wall, 7% magnetite, <1% diss magnetite, altered to serpentinite |
| 1192161 | AP | 318827 | 5537430 | foliated tonalite, 1% diss py, quartz grains are subhedral, light degree of deformation, slight magnetite with <1% po, mainly magnetic at po grains |
| 1192162 | AP | 318837 | 5537345 | slightly sheared, dark grey to black, metasedimetary rock, 10% fine to very fine grained biotite, very gossaned surface yet only tr py, relic quartz grains, rusty yellow eyes up to 2mm wide |
| 1192163 | AP | 318837 | 5537345 | sheared metased, similat to 162 sample, however, 10% of sample is quartz veins from a stockwork, veins are up to 5mm wide with 1% py near margins, and minor po associated with py, quartz is milky white in colour |
| 1192164 | RS | 321469 | 5538313 | N. Waste, Sample of chromitite |
| 1192165 | RS | 321444 | 5538266 | S. Waste, Sample of chromitite |
| 1192166 | RS | 319434 | 5537920 | Commerce East Showing, Serpentinite, carbonatized, magnetite veinlets |
| 1192167 | RS | 319418 | 5537912 | Commerce East Showing, Trench, Serpentinite, carbonatized, magnetite veinlets |
| 1192168 | RS | 319422 | 5537909 | Magnetite vein sample (selected vein), previous metallic sample tag 3604 (Kuhner?) |
| 1192169 | RS | 319353 | 5537949 | 1 to 2 cm wide, magnetite vein in serpentinite |
| 258401 | MG | 319602 | 5537937 | brownish ultramafic with carb alteration or talc? Tr py and <1% po, fine grained associated with fractures |
| 258402 | MG | 319492 | 5538047 | green ultramafic with 5% magnetite veins, strongly magnetic |

| | | | | |
|---|---|---|---|---|
| 258403 | MG | 319475 | 5538039 | ultramafic, slight red tinge to dark fine grained, with red (hematite?) nodules/eyes, <1% malachite stained in late stage fractures should have elevated Cu, possible PGE sample, <1% diss po, tr cpy |
| 258404 | MG | 319123 | 5538647 | ultramafic, dark fine grained with strong sulphide associated with wavy fracture in sample, 2% po, tr py, magnetic |
| 258405 | MG | 318863 | 5538316 | ultramafic, dark green, medium grained with soapish light powder on fresh surface, tr py, 1% po, tr magnetite? Magnetic |
| 258351 | PH | 319825 | 5538062 | ultramafic (dark, fine grained, with fine grain diss sulphides, tr py |
| 258352 | PH | 319612 | 5537948 | purplish ultramafic? Sampled on east side of Puddy, north of rapids/creek mouth, fine grained with chalky carb alt? tr py, 0.5-1% po, very weakly magnetic |
| 258353 | PH | 319439 | 5537930 | green ultramafic rock with 6% magnetite veins, very lime green, strongly magnetite, fine grained diss mag <1% |
| 258354 | PH | 319375 | 5537943 | similar rock to 353 except with 4% magnetite associated to small 1-2mm wide fractures, outcrop is highly weathered and fractured, talus |
| 258355 | PH | 319325 | 5537927 | western extent of outcrop with 5% magnetite in green ultramafic, mainy associated to small fractures, other sulphides <1% fine diss, mostly po? |
| 258356 | PH | 318872 | 5538348 | dark green ultramafic, with po/sulphide (3%) associated with large irregular altered fracture zones in outcrop |
| 258357 | PH | 318973 | 5538262 | dark green to black fine grained with some black medim grained minerals, 1% po fine grained diss throughout, only outcrop in large boulder section on northside of Puddy |
| 258358 | PH | 319197 | 5538274 | dark fine to medium grained ultramafic rock, slight soapy chalky texture is blebs of medium to coarse grained po, (<2%) |
| CP-101 | | 316784 | 5537855 | Magnetite veins, Commerce NW occurrence, interconnected magnetite veinlets ranging from 0.5 to 3 cm in white u/m, 75% magnetite |
| CP-104 | | 319353 | 5537948 | Magnetite veinlets,60% magnetite |
| CP-105 | | 319361 | 5537955 | Serpentinite with 25% magnetite veinlets, veinlets range from 1-2cm in width, hosted within apple green serpentinite |
| CP-107 | | 319433 | 5537918 | Serpentinite with 15% magnetite veinlets, range from 1-2cm in width, hosted within apple green serpentinized u/m. |
| CP-108 | | 319422 | 5537919 | Magnetite veinlets 75%, magnetite is coated with black non-metallic minerals (rusty/weathered silicates?) |
| CP-109 | | 319450 | 5537934 | Serpentinite with 5% magnetite, magnetite occurs as unusually fine wisps (mm thin, 2 cm long) within heterogenously coloured (altered) u/m. |
| CP-111 | | 317720 | 5538124 | Magnetite vein, 95% magnetite, sample collected 85m west of Commerce NW Occurrence along the north shore Puddy Lake. Sample is a massive weathered-out magnetite veinlet. |
| CP-112 | | 317790 | 5538154 | Ultramafic, with 20% magnetite, Limonite-serpentine-carbonate altered ultramafic that exhibits ~1cm thick semi-continuous veinlet of magnetite. Coarse-grained relict pyroxene(?) grains are evident |

| | | | | |
|---|---|---|---|---|
| | | | | within the weathered surface but absent in fresh surface which is characterized by a pervasive limonite altered fine-grained alteration. |
| CP-113 | | 317801 | 5538180 | Magnetite vein, 65% magnetite, sample collected from friable outcrop of serpentine altered UM outcrop. |
| CP-114 | | 321402 | 5538290 | Suspected chromitite collected from the assay shop at Chrome Lake Mine. |

## Appendix 2 Analytical Certificates – Accurassay Laboratories

See attachment

## Appendix 3 Analytical Certificates – Agat Laboratories

See attachment

**Appendix 4 Expenditures**

| Item | Unit cost | Units | HST | Total |
|---|---|---|---|---|
| | | | | |
| **Prospector and 2 Assistants** | | | | |
| Alex Pleson with Phil Houghton, Mike G., mob/demob from Nipigon, camp, meals, 2 ATV rental, chainsaw rentals, Sept 10 to 15, 2015 | | 6 days | $931.45 | $8,811.45 |
| | | | | |
| **Geologist – R. Sutcliffe** | | | | |
| Field work – Sept 12 to 15, 2015 | $650/day | 4 | 338.00 | 2,938.00 |
| Reporting – Jan 4, 5, 6, 2016 | $650/day | 3 | 253.50 | 2,203.50 |
| | | | | |
| **Analytical** | | | | |
| Accurassay 30 samples – dry, crush, pulp, PG1 (Pt,Pd,Au), MA1 & ICP-OES | $33.35/sample | 30 | 130.07 | 1,130.57 |
| Accurassay – 2 samples whole rock XRF | $28/sample | 2 | 7.28 | 63.28 |
| Agat Laboratories 10 samples-Davis Tube tests, Fe,Ni,Pt,Pd, Au | | | 213.85 | 1,858.85 |
| | | | | |
| | | | | |
| **Meals and Accomodation** | | | | |
| Meals Sept 12 to 15, 2015 | $35/day | 4 | | 140.00 |
| | | | | |
| **Travel** | | | | |
| Field Vehicle – Ancaster/Armstrong/Ancaster | 0.55/km | 3,128 km | | 1,720.40 |
| Armstrong/Obonga/Armstrong | 0.55/km | 120 km | | 66.00 |
| | | | | |
| **Office and General** | | | | |
| Terranet – PIN documents | | | 2.72 | 32.07 |
| | | | | |
| **Communication** | | | | |
| Roadpost – Sat phone rental and airtime | | | 35.61 | 309.51 |
| | | | | |
| **Grand Total** | | | | **$19,273.63** |