

**CRERAR TOWNSHIP** 

(Sudbury Mining Division) River Valley Area

For Frank Racicot and Albert Leblanc

2.55293

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Note: Appendix 1 section written by Frank Racicot P. Geo

#### SUMMARY.-

A program of about 8,750 meters was surveyed with a magnetic geophysical method within the Mining Claim 1214610, part of River Valley Property. The Mining Claim 1214610 is located in Northeastern Ontario, Sudbury Mining Division, Crerar Township, Ontario Province.

The property holder, Frank Racicot, has retained Juan Figueroa, P.Geo., to process the magnetic field data and to produce a Total Field Magnetic Map with its interpretation.

Four different magnetic units were identified. These magnetic units display a north and north-east preferential trend. A "low" magnetic unit located in the north central part of the claim, around 558375E and 5160325N (see Total Field Magnetic Map, River Valley Property, Mining Claim 1214610), has a "high" magnetic core unit. It correlates well with the "Tomrose" copper-nickel anomaly on the geology Map P.3432 (Ontario Geological Survey, 2001). Another magnetic "high" anomaly adjacent to a medium high anomaly located in the southeastern corner of the mining claim, correlates with a previously copper, PGE showing (Map P.3432, OGS, 2001).

Some other "high" magnetic anomalies, mostly located along the eastern side of the mining claim and within the "high medium" magnetic unit, could represent new targets to explore for potential Copper, Nickel, PGE mineralization.

The following report summarizes the results obtained from the work carried out during the current program and the interpretation is speculative.

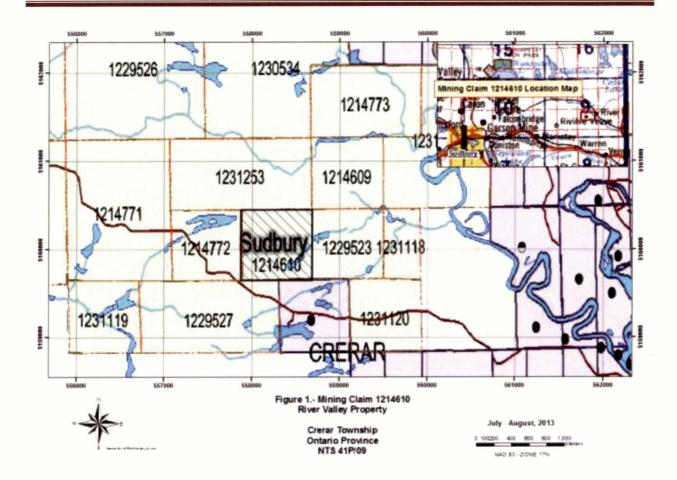
#### **INTRODUCTION.**-

In July of 2013, Ted Lang had run a magnetic geophysical survey for about 8.750m, covering 64 hectares on the mining claim 1214610. And, in September of 2013, Frank Racicot, retained Juan Figueroa P.Geo. to process the field data, and to prepare a Total Field Magnetic Map with its interpretation, focusing mainly on geology and mineralization for PGE, Cu, and Ni.

The mining claim 1214610 is held jointly by Frank Racicot and Albert Leblanc and the work was completely done on this claim.

#### MINING CLAIM LOCATION.-

The mining claim 1214610 is located in Crerar township in northeastern Ontario, approximately 60 km east of the city of Greater Sudbury. The mining claim consists of 4 units. The claim occurs within NTS 41I/09 and is centered on latitude  $46^{\circ}$  35.5′ N and longitude  $80^{\circ}$  14.35′ W (558290mE, 5160050mN, UTM Zone 17N, NAD 83) (see Figure 1).



### GEOPHYSICAL INSTRUMENTATION AND PROCEDURE .-

The magnetic geophysical survey was carried out using a Gem Systems GSM-19W Overhauser magnetometer. The GSM-19W has the capability to measure the total field magnetic and using a GSM-19 as a station for correcting magnetic drift. An instrument resolution of 0.01 nT and an absolute accuracy of  $\pm$ 0.1nt may be obtained with this instrument.

The magnetic survey was designed for a total of about 8,750m with continuous magnetic readings at a rate of one reading every two (2) seconds. A north-south-north path was followed with west-east connecting paths. A geophysical grid, consisting of nine (9) lines of about 900m each and spaced every 100m, was surveyed to fully cover the mining claim 1214610.

The variations of the earth's magnetic field were corrected by the subtraction of simultaneous readings from the base station to the field unit, these results were added to the readings of the field unit. The corrected data was used to plot on the total field magnetic map.

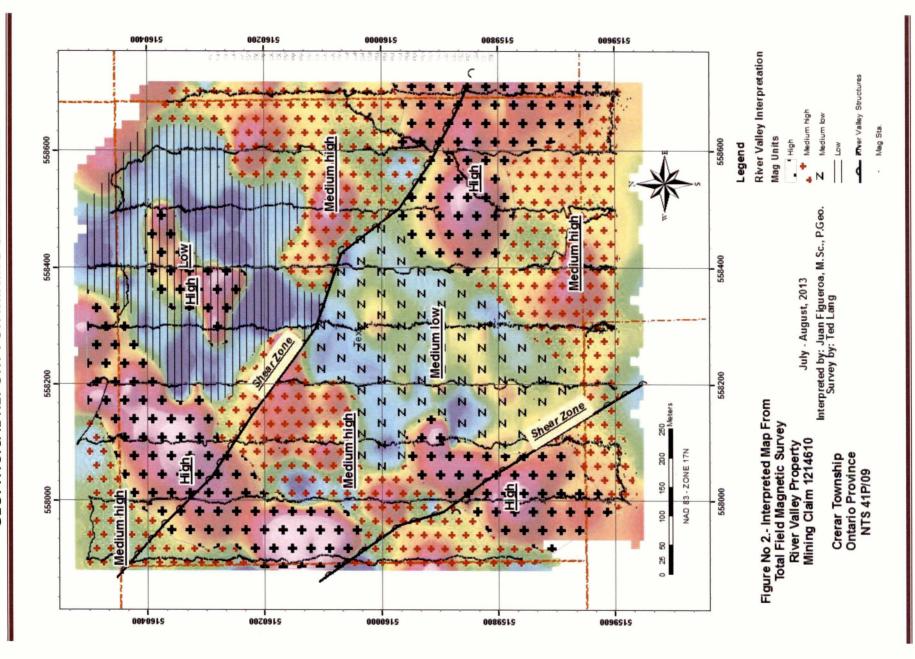
#### GEOPHYSICAL INTERPRETATION.-

The magnetization of the rocks within the property is mostly homogeneous (55350nT to 55500nT), with an approximate background relief of 150nT. Also, high amplitude anomalies on the order

of 10500nT (50200nT to 60700nT) may suggest intrusive rocks and abrupt changes may also suggest shear zones or lithological changes (geology contacts).

Based on the magnetization of the rocks, four magnetic units are identified within the property (See Figure 2).

- a "Low" magnetic unit with an irregular circular shape is located to the north and east of the property (approx. centered on 558420mE and 5160320mN), which has a high magnetic core unit well correlated with the "Tomrose", Cu, Ni occurrence (Map P.3432, OGS, 2001). This high magnetic unit may suggest a high content of magnetic sulfides. Also, toward to the northwest, this unit is in contact with a high magnetic unit displaying a northeast southwest trending.
- a "Medium low" magnetic unit is located to the south and to the center of the claim (approx. centered on 558270mE and 5159970mN). It has an irregular circular shape with weak high anomalies suggesting deep sources or weak magnetic rocks. The southeast boundary of this unit may suggest a gradational change in lithology.
- "Medium high" magnetic units are located to the east (approx. 558580mE and 5160104mN), southeast (approx. 558500mE and 5159700mN), and west (approx. 557940mE and 5159950mN) of the mining claim. The unit to the east of the mining claim shows four high amplitude anomalies, which may suggest greater concentration of magnetic sulfides and may represent future exploration targets for PGE, Cu, and Ni mineralization.
- "High" magnetic units are located to the northwest, southwest, and southeast of the mining claim. The "high" magnetic unit located to the northeast is a continuous body extending with an NE-SW direction and is well correlated with gabbroic to anorthositic rocks (Map P.3432, OGS, 2001). The "High" magnetic unit located in the southwest corner of the claim is well correlated with a Cu-PGE occurrence (Map P.3432, OGS, 2001). This anomaly is open to the south and southwest, generating an exploration target for Cu-PGE mineralization.
- From this survey, it is possible to interpret the location of two shear zones following a NW-SE and NNW-SSE direction, which are also correlated with the interpreted faults on the geology map (Map P.3432, OGS, 2001).



#### **CONCLUSIONS** .-

In the mining claim 1214610, the magnetic units are well correlated with the existing geological units represented in the geological map P.3432 (OGS, 2001). The lithological contacts, if they are not present in the outcrops, might be defined more precisely from the present survey. Also, the PGE, Cu, and Ni occurrences are identified by the current magnetic survey.

The extends of the anomalies should be investigated in the field to determine potential extension for the PGE, Cu, and Ni occurrences. New similar magnetic anomalies are identified as future exploration targets for PGE, Cu, and Ni mineralization.

# **RECOMMENDATIONS.-**

As a result of the encouraging data from the current magnetic survey additional exploration on the mining claim 1214610 is recommended.

An exploration program can be recommended to evaluate the property for its potential to host a PGE deposit.

- 1. Geological mapping and sampling of outcrops
- 2. VLF/EM surveys to cover magnetic anomalies, considering a NW-SE grid.
- 3. Geochemical sampling over target areas
- 4. Trenching and channeling sampling over anomalous areas
- 5. Diamond drilling on successful anomaly areas

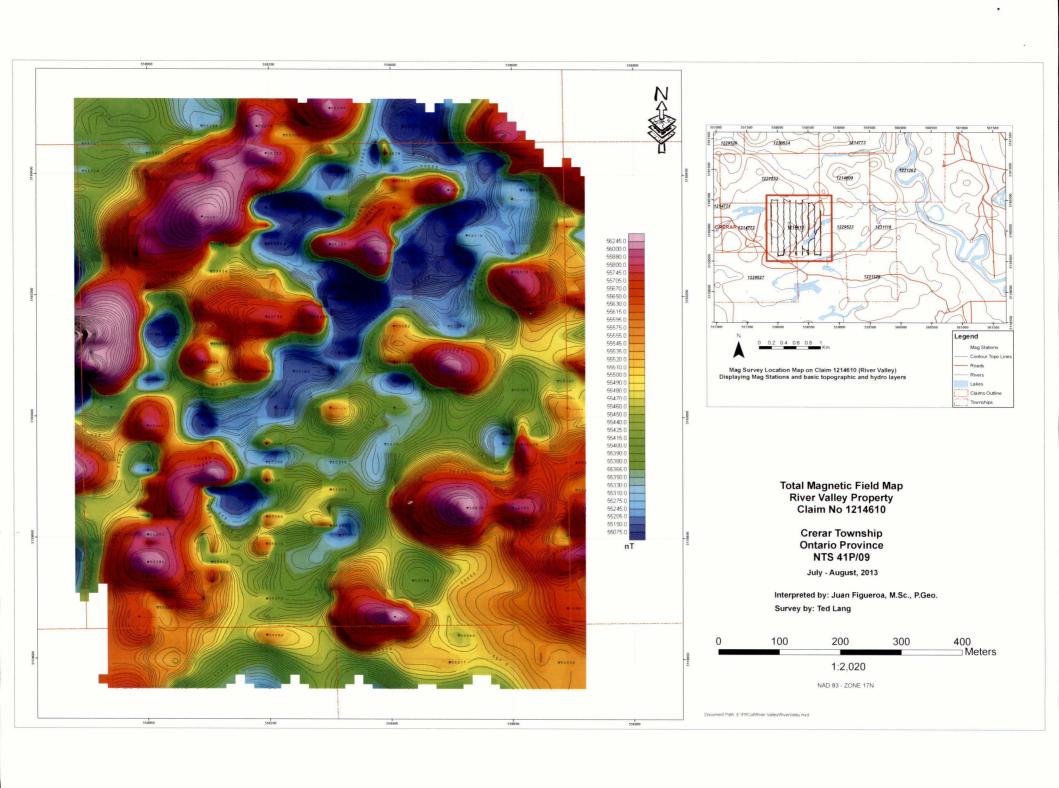
Sincerely,

Juan Figueroa, M.Sc., P.Geo.

Sudbury, September 15, 2013.

# **REFERENCES.-**

Easton, R.M. Hrominchuck, J.L., 2001. Precambriam geology, Crerar Township; Ontario Geological Survey, Preliminar Map P.3432, scale 1:20 000.



#### Claim Access

Excellent year round access to claim 1214610 can be gained from Sudbury by traveling east on Highway 17 to Warren, and then northwards on Highway 539 to the town of River Valley. Highway 539 continues beyond River Valley and cuts through the north section of the claim group jointly owned by Albert Leblanc, Frank Racicot, and newly acquired partner, Louie Chenier.

The claim where the survey was done in Crerar township is accessed via Rochon Road, located just south of where Highway 539 crosses the Sturgeon River, before the town of River Valley. Several logging roads and hunting trails provide access to the northern and interior portions of the claim.

#### Claim Ownership

Frank Racicot

Albert Leblanc

734 Whittaker St.

72 Labine Rd.

Sudbury, Ont.

Hagar, Ont

P3E 4B2

P0M 1X0

#### Previous Work

Information on previous exploration activities on the River Valley Intrusion is available from the Ministry of Northern Development and Mines in Sudbury, or through the ERLIS database.

The River Valley Intrusion has been the focus of relatively limited exploration activity over the past 45 years, and the bulk of this work has attempted to locate marginal-type massive copper-nickel sulphide mineralization similar to the Sudbury deposits. However, the intrusion has never been systematically explored for Platinum Group Metals (PGM) associated with disseminated sulphides (e.g. Stillwater and Lac des Iles deposits). Interestingly, it should also be noted that the Sudbury mines have collectively produced in excess of 20 million ounces of PGM as by-product from the nickel-copper ores. Between 1973 and 1996 much of Dana Township was included in the Temagami Land Caution, and was not available for staking. Additionally, historic building stone quarries are present in better preserved portions of the River Valley Intrusion north of the Sturgeon River in Dana Township. These quarries exploited a black anorthosite that is locally known as "Black Granite". Coarse garnet was also extracted from the gneisses in east-central Dana Township just north of the intrusive contact.

Historically, previous exploration work has focused on the southeastern contact of the intrusion in Crerar Township and is summarized below:

**1956:** McIntyre Porcupine Mines, Limited completed two diamond drill holes on the Ferguson claims to test quartz veins with associated semi-massive chalcopyrite-pyrite mineralization. The holes totaled 32.6m (107 feet) on historic claim 90348. The best intersection was reported at 25% Cu and 0.01% Ni over 0.61m (2.0 feet).

**1960-1962: Tomrose Prospecting Syndicate** completed prospecting, rock trenching, character sampling and 113.7m (373 feet) of pack sack drilling. Additionally, a total of 20 pits and trenches were excavated. The best assays from this work included 25% Cu and 8.9 g/t Au (0.26 opt).

**1963-1964: Tomrose Mines Limited** completed prospecting and 13 diamond drill holes (1 to 9 and 64-10 to 13, inclusive) totaling 1233.83m (4,408 feet). Although no significant assays were reported the drill logs

indicated that several drill holes had intersected significant concentrations of sulphides (pyrite, pyrrhotite and chalcopyrite) associated with blue quartz eyes within the intrusion. The holes were drilled on historic claims 52410 and 51682.

**1965:** Falconbridge Nickel Mines optioned the Tomrose property and completed ground magnetometer and electromagnetic surveys and six diamond drill holes (CRE-1 to 6, inclusive) totaling 331.01m (1086 feet). No significant assays were reported and Falconbridge subsequently dropped the option.

**1965: Tomrose Mines Limited**, drilled two holes (NE-1 & 2) for a total of 114.00m (374 feet). No assays were reported.

**1966: Tomrose Mines Limited**, completed one 134.72m (442 feet) diamond drill hole (T66-1). Minor sporadic pyrrhotite, pyrite and chalcopyrite were reported but no assays were submitted.

**1966:** Azen Mines Limited, staked 10 claim units to the west of the Tomrose claim group and conducted a ground magnetic survey only. No drilling was reported.

**1983-1986: Albert Leblanc** drilled three holes (1-83, 1-84 and 1-86) for a total of 104.85m (344 feet) on two claim units in the northwest corner of Henry Township. No assay results are available.

1990: Albert Leblanc drilled three holes (90-1 to 90-3) for a total of 403.56m (1324 feet). Only 14 samples were submitted for assay and up to 338ppb PGM was reported. It also appears that Teck Explorations Limited logged the core from at least one hole (DDL-0143; 153.01m). Interestingly, the drill log indicated a 34.78m (114.1 feet) sulphide mineralized section with sulphides ranging from trace up to 4% disseminated pyrrhotite, chalcopyrite and pyrite; however, no assay results were reported.

1994: Albert Leblanc conducted power stripping on three areas under an OPAP Grant. The claims were subsequently optioned by WMC International and formed part of a larger land package that was being assembled at that time.

1994-1996: WMC International Limited, staked and optioned a total of 1541 units covering a large portion of the River Valley Intrusion in an attempt to explore for marginal type Ni-Cu-PGM mineralization. An integrated program of airborne magnetic and electromagnetic geophysical (DIGHEM) surveys, soil and till geochemical surveys, and reconnaissance mapping and sampling was conducted. Several areas of interest were identified within the intrusion; however, no follow up work was performed. The report also confirmed the high PGM potential of the intrusion.

1998-1999: R. Bailey, L. Luhta and R. Orchard discovered two significant PGM prospects (Dana North and Azen Creek zones) associated with the northern contact of the River Valley Intrusion in Dana Township. Interestingly, these claims are situated within the area that was previously included in the Temagami Land Caution. This property was optioned by Pacific Northwest Capital Corporation (PFN) in 1998, and is currently being explored under an option-joint venture agreement (August, 1999) between PFN and Anglo American Platinum Corporation Limited (Amplats). Preliminary results from the 1999 outcrop stripping and detailed sampling programs in the Dana Lake Area have indicated five mineralized zones, which extend over a distance of 780m and are anomalous to highly anomalous (0.25 to 16.0g/t PGM). An average assay value of 376 samples that were collected from the mineralized zones average 2.4g/t PGM, 0.16% Cu and 0.04% Ni. Rhodium averages 0.05g/t, with individual assays ranging up to 0.3g/t.

# 1999-2001: Summary of Work Done South, East and Northeast of The Proposed Exploration Area by Mustang Minerals Corp.

The following is a summary of work done by Mustang Minerals Corp south, east and northeast of the proposed 2014 proposed exploration area . Some of the initial reconnaissance work in 1999 covered the interior of the River Valley intrusion in parts of the area where the 2014 proposed work is planned, but after 2000 most of the work concentrated on the chaotic zone near the contact.

(Contents below taken in part or in whole from Mustang Assessment and Summary Reports)

In 1999, Mustang Minerals mapped (at a scale of 1:5000) and prospected 48 km of 75 km of a grid known as the "South Grid" at a line spacing of 200 meters. The south grid covers about six claims near the

southern contact.

A total of 452 grab samples were submitted for assay. During the initial year, two grab samples from a weakly magnetic leucogabbro, situated in the interior of the intrusive had anomalous PGE values (606 ppb and 706 ppb). An additional sample from the interior assayed 629 ppb PGE. Some of of these grab samples reported little or no sulphides.

But in this initial year, based on a best assay of 2073 ppb PGM from a unit located near the contact (now referred to as the 'chaotic breccia' zone), Mustang spent most of their time and resources over the next few years of the program exploring the contact breccia zone along on the south grid referred to above and the north grid- both of which are located in the the **southeast** portion of the River Valley intrusive. A ground magnetic survey was also done on the south grid in 1999.

A north grid was established over the northeast portion of the intrusion but the bulk of the work was done on claims held by Mustang Minerals and not involved in this submission

One interesting point to note from the north grid sampling that is relevant to the entire intrusion and this program, is that "highly anomalous copper values do not necessarily correspond with highly anomalous PGM concentrations, and vice versa. This suggests that systematic sampling of rock units may be a safer strategy, rather than simply focusing on rocks with rust-stains or visible sulphides."

In 2000 Quantec did a dipole-dipole IP/Resistivity survey on the south grid and identified 27 first priority geophysical targets along with 46 second priority targets and 17 third priority targets. The significance of this is that not necessarily all of the potential PGE targets are associated with sulphides or geophysically recognizable targets.

Between November of 2000 and June of 2001 a 17,000 meter drilling program was completed by Mustang Minerals Corp. The program was designed to test the grade and continuity of PGE mineralization associated within the Chaotic Zone, a package of inclusion-bearing rocks near the contacts of the River Valley Intrusion.

According to a 2001 Mustang report, "On the South Grid, the Chaotic Zone is structurally and lithologically complex, and holes targeting this unit met with limited success. Although the appropriate stratigraphy was encountered, there is little consistency in the mineralization, and the overall grade of the Chaotic Zone is low."

Also from that same report, "The drilling program also encountered two previously unrecognized styles of PGE mineralization. Grades of up to 9.15 g/t Pt+Pd+Au, and 1.7 g/t Rh, were encountered in olivine gabbronorite associated with the Chaotic Zone. The mineralization is sulphide-poor, and distinct from that hosted by the Chaotic Zone.

A second stratigraphically and geochemically distinctive style of mineralization was encountered in the cyclically layered Main Series, which overlies the Chaotic Zone. This mineralization is Cu and Pt rich, and associated with relatively homogeneous gabbronorites. The grade and continuity of both of these types of mineralization cannot be evaluated with available data, and further work is required to determine their economic potential."

It is significant that the drilling program located PGE mineralization in olivine gabbronorite and part of the cyclically layered Main Series- both of which are not associated with the Chaotic Zone. Figure 7 illustrates Mustang Minerals summary of the different types of PGE mineralization in the River Valley intrusion.

A follow-up drill program was proposed to Mustang's JV partner, IMPLAT for drilling along the Chaotic Zone on the north grid- but the program was declined.

**2013:** In 2013 Racicot did some stripping and channel sampling near the chaotic zone on claims 1214610 and 1212772. Most of the stripping and channel sampling was done on claim 1214610 and a summary report of the work was submitted last year to the OAC and as assessment work for the MNDM files.

A brief summary of that work is as follows:

The areas selected to strip were also based on the Mustang map that showed the "Chaotic Breccia Zone'

striking to the northeast and in part where some historic and recent (2013) preliminary grab samples indicated there was anomalous PGE values.

Four trench areas were initially uncovered as a result of the 2013 stripping program but channel samples were only taken from Zones C and D, all located in claim 1214610, as these trenches exposed excellent examples of the "Chaotic Breccia Zone'.

Zone A did not uncover the expected chaotic breccia zone or any rusty areas with sulphides worthy of sampling and assaying although the area was washed, mapped and about a dozen representative grab samples were taken for future reference.

Zone B was initially done along the ditch of a newly established logging road and did uncover some rusty pods- indicative of the chaotic breccia zone on one portion of the trench. There was not enough time or funds to sample this zone.

A total of 173 samples were taken from the trenches that exposed the chaotic breccia in Zones C and D.

Zone C had 19 samples with total PGE values > 300 ppb (Au+Pd+Pt)- ranging from 319 ppb to 717 ppb. An arbitrary value of 300 ppb total PGE's was used as an anomalous cut-off value based on 100's of other samples taken by Mustang Minerals, the OGS or F. Racicot's personal experience. Racicot sampled and mapped the trenches and wrote the report. Most (16) of these anomalous samples were evenly clustered in the central part of the chaotic breccia.

Zone D had 23 samples with total PGE values > 300 ppb (Au+Pd+Pt)- although the values were not as clustered as in Zone C. Values ranged from 319 ppb up to 1012 ppb (1.012 g/t) in sample 27440.

In general, although not always, there appeared to be a slight correlation between the sulphide content and anomalous total PGE values in this zone. There appear to be at least two distinct anomalous sample populations- one associated with sulphides and the other with no visible sulphides.

Sample 27440 from Zone D had the highest total PGE value (1012 ppb). This sample contained an 8 inch (20 cm) sulphide xenolith associated with this sample. Sample 27440 and one other anomalous sample were re-sampled in order to confirm the anomalous PGE values.

### **Re-Sampling Results**

In October, 2013 Racicot and Leblanc re-visited the sampled trenches with the assay results in hand, in order to re-examine the anomalous samples with total PGE values greater than 300 ppb- as well as resample two key samples.

Sample 27425, taken from Zone D was originally described as a "medium grained, medium grey, non magnetic anorthosite" with no sulphides. The original total PGE value in September was 852 ppb. The resample value in October was 792 ppb...and indeed confirms the initial analysis.

Sample 27440 was also re-sampled. The original assay from this sample had the highest total PGE value of 1012 ppb in a "medium grained, medium grey gabbro with some blue quartz and an eight inch sulphide 'boulder' or xenolith".

When sample 27440 was re-sampled the sample was taken in two parts. Sample 27440S (sulphide) was taken specifically from the sulphide xenolith and sample 27440R (rock) was taken from the medium grained gabbro rock next to the sulphide xenolith.

Sample 27440R had a total assay value of 195 ppb- (Au 19 ppb, Pd 122 ppb, Pt 54 ppb).

Sample 27440S had a total PGE assay value of 2179 ppb (2.170 g/t). The individual element assay values are as follows: (Au 174 ppb, Pd 1940 ppb, Pt 65 ppb). This sulphide sample also assayed 1.09% copper and 1.03% nickel. These re-assays have an important significance for future exploration of the River Valley intrusive.

This indicates that there are at least two different rock types with anomalous PGE values. One is the mafic rocks with no sulphides- as indicated by the various anomalous values reported by Racicot in this report and in Mustangs historical reports. The other is the sulphide rich rocks as confirmed by sample 27440S and

described above.

The anomalous PGE sample with no sulphides, sample 27425, is a good indication that some of the rock units of the River Valley intrusion potentially could be host to a PGE rich horizon.

# STATEMENT OF QUALIFICATIONS for:

Γhis is 1	to certify that I, Frank Racicot:
•	I reside in 734 Whittaker St., Sudbury, Ontario, P3E 4B2
•	I am an independent geological consultant with over 30 years varied experience in mineral exploration in Canada.
•	I graduated in 1974 from Laurentian University, in Sudbury Ontario with a BSc in geology.
•	I am a member in good standing of the Association of Professional geologists of Ontario
	(APGO)

Dated this 15<sup>h</sup> day of Sept., 2014 at Sudbury, Ontario

Frank Racicot P. Geol (#0958)