

411095W2010 2.26195 HENRY

010

# MUSTANGS MINERALS (ORP.



# Exploration Report on the Henry Grid, River Valley Property Henry Township, Ontario

**Sudbury Mining District** 

Work Completed: September 25 - November 5, 2001



Geodigital Mapping Systems Inc.

August 6, 2003

#### **Executive Summary**

An initial mapping and sampling program completed on the Mustang Minerals Corp.- Impala Platinum Holdings Ltd. River Valley joint venture property in late 1999 identified anomalous platinum group metal (PGM) mineralization on the North and South detailed grids. As part of the 2000 field program, reconnaissance-scale mapping was undertaken on that portion of the property not covered by the detailed grids. The mapping was largely based on cut line grids at 500 m line spacing, with compass and GPS traversing completed where no grid exists. The purpose of the reconnaissance program was to examine the contact of the River Valley Intrusion (RVI) outside of the detailed grid areas to test for possible extensions of mineralization previously discovered, and to investigate the interior of the intrusion for potential mineralization higher in the stratigraphy of the complex. The 2001 mapping program on the Henry Grid was designed to follow-up on the results of the previous reconnaissance-scale mapping.

Previous mapping indicates that the RVI in the property area consists of a layered assemblage of ultramafic to felsic lithologies. Compositionally, these range from olivine websterite and websterite, through gabbroic and gabbronoritic lithologies, to quartz diorite and quartz monzonite. This work also identified a distinctive lithological package, the Inclusion-Bearing Chaotic Zone (IBCZ), which consists of a heterogeneous assemblage of inclusions in a compositionally and texturally variable matrix. This unit, which is sporadically present along the contacts of the RVI, hosts disseminated sulphide mineralization. Assay results from the package indicate that the sulphides are anomalous to highly enriched in PGM.

The 2001 mapping program confirmed that the Henry Grid is, in part, underlain by plutonic rocks of the RVI. The intrusive rocks are in contact with metasedimentary and granitic country rocks, which form the basement to the complex. Mapping on the Henry Grid outlined the basic stratigraphy of the area and documented several weak PGM anomalies. For the most part, the grid is underlain by a package of rocks that consist of amphibolitized and gneissic equivalents of the Main Series rocks which includes olivine gabbronorite, gabbronorite, leucogabbro and anorthositic gabbro. On the Henry Grid, the IBCZ was also locally identified along the southern contact of the intrusion with associated sulphides and PGM-enrichment. However, the assay results were only weakly anomalous (<500ppb PGM) and no significant strike continuity of the mineralization was identified. Consequently, no further exploration work is recommended for the Henry Grid at this time

# **Table of Contents**

Executive Summary	i
List of Figures	.ii
List of Tables	iii
1. Introduction	. 1
2. Property Details	.1
2.1 Location and Access	.1
2.2 Grid Location	.4
2.3 Topography and Vegetation	.4
2.4 Claims	.4
3. Previous Work	.6
4. Regional Geology	.9
5. Methods	11
6. Results	11
6.1 Property Geology	11
6.2 Stratigraphy	12
6.4 Assays	18
7. Conclusions and Recommendations	18
7.1 Conclusions	18
7.2 Recommendations	19
Statement of Qualifications	20
References	21

Appendix 1: Sample Details and Assay Data Appendix 2: Assay Certificates Appendix 3: Field Crew

Map 1: Henry Grid, Geology and Outcrops, 1:7,500 (back pocket)

Map 2: Henry grid, Geology and assay data as bubble plots, 1:7,500 (back pocket)

## **List of Figures**

Figure 1. River Valley property location map

Figure 2. Claim map and locations of the regional grids

Figure 3. Location of the East Bull Lake suite

Figure 4. Layered gabbroic rocks of the RVI

Figure 5. Generalized stratigraphic column for the RVI on the Mustang-Implats property

Figure 6. Contact Zone magmatic breccia

Figure 7. Inclusion in Inclusion-Bearing Chaotic Zone

# **List of Tables**

Table 1. Summary of grid details

- Table 2. Claim details for the River Valley Property
- Table 3. Table of lithological units
- Table 4. Summary statistics for assay results from the Henry Grid

#### 1. Introduction

The River Valley Intrusion (RVI) is a large, mafic igneous complex situated approximately 70 km east of Sudbury, Ontario. The RVI is one of seven similar intrusive complexes, collectively termed the East Bull Lake Suite, that are present in the Sudbury area. The individual members of the suite share numerous petrological characteristics, one of the most interesting of which is the common occurrence of Cu-Ni-platinum group metal (PGM) showings near the contacts of the intrusive bodies. Over the past four years, this characteristic has given rise to a number of major exploration programs whose primary focus is the evaluation of the potential for economic deposits of Cu-Ni-PGM in the East Bull Lake Suite of intrusions.

Mustang Minerals Corp acquired mineral rights to a land package covering parts of the River Valley Intrusion in early 1999. In August 1999, Mustang entered into a joint venture agreement with Impala Platinum Holdings Limited to examine the PGM potential of the RVI. The initial phase of exploration was completed on two cut-line grids (North and South grids) by December, 1999 (Wood 2000a, 2000b). Encouraging results prompted a second phase of exploration, which commenced in the spring of 2000. The mapping portion of the 2000 program was designed to: (1) investigate anomalous surface samples collected during the initial phase of exploration, (2) to map the contact zones of the intrusion on the North and South detailed grids, (3) to ground-truth geophysical anomalies identified on these grids (Findlay 2001a, 2001c), and (4) to map and sample the remaining portion of the joint venture property on a reconnaissance scale (Findlay, 2001d). Additional mapping and sampling was conducted in 2001 to follow-up on any anomalous samples that were collected in the 2000 regional mapping program. This report summarizes work completed, and results, for the Henry Grid summer 2001 mapping program.

#### 2. Property Details

#### 2.1 Location and Access

The Mustang-Impala River Valley joint venture property is located roughly 70km east of Sudbury, with the southern boundary of the claim block lying immediately north of the village of River Valley, Ontario (Figures 1 and 2). The claims lie within Dana, McWilliams, Gibbons, Crerar and Henry townships in the Sudbury Mining District (Figure 2). The property is centered on latitude 49° 36' N and longitude 80° 17' W (554892mE, 5160746mN, UTM Zone 17, NAD 27) and is covered by NTS sheet 411/09 (Glen Afton).

Year-round access to the property from Sudbury is available via Highway 17 to Warren, and Highway 539 to River Valley. Access to the regional grids is provided by a network of township roads and logging trails that extend into the property area from highways 539A, 805 and 17. Limited service and supply facilities, and accommodations, are available in River Valley and Warren. Sturgeon Falls, located approximately 30 km southeast of River Valley, is the nearest full service urban center.



Figure 1. River Valley property location map.



Figure 1. River Valley property location map.



1

Figure 2. Claim distribution and locations of the Henry grid on the River Valley property.

w

#### 2.2 Grid Location

The Henry Grid is situated on the southwest portion of Mustang's River Valley Property in Henry Township. The location of the grid is illustrated in Figure 2, and grid details are summarized in Table 1 below.

Table 1. Details of Regional Grids.

Grid Name	Line Kilometers Mapped	Number of Samples
Henry	54.5	97

#### 2.3 Topography and Vegetation

The terrain on the River Valley property is typically of low relief and swampy, with overburden-covered areas exhibiting flat to rolling topography. Overall relief is on the order of 65m, and elevation ranges from 250m to 315m above sea level. Vegetation at higher elevations consists of a mixture of maple, birch, poplar, spruce and pine. In wetter areas, spruce, tamarack, cedar and alder predominate.

Bedrock exposure on the regional grids is somewhat variable. The inferred location of the intrusive contact in the southwestern part of the property in Crerar and Henry townships occurs in a low lying and swampy area with little outcrop. The southern contact is also poorly exposed in Crerar and Gibbons townships between the North and South grids. In this area, the contact appears to underlie farmland and the Temagami River flood plain. The interior of the intrusion is better exposed, particularly where plagioclase-rich lithologies form significant topographic highs. Overburden is typically composed of glaciofluvial (gravel and sand) and glaciolacustrine (sand, gravelly sand and gravel) deposits (Barnett et al., 1991). Glacial striae, where present on exposed bedrock, indicate an approximate north-south ice flow direction. Recent drilling by Mustang Minerals indicates that the depth of overburden can reach as much as 30m in swampy areas.

Water for exploration purposes is readily available from numerous small lakes, streams and beaver ponds found throughout the property.

#### 2.4 Claims

The River Valley property consists of 54 contiguous, unpatented mining claims, totaling 511 units and covering approximately 8176 hectares (Table 2). The claims are located in Crerar (G-2903), Dana (G-2094), Gibbons (G-2905), Henry (G-2913) and McWillams (G-2910) townships, Sudbury Mining Division, Ontario.

Township	Claim Number	Number of	Area Hectares
Crerar	1210817	16	256
Crerar	1214609	4	64
Crerar	1214610	4	64
Crerar	1214637	16	256
Crerar	1214771	12	192
Crerar	1214772	4	64
Crerar	1214773	6	96
Crerar	1229523	4	64
Crerar	1229526	16	256
Crerar	1229527	8	128
Crerar	1230534	14	224
Crerar	1230564	6	96
Crerar	1231118	2	32
Crerar	1231119	4	64
Crerar	1231120	4	64
Crerar	1231253	8	128
Crerar	1231262	10	160
Crerar	1231263	16	256
Crerar	1231264	16	256
Crerar	1231267	4	64
Crerar	1235901	4	64
Crerar	1235902	8	128
Crerar	1235903	8	128
Dana	1214638	15	240
Dana	1228800	13	208
Dana	1229367	12	192
Dana	1231181	1	16
Dana	1231265	4	64
Dana	1235836	2	32
Dana	1235837	16	256
Dana	1235904	7	112
Dana	1236443	4	64
Dana	1236444	3	48
Dana	1237507	1	16
Dana	1237521	4	64
Gibbons	1231260	6	96
Henry	1229160	15	240
Henry ♦	1230060	8	128
Henry ♦	1230061	16	256
Henry ♦	1230062	16	256
Henry •	1230063	5	80
Henry ♦	1230064	8	128
Henry ♦	1230065	6	96
Henry •	1230066	16	256

Table 2: Claim Details for the River Valley Property.

Township	Claim Number	Number of Units	Area Hectares
Henry 🔸	1230067	16	256
Henry	1231258	16	256
Henry	1230016	16	256
Henry <b>♦</b>	1230019	16	256
Henry ♦	1230021	16	256
McWilliams	1229152	12	192
McWilliams	1229153	15	240
McWilliams	1229154	15	240
McWilliams	1229155	16	256
McWilliams	1237522	1	16
TOTALS	54	511	8176

+ indicates claims covered by the Henry Grid

#### 3. Previous Work

The RVI has been the focus of relatively limited exploration activity in the past, and most of this previous work was geared toward discovery of either Sudbury-type massive Ni-Cu mineralization, or vein-type Cu-Au mineralization. Thus the potential for low-sulphide PGM mineralization was not systematically evaluated. In addition, much of Dana Township was included in the Temagami Land Caution between 1973 and 1996, and was withdrawn from staking.

Prior to 1999, exploration work on the current Mustang-Impala joint venture property focused almost exclusively on Cu showings near the southeastern contact of the RVI in Crerar Township. Other than work completed by Mustang, there is no evidence of prior Cu-Ni-PGM exploration on the regional grids. Known exploration activity 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 as 0.46% Cu and 0.01% Ni over 0.61m (2.0 feet).

**1960-1962: Tomrose Prospecting Syndicate** completed prospecting, trenching, character sampling and 113.7m (373 feet) of packsack 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 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 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). 14 samples were submitted for assay and up to 338ppb PGM was reported. Teck Explorations Limited logged the core from hole number DDL-0143 and this log indicates a 34.78m (114.1 feet) interval of sulphide mineralization with up to 4% disseminated pyrrhotite, chalcopyrite and pyrite. 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 Limited 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 to explore for contact-related 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, but no follow-up work was performed.

**1998-2001:** 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. The claims hosting these showings are situated within the former Temagami Land Caution. The property was optioned by Pacific Northwest Capital Corporation (PFN) in 1998, and is currently being explored under a joint venture agreement between PFN and Anglo American Platinum Corporation Limited (Amplats). The 1999 stripping and sampling program in the Dana Lake Area outlined five mineralized zones enriched in PGM (0.25 to 16.0g/t PGM), and extending 780m along strike. 376 samples from the mineralized zones averaged 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.

Up to late September 2001, PFN had completed four phases of diamond drilling for a total of 22,792m in 138 drill holes. In October 2001 the JV announced a resource at the Dana North area of 12,139,000 tonnes at 1.47 g (Pt+Pd+Au)/t of Measured and Indicated Resources and 570,415 tonnes at 1.08 g (Pt+Pd+Au)/t of Inferred Resources, for a total insitu resource of 593,000 ounces PGM.

**1999:** Mustang Minerals Corp. performed a geological prospecting survey on the Tomrose Zone (Albert Leblanc claims) in Crerar Township and several claims in Dana and McWilliams townships (Lapierre, 1999a; 1999b; 1999c). Mustang verified that the Cu-Ni showings are enriched with PGM, with assays up to 0.69g/t Pt+Pd+Au. By August, 1999 Mustang had acquired control of most of its current land position through a series of option agreements and staking.

Mustang subsequently completed an initial phase of exploration on the North and South cut line grids established over the contacts of the intrusion (Wood 2000a, 2000b). This work, which was completed by December, 1999, included line cutting, magnetometer surveys, mapping and prospecting. The program confirmed anomalous PGM (up to 2.1 g/t Pt+Pd+Au) concentrations in contact zone mineralization on the South Grid, and identified anomalous PGM occurrences associated with magnetite-leucogabbro in the interior of the intrusion. The program also identified anomalous PGM concentrations (up to 2.5 g/t Pt+Pd+Au) in the contact zone of the intrusion on the North Grid.

**2000-2001:** Mustang Minerals Corp. completed 61.15 line kilometers of induced polarization surveys over parts of the North and South grids (Legault et al., 2000). Mapping was completed on two detailed grids, as well as on regional grids covering most of the property (Findlay 2001a, c and d). An extensive zone of PGM mineralization hosted by a heterogeneous inclusion-bearing unit was identified on the North Grid (Findlay, 2001a), and a similar package of rocks, albeit with lower PGM grades, was outlined on the South Grid (Findlay, 2001c). Surface samples returned grades of up to 10.5 g/t 3E PGM from the  $\sim$ 3.5 km exposed strike length of the mineralized zone on the North Grid (Findlay, 2001a).

Linecutting was also completed to cover the area between the North and South Grids, as well as targets on the southwestern, central and northern parts of the property (Findlay, 2001d). Grid lines were cut at 500 m spacing and reconnaissance mapping, sampling and magnetometer surveys were completed in this grid during the summer of 2000. A total of 569 reconnaissance rock samples were collected. A sample assaying 899 ppb Pt+Pd+Au (0.486 g Pd/t, 0.409 g Pt/t and 0.004 g Au/t) was collected in Henry Township from a rock unit thought to be the deformed equivalent of the IBCZ.

Additional induced polarization surveys were also completed over the Central and Henry grids (Jordon et al., 2001) in order to define any zones of disseminated sulphides in portions of the intrusion that are covered with swamp and overburden. Induced polarization surveys were also completed over the North Grid infill and extension grid lines (Dawson et al., 2001) and also over the Upper Canada and Southeastern grids (Lapointe et al., 2001).

Between November of 2000 and early June of 2001, a total of 66 widely spaced reconnaissance drill holes totalling 17,002 meters were completed on the property. Of these, 49 holes were drilled on the north contact along a 4.7 km strike length. The drilling program successfully outlined a significant occurrence of PGM mineralization associated with the IBCZ on the North Grid. The grade of the entire IBCZ on the eastern half of the grid averaged 0.27 g/t Pt+Pd+Au over an average apparent thickness of 90m and a strike length of >1.8 km. Narrower intersections of higher grade mineralization were encountered within the low grade envelope. These range from a few metres to a few tens of metres in thickness. Most of the holes on the eastern half of the grid encountered 20m intervals grading 0.4-0.5 g/t Pt+Pd+Au or higher, and several holes returned grades in excess of 1.0 g/t over 5-10m. Highlights from

the drilling of the North Zone included: 1.47 g/t Pt+Pd+Au over 22.0m in hole MR01-30, 1.13 g/t Pt+Pd+Au over 32.0m and 8.19 g/t Pt+Pd+Au over 1.0m (Findlay 2001b).

An additional 17 holes totalling 4,576 metres (MRS-01 to MRS-17) were drilled along the south margin over a strike length of approximately 2.6 kilometers. Assays from stratigraphic holes MRS1-13 contained only sporadic values. The highest grade obtained was in drill hole MRS-6 (2.78g/t Pt+Pd+Au over 1.5 meters). On the South Grid, the IBCZ 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 IBCZ was low (Findlay 2001b).

#### 4. Regional Geology

The River Valley intrusion is a member of the East Bull Lake Suite (EBLS), which also includes the East Bull Lake, Agnew, Drury, May, Falconbridge and Wisner intrusive complexes (Figure 3). The individual intrusions range in age from 2.491 Ga to 2.475 Ga (Easton 1998, and references therein) and are thus essentially coeval with the volcanic rocks of the Huronian Supergroup. The EBLS intrusions have been described as predominantly gabbroic to anorthositic in composition, with plagioclase as the predominant cumulus phase. The members of the suite share a number of common characteristics in addition to lithology, one of the most interesting of which is the occurrence of sulphide-associated PGM mineralization.

With the exception of the RVI, members of the EBLS occur along the Superior Province-Southern Province boundary in central Ontario. The RVI, which is the most easterly of the EBLS intrusions, lies within the Grenville Front Tectonic Zone. Recent geochemical and geochronological work indicates that the EBLS formed as part of a major magmatic event that was associated with, and may have initiated, Paleoproterozoic rifting of the Superior proto-continent. This rifting event gave rise to the volcanosedimentary succession of the Huronian Supergroup, which defines the Southern Province in the area. Rift-related magmatic activity is also manifested in the gabbroic rocks of the Hearst-Matachewan dyke swarm.

The EBLS igneous rocks exhibit geochemical characteristics (high Al, relatively low Mg#, and LIL-enriched extended trace element profiles) consistent with derivation from fractionated tholeiitic or high-alumina tholeiitic parental magmas (Peck et al. 1993, Peck et al. 1995, and Vogel et al. 1998). The estimated parental magma compositions for the EBLS are thus broadly similar to those postulated for the intrusive suite in the world class Noril'sk-Talnahk Ni-Cu-PGM camp of Siberia.



Π



The EBLS intrusions are typically hosted by 2.75 - 2.65 Ga granitoids and granitic gneisses of the Algoma Plutonic Terrane and the Algoma Gneiss Terrane (Peck et al. 1993). The intrusions may be disconformably overlain by Huronian sedimentary rocks or, less commonly, by lower Huronian volcanic rocks. The Sudbury Intrusive Complex forms the hanging wall in the Wisner, Falconbridge and Drury intrusions.

#### 5. Methods

Geological mapping and sampling was completed on cut line grids established over much of the Mustang-Impala joint venture property. With the exception of the Henry Grid, baselines are typically oriented at 90° and grid lines are run north-south. The baseline of the Henry Grid was established at 240° to accommodate the trend of the RVI in this area with grid lines cut every 250m (Figure 2).

Rock nomenclature generally follows IUGS recommendations (Streckiessen, 1976), with textural and interpretive modifications useful for field purposes. Sampling was of a reconnaissance nature, with 1-3 kg grab samples obtained from outcrop where sulphide mineralization was encountered. Samples were also collected from umineralized exposures as part of a regional geochemical survey to document PGM concentrations in different rock units. Samples were submitted to XRAL Laboratories in Rouyn-Noranda for fire assay-DCP analysis of Pt, Pd, Au, Cu and Ni. Sample details are reported in Appendix 1.

#### 6. Results

#### 6.1 Property Geology

The distribution of rock types on the River Valley property Henry Grid is illustrated on maps 1 and 2 (back pockets). The RVI consists predominantly of compositionally and texturally variable mafic plutonic rocks interlayered on scales ranging from centimeters to hundreds of meters (Figure 4). The trends of rock units generally parallel the contacts of the intrusion, except where the contacts are tectonic rather than intrusive. The Henry Grid overlies a narrow, southwest trending, portion of the RVI that appears to be in place. In most areas, insufficient information is available to identify the dips of the rocks.

The RVI lies within the Grenville Front Tectonic Zone, and many of the rocks exhibit the effects of upper amphibolite grade metamorphism. The 2000 mapping program indicated the rocks to the north of the Sturgeon River are often better preserved. This distribution suggests that the Sturgeon River may be coincident with a fairly major structural feature that separates highly deformed from less deformed portions of the intrusion.



**Figure 4.** Modally layered melagabbro to leucogabbro in the Main Series of the RVI.

During previous mapping programs, RVI rock types were subdivided into two principal groupings, which reflect this variation in metamorphic grade (Table 3). The first grouping includes amphibolitized gabbroids in which primary pyroxene cannot be identified. The second grouping includes rocks whose primary mineralogies are preserved. It is probable that the pristine and deformed varieties represent the same primary rock compositions. It is impossible, however, to definitively interpret the precursor rock type in strongly deformed amphibolites, and the two-fold subdivision of lithologies was thus useful for mapping purposes.

#### 6.2 Stratigraphy

Lithological units identified during previous mapping programs are summarized in Table 3. These lithologies can be grouped into six lithostratigraphic zones, which reflect the common occurrence of similar lithologies at similar stratigraphic locations. This general subdivision is recognized in both the North and South detailed grid areas, and thus provides a useful framework for comparison of stratigraphic relationships amongst geological units on the remainder of the property. The distribution of these units is illustrated on the generalized stratigraphic column of Figure 5, and described briefly below.

#### 6.2.1 Country Rocks

The country rocks to the RVI on the property are predominantly composed of granite, granitic gneiss, quartz syenite, and biotite-quartzofeldspathic gneiss of possible sedimentary origin. Locally, a sequence of quartz diorite to quartz gabbro separates recognizable country rock and recognizable intrusive rocks, and this unit has been interpreted as the contact zone of the RVI in which an initially gabbroic magma was contaminated by assimilation of country rock material. This unit is best developed on the North detailed grid, but is also locally present as a quartz gabbro gneiss at the boundaries of the RVI on the Henry Grid.

Tabk	3. Lithological Units for th	ne RVI on the Mustang-Impala joint venture property.
	GEOLOGICAL UNITS	Description
Uni	коск туре	Lescription
Post R	VI Intrusions	
19	Amphibolite	Medium to coarse grained amphibolite; 0-50% plagioclase
18	Granodionte/Tonalite	Fine to medium grained; equigranular; 3-15% magnetite
17	Undivided Mafic Dyke	
17a	Diabase Dyke	Aphanitic to medium grained diabase; moderately to strongly magnetic; dark grey to greenish-grey
17b	Lamprophyre Dyke	Aphanitic to fine grained; strongly magnetic; amphibole +/- oxide phenocrysts
River \	alley Intrusion	
16	Anorthosite	Coarse grained to pegmatitic; > 90% albitized plagioclase; amphibole/chlorite after pyroxenes
16a	Anorthosite adcumulate	Medium grained; light to dark purple-blue gray; > 90% plagioclase
	Gabbroids (Precursor pyroxene	generally unknown)
15	Anorthositic Gabbro	Medium grained to pegmatitic, 80-90% albitized plagioclase; amphibole/chlorite after pyroxenes; generally non magnetic
15a	Anorthositic Gabbro Gneiss	As in 15 but gneissic fabric
:14	Leucogabbro	Medium grained to pegmatitic; 65-80%albitized plagioclase, interstitial amphibole/chlorite after pyroxene; non magnetic
14a	Leucogabbro Gneiss	As in 14 but gneissic fabric
140	Magnetite Leucogabbro	As in 14 but with up to 10% magnetite, aften shows gamet rimming magnetite; strong local magnetism
13	Gabbro	Fine to coarse grained: 35-65% albitized plagioclase: amphibole/chlorite after pyroxene: non to moderately magnetic
13a	Gabbro Gneiss	As in 13 but with oneissic fabric
136	Melagabbro	As in 13 but with <35% plaqioclase; weakly to moderately magnetic
130	Magnetite Gabbro	As in 13 but with up to 10% magnetite, usually contains holder his quartz and gamet strongly magnetic
134	Gabbm/Mejagabbm	hteravaradiinteravarad
	Gabbionnelagabbio	
	Pocks with primary minoralogy o	neroliv procented
12	Nosto	errer any proced to page the consistence of the package of the page of the process of the proces
12	Malaparta	
12a	Meianonte	
120	Magnetite-Nonte	As in 12 but with 3-10% magnetite strongly magnetic
	Granular gabbronorite	Fine to medium grained; granular/equigranular, plagiociase+ortropyroxene+clinopyroxene; non magnetic
11a	Granular Qtz-gabbrononte	As in 11 but with 2-10% quartz, may contain biotite, pale to medium grey; non to weakly magnetitic
115	Foliated Gabbrononte	As in 11/11a but with 5-20% biotite; toliated to locally gneissic; often gametiterous, non to weakly magnetic
11c	Granular Magnetite Gabbronorite	As in 11 but with 2-10% magnetite; strongly magnetic
10	Gabbronorite	Medium grained to pegmatitic; equigranular to poikilitic; plagioclase+orthopyroxene+clinopyroxene; weak to moderate magnetism
10a	Melagabbronorite	As in 10 but with <35% plag plagioclase; weakly to moderately magnetic
10b	Magnetite Gabbronorite	As in 10 or 10a but with 2-10% coarse magnetite; strong local magnetism
10c	Massive Gabbronorite	Medium grained to pegmatitic; massive/uniform; medium to dark grey or brown grey; weakly magnetic
10d	Chaotic Zone	Compositionally and texturally variable gabbronoritic matrix hosting polylithic inclusions, weak to strong magnetism
10e	Leucogabbronorite	As in 10 but with >65% plagioclase; non magnetic
9	Troctolite	Medium to coarse grained; cumulus olivine+cumulus to intercumulus plagioclase; minor pyroxene; brown weathering; strongly magnetic
8	Olivine gabbronorite	Medium to coarse grained; 5-25% cumulus olivine: cumulus to intercumulus plagioclase+two pyroxenes; strongly magnetic
8a	Olivine melagabbronorite	As in 8 but with < 35% plagioclase; grades to olivine melanorite; moderate to strong magnetism
8b	Olivine-bearing pabbronorite	As in 8 but with < 5% olivine
7	Peridotite (undivided)	1
7a	Harzburgite	
7h	Olivine-websterite	Medium to coarse grained 10-40% olivine: two pyroxenes: <10% plagioclase, strongly magnetic
6	Pyrovenite (undivided)	modant o coase granou, to tere entite, two provenes, the plagreeces, energy negretic
162	Websterite	Medium grained to permetitic, ofthonymyanet/liponymyanet <10% plagioclase, pale grav to dark howen-grav, stopply magnetic
Ch Ch	Odbasigamento	Modum grained to pognitutilo, - 200% of bourserport, and metalling any to pale brown any to cark bours provide
		medicin graned to peginatitic, < 30% or hopytokare, pare inecallo gray to pare or wingrey, incorrately to sub-igry to sub-igry in agrietic
Stratio	achia Balatianshin Unaastain	
Jouand	Aprile relationship uncertain	
<b>⊢</b> <sup>₽</sup>	Quanz Dionte/Quanz Monzonite	The to medium gramed, equigramular to gneissic, locally contains biolite and gamet; pale grey; non-magnetic; may contain inclusions
Countr	у носк	
4	Quartz-Syenite	Fine to medium grained; granular to gneissic, orange-brown; non to weakly magnetic
3	Granite	Fine grained to pegmatitic; pink, orange, white; granular, non-magnetic
3a	Granitic Gneiss	As in 3 but with gneissic fabric
2	Qtz-Bio-(Garnet) Gneiss	Weakly to strongly banded; fine to medium grained; quartz+feldspar+biotite+gamet; grey, white or pinkish in colour; non-magnetic
2a	Otz Augen Gneiss	As in 2 but with guartz augens developed





#### 6.2.2 Contact Zone

On the North and South detailed grids, as well as the Henry grid, a transitional series of rocks locally separates Archean basement from RVI intrusive lithologies. The transitional series is dominated by rocks of quartz diorite to quartz monzonite composition, and their gneissic equivalents. These lithologies have somewhat ambiguous characteristics. Typically, they are composed of strained and locally granulated plagioclase, granular orthopyroxene, biotite, garnet, quartz, alkali feldspar and Fe-Ti oxides. The rocks range from massive, granular varieties that appear to be of magmatic origin, to crudely banded/gneissic versions that bear a closer resemblance to the country rocks than to the RVI lithologies. Moving away from the basement, the quartz diorite and quartz monzonite of the transitional series grade into weakly foliated to massive quartz gabbronorite that are clearly members of the RVI suite. This gradational assemblage, ranging from quartz gabbronorite to quartz monzonite, is referred to as the Contact Zone.

The transitional nature of the Contact Zone suggests that its development reflects interaction between RVI magmas and the country rocks. One possibility is that the zone reflects partial melting of the basement, and concomitant contamination of the RVI magmas at the contact. This could explain the range of rock types and the transitional nature of the suite. It would also explain the local presence of abundant fine-grained gabbroic inclusions in both dioritic/monzonitic and gabbronoritic matrix compositions (Figure 6). Progressive heating, and eventual melting, of the country rocks may have led to pervasive back-veining of the initial chilled margin of the RVI. In this model, the dioritic rocks largely represent melted country rock hosting the disrupted remnants of the gabbroic chilled margin as inclusions. The quartz-gabbronorite of the Contact Zone, on the other hand, largely represent RVI magmas, but with some contribution from melted country rock. As with the more felsic lithologies, the gabbronoritic rocks have incorporated pre-existing RVI marginal rocks as inclusions.



Figure 6. Contact Zone magmatic breccia in which finegrained gabbroic inclusions (possibly derived from the initial chilled margin of the RVI) are hosted by quartz diorite to quartz monzonite.

#### 6.2.3 Border Zone

On the North detailed grid, the quartz gabbronorites of the Contact Zone grade into fine- to medium-grained, equigranular gabbronorites of the Border Zone. This unit appears to be absent elsewhere on the property. On the Henry grid, Contact Zone quartz gabbro gneiss appears to grade directly into medium grained gabbro gneiss of the Main series.

#### 6.2.4 Inclusion-Bearing Chaotic Zone

The Inclusion-Bearing Chaotic Zone (IBCZ) is a heterogeneous assemblage of rocks that stratigraphically overlies the Contact/Border zones. The IBCZ consists predominantly of mafic to ultramafic inclusions set in a texturally variable gabbronoritic matrix (Figure 7). The matrix ranges from gabbronorite to melagabbronorite in composition. The inclusions range from websterite and orthopyroxenite, through melagabbronorite, gabbronorite, norite, and magnetite gabbronorite/norite, to anorthosite. All of the inclusions show cumulate textures, with orthopyroxene, orthopyroxene + clinopyroxene and orthopyroxene + plagioclase as the predominant cumulus assemblages.



**Figure 7.** Rounded inclusion of medium grained melagabbronorite in a coarse grained to pegmatitic gabbronoritic matrix in the Inclusion-Bearing Chaotic Zone

The IBCZ is the only stratigraphic unit mapped on the property that consistently carries PGM-enriched sulphide mineralization. The mineralization consists principally of fine disseminations to coarse blebs of chalcopyrite, pyrrhotite and minor pentlandite, and the sulphides are present in both matrix and inclusions. The IBCZ is best exposed on the North and South detailed grids, but is also locally present at the southern contact of the RVI on the Regional-Central grid (lines 25W and 30W). The Henry grid locally hosts a similar package of rocks, in which football shaped lenses (deformed inclusions?) of amphibolite occur in a melagabbro to gabbro gneiss. This unit occurs in the southwest corner of the grid area, and hosts minor sulphide mineralization.

#### 6.2.5 Main Series

The IBCZ is overlain by an intermittently exposed layer of olivine-gabbronorite, which was used as a marker horizon during mapping to identify the start of the Main Series. Above the olivine gabbronorite layer, the Main Series consists of a cyclical succession ranging from troctolite and olivine gabbronorite, through gabbronorite and gabbro, to leucogabbro, leucogabbronorite and anorthosite. On most of the property area covered by the regional grids, the rocks exposed are the gneissic equivalents of these lithologies, although on portions of the Regional East and North grids the primary rocks are preserved. The thickness of individual lithological units is variable, and poor exposure generally limits correlation of units and cycles across the property. The Main Series is the predominant lithostratigraphic unit on all of the regional grids

#### 6.2.6 Post-RVI Intrusive Rocks

Two principal rock types show crosscutting relationships to the RVI and/or country rocks on the regional grids. The most common of these are narrow (50cm to 2m) to wide (50m) mafic dykes, which occur throughout the property but are most often observed within the country rock assemblage. The dykes are predominantly composed of aphanitic to fine grained diabase. The dykes appear to be subvertical in orientation and may be subparallel to, or crosscutting, RVI stratigraphy.

Amphibolitic intrusions locally occur at the contacts of the RVI on the Regional Central and Henry grids. This unit consists predominantly of medium- to coarse-grained amphibolite to amphibolitic gabbro which appears to have been emplaced within the RVI Contact Zone rocks.

#### 6.3 PGM Mineralization

Primary sulphide mineralization was observed in two environments on the regional grids: (1) within the IBCZ and (2) in the Main Series.

#### 6.3.1 Inclusion-Bearing Chaotic Zone

The IBCZ consistently hosts PGM-enriched chalcopyrite-pyrrhotite mineralization on the North detailed grid. A similar but more structurally complex zone of mineralization occurs on the South detailed grid.

On the Henry grid, a unit of gabbroic gneiss hosts amphibolitic lenses in the southwestern part of the grid area. This unit is thought to be the deformed equivalent of the IBCZ, although the level of deformation and recrystallization of the primary rocks makes this interpretation uncertain. The unit locally carries disseminated pyrrhotite and chalcopyrite, and one sample from the 2000 mapping program returned a value of 899 ppb Pt+Pd+Au. This PGM enrichment was confirmed during the 2001 mapping program with samples 36661 and 36663 returning lower, but still anomalous PGM concentrations of 108ppb and 137ppb. Both samples were collected on lines 62+50W and 60+00W close to the intrusive contact. This lithology shows some of the variation characteristic of the IBCZ found elsewhere in the intrusion, occurs at the correct stratigraphic position, is locally mineralized, and contains elevated PGM values. It therefore seems probable that

the Henry grid at least locally hosts a deformed, inclusion-bearing unit that is the equivalent of the IBCZ as defined from the North and South detailed grids.

#### 6.3.2 Main Series

Minor magmatic sulphide mineralization can be found in most of the lithological units that form the Main Series of the RVI on the regional grids. The mineralization identified to date, however, has no significant lateral continuity and is only very locally anomalous in PGM.

#### 6.4 Assays

Average

A total of 97 samples were collected from the Henry grid during the mapping program, and 88 of these were submitted to XRAL in Rouyn-Noranda for determination of Au, Pt, Pd, Cu and Ni. Sample descriptions, locations and results are provided in Appendix 1. Assay certificates can be found in Appendix 2. Sample locations and combined Pt+Pd+Au values are shown as bubble plots on maps 1 and 2 (back pocket). Basic statistics regarding the assay data are summarized in Table 4.

Table 4. Summary statistics for assay results from the Henry Grid								
	Pt+Pd+Au (ppb)	Cu (ppm)	Ni (ppm)					
Henry								
n		88	88	88				
Maximum	3	65	522	566				
Minimum	<	10	6	5				

54

Of the 88 that samples were collected on the Henry grid, the best PGM assay was 365 ppb Pt+Pd+Au (sample 36733). The sample was obtained from massive, medium to coarse-grained gabbronorite lens or inclusion hosted by gabbro gneiss adjacent to the contact in the northcentral portion of the grid. At this location the intrusion splays up to the northwest. It is possible that this unit may also represent IBCZ material, although the high degree of deformation in Henry Township makes identification of precursor rocks nearly impossible. The unit, however, is heterogeneous and carries PGM enriched sulphide mineralization. It is thus thought to be the equivalent of the IBCZ found at the contacts of the intrusion on other parts of the property. The remainder of the RVI on the grid area is composed largely of gabbro to leucogabbro gneiss, which carries little to no visible sulphide. No other PGM anomalies were identified in this area.

83

33

#### 7. Conclusions and Recommendations

#### 7.1 Conclusions

The principal conclusions of the 2001 mapping program on the Henry Grid are as follows:

1) The River Valley Intrusion, composed of variably deformed and metamorphosed layered plutonic igneous rocks, is present on the Henry Grid mapped during the

field program. The 2001 mapping program also confirms the interpretation of Findlay (2001d) with only minor modifications to the major contacts.

2) The Henry Grid is underlain by a relatively thin extension of the main body of the RVI hosted by granite gneiss and metasedimentary gneiss. The main body of the RVI in the grid area is predominantly composed of gabbro to leucogabbro gneiss, with little potential for significant PGM mineralization. In a few locations, however, the contact area stratigraphy that is observed on the North and South detailed grids appears to be present. In addition, samples with weakly anomalous to anomalous PGM concentrations were collected from a rock unit adjacent to the southern intrusive contact that is thought to be the deformed equivalent of the IBCZ. Unfortunately, no extensive surface exposures of PGM-mineralized IBCZ were identified.

#### 7.2 Recommendations

Based on the foregoing results, no further exploration work is recommended for the Henry Grid area at this time.

## **Statement of Qualifications**

I, Peter C. Wood, of the city of Sudbury, Province of Ontario, Canada, do hereby certify that:

- 1. I am a practising consulting geologist with Geodigital Mapping Systems Inc., with an office at 618 Telstar Avenue, Sudbury, Ontario, and a mailing address of Plaza 69 P.O., Box 21026, Sudbury, Ontario, P3E 6G6;
- 2. I am a graduate of the University of Toronto, Ontario with an Honours Bachelor of Applied Science Degree (1983) in Geological Engineering and Applied Earth Sciences (Exploration Option), and a Master of Science Degree (1987) in Geology;
- 3. I have been practising my profession as a geologist in Ontario, Quebec, and the Northwest Territories since 1987;
- 4. I have pending applications for membership in the Association of Professional Geoscientists of Ontario and the Professional Engineers Ontario,
- 5. The information contained in this report and accompanying maps is based on personal observations and direct supervision of the field work; and,
- 6. I have no direct interest in the claims mentioned in this report; however, I do beneficially hold shares and stock options for shares of Mustang Minerals Corp.

Dated this 6<sup>th</sup> day of August, 2003, Sudbury, Ontario

Peter C. Wood, B.A.Sc., M.Sc.

#### References

- Barnett, P.J., Henry, A.P. and Baubin, D. 1991. Quaternary geology of Ontario, westcentral sheet; Ontario Geological Survey, Map 2554, scale 1:1 000 000.
- Cabri, L. 2001. A mineralogical study of samples from the North Zone, River Valley Property, Ontario. Mustang Minerals Corp., private report, 29 pp.
- Dawson, D., Blackshaw, K. and Eastcott, D. 2001. Geophysical Survey Assessment Report regarding the Dipole-Dipole TDIP Survey at the River Valley Project, Quantec Geoscience Inc. Project QG-167, 24 pp. (North Grid Extensions)
- Easton, R.M. 1998. New observations related to the mineral potential of the Southern Province and the Grenville Front Tectonic Zone east of Sudbury. Ontario Geological Survey, Open File Report 5976, 28 pp.
- Findlay, J. 2001a. Geological and geochemical report on the North Grid, River Valley Property. Ministry of Northern Development and Mines Assessment Report, Mustang Minerals Corp.
- Findlay, J. 2001b. Report on the 2000-2001 Drilling Program, River Valley Property, Crerar and McWilliams townships, Ontario, November 9, 2000 – October 20, 2001, 44pp plus appendices in 3 volumes.
- Findlay, J. 2001c. Geological and geochemical report on the South Grid, River Valley Property, Crerar Township, Ontario, May 27 – October 7, 2000, 23pp plus appendices.
- Findlay, J. 2001d. Geological and geochemical report on the Regional Mapping Program, River Valley Property, Henry, Dana, Crerar and Gibbons townships, Ontario, May 27 – November 15, 2000, 23pp plus appendices.
- Jordon, J., Blackshaw, K. and Eastcott, D. 2001. Geophysical Survey Assessment Report regarding the Dipole-Dipole TDIP Survey at the River Valley Project, Quantec Geoscience Inc. Project QG-167, 44 pp. (Regional Central and Henry Grids)
- Lapierre, K. J. 1999. A preliminary geological report for Mustang Minerals Corp. on the River Valley Property – McWilliams Geology. Unpublished company report.
- Lapierre, K. J. 1999. A preliminary geological report for Mustang Minerals Corp. on the River Valley Property – Tomrose Zone. Unpublished company report.

- Lapointe, D., Blackshaw, K. and Eastcott, D. 2001. Geophysical Survey Assessment Report regarding the Dipole-Dipole TDIP Survey over the Upper Canada Claim Property, River Valley Property, Quantec Geoscience Inc. Project QG-203, 25 pp. (Upper Canada and Southeast Grids)
- Legault, J.M., Blackshaw, K. and MacGillivray, D. 2000. Geophysical Survey Logistical Report, Quantec Geoscience Inc., 10 pp.
- Peck, D.C., James, R.S. and Chubb, P.T. 1993. Geological environments for PGE-Ni-Cu mineralization in the East Bull Lake Gabbro-Anorthosite Intrusion, Ontario. Exploration and Mining Geology, Vol. 2, No. 1, pp. 85-104.
- Peck, D.C., James, R.S. and Chubb, P.T., Keays, R.R. 1995. Geology, metallogeny of the East Bull Lake Intrusion, Ontario. Ontario Geological Survey, Open File Report 5923.
- Streckiessen, A. 1976. To each plutonic rock its proper name, Earth Science Reviews, v12, p.1-33.
- Vogel, D.C., James, R.S. and Keays, R.R.1998. The early tectono-magmatic evolution of the Southern Province: implications from the Agnew Intrusion, central Ontario, Canada. Canadian journal of Earth Sciences, No. 35, pp. 854-870.
- Wood, PC. 2000a. Geological Mapping Report on the River Valley Property, North Grid. Mustang Minerals Corporation, Private company report, 26pp.
- Wood, PC. 2000b. Geological Mapping Report on the River Valley Property, South Grid. Mustang Minerals Corporation, Private company report, 31pp.

Appendix 1: Sample Details and Assay Data

,

Sample #	Geologist	Grid co	ordinates	UTM (NA	AD27/Z17)	Accuracy(m)	Rock Type	Texture	Gr. Size	Structure	
		Easting	Northing	Easting	Northing						
36601	M.Plasse	-7455	475	545031	5155541	8.3	13a		mg	Gn/F1, mod-str. @ 56/78	
N/A	M.Plasse	-7250	240	545334	5155453	5.4	За		mg	Gn/F1, wk-mod	
N/A	M.Plasse	-4750	-745	547882	5156069	5.4	3a, qtz		mg	Gn/F1, wk-mod @ 66/84	
N/A	M.Plasse	-5000	-800	547764	5155903	5.8	3a		mg	Gn/F1,mod-str. @ 58/85	
36602	M.Plasse	-5003	-302	547472	5156292	5.4	13a		cg	Gn/F1,mod-str. @ 51/72	
36603	M.Plasse	-5003	-250	547442	5156342	7.7	13a		mg-cg	Gn/F1, mod @ 49/68	
36604	M.Plasse	-4760	-90	547531	5156625	6.5	19 (altered 6)	massive	Img	Foliation, wk	
N/A	M.Plasse			548921	5156291	5.1	3a		cg	Gn/F1, mod. @ 60-80/?	
N/A	M.Plasse	-4000	-1235	548857	5156137	7.9	3a, qtz		cg	Gn/F1, mod. @ 74/?	
N/A	M.Plasse	-4000	-1100	548768	5156240	4.9	3a, qtz	massive	cg	Gn/F1, wk-mod @ 70/?	
36605	M.Plasse	-6060	-35	546462	5155893	4.4	13a		mg-cg	Gn/F1,mod-str. @ 47/90	
36606	M.Plasse	-5750	250	546546	5156314	4.4	19 (altered 6)	massive	cq	none	
N/A	M.Plasse			546438	5156235	8.2	3a	massive	Img-cg	Gn/F1, wk	
N/A	M.Plasse			548085	5155505	6.2	3a		Ima	Gn/F1, wk-mod @ 40/?	
N/A	M.Plasse			547695	5155444	7.1	3a, qtz		mg-cg	Gn/F1, @ 71/90	
36607	M.Plasse	-5997	-322	546666	5155706	7.3	6 band in 14a	massive	mg	none	
36608	M.Plasse	-5997	-322	546666	5155706	7.3	14a		mg-cg	Gn/F1 @ 46/70-80	
36609	M.Plasse	-6000	-301	546654	5155721	5.2	14a/15a		mg-cg	foliation, strmod	
36610	M.Plasse	-6000	-265	546632	5155750	5.5	13a/14a with 6 bands		mg-cg	Gn/F1 @ 51/54	
36611	M.Plasse	-6000	-210	546601	5155791	6.1	13a/14a with 6 bands		ma-ca	Gn/F1 @ 44/55	
36612	M.Plasse	-6000	-130	546567	5155856	4.1	3a, qtz		mg	Gn/F1 @ 70-80/90-75	
36613	M.Plasse	-5740	-35	546719	5156072	6.8	19 (altered 6)	massive	cq	none	
36614	M.Plasse	-5740	-300	546863	5155869	4.7	13a, local 6 bands		mg-cg	foliation, strmod	
36615	R.J. Knowles	-2920	10	548944	5157728	5.6	3a, contaminated		Img	fol., str., 320/85 (W)	
36616	R.J. Knowles	-2920	10	548944	5157728	5.6	13a, contact zone		mg	fol., str., 320/85 (W)	
36617	R.J. Knowles	-2920	10	548944	5157728	5.6	13a/14a		mg	fol., mod.	
36618	M.Plasse	-10	498	551008	5159815	8.1	13/13a	massive	mg-cg	Gn/F1, @ 7/90	
36619	M.Plasse	0	425	551071	5159771	6.3	13	massive	cg		
36620	M.Plasse	0	380	551101	5159739	4.7	13, ol?	massive	cg		
36621	M.Plasse	-15	245	551176	5159618	4.0	13a		mg	Gn/F1, @ 30/80 (S)	
36622	M.Plasse	-5	215	551194	5159602	5.4	13/13a		cg	Gn/F1, wk	
36623a	M.Plasse	-10	72	551281	5159487	7.5	19		mg	Gn/F1, @ 100-120/70	
36623b	M.Plasse	-740	1388	549861	5160098	6.4	3a/13a		mg	Gn 150/82	
36624	M.Plasse	-760	1265	549921	5159992	5.8	13a		mg	gn 166/75	
36625	M.Plasse	NA	NA	550187	5159662	7.2	13a		mg-cg	gn 166/85	
36626	M.Plasse	-780	765	550228	5159600	6.3	13a		mg-cg	gn 144/sub-vertical	
36627	M.Plasse	-750	582	550361	5159458	7.2	13a		mg-cg	gn 166/sub-vertical	
36628	M.Plasse	NA	570	550371	5159456	4.1	3/3a	massive	mg	gn	
36629	M.Plasse	-752	525	550408	5159435	5.6	13a,3a		mg	gn 040/sub-vertical	
36630	M.Plasse	-751	280	550560	5159241	5.4	13a		mg		
36631	M.Plasse	-752	230	550591	5159190	3.9	13a		mg	gn 032/85-90	
36651	R.J. Knowles	-6995	88	545640	5155461	5.9	3a			none	
36652	R.J. Knowles			548104	5156719	11.5	13a/3a			Fol., str., 65/74 (S)	
36653	R.J. Knowles			547858	5156871	6.1	13a		mg	fol., mod., 65/70-75 (S)	
36654	R.J. Knowles	-4492	-254	547844	5156628	4.9	13a		Í	fol., str., 55/80 (S)	
36655	R.J. Knowles	-4500	-275	547849	5156603	6.1	13a			fol., str., 55/80 (S)	
36656	R.J. Knowles	-3733	-475	548561	5156896	4.8	13a			fol., 40/65-75 (S)	
36657	R.J. Knowles	-3738	-475	548560	5156890	5.5	13B		1	fol., mod., 35/75 (S)	

Sample #	Geologist	Grid co	ordinates	UTM (NA	D27/Z17)	Accuracy(m)	Rock Type	Texture	Gr. Size	Structure
	-	Easting	Northing	Easting	Northing					
36658	R.J. Knowles	-3750	-468	548543	5156889	5.2	14a			fol., str., 40/70-75 (S)
36659	R.J. Knowles	-3745	-400	548506	5156947	5.9	14a with poss. 6			fol., str., 60/70 (S)
36660	R.J. Knowles	-6245	-250	546439	5155637	6.5	13a, vari?			fol., str., 60/75 (S)
36661	R.J. Knowles	-6255	-255	546437	5155621	6.8	13a, vari?			fol., str., 50/60 (S)
36662	R.J. Knowles	-6235	-255	546447	5155628	7.4	14a		mg	fol., str., 60/70-75 (S)
36663	R.J. Knowles	-6255	-280	546455	5155599	4.1	14a, vari?		mg	fol., str., 50/65-75 (S)
36664	R.J. Knowles	-6255	-320	546472	5155566	4.8	1 <b>4</b> a		mg	fol., str., 70/70-75 (S)
36665	R.J. Knowles	-5250	-254	547245	5156200	4.9	14a, ol, mt			fol., 75-80/65-75 (S)
36666	R.J. Knowles	-5250	-262	547255	5156196	5.3	14a			fol., str., 75/75 (S)
36667	R.J. Knowles	-5250	-292	547278	5156174	4.6	14a/15a			fol., str., 75/75 (S)
36668	R.J. Knowles			546286	5155423	5.5	13a			fol., str., 63/75 (S)
36669	R.J. Knowles	-5512	-200	546991	5156093	7.1	13a/14a			fol., modstr., 60/65-75 (S)
36670	R.J. Knowles	-5508	-205	547996	5156088	4.9	13a/14a, gnt, mt			fol., str.
36671	R.J. Knowles	-5518	-230	547008	5156051	4.2	13a			fol., str., 55-60/70 (S)
36672	R.J. Knowles	-5525	-260	547005	5156017	6.6	14a/15a			fol., str., 55-60/70 (S)
36681	R.J. Knowles	-305	105	551029	5159347	6.8	13a(6)	gneissic	mg	fol/gn, str., 024/70E
36682	R.J. Knowles	-258	265	550970	5159491	5.4	13a	gneissic	mg	fol/gn, mod.
36683	R.J. Knowles	-245	250	550984	5159500	5.6	14a/13a	gneissic	mg	fol, wkly.
36684	R.J. Knowles	-250	145	551037	5159406	4.5	13a(6)	gneissic	mg	
36685	R.J. Knowles	-1290	175	550185	5158839	5.5	13a	foliated	mg	fol, modstr.,062/65-75S
36686	R.J. Knowles	-1304	160	550190	5158817	7.0	13a/13b	gneissic	mg	fol/gn, str., 071/75S
36687	R.J. Knowles	-1304	160	550190	5158817	7.0	14a	gneissic	mg	fol/gn, str., 071/75S
36688	R.J. Knowles	-1320	125	550196	5158774	7.9	14a	gneissic	mg	fol/gn, str., 075/65-75S
36689	R.J. Knowles	-1260	25	550297	5158721	4.4	14a(13a)	gneissic	mg	fol/gn, str., 06065-70/
36690	R.J. Knowles	-1250	0	550320	5158716	4.1	13a/14a	gneissic	mg	fol/gn, str., 055/65-70
36691	R.J. Knowles	-1250	-157	550407	5158576	5.3	3a/14a	gneissic	mg-cg	
36692	R.J. Knowles	-1252	-140	550396	5158595	4.8	13a(14a)	gneissic	mg	fol/gn, str., 082/75S
36693	R.J. Knowles	-1255	-105	550380	5158620	6.2	13a	gneissic	mg	fol/gn, str., 088/80S
36694	R.J. Knowles	-1255	-105	550380	5158620	6.2	13a	gneissic	mg	
36695	R.J. Knowles	-1255	-105	550380	5158620	6.2	13a	pegmatitic	cg	
36696	R.J. Knowles	-1510	1070	549471	5159630	7.2	13 alt	foliated	fg-cg	fol, str., 320/65-85E
36697	R.J. Knowles	-1510	1070	549471	5159630	7.2	13 alt	foliated	fg-cg	fol, str., 320/65-85E
36698	R.J. Knowles	-1498	-275	550267	5158347	5.5	3a/13a	gneissic		
36699	R.J. Knowles	-3035	270	548714	5157868	5.0	13a/14a	foliated	mg	fol., modstr., 320/90-35
36700	R.J. Knowles	-3025	510	548603	5158293	5.7	13a	foliated	mg	fol., str., 318/75E
36722	R.J. Knowles	-3000	500	548638	5158310	4.8	3a alt	gneissic	fg-mg	gn 320/?
36723	R.J. Knowles	-3000	495	548639	5158306		3a	gneissic	mg	gn 320/75E
36724	R.J. Knowles	-2985	565	548597	5158131	4.8	13a	gneissic	mg	gn 100/90-75W
36725	R.J. Knowles	-3000	780	548473	5158302	6.3	3a alt	foliated	mg	fol, str., 135/75W
36726	R.J. Knowles	-2990	915	548407	5158427	4.0	13a dike	gneissic	mg	fol, str., 274/70W
36727	R.J. Knowles			548291	5158696	3.6	13a/14a	gneissic	mg	fol, str., 290/75E
36728	R.J. Knowles			548228	5158721	4.3	13a	gneissic	mg	fol, str., 295/80E
36729	R.J. Knowles			548186	5158757	5.2	13a/14a	gneissic	mg	fol, str., 290/75E
36730	R.J. Knowles			548191	5158757		3a alt	gneissic	mg	fol, str., 110/75-90
36731	R.J. Knowles			548197	5158784	4.7	13a	gneissic	fg-cg	fol, str., 120/70W
36732	R.J. Knowles	-2965	1500	548119	5158909	4.7	13a	gneissic	mg	fol, str., 300/90-80E
36733	R.J. Knowles	-2975	1500	547937	5159309	5.1	10	massive	mg-cg	none
36748	R.J. Knowles	-2770	1165	548426	5158681	10.3	13a	gneissic	mg	fol/gn, str., 110/80S

Sample #	Geologist	Grid co	ordinates	UTM (NA	AD27/Z17)	Accuracy(m)	Rock Type	Texture	Gr. Size	Structure	
		Easting	Northing	Easting	Northing						
36749	R.J. Knowles	-2725	-975	548552	5158595	4.5	13a	gneissic	mg		
36750	R.J. Knowles	-5	5	551333	5159427	4.5	13a	gneissic mg		fol/gn, mod., 123/75S	
36758	M.Plasse	-1730	2	549829	5158597	5.7	13a		mg	gn 067/82	
36759	M.Plasse	-1745	105	549863	5158489	6.5	14a/13a		cg	gn 063/?	
36760	M.Plasse	-1735	-20	549949	5158414	5.9	13a		cg	gn 096/sub-vertical	
36761	M.Plasse	-1730	-85	549970	5158348	7.4	13a		mg-cg	gn 100/80	
36762	M.Plasse	-2025	805	549227	5158903	9.2	13a		mg	gn 112/sub-vertical	
36763	M.Plasse	-2045	750	549242	5158814	7.8	13a		mg-cg	[	
36764	M.Plasse	-2002	375	549521	5158544	5.6	13a/14a		mg-cg	gn 095/82	
36765	M.Plasse	-2250	2475	548170	5160087	7.0	13a		mg		
36766	M.Plasse	-2250	2398	548208	5160027	5.5	13a		mg	gn 306/86	
36767	M.Plasse	-2252	2162	548382	5159741	8.2	13a		mg-cg	gn 320/sub-vertical	
36768	M.Plasse	-2250	1960	548433	5159665	7.0	13a		mg	gn 142/sub-vertical	
36769	M.Plasse	na	na	548443	5159550	4.5	13a/14a		mg-cg	gn 320/80	
36770	M.Plasse	-2085	1400	548716	5159197	6.0	13a		mg		
36771	M.Plasse	-2065	1325	548782	5159156	6.5	13a		mg	gn 314/sub-vertical	
36772	M.Plasse	-2235	905	549020	5158839	5.0	13a	1	mg-cg	gn 117/sub-vertical	
36773	M.Plasse	na	na	549392	5158228	5.3	10	-	fg-cg		
36774	M.Plasse	-2270	260	549367	5158315	5.4	13a		mg	gn 290/81	
36775	M.Plasse	na	na	549426	5158435	4.4	3a		mg	gn 96-100/sub-vertical	
36776	M.Plasse	-2240	565	549225	5158571	4.2	13a		mg	gn 102/90	
36777	M.Plasse	na	na	548967	5158652	5.8	14	massive	cg		
36778	M.Plasse	na	na	548164	5159611	4.3	13a		mg-cg	gn	
36779	M.Plasse	-2280	1775	548305	5159375	4.4	13a		mg	gn 330/80	
36780	M.Plasse	na	na	548613	5158988	9.1	13a		mg-cg	gn 120-130/90	
36781	M.Plasse	2500	980	548747	5158724	5.9	14a/14		cg	gn 110/sub-vertical	
36782	M.Plasse	-2505	950	548760	5158708	3.9	14	massive	cg	gn 092/?	
36783	M.Plasse	-2485	910	548796	5158689	4.1	14/14a	massive	cg	gn	
36784	M.Plasse	-2485	565	548994	5158419	5.8	13a		mg-cg	gn 094/70	
36785	M.Plasse	na	na	549437	5157799	4.9	14a		mg-cg	gn 038/60	
36786	M.Plasse	na	na	549407	5157669	5.8	14a		mg-cg	gn 040/73	
36787	M.Plasse	-2255	-250	549661	5157925	5.8	14a		mg-cg	gn 066/60	
36788	M.Plasse	-3485	750	548091	5158006	4.3	13a/3a		mg	gn	
36789	M.Plasse	-2750	-390	549316	5157507	4.7	14a		mg-cg	gn 040/48	
36790	M.Plasse	-2780	-325	549254	5157539	4.8	14a		mg-cg	f2 110-130/25-30	
36791	M.Plasse	-2750	-240	549233	5157621	6.0	14a/13a		mg-cg	gn	
36792	R.J. Knowles	-1725	-475	550210	5158051	4.8	13a	gneissic	mg	fol/gn, str., 110/80W	
36793	R.J. Knowles	-1500	-220	550239	5158393	6.3	13a/3a alt	gneissic	mg	fol/gn, str., 075/80S	

2001 Outcrop Samples - Henry Grid

Sample #	Alteration	Sulphides	Au	Pt	Pd	Cu	Ni '	Au+Pt+Pd	Cu/Ni
		-	(ppb)	(ppb)	(ppb)	(ppm)	(ppm)	(ppb)	
36601	amph,p,mod (after pyroxene)	No visible sulphides	8	5	2	48	28	15	1.7
N/A	K, p, mod.	No visible sulphides					· · · · · · · · · · · · · · · · · · ·	1	
N/A	K, p, mod.	No visible sulphides	1	[]			[	1	
N/A	K, p, mod.	No visible sulphides	1						
36602	amph,p,mod (after pyroxene)	No visible sulphides	6	5	6	116	24	17	4.8
36603	amph,p,mod (after pyroxene)	No visible sulphides	4	5	10	85	26	19	3.3
36604	amph,p,mod (after pyroxene),serp.,p,wk	No visible sulphides	4	5	3	13	61	12	0.2
N/A	k, p, wk-mod.	No visible sulphides	1 1	,					I
N/A	k, p, mod.	No visible sulphides	1 ,					I	
N/A	k, p, wk-mod.	No visible sulphides	1				[		I
36605	k, s, wk (feldspar)	No visible sulphides	4	5	2	32	27	11	1.2
36606	serp & talc, p, wk	py, 0.5-1% , vfg, diss	9	19	12	45	566	40	0.1
N/A	k, p, wk-mod	No visible sulphides							I
N/A	k, p, wk-mod.	No visible sulphides	1		( /			1	
N/A	k, p mod	No visible sulphides	1		('			1	
36607	amph.p.mod (after pyroxene)	py, tr., fg	3	18	8	160	29	29	5.5
36608	amph after pyx	py, tr., fg; s,s,w	2	29	4	17	20	35	0.9
36609	amph after pyx	No visible sulphides	2	29	2	20	23	33	0.9
36610	amph after pyx	py, tr.	3	49	23	77	19	75	4.1
36611	amph after pyx	No visible sulphides	2	16	1	87	14	19	6.2
36612	K, p, mod.	No visible sulphides	4	20	0.5	28	11	24.5	2.5
36613	amph after pyx	No visible sulphides	1	17	0.5	16	67	18.5	0.2
36614	amph after pyx	py/cpy, 1-2%, fg, dis	1	14	1	92	20	16	4.6
36615		No visible sulphides	1	5	0.5	14	15	6.5	0.9
36616		No visible sulphides	3	5	0.5	25	54	8.5	0.5
36617		No visible sulphides	3	5	0.5	7	34	8.5	0.2
36618		py, tr.	2	11	2	20	24	15	0.8
36619		No visible sulphides	2	5	1	32	26	8	1.2
36620		No visible sulphides	4	5	4	19	39	13	0.5
36621		No visible sulphides	1	12	4	32	64	17	0.5
36622		No visible sulphides	3	5	0.5	36	62	8.5	0.6
36623a		No visible sulphides	2	13	2	22	24	17	0.9
36623b		No visible sulphides	1	<b>!</b>				1	[
36624		No visible sulphides	2	23	5	74	30	30	2.5
36625	kspar.p.m	No visible sulphides	10	14	6	28	23	30	1.2
36626		No visible sulphides	2	11	3	7	20	16	0.4
36627	kspar.p.m	No visible sulphides	0.5	5	0.5	40	26	6	1.5
36628	kspar.p.m	No visible sulphides	0.5	5	1	8	8	6.5	1.0
36629	ikspar.p.m	No visible sulphides	4	5	1	13	19	10	0.7
36630		No visible sulphides	3	22	13	37	21	38	1.8
36631		No visible sulphides	2	13	4	25	5	19	5.0
36651		No visible sulphides	1	5	3	36	19	9	1.9
36652		No visible sulphides	4	22	20	20	20	46	1.0
36653		lov. tr.	3	5	12	69	21	20	3.3
36654		No visible sulphides	1 11	43	13	159	37	67	4.3
36655		No visible sulphides	5	5	8	58	19	18	3.1
36656		No visible sulphides	4	5	0.5	20	31	9.5	0.6
36657		No visible sulphides	2	5	3	26	15	10	1.7

Sample #	Alteration	Sulphides	Au	Pt	Pd	Cu	Ni	Au+Pt+Pd	Cu/Ni
			(ppb)	(ppb)	(ppb)	(ppm)	(ppm)	(ppb)	
36658		No visible sulphides	5	5	2	62	16	12	3.9
36659		py, tr.	3	5	3	46	26	11	1.8
36660		py/cpy, tr-1%, fg	1	28	12	73	18	41	4.1
36661		py, tr.	7	43	58	64	17	108	3.8
36662		py/cpy, tr-1%, fg	3	19	13	196	31	35	6.3
36663		py/cpy, tr-1%, fg	17	45	75	263	25	137	10.5
36664		py, tr.	2	35	42	46	32	79	1.4
36665		py, tr.	0.5	13	5	71	23	18.5	3.1
36666		py & cpy, tr-1%	1	11	11	60	22	23	2.7
36667		No visible sulphides	1	17	23	21	19	41	1.1
36668		py/cpy, tr.	4	90	76	68	18	170	3.8
36669	k, weathering	py, tr.	2	34	4	43	58	40	0.7
36670	k, weathering	py, tr.	2	12	0.5	42	18	14.5	2.3
36671		py, tr.	8	78	29	120	26	115	4.6
36672		No visible sulphides	2	14	3	19	30	19	0.6
36681		No visible sulphides	1	13	14	22	39	28	0.6
36682	biot after amph	tr py	1	16	7	41	37	24	1.1
36683	chl	tr py	2	17	7	25	26	26	1.0
36684	biot after amph	No visible sulphides	1	5	4	32	64	10	0.5
36685	biot after amph,gt	No visible sulphides	0.5	30	33	14	33	63.5	0.4
36686	biot after amph,gt	No visible sulphides	14	29	27	237	53	70	4.5
36687	biot after amph,gt	No visible sulphides	7	30	28	41	19	65	2.2
36688	biot after amph,gt	No visible sulphides	88	37	22	27	20	67	1.4
36689	gt	No visible sulphides	15	36	35	14	25	86	0.6
36690	biot after amph,gt	No visible sulphides	8	35	34	20	17	77	1.2
36691	biot after amph,gt	tr py	7	73	24	12	34	104	0.4
36692	biot	No visible sulphides	6	36	11	64	29	53	2.2
36693	gt 20%	No visible sulphides, tr rust	7	36	26	41	44	69	0.9
36694	gt 20%	No visible sulphides, rusty	6	25	18	156	23	49	6.8
36695		1% ру	9	34	34	318	54	77	5.9
36696	biot,kspar,mt,gt	No visible sulphides	3	13	9	22	12	25	1.8
36697	biot,kspar,mt,gt	No visible sulphides	3	16	8	11	12	27	0.9
36698	biot,gt	No visible sulphides	2	17	5	6	20	24	0.3
36699	amph, biot, gt	No visible sulphides	7	22	10	42	12	39	3.5
36700	amph, biot	No visible sulphides	8	17	12	59	38	37	1.6
36722	biot	No visible sulphides	8	16	5	19	13	29	1.5
36723	biot	No visible sulphides	14	5	3	8	18	22	0.4
36724	amph, biot	No visible sulphides	6		8	28	17	25	1.6
36725		No visible sulphides	2	5	1	10	18	8	0.6
36726		No visible sulphides	5	16	8	82	25	29	3.3
36727		No visible sulphides	5	12	10	36	20	27	1.8
36728	gt	No visible sulphides	4	16	10	39	20	30	2.0
36729		No visible sulphides	6	14	27	32	19	47	1.7
36730		NO VISIBLE SUIPHIDES	3	5	1	8	19	9	0.4
36731	ampn, biot	No visible sulphides	5	10	8	20	22	23	0.9
36732		No visible sulphides	7	33	23	24	25	63	1.0
36/33	ampn, chi	INO VISIBLE SUIPHIDES	49	152	164	247	54	365	4.6
36748	amph, biot	INO VISIBLE SILPHIDES	L 4	15	5	29	33	24	0.9

Sample #	# Alteration Sulphides		Au	Pt	Pd	Cu	Ni	Au+Pt+Pd	Cu/Ni
-			(ppb)	(ppb)	(ppb)	(ppm)	(ppm)	(ppb)	
36749	amph	tr cpy	5	17	9	86	46	31	1.9
36750	amph,chl	No visible sulphides	8	30	17	50	12	55	4.2
36758		No visible sulphides	9	79	183	131	38	271	3.4
36759	S,S,W	cp,dis,1%	5	5	13	202	39	23	5.2
36760	s,s,w;gt	No visible sulphides	4	5	7	48	21	16	2.3
36761		py,dis,tr	7	21	19	82	32	47	2.6
36762		No visible sulphides	9	40	26	103	22	75	4.7
36763		No visible sulphides	8	34	13	70	19	55	3.7
36764		No visible sulphides	14	29	22	65	20	65	3.3
36765	s,s,w;gt	py,dis,tr	7	11	0.5	110	32	18.5	3.4
36766		No visible sulphides	8	46	20	114	27	74	4.2
36767		No visible sulphides	9	29	6	57	30	44	1.9
36768	gt	No visible sulphides	8	24	3	71	32	35	2.2
36769	<u> </u>	No visible sulphides	7	36	26	52	17	69	3.1
36770	at	No visible sulphides	7	57	40	92	19	104	4.8
36771	at	No visible sulphides	6	29	12	79	13	47	6.1
36772		No visible sulphides	11	24	3	36	15	38	2.4
36773		ltr	23	40	20	522	124	83	4.2
36774	at	No visible sulphides	6	25	2	12	24	33	0.5
36775		No visible sulphides	3	5	0.5	20	23	8.5	0.9
36776	at	No visible sulphides	5	21	7	75	21	33	3.6
36777	<u> </u>	No visible sulphides	5	19	34	26	15	58	1.7
36778		No visible sulphides	6	22	13	53	18	41	2.9
36779	at	No visible sulphides	12	40	15	82	27	67	3.0
36780	at	No visible sulphides	3	5	0.5	39	19	8.5	2.1
36781		No visible sulphides	3	16	0.5	20	17	19.5	1.2
36782		pv/cp,vfg,0.5-1%	10	27	5	52	23	42	2.3
36783		No visible sulphides	5	27	7	11	14	39	0.8
36784		No visible sulphides	7	27	5	144	27	39	5.3
36785		No visible sulphides	8	58	43	48	13	109	3.7
36786	at	No visible sulphides	6	44	14	10	18	64	0.6
36787	1 <u>3</u>	lov.dis.tr	33	24	14	38	19	71	2.0
36788		No visible sulphides	16	27	10	81	32	53	2.5
36789		No visible subbides	12	22	15	57	30	49	1.9
36790		lov dis tr	10	46	34	37	35	90	1.1
36791	lat	No visible sulphides		28	8	56	11	45	51
36792		No visible sulphides		23		16	10	34	1.6
36793		No visible sulphides	4	15	4	12	27	23	0.4

Maximum	49	152	183	522	566	365	10.5
Minimum	<1	<10	<1	6	5	<10	0.1
Average	6.3	24.1	16.3	63.7	35.2	46.6	
Standard Deviation	7.1	23.2	28.7	79.8	69.1	54.2	

Appendix 2: Assay Certificates



LES LABORATOIRES XRAL LABORATORIES UNE DIVISION DE / A DIVISION OF SGS CANADA INC. 129 AVE. MARCEL BARIL • ROUYN-NORANDA • QUÉBEC J9X 7B9 TÉL.: (819) 764-9108 FAX: (819) 764-4673

#### CERTIFICAT D'ANALYSE/CERTIFICATE OF ANALYSIS

R20973

Nom de la Compagnie/Company: Bon de Commande No/ P.O. No: Projet/ Project No : Date Soumis/ Submitted :			Mustang River Va Oct 05,	Mineral: lley 2001	Oct 17, 2001		
Attention		:	Ken Lapi	erre			
No. D'Echantillon Sample No.	AU PPB	PT PPB	PD PPB	CU PPM	NI PPM		
36601	8	<10	2	48	28		
36602	6	<10	6	116	24		
36603	4	<10	10	85	26		
36604	4	<10	3	13	61		
36605	4	<10	2	32	27		
36606	9	19	12	45	566		
36651	1	<10	3	36	19		
36652	4	22	20	20	20		
36653	3	<10	12	69	21		
36654	ΤT	43	13	159	37		
36655	5	<10	8	58	19		
36656	4	<10	<1	20	31		
36657	2	<10	3	26	15		
36658	5	<10	2	62	16		
36659	3	<10	3	46	26		
36660	1	28	12	13	18		
36661	7	43	58	64			
36662	3	19	13	196	31		
36663	17	45	75	263	25		
36664	2	35	42	46	32		
36665	<1	13	5	71	23		
36666	1	11	11	60	22		
36667	1	17	23	21	19		
R20973-1	98	726	393				

Certifie par / Certified by :

Ň Ø

SGS Membre du Groupe SGS (Société Générale de Surveillance)



LES LABORATOIRES XRAL LABORATORIES

UNE DIVISION DE / A DIVISION OF SGS CANADA INC. 129 AVE. MARCEL BARIL • ROUYN-NORANDA • QUÉBEC J9X 7B9 TÉL.: (819) 764-9108 FAX: (819) 764-4673

#### CERTIFICAT D'ANALYSE/CERTIFICATE OF ANALYSIS

R20974 Corporation
Oct 17, 2001
NI PPM
.8
58
18
26
30
29
20
23
L9
L4 ,
1
57
20

Certifie par / Certified by :

SGS Membre du Groupe SGS (Société Générale de Surveillance)



LES LABORATOIRES XRAL LABORATORIES

UNE DIVISION DE / A DIVISION OF SGS CANADA INC. 129 AVE. MARCEL BARIL • ROUYN-NORANDA • QUÉBEC J9X 7B9 TÉL.: (819) 764-9108 FAX: (819) 764-4673

#### CERTIFICAT D'ANALYSE/CERTIFICATE OF ANALYSIS

R21082

						1121004
Nom de la Compagn:	ie/Compa	any: Mu	istang N	Minerals	Corporation	
Bon de Commande No/ P.O. No: Projet/ Project No : Date Soumis/ Submitted : Attention :			River Valley Oct 19, 0201 Ken Lapierre			Oct 25, 2001
No. D'Echantillon	AU	PT	PD	CU	NI	
Sample No.	PPB	PPB	PPB	PPM	PPM	· · · · · · · · · · · · · · · · · · ·
36615	1	<10	<1	14	15	
36616	3	<10	<1	25	54	
36617	3	<10	<1	7	34	
36618	2	11	2	20	24	
36619	2	<10	1	32	26	
36620	4	<10	4	19	39	
36621	1	12	4	32	64	
36622	3	<10	<1	36	62	
36623	2	13	2	22	24	
36624	2	23	5	74	30	
36625	10	14	6	28	23	
36626	2	11	3	7	20	
36627	<1	<10	<1	40	26	
36628	<1	<10	1	8	8	
36629	4	<10	1	13	19	
36630	3	22	13	37	21	
36631	2	13	4	25	5	
36680	1	16	42	9	30	
36681	1	13	14	22	39	
36682	1	16	7	41	37	
36683	2	17	7	25	26	
36684	1	<10	4	32	64	
36685	<1	30	33	14	33	
36686	14	29	27	237	53	
36687	7	30	28	41	19	
36688	8	37	22	27	20	
36689	15	36	35	14	25	
36690	8	35	34	20	17	
36691	7	73	24	12	34	
36692	6	36	11	64	29	
36693	.7	36	26	41	44	
36694	6	25	18	156	23	
36695	9	34	34	318	54	
30090	3	13	9	22	12	
36697	వ	16	8	11	12	
30098	2	17	5	6	20	

R21082-1 108 747



394

SGS Membre du Groupe SGS (Société Générale de Surveillance)

.



LES LABORATOIRES XRAL LABORATORIES UNE DIVISION DE / A DIVISION OF SGS CANADA INC. 129 AVE. MARCEL BARIL • ROUYN-NORANDA • QUÉBEC J9X 7B9 TÉL.: (819) 764-9108 FAX: (819) 764-4673

#### CERTIFICAT D'ANALYSE/CERTIFICATE OF ANALYSIS

R21222

. . .....

Nom de la Compagn Bon de Commande No Projet/ Project D Date Soumis/ Subm Attention	any: Mu No: : RV : No : Ke	nstang M 7H ov 02, 2 en Lapie	inerals 001 rre	Nov 10	), 2001		
No. D'Echantillon	AU	PT	PD	CU	NI		
Sample No.	PPB		PPB	РРМ ————————			
36758	9	79	183	131	38		
36759	5	<10	13	202	39		
36760	4	<10	7	48	21		
36761	7	21	19	82	32		
36762	9	40	26	103	22		
36763	8	34	13	70	19		
36764	. 14	29	22	65	20		
36765	7	11	<1	110	32		
36766	8	46	20	114	27		
36767	9	29	6	57	30		
36768	8	24	3	71	32		
36769	7	36	26	52	17		
36770	7	57	40	92	19		
36771	6	29	12	79	13		
36772	11	24	3	36	15		
36773	23	40	20	522	124		
36774	6	25	2	12	24		
36775	3	<10	<1	20	23		
36776	5	21	7	75	21		
36777	5	19	34	26	15		
36778	6	22	13	53	18		
36779	12	40	15	82	27		
36780	3	<10	<1	39	19		
36781	3	16	<1	20	17		
36782	10	27	5	52	23		
36783	5	27	7	11	14		
36784	7	27	5	144	27		
36785	8	58	43	48	13		
36786	6	44	14	10	18		
36787	33	24	14	38	19		
36788	16	27	10	81	32		
36789	12	22	15	57	30		
36790	10	46	34	37	35		
36791	9	28	8	56	11		
36699	7	22	10	42	12		
36700	8	17	12	59	38		
36722	8	16	5	19	13		
36723	14	<10	3	8	18		
36724	6	11	8	28	17		
Certifie par / Ce	rtified	by ;	U				

SGS Membre du Groupe SGS (Société Générale de Surveillance)

٠



· •

LES LABORATOIRES XRAL LABORATORIES UNE DIVISION DE / A DIVISION OF SGS CANADA INC. 129 AVE. MARCEL BARIL • ROUYN-NORANDA • QUÉBEC J9X 7B9 TÉL.: (819) 764-9108 FAX: (819) 764-4673

#### CERTIFICAT D'ANALYSE/CERTIFICATE OF ANALYSIS

R21222

Nom de la Compagn Bon de Commande No Projet/ Project I Date Soumis/ Subm Attention	ie/Compa o/ P.O. No itted	ny: Mus No: : RVF : Nov : Ker	stang Mi H 7 02, 20 1 Lapien	inerals 001 cre	Corporation	Nov 10, 2001
No. D'Echantillon Sample No.	AU PPB	PT PPB	PD PPB	CU PPM	NI PPM	
36725 36726 36727 36728 36729 36730 36731 36732 36733 R21222-1	2 5 4 6 3 5 7 49 117	<10 16 12 16 14 <10 10 33 152 746	1 8 10 27 1 8 23 164 380	10 82 36 39 32 8 20 24 247	18 25 20 20 19 19 22 25 54	

.



· · · ·

Les Laboratoires XRAL Laboratories Une Division de / A Division of SGS Canada Inc. 129 Ave. Marcel Baril, Rouyn-Noranda, Québec J9X 7B9 Téléphone: (819) 764-9108 Télécopieur: (819) 764-4673

#### CERTIFICAT D'ANALYSE/CERTIFICATE OF ANALYSIS

:

A/To: Mustang Minerals Corporation 1351 E, Kelly Lake Road, Unit 8 Sudbury ONTARÍO **P3E 5P5** Canada Attn: Ken Lapierre

Notre Référence / Work Order Projet / Project No de Bon de Commande / P.O. No Nombre d'échantillons / Number of samples Rapport inclus / Report comprising Recu le / Date Received Transmis le / Date Reported

R21347 : H-LV 5 : Page couverture/Cover sheet, Pages 1 à/to 0 : 16/11/01 1 1

Répartition du matériel inutilisé / Distribution of unused material

Pulpes / Pulps **Rejets / Rejects** 

: Stored for a maximum of 90 days : Stored for a maximum of 90 days

Commentaires / Comments

Certifié par/Certified By Les Laboratoires XRAL Laboratories

L.N.R. = Échantillon non reçu / Listed not received

- = Non applicable / Not applicable n.a.
- I.S. = Quantité insuffisante / Insufficient Sample
- = Aucun résultat / No result
- \*INF = La composition de cet échantillon rend la détection impossible par cette méthode / Composition of this sample makes detection impossible by this method
- M après un échantillon signifie une conversion de ppb à ppm et %, une conversion de ppm à %

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Sujet aux termes et conditions de SGS / Subject to SGS General Terms and Conditions

**ISGS** Member of the SGS Group (Société Générale de Surveillance)



۰.

.

Les Laboratoires XRAL Laboratories Une Division de / A Division of SGS Canada Inc. 129 Ave. Marcel Baril, Rouyn-Noranda, Québec J9X 7B9 Téléphone: (819) 764-9108 Télécopieur: (819) 764-4673

٩

Projet/Project Notre Référence/Wor Date Page <u>Final</u>	k Order	:	H-LV R21347 21/11/0 1 of	)1 1	
Element. Methode/Method. Det.Lim. Mesure/Units.	Au FA301 1 ppb	Pt FA301 10 ppb	Pd FA301 1 ppb	Cu AA70 2 ppm	Ni AA70 2 ppm
36792	3	23	8	16	10
36793	4	15	4	12	27
36748	4	15	5	29	33
36749	5	17	9	86	46
36750	8	30	17	50	12
*Dup 36792	3	19	7	13	10

**SGS** Member of the SGS Group (Société Générale de Surveillance)

# **Appendix 3: Field Crew**

Raymond Knowles, B.Sc., Geologist

Michel Plasse, B.Sc., Geologist

Joerg Kleinboeck, B.Sc., Geologist



## Work Report Summary

Tra	ansaction No:	W0370.		Stat						
Recording Date: 2003-AUG-29				Work Done fro	om: 200	1-SEP-25				
Ар	proval Date:	2003-SE	EP-03			to: 200	1-NOV-05			
Cli	ent(s):									
	30385	51 M	USTANG MIN	NERALS CO	RP.					
Su	rvey Type(s):									
			ASSAY		GEOL					
w	ork Report Det	ail <u>s:</u>								- <u></u>
CI	aim#	Perform	Perform Approve	Applied	Applied Approve	Assign	Assign Approve	Reserve	Reserve Approve	Due Date
s	1230019	\$10,300	\$10,300	\$0	\$0	\$0	0	\$10,300	\$10,300	2004-FEB-05
s	1230021	\$10,275	\$10,275	\$0	\$0	\$0	0	\$10,275	\$10,275	2004-FEB-05
s	1230060	\$500	\$500	\$0	\$0	\$0	0	\$500	\$500	2004-FEB-05
S	1230061	\$3,200	\$3,200	\$0	\$0	\$0	0	\$3,200	\$3,200	2004-FEB-05
s	1230062	\$10,395	\$10,395	\$0	\$0	\$0	0	\$10,395	\$10,395	2004-FEB-05
s	1230064	\$3,105	\$3,105	\$0	\$0	\$0	0	\$3,105	\$3,105	2004-FEB-05
S	1230066	\$10,500	\$10,500	\$0	\$0	\$0	0	\$10,500	\$10,500	2004-FEB-05
s	1230067	\$3,700	\$3,700	\$0	\$0	\$0	0	\$3,700	\$3,700	2004-FEB-05
		\$51,975	\$51,975	\$0	\$0	\$0	\$0	\$51,975	\$51,975	-
Ex	ternal Credits:		\$0							
Re	serve:	\$5 	51,975 Res	erve of Work	k Report#: W037	0.01360				

Status of claim is based on information currently on record.



41109SW2010 2.26195 HENRY

Ministry of Northern Development and Mines Ministère du Développement du Nord et des Mines



Date: 2003-SEP-04

KEN J. LAPIERRE MUSTANG MINERALS CORP. 1351 E. KELLY LAKE RD. UNIT 8 SUDBURY, ONTARIO P3E 5P5 CANADA **Ontario** 

GEOSCIENCE ASSESSMENT OFFICE 933 RAMSEY LAKE ROAD, 6th FLOOR SUDBURY, ONTARIO P3E 6B5

Tel: (888) 415-9845 Fax:(877) 670-1555

Submission Number: 2.26195 Transaction Number(s): W0370.01360

Dear Sir or Madam

#### Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

If you have any question regarding this correspondence, please contact BRUCE GATES by email at bruce.gates@ndm.gov.on.ca or by phone at (705) 670-5856.

Yours Sincerely,

Roy Denomme Acting Senior Manager, Mining Lands Section

Cc: Resident Geologist

Mustang Minerals Corp. (Claim Holder) Assessment File Library

Mustang Minerals Corp. (Assessment Office)



.26195

200

VIARIO HANGTON OF MORTHERN MINE MINING Land Tenure CANADA MORTHERN AND MINING MADE	
/Time of Issue: Wed Sep 03 16:25:49 EDT 2003 WNSHIP / AREA PLAN NRY G-2913	
ng Division Sudbury 1 Titles/Registry Division SUDBURY stry of Natural Resources District NORTH BAY	
BRAPHIC Land Tenure	
Downstein Lat         Enders And Safety Trighte           Downstein Lat         Enders Rights Chry           Revision First         Enders Rights Chry	
Neder Preserve Land, Pie Server Land, Ser	
Near Hanning H	
Yun         All Sublex Applies Linky           Neurond Cox Republic         If Sublex Applies Linky           Outlines         If Link Use Aryon           State         Link Use Aryon           State         Link Use Aryon	
The Public Latter Agreement The The The The The The The The The The	
D TENURE WITHDRAWAL DESCRIPTIONS	
1999 Lang Langunan Wang Jan Jada Ar (1475 Wang Jan Jada Ar (1475 Wang Jan Jada Ar (1477 Wang Jan Jada Ar (1477) Wang Jan Jada Ar (1477) Wang Jan Jada Jan Jada Jada Jada Jada Jada J	
2.26195 GEOL	
ASSAY	



LEC	GEND
20	Diatreme Breccia?
19	Amphibolite
18	Tonalite
17	Undivided Mafic Dyk
170	Diabase Dyke
17b	Lamprophyre Dyke
River	Valley Intrusion
16	Anorthosite
16a	Anorthosite adcumul
Gabbro	ids (Precursor pyroxene ge
15	Anorthositic Gabbro
15a	Anorthositic Gabbro
14	Leucogabbro
14a	Leucogabbro Gneiss
14b	Magnetite Bearing Le
13	Gabbro
130	Gabbroic Gneiss
130	Magnetite Regring G
130	
	Gabbro/ Melagabbro
Rocks V	with primary mineralogy ge
12 12a	Melanorite
12b	Magnetite bearing N
5	Diorite — Quartz Dio
11	Equigranular Gabbroi
110	Inclusion-bearing Go
11b	Gabbronoritic Gneiss
11c	Equigranular Qtz-ga
10	Gabbronorite
10a	Melagabbronorite
10b	Mt-Gabbronorite/Mel
10c	Massive Gabbronorite
10d	Chaotic Zone
10e	Leucogabbronorite
9	Troctolite
8	Olivine Gabbronorite
8a	Olivine Melagabbrono
8b	Olivine-bearing Gabb
7	Peridotite (undidvide
7a	Harzburgite
7b	Olivine Websterite
6	Pyroxenite (undivideo
<u>6a</u>	Websterite
6b	Orthopyroxenite
Cour	ntry Rocks
4	Qtz-Syenite, Syenitic
3	Granite
30	Granitic Gneiss
	Otz-Ausse Ousi
20	Motocodimenter C
	metaseaimentary Ghe

0 100 200 300 400m

![](_page_47_Figure_0.jpeg)

![](_page_47_Picture_1.jpeg)

Thal