

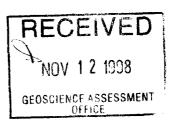
41P11SE2010 2.18996

LEONARD

010

# GROUND GEOPHYSICAL SURVEYS Old Red Property OroGrande RESOURCES INC. Leonard Township

Oct. 1998



NTS 41 P/11

#### TABLE OF CONTENTS

1.0	Introduction
2.0	Property
3.0	Location and Access
4.0	Magnetometer Survey
	4.1 Instrumentation
	4.2 Survey Results
5.0	VLF Electromagnetic Survey
	5.1 Instrumentation
	5.2 Survey Results
6.0	Conclusions and Recommendations

## **LIST OF FIGURES**

Figure 1	Location Map
Figure 2	Claim Map

## **LIST OF MAPS**

Total Field Magnetics - contour map

VLF Profiles map - NAA Cutler, Maine



41P11SE2010 2.18996

LEONARD

010C

#### 1.0 INTRODUCTION:

At the request of Guillermo Salazaar, a program of linecutting and geophysical surveys was carried out from October 1-25, 1998 on the Old Red Property held by OroGrande Resources Inc. Suite 926, 1122 Fourth St. SW, Calgary, Alberta T2R 1M1. The geophysical work was executed by David Laronde and Real Gauthier of Meegwich Consultants Inc. P.O. Box 482, Temagami, Ontario POH 2HO. David Laronde supervised the work and is the author of this report. Total field magnetometer and VLF-EM surveying was done on both grids.

Linecutting: A total of 21.05 km of linecutting was done by McBride Linecutting. 18.250 km of crosslines was cut from 2.80 km of chain sawed baselines running at an azimuth of 045 degrees.

#### **2.0 PROPERTY:**

The property consists of a group of 13 contiguous mining claims situated in the southwest corner of Leonard Tp. in the Larder Lake Mining Division. The total area of the property is 752 hectares (47 claim units). The claims are numbered as follows:

1211490 2 1	units	1211994	1 units
1186434 1	unit	1186432	1 unit
1186433 1	unit	1200297	2 units
1213806 1 1	unit	1225426	5 units
1223240 8 1	units	1211995	4 units
1223242 6	units	1223241	13 units
1223243 2	units		

**Topography:** The terrain is typically rugged with about 50% wet, low lying areas and 50% drained land. Dense conifer growth and abundant deadfall which hampered the linecutting are also common.

#### 3.0 LOCATION AND ACCESS:

As the crow flies the property is located 25 km southwest of the hamlet of Gowganda which is 75 km southwest of the town of Kirkland Lake, Ontario. The claims are accessible by first taking Hwy 560 to a point some 38 km west of Gowganda. From this location further access to the claim group is via logging roads which wind southward onto the claims.

#### **4.0** MAGNETOMETER SURVEY:

A total of 21.050 km was surveyed (1684 readings) at 12.5 meter stations on lines spaced at 200 meters.

- 4.1 Instrumentation: A GEM Systems GSM 19 Overhauser Magnetometer, Serial no. 58479 was used for the survey. A base station was set up on the property to monitor and correct for the diurnal variation during the course of the survey. These instruments are micro-processor based and measure the earth's total magnetic field to an accuracy of one-tenth of a gamma.
- 4.2 Survey Results: The results are presented in contour form on plans at 1:5000 scale.

Generally speaking the magnetometer survey shows a few intense highs and linears that contrast with a relatively quiet front with most values falling in the 400-800 gamma range.

An intense high is noted at the west end of the grid. The highs are confined to a small area and the intensity is consistent with that of gabbro or iron formation. Another high noses into the survey area on L 800 and 1000 E at the southeast end. Although not as intense as the previous high, this one appears more massive.

A (dike) linear feature can be seen from L 0 to L 600 E at 500 N. This response location has been trenched and sampled previously. The width of the response is 20-30 meters and trends at 40 degrees.

#### 5.0 VLF ELECTROMAGNETIC SURVEY:

A total of 18.250 km was surveyed for a total of 730 readings taken at 25 meter stations on lines spaced at 200 meters. All readings were taken while facing north.

5.1 Instrumentation: A Geonics EM-16 VLF-EM receiver (Ser. No. 8404014) was used for the survey. The in-phase and quadrature components were recorded using VLF transmitting station. Cutler, Maine NAA transmitting at 24.0 kHz. The measured quantities are the in-phase and quadrature components of the vertical magnetic field measured as a percentage of horizontal primary field (read to a resolution of +/- 1%).

<u>5.2</u> <u>Survey Results:</u> The results of the survey are presented in profile form on plans at 1:5000 scale.

Note: Because of the high frequencies used, VLF surveys tend to pick up topographic and geological noise (overburden filled depressions) as well as prospective mineralized horizons.

The survey picked up 10 conductive horizons ranging from weak to strong anomalies. These are described as follows:

Conductor	Strength	Length	Probable source	Mag Assoc.		
Α	moderate	350	creek fault	possible		
В	moderate	475	mineralization	possible		
C	weak	500	creek fault	no		
D	weak	650	?	?		
E	strong	100+	mineralization	yes		
F	modstrong	400+	mineralization	?		
G	weak	500	topographic	no		
Н	moderate	600	creek fault	no		
I	weak	375	mineralization	yes		
J	moderate	400+	topo/mineralization	yes		

### 6.0 CONCLUSIONS AND RECOMMENDATIONS:

The magnetic survey has highs on both the east and west end. The intensity of the readings definitely suggest concentrations of magnetic mineral commonly associated with gabbro or iron formation. The middle section of the grid is fairly quiet which conforms with the mapped sediment rock unit.

Several VLF-EM conductors were produced from the survey. Some of these anomalies are worthy of follow-up work while some were co-incident with creek lineaments and did not have a metallic signature. Conductors for future consideration are B,E,F,I and J.

#### Follow-up work:

The line spacing should be brought down to 100 meters in the areas of the aforementioned conductors. Magnetometer and HLEM or I.P. coverage is recommended as a next phase before drilling. The VLF-EM survey is not conclusive enough on its own and a deeper penetrating geophysical tool is a logical choice in detecting sulphides associated with gold and base metal deposits. In addition, more advanced geophysics will provide details on attitude, width and depth for drilling purposes.

### References

Ontario Geological Survey Map 2362 Geological Compilation Series

Timmins-Kirkland Lake 1 inch to 4 miles

M.W. Carter 1977 Geoscience Report 146 ODM

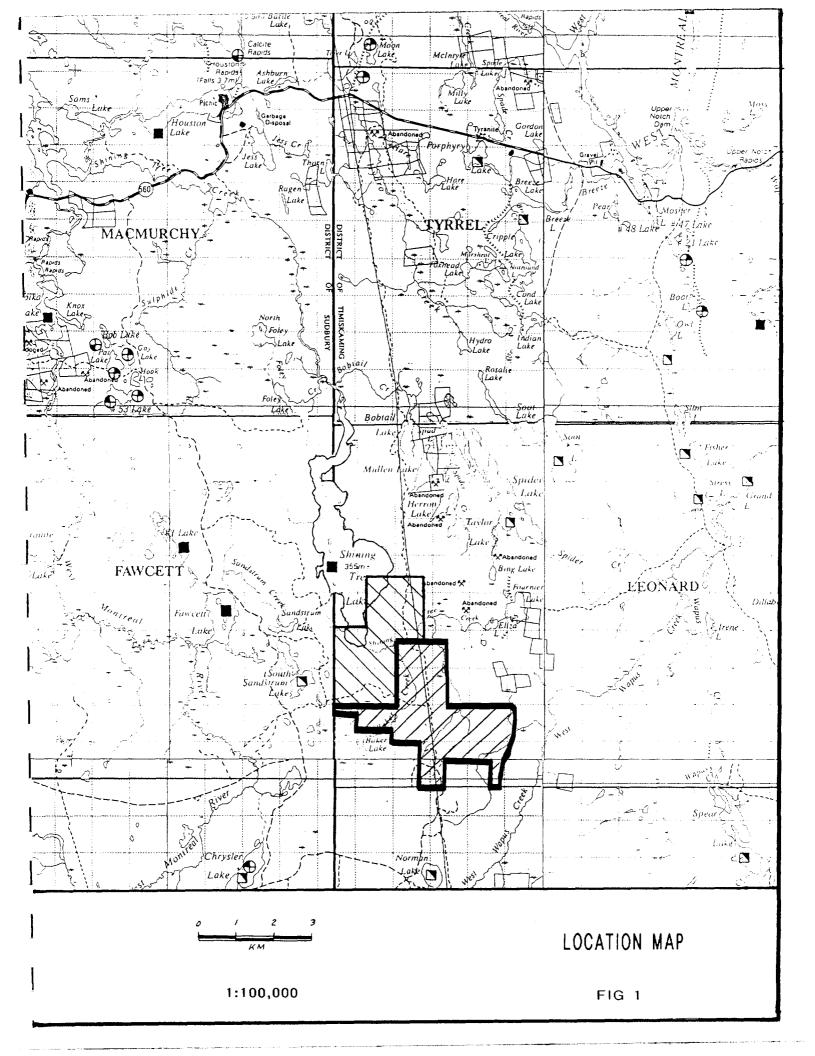
Geology of Fawcett and Leonard Twps.

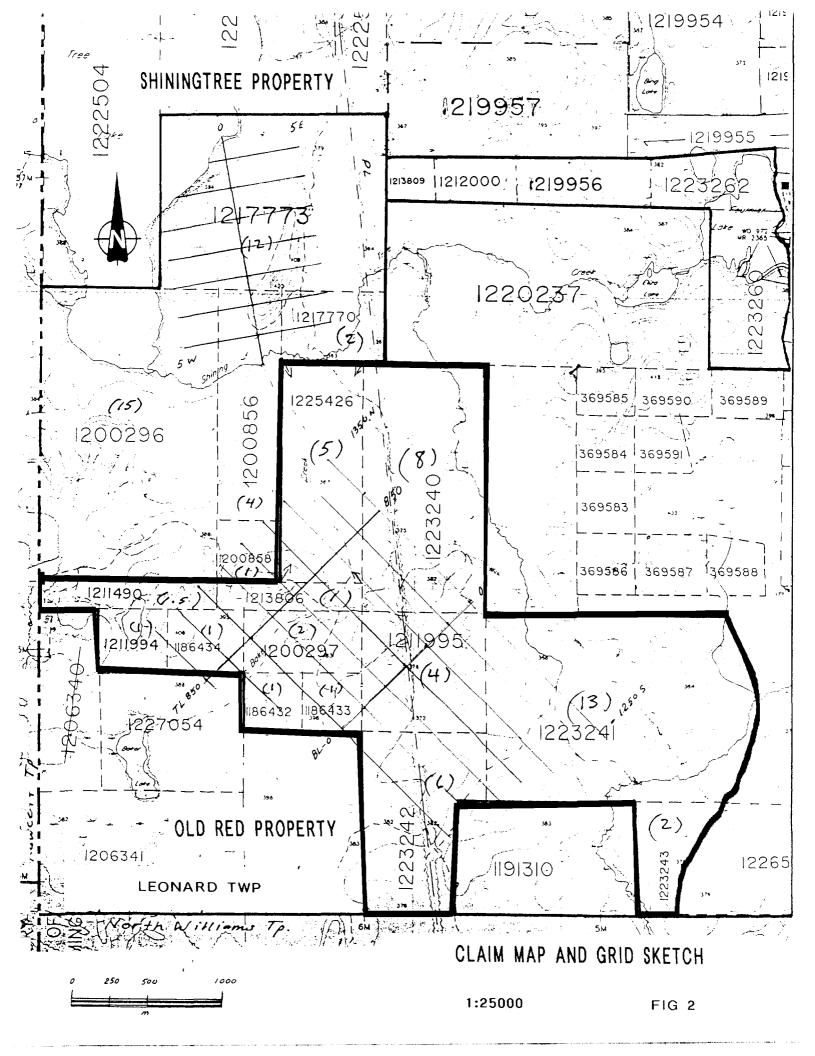
#### **CERTIFICATE OF AUTHOR**

- I, David Laronde of the town of Temagami, Ontario hereby certify:
  - 1. That I am a geology engineering technologist and have been engaged in mineral exploration for the past 19 years.
  - That I am a graduate of Cambrian College in Sudbury with a diploma in Geology Engineering Technology 1979.
  - 3. That my knowledge of the property described herein was acquired by field work and documentation.

Dated at Temagami this 26th day of October 1998.

David Laronde





# GEM SYSTEM GSM-19 WALKING MAG

#### INSTRUMENT SPECIFICATIONS

#### MAGNETOMETER / GRADIOMETER

Resolution:

0.01 nT (gamma), magnetic field and gradient.

Accuracy:

0.2 nT over operating range.

Range:

20,000 to 120,000 nT.

Gradient Tolerance:

Over 10,000 nT/m

Operating interval:

3 seconds minimum, faster optional. Readings initiated from keyboard,

external trigger, or carriage return via RS-232-C.

Input/Output:

6 pin weatherproof connector, RS-232C, and (optional) analog output. 12 V, 200 mA peak (during polarization), 30 mA standby. 300mA peak

Power Requirements:

in gradiometer mode.

Power Source:

Internal 12 V, 2.6 Ah sealed lead-acid battery standard, others op-

tional. An External 12V power source can also be used.

Battery Charger:

Input: 110 VAC, 60 Hz. Optional 110/220 VAC, 50/60 Hz.

Output: dual level charging.

Operating Ranges:

Temperature: -40 °C to +60 °C.

Battery Voltage: 10.0 V minimum to 15V maximum. Humidity: up to 90% relative, non condensing.

Storage Temperature:

-50°C to +65°C

Display:

LCD: 240 x 64 pixels, or 8 x 30 characters. Built in heater for opera-

tion below -20°C

Dimensions:

Console: 223 x 69 x 240mm. Sensor staff: 4 x 450mm sections.

Sensor: 170 x 71mm dia.

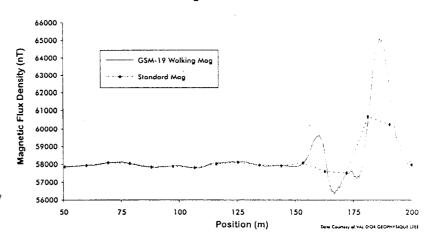
Weight: Console 2.1kg, Staff 0.9kg, Sensors 1.1kg each.

# "Walking" Magnetometer / Gradiometer

GEM Systems pioneered the GSM-19's innovative "Walking" option that enables acquisition of nearly continuous data on survey lines. Similar to an airborne survey in principle, data is recorded at discrete time intervals (up to 2 readings per second) as the instrument travels along the line. At each major survey picket (fiducial), the operator touches a designated key. The Walking Mag automatically assigns a linearly interpolated coordinate to all intervening readings.

A main benefit of the Walking option is that the high sample density improves definition of geologic structures. And because the operator can record data on a near-continuous basis, the Walking Mag increases survey efficiency and minimizes field expenditures -- especially for highly detailed ground-based surveys.

# Near-Continuous Surveys Improve Definition of Magnetic Anomalies



As shown above, near-continuous measurements increase definition. Results from a GSM-19 "Walking Mag" (273 readings over 150 m with 2 sec. cycle time) were compared with results from a standard magnetometer (13 readings over 150m).

## VLF-EM GEONICS

#### EM16 SPECIFICATIONS

MEASURED QUANTITY Inphase and quad-phase components

of vertical magnetic field as a percentage of horizontal primary field. (i.e. tangent of the tilt

angle and ellipticity).

SENSITIVITY Inphase: ±150%

Quad-phase: ± 40%

RESOLUTION ±1%

OUTPUT Nulling by audio tone. Inphase indication from mechanical inclinometer

and quadphase from a graduated dial.

OPERATING FREQUENCY 15-25 kHz (15-30 kHz optional) VLF

Radio Band. Station selection done by

means of plug-in units.

OPERATOR CONTROLS ON/OFF switch, battery test push

button, station selector switch,

audio volume control, quadrature dial,

inclinometer.

POWER SUPPLY 6 disposable 'AA' cells.

DIMENSIONS 53 x 21.5 x 28 cm

WEIGHT Instrument: 1.8 kg

Shipping: 8.35 kg

#### CAUTION:

EM16 inclinometer may be damaged by exposure to temperatures below -30°c. Warranty does not cover inclinometers damaged by such exposure.



41P11SE2010 2.18996

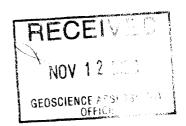
LEONARD

020



# GROUND GEOPHYSICAL SURVEYS Shining Tree Property OroGrande Resources Inc. Leonard Township

Oct. 1998



NTS 41 P/11

#### TABLE OF CONTENTS

1.0	Introduction
2.0	Property
3.0	Location and Access
4.0	Magnetometer Survey
	4.1 Instrumentation
	4.2 Survey Results
5.0	VLF-EM Survey
	5.1 Instrumentation
	5.2 Survey Results
6.0	Conclusions and Recommendations

## **LIST OF FIGURES**

Figure 1	Location Map									
Figure 2	Claim Map and Grid Sketch									

## LIST OF MAPS

Total Field Magnetics - contour map

VLF Profiles map - NAA Cutler, Maine



41P11SE2010 2.18996

LEONARD

020C

#### 1.0 \_\_ INTRODUCTION:

At the request of Guillermo Salazaar, a program of linecutting and geophysical surveys was carried out from September 24 to October 25, 1998 on the Shining Tree Property held by OroGrande Resources Inc. Suite 926, 1122 Fourth St. SW, Calgary, Alberta T2R 1M1. The geophysical work was executed by Robert Sanderson and Real Gauthier of Meegwich Consultants Inc. P.O. Box 482, Temagami, Ontario POH 2HO. David Laronde supervised the work and is the author of this report. Total field magnetometer and VLF-EM surveying was done on both grids.

Linecutting: A total of 8.155 km of linecutting was done by McBride Linecutting. 6.600 km of crosslines was cut from 1.555 km of chain sawed baselines running at an azimuth of 170 degrees.

#### **2.0 PROPERTY:**

The property consists of a group of 5 contiguous mining claims situated in the southwest corner of Leonard Tp. in the Larder Lake Mining Division. The total area of the property is 544 hectares (34 claim units). The claims are numbered as follows:

1200296	15 units	1217773	12 units
1217770	2 units	1200858	1 unit
1200856	4 units		

**Topography:** The terrain is typically rugged and well drained. A prominent ridge runs down the east side of the grid.

#### 3.0 LOCATION AND ACCESS:

As the crow flies the property is located 25 km southwest of the hamlet of Gowganda which is 75 km southwest of the town of Kirkland Lake, Ontario. The claims are accessible by first taking Hwy 560 to a point some 38 km west of Gowganda. From this location further access to the claim group is via logging roads which wind southward onto the claims. Further access is provided by the Ontario Hydro powerline service road. There is also boat access from East Shining Tree Lake.

#### **4.0** MAGNETOMETER SURVEY:

A total of 8.155 km was surveyed (652 readings) at 12.5 meter stations on lines spaced at 200 meters.

4.1 Instrumentation: A GEM Systems GSM 19 Overhauser

Magnetometer, Serial no. 58479 was used for the survey. A base station was set up on the property to monitor and correct for the diurnal variation during the course of the survey. These instruments are micro-processor based and measure the earth's total magnetic field to an accuracy of one-tenth of a gamma.

4.2 Survey Results: The results are presented in contour form on plans at 1:5000 scale.

The west half of the grid is relatively flat (350-450 gammas) with an isolated high at the west end of L 12 N.

The east half of the grid contains several highs and lows (di-polar responses) that together may represent one rock type with concentrations of highly magnetic mineral. The rock unit trends at 10 degrees and is not fully covered to the east. A narrow low spans from L 10 N at 475 E to L 2 N at 340 E.

A narrow linear response (dike) spans L 4 N to 14 N just east of the baseline. The trend of this feature is due north.

#### 5.0 VLF-EM Survey:

A total of 8.155 km was surveyed for a total of 326 readings taken at 25 meter stations on lines spaced at 200 meters. All readings were taken while facing north.

- 5.1 Instrumentation: A Geonics EM-16 VLF-EM receiver (Ser. No. 8404014) was used for the survey. The in-phase and quadrature components were recorded using VLF transmitting station. Cutler, Maine NAA transmitting at 24.0 kHz. The measured quantities are the in-phase and quadrature components of the vertical magnetic field measured as a percentage of horizontal primary field (read to a resolution of +/- 1%).
- 5.2 Survey Results: The results of the survey are presented in profile form on plans at 1:5000 scale.

Note: Because of the high frequencies used, VLF surveys tend to pick up topographic and geological noise (overburden filled depressions) as well as prospective mineralized horizons.

The survey picked up seven conductive horizons that are weak and relatively short in strike length. Characteristics of each are as follows:

Conductor	Strength	Length (m)	Probable source	Magnetic Assoc.
Α	moderate	?	metallic	not apparent
В	weak-mod.	400+	topo/fault/metallic	possible
C	weak-mod.	?	topo/metallic	no
D	weak	?	?	yes
E	weak	100	resistivity shift	no
F	weak	100	topo/metallic	no
G	weak	100	metallic?	Yes

#### <u>6.0</u> <u>CONCLUSIONS AND RECOMMENDATIONS:</u>

This phase of work has outlined geologic contacts in the magnetometer survey. The east side of the grid contains an area of highs that indicate a rock unit containing concentrations of magnetic mineral(s). This rock unit has the appearance of Nipissing gabbro. The north part of the grid is also appears to be gabbroic. The intensity of the highs and di-polar responses are interesting and might indicate the presence of mineralization other than magnetite. The quiet magnetic background to the west side of the grid is likely due to the underlying sedimentary geology.

The VLF-EM anomalies are for the most part poor conductors that might be indicating poorly connected metallic grains (disseminated or stringer

mineralization). The conductors remain intriguing because disseminated mineralization is a poor conductor and there is magnetic association to varying degrees. Due to the nature of the VLF-EM instrumentation the results are indicative of mineralization but not conclusive enough for drilling. A superior EM system or I.P. is needed further test the conductors and define the geometry of drill targets.

#### Follow-up work:

HLEM and/or I.P. coverage is recommended as a next phase before drilling. The VLF-EM survey is not conclusive enough on its own and a deeper penetrating geophysical tool is a logical choice.

Follow-up work should consist of extending the lines to the east property boundary to cover the massive magnetic feature. Line spacing should be reduced to 100 meters.

## References

Ontario Geological Survey Map 2362 Geological Compilation Series

Timmins-Kirkland Lake 1 inch to 4 miles

M.W. Carter 1977 Geoscience Report 146 - Geology of Fawcett

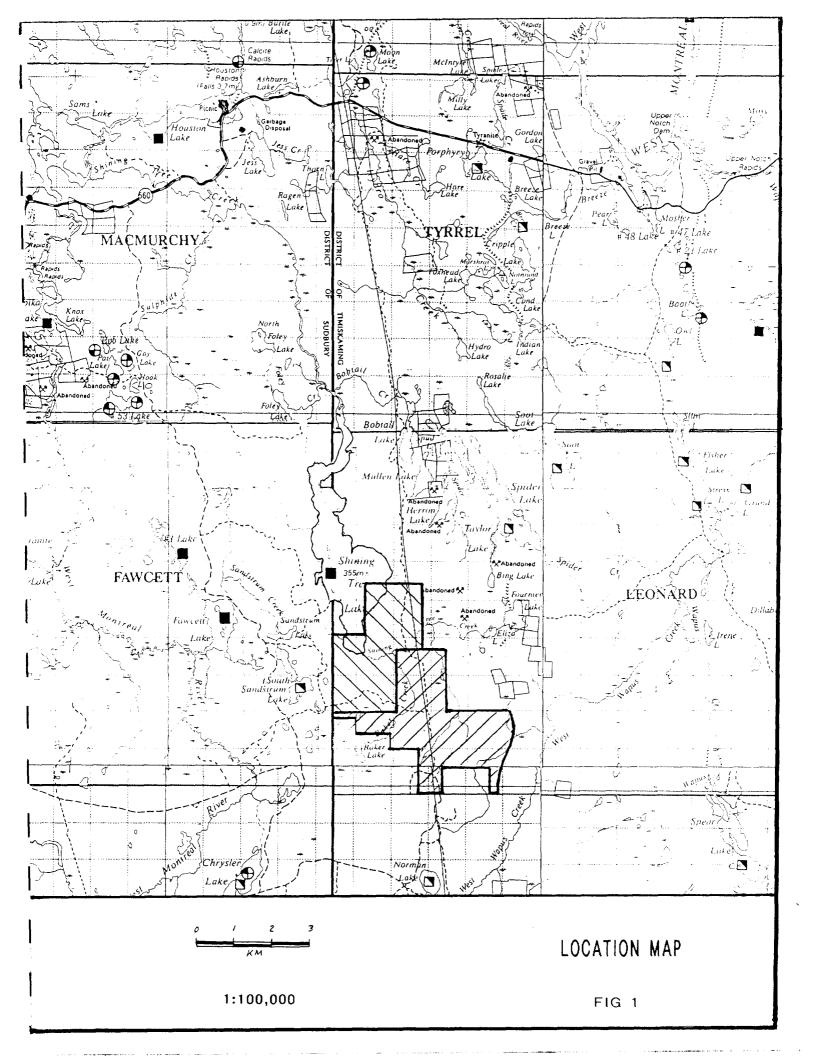
and Leonard Twps. ODM

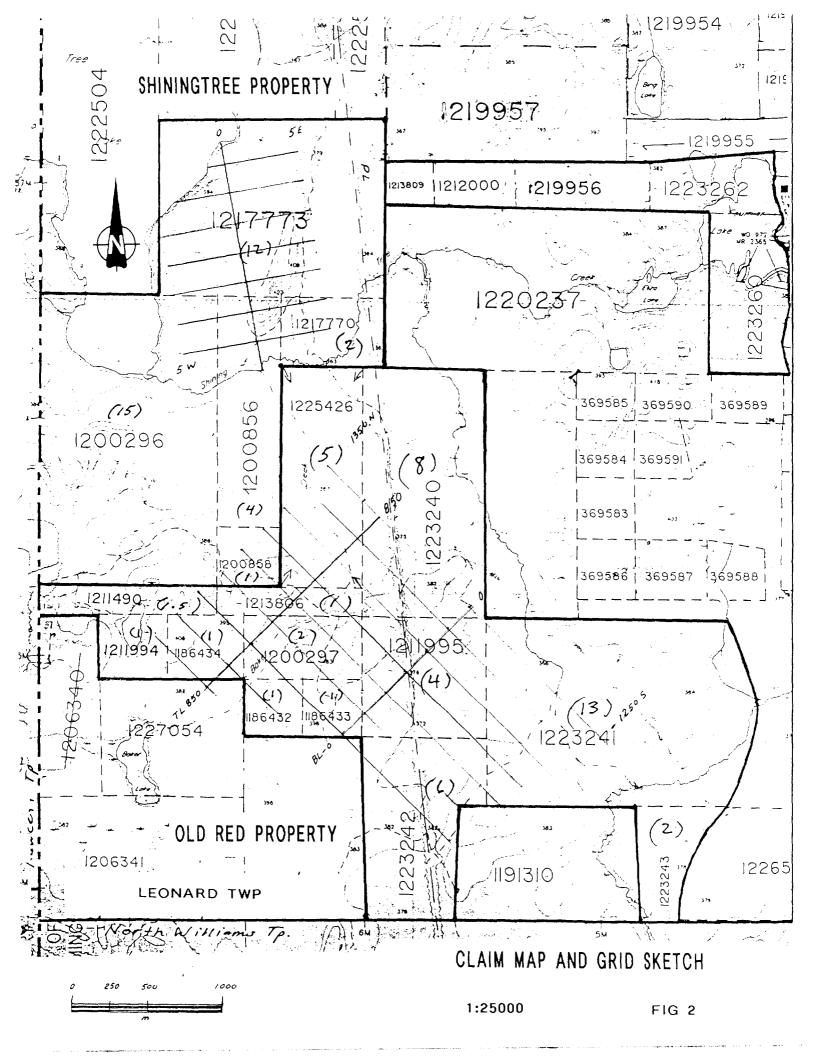
#### CERTIFICATE OF AUTHOR

- I, David Laronde of the town of Temagami, Ontario hereby certify:
  - 1. That I am a geology engineering technologist and have been engaged in mineral exploration for the past 19 years.
  - That I am a graduate of Cambrian College in Sudbury with a diploma in Geology Engineering Technology 1979.
  - 3. That my knowledge of the property described herein was acquired by field work and documentation.

Dated at Temagami this 26th day of October 1998.

David Laronde





## GEM SYSTEM GSM-19 WALKING MAG

#### INSTRUMENT SPECIFICATIONS

#### MAGNETOMETER / GRADIOMETER

Resolution:

0.01 nT (gamma), magnetic field and gradient.

Accuracy:

0.2 nT over operating range.

Range:

20,000 to 120,000 nT.

Gradient Tolerance:

Over 10,000 nT/m

Operating interval:

3 seconds minimum, faster optional. Readings initiated from keyboard,

external trigger, or carriage return via RS-232-C.

Input/Output:

6 pin weatherproof connector, RS-232C, and (optional) analog output. 12 V, 200 mA peak (during polarization), 30 mA standby. 300mA peak

Power Requirements:

in gradiometer mode.

Power Source:

Internal 12 V, 2.6 Ah sealed lead-acid battery standard, others op-

tional. An External 12V power source can also be used.

Battery Charger:

Input: 110 VAC, 60 Hz. Optional 110/220 VAC, 50/60 Hz.

Output: dual level charging.

Operating Ranges:

Temperature: -40 °C to +60 °C.

Battery Voltage: 10.0 V minimum to 15V maximum. Humidity: up to 90% relative, non condensing.

Storage Temperature:

-50°C to +65°C

Display:

LCD: 240 x 64 pixels, or 8 x 30 characters. Built in heater for opera-

tion below -20°C

Dimensions:

Console: 223 x 69 x 240mm. Sensor staff: 4 x 450mm sections.

Sensor: 170 x 71mm dia.

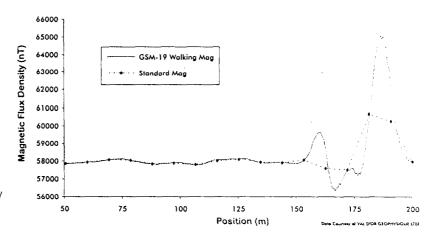
Weight: Console 2.1kg, Staff 0.9kg, Sensors 1.1kg each.

# "Walking" Magnetometer / Gradiometer

GEM Systems pioneered the GSM-19's innovative "Walking" option that enables acquisition of nearly continuous data on survey lines. Similar to an airborne survey in principle, data is recorded at discrete time intervals (up to 2 readings per second) as the instrument travels along the line. At each major survey picket (fiducial), the operator touches a designated key. The Walking Mag automatically assigns a linearly interpolated coordinate to all intervening readings.

A main benefit of the Walking option is that the high sample density improves definition of geologic structures. And because the operator can record data on a near-continuous basis, the Walking Mag increases survey efficiency and minimizes field expenditures -- especially for highly detailed ground-based surveys.

# Near-Continuous Surveys Improve Definition of Magnetic Anomalies



As shown above, near-continuous measurements increase definition. Results from a GSM-19 "Walking Mag" (273 readings over 150 m with 2 sec. cycle time) were compared with results from a standard magnetometer (13 readings over 150m).

## VLF-EM GEONICS

#### EM16 SPECIFICATIONS

MEASURED QUANTITY Inphase and quad-phase components

of vertical magnetic field as a percentage of horizontal primary field. (i.e. tangent of the tilt

angle and ellipticity).

SENSITIVITY Inphase: ±150%

Quad-phase: ± 40%

RESOLUTION ±1%

OUTPUT Nulling by audio tone. Inphase indication from mechanical inclinometer

and quadphase from a graduated dial.

OPERATING FREQUENCY 15-25 kHz (15-30 kHz optional) VLF

Radio Band. Station selection done by

means of plug-in units.

OPERATOR CONTROLS ON/OFF switch, battery test push

button, station selector switch,

audio volume control, quadrature dial,

inclinometer.

POWER SUPPLY 6 disposable 'AA' cells.

DIMENSIONS 53 x 21.5 x 28 cm

WEIGHT Instrument: 1.8 kg

Shipping: 8.35 kg

## CAUTION:

EM16 inclinometer may be damaged by exposure to temperatures below -30°c. Warranty does not cover inclinometers damaged by such exposure.



1P11SE2010 2.18996

030

#### OROGRANDE RESOURCES

# Property Examinations Shining Tree and Old Red Projects

#### Introduction

At the request of Guillermo Salazar, president of Orogrande Resources, site examinations were undertaken of the Shining Tree and Old Red properties. Samples were obtained for analytical analysis, and a cursory examination in the field was done, as well, available data was reviewed. These site visits were undertaken on two separate occasions; November 10<sup>th</sup>-14<sup>th</sup>, 1997 and September 21<sup>st</sup>-24<sup>th</sup>, 1998.

#### Old Red Project

The Old Red project is located in the southwest quadrant of Leonard Township and is comprised of 14 claims totaling approximately 41 units. The project includes two separate showings, a) the Shear Zone showing located on claim 1186434: b) the Sliver-Cobalt showing located on claim 1200297.

#### Shear Zone Showing

This showing was initially sampled on November 12<sup>th</sup>, and samples 279079 to 279084 were collected from trenches and pits (see included sketch map) excavated over an area of 60 x 20 meters. The rocks have been intensely altered through a process of silicification and sericitization, making it difficult to determine the protolith, but in the immediate vicinity mafic flows were observed. No sulphides were noted, however, rusty weathering occurs within a 2-meter wide shear zone, possibly the result of the breakdown of iron carbonate. The samples did not return any anomalous precious or basemetal values. There appears to be a slight potassium enrichment, also manifest as intense sericitization, possibly indicating that a hydrothermal system may have been active.

In September of 1998, the Shear Zone showing was revisited and seven channel samples were cut from the vicinity of the most intense shearing (see sketch map). These samples did not return any significant results

#### Silver-Cobalt Showing

This showing is exposed in a stripped knob 65 meters long by 25 meters wide. The majority of the outcrop is Nipissing gabbro with a northeast trending, southerly dipping (60°) contact with Lorrain Formation conglomerate at the southeastern edge of the exposure. Three northeast trending trenches were blasted into the rock.

#### Trench "A"

This trench is approximately 8 meters long and was reported to have exposed a quartz-carbonate vein heavily mineralized with native silver. Grab sample 279072 was taken from the rubble pile (see included sketch), containing quartz-carbonate material with erythrite along a fracture plane. The sample yielded 1365ppm Co and no Ag.

#### Trench "B"

This trench is also trending northeast and is excavated over a 13-meter length. Four grab samples were collected from this trench, 279073-279076. Sample 279073 was quartz-carbonate vein material with erythrite along a fracture plane. It returned 945ppm Co. Sample 279074 was taken from the trench wall. It included heavily fractured gabbro, strongly mineralized with erythrite. It assayed 1820ppm Co. Sample 279075 was taken from the bottom of the trench. It consisted of quartz-carbonate vein material, heavily mineralized with erythrite, and ran 2130ppm Co. Sample 279076 was taken from the wall of the trench and was essentially composed of gabbro. As expected, no significant results were obtained from this sample.

Sample 279077 was taken from the trench that exposed the contact mentioned earlier. No mineralization was observed within the gabbro, and the hematized Lorrain conglomerate was sampled, no significant results were obtained.

### Shining Tree Project

This property is also located in the southwest quadrant of Leonard Township and is comprised of four claims totaling 33 units.

The claims are shown (on OGS map 2359) to be underlain by Cobalt group, Lorrain Formation arkose which has been intruded by a north-south elongated lobe of Nipissing gabbro. The claims were staked on the basis of an elliptical shaped magnetic high centered on claim 1217773, located on the southeast shore of Shining Tree Lake. An "L" shaped trench approximately 30 meters long was excavated to bedrock and apparently revealed a gabbro mineralized with 5% po, within a north-south trending shear. The sides of the trench had slumped-in and the samples obtained were from the rubble pile at the southern edge of the trench. Grab samples 279085 and 279086 were collected from this pile. Sample 279085 was of a hematized gabbro containing trace sulphides. It was weakly anomalous in Cu, Pb and Zn, returning values of 100ppm, 720ppm and 830ppm respectively. Sample 279086 contained 5% po and assayed 50ppm Cu, 700ppm Pb, and 5900ppm Zn. Both samples are also high in Fe, possibly reflecting the presence of magnetite.

The geochemical results with the high Pb and Zn are not what one would expect in a gabbro. The presence of a north-south shear may explain the occurrence of Pb and Zn via an active hydrothermal system concomitant with shearing.

Of interest is, the gabbro lies 4000 meters east of a northwest trending linear of peridotite that is host to Cu and Au showings in the area. Currently, it is being explored by INCO west of Shining Tree Lake, known as the Fort Knox property.

#### RECOMMENDATIONS

#### Old Red Project

#### Silver-Cobalt Showing

It has been reported that native silver occurs in quartz-carbonate veins within the Nipissing gabbro. Mr. Lacarte has received assays of 30 oz/t Ag, after removing the native silver from the sample. However, as is typical with this style of mineralization, it tends to be high grade, erratic and of limited extent.

Nevertheless, it appears that a strong vein system exists. The area requires more stripping along strike of the veins, as well as, to the east and west to determine if subparallel veins occur. The exposed knob may then warrant the extraction of a bulk sample.

#### Shear Zone

The area of the shear zone requires detailed mapping to correlate it with the recent geophysical results.

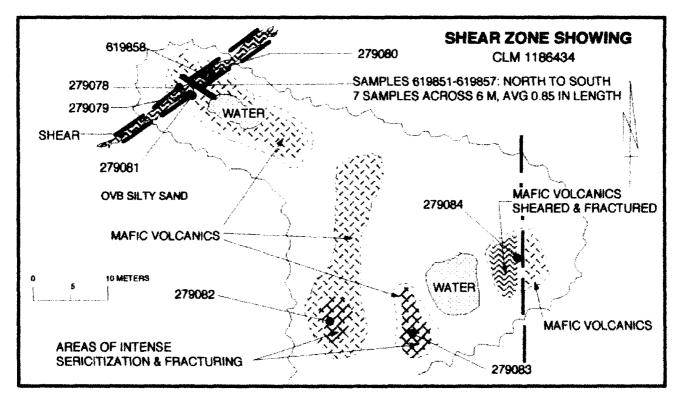
## Shining Tree Project

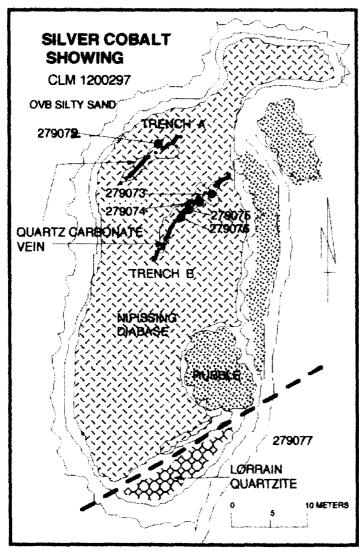
Mapping of the area is required, with a follow-up program of trenching and sampling to determine the extent of the mineralized shear within the gabbro.

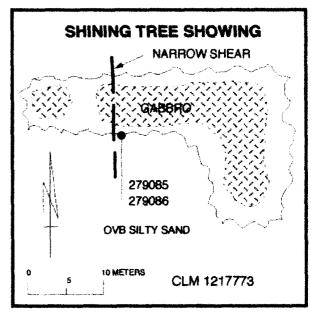
November 8th, 1998 Walter Hanych

Coalter Itmah

3





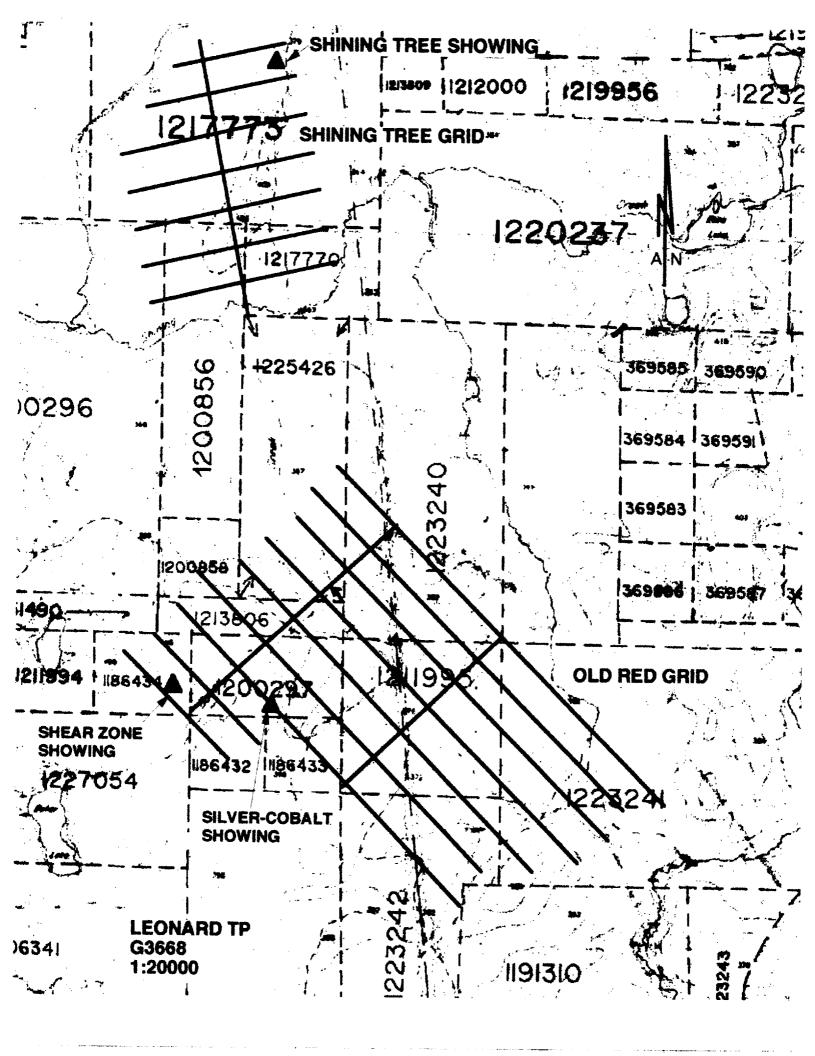


## **OROGRANDE RESOURCES**

# OLD RED - SHINING TREE PROJECTS

SCALE ALL DRAWINGS 1: 1000

WALTER HANYCH NOV, 98





# Chemex Labs Ltd.

Analytical Chemists \* Geochamists \* Registered Assavers

5175 Timberies Blvd.,

Mississauga L4W 293 Ontario, Cenada L4W 293 PHONE: 905-624-2806 FAX: 905-624-6163

925 - 1122 4TH ST. S.W. CALGARY, AB T2R 1M1

To: OROGRANDE RESOURCES INC.

Project: HYDRO CREEK Comments: ATTN: GUY SALAZAR

CC: WALTER HANYCH

Page Number: 3-A Total Pages: 1 Certificate Date: 23-C Invoice No.: 198: P.O. Number: Account NUV

PREP Au ppb Pt ppb Pd ppb Ag SAMPLE CODE AFS AFS AFS ppu  519851 295 226 4 5 5 2 5 1 519852 295 226 2 5 6 2 5 1	Al As Ba % ppm ppm 0.50 40 40	bbs bbs ge gr	Ca Cd \$ ppm	bbs bbs co cr	Cu pps	Fe Ng	K Hg
19852 285 226 8 (5 (2 (1						- 55	, ,
19854 205 226 6 (5 (2 (1 19855 286 18 (5 (2 (1	0.50 10 40 0.55 < 10 40 0.54 < 10 40 0.62 < 10 60	<pre></pre>	0.38 ( 5 0.06 ( 5 0.08 ( 5 0.07 ( 5 0.10 ( 5	\$ 50 \$ 5 40 \$ 5 60 \$ 5 40 \$ 5 50	15 0. 20 0. 10 0.	.14 ( 10 .12 ( 10 .22 ( 10 .14 ( 10 .17 ( 10	9.36 8.03 0.38 0.03 0.40 0.94 0.40 0.93 0.43 0.94
19856 205 226 2 (5 (2 (1 19857 205 226 2 (5 (2 (1 19858 205 226 12 5 (2 (1	0.61 10 40 0.53 10 40 0.67 10 < 20	( \$ < 10 ( 5 < 10 ( 5 < 10	9.08 < 5 9.06 < 5 9.25 < 5	<pre></pre>	15 0.	.52 (10 .31 (10 .27 (10	0.33 0.11 0.37 0.05 0.07 0.21

CERTIFICATION: Hart willen



SAMPLE

519831

519852

619853

**519854** 

**\$19655** 

519956

E19857

E19858

# Chemex Labs Ltd.

HT

< 5

25

Analytical Chemists \* Geochamists \* Registered Assayers

5175 Timberies Blvd.,

3a

•

0.03

0.03

0.04

0.04

0.03

9.64

0.03

4.10

No

ppe

5

5

5

5

( 5

10

5

PREP

CODE

265 226

205 226

205 226

205 226

205 226

205 226

205 236

205 226

Mississauga L4W 283 Ontario, Canada L4W 283 PHONE: 908-624-2808 FAX: 905-624-8183

P

PP4

100

400

< 5 < 100

< 5 < 100

< 5 < 100

< 5 ( 100

10 < 100

< 5 < 100

Pb

PP

15

5

10

( 5

5

5

< 5

Sb

PPR

10

10

10

20

10

10

20

< 10

\$e

ppu

< 5

( 5

₹ 5

( 3

( 5

< 5

( 5

( 5

To: OROGRANDE RESOURCES INC.

926 - 1122 4TH ST. S.W. CALGARY, AB

(5 ( 0.01 ( 20 ( 20

5 < 0.01 < 20 < 20 < 20

HYDRO CREEK Project: Comments: ATTN: GUY SALAZAR

CC: WALTER HANYOH

5

Page Number: 1-8 Total Pages: 1 Certificate Date: 23-4 Involce No.: 198-P.O. Number: Account :NJV

					C	EF	1	nF	C	A'	FE	0	F	AN	Al	١.	1818	}	A9833582
1	S	T C			Ti 1		1	Ti Pa		PP	U	ı	V ppm		) ppu		1. PP	_	
-							-			-	*****	-		-		-	-		
	(	5	<	٥.	61		€	26	•	2	0	€	20	€	24	ŀ		3	
	(	5	<	٥.	01		¢	20	•	. 2	0	- ∢	30	<	20	}	(	5	
		5	<	0.	01		•	20	•	2	9	4	20	(	26	,		5	
	Č	3	<	6.	61		ŧ	20	4	2	0	<	20	₹	21	•	•	5	
		_		0.				30	•	3	0	(	20	<	20	)	•	5	
	<del>-</del>	5	₹	0.	01	-	•	20	-	3	0		20	(	20	,	1	5	

( 20

< 20

( 20

CERTIFICATION:\_



ALTO LE

PART

CODE

# **Chemex Labs Ltd.**

Analytical Chemists ' Geochemists ' Registered Assayers

212 Brooksbank Ave. North Vencouver Brillsh Columbia, Canade PHONE: 604-984-0221 FAX: 604-984-0218

NJ8

DDB

11

\*

ls.

ppm

Be

ppm

Au ppb Pt ppb Pd ppb

AVS ATE

To. OROGRANDE RESOURCES INC.

926 - 1122 4TH ST. S.W. CALGARY, AB 12R 1M1

Project :

Comments: ATTN: GILL SALAZAR

Page Number: 1-7
Total Pages: 1
Carificate Data: 27
Invoice No. : 19
P.O. Number: MK
Account: NJ

	CEI	RTIF	CATE	OF A	NALY	'SIS	Д	97510	73	******************************
3a pps	3i ppa	Ca.	Cđ ppa	Co	Cr ppm	Cu ppm	Fe %	<b>N</b> g	K %	Ng L

279072	205	226		< 2	٠.		εÏ	٠. i	0.47	2040	40	ق	< 10	26.1	٠.	1365	€0	20	1.12	< 10 ·	c 0.01	0.15
279073	205			₹ 2	<		· -		0.26	1400	20	÷ 5	150	13.86	4 5	945	140	45	0.49	< 10	0.01	0.13
779074				_											· · · · · · · · · · · · · · · · · · ·							0.74
		226		< 2	1	•	12	< 1	1.34	2620	< 30	< >	< 10	6.45	< 3	1820	200	1.5	2.09	< 10	0.09	
279075	205	226		< 2		•	#	< 1	0.45	3140	< 20	< 5	10	15,65	< 5	2130	130	1.5	0.57	< 10	0.07	0.18
79076	205	226	-	< 2	10	1	-	< 1	2.77	60	20	< 5	< 10	2.96	77.7	55	10	105	5.75	< 10	0.33	2.60
79077	205	226		< 2	< !	5	< 2	< 1	0.40	60	20	< 5	< 10	0.45	4 1	50	190	20	0.52	< 10	0.25	0.05
79070	205			₹ 2			÷ 2		1.17	< 10	80	·	< 10	0.18	4 5	ř	70	25	0.71	< 10	0.60	0.18
79071								` ;				` ?										
	705			< 2	<b>*</b> :	,	< 3	< 1	0.98	< 18	60	< 5	< 10	0.24	< 5	< 5	120	10	9.34	₹ 10	0.59	0.05
179000	205	226	,	< 2	< 1	•	< 3	∢ 1	1.18	< 10	<b>\$</b> 0	< 5	< 10	0.97	< 5	< 5	30	10	0.25	< 10	0.6B	0.06
79081	205	226		< 2	< 5		< 2	< 1	1.44	10	120	< 5	< 10	0.81	< 5	5	110	25	0.69	< 10	0.78	0.16
79082	205			c 2		•	< 2	. 1	1.01	< 10	100	4.5	< 10	0.19	٠,٠	c š	100		0.48	< 10	0.49	0.05
79083	205			. 2			₹ 2		1.20							7.5					0.60	0.15
								4 T		20	60	< 5	< 10	0.07	< 5	< 3	110	4 3	0.71	< 10		
79084	205			۲ 2	< ₹	j	< 2	< 1	1.15	< 10	80	< 5	< 10	0.60	< 5	< 5	100	5.	0.61	< 10	0.56	9.17
79085	205	226	,	4 3	٠.	5	< 3	< 1	3.25	< 10	30	∢ 5	< 10	0.75	< 5	45	30	100	12.00	< 10	0.12	3.61
79006	205	226		< 2	< !		< 2	4.1	3.44	10	< 20	∢ 5	< 10	1.03	20	60	40	50	10.50	< 10	0.05	3.49



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: OROGRANDE RESOURCES INC.

926 - 1122 4TH ST. S.W. CALGARY, AB T2R 1M1

Project:

Comments: ATTN: GILL SALAZAR

Page Number : 1-B Total Pages : 1 Certificate Date: 27-h Invoice No. : 197! P.O. Number : MCI Account : NJW

										CE	RTIF	CATE	OF A	NAL	/SIS	A9751073
Sample	PREP CODE	Mo pp≇	Na t	Ni ppm	p ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	b <b>u</b> dd A	pps.	Zn P <b>pa</b>	Po.

279072	205 22	6	5	0.06	205	< 100	35	< 10	25	45 0.	03	< 20	< 20	100	< 20	20	
279073	205 22	6	5	0.12	215	100	140	< 10	15	30 0.	08	< 20	< 20	100	< 20	20	
279074	205, 22		< 5	0.23	300	200	75	< 10	20			< 20	< 20	260	< 20	25	
279075	205 22		15	-	320	300	15	< 10	20			< 20	< 20	120	< 20	20	
279076	205 22	6	< 5	0.21	70	300	8.0	< 10	15	25 0.	23	< 20	< 20	180	< 20	170	. ywyta t
279077	205 22	6	< 5	0.13	25	< 100	10	< 10	< 5	< 5 < 0.	01	< 20	< 20	< 20	< 20	5	
279078	205 22	6	5	0.11	15	< 100	< 5	< 10	< 5	< 5 < 0.	01	< 20	< 20	< 20	< 20	10	
279079	205 22	6	< 5	0.04	< 5	< 100	20	< 10	< 5	5 < 0.	01	< 20	4 20	< 20	< 20	5	
279080	205 22	6	< 5	0.06	5	< 100	< 5	< 10	< 5	< 5 < 0,	01	< 20	< 20	< 20	< 20	< 5	
279081	205 22	6	< 5	0.05	20	100	< 5	< 10	< 5	5 < 0.	01	< 20	< 20	< 20	< 20	5	
279082	205 22	6	< 5	0.20	< 5	< 100	< 5	< 10	< 5	< 5 < 0.	01	< 20	< 20	< 20	< 20	5	
279083	205 22	6	< 5	0.11	< 5	< 100	< 5	< 10	< 5	< 5 < 0.	01	< 20	< 20	< 20	< 20	5	
279084	205 22	6	< 5	0.13	5	< 100	< 5	< 10	< 5	5 < 0.	01	< 20	< 20	< 20	< 20	20	
279085	205 22	6	< 5	0.09	30	700	720	< 10	15	5 0.	64	< 20	< 20	360	< 20	830	
279086	205 22	6	< \$	0.08	25	1000	700	< 10	25	5 0.	40	< 20	< 20	140	< 20	5900	.,



## **Declaration of Assessment Work** Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use) W9880. DO696 Assessment Files Research Imaging

Duned Feb. 10/1999

41P11SE2010 2.18996 LEONARD

900

section 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, isment work and correspond with the mining land holder. Questions about this em Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury,

NOV 12 1000

GEOSCIENCE ASSESSMENT OFFICE

Instructions: - For work performed - Please type or print		e form 0240.
1. Recorded holder(s) (Attach a	list if necessary)	
Name OROGRANDE RE	SOURCES INC.	Client Number
Address	22 4th ST. S.W.	Telephone Number 403. 233 296
	Tar-Imi	Fax Number 403 - 2004 - 0057 -
Name		Client Number
Address		Telephone Number
		Fax Number
Geotechnical: prospecting, s	• • • • • • • • • • • • • • • • • • • •	ping, Rehabilitation
assays and work under section Work Type GRD CONSTRUCTION		ated assays :. Office Use
GED SIMPLIN	G., MAPPING.	Commodity
		Total \$ Value of Work Claimed 19, 230
Dates Work From Performed Page Day 22   Month 09	TO   Day   5   Month   0   Year   198	NTS Reference
Global Positioning System Data (if available)	Township/Area LEDNAICO	Mining Division KLK-harder LK
	M or G-Plan Number 6. 36068.	Resident Geologist District Kirkland Lake
- provide pro - complete a - provide a n	ork permit from the Ministry of Natural Resource oper notice to surface rights holders before start and attach a Statement of Costs, form 0212; map showing contiguous mining lands that are lescopies of your technical report.	ting work;
3. Person or companies who p	repared the technical report (Attach a list if	necessary)
Name PAUID LARONDI		Telephone Number 705, 509, 2904
Address Pu Box 432, TEI		Fax Number 705 · 569 · 2817
Name WALTER HAND		Telephone Number 705, 445, 0440
Address	COLLING WOOD, ON LAY-4E8.	Fax Number 705 · 445 · 10440 .
Name	COCHWITTON JOIN BIT 428	Telephone Number
Address		Fax Number
	•	personal knowledge of the facts set forth in witnessed the same during or after its
Signature of Recorbed Holder or Age	th.	Date New 6/96.
Agent's Address	19 WUZD, ON. Telephone Nym	
0241 (03/97)		RECEIVED

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

W980.00696

Mining Claim Number. Or if Number of Claim Value of work Value of work Value of work Bank. Value of work Bank. Value of work Units. For other mining land, list hectares. performed on this claim or other work was done on other eligible mining land, show in this column the location number applied to this assigned to other to be distributed claim. mining claims. at a future date mining land.

indica	ited on the claim map.					
g	TB 7827	16 ha	\$26,825	NA	\$24,000	\$2,825
9	1234567	12	0	\$24,000	0	0
g	1234568	2	\$ 8,892	\$ 4,000	0	\$4,892
	1217773	Ы	3,295	4800	0	
	1200856	4	924	1,600	0	
	1217770	à	616	1,200	Ŋ	
	1225426	5	918	0	918	
	1293240	8	1326	3,200	0	
	1213806		714	0	714	·
	1186434	1	3673	0	3,043	30
	1200 297	<u> </u>	2154	0	2.154	
	1186432	1	204	0	a04	•
0	1186433		306	0	306	
1	1211995	4	2448	0	2,448	
2	1233241	13	1734	4.800	0	
3	1223242	6	918	2,400	0	
4	1200858	11	0	400	0	
5	1293943	a	0	800	0	
	Column Totals		\$4,230	19.800	10,387	30
whe	rection 7 (1) of the Assessment the work was done.	nent Work Regulation	on 6/96 for assignr	ment to contiguous o		on to the claim
	Instruction for cutting bathe of the credits claimed in tritize the deletion of credits:	his declaration may	be cut back. Plea	se check (✓) in the	boxes below to show	how you wish to
				s listed last, working	3 or 4 as indicated.	
			•	listed in this declara		
	☐ 4. Credits are	to be cut back as p	rioritized on the at	tached appendix or	as follows (describe):	
lote	e: If you have not indicated followed by option number		e to be deleted, cr	edits will be cut back	k from the Bank first,	·
-or	Office Use Only					
	eived Stamp	<del></del>	Deen	ned Approved Date	Date Notificati	on Sent
			Date	Approved	Total Value of	Credit Approved
			Appr	oved for Recording by Mi	ning Recorder (Signature)	

For Office Use Only		
Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
0241 (03/97)	Approved for Recording by Minis	ng Recorder (Signature)

NOV 1 2 1000 GEOSCIENCE ASSESSMENT OFFICE Ministry of Northern Development and Mines

### **Statement of Costs** for Assessment Credit

Transaction Number (office use) 9880.

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of Work  Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
LINECUTTING.	a9.2 KILOMETERS.	\$285/km	\$8312
MAGNETUNETER SURVEY	29.2 km.	\$96/Km	2,884
ULF-EM SURVEY	29.2 KM	\$ 84/km	3,445
REPORT WRITING	4 DAYS	254/DAY	1,015
MAPPING & SAMPLING	a DAYS	321/DAY	642
SECUCIAL SUPERVISION	a DAYS	381/DAY	640
GEU REPORT.	1 DAY	321/DAY	381
Associated Costs (e.g. supplies,	mobilization and demobilization).		
ROCK SAW BENTAL		\$ 49 / DAY	\$96
	PLES FAJAA + ICP	\$ 051/SAMPLE	\$435
7 SAM	PLES FA/AA.	\$ 18/ SAMPLE	\$ 126
TRAVEL 4 PAYS.		\$331/0AY	51284
Transpo	ortation Costs		
TRUCK	8 DAYS.	64 /DAY	\$512.
FUE		\$34 10AY	\$268
Food a	nd Lodging Costs	\$51/DAY	\$308.
		,	
	Total Value o	f Assessment Work	\$19230

#### **Calculations of Filing Discounts:**

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.

If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK

 $\times$  0.50 =

Total \$ value of worked claimed.

### Note:

- Work older than 5 years is not eligible for credit.

- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:			
I, WAVE HAND (please print full name)	1011, do hereby o	certify, that the amounts show	n are as accurate as may
reasonably be determined and	the costs were incurred wh	nile conducting assessment wo	rk on the lands indicated on
the accompanying Declaration	Of Work form as PECEIVER	older agent, or state company position with	signing authority) I am authorized
to make this certification.	NOV 12 (203)	AGENT.	
0212 (02/96)	GEOSCIENCE ASSESSMENT OFFICE	Signature	Date 100.9/98.

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

February 12, 1999

OROGRANDE RESOURCES INC. Suite 926 1122 4th St S.W. CALGARY, ALBERTA T2R-1M1 **Ontario** 

Geoscience Assessment Office 933 Ramsey Lake Road 6th Floor Sudbury, Ontario P3E 6B5

Telephone: (888) 415-9846 Fax: (877) 670-1555

Visit our website at:

www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

Dear Sir or Madam:

Submission Number: 2.18996

**Status** 

Subject: Transaction Number(s): W9880.00696 Deemed Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Steve Beneteau by e-mail at steve.beneteau@ndm.gov.on.ca or by telephone at (705) 670-5855.

Yours sincerely,

ORIGINAL SIGNED BY

Blair Kite

Supervisor, Geoscience Assessment Office

Mining Lands Section

# **Work Report Assessment Results**

**Submission Number:** 

2.18996

Date Correspondence Sent: February 12, 1999

Assessor: Steve Beneteau

**Transaction** 

First Claim

Number

Township(s) / Area(s)

**Status** 

**Approval Date** 

W9880.00696

1217773

**LEONARD** 

Deemed Approval

February 10, 1999

Section:

Number

14 Geophysical MAG

14 Geophysical VLF

12 Geological GEOL

Correspondence to:

Resident Geologist Kirkland Lake, ON

Assessment Files Library

Sudbury, ON

Recorded Holder(s) and/or Agent(s):

OROGRANDE RESOURCES INC.

CALGARY, ALBERTA

ARCHIE ALBANY LACARTE

GOWGANDA, Ontario

ERICH JOSEF KNIES GOWGANDA, ONTARIO

WALTER HANYCH

COLLINGWOOD, ONTARIO

