



ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: Airborne Geophysics Interpretation and Geology

TOTAL COST: \$9327.51

AUTHOR(S): P. Klewchuk, R. Barlow SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): STATEMENT OF WORK EVENT NUMBER(S)/DATE(S):5116347

YEAR OF WORK:2011

PROPERTY NAME: Zinger, Eddy

CLAIM NAME(S) (on which work was done): 516299, 516300, 516301, 516302, 516318, 516291, 516305, 544571, 544573, 544574, 544577, 544580

COMMODITIES SOUGHT: Gold

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

 MINING DIVISION: Ft. Steele

 NTS / BCGS: 82f040/050

 LATITUDE:
 ______'

 LONGITUDE:
 ______'

 UTM Zone:
 11
 EASTING:567000

 NORTHING:5480000

OWNER(S):Spirit Gold Inc

MAILING ADDRESS:1240 1140 West Pender St, Vancouver BC, V6E 4G1

OPERATOR(S) [who paid for the work]:PJX Resources Inc

MAILING ADDRESS:Suite 5600, 100 King Street West, Toronto Ontario, M5X 1C9

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**) Mesoproterozoic Aldridge and Creston Fms; fine grained argillites, siltstones and quartzites cut by major northeast Old Baldy Fault. Widespread pyritic, silicic, sericitic, and carbonate alteration. Gold mineralization occurs in northeast and northwest structures.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping	1:2,500, 500 M x 500 M	544571	\$4900
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne 331.3		516299, 516291,	\$4427.51
line Km, interpretation		544570, 544571	
GEOCHEMICAL (number of sample	es analysed for)		
Soil			
Silt			
Rock			
Other			
DRILLING (total metres, number of	holes, size, storage location)		
Core			
Non-core			
RELATED TECHNICAL			
Sampling / Assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale/area)			
PREPATORY / PHYSICAL			
Line/grid (km)			
Topo/Photogrammetric (scal	le, area)		
Legal Surveys (scale, area)			
Road, local access (km)/trail	I		
Trench (number/metres)			
Underground development (metres)		
Other			
		TOTAL COST	\$9327.51

ASSESSMENT REPORT

BC Geological Survey Assessment Report 32843

On

AIRBORNE GEOPHYSICS INTERPRETATION & GEOLOGY

ZINGER & EDDY Claims

(Purcell Block Claims)

Fort Steele Mining Division, SE B.C.

UTM 567000E 5480000N

TRIM 82F.040, .050

For

PJX Resources Inc.

Suite 5600

100 King Street West

Toronto, Ontario, M5X 1C9

By

Peter Klewchuk, P. Geo.

February, 2012

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Appendix 2. Eddy Airborne Survey and Interpretation	Attached

1.00 INTRODUCTION

1.10 Location and Access

The Zinger and Eddy claim blocks are part of a larger 'Purcell ' block of claims located within southeastern British Columbia between eight and 38 kilometers west of Cranbrook and centered approximately at UTM coordinates 567000E 5480000N (Fig. 1). The large claim block covers parts of the drainages of Weaver Creek, Perry Creek, Angus Creek, Hellroaring Creek and the Goat River. These drainages and their tributaries are readily accessible via a network of forest service roads from Cranbrook.

1.20 Property

The claims which comprise the Purcell block are outlined on Figure 2; most of the claims are owned by Spirit Gold Inc. and under option to PJX Resources Inc. A few of the claims are wholly owned by PJX.

1.30 Physiography

The Purcell Block property area is within the Moyie Range of the Purcell Mountains. Elevations on the property range from about 1060 to 2310 meters and topography varies from gentle and moderate wooded slopes to steep rocky slopes. Forest cover includes mainly pine, fir and larch. Areas within the claim block have been clear-cut logged over the past 35 years or so and are in various stages of regeneration.

1.40 History

Historic prospecting led to early discoveries of gold-bearing quartz veins and later, road building activity related to logging exposed additional gold-bearing quartz veins in a few places. More recently, modern prospecting has led to the discovery of new lode gold occurrences within what is now the Purcell Block property. Within the area of the claims, gold mineralization is known to be associated with felsic intrusions and small felsic and syenite dikes. Gold also occurs within structural sites; in shear zones, fault zones, quartz vein breccias and quartz veins.

The area of the Zinger claims, where ground follow-up of airborne geophysical anomalies occurred in 2011, has been explored for gold since the early 1900's. Several adits and shafts on the old 'Yellow Metal' property, which is now part of the Zinger claims, are described in B.C Ministry of Mines Annual Report for 1916.

More recent lode gold exploration activity started in the early 1980's following a dramatic rise in the price of gold. Numerous claims were staked to cover prospective lode gold sources of known placer streams near Cranbrook, including these parts of Perry Creek and Hellroaring Creek.





In 1985 Partners Oil and Minerals Ltd. took reconnaissance soil samples along the trail above Gold Run Lake and detected significant gold anomalies (Brewer, 1985, A.R. 15,284). In 1987 they conducted grid soil sampling and established the presence of a large and rather strong gold anomaly (Bishop, 1987, A.R. 16,656). Also in the mid 1980's the 'Yellow Metal' prospect was explored using soil geochemistry and ground geophysics and trenching (Mark, 1986, A.R. 15,387).

In 1993 Consolidated Ramrod Gold Corporation staked a large claim block in the area and did soil geochemistry, road building, trenching and diamond drilling. Trenching near the approximate up-slope cut-off of one of the soil anomalies exposed a strong NNE-striking gold-mineralized quartz vein / shear zone system (Klewchuk, 1994, A.R. 23,398).

Between 1997 and 2003 a series of smaller programs employed prospecting, geologic mapping, rock geochemistry and ground geophysics to expand the understanding of the Zinger gold mineralization (eg. Klewchuk, 1998; A.R. 25,634, 2000; A.R 26,216, 2001; A.R. 26,589; 2003; A.R. 27,090 and A.R. 27,242).

In 2003 Chapleau Resources Ltd. optioned the property and completed an extensive program of prospecting, soil and rock geochemistry and 3317.2 meters of diamond drilling in 20 holes (Soloviev, 2004; A.R. 27,340).

In 2009 Ruby Red Resources completed a small program of channel sampling on the Heart Lake prospect (Kraft, 2009, A.R. 31,375).

1.50 Scope of Present Program

In late 2010 and early 2011 a helicopter-borne AeroTEM System Electromagnetic and Magnetic survey was flown over three separate blocks within the larger Purcell Block of mineral claims and included parts of the Zinger and Eddy areas (Klewchuk, 2011, AR 32,078). An interpretation of the geophysical results was made by Roger Barlow of Earthscience Consulting of Thornhill, Ontario, Canada. Detailed geologic mapping was also carried out over 2 areas west of Heart Lake where new soil geochemistry data indicated anomalous gold mineralization.

2.00 REGIONAL GEOLOGY

Mapping by Reesor (1981), Hoy and Diakow (1982), and Hoy (1984) has developed a good understanding of the geology and structure of the Cranbrook area of southeastern British Columbia. This area, which includes the 'Purcell Block' claims, is part of the Purcell Anticlinorium, a geologic sub-province which lies between the Rocky Mountain Thrust and Fold Belt to the east and the Kootenay Arc to the west.

The mesoproterozoic Purcell Supergroup which occurs within the core of the anticlinorium includes up to 11 kilometers of dominantly fine-grained clastic and carbonate rocks.

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The Purcell Block claims are underlain by rocks ranging in age from Precambrian to Cambrian. These include the Aldridge, Creston, Kitchener, Cranbrook and Eager Formations. These formations are comprised of fine-grained clastic sedimentary rocks; the Aldridge Formation is a thick succession of predominantly impure quartzites and siltstones of turbidite affinity; the Creston Formation is a shallower water sequence of cleaner quartzites but with considerable siltstone and argillite; the Kitchener Formation is a sequence of siltstones and dolomitic siltstones; the Cranbrook Formation is characterized by thick, fairly clean white quartzites and the Eager Formation is made up largely of laminated siltstones and argillites with a minor carbonate component. The Aldridge Formation is intruded by a series of gabbro to diorite composition sills and dikes which are called the Moyie intrusions; a few dikes and sills extend into the Creston and Kitchener Formations.

In a broad regional manner, structure of the Cranbrook area is dominated by a series of NNE oriented faults, at least some of which are believed to have been active during sedimentation in the Precambrian and thus have locally modified the type, distribution and thickness of late Proterozoic and Paleozoic rocks (Leech, 1958; Lis and Price, 1976).

The Purcell Block claims sit within an area of increased structural complexity which is more or less centered on the three prominent placer gold streams in the Cranbrook area, namely Perry Creek and the Moyie and Wild Horse Rivers (the Wild Horse is located to the northeast in the Rocky Mountains). A series of NNE to NE oriented shear zones and a series of east to NE oriented transverse faults create the structurally complex, block-faulted area within which the placer gold occurs.

Cretaceous intrusions of granodiorite to syenite composition are scattered along a northeast trend through the general area of placer gold occurrence near Cranbrook. These young rocks may be the eastern limit of the Bayonne Magmatic Belt. Some of the syenite and quartz monzonite stocks carry appreciable pyrite, pyrrhotite and chalcopyrite and tend to be associated with anomalous gold; gold mineralization has been found within intrusions, proximal to them and at some distance from known intrusions.

3.00 INTERPRETATION OF AEROQUEST AIRBORNE SURVEY

In late 2010 and early 2011 a helicopter-borne AeroTEM System Electromagnetic and Magnetic survey was flown over three separate blocks within the larger Purcell Block of mineral claims, including part of the Zinger and Eddy areas (Klewchuk, 2011, AR 32,078). Data provided by Aeroquest was analysed by Roger Barlow of Earthscience Consulting of Thornhill, Ontario, to provide specific anomalous responses suitable for ground follow-up. Reports on the Eddy and Zinger area airborne geophysics interpretation are provided as Appendix 1 and 2.

4.00 GEOLOGIC MAPPING

Five days were spent on the Zinger property in September of 2011 mapping in detail part of the area of the airborne geophysics completed in 2010. The mapped area also covers part of a soil geochemistry survey completed later in 2011 (and which has been reported on separately by S. Kennedy).

The main part of the Zinger property is underlain by middle Creston Formation stratigraphy consisting dominantly of thin, medium and thicker bedded quartzites, medium and thin bedded siltstones and laminated and thin bedded argillites. These shallow water sedimentary units are repeated through the section and individual 'mappable' units are fairly thin, making it difficult to portray individual map units except at very detailed scales of mapping.

Argillaceous and silty beds are vari-colored with shades of green, gray, blue-gray, purple and tan brown. Quartzites and siltstones are white, light purple to pink, and shades of light brown and gray. Thicker quartzite and silty quartzite beds are commonly graded or have cross-bedding and / or internal laminations. Mud-chip breccias are not uncommon; these are usually less than 1 meter in thickness and typically purple in color but can also occur within white graded quartzites. Many argillite beds display mud cracks, attesting to the shallow water depositional regime.

Bedding is relatively uniform with northeast strike of close to 030^{0} with moderate dips ranging from about 40^{0} to 80^{0} northwest. A number of north to northeasterly striking faults have been observed; these are typically steeply west-dipping, more rarely easterly dipping. These faults generally dip more steeply than the beds they cut. Drag folding is evident locally, usually on the west side of the structures and with evident west side up movement. This sense of motion would repeat part of the stratigraphic section and this may account for the unusual thickness of middle Creston stratigraphy observed in the Zinger property area. These faults appear to have relatively minor displacement but no attempt has been made to determine the magnitude. Where they have been observed to date, these faults appear relatively unaltered by the gold mineralizing process – there is no strong quartz-sericite-pyrite alteration but, because they cross stratigraphy at a relatively shallow angle to the dip and thus intersect numerous lithologies, they should be considered as potential exploration targets.

Detailed geologic mapping at a scale of 1:2500 was undertaken west of Heart Lake over part of the area of a soil geochemistry survey completed in 2011 (the soil geochemistry survey has been reported on separately by S. Kennedy). The areas of detailed mapping are shown in Figures 3 and 5.

Area 1 covers the east side of a ridge between Heart Lake to the southwest and a historic shaft on the ridge to the northeast (Fig. 3). Multi-gram gold values were obtained in channel sampling immediately southwest of Heart Lake in 2009 (Kraft, AR 31,375) and multi-gram gold values

have been obtained by historic sampling at the shaft on the ridge. A northwest trending gulley extends between the area of channel sampling at Heart Lake and the shaft on the ridge; northwest Page 10

structures appear to be an important control for gold mineralization on the Zinger claims (eg. see Klewchuk, 2003, AR 27,242). A third zone of multi-gram gold values occurs immediately south of the northwest gulley, in association with a 070/82S quartz vein near 560520E 5476370N (Fig. 3).

An objective of the mapping was to determine if the northwest gulley is a fault structure, and if so, if there has been structural offset along it.

Three distinctive lithologic units were recognized and traced across the northwest gulley. A western thin bedded and laminated argillite unit is up to 30 meters wide on the south side of the gulley but thins gradually to the northern part of the map area to only 3 or 4 meters width. This thinning may be due to original sedimentary deposition or to structural attenuation.

Approximately 100 meters to the east of the thick argillite a narrower 2 meter wide argillite unit is present and this unit was also traced across the northwest gulley. About 25 meters east of this narrow argillite a few thinner beds of distinctive white quartzite were also traced across the northwest gulley. In the case of each lithologic unit, no offset could be detected along the inferred structure represented by the northwest gulley.

Approximately 150 meters to the northeast of the northwest gulley is a 2 to 3 meter wide swarm of chloritic white quartz veins. This zone of quartz veining diminishes in thickness and in alteration intensity to the northwest.

Steeply-dipping NNE striking narrow fault zones are evident and, as these are more steeply dipping than the bedding, the faults will cross stratigraphy and the intersections between the fault structures and any favourable lithologic units could be preferred sites for concentration of gold mineralization.

Area 2 is immediately southwest of Area 1 and covers the southwest corner of the soil geochem grid completed in 2011. The highest gold values of the survey occur here with values of 542 and 765ppb Au (Fig. 5).

About 80 meters north of the higher gold in soil is a northwest-striking fault zone mapped and sampled in 1999 (Klewchuk, 2000, AR 26,216). Drag folding along the fault indicates left-lateral motion. Sampling of narrow northeast-striking quartz veins within a narrow limonitic-weathered sericite-pyrite altered zone associated with the northwest-striking fault returned 5000 ppb Au (and 6.86 grams gold/tonne in a subsequent fire assay; Klewchuk, 2000, AR 26,216).

Chapleau resources drilled one of their holes (DDH Z-03-15) toward the fault at an azimuth of 252° and at -45° dip (Soloviev, 2003, AR 27,340). The Chapleau report gives no indication that the fault was a target of the drilling but the hole intercepted 5 separate low grade gold zones with the best zone being 1.5 meters of 1.573 grams gold/tonne.

Further to the south an old pit or shallow shaft has been dug into a 1.5 meter wide steeply dipping (080/85S) quartz vein. Only weak alteration is present along the ridge, developed in relatively narrow bands and manifested as weak rusty zones.

5.00 REFERENCES

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- Reesor, J.E., 1981. Geology of the Grassy Mountain Map Sheet. NTS 82F/8. Geol. Surv. Can. Open File 820.
- Soloviev, S., 2003. Assessment report on prospecting, grid soil sampling and diamond drilling completed on the Zinger property. BC MEMPR AR 27,340.

6.00 STATEMENT OF COSTS

Airborne Geophysics Survey	Interpretation; R Barlow	
Zinger	Zinger Property	
Eddy Property		1292.50
Geological mapping P.Klewchuk 5 days @ \$500/day		2500.00
4x4 vel	nicle 5 days @ \$150/day	750.00
Report: R. Barlow	1 day @ \$550/day	550.00
Report; P Klewchuk	2.25 days @ \$500/day	1,125.00
Total Cost		\$8328.13
12% Administration; Calgary office		\$999.38
Total Applied Cost		\$9327.51

7.00 AUTHOR'S QUALIFICATIONS

As author of this report I, Peter Klewchuk, certify that:

- 1. I am an independent consulting geologist with offices at 408 Aspen Road, Kimberley, B.C.
- 2. I am a graduate geologist with a B. Sc. degree (1969) from the University of British Columbia and an M. Sc. degree (1972) from the University of Calgary.
- 3. I am a Fellow of the Geological Association of Canada and a member of the Association of Professional Engineers and Geoscientists of British Columbia.
- 4. I have been actively involved in mining and exploration geology, primarily in the province of British Columbia, for the past 36 years.
- 5. I have been employed by major mining companies and provincial government geological departments.

Dated at Kimberley, British Columbia this 25th day of February, 2012.

Peter Klewchuk, P. Geo.







Zinger Airborne Survey and Interpretation

INTRODUCTION

During October 2010, an airborne survey was flown over the Zinger Property using an Aeroquest helicopter equipped with TEM and Magnetic sensors. East-West lines (100 degrees) were flown over a preplanned grid using 75 meter line spacing and included North-South tie lines (10 degrees) flown at 750 m spacing. Some 151.9 line kilometres were recorded and compiled over the claim group located near Cranbrook BC, for PJX Resources Inc.

An Aerotem III time domain electromagnetic system was used with a Scintrex cesium vapour magnetometer and an AGNAV2 navigation system with a Mid-Tech WAAS GPS. Data was recorded using an AeroDAS data acquisition system at 0.1 second intervals. EM steaming data, magnetic, GPS and radar altimetry were recorded on removable hard drives and transferred to the base computer at the end of each flight. Similarly the base station magnetic data was transferred to the base computer and used to correct the aeromagnetic data for diurnal.

Total magnetic intensity data together with 16 channels of off-time, Z channels were used to produce a geologically oriented interpretation of the survey area. This data was imported into a Geosoft Oasis data base from which, a series of algorithms and procedures were used to determine the most relevant products for interpretation.

MAGNETIC DATA

The data was profiled on a line by line basis and a forth difference together with first and second vertical derivatives were calculated and compared with the levelled total field magnetic intensity data.

A number of issues were observed and used to determine the most useful 2D map making algorithms to be used for presentation. Significant "bursting" occurred on most lines which prevented derivatives from being utilized in the interpretation. Bursting is composed of high frequency noise, usually attributed to wind buffeting of the magnetic sensor, and is very difficult to eliminate when calculating derivatives because this calculation increases or amplifies the high frequency noise content. It is a common occurrence with airborne magnetic data.

An analytic signal computation (using FFT) was used which handled the high frequency noise content because of its automatic gain control "AGC" like quality seen in the output. The use of the Analytic Signal in seismic processing is well documented in the literature. The complex modulus (square root of the sum of squares) is often used with equatorial magnetic survey data because of the low magnetic field strength of the vertical component.

The Analytic Signal formula is as follows:

$$AS = \sqrt{(dT/dz)^{2} + (dT/dx)^{2} + (dT/dy)^{2}}$$

Using Fourier methods, the initial transform is inversely transformed to yield a complex array and, when plotted, will show a symmetric bell shaped function, situated exactly over the top of the target with a half-maximum half-width equivalent to a crude depth to the top of the target. This is well explained by (Nabighian, 1972, Geophysics, vol.37, no.3, P. 507-517).

When applied to the Zinger survey, the content of the Total Magnetic Intensity data is well preserved and reveals several magnetic anomalies in the eastern portion of the survey. Using the Euler Depth Estimate method, these anomalies, in most cases, are within 50 m of the surface. No bedrock exposures of these anomalies have been observed at the surface, thus their investigation by drilling is recommended.

Figure 1: Showing the analytic signal map and several near surface anomalies in the eastern portion of the survey area.

The anomalous areas of higher magnetization, as observed in the Analytic Signal, could represent sulphide-magnetite mineralized bodies and therefore offer important exploration targets of interest.

Х	Y	Priority
561811	5476177	А
561912	5475657	В
561117	5475848	С
560705	5475508	D
562319	5478150	E
561267	5476697	F

Table 1: Showing the locations of favourable areas for investigation

TEM CONDUCTIVITY

The 17 channels of off-time Z component data were used to prepare resistivity maps using the halfspace algorithm for TEM data. Early time channels generally are used to map near surface resistivity while later time channels outline deeper resistive structures. Inverting the resistivity values will yield the conductivity for a given channel.

Figure 2: The current (90 Hz) waveform used in the Aeroquest system. The 17 off-time channels are shown.

The TEM data does not exceed noise specifications and can be used for this type of interpretation. The resistivity or conductivity value is useful for outlining zones of weaker contrasting values of resistivity or conductivity. Higher values for resistivity may outline zones where silicification may be present or, conversely, values with higher conductivities may outline zones of disseminated sulphides. Both of these concepts are of value when exploring for gold or Sedex type mineralization.

Figure 3: Showing on the left is the conductivity calculated at 3273 uSec after the current is turned off and on the right is the conductivity at 8273 uSec after turn off. This example shows some anomalies appearing at later times. Several prominent fault offsets are visible on the later time map.

SUMMARY

No conductive trends were observed in the Zinger survey area but late time conductivity trends do show large-scale faulted offsets very clearly. Also there is no direct spacial correlation between the well defined late time conductivity patterns and the magnetic anomalies shown on the Analytic Signal map shown above.

It is recommended that the magnetic anomalies be drill tested in order of the suggested priority.

STATEMENT OF QUALIFICATIONS

I, Roger Brock Barlow do hereby certify:

 That I am a geophysicist residing in Toronto, Ontario Canada with a business address as follows:

> Geosource Geoscience Consulting 1136-3 Centre Street, Suite 213 Thornhill, Ontario L4J 3M8

- That after graduation from Michigan Technological University with a B.Sc. (Hons) 1972 and an M.Sc. 1973 I was employed by the Ontario Geological Survey as a geophysicist and as Chief, Geophysics and Geochemistry Section over a twenty year period.
- That I have practised my profession continuously since 1973 in Canada and internationally in the USA, Spain, Egypt, Russia, Kazakhstan and China.
- That I have published more than thirty papers and articles in geophysics and geochemistry and have been employed by three major airborne geophysical survey companies preparing reports and maps.
- 5. That my report "Zinger Survey and Interpretation" is based on work carried out by me.
- That I hold no specific or special interest in the described property and that I have been retained as a Consulting Geophysicist for "the property".

Dated this 29th day of February, 2012 At Toronto, Ontario

Roya Bulow

Roger Barlow, B.Sc. M.Sc.

Eddy Airborne Survey and Interpretation

INTRODUCTION

During October 2010, an airborne survey was flown over the Eddy Property using an Aeroquest helicopter equipped with TEM and Magnetic sensors. East-West lines were flown over a preplanned grid using 75 meter line spacing and included North-South tie lines flown at 750 m spacing. Some 179.3 line kilometres were recorded and compiled over the claim group located near Cranbrook BC, for PJX Resources Inc.

An Aerotem III time domain electromagnetic system was used with a Scintrex cesium vapour magnetometer and an AGNAV2 navigation system with a Mid-Tech WAAS GPS. Data was recorded using an AeroDAS data acquisition system at 0.1 second intervals. EM steaming data, magnetic, GPS and radar altimetry were recorded on removable hard drives and transferred to the base computer at the end of each flight. Similarly the base station magnetic data was transferred to the base computer and used to correct the aeromagnetic data for diurnal.

Total magnetic Intensity data together with 16 channels of off-time, Z channels were used to produce a geologically oriented interpretation of the survey area. This data was imported into a Geosoft Oasis data base from which, a series of algorithms and procedures were used to determine the most relevant products for interpretation.

MAGNETIC DATA

The data was profiled on a line by line basis and a forth difference together with first and second vertical derivatives were calculated and compared with the levelled total field magnetic intensity data.

An analytic signal computation (using FFT) was used which handled the hi-frequency noise content because of its automatic gain control "AGC" like quality seen in the output. The use of the Analytic Signal in seismic processing is well documented in the literature. The complex modulus (square root of the sum of squares) is often used with equatorial magnetic survey data because of the low magnetic field strength of the vertical component.

The Analytic Signal formula is as follows:

 $AS = \sqrt{(dT/dz)^2 + (dT/dx)^2 + (dT/dy)^2}$

Using Fourier methods, the initial transform is inversely transformed to yield a complex array and, when plotted, will show a symmetric bell shaped function, situated exactly over the top of the target with a half-maximum half-width equivalent to a crude depth to the top of the target. This is well explained by (Nabighian, 1972, Geophysics, vol.37, no.3, P. 507-517).

When applied to the Eddy survey, the amplitude content of the Total Magnetic Intensity data is well preserved and reveals a number of significant Analytic Signal Anomalies in the survey area.

Figure 1: Showing the analytic signal map and numerous anomalies trending SSW in the survey area.

Anomalous areas of higher magnetization are preserved within a flat background and offer exploration targets of interest.

X	Y	Priority
563085	5472592	А
563606	5471639	В
563827	5471510	С
565162	5471201	D
564287	5470630	E
564628	5470340	F

Table 1: Showing the locations of favourable areas for investigation

TEM CONDUCTIVITY

The 17 channels of off-time Z component data were used to prepare resistivity maps using the halfspace algorithm for TEM data. Early time channels generally will map near surface resistivity while later time channels will outline deeper resistive structures. Inverting the resistivity values will yield the conductivity for a given channel.

Figure 2: The current (90 Hz) waveform used in the Aeroquest system. The 17 off-time channels are shown.

The TEM data does not exceed noise specifications and can be used for this type of interpretation. The resistivity or conductivity value is useful for outlining zones of weaker contrasting values of resistivity or conductivity. Higher values for resistivity may outline zones where silicification may be present or, conversely, values with higher conductivities may outline zones of disseminated sulphides. Both of these concepts are of value when exploring for gold or Sedex type mineralization.

Figure 3: Showing on the left is the conductivity at 3828 uSec after the current is turned off and on the right is the conductivity at 10495 uSec after turn off. This example shows some anomalies disappearing at later times while others are appearing.

The off-time EM channels were also be used to pick bedrock conductors and calculate a variety of electrical parameters at each intercept location. Parameters such as Conductance and Tau value were useful for classification and evaluation.

This survey area has one significant conductor that generally trends in a north-south direction and has low conductance and Tau values. The conductor trend shown in figure 3 is superimposed on a shaded relief map computed from the survey data. The anomalies are classified using a conductance range for each symbol. The unit for conductivity-thickness is in Siemens:

Siemens = (Siemens/m * m) = Conductance

= (Conductivity * Thickness)

The symbols in decreasing order are:

Completely filled circle = > 20 Siemens ³/₄ filled circle = 16 to 20 Siemens ¹/₂ filled circle = 10 to 16 Siemens ¹/₄ filled circle = 4 to 10 Siemens

Open circle = < 4 Siemens

+ = Cultural indication

Figure 4: Showing a predominant north – south trend for the conductor.

STATEMENT OF QUALIFICATIONS

I, Roger Brock Barlow do hereby certify:

 That I am a geophysicist residing in Toronto, Ontario Canada with a business address as follows:

> Geosource Geoscience Consulting 1136-3 Centre Street, Suite 213 Thornhill, Ontario L4J 3M8

- That after graduation from Michigan Technological University with a B.Sc. (Hons) 1972 and an M.Sc. 1973 I was employed by the Ontario Geological Survey as a geophysicist and as Chief, Geophysics and Geochemistry Section over a twenty year period.
- That I have practised my profession continuously since 1973 in Canada and internationally in the USA, Spain, Egypt, Russia, Kazakhstan and China.
- That I have published more than thirty papers and articles in geophysics and geochemistry and have been employed by three major airborne geophysical survey companies preparing reports and maps.
- 5. That my report "Eddy Survey and Interpretation" is based on work carried out by me.
- That I hold no specific or special interest in the described property and that I have been retained as a Consulting Geophysicist for "the property".

Dated this 29th day of February, 2012 At Toronto, Ontario

Roya Barbow

Roger Barlow, B.Sc. M.Sc.