

Ministry of Energy & Mines Energy & Minerals Division

Geological Survey Branch



ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT [type of survey(s)] Geophysical Report on the Tas Copper-Gold Property	TOTAL COST \$167,059
AUTHOR(S) P.E.Fox PhD,P.Eng.	_SIGNATURE(S)
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S) MX 13-232	YEAR OF WORK 2011
STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S	s)Event # 5148788, December 4 2011
PROPERTY NAMETas	
CLAIM NAME(S) (on which work was done) 531596, 531598, 531603	3
COMMODITIES SOUGHT Gold, Copper	
MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN 093K 080	02//16
MINING DIVISION Omenica	_NTS
LATITUDE0," LONGITUDE	<u>124</u> <u>o</u> <u>19</u> , <u> </u>
OWNER(S) Rich Rock Resources	
1)	_ 2)
413-595 Burrard St	
Vancouver, BC V7X 1G4	
OPERATOR(S) [who paid for the work]	
1) Rich Rock Resources	_ 2)
MAILING ADDRESS	
PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structur	e, alteration, mineralization, size and attitude):
The property is underlain by grey to green cherty tuff and argillite	of the Inzana Lake Formation, an

oval shaped body of diorite that lies south of the Inzana Lake road along the southern boundary of the property and

a small, poorly exposed body of monzonite (Unit 3) together with a number of small breccia bodies . The gold-bearing zones, up to 30 cm thick, comprise stringers and massive sulphides hosted in shears and intensely fractured siltstone/tuff, breccia and

hornblende-augite porphyry.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS Warner, L., 2003. Diamond drilling report, 27152 Fox, PE 2009, Assessment Report 27152, Fox and Scrivens, 2010. Geophysical Report, 31681

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			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic36 km		531596, 531598, 531603	8642
Electromagnetic			
Induced Polarization 32 km	3DIP	531596, 531598, 531603	106236
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for)			
Silt			
Rock			
DRILLING (total metres: number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL		504500 504500 504000	10081
Line/grid (kilometres)12 km	<u> </u>	531596, 531598, 531603	49901
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
OtherReport			2200
		TOTAL COST	167,059

GEOPHYSICAL REPORT

On the

TAS COPPER-GOLD PROPERTY

Omineca Mining Division

Tas, Taslin, Taz Claims

NTS93K16

Latitude 54°55, Longitude 124°19

UTM 415602E, 6086312N (10)

RICH ROCK RESOURCES

413- 595 Burrard St Vancouver, BC

By

P. E. Fox, PhD., P.Eng

January 5, 2012

(REF: EVENT # 5148788, December 4, 2011)

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SUMMARY

The TAS property has received considerable exploration work since its discovery in 1985. Since then, programs conducted by Noranda Exploration and others have outlined a number of porphyry copper-gold targets 10 Km east of Inzana Lake some 50 km north of Fort St James, BC. Soil sampling work and geophysical surveys done by previous operators returned coincident geochemical and geophysical anomalies associated with a number of prospects on the Ridge zone along with a copper-in-soil target, the Southeast anomaly, near the south boundary of the property. Airborne magnetic and radiometric surveys in 2010 returned a circular zone of magnetic anomalies along the Ridge zone coincident with many of the copper-gold soil anomalies and strong K radiometric anomalies over the Ridge, Camp and Southeast zones and detected a new target 200m west of the known prospects on the Ridge zone.

Work in 2011 consisted of line cutting, 36 km of ground magnetic surveys and 32 km of 3DIP conducted by SJ Geophysics. The Southeast zone was identified as a moderate chargeability anomaly (40ms) extending to depth along with a large chargeability high (>40ms) and resistivity low extending throughout the central part of the grid area. Near the Ridge zone mineralization, a deep chargeability anomaly (>50ms) immediately north of the zone forms a roughly circular chargeability anomaly enclosing a central chargeability low centered on the Mid zone, possibly a deep porphyry target zone comprising alteration and low pyrite content coincident with near-surface potassic alteration and a K radiometric anomaly.

Expenditures were \$167,059.

INTRODUCTION

The TAS property has received extensive work since its discovery in 1985. Rich Rock Resources Inc acquired the property in 2009 and completed 103 km of airborne magnetic and radiometric surveys in 2010 and line cutting, ground magnetic and 3DIP geophysical surveys in 2011. This report documents this work and makes recommendations for further work. The work program was paid for by Rich Rock Resources Inc and is in part work recommended by Price (2010).

LOCATION AND ACCESS

The TAS property is situated 50 km almost due north of the town of Fort St. James (Figure 1). The property is located on map sheet 93-K-16W at coordinates 54⁰ 55' N and 124^O 19'W. The property is located in the Omineca Mining Division. Access to the property is via the Germansen North Road and then west on the the Inzana Lake Forestry Road for 10 kilometres.

CLAIMS

The TAS property consists of 17 claims comprising 6,136 hectares as set out in Table 1. All claims are valid to December 20, 2015. A claim map is given in Figure 2. Expiry dates assume the work presented herein is accepted for assessment work purposes. Work was recorded under event #5148788 filed on December 4, 2011.

HISTORY

Disseminated copper mineralization was discovered near the present Freegold zone during construction of the Inzana Lake Forestry Road in 1982. The showing was originally staked by A. Leggate but was allowed to lapse. The TAS claims were then staked by Arthur Halleran after obtaining anomalous gold

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Tenure No	Name	Expiry date	Area (Ha)
531596		December 20, 2015	446.3
531598		December 20, 2015	372
531600		December 20, 2015	428
531603		December 20, 2015	223.2
531606		December 20, 2015	427.6
583517	Tas 4	December 20, 2015	446.5
583518	Tas 5	December 20, 2015	428
583519	Tas 6	December 20, 2015	409.3
598042	Taslin-3	December 20, 2015	223.1
598043	Taslin-4	December 20, 2015	464.6
598044	Taslin 5	December 20, 2015	334.5
596973	Taslin N	December 20, 2015	464.6
594222	Taslin	December 20, 2015	260.3
596971	Taslin	December 20, 2015	464.7
596972	Taslin-2	December 20, 2015	185.8
601410	Taz NE	December 20, 2015	278.8
601737	Tas E 2	December 20, 2015	279

Table 1. Claim Data

values from rocks collected from the Freegold zone. Noranda discovered coarse gold in quartz-carbonate veins from the Freegold zone during a property examination in 1985. Noranda then optioned the property and completed a program of soil sampling, magnetometer surveys, IP surveys and geological mapping. The IP survey covered part of a low ridge (Ridge zone) one km north of the Freegold zone and obtained a strong chargeability response. In 1986, follow-up soil sampling over the Ridge zone outlined a strong gold soil anomaly over 1.8 km. long coincident with the chargeability anomaly. Hand and bulldozer trenching revealed several gold-rich sulphide zones and widely disseminated gold-copper



mineralization. In 1987 and 1988 Noranda continued a program of diamond drilling, percussion drilling, chip sampling, IP surveys and ground magnetometer surveys. From 1988 to 1989 Goldcap Inc. (holes 88-18 to 22) and Black Swan Gold Mines Ltd (holes 88-23 to 43, 89-44 to 61) continued with drilling, soil sampling, magnetometer surveys, IP surveys and a mise-a-la-masse survey. Most of this work was concentrated on the Ridge zone. The option was allowed to lapse in 1992. In 1996, Birch Mountain Resources Ltd carried out a field program of prospecting and geochemical sampling.

A.D. Halleran collected two bulk samples in 1993 from the east end of the Ridge zone averaging 35.5 gpt gold. Omni Resources optioned the property in 1999 and drilled 690 metres in seven holes and Navasota Resources drilled a further seven holes in 2002 comprising some 1270 metres. Eagle Peak Resources optioned the property in 2008 and completed 20 km of new grid work and commenced a compilation of all prior data. Rich Rock Resources completed 102 km of airborne geophysics in 2010 (Fox and Scrivens, 2010). Various reports are listed in the Bibliography.

REGIONAL GEOLOGY

The TAS property is located within a northwesterly belt of volcanic strata comprising Upper Triassic to Lower Jurassic Takla Group volcanics and sediments that have been intruded by a series of felsic to ultramafic stocks and batholiths of alkalic affinity. These intrusions, which are associated with a number of copper-gold deposits, generally lie in a northwest belt from the Captain property west of Carp Lake north to Chuchi Lake. Rocks at the TAS property include conglomerate, greywacke, shale, argillite and limestone of the Inzana Lake Formation. These sediments lie west of a central belt of basaltic rocks comprising the Witch Lake Formation. A regional geological map is given in Figure 3. Numerous copper-gold prospects occur throughout the district. The most advanced is the Mt Milligan deposit 20 km northeast of the TAS prospect which is advancing to production by Thompson Creek Mining.



GEOLOGY

A geological map of the property based on detailed mapping by Maxwell et al (1988) is given in Figure 4. The property is underlain by grey to green cherty tuff and argillite of the Inzana Lake Formation (Unit 1 Figure 4), an oval shaped body of diorite (TAS pluton, Unit 2, Nelson et al 1996) that lies south of the Inzana Lake road along the southern boundary of the property and a poorly exposed body of monzonite (Unit 3) together with a number of small, undefined breccia bodies (Unit 4). Rocks of the Inzana Lake Formation comprise east dipping tuffs and siltstones locally altered to chlorite and epidote. It is the host rock of the various gold-copper prospects discovered to date. They are highly fractured and cut by swarms of dikes. The TAS pluton comprises medium grained augite diorite composed of plagioclase, augite and accessory amounts of hornblende, biotite and magnetite. The latter gives the pluton a prominent regional magnetic signature. Monzonite of Unit 3 is pyritic, altered to fine grained sericite and comprised of plagioclase and minor biotite. The unit 4 breccia is a dark grey to black biotite-magnetite mafic rock consisting of bleached fragments in a pale yellow-green monzonite matrix. Black fragments are commonly magnetic (Mowatt 1999). Other varieties comprise monzodiorite, tuff and porphyry fragments in a fine grained matrix (Nelson, 1996).

The Ridge zone consists of Inzana Lake siltstones cut by a swarm of northeasttrending porphyry dikes exposed on a low ridge one km north of the Inzana Lake road. Most of the exploration work has been done in this area – IP, extensive soil and rock sampling, trenching and drilling of some 70 diamond drill holes between 1986 and 2002. The host rocks are grey, green and often extensively hornfelsed and intensely altered to chlorite, epidote, carbonate and local areas of secondary biotite. Staining of a number of Ridge zone rocks suggests extensive K feldspar (potassic) alteration (Boronowski, 1989). These rocks are cut by numerous dikes of porphyritic diorite, augite- and hornblende-bearing porphyry, and a variety of leucocratic feldspar porphyry dikes. Many dikes are composite bodies and vary from barren to sulphide-rich. Most dikes trend northeast in narrow-spaced swarms cutting hornfelsed tuffs and siltstones. Interspersed are irregular (intrusive?) breccia bodies, generally seen only in drill core, consisting of subrounded siltstone and dioritic fragments set in a grey-green plagioclase-rich matrix. Nelson et al (1996) obtained a U-Pb zircon age of 204 Ma from a monzodiorite dike on the Ridge zone.

Northwest and Northeast faults are common, northwest faults hosting many of the Ridge zone prospects. Northeast faults, commonly of regional extent, form the 61 and Freegold faults (Figure 4).

MINERALIZATION

A number of gold-bearing zones have been found on the TAS property referred to as the West, 21, 19, Mid and the East zone collectively comprising the Ridge zone, and the Freegold, Southeast and 61 zones farther south near the Inzana Lake road (Figure 4). All of the drilling programs have focused on delineating these mineralized structures. The gold-bearing zones comprise stringers and pods of massive sulphide up to one metre thick, and commonly have fringing disseminated zones 3.5 m wide hosted in shears and intensely fractured siltstone/tuff, breccia and hornblende-augite porphyry. The sulphide content ranges from 5 to 80% and consists of pyrite, pyrrhotite, chalcopyrite, magnetite and trace amounts of arsenopyrite.

The West zone prospect is a strong shear trending 350⁰ that can be traced for approximately 100 meters. The sulphide mineralization is in siltstone, dikes and breccia and occurs as bands of massive to stringer pyrite, pyrrhotite and chalcopyrite. Sixteen holes have been drilled here to date, the most recent in 2002 (Warner, 2003). Warner noted that various breccia units are an unrecognized host to the gold mineralization. Hole 66 drilled in 2002 returned 122m of 0.5 gpt gold (including 19m of 1.49 gpt gold), and hole 67, drilled from

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the same collar, returned 156m of 0.35 gpt gold (Price 2010) confirming the porphyry potential of the West zone. The 21 zone to the east consists of 5 to 20% disseminated pyrite to massive pyrite in a shear zone in siltstone. The 19 zone, which can be traced in drill holes for approximately 50 metres, consists of semi-massive pyrite, pyrrhotite and chalcopyrite in siltstone. The Mid zone consists of a series of narrow sulphide-filled shears in hornblende-augite porphyry. The zone trends 030°. Ten drill holes were drilled here in 1987-89. The East zone consists of gold-bearing sulphide mineralization about 0.6 m thick that occurs as anastomosing massive zones and stringers in a shear zone trending 350°. Eleven drill holes tested the East zone mineralization, which includes pyrite, pyrrhotite, chalcopyrite and magnetite and is exposed in trenches for 70 metres. A.D. Halleran collected 32.5 tonnes of material from this zone in 1993 that returned an average tenor of 35.46 gpt gold. The West, 19, 21 and East structures strike northwest. The Mid zone trends to the northeast parallel to the predominant dike trend.

The 61 zone south of the Ridge zone consists of disseminated and massive sulphide in shear zones exposed in trenches, road cuts and two drill holes. The sulphide mineralization here includes pyrite, pyrrhotite and minor chalcopyrite. The host rock for the mineralization is siltstone and altered hornblende-augite porphyry exposed for approximately 50 metres.

The Freegold zone hosts (visible) gold in a quartz-carbonate altered zone discovered by Noranda Exploration in 1985. The zone lies within the TAS pluton exposed along the Inzana Lake road. Five diamond drill holes and four percussion holes were drilled here by Noranda and others in 1987-89. The Southeast zone comprises poorly exposed breccia bodies and mineralized monzonitic rubble associated with a strong northeast-trending copper soil

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anomaly near the Tas pluton. A sample of monzonitic float here returned 0.31% copper and 1.1 gpt gold (Mowat 1999).

Previous workers have noted the similarity of the TAS prospect with the nearby alkalic Mt Milligan copper-gold deposit (Boronowski et al 1989, Elliott 1999, Price 2010). It is thought that pyritic gold mineralization on the Ridge zone associated with intense propylitic alteration, weakly developed potassic alteration and the presence of a strong K radiometric anomaly (Fox and Scrivens 2010) suggest that the Ridge zone may be a gold-rich porphyry cap associated with dike emplacement overlying disseminated copper-gold mineralization at depth and/or a gold-rich zone distal to an alkalic porphyry copper deposit proximal to the Tas pluton (Peatfield 2009, pers comm).

WORK PROGRAM

The work program this year comprised 12 km of fill-in grid lines of the 2008 grid bringing the overall spacing to 200m, 36 km of magnetometer surveying by Meridian Mapping and 32 km of 3D induced polarization surveying by SJ Geophysics Ltd. Work was completed between September 10 and October 30, 2011. Crews were lodged at the nearby Inzana Lake Lodge operated by the Nakazdli First Nation. It also supplied line-cutting crews and field assistants on the induced polarization survey. Specifications and survey parameters are given by contractor reports in Appendix I (Report by D. Dunlop of Meridian Mapping), Appendix II (interpretation memo by J. Witter, of SJ Geophysics Limited) and Appendix III (technical report by M. Kootchin). Work was done under Permit MX 13-232.

GEOPHYSICAL SURVEYS

MAGNETOMETER SURVEY

The magnetometer survey comprised a total of 37 kilometers surveyed over two field days on October 12 and 13th. The magnetic survey was conducted by two operators using two GPS equipped GSM Ver 7.0 19W Overhauser walking

magnetometers manufactured by GEM Systems of Richmond Hill, Ontario (see Appendix I for detailed instrument specifications). This instrument measures variations in the total intensity of the earth's magnetic field to an absolute accuracy of +/- 0.1 nT. They were used in "walking mode" and set to record a reading every 2 seconds. A third GSM 19 magnetometer was employed as a stationary base to measure the diurnal variations. Data was recorded at a 3 second interval at the base. Base data was used to apply diurnal correction to the rover data. A 200 meter length of overlap line was walked each morning by both units. Data from this overlap line was used to level the data between the two instruments as well as between survey days. For Locations, the GSM 19W magnetometers are equipped with Novatel SuperStar II DGPS boards. The GPS attaches 3-dimensional coordinates, differentially corrected in real-time using the WAAS service to each magnetometer reading. Full survey specifications are given in Appendix I along with appropriate map products.

INDUCED POLARIZATION SURVEY

Results of the survey are discussed in detail by Witter (Appendix II). In the shallow subsurface (25 m depth), the Tas pluton and monzonite body correlate with an area of low chargeability (<5-15 ms; Witter, Appendix II, Figure 3). The Ridge zone, by contrast, is characterized by moderate chargeabilities (20-40 ms) with high response in the east central part in the vicinity of the Mid zone. Resistivity in the shallow subsurface (Appendix II, Figure 4) is highly variable with the highest resistivity anomaly (>2500 ohm-m) occurring in the NE sector of the Ridge zone. A small resistivity low (<50 ohm-m) in the centre of the Ridge zone may, at these shallow depths, indicate the presence of disseminated sulfides that could be responsible for the elevated chargeability values and an abundance of silicification and/or argillic alteration could cause the low resistivity.

At intermediate depths (150-200 m), the geophysical anomalies are large and have high magnitude. At 200 m, the Tas pluton is characterized by low chargeability (<5 - 20 ms; Appendix II Figure 5). A northward extension of this

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low chargeability zone near the 61 zone suggests a northerly lobe of the Tas pluton at these depths. At the east end of the grid, the Southeast zone forms two significant chargeability anomalies (>55 ms) associated with intrusive breccia, monzonite, and the Tas pluton. Within the Ridge zone area, chargeabilities are moderate (15 – 40 ms) at these depths with higher values in the west (West zone) compared to the east. Resistivity is variable within the Ridge zone with a resistivity low (50-1500hm-m) near the centre and anomalies of moderate to high resistivity (500-2000 ohm-m) on either side. The high resistivity anomaly in the west side of the Ridge zone is significantly larger and of greater magnitude compared to the eastern end. A chargeability anomaly (>50ms) immediately north of the Ridge zone forms a roughly circular chargeability anomaly enclosing a central chargeability low centered on the Mid zone – a zone of alteration and relatively low pyrite content coincident with near-surface potassic alteration (Maxwell et al 1988) and a K radiometric anomaly (Fox and Scrivens 2010).

At deeper levels (350 m), a generally east-west zone of high chargeability (>45 ms; Appendix II Figure 7) extends across the central survey area. One arm of this high chargeability zone extends below the south-central portion of the Ridge zone and may reflect a deep extension of the Ridge mineralization. A significant resistivity low (<50-200 ohm-m) lies at 350 m depth in large part coincident with the zone of high chargeability. The lowest magnitude portion of this resistivity anomaly lies beneath the south central part of the Ridge zone near the 19 and Mid zones. The combination of geophysical anomalies suggests abundant disseminated sulfides (causing high chargeability) coupled with a zone of hydrothermally altered rocks (creating low resistivity), possibly a deep porphyry target.

CONCLUSIONS AND RECOMMENDATIONS

The TAS prospect has strong similarities to the Mt Milligan and other alkalic porphyries in British Columbia (Price, 2010 and others). The magnetometer survey defined the north contact of the Tas pluton and identified magnetic zones

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associated with the Ridge zone prospects. The 3DIP survey clearly identified shallow to deep chargeabilities of the Ridge zone, the southeast zone and the 61 zone farther west together with a large, deep porphyry-like chargeability target in the central part of the grid. These targets greatly enhance the Tas porphyry environment. Further drilling is warranted (Price 2010).

EXPENDITURES

Expenditures for the work presented herein are listed in Table 2.

Table 2. Expenditures

ITEMS	Subtotal	Cost
Labour		
PE Fox PhD P.Eng 3 days @ \$750	2250	
Erickson contracting line cutters 3 man crew	3450	
B Mouloin, logistics, 2 days @ \$450	900	
S Kana surveyor, `13 days @ 275	3575	
J Tattersall field hand, 13 days @ 230	2990	
K Tattersall, supervisor, 10 days @ 400	4000.	17165
Accomodation & Board		
Inzana Lake lodge – Nakazdli First Nation		23466
Geophysics:		
SJ Geophysics Ltd, 32 km induced polarization		106236
Meridian Mapping: 36 km magnetometer work		8642
Rentals: Truck 4wd 15 days @ \$175	2625	
ATV: 15 days @ \$125	1875	4500
Supplies: saws, fuel		350
Report preparation – P.E.Fox P.Eng		2200
	TOTAL	\$167,059

Prepared by

Peter E. Fox PhD. P.Eng.

January 5, 2012

I, Peter E. Fox of Richmond, British Columbia do hereby certify that I:

- am a graduate of Queens University in Kingston, Ontario with a Bachelor of Science and Master of Science degrees in Geological Sciences in 1959 and 1962, and a graduate of Carleton University, Ottawa, Ontario with a degree of Doctor of Philosophy in 1966.
- am a member of the Association of Professional Engineers and Geoscientists of British Columbia #8133.
- have practiced my profession since 1966.
- am a consulting geologist and Chief Geologist for Rich Rock Resources Inc
- I am the author of this report entitled "Geophysical Report Tas Copper-Gold Property" and supervised the work program herein.

Dated at Richmond, British Columbia this 5th Day of January, 2012.

Respectfully submitted,

Peter E. Fox PhD P.Eng January 5, 2012



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APPENDIX I

Report on a Ground Magnetic

by

D. Dunlop

Meridian Mapping Ltd

November 2011



LOGISTICS REPORT

On

GROUND MAGNETIC SURVEY

TAS PROPERTY OMENICA MINING DIVISION, BC 54° 53° 50" N Lat, 124° 19° 13° W Long NAD 83 UTM Zone 10 415350E, 6084200N NTS Mapsheet: 93K/16 BCGS Mapsheets: 093K.089 & 99

October 13th & 14th 2011

For

EAGLE PEAK RESOURCES INC. Suite 413, Bentall 3 595 Burrard Street Vancouver, British Columbia V7X 1G4

By

Meridian Mapping Ltd.

Coldstream, British Columbia

November 2011

INTRODUCTION:

Between October 13th and 14th 2011, Meridian Mapping Ltd. completed a ground magnetometer survey over a portion of the TAS Property near Inzana Lake, British Columbia for Eagle Peak Resources Inc.

PROPERTY LOCATION & ACCESS:

The TAS Property is located 50 kilometers north of the town of Fort St James in North-Central British Columbia. The center of the survey grid is located 6 kilometers southeast of the eastern end of Inzana Lake in the Omineca Mining Division.

Access was gained by travelling north from Fort St. James on the Germansen North Road, then travelling west approximately 10 kilometers on the Inzana Lake Forestry Road which transects the south end of the grid. Old mining and forestry roads also transect the grid but most are heavily overgrown.

SURVEY SPECIFICATIONS:

Survey Grid:

In 2008 a grid of seven lines on 400m spacing were established at an azimuth of 45°. In 2011 six infill lines were established decreasing the line spacing to approximately 200m and the 2008 lines were re-cut. All thirteen cut lines were surveyed and three additional unmarked infill lines were surveyed in the north-central part of the grid.

A total of 36.9 kilometers of line were surveyed over two field days.

Magnetic Survey:

The magnetic survey was conducted by two operators using two GPS equipped GSM Ver 7.0 19W Overhauser walking magnetometers manufactured by GEM Systems of Richmond Hill, Ontario, (see Appendix I for detailed instrument specifications). This instrument measures variations in the total intensity of the earth's magnetic field to an absolute accuracy of +/- 0.1 nT. They were used in "walking mode" and set to record a reading every 2 seconds. A third GSM 19 magnetometer was employed as a stationary base to measure the diurnal variations in the earth's magnetic field. Data was recorded at a 3 second interval at the base. This base data was used to apply diurnal correction to the rover data. A 200 meter length of overlap line was walked each morning by both units. Data from this overlap line was used to level the data between the two instruments as well as between survey days.

Positional Control:

The GSM 19W magnetometers are equipped with Novatel SuperStar II DGPS boards. The GPS attaches 3dimensional coordinates, differentially corrected in real-time using the WAAS service, to each magnetometer reading. Accuracies of +/- 1.5m can be achieved in ideal conditions, however +/- 5m is more typical under tree canopy. Garmin GPSMap 60CSx units, which provide a similar accuracy, were also used for navigation and recorded track data at a 2 second interval for backup.

DATA PROCESSING:

Preliminary Processing:

Preliminary processing of the field data included:

- Diurnal correction of the rover data using data from the stationary base.
- Leveling of data from the individual units and multiple survey days using data from the overlap line.
- Cleaning GPS "spikes" and extrapolating positions to fill GPS gaps.
- Trimming of unnecessary data.
- Preliminary QA/QC of both magnetic and positional data to ensure quality and completeness of field data prior to the field crew leaving the project.

Final Processing:

Final processing of the total field magnetometer data was performed in Geosoft Oasis Montaj, and followed conventional processing techniques. Processing steps were as follows:

- Diurnally corrected total magnetic profile data was despiked either manually, or by a non-linear filter, as required. This step removes one-station spikes that are caused by instrument dropouts or sensor "knocks".
- The despiked data was then lightly smoothed using a 7 fiducial-long low pass filter. This step removed the 10 to 15nT saw-tooth noise which is inherent in walking magnetometer data.
- A total magnetic intensity (TMI) grid was generated by gridding the final filtered data using the minimum curvature algorithm, with a grid cell size typically 1/5 of the line separation.
- A calculated 1st vertical derivative (1VD) grid was generated from the TMI grid using a convolution grid filter.
- An analytic signal (AS) grid was generated from the TMI grid using a fast Fourier transform algorithm.
- Geotiff maps of TMI profiles, TMI colour grid, TMI B&W contours, 1VD colour grid, 1VD B&W contours, AS colour grid, AS B&W contours, and line path maps were exported.

DATA DELIVERABLES:

Deliverable data includes:

- 1. Total Magnetic Intensity
- 2. Calculated 1st Vertical Derivative
- 3. Analytic Signal
- 4. B&W Contour Plots of above three.
- 5. Profiles of Total Magnetic Intensity
- 6. Survey Track Plot

Respectfully Submitted, Meridian Mapping Ltd.

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Dugald Dunlop B.Sc. (Geology)

APPENDIX I – EQUIPMENT SPECIFICATIONS



Our World is Magnetic.

GEM's unique Overhauser system combines data quality, survey efficiency and options into an instrument that takes the leading place in the industry.

And the latest v7.0 technology upgrades provide even more value:

Data export in standard XYZ (i.e. line-oriented) format for easy use in standard commercial software programs

Programmable export format for full control over output

GPS elevation values provide input for geophysical modeling Enhanced GPS positioning resolution

Standard GPS: <1.5m SBAS (WAAS, EGNOS, MSAS) High resolution CDGPS Option: <0.6m SBAS (WAAS, EGNOS, MSAS) <0.6m CDGPS (Canada, USA, Mexico) <0.7m OmniStar VBS2

Multi-sensor capability for advanced surveys to resolve target geometry

Picket and line marking / annotation for capturing related surveying information on-the-go

And all of these technologies come complete with the most attractive savings and warranty in the business!

Overhauser

Magnetometer / Gradiometer / VLF (GSM-19 v7.0)



Overhauser (GSM-19) console with sensor and cable. Can also be configured with additional sensor for gradiometer (simultaneous) readings.

The GSM-19 v7.0 Overhauser instrument is the total field magnetometer / gradiometer of choice in today's earth science environment -- representing a unique blend of physics, data quality, operational efficiency, system design and options that clearly differentiate it from other quantum magnetometers.

With data quality exceeding standard proton precession and comparable to costlier optically pumped cesium units, the GSM-19 is a standard (or emerging standard) in many fields, including:

- Mineral exploration
 (ground and airborne base station)
- Environmental and engineering
- Pipeline mapping
- Unexploded Ordnance Detection
- Archeology
- Magnetic observatory measurements
- Volcanology and earthquake prediction

Taking Advantage of the Overhauser Effect

Overhauser effect magnetometers are essentially proton precession devices except that they produce an order-of magnitude greater sensitivity. These "supercharged" quantum magnetometers also deliver high absolute accuracy, rapid cycling (up to 5 readings / second), and exceptionally low power consumption.

Version 7.0

The Overhauser effect occurs when a special liquid (with unpaired electrons) is combined with hydrogen atoms and then exposed to secondary polarization from a radio frequency (RF) magnetic field.

The unpaired electrons transfer their stronger polarization to hydrogen atoms, thereby generating a strong precession signal -- that is ideal for very highsensitivity total field measurements.

In comparison with proton precession methods, RF signal generation also keeps power consumption to an absolute minimum and eliminates noise (i.e. generating RF frequencies are well out of the bandwidth of the precession signal).

In addition, polarization and signal measurement can occur simultaneously which enables faster, sequential measurements. This, in turn, facilitates advanced statistical averaging over the sampling period and/or increased cycling rates (i.e. sampling speeds).

Other advantages are described in the section called, "GEM's Commercial Overhauser System" that appears later in this brochure.

Maximizing Your Data Quality with the GSM-19

Data quality is a function of five key parameters that GEM has taken into consideration carefully in the design of the GSM-19. These include sensitivity, resolution, absolute accuracy, sampling rates and gradient tolerance.



Data from Kalahari Desert kimberlites. Courtesy of MPH Consulting (project managers), IGS c. c. (geophysical contractor) and Aegis Instruments (Pty) Ltd., Botswana.

Sensitivity is a measure of the signal-tonoise ratio of the measuring device and reflects both the underlying physics and electronic design. The physics of the Over-hauser effect improves sensitivity by an order of magnitude over conventional proton precession devices. Electronic enhancements, such as high-precision precession frequency counters (see the v6.0 & v7.0 - New Milestones section) enhance sensitivity by 25% or more.

The result is high quality data with sensitivities of 0.02 nT / \sqrt{Hz} . This sensitivity is virtually the same as the sensitivity of costlier optically-pumped cesium systems.

Resolution is the minimum step of the counter used to measure precession frequency and its conversion into magnetic field. It is generally higher than the sensiti-vity to avoid a contribution of the counter to overall system noise. The GSM-19 has unmatched resolution (0.01 nT).

This level of resolution translates into well-defined, characteristic anomalies; impro-ved visual display; and enhanced numeri-cal data for processing and modeling.

Absolute accuracy defines maximum deviation from the true value of the measu-

knows the true value of the field, absolute accuracy is determined by considering factors involved in determining the field value and their accuracy, including the gyromagnetic constant, maximum offset of the time base frequency, etc.

With an absolute accuracy of +/- 0.1 nT, the GSM-19 is ideal for total field work and gradient measurements maintain the same high standard of quality. Both configurations are also specially designed to minimize overall system noise, so you can be sure that results truly reflect the geologic signal that is of most interest to you.

Sampling rates are defined as the fastest speed at which the system can acquire da-ta. This is a particularly important parame-ter because high sampling rates ensure accurate spatial resolution of anomalies and increase survey efficiency.

GEM's Overhauser system has 3"measurement modes" or maximum sampling rates - "Standard" (3 sec. / reading), "Walking" (0.5 sec. / reading) and "Fast" (0.2 sec. / reading). These rates make the GSM-19 a versatile system for all ground uses (including vehicle-borne applications).

Gradient tolerance is the ability to obtain reliable measurements in the presence of extreme field variations. GSM-19 tolerance is maintained through internal



Total Field and Stationary Vertical Gradient showing the gradient largely unaffected by diurnal variation. Absolute accuracy is also shown to be very high (0.2 nT/meter).

signal counting algorithms, sensor design and Overhauser physics. For example, the Overhauser effect produces high amplitude, long-duration signals that facilitate measurement in high gradients.

The system's tolerance (10,000 nT/m) makes it ideal for many challenging environments, such as highly magnetic rocks in mineral exploration or near cultural objects in environmental, UXO or archeological applications.



Much like an airborne acquisition system, the GSM-19 "Walking" magnetometer option delivers very highly-sampled, high sensitivity results that enable very accurate target location and / or earth science decision-making.

Near-Continuous Surveys Improve Definition of Magnetic Anomalies

Increasing Your Operational Efficiency

Many organizations have standardized their magnetic geophysical acquisition on the GSM-19. This reflects enhancements such as memory capacity; light weight; GPS and navigation; no warm-up time; no dead zones or heading errors; easy dumping and processing.

Memory capacity controls the efficient daily acquisition of data, acquisition of positioning results from GPS and the ability to acquire high volumes of data to meet daily survey objectives.

V7.0 upgrades have established the GSM-19 as the commercial standard for memory with over 838,000 readings (based on a basic configuration of memory, a survey with time, coordinate and field values).

Optional increments of memory to over 2 million readings making the GSM-19 an ideal system for acquisition of data with integrated GPS readings (when required).

Portability characteristics (ruggedness, light weight and power consumption) are essential for operator productivity in both normal and extreme field conditions.



GEM's Overhauser magnetometer is established globally as a robust scientific instru-ment capable of withstanding temperatu-re, humidity and terrain extremes. It has the reputation as the lightest and lowest power system available, reflecting Overhau-ser effect and RF polarization advantages.

In comparison with other systems, the GSM-19 is the choice of operators as an easy-to-use and robust instrument

GPS and navigation options are very important for earth science professionals. GPS technologies are revolutionizing data acquisition, productivity, increasing spatial resolution and providing a new level of data quality for informed decision-making.

GEM has made GPS a cornerstone of its magnetic R&D program. Real time GPS and DGPS options are now available in different survey resolutions. For more details, see the GPS and DGPS section.

GEM has also developed a GPS Navigation feature with real-time coordinate transformation to UTM, local X-Y coordinate rotations, automatic end-of-line flag, guidance to the next line, and survey "lane" guidance with cross-track display and audio indicator.

Other enhancements include way point preprogramming of up to 1000 points. Professionals can define a complete survey on PC and download points to the magnetometer via RS-232 before leaving for the field.

The operator performs the survey using the way points as a survey guide. This capability decreases survey errors, improves efficiency and ensures more rapid survey completion.

Dumping and processing effectiveness is also critical consideration. Historically, up to 60% of an operator's "free" time can be spent on data dumping. Data dumping times are significantly reduced through GEM's implementation of high-speed, digital data links (up to 115 kBaud).

This functionality is facilitated through a new RISC processor and GEM's proprietary GEMLinkW acquisition/display software. This software serves as a bi-directional RS-232 terminal. It also has integrated processing functionality to streamline key processing steps, including diurnal data reduction. GEMLinkW is provided free to all GSM-19 customers. Regular updates are



Navigation and Lane Guidance

The figure above shows the Automatic Grid (UTM, Local Grid, and Rotated Grid). With the Rotated Grid, you can apply an arbitrary origin of your own definition. Then, the coordinates are always in reference to axes parallel to the grid. In short, your grid determines the map, and not the NS direction.

The Local Grid is a scaled down, local version of the UTM system, and is based on your own defined origin. It allows you to use smaller numbers or ones that are most relevant to your survey.

The figure below shows how programmable waypoints can be used to plan surveys on a point-by-point basis.

Initially, you define waypoints and enter them via PC in the office or via PC in the field or office. When you perform your survey, the unit guides you to each point.

While walking between waypoints, lane guidance keeps you within a lane of pre-defined width using arrows (< - or - >) to indicate left or right. The display also shows the distance (in meters) to the next waypoint.



Adding Value through Options

When evaluating the GSM-19 as a solution for your geophysical application we recommend considering the complete range of options offered by GEM. These options can be added at time of original purchase or later to expand capabilities as your needs change or grow.

GEM's approach with options is to provide you with an expandable set of building blocks:

o Gradiometer

o Walking Magnetometer / Gradiometer o Fast Magnetometer / Gradiometer

- o VLF (3 channel)
- o GPS (built-in or external)

GSM-19G Gradiometer Option

The GSM-19 gradiometer is a versatile, entry level system that can be upgraded to a full-featured "Walking" unit (model GSM-19GW) in future. The GSM-19G configuration comprises 2 sensors and a "Standard" console that reads data to a maximum of 1 reading every 3 seconds.



An important GEM's design feature allows gradiometer sensors measure the 2 magnetic fields concurrently to avoid any temporal variations that could distort gradiometer readings. Other features, such as single-button data recording, are included for operator ease-of-use.

GSM-19W / GW "Walking" Magnetometer / Gradiometer Option

GEM Systems pioneered the innovative "Walking" option that enables the acquisi-tion of nearly continuous data on survey lines. Since introduction, the GSM-19W and GSM-19GW have become one of the most popular magnetic instruments in the world.

Similar to an airborne survey in principle, the system records data at discrete time intervals (up to 5 readings per second) as the instrument is carried along the line.

At each survey picket (fiducial), the operator touches a designated key. The system automatically assigns a picket coordinate to the reading and linearly interpolates the coordinates of all intervening readings (following survey completion during postprocessing). A main benefit is that the high sample den-sity improves definition of ge-ologic struc-tures and other targets (UXO, archeological relics, drums, etc.).

It also increases survey efficiency because the operator can record data almost continuously. Another productivity feature is the instantaneous recording of data at pickets. This is a basic difference between the "Walking" version and the GSM-19 / GSM-19G (the "Standard" mode version which requires 3 sec. to obtain a reading each time the measurement key is pressed).

GSM-19W / GW Magnetometer

The GSM-19 reads up to 5 readings per sec. (sensors and console are the same as other models.) This system is ideal for vehicle-borne surveys, such as UXO, archaeological or some mineral exploration applications, where high productivity is required.

GSM-19 "Hands-Free" Backpack Option

The "Walking" Magnetometer and Gradiometer can be configured with an optional backpack-supported sensor. The backpack is uniquely constructed - permitting measurement of total field or gradient with free hands.

This option provides greater versatility and flexibility, which is particularly valuable for high-productivity surveys or in rough terrain.

GSM-19V / GV "VLF" Option

With GEM's omnidirectional VLF option, up to 3 stations of VLF data can be acquired without orienting. Moreover, the operator is able to record both magnetic and VLF data with a single stroke on the keypad.

3rd Party Software - A One-Stop Solution for Your Potential Field Needs

Now it's even easier to take data from the field and quality control stage through to final map preparation and modeling.



GEM-VIS provides links to fast 3D modeling via Encom's professional QuickPro software.

GEM provides very comprehensive solution available for working with magnetometer data:

o Free GEMLinkW Transfer and Internet Upgrade software

o Optional, low-cost GEM-VIS Quality Cont-

rol, Visualization and Analysis

o Optional Data Processing

o Optional QuickMag Pro Automated Modeling and Inversion



V7.0 and V6.0 - Technology Developments

One of the main differences between GEM and other manufacturers is GEM's 30 years consistent focus on developing leading-edge magnetic technologies.

This commitment has led to many innovations in sensor technology; signal counting; firmware and software; and hardware and console design, culminating in the release of v7.0.

v7.0 and the previous release (v6.0) of the GSM-19 system provides many examples of the ways in which GEM continues to advance magnetics technologies for its customers.

Enhanced data quality:

o 25% improvement in sensitivity (new frequency counting algorithm) o new intelligent spike-free algorithm (in contrast to other manufacturers, GEM does not apply smoothing or filtering to achieve high data quality)

Improved operational efficiency:

o Enhanced positioning (GPS engine with optional integrated / external GPS and real-time navigation) o 16 times increase in memory to 32 Mbytes standard o 1000 times improvement in processing and display speed (RISC microprocessor with 32-bit data bus) 2 times faster digital data link (115 kBaud through RS-232)

Innovative technologies:

o Battery conservation and survey flexibility (base station scheduling option with 3 modes - daily, flexible and immediate start)

o Survey pre-planning (up to 1000 programmable waypoints that can be entered directly or downloaded from PC for greater efficiency)

o Efficient GPS synchronization of field and base units to Universal Time (UTC) o Cost saving with firmware upgrades

GEM's Proven Overhauser System

In a standard Proton magnetometer, current is passed through a coil wound around a sensor containing a hydrogen-rich fluid. The auxiliary field created by the coil (>100 Gauss) polarizes the protons in the liquid to a higher thermal equilibrium.

When the current, and hence the field, is terminated, polarized protons precess in the Earth's field and decay exponentially until they return to steady state. This process generates precession signals that can be measured as described below. Overhauser magnetometers use a more efficient method that combines electron-proton coupling and an electron-rich liquid (containing unbound electrons in a solvent con-taining a free radical). An RF magnetic field that corresponds to a specific energy level transition, stimulates the unbound electrons.

Instead of releasing this energy as emitted radiation, the unbound electrons transfer it to the protons in the solvent. The resulting polarization is much larger, leading to stronger precession signals.

Overhauser and proton precession, measure the scalar value of the magnetic field based on the proportionality of precession frequency and magnetic flux density (which is linear and known to a high degree of ac-curacy). Measurement quality is calculated using signal amplitude and its decay cha-racteristics. Values are averaged over the sampling



As the world's experienced manufacturer of commercial Overhauser systems, GEM's technical focus on the GSM-19 has resulted in a superior magnetic measuring device with high sensitivity, high cycling speed, low noise, and very low power consumption over a wide temperature range.

With minor software modifications (i.e. addition of a small auxiliary magnetic flux density while polarizing), it can be easily configured for high sensitivity readings in low magnetic fields (for equatorial work).

GPS - Positioning You for Effective Decision Making

The use of GPS technology is increasing in earth science disciplines due to the ability to make better decisions in locating anomalies, and in improving survey cost effectiveness and time management.



Examples of applications include:

o Surveying in remote locations with no grid system (Arctic for diamond exploration)

o High resolution exploration mapping

o High productivity ferrous ordnance (UXO) detection

o Ground portable magnetic and gradient surveying for environmental and engineering applications

o Base station monitoring for observing diurnal magnetic activity and disturbances with integrated GPS time

GEM addresses requests for GPS and highresolution Differential GPS (DGPS) through internal and external options. Customer units can also be integrated. GPS surveys return a variety of real data to the user, including Time, Latitude and Longi-tude, UTM, Elevation and # of Satellites. This data is available to be applied in various ways by the user. The table below shows GPS modes, ranges and services.

Description	Range	Services
GPS Option A		Time reception only
GPS Option B	<1.5m	DGPS*
GPS Option C	<0.6m	DGPS*, OmniStar
GPS Option D <0.6m CDGPS, <0.6m DGPS*, <0.7m OmniStar		CDGPS, DGPS*, OmniStar
Output		
Time, Lat / Long, UTM, Elevation and number of Satellites		
*DGPS with SBAS (WAAS / EGNOS / MSAS)		

Key System Components

Key components that differentiate the GSM-19 from other systems on the market include the sensor and data acquisition console. Specifications for components are provided on the right side of this page.

Sensor Technology

GEM's sensors represent a proprietary innovation that combines advances in electronics design and quantum magnetometer chemistry.

Electronically, the detection assembly includes dual pick-up coils connected in series opposition to suppress far-source electrical interference, such as atmospheric noise. Chemically, the sensor head houses a proprietary hydrogen-rich

Our World is Magnetic.

About GEM Advanced Magnetometers

GEM Systems, Inc. delivers the world's only magnetometers and gradiometers with built-in GPS for accurately positioned ground, airborne and stationary data acquisition. The company serves customers in many fields including mineral exploration, hydrocarbon exploration, environmental and engineering, Unexploded Ordnance Detection, archeology, earthquake hazard prediction and observatory research.

Key products include the Proton Precession, Overhauser and Optically-Pumped Potassium instruments.

Each system offers unique benefits in terms of sensitivity, sampling, and acquisition of high-quality data. These core benefits are complemented by GPS technologies that provide metre to sub-metre positioning.

With customers in more than 50 countries globally and more than 25 years of continuous technology R&D, GEM is known as the only geophysical instrument manufacturer that focuses exclusively on magnetic technology advancement.



liquid solvent with free electrons (free radicals) added to increase the signal intensity under RF polarization.

From a physical perspective, the sensor is a small size, light-weight assembly that houses the Overhauser detection system and fluid. A rugged plastic housing protects the internal components during operation and transport.

All sensor components are designed from carefully screened non-magnetic materials to assist in maximization of signal-tonoise. Heading errors are also minimized by ensuring that there are no magnetic inclusions or other defects that could result in variable readings for different orientations of the sensor.

Optional omni-directional sensors are available for operating in regions where the magnetic field is near-horizontal (i.e. equatorial regions). These sensors maximize signal strength regardless of field direction.

Data Acquisition / Console Technology

Console technology comprises an external keypad / display interface with internal firmware for frequency counting, system control and data storage / retrieval. For operator convenience, the display provides both monochrome text as well as real-time profile data with an easyto-use interactive menu for performing all survey functions.

The firmware provides the convenience of upgrades over the Internet via the GEMLinkW software. The benefit is that instrumentation can be enhanced with the latest technology without returning the system to GEM -- resulting in both timely implementation of updates and reduced shipping / servicing costs.



GEM Systems, Inc. 135 Spy Court Markham, ON Canada L3R 5H6 Phone: 905 752 2202 • Fax: 905 752 2205 Email: info@gemsys.ca • Web: www.gemsys.ca

Specifications

Performance

Sensitivity:	0.022 nT / √Hz
Resolution:	0.01 nT
Absolute Accuracy:	+/- 0.1 nT
Range:	20,000 to 120,000 nT
Gradient Tolerance:	< 10,000 nT/m
Samples at:	60+, 5, 3, 2, 1, 0.5, 0.2 sec
Operating Temperat	ure: -40C to +50C

Operating Modes

Manual: Coordinates, time, date and reading stored automatically at minimum 3 second interval. Base Station: Time, date and reading stored at 1 to 60 second intervals. Remote Control: Optional remote control using RS-232 interface. Input / Output: RS-232 or analog (optional) output using 6-pin weatherproof connector.

Storage - 32 MB (# of Readings)

Mobile:	1,465,623
Base Station:	5,373,951
Gradiometer:	1,240,142
Walking Mag:	2,686,975

Dimensions

Console:	223 x 69 x 240 mm
Sensor:	175 x 75mm diameter cylinder

Weights

Console with Belt:	2.1 kg
Sensor and Staff Assembly:	1.0 kg

Standard Components

GSM-19 console, GEMLinkW software, batteries, harness, charger, sensor with cable, RS-232 cable and USB adapter, staff, instruction manual and shipping case.

Optional VLF

Frequency Range: Up to 3 stations between 15 to 30.0 kHz. Parameters: Vertical in-phase and out-of-phase components as % of total field. 2 components of horizontal field amplitude and total field strength in pT. Resolution: 0.1% of total field



November 2011



November 2011


November 2011



November 2011



November 2011

APPENDIX II

Interpretation Memo

by J. Witter

SJ Geophysics Ltd

December 16, 2011







11966 - 95A Avenue, Delta, BC V4C 3W2 CANADA Bus: (604) 582-1100 www.sjgeophysics.com

MEMORANDUM

Date: December 16, 2011

From: Jeff Witter

To: Rich Rock Resources Inc.

SUBJECT: Interpretation Memorandum on the 3DIP Survey for the Tas Project

The purpose of this memo is to present the results and preliminary interpretation of a threedimensional induced polarization (3DIP) geophysical survey conducted on Rich Rock Resources Inc.'s Tas project. This area lies in the Omineca Mining Division of central British Columbia. In summary, the 3DIP survey succeeded at resolving interesting resistivity and chargeability anomalies in the subsurface that appear consistent with mapped geological trends. For example, the mapped surface extent of the Tas pluton coincides well with low chargeability and high total magnetic intensity anomalies. In addition, high resistivity coupled with moderate chargeability in the near-surface coincides with the eastern portion of the Ridge Zone, an area of known mineralization. In contrast, surface outcrops of intrusive breccia and monzonite, do not appear to consistently correlate with near-surface geophysical anomalies. At mid-level depths (150 – 200 m), interesting, non-overlapping anomalies of high chargeability and high resistivity have been identified – some appear associated with the Tas pluton, while others do not. Perhaps the most significant geophysical anomaly identified lies at greater depths (350 m). It consists of a large resistivity low that coincides with a sizeable chargeability high.

The Tas Project 3DIP survey consisted of 13 NE-SW trending survey lines covering an irregular-shaped area approximately 2.5 km x 2.4 km in size (Figure 1). The primary rock types in the survey area are volcanic cherty tuff and argillite units of the Inzana Lake Formation. The grid also encompasses an area of identified porphyry Au-Cu mineralization, known as the Ridge Zone, as well as a large diorite pluton (the Tas pluton) and other assorted intrusions.

The area mapped at the surface as the Tas pluton coincides well with an area of high magnetic intensity in the southern portion of the survey area (Figure 2). The extensive area covered by the high magnetic intensity suggests the Tas pluton covers a wider region than the area mapped. Relatively smaller magnitude magnetic anomalies can be observed in the Ridge Zone, however, the geologic significance of these anomalies remains unclear. It is also difficult to make any specific conclusions about the magnetic signature of the monzonite and intrusive breccia zones except that their magnetite content is likely lower than the Tas pluton.

In the shallow subsurface (i.e. 25 m depth), the Tas pluton and monzonite correlate well with an area of low chargeability (<5 - 15 ms; Figure 3). The Ridge Zone, by contrast, is characterized by moderate chargeabilities (20 - 40 ms) with higher values occurring in the east central part of the Ridge Zone. The highest magnitude chargeability anomalies encountered on the Tas property do not occur in the near-surface but rather occur at greater depths. Resistivity in the shallow subsurface (Figure 4) is highly variable with the highest resistivity anomaly (>2500 ohm-m) occurring in the NE sector of the Ridge Zone. Interestingly, there is also a small, but significant resistivity low (<50 ohm-m) in the approximate centre of the Ridge Zone. One interpretation of the coincidence of the moderate chargeabilities and high resistivities in the Ridge Zone is as follows: the presence of disseminated sulfides could be responsible for the elevated chargeability values and an abundance of quartz veining and/or silica flooding could be generating the high resistivity. This interpretation would be consistent with a hot hydrothermal system that deposited sulfide minerals and silica and potentially precious metals. The near-surface resistivity low in the Ridge Zone could potentially signify an area of abundant clay, a by-product of hydrothermal alteration.

At intermediate depths (i.e. 150 - 200 m), the geophysical anomalies appear larger and have a higher magnitude. At 200 m below the surface, the region mapped as the Tas pluton is still characterized by low chargeability (<5 - 20 ms; Figure 5). A northward extension of this low chargeability zone suggests a northerly lobe of the Tas pluton at these depths. Lying immediately north of the east end of the Tas pluton are two significant chargeability high anomalies (>55 ms) that appear sandwiched between the intrusive breccias, monzonite, and Tas pluton. A third chargeability high anomaly lies on the edge of the survey area immediately north of the Ridge Zone. Within the Ridge Zone itself, chargeabilities are moderate (15 - 40 ms) at these depths with higher values in the west compared to the east. Most of the highest value resistivity anomalies (>2500 ohm-m) at these intermediate depths appear to coincide with the Tas pluton (Figure 6). Within the Ridge Zone, the resistivity is variable with a resistivity low (50 - 150 ohm-m) near the centre and anomalies of moderate to high resistivity (500 - 2000 ohm-m) on either side. The high resistivity anomaly in the west side of the Ridge Zone is significantly larger and of greater magnitude compared to the one at the eastern end. There are no interesting resistivity anomalies associated with the intrusive breccias or monzonite.

At deeper levels (350 m), a very interesting set of significant anomalies appear to correlate with one another. A generally east-west zone of high chargeability (>40 ms; Figure 7) extends across most of the survey area. One arm of this high chargeability zone extends below the south central portion of the Ridge Zone. A significant low resistivity zone (<50 - 200 ohm-m) also lies at 350 m depth and overlaps substantially with the aforementioned zone of high chargeability. The lowest magnitude portion of this resistivity anomaly also lies beneath the south central part of the Ridge Zone. One interpretation of this combination of geophysical anomalies is: abundant disseminated sulfides (causing high chargeability) coupled with a zone of clay-rich rocks (creating low resistivity). If correct, such an environment would be consistent with a hydrothermally-altered, potentially mineralized zone that may be a worthy target for drilling.

To better visualize the spatial relationships of the various anomalies, we have mapped the high resistivity (red) and low resistivity (blue) bodies as well as the high chargeability (green) bodies in three dimensions. The lowest chargeability area associated with the Tas pluton is not shown. A steeply-dipping blue low resistivity body that overlaps significantly with a green high resistivity body at greater depths can clearly be seen in Figures 9 & 10.



Figure 1: Topographic map of the Tas project with geologic map and 3DIP survey lines overlain and labeled.



Figure 2: Plan map showing the total magnetic intensity across the survey area. The Tas pluton correlates well with high magnetic intensity. Moderate magnitude magnetic anomalies are also found in the Ridge Zone. One area mapped as intrusive breccia corresponds to a small magnetic high (relative to its surroundings) while the other intrusive breccia and the monzonite zones lie within a region of low magnetic intensity.



Figure 3: Plan map showing the distribution of chargeability at a depth of 25 m beneath the surface. The areas mapped as the Tas pluton and monzonite are characterized by low chargeability (<5 - 15 ms). The Ridge Zone in contrast, is dominated by moderate chargeabilities (20 - 40 ms). Likewise, two of the zones mapped as intrusive breccia correspond to moderate chargeabilities.



Figure 4: Plan map showing the distribution of resistivity at a depth of 25 m beneath the surface. Resistivity in the shallow subsurface is highly variable across the survey area (<50 to >2500 ohm-m). This may be due to local surface effects such as differing degrees of weathering and/or oxidation. The highest near-surface chargeability values on the Tas project (>2500 ohm-m) are found in the northeast portion of the Ridge Zone.



Figure 5: Plan map showing the distribution of chargeability at a depth of 200 m beneath the surface. At this depth, an apparently extensive Tas pluton correlates with low chargeability values (<5-20 ms). The Ridge Zone is characterized by moderate chargeabilities (15-40 ms). Three zones of high chargeability (>55 ms) have been identified: one immediately north of the Ridge Zone and two more flanked by the Tas pluton, monzonite, and breccia units.



Figure 6: Plan map showing the distribution of resistivity at a depth of 150 m beneath the surface. The Ridge Zone is characterized by a low resistivity anomaly (50 - 150 ohm-m) near the center of the zone, flanked by moderate to high resistivity anomalies (500 - 2000 ohm-m). Most of the highest magnitude resistivity anomalies in the survey area (>2500 \text{ ohm-m}) appear to correlate with the Tas pluton.



Figure 7: Plan map showing the distribution of chargeability at a depth of 350 m beneath the surface. At this depth, an irregular zone of high chargeability (>40 ms; dotted orange line) runs east-west through the middle of the survey area. A portion of this high chargeability anomaly extends into the south central part of the Ridge Zone. The highest magnitude portion (>55 ms) of this high chargeability anomaly is spatially-associated with the intrusive breccia on the margin of the Tas pluton. In general, the Tas pluton appears to correspond to a zone of low chargeability (<5 – 20 ms).



Figure 8: Plan map showing the distribution of resistivity at a depth of 350 m beneath the surface. A conspicuous resistivity low (<50 - 200 ohm-m) dominates the central portion of the survey area with the lowest portion of the anomaly lying in the center of the Ridge Zone. This zone of low resistivity overlaps with the zone of high chargeability at this same depth. The areas mapped as monzonite and intrusive breccia are characterized by moderate resistivity values (200 - 800 ohm-m) whereas the Tas pluton coincides with moderate to high resistivities (400 - 1500 ohm-m).



Figure 8: Plan map showing the distribution of resistivity at a depth of 350 m beneath the surface. A conspicuous resistivity low (<50 - 200 ohm-m) dominates the central portion of the survey area with the lowest portion of the anomaly lying in the center of the Ridge Zone. This zone of low resistivity overlaps with the zone of high chargeability at this same depth. The areas mapped as monzonite and intrusive breccia are characterized by moderate resistivity values (200 - 800 ohm-m) whereas the Tas pluton coincides with moderate to high resistivities (400 - 1500 ohm-m).



Figure 9: 3D perspective view looking down to the NNE. The geophysical survey lines are denoted by white spheres and follow the topography. Areas of high chargeability are shown as green solid bodies (> 55 ms) and as green wire-mesh (45 - 55 ms). Areas of high resistivity are shown as red solid bodies (> 2500 ohm-m) and orange wire-mesh (1800 - 2500 ohm-m). Areas of low resistivity are shown as blue solid bodies (< 50 ohm-m) and blue wire-mesh (50 - 100 ohm-m). Notice the large resistivity highs (red) in the foreground that appear to be associated with the Tas pluton. Behind them lies the large, east-west trending zone of high chargeability (green). The central portion of this high chargeability zone coincides with a region of low resistivity (blue) which lies immediately beneath the Ridge Zone.



Figure 10: 3D perspective view looking to the SE. The geophysical survey stations are denoted by white spheres and follow the topography. Color scheme for the chargeable and resistive bodies is the same as that in Figure 9.

APPENDIX III

TECHNICAL REPORT

By

M. Kootchin

SJ Geophysics Ltd

November 2011

LOGISTICS REPORT PREPARED FOR RICH ROCK RESOURCES INC.

THREE DIMENSIONAL INDUCED POLARIZATION SURVEY ON THE TAS PROJECT

Fort St. James, British Columbia, Canada Latitude: N54° 54' Longitude: W124° 19' BCGS SHEET: 093K089, 099 NTS SHEET: 093K16 MINING DIVISION: Omineca

Survey conducted by SJ Geophysics Ltd. September to October 2011

> Report prepared by Matvei Kootchin November 2011

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1. SURVEY SUMMARY

SJ Geophysics Ltd. was contracted by Rich Rock Resources Inc. to acquire geophysical data on their Tas property. The following table provides a brief summary of the project.

Client	Rich Rock Resources Inc.	
Project Name	Tas	
Location	Latitude: 54° 54' N Longitude: 124° 18' W	
(approx. centre of grid)	6084000N 415000E; UTM NAD83 Zone 10	
Survey Type	3D Induced Polarization (3DIP)	
Number of Survey Lines	13	
Total Line Kilometres	31.2 km	
Dates	September 14 – September 19, 2011 and	
	September 30 – October 9, 2011	
Objective	SJ Geophysics was contracted to carry out a 3DIP survey	
	with the purpose of providing 3D inverted models of	
	resistivity and chargeability properties.	

Table 1: Survey Summary

This logistical report summarizes the operational aspects and methodologies of the geophysical survey. This report does not discuss or interpret the survey results.

2. LOCATION AND ACCESS

The Tas project is located 50 km north of the town Fort St. James in British Columbia, Canada (Figure 1). The project area can be accessed from Ft. St. James by the following directions (Figure 2):

Drive through town past the railroad tracks to the Germansen Landing North road. Take the North road approximately 57 km and turn left onto the Inzana Main road. The property is located at the 66 km marker along Inzana Main.

The Tas project is located in a mixed pine, spruce, birch and willow forest. Ground cover consisted of alder, devils club and grasses.



Figure 1: Overview map of the Tas project in B.C., Canada.



Figure 2: Location map for the Tas project.

Grid	Tas
Number Of Lines	13
Survey Line Azimuth	45°
Line Spacing	200 m
Station Spacing	100 m
Elevation range	880 – 1080 m

3. Grid Information

Table 2: Grid parameters

The Tas grid consisted of 13 survey lines, spaced at 200 m with stations flagged and marked every 50 m (Figure 3). Line and station labels for the grid were based on a local coordinate system with the western corner of the grid being labeled 10000E, 10000N. Line labels increased at 200 m intervals and station labels increased at 50 m intervals from that idealized point.

The terrain in the survey area was flat on the southern end and turned into rolling hills on the northern end. Ground contact on the grid was generally good, but the south end provided better contact than the north. The ground surface of the grid was predominantly packed soil, but a few swampy sections dotted the south. The walking conditions were easy along the cut lines, but the dense bush prevented crossing between the lines. Cut lines on either end of the grid as well as roads crossing the grid alleviated this issue, so overall the survey was easy to accomplish. Temperature at the Tas project ranged from around -5 °C at night up to 10 °C during the day. Precipitation was minimal at this time of year so the conditions were moist.



Figure 3: Grid map for the Tas project.

4. FIELD WORK AND INSTRUMENTATION

4.1. Field Logistics

An SJ Geophysics field crew for a 3DIP survey typically consists of at least two field geophysicists or technicians and at least three helpers to assist in the day-to-day operation of the survey. The field geophysicists and technicians oversee all operational aspects including field logistics, data acquisition and initial field data quality control.

There were two crews involved in this survey. The initial crew demobilized due to another project commitment and was replaced by a second crew nine days later. The list of crew members and dates on site is presented in Table 3.

Crew Member Name	Role	Start Date	End Date
Chris Hermiston	Field Geophysicist	09/14/2011	09/19/2011
Kieran Kootchin	Field Technician	09/14/2011	09/19/2011
Alexei Dzyuba	Helper	09/14/2011	09/19/2011
Ron Tait	Helper	09/14/2011	09/19/2011
Brent Dabels	Helper	09/14/2011	09/19/2011
Matvei Kootchin	Field Geophysicist	09/30/2011	10/09/2011
Paul White	Field Technician	09/30/2011	10/09/2011
Alex Fachler	Helper	09/30/2011	10/09/2011
Brendan Pierre	Helper	09/30/2011	10/09/2011
Vernon Prince	Helper	10/01/2011	10/09/2011
Cody Joseph	Helper	10/05/2011	10/09/2011

Table 3: Details of the SJ Geophysics crew dates on site.

The first SJ Geophysics crew arrived at the Tas project on September 13th and began production on September 14th. The first SJ Geophysics crew cleaned up all remaining wire on the grid and demobilized on September 19th. The second SJ Geophysics crew arrived at the project site on September 29th and began production on September 30th. On October 8th production on the Tas project was completed and the SJ Geophysics crew picked up all remaining equipment on

the next day and demobilized on October 10th.

The SJ Geophysics crews were accommodated by the client in a fishing lodge near Inzana Lake. The lodge was powered by a diesel generator and provided hot water to the crew. Communication with the office was limited to a satellite phone and weekly trip to Ft. St. James to send data over the internet.

Overall, the survey was carried out in an efficient and safe manner. There was one issue related to animal activity though, which affected production. Wires and cables broke due to animal chews and large game walking through. The crews mitigated the problem by hanging cables and wires on nearby trees.

4.2. Survey Parameters and Instrumentation

The geophysical instrumentation used to acquire the 3DIP data consisted of SJ-24 full waveform receivers and a GDD Tx II transmitter. The specifications of these instruments are listed in Appendix A and the equipment parameters are summarized in Table 4.

Array Type	3DIP – Offset Pole-Dipole	
Number of Dipoles	15 to 16	
Dipole Length	100 m	
Array Length	1600 m	
Current Interval	100 m	
IP Transmitter	GDD TxII (Serial #246, 436, 335)	
Duty Cycle	50%	
Waveform	Square	
Cycle and Period	2 sec on / 2 sec off; 8 second	
IP Receiver	SJ-24 Full Waveform Digital Receiver	
Reading Length	Minimum 60 seconds	
Vp Delay, Vp Integration	1200 ms, 600 ms	
Mx Delay, # of Windows	200 ms, 20	
Width (Mx Intergration)	36, 39, 42, 45, 48, 52, 56, 60, 65, 70, 75, 81, 87,	
	94, 101, 109,118, 128, 140, 154	
	(200 ms – 1800 ms)	
Properties Calculated	Vp, Mx, Sp, Apparent Res	
GPS	Garmin GPSmap 60CSx, GPSMap 62s	
Average Accuracy	5 m	
Datum / Projection	UTM NAD83 Zone 10	

Table 4: Instrument parameters

The IP array was connected using special 8-conductor cables with 50 m takeouts for the receiver electrodes. For the potential line, the electrodes consisted of stainless steel pins, 50 cm long and 10 mm in diameter, which were hammered into the ground. At each current station (50 m intervals), current was injected using two long (75 cm) stainless steel electrodes hammered

into the ground. The remote current locations consisted of four 1 m stainless steel rods, 15 mm in diameter. At both current and remote sites the ground was soaked with a saline water solution to improve contact. Table 5 shows the UTM locations of the remote sites.

Туре	UTM Northing / NAD83 Zone 10	UTM Easting / NAD83 Zone 10
South Remote 1	6083354	413760
North Remote 1	6085818	416063
South Remote 2	6082792	414514
North Remote 2	6084976	416726

Table 5: 3DIP remote sites

All of the locational information was recorded by the SJ Geophysics crew, including GPS control points and slope/clinometric data. Control points were recorded with a Garmin GPSMap 60CSx handheld GPS and the GPSMap 62s handheld GPS in the UTM projection and NAD83 datum. Slope data were recorded with a Suunto handheld clinometer.

5. Geophysical Techniques

5.1 IP Method

The time domain IP technique energizes the ground by injecting square wave current pulses via a pair of current electrodes. During current injection, the primary voltage and input current are used along with the known positions of the electrodes to calculate the apparent (bulk) resistivity of the ground. Immediately after the current injection stops, a time decaying voltage is measured at the receiver electrodes. This IP effect measures the amount of polarizable (or "chargeable") particles in the subsurface rock.

Under ideal circumstances, high chargeability corresponds to disseminated metallic sulfides. Unfortunately, IP responses are rarely uniquely interpretable as other rock materials are also chargeable, such as some graphitic rocks, clays and some metamorphic rocks (e.g., serpentinite). Therefore, it is prudent from a geological perspective to incorporate other data sets to assist in interpretation.

IP and resistivity measurements are generally considered repeatable to within about five percent. However, changing field conditions, such as variable water content or electrode contact, reduce the overall repeatability. These measurements are influenced to a large degree by the rock materials near the surface or, more precisely, near the measurement electrodes. In the past, interpretation of a traditional IP pseudosection was often uncertain because strong responses located near the surface could mask a weaker one at depth. Geophysical inversion techniques help to overcome this uncertainty.

5.2 3DIP Method

Three dimensional IP surveys have been designed to take advantage of recent advances in 3D inversion techniques. Unlike conventional 2DIP, the electrode arrays are not restricted to an inline geometry. In the standard 3DIP configuration, a receiver array is established along one survey line while current lines are located on two adjacent lines lying on either side of the receiver line. Current injections are performed sequentially at fixed increments (25, 50, 100 or 200 m) along the current lines. Meanwhile, geophysical data are collected along a receiver array which consists of 12 to 16 dipoles laid out along the receiver line. Spacing between current and receiver lines is often the same; however, line spacing is sometimes modified to compensate for local conditions, such as inaccessible sites and water bodies, or the overall conductivity of the ground. Whenever possible, two receivers are used to speed up production and increase depth penetration. In most cases, one receiver records a full 16 dipole array while the second receiver records additional dipoles. By injecting current at multiple locations along current lines adjacent to receiver arrays, data acquisition rates are significantly improved over conventional surveys.

6. QUALITY ASSURANCE

6.1. Locations

Good quality survey location data is crucial to successful analysis and interpretation of the collected geophysical data. The quality of the location data for this survey is generally good with location data in the south slightly better than that in the north due to denser tree cover in the northern portion of the grid. GPS measurements (control points) were obtained for each survey station. Although the grid was mostly heavily vegetated, good satellite coverage was available in most spots. However, in steep ravines GPS multipath effects degraded the satellite signal. As a result, the positional accuracy of some of the GPS points is questionable. In these areas, the GPS points were removed and the clinometer measurements combined with an idealized ground distance and azimuth were used to interpolate locations.

6.2. IP Data

The IP geophysical data go through a series of quality assurance processes. Prior to acquisition, it is SJ Geophysics' best practice to acquire a noise reading to determine the background noise levels and to detect possible bad channels (i.e. poor ground contacts). This allows the operator to troubleshoot problem areas in the array prior to acquisition, then once the operator is satisfied, surveying can begin. Immediately after each full waveform reading is completed the data are analyzed in the field to provide the operator a set of electric potential and chargeability values (Vp, Sp, Mx) as well as a chart of the chargeability decay curves for each dipole in the array. This gives the operator valuable information to verify the quality of data in real time. Also available to the operator are visualization tools for full waveform signals and a spectral analysis program to assist in troubleshooting possible bad stations and unwanted noise.

Each evening, the analyzed data are imported into JavIP: a proprietary IP database management system developed by S.J.V. Consultants Ltd. (SJV). This package integrates the location information with each reading, thus allowing the calculation of the apparent resistivity and apparent chargeability. The package's interactive quality control tools include: plots of decay curves, tables of calculated parameters and a dot plot (a graphical display of data of the various parameters). These enable the field geophysicist to validate each data point. After the field

geophysicist removes known bad points from field observations and other obvious outliers, the database is delivered to SJV for a more stringent second review. In this second review, the data are scrutinized to ensure erroneous data points are not passed along to the final stage of processing: the inversion.

The data collected on the Tas project was of good quality. The voltage potentials (Vp's), for the most part, were strong and the signals and resulting decay curves were mostly clean. In most cases, one receiver recorded a full 16 dipole array. On the Tas project most of the data flagged for removal was due to non-coupling. This phenomena is typical in IP surveys and is related to the survey configuration. Non-coupling occurs when the receiver dipole is sub-parallel to the equipotential lines which can result in a significant decrease in signal strength and lead to untrustworthy data. The data was predominantly good in the southwestern half of the grid, while there tended to be more data flagged for removal in the northeastern half due to contact issues. Figure 4 shows data from the southwestern side of the grid where data were generally very clean. Figure 5 shows data from the northeastern side of the grid that is slightly more noisy.



Figure 4: Decay curves from Line 12000 injection station 10650



Figure 5: Decay curves from Line 12000 injection station 12300

7. Geophysical Inversion

The purpose of geophysical inversion is to estimate the distribution of the physical properties of rocks in the subsurface based on the geophysical data collected at the surface. Examples of physical properties include: density, resistivity, chargeability, and magnetic susceptibility. Geophysical measurements made at the surface are strongly influenced by the physical properties of rocks in the subsurface. Therefore, we can use mathematical algorithms to convert these surface measurements into a 3D picture of the subsurface. This process is called geophysical inversion. Unfortunately, the inversion process cannot provide a single unique solution. Indeed, there are many different possible subsurface 3D physical property models that could fit our surface geophysical measurements. Despite this limitation, inversion is a very powerful tool to help identify the main subsurface features which are required by the surface geophysical data. With the combination of high quality surface measurements and geophysical inversion, a much greater understanding of the subsurface can be obtained. Several geophysical inversion programs are available, but SJ Geophysics primarily uses the UBC-GIF algorithms (e.g. DCIP2D, DCIP3D, MAG3D, GRAV3D) which were developed by a consortium of major mining
companies under the auspices of the UBC-Geophysical Inversion Facility.

It is SJ Geophysics standard practice to invert data from 3DIP surveys, and to do this we use the DCIP3D program which solves two inverse problems. First, the DC potentials are inverted to calculate the spatial distribution of electrical resistivity in the subsurface. Second, the chargeability data (IP) are inverted to recover the spatial distribution of IP polarizable particles in subsurface rocks. When available, additional information, such as geological boundaries and down-hole geophysical data, can be added to the inversion in order to constrain the inversion model. The inversion programs are generally applied iteratively to evaluate the output with regard to what is geologically known, estimate the depth of detection, and determine the viability of specific measurements.

The inversion result is then run through a series of quality control steps prior to final gridding and mapping. Inversion output is plotted to show the distribution of physical properties (e.g. resistivity, chargeability, etc.) in cross-sections as well as plan maps that are sliced at different depths beneath the surface. Inversion results are also visualized in 3D using the open source software packages Mayavi and Paraview. Using both 2D and 3D views, additional data (such as topography, geochemistry, and drillholes) can then be overlain to aid in interpretation and facilitate discussion of potential drilling targets.

Respectfully submitted, per SJ Geophysics Ltd.

Matvei Kootchin

Shawn Rastad

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Appendix A: Instrument Specifications

SJ-24 Full Waveform Digital IP Receiver

Technical:	
Input impedance:	10Ω
Input overvoltage protection:	up to 1000V
External memory:	Unlimited readings
Number of dipoles:	4 to 16 +, expandable
Synchronization:	Software signal post-processing user selectable
Common mode rejection:	More than 100 dB (for Rs=0)
Self potential (Sp):	Range: -5V to +5V
	Resolution: 0.1mV
	Proprietary intelligent stacking process rejecting strong non-
	linear SP drifts
Primary voltage:	Range: $1\mu V - 10V$ (24bit)
	Resolution: $1\mu V$
	Accuracy: typ. <1.0%
Chargeability:	Resolution: $1\mu V/V$
	Accuracy: typ. <1.0%
General (4 dipole unit):	
Dimensions:	18 x 16 x 9 cm
Weight:	1.1kg
Battery:	12V external
Operating temperature range:	-20 °C to 40 °C

GDD Tx II IP Transmitter

Input voltage:	120V / 60 Hz or 240V / 50Hz (optional)
Output power:	3.6 kW maximum
Output voltage:	150 to 2200 V
Output current:	5 mA to 10 A
Time domain:	1, 2, 4, 8 second on/off cycle
Operating temp. range:	-40 °C to +65 °C
Display:	Digital LCD read to 0.001 A
Dimensions:	34 x 21 x 39 cm
Weight:	20 kg

APPENDIX B: SURVEY DETAILS

Line	Series	Туре	Start Station	End Station	Survey Length (m)
10000	Е	Tx	10000	12000	2000
10200	Е	Rc	10000	12100	2100
10400	Е	Tx	10000	12500	2500
10600	Е	Rc	10050	12450	2400
10800	Е	Tx	10000	12500	2500
11000	Е	Rc	10000	12500	2500
11200	Е	Tx	10000	12500	2500
11400	Е	Rc	10050	12450	2400
11600	Е	Tx	10000	12500	2500
11800	Е	Rc	10050	12450	2400
12000	Е	Tx	10000	12500	2500
12200	Е	Rc	10050	12450	2400
12400	Е	Tx	10000	12500	2500

Tas Grid

Total Linear Metres = 31200

Rc = *Receiver Line*, *Tx* = *Transmitter Line*







Interpreted Resistivity (ohm-m)

Interpreted Resistivity (ohm-m)

Interpreted Resistivity (ohm-m)

Interpreted Resistivity (ohm-m)

Interpreted Resistivity (ohm-m)

Interpreted Resistivity (ohm-m)

Interpreted Resistivity (ohm-m)

Interpreted Resistivity (ohm-m)

Interpreted Resistivity (ohm-m)

Interpreted Chargeability (ms)

Interpreted Resistivity (ohm-m)

Interpreted Chargeability (ms)

Interpreted Resistivity (ohm-m)

Interpreted Resistivity (ohm-m)

Geophysics Ltd.

Interpreted Resistivity (ohm-m)

