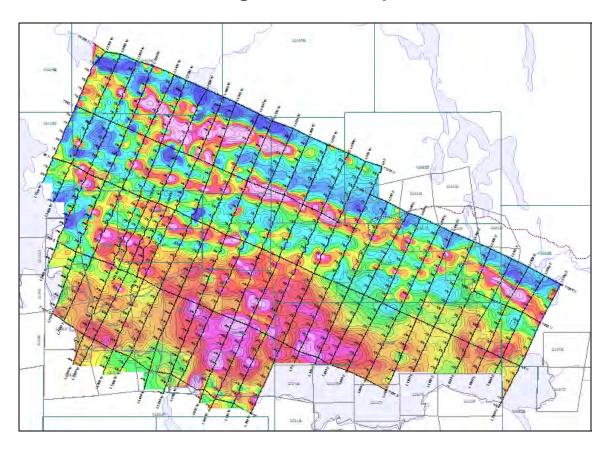


Logistical Report on Spectral IP/Resistivity and Magnetic/VLF Surveys North Shore Grid South Swayze Project, Gogama Area, Ontario Augen Gold Corp.



Ref. 9-60/10-46g October, 2010

Logistical Report on Spectral IP/Resistivity and Magnetic/VLF Surveys North Shore Grid, South Swayze Project, Gogama Area, Ontario

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Ref. 9-60/10-46g October, 2010

Summary

Magnetic/VLF and spectral IP/resistivity surveys were done on the North Shore grid, part of the South Swayze Project centered 35 km west southwest of Gogama, Ontario. The IP survey was done from February 8 to March 17, 2010 and from June 17 to July 17, 2010. The magnetic survey was done from February 17 to March 17, 2010 and from July 13 to July 18, 2010. Total production was 51,550 m IP/Resistivity and 87,325 m magnetics/VLF. The results of the surveys are presented on 5 plan maps at 1:10000 and 31 stacked pseudosections at 1:2500.

Cover page: total magnetic intensity contours, North Shore grid

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Appendix 2 : Weekly field production reports

Appendix 3: Map Images Instrument specification sheets

Maps

The results of the surveys are presented in 5 plan maps at 1:10000 and 31 stacked pseudosections at 1:2500. All maps show the survey grid, claim numbers and claim boundaries, roads and drainage, a UTM grid (NAD83, Z17N) and latitude / longitude co-ordinates. Map types are

- total magnetic intensity
- VLF offset profiles, vertical inphase and quadrature components, 24.0 kHz
- VLF offset profiles, vertical inphase and quadrature components, 25.2 kHz
- n=2 Mx chargeability
- n=2 apparent resistivity

The 31 stacked pseudosections (lines 3200W to 2200E) show colour / line contoured pseudosections of apparent resistivity, Mx chargeability and the spectral parameters MIP and tau.

Spectral IP/Resistivity and Magnetic/VLF Surveys North Shore Grid, South Swayze Project Augen Gold Corp.

Spectral IP/resistivity and magnetic/VLF surveys were done on the North Shore grid, part of the South Swayze Project centered 35 km west southwest of Gogama, Ontario (figure 1). The work was done for Augen Gold Corp. by JVX Ltd. under JVX job numbers 9-60 and 10-46. The IP survey was done from February 8 to March 17, 2010 and from June 17 to July 17, 2010. The magnetic survey was done from February 17 to March 17, 2010 and from July 13 to July 18, 2010. Total production was 51,550 m IP/Resistivity and 87,325 m magnetics/VLF.

The North Shore grid is largely within claims 3010746, 3010756, 3010775, 4203842, 4208200, 4208243, 4209350, 4209585, 4209586, 4223878 and 4241017 and leases S29951, S29952, S31759, S32219, S32220, S32224, S32225, S32226, S32618, S32619, S32621, S32625, S32626, S32386 and S32387. These claims and leases are in Huffman Township, Ontario. The grid is about 35 km west of Gogama, Ontario. The grid is made up of 28 lines at 200 m with three in-fill lines at 100 m. Lines are oriented north northeast. The maximum station range is 1900S to 1300N. There is a base line and tie lines at 1600S, 800S, 500N, 600N, 1000N and 1300N. The south part of the grid is over Opeepeesway Lake.

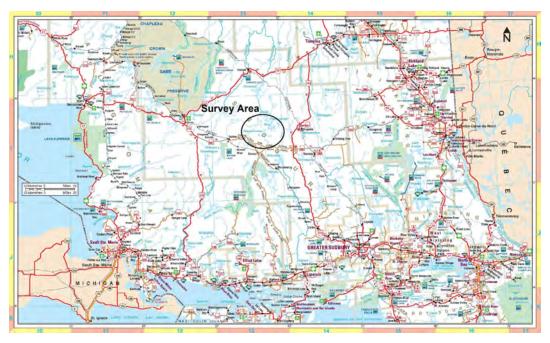


Figure 1. Regional location map

IP/resistivity and magnetic/VLF surveys on the North Shore grid are part of a larger program of ground geophysical surveys for Augen Gold Corp. on the South Swayze Project by JVX Ltd. under JVX job numbers 9-60 and 10-46. Other grids include Bi-Ore, Chester Gold, Schist Lake, Skye and Huffman Lake West. Work on these other grids is reported on separately using a different job number suffix.

Production summaries, GPS control points, instrumentation, data processing and archives are described in appendix 1. Weekly field production reports are reproduced in appendix 2. Images of all plan maps are in appendix 3. Instrument specification sheets are attached. Paper maps and pseudosections are folded and bound with this report.



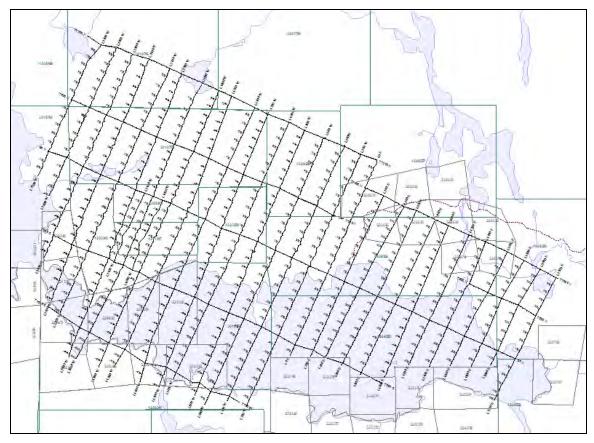


Figure 2. Grid layout with claim fabric

1. Background

Reading from an October 29, 2009 press release from Augen Gold Corp. -

Augen Gold is a gold exploration company with 24,581 hectares of staked and patented mining claims in the Southern Swayze Greenstone Belt, including the formerly producing Jerome Gold Mine. The claims cover a 45 kilometre long section of the Ridout Deformation Zone, believed to be the western extension of the Kirkland Lake/Larder Lake Break. The geological setting is comparable to the major gold camps of Timmins and Kirkland Lake, and the claims contain numerous gold showings that have received very little historical exploration. Augen Gold is the first company to have assembled such a coherent ground position. Augen Gold has performed a detailed airborne geophysical survey over the whole area, and its sampling program has confirmed the historically reported gold values. The correlation of many gold showings with geophysical features indicates excellent potential for the discovery of additional deposits. The Company's objectives are to aggressively explore the gold showings that correlate with geophysical anomalies, continue resource definition at the Jerome Mine, and to expand its property portfolio with highly prospective mineral assets.

The South Swayze Project area geology and exploration targets are shown in figure 3 taken from Augen Gold's Investor Fact Sheet, October 2008.



1. CONDUCTORS, SEDIMENT-VOLCANIC CONTACT 2. CIPWAY GOLD PROSPECT 3. ARTINROY GOLD PROSPECT 4. JEROME GOLD MIN. 5. JESS-MAC GOLD PROSPECT 7. BI-ORE GOLD PROSPECT 8. BRADY-CHARRON OPTION BASE METAL PROSPECT 9. BI-ORE GOLD PROSPECT 7. BI-ORE GOLD PROSPECT 8. BRADY-CHARRON OPTION BASE METAL PROSPECT 9. GOLD PROSPECT 9. BI-ORE GOLD PROSPECT 9. BI-ORE GOLD PROSPECT 1. BI-ORE GOLD PROSPECT 1. BI-ORE GOLD PROSPECT 1. BI-ORE GOLD PROSPECT 2. BI-ORE GOLD PROSPECT 3. BI-ORE GOLD PROSPECT 4. BI-ORE GOLD PROSPECT 5. BI-ORE GOLD PROSPECT 6. SIX-YE GOLD PROSPECT 7. BI-ORE GOLD PROSPECT 8. BRADY-CHARRON OPTION BASE METAL PROSPECT 9. GOLD PROSP

REGIONAL EXPLORATION & TARGETS

Figure 3. South Swayze Project area (from Augen Gold Investor Fact Sheet)

2. Personnel

Ted Lang, senior geophysical operator from JVX acted as party chief. He was responsible for all technical aspects of the field survey and operated the IP receiver. Assistants included Jamie Flowers, Mike Adshade, Irvin Luke, Jeff Boettcher, Chris Flowers, Dan Ingraldi, Brandon Martell, Doug Johnson, Jared Mandan, Rob St. Michel, Valery Kungurov and Scott Mortson. The magnetic/VLF survey was done by Dan Ingraldi, Scott Mortson and Doug Johnson. Data processing was handled by Lily Manoukian at the JVX office in Richmond Hill, Ontario.

3. Instrumentation

Magnetometer/VLF

Gem Systems GSM-19WV, SN 7052356 (mobile) Gem Systems GSM-19, SN 7082476 (base)

The GSM19WV magnetometer/VLF receiver has a built in GPS receiver. The GSM-19 is an earlier version of the same magnetometer without a built in GPS receiver. The GSM-19WV measures total magnetic intensity, VLF total field, vertical inphase, vertical quadrature and two horizontal VLF components. Specification sheets are attached.

IP/resistivity

Scintrex IPR12 receiver, SN 950248 and 9608083 GDD TXII – 1800W-2400V time domain transmitter, SN TX332 Huntec 2.5 kVA time domain transmitter, SN 272



The IPR12 is an eight channel time domain IP receiver that measures the primary voltage and decay voltages at 11 preset windows plus a user selected window (Mx). A 2 second current pulse was used. The IP receiver and transmitter are described in appendix 1. Specification sheets are attached.

4. Surveys

The UTM coordinates of at least two well separated points on each line were collected with a hand held GPS receiver. GPS control points at line ends, at the base line and every 100 m in between is ideal. As part of a geochemical survey, Augen Gold has provided GPS control points every 25 m over most of the grid. A combination of GPS derived UTM coordinates collected by Augen Gold and by JVX are used to draw an interpolated grid needed to register the geophysical results. The line/station, UTM coordinates and ellipsoidal elevation of GPS control points are listed in appendix 1. UTM coordinates are NAD83, Z17N.

Total magnetic intensity and VLF readings were taken every 12.5 m. Each reading record show line, station, total magnetic intensity, time, VLF frequency, VLF vertical inphase (ip) and quadrature (op) components, two VLF horizontal field components (h1 and h2) and VLF total field (pT). UTM coordinates were not recorded. VLF readings were taken at 24.0 kHz, 25.2 kHz when 24.0 kHz was unavailable.

24.0 kHz - NAA, Cutler, Maine at 44.7° n, 67.3° w, 1000 kW 25.2 kHz - NML, LaMour, North Dakota at 46.4° n, 98.3° w, 500 kW The base station magnetometer was set to record the total magnetic intensity every 10 seconds.

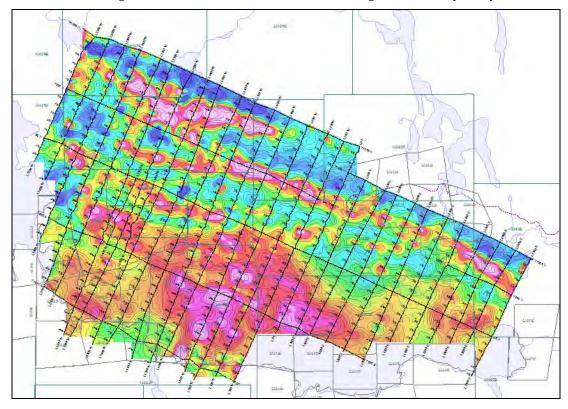


Figure 4. Total magnetic intensity, North Shore grid



IP/resistivity surveys were done with a pole-dipole array ('a' = 25 m, n=1,6) with the moving current electrode grid south of the potential electrodes. Over water parts of the survey were done by drilling holes through the ice and lowering stainless steel electrodes into the lake bottom sediment. Weekly field production reports are reproduced in appendix 2.

5. Presentation

The results of the surveys are presented on 5 plan maps at $1:10,\!000$ and 31 stacked pseudosections at 1:2500. All maps show the survey grid, claim numbers and claim boundaries, roads and drainage, a UTM grid (NAD83, Z17N) and latitude / longitude co-ordinates. Map types are

- total magnetic intensity contours
- VLF offset profiles, vertical inphase and quadrature, 24.0 kHz
- VLF offset profiles, vertical inphase and quadrature, 25.2 kHz
- n=2 Mx chargeability contours
- n=2 apparent resistivity contours

Total magnetic intensity contours are shown in figure 4. n=2 Mx chargeability contours are shown in figure 5. Folded paper copies of all maps and pseudosections are bound with this report. Images of all maps are shown in appendix 3.

Each of the 31 sets of stacked pseudosections (lines 3200W to 2200E) shows colour/line pseudosections of the spectral IP time constant (tau), the spectral IP amplitude (MIP), the measured IP amplitude (Mx) and apparent resistivity.

Digital results (this report, raw and processed ASCII data files, Geosoft database and map files) are archived on CD.

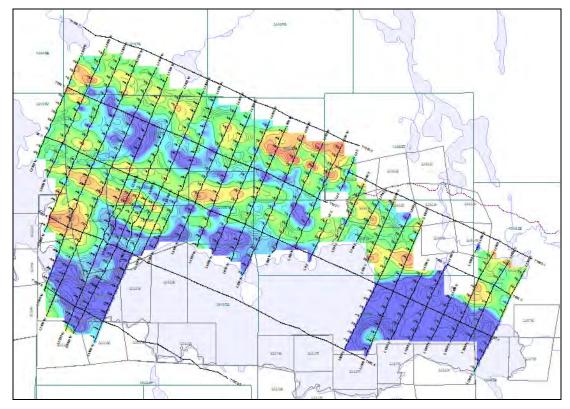


Figure 5. n=2 Mx chargeability, North Shore grid



6. Conclusions

Spectral IP/resistivity and magnetic/VLF surveys were done on the North Shore grid, part of Augen Gold's South Swayze Project centered 35 km west southwest of Gogama, Ontario. The field work was done in February/March and June/July, 2010. Total production was 51,550 m IP/Resistivity and 87,325 m magnetics/VLF. The results have been presented on 5 plan maps at 1:10,000 and 31 stacked pseudosections at 1:2,500.

Blaine Webster, B.Sc., P. Geo. October 1, 2010

Certificate of Qualifications

Blaine Webster
President - JVX Ltd.,
60 West Wilmot Street, Unit 22
Richmond Hill, Ontario L4B 1M6
Tel: (905) 731-0972 Email: bwebster@jvx.ca

- I, Blaine Webster, B. Sc., P. Geo., do hereby certify that
 - 1. I graduated with a Bachelor of Science degree in Geophysics from the University of British Columbia in 1970.
 - 2. I am a member of the Association of Professional Geoscientists of Ontario.
 - 3. I have worked as a geophysicist for a total of 36 years since my graduation from university and have been involved in minerals exploration for base, precious and noble metals and uranium throughout much of the world.
 - 4. I am responsible for the overall preparation of this report. Most of the technical information in this report is derived from geophysical surveys conducted by JVX Ltd. for Augen Gold Corp. and information provided by Augen Gold Corp.

Blaine Webster, B. Sc., P. Geo.

Appendix 1 Production, GPS control points, Instrumentation and Data Processing

Spectral IP/Resistivity and magnetic/VLF surveys were done on the North Shore grid centered 35 km west of Gogama, Ontario. The work was done for Augen Gold Corp. by JVX Ltd. under JVX job numbers 9-60 and 10-46. The IP survey was done from February 8 to March 17, 2010 and from June 17 to July 17, 2010. The magnetic survey was done from February 17 to March 17, 2010 and from July 13 to July 18, 2010. Total production was 51,550 m IP/Resistivity (table 1) and 87,325 m magnetics/VLF (table 2).

Line	IP-From	IP-To	Separation	Date
3200W	275S	1100N	1375	June 19/20, 2010
3000W	400S	1300N	1700	June 17/18/19, 2010
2800W	1000S	150N	1150	February 8, 2010
	150N	1300N	1150	June 21/22, 2010
2600W	1600S	150N	1750	Feb 9, Mar 15, 2010
	150N	1300N	1150	June 22/23, 2010
2400W	1900S	150N	2050	Feb 9, March 15/16, 2010
	150N	1300N	1150	June 24/25, 2010
2200W	1925S	125N	2050	Feb 11/14/15, Mar 162010
	125N	1300N	1175	June 25/26, 2010
2100W	800S	0N	800	February 19, 2010
2000W	1900S	150N	2050	Feb 16/18, Mar 16/17,2010
	150N	1200N	1050	July 3, 2010
1900W	800S	0N	800	February 20, 2010
1800W	1875S	150N	2025	Feb. 21, March 17, 2010
	150N	1300N	1300	July 2, 2010
1700W	800S	00	800	February 21/22, 2010
1600W	650S	150N	800	February 23, 2010
	150N	1300N	1150	June 30, July 1, 2010
1400W	475S	1300N	1775	June 29/30, 2010
1200W	475S	1300N	1775	July 4/7, 2010
1000W	475S	1300N	1775	July 8/9, 2010
800W	450S	1300N	1750	July 10, 2010
600W	550S	1325N	1875	July 11/12, 2010
400W	200S	1325N	1525	July 13/14, 2010
200W	50S	1325N	1375	July 14/16, 2010
0E	125S	575N	700	July 16/17, 2010
	750N	1300N	550	July 17, 2010
200E	225N	1000N	775	February 24, 2010
400E	300N	1000N	700	February 25, 2010
600E	150N	1000N	850	February 26/27, 2010
800E	825S	1000N	1825	Feb 28, Mar 13, 2010
1000E	800S	1000N	1800	March 1/12/13, 2010
1200E	525S	475N	1000	March 12, 2010
1400E	450S	650N	1100	March 11, 2010
1600E	350S	350N	700	March 10, 2010
	725N	1000N	275	March 4, 2010
1800E	275S	1000N	1275	March 4/7/9/10, 2010
2000E	175S	1000N	1175	March 7/10, 2010
2200E	500S	1000N	1500	March 8/9, 2010
		Total	51,550 m	

Table 1. Production summary, IP/resistivity, North Shore grid

Line	Mag-From	Mag-To	VLF	Separation	Date
3200W	287.5S	1300N	25.2	1587.5	March 15, 2010
3000W	400S	1300N	24	1700	July 16/18, 2010
2800W	1087.5S	00	24	1087.5	March 1, 2010
	00	1300N	24	1300	July16, 2010
2600W	1425S	00	24	1425	Feb. 17, March 1, 2010
	00	1300N	24	1300	July 17, 2010

Appendix 1: Production, GPS control points, Instrumentation and Data Processing

Line	Mag-From	Mag-To	VLF	Separation	Date
2400W	1525S	00	24	1525	Feb. 17, March 3 2010
	00	1300N	24	1300	July 17, 2010
2200W	1937.5S	00	24	1937.5	March 3, 2010
	00	1300N	24	1300	July 17, 2010
2100W	800S	00	24	800	March 4, 2010
2000W	1900S	00	24	1900	March 4/6, 2010
	00	1287.5N	24	1287.5	July 17/18, 2010
1900W	812.5S	0N	24	812.5	March 4, 2010
1800W	1875S	1300N	24	3175	March 4/6/17, 2010
1600W	1850S	1300N	24	3150	March 6/17, 2010
1400W	1775S	1300N	24	3075	March 6/13/17, 2010
1200W	1800S	1325N	24	3125	March 13/17, 2010
1000W	1675S	1300N	24	2975	March 13/16, 2010
800W	1750S	1300N	24	3050	March 13/16, 010
600W	1750S	1325N	24	3075	March 12/16, 2010
400W	1650S	1325N	24	2975	March 12/16, 2010
200W	1600S	1300N	24	2900	March 11/16. 2010
0E	950S	00	24	950	March 11, 2010
	00	1300N	25.2	1300	March 15,2010
200E	875S	1000N	24	1875	March 11/2010
400E	800S	1000N	24	1800	March 12/2010
600E	825S	1000N	24	1825	March 12/2010
800E	825S	1000N	24	1825	March 10/2010
1000E	750S	1000N	24	1750	March 10/2010
1200E	525S	1000N	24	1525	March 10/2010
1400E	450S	1000N	24	1450	March 10/2010
1600E	350S	1000N	24	1350	March 9/2010
1800E	275S	1000N	24	1275	March 9/2010
2000E	175S	1000N	24	1175	March 9/2010
2200E	500S	1000N	24	1500	March 9/2010
B0N	3200W	00	24	3200	July 13/18, 2010
	12.5E	2200E	24	2187.5	March 9, 2010
T1600S	2600W	275W	24	2325	March 14, 2010
T800S	2800W	1000E	24	3800	March 11/14, 2010
T500N	1400E	2200E	24	800	March 11, 2010
T600N	125W	75W	24	50	July 14, 2010
	3200W	150W	24	3050	July 14, 2010
T1000N	00	2225E	24	2225	March 11, 2010
T1300N	3325W	00	25.2	3325	March 14, 2010
		Total		87,325 m	

Table 2. Production summary, magnetics/VLF

For the IP/resistivity survey, coverage is measured from the station of the first moving current electrode to the station of the last potential electrode (ideal grid). For the magnetic survey, coverage is measured from the first to last station (ideal grid). Repeat or overlap line segments are not counted twice.

Magnetic readings were taken every 12.5 m. IP/resistivity surveys were done in time domain with a pole-dipole array ('a' = 25 m, n=1,6). The moving current electrode was always grid south of the potential electrodes.

Appendix 1: Production, GPS control points, Instrumentation and Data Processing

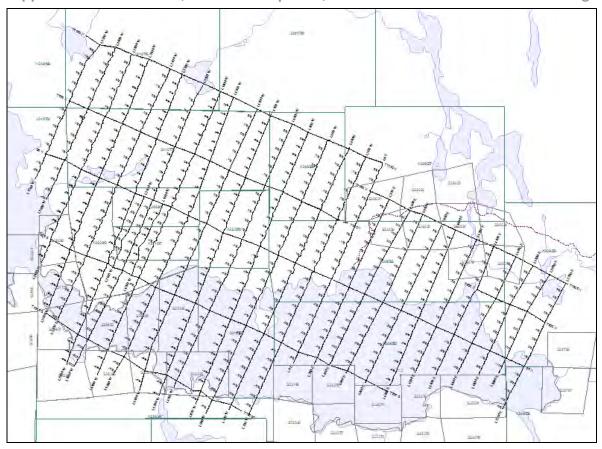


Figure 1. North Shore grid (magnetic/VLF coverage)

Grid

The grid is largely within claims 3010746, 3010756, 3010775, 4203842, 4208200, 4208243, 4209350, 4209585, 4209586, 4223878 and 4241017 and leases S29951, S29952, S31759, S32219, S32220, S32224, S32225, S32226, S32618, S32619, S32621, S32625, S32626, S32386 and S32387. These claims and leases are in Huffman Township, Ontario. The grid is about 35 km west of Gogama, Ontario. The grid is made up of 28 lines at 200 m with three in-fill lines at 100 m. Lines are oriented north northeast. The maximum station range is 1900S to 1300N. There is a base line and tie lines at 1600S, 800S, 500N, 600N, 1000N and 1300N. The south part of the grid is over Opeepeesway Lake.

Grid registration is based on UTM coordinates from a hand held GPS receiver. Most of these GPS control points are taken from a geochemical survey by Augen Gold. Some points collected by JVX have been added. All GPS control points are collected in the Geosoft database file 'GPS_mrgd.gdb'. This file holds more than 2000 GPS control points for a grid average of 40 m between GPS control points. GPS control point separation is commonly 25 or 100 m. GPS control points at line ends and the base line as extracted from GPS_mrgd.gdb are listed in table 3.

The geophysical results are registered with UTM coordinates interpolated or extrapolated from GPS control points. The grid is shown in figure 1.

Line	Station	UTM e	UTM n	elevation
3200W	300S	408631	5275237	
	0	408743	5275515	
	1075N	409180	5276491	
3000W	350S	408774	5275089	
	0	408938	5275443	
	1300N	409471	5276611	
2800W	1050S	408703	5274399	
	0	409109	5275352	
	1300N	409637	5276537	

Appendix 1: Production, GPS control points, Instrumentation and Data Processing

2600W	Line	Station	UTM e	UTM n	elevation
0				5273930	
2400W					
2400W		1275N		5276469	
0	2400W				
1250N		0	409487		
0		1250N			
1300N	2200W	1800S	409000	5273462	
1300N		0	409664	5275105	
800S 409436 5274340 384 2000W 1825S 409073 5273387 0 409854 5275035 1300N 410391 5276261 1900W 0 409949 5274999 422 800S 409305 5273296 442 0 410039 5274964 1300N 410553 5276155 1700W 0 410133 5274916 416 800S 409792 5274182 1600W 1525S 409589 5273475 0 410221 5274871 1300N 410681 527698 400W 1375S 409840 5273520 0 410405 5274794 1300N 410929 5275978 407 1200W 1800S 409913 5273020 390 0 410577 5274639 407 1200W 1675S 410064 5273020 394 <t< td=""><td></td><td>1300N</td><td>410153</td><td></td><td></td></t<>		1300N	410153		
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1900W		800S	409436	5274340	384
1300N	2000W	1825S	409073	5273387	
1900W 0 409949 5274999 422 800S 409632 5274260 388 1800W 1800S 409305 5273296 442 0 410039 5274964 1300N 410553 5276155 1700W 0 410133 5274916 416 800S 409792 5274182 1600W 1525S 409589 5273475 0 410221 5274871 1300N 410681 5276098 407 1400W 1375S 409840 5273520 0 410405 5274794 1300N 410929 5275978 407 1200W 1800S 409913 5273020 390 0 410577 5274699 1325N 411077 5275926 1000W 1675S 410064 5273096 0 410771 5274630 1300N 411291 5275824 406 800W 1750S 410961 5274557 1300N 411445 5275360 427 600W 1500S 410508 5273060 0 411144 5274465 1300N 411665 5275650 400W 1650S 410635 5272874 412 0 411327 5274386 1300N 411876 5275630 425 400W 1650S 410635 5272874 412 0 411327 5274286 1300N 411665 5275630 425 0 411516 5274295 1300N 411676 5275630 425 0 411702 5274218 1300N 412051 5275479 0 950S 411301 5273349 0 411702 5274218 1300N 412051 5275420 200E 875S 411518 5273340 0 411875 5275340 406 800S 411673 5273330 0 412039 5274067 1000N 412292 5275043 419 400E 800S 411673 5273391 400E 800S 411673 5273392 433 600E 825S 411846 5273289 414860 5273150 0 412227 5273392 400W 412237 5273392 400W 412237 5273392 400W 412237 5273392 400W 412237 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392 411673 5273392		0	409854	5275035	
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1300N	1800W	1800S	409305	5273296	442
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1300N	800W	1750S	410294	5272926	394
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1000N 412841 5274791 403	800E	825S			
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	1000E	800S	412277	5273058	383
0 412594 5273816		0	412594	5273816	

Appendix 1: Production, GPS control points, Instrumentation and Data Processing

Line	Station	UTM e	UTM n	elevation
	1000N	412980	5274726	416
1200E	525S	412558	5273254	
	0	412780	5273729	
	1000N	413199	5274629	393
1400E	450S	412779	5273234	
	0	412963	5273647	
	1000N	413374	5274555	413
1600E	350S	412998	5273243	
	0	413150	5273559	
	1000N	413600	5274448	397
1800E	275S	413220	5273230	
	0	413336	5273478	
	1000N	413780	5274360	414
2000E	175S	413424	5273248	
	25S	413491	5273380	
	1000N	413951	5274265	432
2200E	425S	413496	5272943	
	0	413687	5273317	
	1000N	414119	5274177	400

Table 3. GPS control points at line ends and the base line (NAD83, Z17N), North Shore grid

Instrumentation

Magnetometer/VLF

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Gem Systems GSM-19W, SN 7052356 (mobile)
Gem Systems GSM-19, SN 7082476 (base)
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The GSM19WV magnetometer/VLF receiver has a built in GPS receiver and data may be recorded with line/station and UTM coordinates. GSM-19WV stands for walking Overhauser magnetometer with VLF option. The GSM-19 is an earlier version of the same magnetometer without a built in GPS receiver. Both receivers measure total magnetic intensity to 0.01 nT. The GSM-19WV measures total magnetic intensity, VLF total field, vertical inphase, vertical quadrature and two horizontal components. Specification sheets are attached.

IP/resistivity

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Scintrex IPR12 receivers, SN 950248 and 9608083
GDD TXII – 1800W-2400V time domain transmitter, SN TX332
Huntec 2.5 kVA time domain transmitter, SN 272
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For each potential electrode pair, the IPR12 measures the primary voltage (Vp) and the ratio of secondary to primary voltages (Vs/Vp) at 11 points on the IP decay (2 second current pulse). These 11 points are labeled M4 to M14. There is the option for an additional user defined slice (Mx). Units are milliVolts for Vp and milliVolts/Volt for M4 to M14 and Mx. Timing settings are

```
Vp: 200 to 1600 msec

M4 centered at 60 msec (50 to 70)

M5 centered at 90 msec (70 to 110)

M6 centered at 130 msec (110 to 150)

M7 centered at 270 msec (230 to 310)

M9 centered at 380 msec (310 to 450)

M10 centered at 520 msec (450 to 590)

M11 centered at 705 msec (590 to 820)

M12 centered at 1230 msec (1050 to 1410)

M14 centered at 1590 msec (1410 to 1770)
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Appendix 1: Production, GPS control points, Instrumentation and Data Processing Mx centered at 870 msec (690 to 1050)

The apparent resistivity is calculated from Vp, the transmitted current and the appropriate geometric or K factors. M4 to M14 define the IP decay curve. The M12 or Mx slice is commonly presented in contoured pseudosections.

JVX has chosen the above settings for Mx in order to better reflect an IP measurement from the older Scintrex IPR11 time domain receiver. In IPR11 surveys from the 1980s, this chargeability window was most often plotted and experience gained is based in part on this measurement.

The IPR12 also calculates the theoretical decay that best fits the measured decay. The theoretical decay is based on the Cole-Cole impedance model applied in the 1970s. The fit is based on a set of theoretical master curves with restrictions that limit the value of the calculation. JVX uses a different method to calculate impedance parameters (see below).

The Instrumentation GDD TXII 1800 Watt time domain IP transmitter operates off 120V output from a 2000 Watt motor generator. Output is current stabilized from 150 to 2400 volt taps. The maximum current is 10 Amps. Current and circuit resistance are displayed in digital form.

Data Processing and Presentation

Grid

UTM coordinates at control points, normally every 25 or 100 m, were recorded with a hand held GPS receiver by Augen Gold as part of a geochemical survey and by JVX. These UTM coordinate – line/station pairs are loaded into a Geosoft database (GPS_mrgd.gdb). The IP/resistivity and magnetic/VLF results are registered with UTM coordinates interpolated from gps.gdb.

Base Map

Claim fabric has been downloaded as *.shp files from the MNDMF claimap3 website (Copyright Queen's Printer for Ontario). A topographic base map and claim fabric are also available as a *.png image from the same source. Lakes, rivers and roads have been downloaded as 1:50,000 *.shp files from GeoGratis (Earth Sciences Sector of Natural Resources Canada). There are minor differences in these topographic elements from federal and provincial sources.

Magnetics/VLF

At the end of every survey day, data from the mobile and base station magnetometers are dumped to a PC. Output from both magnetometers are text files labelled by date and 'mobile' and 'base'. Data dumps from the mobile unit show line, station, total magnetic intensity (nT), time (decimal hours), the VLF frequency, total field (pT), vertical inphase and quadrature components (ip and op) and two horizontal components (h1 and h2). Data dumps for the base unit contain time and total magnetic intensity. Subsequent processing steps are

- 1. Apply base station corrections to the mobile data. Corrected total magnetic intensity values are appended to the mobile files and renamed as '*_cor' files. Bad data or repeat values are removed.
- 2. Move the contents of the files containing the corrected total magnetic intensity and VLF values into a Geosoft database (*.gdb).
- 3. In the database, assign UTM coordinates to each line/station using a look up procedure from GPS_mrgd.gdb.

Colour + line contour maps of the corrected total magnetic intensity are generated from the database using Geosoft Montaj. Random gridding with a 6.25 m grid cell is used.

IP/Resistivity

At the end of every survey day, the IP/resistivity data are dumped from the IPR12 to a PC. Output is an ASCII *.dmp file with the date as the file name. Raw data from each survey line are

Appendix 1: Production, GPS control points, Instrumentation and Data Processing

collected in ASCII *.i12 files with the line number as the file name. The data are checked for quality and quantity. The data are archived for transfer to JVX Ltd. in Toronto.

Office data processing is based largely on Geosoft Oasis Montaj v6.3 (www.geosoft.com). Impedance modelling software (below) is based on a suite of programs developed by JVX for the IPR11 and IPR12. Compilation maps are prepared using AutoCAD drafting software (www.autodesk.com).

The *.i12 files are taken into a Geosoft database and merged with the position data in gps.gdb. The IP decays are analyzed for spectral content. The results are presented as plan maps of $n=2\,Mx$ and apparent resistivity and stacked pseudosections. Stacked pseudosections show the Mx chargeability, apparent resistivity, spectral IP time constant ("tau") and spectral IP amplitude (MIP). All are prepared with Geosoft Oasis Montaj. Random gridding is used in all cases. The pseudosections assume an ideal survey line. Plan maps show the interpolated grid, station numbers, posted values and line + colour contours.

Impedance Modelling

The Cole-Cole impedance model was developed in the 1970s after it became clear that chargeability is a complex property that includes amplitude (volume percent electronic conductors), grain size and grain size uniformity. In this model, the low frequency electrical impedance Z (ω) of rocks and soils is defined by 4 parameters. They are

 r_0 : DC resistivity in ohm.m

m: true chargeability amplitude in V/V (also called MIP)

 τ : tau - time constant in seconds

c: exponent

The form of the model is

$$Z(\omega) = r_0 \{1 - m [1 - (1 + (i\omega \tau)^c)^{-1}]\} Ohm*m$$

where ω is the angular frequency (2 π f).

The true chargeability (m or MIP) is a better measure of the volume percent electronic conductors - primarily pyrrhotite and graphite. The time constant is a measure of the square of the average grain size. The exponent is a measure of the uniformity of the grain size. Common or possible ranges are 0 to 1 V/V (m), 0.01 to 100 seconds ("tau") and 0.1 to 0.5 (c).

In time domain IP surveys, impedance model parameters may be estimated using a best fit between theoretical and measured decays. The simplest approach is to use a set of master decay curves, pre-calculated for selected values of time constant and exponent. For a 2 second current pulse, the master curve set used here is for time constant values of .01, .03, .1, .3, 1, 3, 10, 30 and 100 seconds and exponent values of 0.1, 0.2, 0.3, 0.4 and 0.5. This gives a total of 45 master curves.

All decays that give an RMS fit between measured and master decay of less than 5% are judged to be of sufficient quality to yield spectral IP parameters.

Under ideal conditions, more than 90 % of the IP decays in any survey are of sufficient amplitude and quality to yield spectral parameters. 80 % is probably average for most surveys. The most common reason for the lack of spectral parameters is very low decay amplitudes – often seen in areas of thick and/or conductive overburden. Instrumentation and/or noise problems can occur over long sections of outcrop or at an abrupt boundary between outcrop and conductive ground. For this survey, 95 % of the IP decays were of sufficient amplitude and quality to generate spectral parameters.

Pseudosections

The pseudosections are plotted using standard depth and position conventions. The plot point for any measured quantity for the n^{th} potential dipole pair is $(n+\frac{1}{2})a/2$ m forward of and below the current electrode. Pole-dipole anomaly shapes depend on array orientation. The array sketch shown with each pseudosection shows the correct array orientation.

These plot forms have been found to give a reasonable image of target-top location, width and depth where 1) the anomalously chargeable and/or resistive body is an isolated, tabular body with a dip that is within ± 45° of vertical), 2) where background chargeabilities and resistivities (overburden Augen Gold Corporation JVX 9-60/10-46g (North Shore)

Appendix 1: Production, GPS control points, Instrumentation and Data Processing

and host rock) are uniform and 3) where the terrain is relatively flat. They are more difficult to interpret for irregular or nearby chargeable bodies and where there is any amount of conductive cover or topographic relief. Forward or inverse modelling may be useful in such cases.

For Mx, MIP and apparent resistivity, colour contour intervals in the pseudosections are taken from equal area distribution for the whole grid. Colour assignments for the spectral "tau" and "c" are fixed.

Archives

The results of the survey are archived on CD. Included on the CD is the Oasis Montaj viewer. File types include

ASCII *.txt or *.dmp or *.xyz – text files, including instrument data dumps
ASCII *.i12 – IPR12 collated raw data dumps
*.gdb - Geosoft databases (gps, magnetics/VLF, IP/resistivity)
*.map – Geosoft format pseudosections and maps included with this report
MS WORD *.doc and Adobe Acrobat *.pdf – this report

Appendix 2 Weekly Field Production Reports

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	February 13/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun Feb 7	IP Survey\Rx problem Went to Alex for another Rx (Gowganda). Lost Data	2800W	1050S	1000S	50
Mon Feb 8	IP Survey	2800W	975S	00	975
Tue Feb 9	IP Survey	2600W	1050S	00	1050
Wed Feb 10	IP Survey	2400W	1100S	00	1100
Thu Feb 11	IP Survey \Camp ,Everything OK Ted Sudbury PM	2200W	1300S	550S	750
Fri Feb 12	IP Survey\Rx Freeze Up	2200W	525S		
Sat Feb 13	IPSurvey \Rx Problem Ted return	2200W	525S		

Name	Position	S	M	T	W	T	F	S
Ted Lang	Crew chief	Х	Х	Х	Х	Х	Х	Х
Jamie Flowers	Assistant	Х	Х	Х	Х	Х	Х	Х
Mike Adshade	Assistant	Х	Х	Х	Х	Х	Х	Х
Irvin Luke	Assistant		Х	Х	Х	Х	Х	Х
Jeff Boetcher	Assistant	Х	Х	Х	Х	Х	Х	Х
Chris Flowers	Assistant							Х

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	February 20/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun Feb 14	IP Survey\Generator problem (possibly ceased) Went to Gowganda to pickup another generator\Tx (Huntec)	2200W	525S	375S	150
Mon Feb 15	IP Survey\Rx problem (Data still in Rx, Won`t turn on	2200W	350S	25S	325
Tue Feb 16	IP Survey\Rx problem, Lost data, L2100w& 1 st rdg. L2000w	2100W 2000W	775S 1175S	150S 950S	625 225
Wed Feb 17	Gowganda-to get another Rx Jeff\Ted Mag\VLF				
Thu Feb 18	IP Survey\Ted expedite(Sudbury)	2000W	925W	00	925
Fri Feb 19	IP Survey\Ted expedite	2100W	775S	150S	625
Sat Feb 20	IP Survey(4Man)\Jamie-Mike Sudbury(medical)	1900W	775S	150S	625

Name	Position	S	M	T	W	T	F	S
Ted Lang	Crew chief	Х	Х	Х	Х	Х	Х	Х
Jamie Flowers	Assistant	Х	Х	Х	Х	Х	Х	Х
Mike Adshade	Assistant	Х	Х	Х	Х	Х	Х	Х
Irvin Luke	Assistant		Х	Х	Х	Х	Х	Х
Jeff Boetcher	Assistant	Х	Х	Х	Х	Х	Х	Х
Chris Flowers	Assistant	Х	Х	Х	Х	Х	Х	Х

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	February 27/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun Feb 21	IP Survey	1800W 1700W	950S 775S	00 725S	950 50
Mon Feb 22	IP Survey\Rx problems after switching lines	1700W	700S	150S	550
Tue Feb 23	IP Survey\Change Tx location	1600W	625S	00	625
Wed Feb 24	Tx Setup\IP Survey	200E	250N	875N\ 950N	700
Thu Feb 25	IP Survey\ Ted Expedite-Sudbury (4 man)	400E	325N	825N	500
Fri Feb 26	IP Survey\Ted Expedite (4 man)	600E	175N	375N	200
Sat Feb 27	IP Survey (4 man)	600E	400N	900N	500

Name	Position	S	M	Τ	W	T	F	S
Ted Lang	Crew chief	Х	Х	Х	Х	Х	Х	
Jamie Flowers	Assistant							
Mike Adshade	Assistant	Х	Х	Х	Х	Х	Х	Х
Irvin Luke	Assistant	Х	Х	Х	Х	Х	Х	Χ
Jeff Boetcher	Assistant	Х	Х	Х	Х	Х	Х	Х
Chris Flowers	Assistant	Х	Х	Х	Х	Х	Х	Х

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	March 6/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun Feb 28	IP Survey -Rx problem	800E	125N	850N	725
Mon Mar 1	IP Survey \Ted Mag\VLF PM (4man AM) Truck Stuck	1000E	200N	850N	650
Tue Mar 2	Mag Survey				
Wed Mar 3	Mag survey				
Thu Mar 4	IP Survey	1600E	750N	850N	100
Fri Mar 5	IP Survey	1800E	150N	700N	550
Sat Mar 6	Mag survey				

Name	Position	S	M	T	W	T	F	S
Ted Lang	Crew chief	Х	Х	Х				
Jamie Flowers	Assistant							
Mike Adshade	Assistant	Х	Х	Х				
Irvin Luke	Assistant	Х	Х	Х				
Jeff Boetcher	Assistant	Х	Х	Х				
Chris Flowers	Assistant	Х	Х	Х				
Dan Ingraldi	Assistant	Х	Х	Х				

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	March 13/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun Mar 7	IP Survey	1800E 2000E	725N 00	850N 850N	125 850
Mon Mar 8	IP Survey	2200E	175N	850N	725
Tue	IP Survey	2200E	450S	150N	300
Mar 9		1800E	250S	50S	200
Wed	IP Survey	1800E	25S	125N	100
Mar 10		2000E 1600E	150S 325S	25S 200N	125 525
Thu Mar 11	IP Survey \Ted Expedite	1400E	425S	475N	900
Fri	IP Survey\Ted Expedite	1200E	500S	300N	800
Mar 12		1000E	775S	575S	200
Sat	IP Survey	1000E	550S	175N	725
Mar 13		800E	800S	100N	900

Name	Position	S	M	T	W	T	F	S
Ted Lang	Crew chief	Х	Х	Х	Х	Х	Х	Х
Jamie Flowers	Assistant							
Mike Adshade	Assistant	Х	Х	Х	Х	Х	Х	Х
Irvin Luke	Assistant	Х	Х	Х	Х	Х	Х	Х
Jeff Boetcher	Assistant	Х	Х	Х	Х	Х	Х	Х
Chris Flowers	Assistant	Х	Х	Х	Х	Х	Х	Х
Dan Ingraldi	Assistant	Х	Х	Х	Х	Х	Х	Х

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	March 20/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun Mar 14	Moved Tx Location\Access Wire\Safety (Robin)				
Mon Mar 15	IP Survey	2600W 2400W	1575S 1875S	1075S 1525S	500 350
Tue Mar 16	IP Survey	2400W 2200W 2000W	1500S 1900S 1875S	1125S 1325S 1675S	375 575 200
Wed Mar 17	IP Survey	2000W 1800W	1650S 1850S	1175S 975S	475 875
Thu Mar 18	Checked Ice Conditions(no good) Pack up				
Fri Mar 19	Jeff\Chris Camp Mike –Sudbury Ted Drove Scott (Gogama) Irvin (Matagami Reservation)				
Sat Mar 20	Ted Drove Chris\Jeff-Sudbury				

Name	Position	S	М	Т	W	Т	F	S
Ted Lang	Crew chief	Х	Х	Х	Х	Х	Х	Х
Jamie Flowers	Assistant							
Mike Adshade	Assistant	Х	Х	Х	Х	Х	Х	
Irvin Luke	Assistant	Х	Х	Х	Х	Х	Х	
Jeff Boetcher	Assistant	Х	Х	Х	Х	Х	Х	Х
Chris Flowers	Assistant	Х	Х	Х	Х	Х	Х	Х
Dan Ingraldi	Assistant	Х						

Project No	Client:	Area:	Grid:	Week Ending:
10-46	Augen Gold	Jerome mine	North Shore	June 19/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun June 13	Camp Setup				
Mon June 14	Camp Setup\Expedite				
Tue June 15	Camp Setup\Expedite				
Wed June 16	Weather\Safety				
Thu June 17	IP Setup\Survey	L3000W	375S	250N	625
Fri June 18	IP Survey\Weather PM (thunder)	L3000W	275N	600N	325
Sat June 19	IP Survey	L3000W L3200W	625N 250S	1150N 150N	525 400

Name	Position	S	М	T	W	Т	F	S
Ted Lang	Crew chief	Х	Х	Х	Х	Х	Х	Χ
Jamie Flowers Assistant		Х	Х					
Mike Adshade	Assistant		Х	Х	Х	Х	Х	Х
Chris Flowers	Assistant	Х	Х	Х	Х	Х	Х	Х
Brandon Martell	Assistant			Х	Х	Х	Х	Х
Jared Taman	Assistant			Х	Х	Х	Х	Х
Doug Johnson Assistant				Х	Х	Х	Х	Х

JVX Ltd. Weekly Field Production Report – IP/Resistivity Survey JVX Ltd. Production Report

Project No	Client:	Area:	Grid:	Week Ending:
10-46	Augen Gold	Jerome mine	North Shore	June 26/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun June 20	Weather AM\IP Survey PM	3200W 2800W	175N 0N	950N 50N	775 50
Mon June 21	IP Survey	2800W	75N	1150N	1075
Tue June 22	Weather AM\IP Survey PM	2600W	0N	600N	600
Wed June 23	IP Survey∖T. Storm PM	2600W	625N	1150N	550
Thu June 24	Rain \IP Survey	2400W	ON	600N	600
Fri June 25	IP Survey	2400W 2200W	625N 550S	1150N 150S	525 400
Sat June 26	IP Survey	2200W	125S	1150N	1025

Name	Position	S	M	T	W	Т	F	S
Ted Lang	Crew chief	Х	Х	Х	Х	Х	Х	Х
Doug Johnson	Assistant	Х	Х	Х	Х	Х	Х	Х
Mike Adshade	Assistant	Х	Х	Х	Х	Х	Х	Х
Chris Flowers	Assistant	Х	Х	Х	Х	Х	Х	Х
Brandon Martell	Assistant	Х	Х	Х	Х	Х	Х	Х
Jared Taman	Assistant	Х	Х	Х	Х	Х	Х	Х

Project No	Client:	Area:	Grid:	Week Ending:
10-46	Augen Gold	Jerome mine	North Shore	July 3/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun June 27	Moved Tx Site\Infinity Ted Sudbury				
Mon June 28	Weather (Rain) Ted -Jerome				
Tue June 29	IP Survey (Bear &Cubs) Ted-Gowganda	1400W	450S	275N	725
Wed June 30	IP Survey	1400W 1600W	300N 0N	1150N 50N	850 50
Thu July 1	IP Survey	1600W	75N	1150N	1075
Fri July 2	IP Survey	1800W	0N	1150N	1150
Sat July 3	IP Survey	2000W	0N	1050N	1050

Name	Position	S	M	Т	W	T	F	ഗ
Ted Lang	Crew chief	Х	Х	Х	Х	Х	Х	Χ
Doug Johnson	Assistant	Х	Х	Х	Х	Х	Х	Х
Mike Adshade	Assistant	Х	Х	Х	Х	Х	Х	Х
Chris Flowers	Assistant	Х	Х	Х	Х	Х	Х	Х
Brandon Martell	Assistant	Х	Х	Х	Х	Х	Х	Х
Jared Taman	Assistant	Х	Х	Х	Х	Х	Х	Х

Project No	Client:	Area:	Grid:	Week Ending:
10-46	Augen Gold	Jerome mine	North Shore	July 10/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun July 4	IP Survey	1200W	450S	650N	1100
Mon July 5	Rain\Truck Breakdown				
Tue July 6	Truck Breakdown				
Wed July 7	IP Survey	1200W	675N	1150N	475
Thu July 8	Riain. AM\IP Survey	1000W	450S	ON	450
Fri July 9	IP Survey	1000W	25N	1150N	1125
Sat July 10	IP Survey	800W	425S	1150N	1575

Name	Position	S	M	T	W	Т	F	S
Ted Lang	Crew chief	Х	Х	Х	Х	Х	Χ	Χ
Doug Johnson Assistant		Х	Х	Х	Х	Х	Χ	Χ
Mike Adshade	Assistant	Х	Х	Х	Х	Х	Χ	Χ
Chris Flowers Assistant		Х	Х	Х	Х	Х	Χ	Χ
Brandon Martell	Assistant	Х	Х	Х	Х	Х	Χ	Χ
Jared Taman	Assistant	Х	Х	Х	Х	Х	Χ	Χ
Jose Seara	Geophysicist	Х	Х					

Project No	Client:	Area:	Grid:	Week Ending:
10-46	Augen Gold	Jerome mine	North Shore	July 17/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun July 11	IP Survey\Mike (Truck Sudbury)	600W	525S	600N	1125
Mon July 12	IP Survey\Mike Expedite	600W	625N	1150N	525
Tue July 13	IP Survey\Mag\VLF	400W	175S	700N	875
Wed July 14	IP Survey, Mag\VLF	400W 200W	725N 25S	1175N 475N	450 500
Thu July 15	MNR Comadiere\Rain\Check Access to Schist\Cote Grids				
Fri July 16	IP Survey\Mag\Elf	200W 0E	500N 100S	1250N 350N	750 450
Sat July 17	IP Survey\Mag\VLF	0E	375N 775N	425N 1150N	50 375

Name	Position	S	М	Т	W	Т	F	S
Ted Lang	Crew chief	Х	Х	Х	Х	S	Χ	Χ
Doug Johnson	Assistant			Х	Х	S	Χ	Χ
Mike Adshade	Assistant	Х	Х	Х	Х	S	Χ	Χ
Chris Flowers	Assistant	Х	Х	Х	Х	S	Χ	Χ
Rob St.Micheal	Operator	Х	Х	Х	Х	S	Χ	Χ
Jared Mandan	Assistant	Х	Х	Х	Х	S	Χ	Χ
Val Kungurov	Geophysicist	Х	Х	Х	Х	s	Х	Х

Project No	Client:	Area:	Grid:	Week Ending:
10-46	Augen Gold	Jerome mine	North Shore	July 19/2010

Day	Description	Line	From P1	To P1	Length (m)
Sun July 18	Mag/VLF survey (Ted) Picked up infinity wire (Val, Mike) Packing equipment. Demobilization from the camp to Sudbury (Doug, Jared)				
Mon July 19	Demobilization from the camp to Sudbury (Ted, Rob, Chris, Val). Ted picked up truck from repair shop in Sudbury.				
	N/A				

Name	Position	S	M	Т	W	Т	F	S
Ted Lang	Crew chief	Х	Х					
Doug Johnson	Assistant	Х						
Mike Adshade	Assistant	Х	Х					
Chris Flowers	Assistant	Х	Х					
Rob St.Micheal	Operator	Х	Х					
Jared Mandan	Assistant	Х						
Val Kungerov	Geophysicist	Х	Х					

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	February 20/2010

Day	Description	Line	From	То	Length (m)
Sun February 14	Working on Surface IP				
Mon February 15	Working on Surface IP				
Tue February 16	Working on Surface IP				
Wed February 17	Mag survey	2600W 2400W	1075S 1525S	1425S 1125S	350 400
Thu February 18	Working on Surface IP				
Fri February 19	Working on Surface IP				
Sat February 20	Working on Surface IP				

Name	Position	S	М	Т	W	Т	F	S
Dan Ingraldi	Operator	m	Х	Х	Х	Х	Х	Х

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	March 6/2010

Day	Description	Line	From	То	Length (m)
Sun February 28	N/A				
Mon March 1	Working on Surface IP				
Tue March 2	Working on Surface IP				
Wed March 3	Mag survey Line 2200W did not have any more pickets after S1925S	2400W 2200W	1150S 00	00 1925S	1150 1925
Thu March 4	Mag survey	2000W 2100W 1900W 1800W	1200S 00 800S 00	00 800S 00 1000S	1200 800 800 1000
Fri March 5	Working on Surface IP				
Sat March 6	Mag survey	2000W 1800W 1600W 1400W	1900S 1000S 1850S 00	1200S 1875S 00 475S	700 875 1850 475

Name	Position	S	M	Т	W	Т	F	S
Dan Ingraldi	Operator				Х	Х	Х	Х

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	March 13/2010

Day	Description	Line	From	То	Length
Sun March 7	Arrived watershed started putting up tent				
Mon March 8	Finished putting up tent				
Tue March 9	Mag/VLF survey	2200E 2000E 1800E 1600E BL0	500S 1000N 275S 1000N 2200E	1000N 175S 1000N 350S 00	1500 1175 1275 1350 2200
Wed. March 10	Mag/VLF survey. NOTE: IP-wire locations L1+200E@3+00N/L1+000E@1+80N/L8+0 0E@0+90N FOLLOWS NORTHSHORE OF LAKE.	1400E 1200E 1000E 800E	450S 1000N 750S 1000N	1000N 525S 1000N 825S	1450 1525 1750 1825
Thurs March 11	Mag/VLF survey. NOTE: IP-wire locations L2+00E@2+30N/L0+00@1+50S/L2+00W @0+85S	200E T1000N T500N T800S 00 200W	875S 00 2200E 1000E 950S 00	1000N 2225E 1400E 00 00 1600S	1875 2225 800 1000 950 1600
Fri. March 12	Mag/VLF survey. NOTE; IP-wire loationsL6+00E@1+70N/L4+00E@3+07N/L4+00W@2+755S/L6+00W@5+25S	600E 400E 400W 600W	825S 1000N 1650S 00	1000N 800S 00 1750S	1825 1800 1650 1750
Sat. March 13	Mag/VLF survey. NOTE: IP-wire locations L8+00W@5+00S/L1+000W@5+00S/L1+2 00W@4+75S/L1+400W@4+75S	800W 1000W 1200W 1400W	1750S 00 1800S 475S	00 1675S 00 1775S	1750 1675 1800 1300

Name	Position	S	М	Т	W	T	F	S
Scott Mortson	Operator	m	m	Х	Х	х	х	Х

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	March 20/2010

Day	Description	Line	From	То	Length
	Mag/VLF survey	T800S	00	2800W	2800
Sun		T1600S	2600W	275W	2325
March 14					
	Mag/VLF survey	00	00	1300N	1300
Mon		T1300N	00	3325W	3325
March 15		3200W	1300N	300S	1600
	Mag/VLF survey	200W	1300N	00	1300
Tues.		400W	00	1325	1325
March 16		600W	1325N	00	1325
		800W	00	1300N	1300
		1000W	1300N	00	1300
	Man A /I Farman	400014/	00	4005N	4005
Mod	Mag/VLF survey	1200W	00 1300N	1325N	1325
Wed. March 17		1400W 1600W	00	00 1300N	1300 1300
IVIAICII I <i>I</i>		1800W	1300N	00	1300
		100000	13001		1300
Thurs	Mild weather ice not safe				
March 18	Wild Woulder loo flot sale				
	Mob north shore grid to Gogama.				
Fri.	Waiting for Rob and quads to go run				
March 19	some recon lines.				
Sat.					
March 20					

Name	Position	S	M	Т	W	T	F	S
Scott Mortson	Operator	Х	Х	Х	Х			

Appendix 2: Weekly Field Production Reports

Project No	Client:	Area:	Grid:	Week Ending:
9-60	Augen Gold	Jerome mine	North Shore	July 17/2010

Day	Description	Line	From	То	Length (m)
Sun July 11	IP Survey				•
Mon July 12	IP Survey				
Tue July 13	Mag\VLF survey	BL0	2762.5W	00	2762.5 450 2200
Wed July 14	Mag\VLF survey	600N 600N	525W 3200W	75W 1000W	450 2200
Thu July 15	MNR Comadiere\Rain\Check Access to Schist\Cote Grids				
Fri July 16	Mag\VLF survey	2800W 3000W	ON ON	1300N 1300N	1300 1300
Sat July 17	Mag\VLF survey	2000W 2200W 2400W 2600W	612.5N 0N 0N 0N	1300N 1300N 1300N 1300N	687.5 1300 1300 1300

Name	Position	S	M	T	W	T	F	S
Doug Johnson	Operator			Х	Х	S	Х	Х

Project No	Client:	Area:	Grid:	Week Ending:
10-46	Augen Gold	Jerome mine	North Shore	July 24/2010

Day	Description	Line	From	То	Length (m)
Sun	Mag/VLF survey	BL0	3200W	2700W	500
July 18		3000W	400S	0N	400
Mon July 19	Demobilization from the camp to Sudbury	2000W	ON	600N	600
Tue July 20					
Wed July 21					
Thu July 22					
Fri July 23					
Sat July 24					

Name	Position	S	M	Т	W	Т	F	S
Ted Lang	Operator	Х	m					

The results of the surveys are presented on 5 plan maps at 1:10,000 and 31 stacked pseudosections at 1:2500. Colour/line contours, claim fabric and the survey grid of the 5 plan maps are shown below. Posted values, map surrounds and coordinates are not shown here. The 5 plan maps are

- total magnetic intensity contours
- VLF offset profiles, vertical inphase and quadrature, 24.0 kHz
- VLF offset profiles, vertical inphase and quadrature, 25.2 kHz
- n=2 Mx chargeability contours
- n=2 apparent resistivity contours

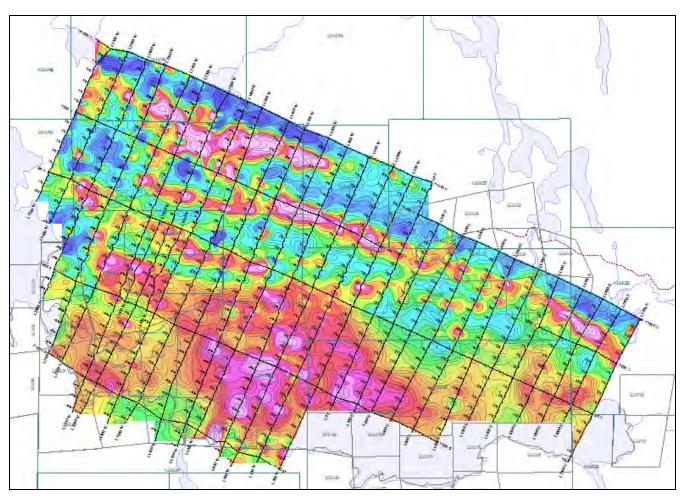


Figure 1. Total magnetic intensity

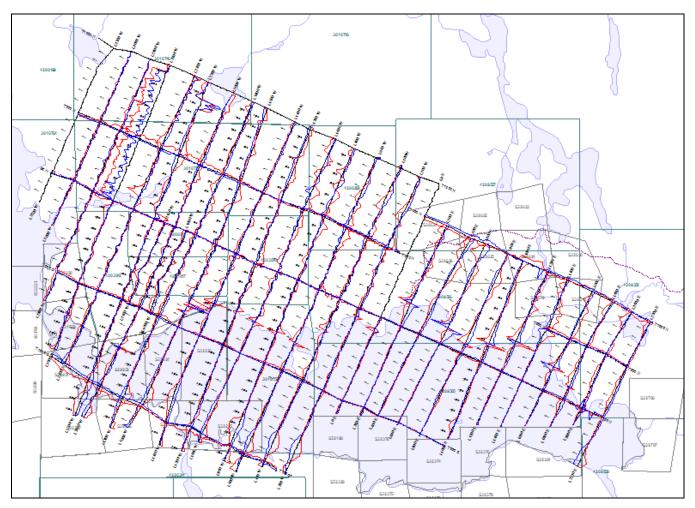


Figure 2. VLF offset profiles, 24.0 kHz

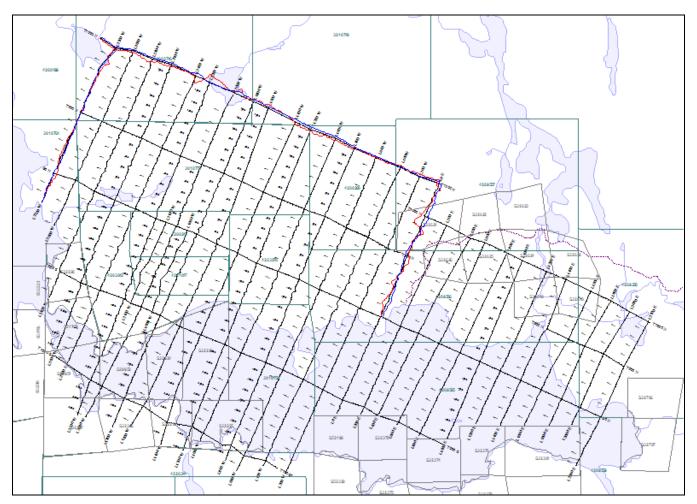


Figure 3. VLF offset profiles, 25.2 kHz

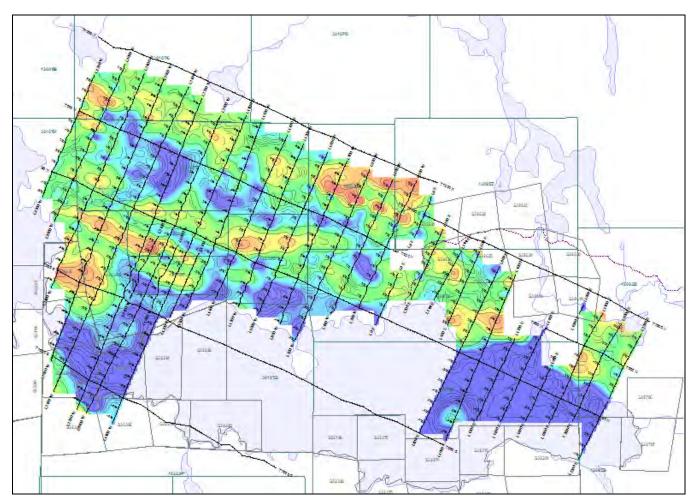


Figure 4. n=2 Mx chargeability

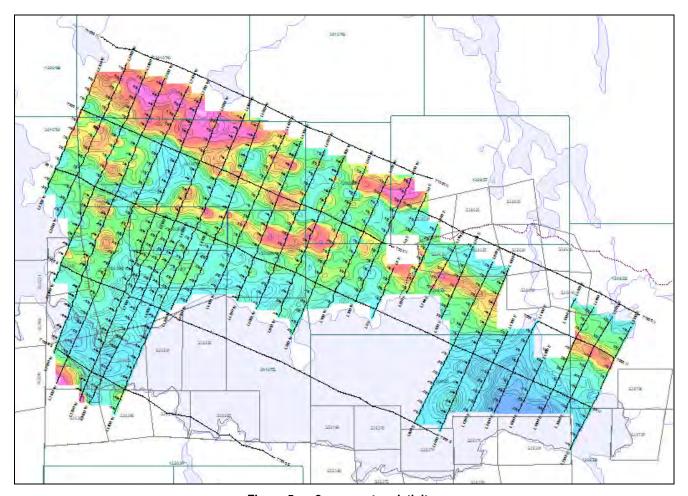
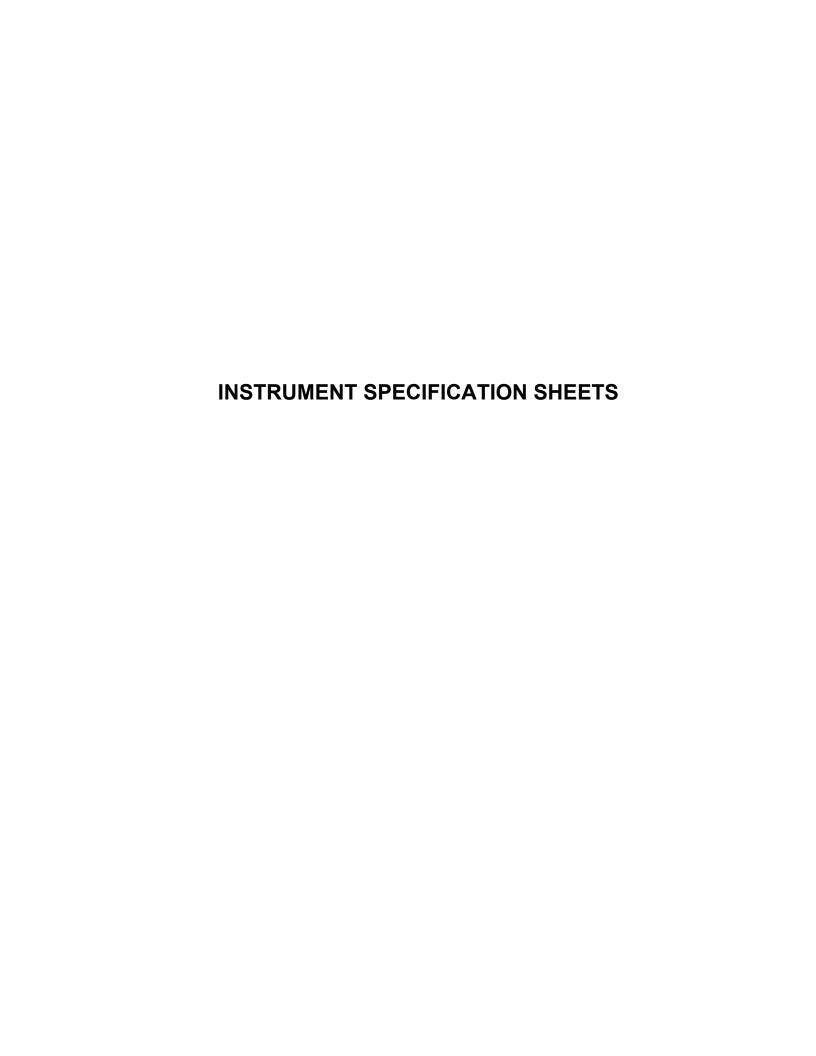


Figure 5. n=2 apparent resistivity





Overhauser

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

GEM's unique Overhauser system combines data quality, survey efficiency and options into an instrument that matches costlier optically pumped Caesium devices.

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

<1.5m standard GPS for high resolution surveying <1.0m OmniStar GPS <0.7m for newly introduced CDGPS

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 (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:

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

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.

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

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 QuickTrackerTM Proton Precession, Overhauser and SuperSenserTM 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.

"Our World is Magnetic"



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-to-noise. 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 easy-to-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. 52 West Beaver Creek Rd., 14 Richmond Hill, ON Canada L4B 1L9 Phone: 905-764-8008

Fax: 905-764-2949 Email: info@gemsys.ca Web: www.gemsys.ca

Specifications

Performance

Sensitivity: $0.022 \text{ nT} / \sqrt{\text{Hz}}$ Resolution: 0.01 nT Absolute Accuracy: +/- 0.1 nT Range: 15,000 to 120,000 nT Gradient Tolerance: < 10,000 nT/m Samples at: 60+, 5, 3, 2, 1, 0.5, 0.2 sec Operating Temperature: -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, 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

IPR-12 SPECIFICATIONS

Inputs

1 to 8 dipoles are measured simultaneously.

Input Impedance 16 Megohms

SP Bucking

± 10 volt range. Automatic linear correction operating on a cycle by cycle basis.

Input Voltage (Vp) Range 50 µvolt to 14 volt.

Chargeability (M) Range 0 to 300 millivolt/volt.

Tau Range

60 microseconds to 2000 seconds.

Reading Resolution of Vp, SP and M

Vp, 10 microvolt; SP, 1 millivolt; M, 0.01 millivolt/volt.

Absolute Accuracy of Vp, Sp and M

Better than 1%.

Common Mode Rejection At input more than 100db.

Vp Integration Time

10% to 80% of the current on time.

IP Transient Program

Total measuring time keyboard selectable at 1,2,4,8,16 or 32 seconds. Normally 14 windows except that the first four are not measured on the 1 second timing, the first three are not measured on the 2 second timing and the first is not measured on the 4 second timing. An additional transient slice of minimum 10 ms width, and 10 ms steps, with delay of at least 40 ms is keyboard selectable. Programmable windows also available.

Transmitter Timing

Equal on and off times with polarity change each half cycle. On/off times of 1,2,4,8,16 or 32 seconds. Timing accuracy of ±100 ppm or better is required.

External Circuit Test

All dipoles are measured individually in sequence, using a 10 Hz square wave. The range is 0 to 2 Mohm with 0.1 kohm resolution. Circuit resistances are displayed and recorded.

Filtering

RF filter, 10 Hz 6 pole low pass filter, statistical noise spike removal.

Internal Test Generator

1200 mV of SP; 807 mV of Vp and 30.28 mV/V of M.

Analog Meter

For monitoring input signals; switchable to any dipole via keyboard.

Keyboard

17 key keypad with direct one key access to the most frequently used functions.

Display

16 lines by 40 characters, 128 x 240 dots, Backlit SuperTwist Liquid Crystal Display. Displays instrument status and data during and after reading. Alphanumeric and graphic displays.

Display Heater

Available for below -15°C operation.

Memory Capacity

Stores approximately 400 dipoles of information when 8 dipoles are measured simultaneously.

Real Time Clock

Data is recorded with year, month, day, hour, minute and second.

Digital Data Output

Formattted serial data output for printer and PC, etc. Data output in 7 or 8 bit ASCII, one start, one stop bit, no parity format. Baud rate is keyboard selectable for standard rates between 300 baud and 57.6 kBaud. Selectable carriage return delay to accommodate slow peripherals. Hand-shaking is done by X-on/X-off.

Standard Rechargeable Batteries

Eight rechargeable Ni-Cad D cells. Supplied with a charger, suitable for 100/230V, 50 to 60 Hz, 10W. More than 20 hours service at +25°C, more than 8 hours at -30°C.

Ancillary Rechargeable Batteries

An additional eight rechargeable Ni-Cad D cells may be installed in the console along with the Standard Rechargeable Batteries. Used to power the Display Heater or as backup power. Supplied with a second charger. More than 6 hours service at -30°C.

Use of Non-Rechargeable Batteries

Can be powered by D size Alkaline batteries, but rechargeable batteries are recommended for lower cost over time

Operating Temperature Range -30°C to +50°C.

Storage Temperature Range -30°C to +50°C.

Dimensions

Console: 355 x 270 x 165 mm Charger: 120 x 95 x 55 mm

Weights

Console: 5.8 kg Batteries: 1.3 kg Charger: 1.1 kg

Transmitters Available

GGT-3 GGT-10

An ISO 9001:2000 registered company

* All specifications are subject to change without notice.



CANADA

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USA

Micro-g LaCoste

1401 Horizon Avenue Lafayette, CO 80026 Telephone: +1 303 828 3499 Fax: +1 303 828 3288 e-mail: info@microglacoste.com website: www.microglacoste.com

SPECIFICATIONS

TxII-1800 W

- Size: 21 x 34 x 39 cm.
- · Weight: approximately 20 kg.
- Operating temperature: -40" C to 65" C.

TxII-3600 W

- 51 X 41.5 X 21.5 cm built-in transportation box from Pelican.
- · Weight: approximately 32 kg.
- . Operating temperature: -40° C to 65° C.

ELECTRICAL CHARACTERISTICS

TxII-1800 W and TxII-3600 W

- Standard time base of 2 seconds for time-domain: 2 seconds ON, 2 seconds OFF.
- Optional time base: DC, 0.5, 1, 2, 4 or DC, 1, 2, 4, 8 seconds.
- Output current range: 0.030 to 10 A (normal operation).
 0.000 to 10 A (cancel open loop).
- Output voltage range: 150 to 2400 V / 14 steps.
- . Ability to link 2 GDD transmitters to double power (Master / Slave).

CONTROLS

TxII-1800 W and TxII-3600 W

- · Power ON/OFF.
- Output voltage range switch: 150 V, 180 V. 350 V, 420 V, 500 V, 600 V, 700 V, 840 V, 1000 V, 1200 V, 1400 V, 1680 V. 2000 V, 2400 V.

DISPLAYS

TxII-1800 W and TxII-3600 W

- . Output current LCD; reads to ± 0.001 A.
- · Electrode contact displayed when not transmitting.
- · Output power displayed when transmitting.
- · Automatic thermostat controlled LCD heater for readout.
- . Total protection against short circuits even at zero (0) ohm.
- · Indicator lamps in case of overload:
 - High voltage ON/OFF
 - Generator over or undervoltage
 - Generator over or undervoit
- Logic fail

- Output overcurrent
- Overheating
- Open Loop Protection

GDD MASTER - MASTER - MANUEL STATES

POWER

TxII-1800 W

Recommended generator:

- Standard 120 V / 60 Hz backpackable Honda generator.
- Suggested Models: EU1000iC, 1000 W, 13.5 kg or EU2000iC, 2000 W, 21.0 kg.

TxII-3600 W

Recommended generator:

- . Standard 220 V, 50/ 60 Hz Honda generator.
- Suggested Models: EM3500XK1C, 3500 W, 62 kg or EM5000XK1C, 5000 kw, 77 kg.

DESCRIPTION

TxII-1800 W

- · Includes shipping box, instruction manual and 110 V plug,
- Optional backpackable frame for transmitter or generator.

TxII-3600 W

- · Includes built-in shipping box, instruction manual and 220 V plug.
- . Optional 220 V extension.

SERVICE

Any instrument manufactured by GDD that breaks down while under warranty or service contract is replaced free of charge upon request, subject to instrument availability.

WARRANTY

- · Standard three-year warranty on parts and labour.
- · Repairs done at GDD's office in Sainte-Foy, QC, Canada.



GDD inc.

3700, boul. de la Chaudière, suite 200 Sainte-Foy (Québec) Canada G1X 4B7

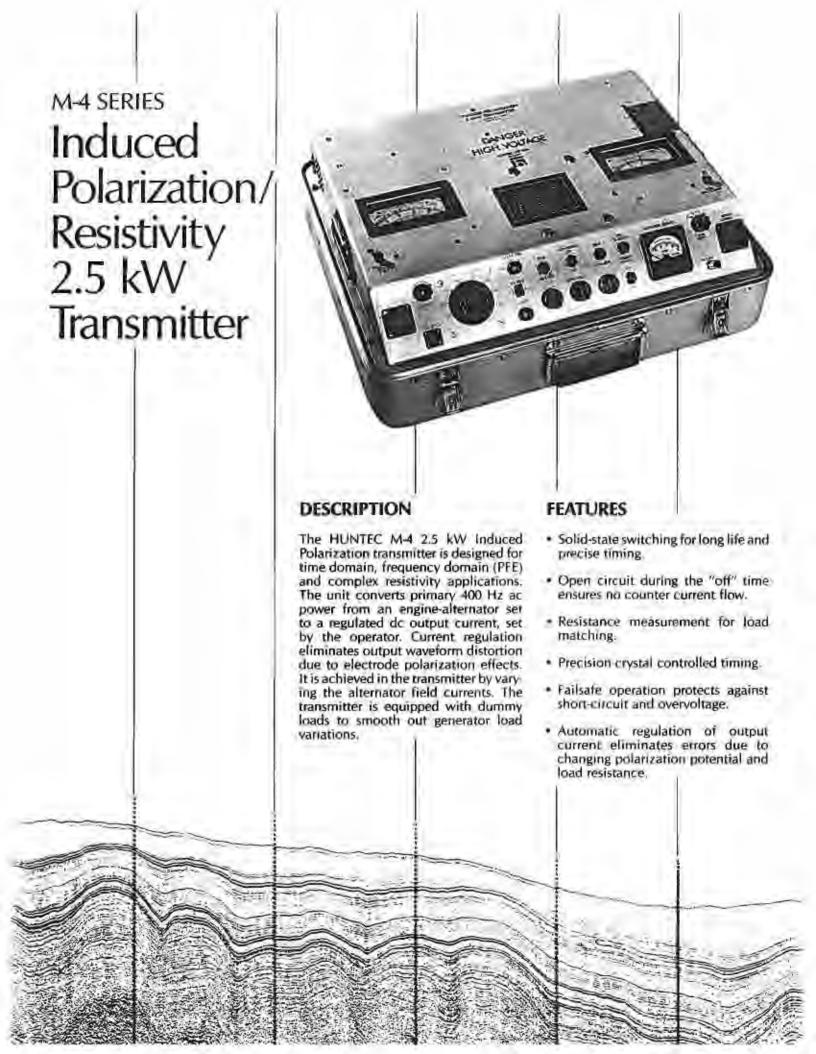
Tel.: (418) 877-4249 Toll Free: 1-877-977-42

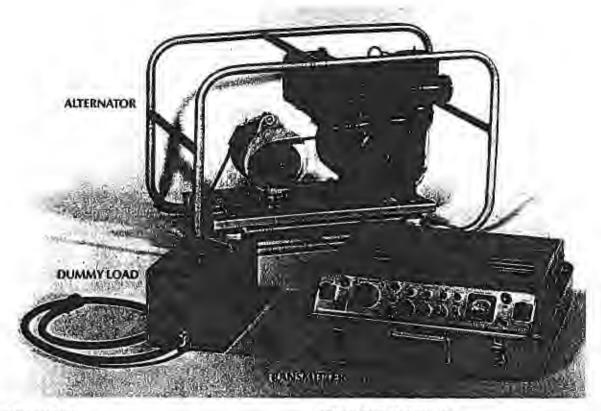
Toll Free: 1-877-977-4249 Fax: (418) 877-4054

Web Site: www.gddinstrumentation.com E-Mail: gdd@gddinstrumentation.com Specifications subject to change without notice.

Taxes, transportation and duties are extra if applicable.

Instruments available for rental or sale.





SPECIFICATIONS M-4 2.5 kW Transmitter I

Power input: 96 - 144 V line to line 3 phase,

400 Hz (from Huntec generator set)

Output: Voltage: 150 - 2200 V dc in

8 steps Current: 0.2 - 7 A regulated**

Current regulation: Less than ±0.1% change for ±10%

load change

Output frequency: 0.0625 Hz to 1 Hz (time domain,

complex resistivity)

0.0625 Hz to 4 Hz (frequency

domain) selectable from front panel An additional range of frequencies between 0.78 and 5.0 Hz is available and can be selected by an

internal switch.

Frequency

accuracy: ±50 ppm -30°C to +60°C Output duty cycle: 0.5 to 0.9375 in increments of

 $T_{on}/(T_{on} + T_{off})$ 0.0625 (time domain)

0.9375 (complex resistivity) 0.75 (frequency domain)

Output current

meter: Tw

Two ranges: 0-5 A and 0-10 A

Ground resistance

meter: Two ranges: $0-10 \text{ k}\Omega$, $0-100 \text{ k}\Omega$

Input voltage meter: 0-150 V

Dummy load: Two levels: 500 kW and 1.75 kW

Temperature range: -34°C to +50°C

Size: 53 cm x 43 cm x 29 cm

Weight: 26 kg

**Smaller currents are obtainable, but outside the current regulation range the transmitter voltage is regulated not the current

SPECIFICATIONS M-4 2.5 kW Engine Driven Alternator

Output: 120V ac 400 Hz 3.5 kVA maximum Engine Honda 5.5 HP air cooled,

Single cylinder four cycle piston

Engine with manual start.

Fuel: Regular grade gasoline,tank capacity

3.8L to give 4 b duration

Alternator: Delta connected heavy duty automobile

Type, belt driven, air cooled Backpack style carrying frame

with mounted engine and alternator

Size: 35 cm x 31 cm x 61 cm

Weight(dry): 40 kg

Construction:

