

# REPORT ON THE <br> 2004 MINERAL EXPLORATION PROGRAM ON THE SEVERANCE PROPERTY, DAWSON RANGES, YUKON 

Quartz Mineral Claims<br>Severance 1 to 10 (YC19447 to YC19456) and<br>Severance 11 to 30 (YC19520 to YC19539)

For work done August 20 to September 5, 2004

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## For

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Location: $62^{\circ} 22^{\prime} \mathrm{N}, 138^{\circ} 37^{\prime} \mathrm{W}$
NTS: 115J/07
Mining District: Whitehorse, YT
Date:
December 2003

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### 1.0 SUMMARY

The Severance Property is located in the Klotassin River valley, 125 km west of Carmacks, Yukon, on NTS map sheet 115J/7. The property is underlain by granodiorite of the Cretaceous Dawson Range Batholith, which is intruded by Eocene quartzfeldspar porphyry dykes and plugs.

Exploration work on the property in 2002 identified anomalous copper, gold and molybdenum in soils and a rock sample of silicified and quartz-veined granodiorite, which contained $7 \%$ disseminated pyrite and assayed $1.2 \mathrm{~g} / \mathrm{tgold}$ and $0.35 \%$ copper.

The 2004 exploration program was directed at following-up and expanding on the anomalous soil geochemical results and locating the source of the copper-gold-bearing boulders. The program involved line-cutting, soil sampling, magnetic surveying and Induced Polarization surveying.

The program identified a coincident copper-gold-molybdenum soil anomaly that measures 800 m by 1200 m and is open to the east and west. Within this zone are values as high as 1966 ppb gold, 1036 ppm copper and 54.3 ppm molybdenum. This zone is within a magnetic low and is underlain by a broad chargeability high with a resisitivity signature that is characteristic of a porphyry system.

The suite of anomalous elements and their distribution is suggestive of an intrusiverelated or porphyry system. The Dawson Range intrusions host a number of intrusionrelated gold occurrences in the Mt. Freegold area and a porphyry Cu-Mo-Au deposit at the Casino Property. A reserve estimate prepared for the Casino deposit in 1995, indicated there was 178 million tonnes grading $0.376 \mathrm{~g} / \mathrm{t}$ gold, $0.303 \%$ copper and 0.028 \% molybdenum.

Recommendations for future work on the property are to conduct a two-phased program. The first phase would drill test the coincident IP chargeability high and anomalous copper-gold-molybdenum in soils in the Target Zone and test spotty chargeability highs peripheral to this. The program would also involve additional magnetic surveying and IP surveying. This program would require four drill holes totalling 525 m and is estimated to cost $\$ 232,500$. The second phase program would be contingent on results from the first phase and would involve expansion of the soil geochemical survey, the IP survey and additional drilling at an estimated budget of $\$ 430,000$. To date Eagle Plains Resources Ltd has expended $\$ 101,790$ on exploration on the property.

### 2.0 INTRODUCTION AND TERMS OF REFERENCE

Eagle Plains Resources Ltd contracted Aurora Geosciences Ltd to conduct an exploration program on their Severance Property on NTS map sheet $115 \mathrm{~J} / 07$ in the Dawson Ranges in central Yukon Territory, during the summer of 2004. The exploration program consisted of line cutting, soil sampling, prospecting, magnetic surveying and Induced Polarization (IP) geophysical surveying.

This report documents the 2004 exploration program and includes a review of historical exploration work conducted in the area by previous operators and by Eagle Plains Resources Ltd. The scope of this review was to examine and compile pertinent geological, geochemical and geophysical data collected in project area. Based on the findings of the data compilation and the fieldwork numerous recommendations for future work on the property are included.

The field program was conducted from August 20 to September 5, 2004. The original crew consisted of four persons; Kel Sax (project geological engineer), Calvin Delwish, Susanne Aichelle and Jean Francois Page (field assistants). An additional two geophysical technicians, Sean Horte and Andrea Langerud, mobilized to the property to complete the IP survey on August 31.

This report is based on published geological, geochemical and geophysical studies in the public domain; on confidential reports prepared for Eagle Plains Resources Ltd; on government publications; and assessment reports prepared by others for work in the area. The author is a professional geologist and managed the exploration program on the property in 2004. While the author did not work on the property in 2004, he has worked on the property in 2002 and 2003. The author has relied on data, interpretation, and information supplied by others noted above and listed in the References. This database is internally consistent, and withstands repeated inquiry along various lines of reasoning.

### 3.0 DISCLAIMER

The data referenced in the preparation of this report was compiled by geologists and geophysicists that were employed directly by the Geological Survey of Canada and Kennecott Canada Exploration Limited. These individuals would be classified as "qualified persons" today, although that designation did not exist when most of the historic work was done. The author assumes no responsibility for the interpretations and inferences made by these individuals prior to the inception of the "qualified person" designation.


## EAGLE PLAINS RESOURCES LTD SEVERANCE PROPERTY LOCATION MAP

Figure 1
December 20, 2004

### 4.0 PROPERTY DESCRIPTION AND LOCATION

The Severance property is located in the Klotassin River Valley, in the Dawson Range Mountains, 125 km west-northwest of Carmacks or 250 km northwest of Whitehorse, Yukon. The property is centred at latitude $62^{\circ} 22^{\prime} \mathrm{N}$ and longitude $138^{\circ} 37^{\prime} \mathrm{W}$ (Figure 1) on NTS map sheet 115J/07.

The Severance Property consists of 30 Quartz Claims staked in accordance with the Yukon Quartz Mining Act in the Whitehorse Mining District (Figure 2). The mineral claim boundaries have not yet been legally surveyed. Claim data is as follows:

Table 1. Claim Information

| Claims | Grant Number | Expiry Date |
| :---: | :---: | :---: |
| Severance 1-10 | YC19447-YC19456 | January 7, 2008 |
| Severance 11-30 | YC19520-YC19539 | January 7, 2008 |

Title to the claims is held $100 \%$ in the name of 4763 NWT Ltd. Eagle Plains Resources Ltd has an option to earn $100 \%$ interest in the property by paying issuing 100,000 shares of Eagle Plains stock to 4763 NWT Ltd, by completing $\$ 40,000$ of exploration work on the property and maintaining the property in good standing. This interest is subject to a $2 \%$ net smelter royalty (NSR) of which half may be purchased at any time for $\$ 1,000,000$ and $25 \%$ of any future sale or option of the property by Eagle Plains to a third party, to a maximum of $\$ 100,000$ is payable to 4763 NWT Ltd.

A mineral claim holder is required to perform certain types and amounts of assessment work and is required to document this work to maintain the title as outlined in the regulations of the Yukon Quartz Mining Act. The amount of work required is equivalent of $\$ 100.00$ of assessment work per quartz claim unit per year. Alternatively, the claim holder may pay the equivalent amount per unit per year to the Yukon Government as "Cash in Lieu" to maintain title to the claims. Eagle Plains Resources Ltd is required to submit assessment reports with respect to all exploration carried out on the property according to the agreement with 4763 NWT Ltd.

Certain types of exploration activity require a Mining Land Use Permit, issued by the Yukon Government, prior to conducting the work on a mineral property. The current or future operations of Eagle Plains Resources Ltd including exploration, development and commencement of production activities on this property require such permits. Other permits governed by laws and regulations pertaining to development, mining, production, taxes, labour standards, occupational health, waste disposal, toxic substances, land use, environmental protection, mine safety and other matters, may be required as the project progresses.

scale $=1: 25,000$
projection = NAD 83 UTM, zone 7

To the author's knowledge, the Severance Property area is not subject to any environmental liability.

### 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The property is accessible by helicopter from Whitehorse or Carmacks. The nearest fixed-wing airstrip is at Rude Creek, 32 km to the north. An old winter "cat trail" winds from the north end of Aishihik Lake, through the Nisling River valley and runs 5 km west of the property then north to the Yukon River near the abandoned community of Selkirk

For the 2004 work program the camp equipment was driven from Whitehorse to a staging area at the Mt Nansen mine site. From there a helicopter was used to fly the crew and equipment to a camp site on the Klotassin River, 1 km south of the property. Day traverses were conducted on foot from this camp.

The project area is in the Dawson Range Mountains. The topography in the area is mountainous with gentle rounded hills and broad, generally swampy, river valleys. Elevations range from about 800 m above sea level in the Klotassin River Valley to 1300 m on the property. The southern part of the property, on the south facing slopes, is moderately treed with poplar and spruce and covered by colluvium. The northern part of the property is in an alpine area that is a gently sloping plateau that is sparsely treed with alder and dwarf spruce and is covered by a veneer of frozen overburden.

The area receives little moisture year round. Snow generally begins accumulating in the alpine areas in early September and begins receding in late April to early May. The snow is generally melted back sufficiently by late May to allow for fieldwork at lower elevations. Summer temperatures range up to $30^{\circ}$ Celsius and winter temperatures down to $-50^{\circ}$ Celsius.

The land in which the mineral claims are situated is Crown Land and falls under the jurisdiction of the Yukon Government. Surface rights would have to be obtained from the government if the property were to go into development.

Power is not available in the project area. The nearest source of power is the Aishihik Lake hydroelectric dam, 150 km south of the project area. Any mine development would have to supply its own power system or negotiate with the Yukon Territorial Government to have power supplied to a mine complex. Water resources are abundant in the project area, mainly from the Klotassin River.

The nearest major city centre is Whitehorse. Whitehorse is a supply centre for this northern region and has an ample labour force. Due to historic mining activity in the Yukon, an experienced work force, including mining personnel are available.

The author did not see any topographic or physiographic impediments for a potential mine, mill, heap leach or waste disposal sites. Suitable lands occur throughout the project area that should allow development of such facilities. Environmental concerns and land claims issues with local First Nations are issues that Eagle Plains Resources Ltd will have to address from time-to-time as the project advances.

### 6.0 HISTORY

The area has seen very little mineral exploration activity. The potential of the area was recognized by 4763 NWT Ltd through researching the government Regional Geochemical Stream Sediment data. A sample, collected from small creek flowing into Somme Creek on the north side of the property returned 144 ppb gold and anomalous copper and molybdenum.

In the 1970's, Atlas Exploration Ltd staked claims in the area to follow-up on the anomalous copper and molybdenum. They established a grid and conducted soil geochemical sampling and geological mapping. Their work located some anomalous values of copper and molybdenum in an alaskite stock and found traces of molybdenite in quartz veins. The occurrence is documented in the Yukon Minfile as the MIM showing, Minfile Number 115J 003 (DIAND, 2000). They did not analyse their samples for gold.

In 1998, Kennecott Canada Exploration Inc. conducted a reconnaissance soil and stream sediment sampling program in the area to determine the cause of the anomalous gold in the regional stream sediment sample. Their work outlined a gold anomaly $>35 \mathrm{ppb}$, in excess of 2 kilometers long. Kennecott did not follow-up these results (pers. comm., R. Hulstein).

In January of 2002, 4763 NWT Ltd. Staked the Severance 1 to 10 claims to cover the area of anomalous gold-in-soils identified by Kennecott. Later that year, 4763 conducted soil sampling, prospecting and staked an additional 20 claim units. The soil sample program returned a number of anomalous gold values up to $2,680 \mathrm{ppb}$ and anomalous copper and molybdenum. The prospecting program identified silicification and disseminated pyrite mineralization in monzonitic intrusive rocks with one sample (Sev02-14) returning 1.2 grams/tonne gold and $0.3 \%$ copper.

Eagle Plains Resources Ltd optioned the property from 4763 in the fall of 2002. In 2003, Eagle Plains conducted a regional stream sediment sampling program in the Klotassin River Valley and along Somme Creek, north of the property. Eagle Plains also re-sampled some of the anomalous soil sample sites and extended two soil lines in the southern part of the property. To date Eagle Plains Resources Ltd has expended $\$ 101,790$ on exploration on the property.

### 7.0 GEOLOGICAL SETTING

### 7.1 Regional Geological Setting

The Severance Property is located within the Dawson Range in Yukon-Tanana Terrane. The belt extends from Whitehorse northwest to the Yukon / Alaska border. The regional geology is illustrated on Figure 3. The oldest rocks in the area belong to the Nasina Assemblage (DMN) of Yukon-Tanana Terrane. They consist of Devonian to Mississippian metamorphosed massive dark gray to black graphitic quartzite with lesser micaceous quartzite and quartz mica schist (Gordey, 1999). These are unconformably overlain by Upper Cretaceous Windy-Table Suite (uKW) and Upper Cretaceous Carmacks Group (uKC). The Windy-Table Suite consists of resistant, columnar jointed, quartz-phyric dacite flows, ash and lapilli tuff, with basal sedimentary and epiclastic rocks, and includes quartz-feldspar porphyry dykes. The Carmacks Group consists of a succession of dominantly mafic to intermediate volcanics, with minor felsic volcanics towards the base of the package. Locally, clastic rocks also occur at the base of the package. The mafic volcanic rocks are augite olivine basalt and the intermediate volcanics are feldspar porphyry andesite and augite phyric andesite. The felsic volcanic rocks are similar to Mt. Nansen Group volcanics east of the area and consist of acid vitric crystal tuff, lapilli tuff and welded tuff, felsic volcanic flow rocks and quartz feldspar porphyry.

These rocks are intruded by Mid Cretaceous Whitehorse Suite ( $\mathbf{m K g W}$ ) and the Early Jurassic Aishihik Suite (EJgA) of the Dawson Range Batholith. The Whitehorse Suite has been dated at 107 Ma and consists of biotite-hornblende granodiorite, hornblende quartz diorite and hornblende diorite with sparse grey and pink potassium feldspar phenocrysts. The Aishihik Suite has been dated at 187 Ma and consists of medium- to coarse-grained, foliated biotite-hornblende granodiorite and foliated diorite to monzodiorite with local K-feldspar megacrysts. These rocks are in turn intruded by Early Tertiary intrusions of the Nisling Range Suite (EtqN), which consist of leucocratic, biotite granite or alaskite with sacchroidal texture and white alkali feldspar.

All of these units are intruded and overlain by Lower Eocene Skukum volcanics (IES). These consist of rhyolitic to andesitic volcanic dykes, plugs, domes, laccoliths, flows and tuff. The intrusive phases are generally quartz-feldspar-hornblende felsites; while the extrusive phases are intermediate to felsic hornblende-feldspar porphyritic tuff, flow breccia and volcanic mudstone.


### 7.2 Property Geology

The majority of property scale geological mapping was conducted by the author in the 2002 exploration program. Outcrop exposure on the property is poor. The northern part of the property is a gently sloping plateau that is covered by a veneer of frozen overburden; on the south facing slopes there is an increasing thickness of colluvium down slope. Outcrop exposure was limited to the break-in-slope on the tops of ridges.

The northern part of the property is underlain by coarse-grained, hornblende-biotite granodiorite of the mid Cretaceous Whitehorse Suite (Figure 4). It is generally covered by lichen on weathered surfaces and is white to light pink on fresh surfaces with coarse, dark, hornblende and biotite crystals. These rocks are generally unaltered and contained little to no sulphide mineralization. A narrow medium-grained, intermediate dyke was observed just north of the property. The dyke trends east west and dipped $20^{\circ}$ to the south. Numerous boulders of hornblende-biotite granodiorite were found on the slopes on the southern part of the property.

The peak of the ridge in the center of the property is underlain by quartz-plagioclase porphyritic dacite believed to be of the lower Eocene Skukum Volcanics. The rock weathers medium brown-green. The matrix is medium green and fine-grained to aphanitic with clear to white quartz phenocrysts and white plagioclase phenocrysts to 2 mm long. It is unaltered and no sulphide minerals were observed. The porphyry is believed to be a plug, however, it is difficult to be sure due to the minimal exposure.

At the lower peak on the western part of the property, a number of monzonitic boulders have been observed, although none were found in outcrop. These rocks are fine- to medium-grained, light pink to medium grey and weakly altered, occasionally with traces of hematite. In the central part of the property a number of boulders of altered granodiorite were found. These boulders were weakly to moderately silicified with quartz veins and up to 7\% disseminated pyrite.

On the property geology map it is interpreted that the southern part of the property is underlain by monzonite/granodiorite. This is based on the number of boulders that have been observed on the southern slopes and on the response form the ground magnetic survey, which shows distinct, lower magnetic response in the area. As well, the magnetic survey identified a linear magnetic high feature trending east-westerly along the southern part of the survey area. This is interpreted to be a magnetic dyke, probably of intermediate to mafic composition.

### 8.0 DEPOSIT TYPES

The Dawson Range area hosts numerous mineral occurrences along the length of the belt. The belt has been recognized for the potential to host porphyry copper-molybdenum-gold deposits such as the Casino porphyry deposit located 50 km north of Severance. The reserves at Casino were estimated in 1995 by to be 178 million tonnes
grading 0.376 g/t gold, 0.303 \% copper and 0.028 \% molybdenum (DIAND, 2002). Numerous other porphyry copper-molybdenum and copper-gold mineral occurrences are known in the area.

The area also hosts epithermal-style gold veins such as at the former producing Mt Nansen mine located 75 km east of Severance. In 1988, reserves from four ore zones at Mt Nansen were estimated at nearly 1.0 million tonnes grading $7.69 \mathrm{~g} / \mathrm{t}$ gold and 145 g/t silver (DIAND, 2002).

### 9.0 MINERALIZATION

The type of mineralization observed on the property is limited to the few outcrop locations and boulders observed as float in the colluvium on the southern slope. The mineralization there consisted of occasional traces of hematite in weakly altered monzonitic boulders. One rock sample of this material, collected in 2002 (SEV02-11), returned slightly anomalous molybdenum values of 103 ppm .

In 2002, a number of boulders of altered granodiorite were found in the south-central part of the grid. These boulders were weakly to moderately silicified with quartz veins and up to $7 \%$ disseminated pyrite. One of these samples (SEV02-14) contained 3,491 ppm Cu and $1,211 \mathrm{ppb} \mathrm{Au}$. A second sample of similar material (SEV02-01) contained 111 ppm Cu and 525 ppb Au. These rocks were not significantly anomalous in molybdenum.

The soil geochemical survey and induced polarization survey indicate that sulphide mineralization may be more extensive than what has been observed in float samples.

### 10.02004 EXPLORATION PROGRAM

The 2004 exploration program on the Severance Property consisted of line cutting, soil sampling, magnetic surveying and Induced Polarization (IP) geophysical surveying. A crew of four persons mobilized to the property on August 22 to start the line cutting in preparation for the IP survey. An additional two persons mobilized to the property on August 31 to conduct the IP survey. The crew demobilized on September 5.

A compass and hipchain grid was established in the northern part of the property in 2002 and expanded with two lines running south to the property boundary in 2003 (L3800E and 4300E). This grid was marked with orange flagging, however, and much of it did not survive the winter cold and winds. For the IP survey, four lines were cut at two hundred metre line spacing; lines $3800 \mathrm{E}, 4000 \mathrm{E}, 4200 \mathrm{E}$ and 4400E. Each line is 1.8 km long for a total of 7.2 line-km of cutting. Due to time and budget limitations only lines 3800E, 4000E and part of 4200E were surveyed for IP. The lines were cut to approximately 1.5 meter width and marked with survey pickets at 25 m station intervals. As well, the intermediate lines that were not extended southward in 2003 were extended
with compass and hipchain and marked with flagging for the extension of the soil geochemical survey in 2004. These lines were also marked at 25 m intervals with flagging and approximately 6.4 km of line was completed. The end of all lines was surveyed with a non-differential GPS in NAD 83 UTM coordinates.

Soil samples were collected at 25 m spacing on the grid. Sample sites on the southfacing slope were generally free of ground frost and samples were easily collected with a mattock. At each sample site approximately 0.5 kilograms of soil was collected and placed in a kraft, wet-strength paper bag, which was labelled with the grid location. The samples were then air dried at camp prior to shipping to Acme Analytical Labs in Vancouver for analysis. The sample data from the 2004 program was merged with data from the 2002 and 2003 programs to generate the maps included in this report.

The magnetic survey was conducted with a GEM Systems Proton Precession Magnetometer equipped with GPS location software. Part way through the survey the GPS link to the antennae shorted and the survey had to be completed without the GPS link. Readings were taken at 12.5 m intervals along the lines. A base station magentometer was established in the camp area and cycled at 10 -second intervals to correct the mobile magnetometer for diurnal variations. The data was dumped to a laptop computer each day and processed with Geosoft Oasis Montage software. Due to time and budget constraints the magnetic survey could not be completed.

The IP survey was performed using a GDD TX-II 3.5 KW digital IP transmitter powered by a Honda 5KVA gas generator and an IRIS Elrec Pro digital IP receiver (technical specifications are in Appendix $V$ ). In addition, the following equipment was used in the survey: 6 km 18 gauge wire, breast reels and speedy winders, stainless steel electrodes, VHF radios and 25 m 6-channel receiver cables. A pole-dipole electrode geometry was used with 25 m dipoles, $1^{\text {st }}$ through $6^{\text {th }}$ separation read. The transmitter output was a 0.125 Hz square wave, $50 \%$ duty cycle, reversing polarity. The receiver recorded a semi-logarithmic time-sampling of the decay curve in 20 windows, stacked a minimum of 15 times. Stations with errors greater than 5 mVN were repeated. Station-to-station slopes were recorded using a handheld clinometer to obtain topography for the inversions.

### 11.0 GEOCHEMICAL ANALYTICAL PROCEDURE and DATA VERIFICATION

All samples were sent to Acme Analytical Laboratories in Vancouver for processing. Acme is an ISO 9002 accredited facility. A total of 312 soil samples and one rock sample were collected in the 2004 program.

The analytical procedure for soil samples involved oven drying the sample then sieving in an 80 -mesh sieve to collect a 15 gm sample of the -80 -mesh material. The 15 grams of -80 -mesh material was then digested in 90 ml of aqua-regia solution and diluted to 300 ml with distilled water. This solution was then analyzed for 36 elements, including gold by Inductively Coupled Plasma Mass Spectrometry (ICP-MS) according to the Acme Labs Group 1DX procedure.

The rock sample was prepared by drying the sample then crushing to -10-mesh. A 250 gm split was taken from the -10 -mesh material and pulverized to -150-mesh. A 0.5 gm sample of the -150 -mesh material was then digested in 3 ml of aqua-regia solution and diluted to 10 ml with distilled water. This solution was then analyzed for 36 elements by Inductively Coupled Plasma Emission Spectrometry (ICP-ES). Gold analysis on this sample was also performed by fire assay with ICP-MS finish. Geochemical Analytical Certificates for the 2004 program are included in Appendix II.

Samples collected in previous years are included in the geochemical maps in this report. The collection procedures by previous workers was managed by experienced professionals and they have been handled in an acceptable manner. The samples were processed and analyzed at reputable laboratories and there is no indication from the analytical determinations that any spurious results were produced from sampling procedure, sample handling or analytical problems.

### 12.0 MINERAL PROCESSING AND METALLURGICAL TESTING

To the knowledge of the author, no mineral processing or metallurgical testing has been conducted on materials from the Severance Property described in this report.

### 13.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

To the knowledge of the author, no mineral resource or reserve estimate has been calculated for any material on the Severance Property described in this report.

### 14.0 OTHER RELEVANT DATA AND INFORMATION

It is the author's opinion that there is no additional information or explanation necessary to make this technical report understandable and not misleading.

### 15.0 INTERPRETATION AND CONCLUSIONS

The 2004 exploration program on the Severance Property identified a large area of coincident, anomalous gold, copper, molybdenum and arsenic soil geochemistry. These anomalies occur as a large, roughly oval zone on the southern part of the property and are open to the east and west. Also, there are up to 3 anomalous northwest trending linear anomalies and a questionable northeasterly trending anomaly on the northern part of the grid. This metal association and distribution is indicative of a porphyry-style mineralizing system. The anomalous area is coincident with a large zone of chargeable rocks identified by the Induced Polarization that is moderately resistive in the core and less resistive outboard. The zone is also a magnetic low feature relative to the encompassing rocks.

The prospecting on the southern part of the property was hampered by poor rock exposure. On the ridge tops, where there is some rock exposure the underlying rock is hornblende-biotite granodiorite of the mid Cretaceous Whitehorse Suite of the Dawson Range Batholith. South of there is little to no outcrop, however float prospecting in 2002 located moderately silicified and pyrite mineralized granodiorite and monzonite that returned anomalous values for copper and gold; Sample SEV02-14 contained 3,491 ppm Cu and 1211 ppb Au ; sample SEV02-01 contained 111 ppm Cu and 525 ppb Au . One rock sample was collected in the 2004 program. The sample is a float boulder collected at grid coordinates 5047E 6289N and consisted of grey, weakly calcite altered quartz diorite with blebs of pyrite. It did not contain any anomalous base or precious metals values.

## Soil Geochemical Survey Results

Soil geochemical analytical certificates are included in Appendix II, soil sample locations are given in Figure 5 and maps of gold, copper, molybdenum and arsenic are included in Figures 6 through 9, respectively.

In general, the soil sample results show good correlation for gold, copper, arsenic and molybdenum. The extension of the survey grid southward identified a broad area in the south-central part of the grid with anomalous gold, copper, molybdenum and arsenic. As well, there are some weakly defined linear gold, copper and molybdenum anomalies in the northern part of the grid that may indicate some structural control to the mineralizing source. Within the broad anomalous area are scattered, highly anomalous areas with gold-in-soil values as high as 1966 ppb , copper as high as 1036 ppm and molybdenum as high as 54.3 ppm . The plot of molybdenum shows an interesting, sharp cut-off in the southwestern corner of the map sheet. For all elements, the anomaly remains open to the east and west.

The gold soil geochemical results (Figure 5) returned some highly anomalous values with nine samples containing greater that 300 ppb gold and 151 samples returning
greater than 100 ppb gold. The arsenic plot (Figure 9), in general shows a similar pattern to the gold, copper and molybdenum, however, it is much more spotty and more dispersed in the northwestern part of the survey grid.

## Magnetic Survey Results

The magnetic survey results are included in Figure 10. The data is slightly spotty and it is difficult to extrapolate between lines due to the wide line spacing. This is a result of the fact that the survey was not completed due to time and budget constraints. It is recommended that the infill lines be completed to provide a better picture of the magnetic response in the area.

The plot does, however illustrate a number of magnetic features on the property. There is a magnetic high on the northern part of the property that appears to be coincident with the hornblende-biotite granodiorite unit. This magnetic high grades southward into a magnetic low which is interpreted to be a different intrusive rock unit. Indications of a different unit in the south were seen from boulder prospecting on the south slope where hematite-bearing monzonite and pyritiferous granodiorite was observed. This interpretation would fit well with the magnetic low, however it is purely speculative due to the lack of firm evidence (ie. no outcrop) in the area.

Another feature evident on the magnetic map is an east-west trending linear magnetic high from 5775 N on line 3500 E to 5200 N on line 4200 E . This feature is interpreted to be a caused by a dyke that is slightly magnetic. There have been some mafic to intermediate dykes with this trend observed in the northern part of the property. Fill-in magnetic survey lines should help to delineate these magnetic features better.

## IP Interpretation method

The Induced Polarization data were interpreted using the DCIP2D package developed by the University of British Columbia Geophysical Inversion Facility. The inversion algorithm is described in detail by Oldenburg and Li (1994). A brief description of key features of the algorithm follows.

The IP effect can be described in macroscopic terms. If a time domain signal is put into the ground, as soon as the current is turned on, the voltage immediately rises to a level $\left(\phi_{s}\right)$ and thereafter continues to rise to a higher level $\left(\phi_{\eta}\right)$. At current shutoff, the voltage immediately falls to a level ( $\phi_{s}$ ) and then slowly decays to zero along a curve similar to that between $\phi_{\sigma}$ and $\phi_{\eta}$. Apparent chargeability is defined as the "extra" voltage observed:

$$
\eta_{\mathrm{a}}=\frac{\phi_{\eta}-\phi_{\sigma}}{\phi_{\eta}}=\frac{\phi_{\mathrm{s}}}{\phi_{\eta}}
$$



IP response curve (UBC DCIP2D documentation, 1998)

The observed DC potentials ( $\phi_{\sigma}$ ) are defined by the vector form of Ohms Law:

$$
\nabla \cdot\left(\sigma \nabla \phi_{s}\right)=-I \delta\left(r-r_{s}\right)
$$

where $r-r_{s}$ is the vector to the measurement point, $I$ is the current and $\sigma$ is the conductivity structure of the earth - the unknown quantity in the geophysical problem. The chargeability can be modeled by replacing the conductivity by an equivalent apparent conductivity controlled by the chargeability:

$$
\sigma_{n}=\sigma(1-\eta)
$$

Modeling the IP effect then involves running two conductivity models - one with $\sigma$ and one with $\sigma_{\eta}$.

The unknown quantity is the distribution of conductivities in the earth. The software models the earth conductivity structure as a series of rectangular cells of varying size and aspect ratio. The grid is finest (most detailed) near the measurement points and much coarser at locations beside or at depth beneath the measurement points. The padding cells are necessary to avoid having edge effects appear in the model. The size and dimensions of the models in no way compensates for the basic limitations on depth penetration and resolution inherent in the IP/resistivity survey. Thus the effective depth of penetration ( 0.5 to 1.0 times the maximum dipole separation) is the limit to which the models should be relied upon to accurately reflect true earth conductivities and chargeabilities.

The program calculates the potential across the finite element network using a starting model. Appropriate boundary conditions are applied when calculating the potentials across the network. These include the condition that all current flow is normal to the cell boundaries and voltages are continuous across the boundaries. The sensitivity of the model to changing the parameters in any cell is calculated as is the misfit between the
model results and the actual observed potentials / chargeabilities. The model is then adjusted using the calculated sensitivities of the response to changes in the conductivity of individual cells.

There is no unique solution or model which fits any set of IP / resistivity data. A best-fit model is one which (1) fits the data within the error of the survey and (2) invokes the minimum required degree of complexity to fit the data. For a set of $\mathbf{N}$ measurements, a global misfit can be defined as:

$$
\Psi_{d}=\sum_{i=1}^{N}\left(W_{i}\left(r_{i}-r_{i}^{o b s}\right)\right)^{2}
$$

where $W_{i}$ is the weighting factor for the $i^{\text {th }}$ measurement ( $r^{0 b s}$ ) and $r_{i}$ is the model response for this measurement. The weighting factor is usually the inverse of the error so that a measurement with high error has a low weighting and vice versa. In a system with random noise, the target misfit is $\mathbf{N}$. The algorithm reduces $\Psi_{m}$ by repeatedly adjusting the conductivities to improve the fit until the global misfit equals the target misfit. At this point, the model fits the data to within the error of the survey.

The second requirement of a successful solution is that the complexity of the final model be minimized. IP measurements are inherent averages, deriving resistivity and chargeabilities from large volumes of the subsurface. It is possible to over-fit data, deriving solutions which over-minimize misfit but which invoke models with detail beyond the resolving power of the measuring arrays. The problem is ill-posed and inherently ambiguous in that an infinite number of models may satisfy the global misfit equals target misfit criterion. If both a simple and complex solution can adequately replicate the field data within the bounds of measurement error, the simple solution is to be preferred.

Starting with a reference model $m_{0}$ and weighting functions for $x$ and $z\left(w_{x}, w_{z}\right)$, define the complexity of the model as $\Psi_{m}$ where:

$$
\begin{aligned}
& \iint\left\{\left.\alpha_{r} w_{r}(x, x)\left(\frac{i)\left(r \mu-r \mu_{0}\right)}{\partial x}\right)^{3} \right\rvert\, \alpha_{z} \|_{x}\left(x_{1} i\right)\left(\frac{b\left(r, \mu-r \mu_{0}\right)}{\partial x}\right)^{2}\right\} d x d z
\end{aligned}
$$

where $\sigma_{x}, \sigma_{z}$ and $\sigma_{s}$ define the relative weight of the model in $x, z$ and fineness. Increasing any of these values increases the importance of that dimension in the final solution. For example, to weight the final solutions towards vertical structures, $\sigma_{z}$ would be weighted several times more than $\sigma_{x}$. To force the model to generate fewer small scale structures, $\sigma_{s}$ is increased.

The final criteria for a successful solution can then be expressed as:

1. Minimize $\Psi_{m}$
2. Subject to the constraint that $\Psi_{d}=\mathbf{N}$ (or very close to it).

To evaluate a solution, the reader should examine not only the final values but the path the program followed to reach these values. An example of typical convergence curves is shown below:


Typical convergence curves - DC inversion
The black line traces the value of $\Psi_{d}$ with each iteration and in a good inversion, this will converge to the target misfit ( N ). The orange curve traces the convergence behaviour of $\Psi_{m}$. This curve normally starts at a very small value because the reference model is usually set to the initial model and the initial and reference models are very simple. As the inversion proceeds, the solution model becomes increasingly complex as it is adjusted to meet the target misfit. After reaching target misfit, minor adjustments are made to reduce the complexity of the model and the $\Psi_{m}$ curve stabilizes at some high value.

The field observations often have significant poorly quantified errors and the complexity of the background conductivity response may be such that it is impossible to reduce $\Psi_{m}$ to $N$. Instead, $\Psi_{m}$ can be scaled proportionately by a "chi-factor" ranging up or down from 1.0 (no scaling). Setting a large chi-factor loosens the control that goodness-of-fit exerts on the solution and generally directs the program to use very simple models which tend to smooth out the conductivities and fails to accurately model the fine details in resistivity or chargeability known to exist in the ground. Setting a chi-factor, which is too low may prevent convergence to an acceptable solution. Generally, chi is left at 1.0.

A final feature of note in the inversion is the use of initial and reference conductivity and chargeability models in the inversion process. As noted above, the relation for $\Psi_{m}$ requires a reference model ( $m_{0}$ ) against which solutions are compared. This can be an actual 2D model constructed from known geology or an estimate of half space conductivity or chargeability. In addition, the modeling process will start from an initial model, which has the same general form. In general, an average half space
conductivity and chargeability based on the field values is the best model to start from and this is the default model for both inversions if none other is specified. This will ensure that $\Psi_{m}$ converges to a value, which is not too large. The initial and reference models can be used to estimate the depth of investigation. If two inversions are performed with very different reference models, there will be regions in the final models, which will be the same in both inversion and peripheral regions where the final models will resemble the reference models. An example is shown below:


Figure 16. Depth of investigation from inversion results using different initial and reference models

## IP Data Processing

The following procedures were used to prepare and invert the induced polarization and resistivity data:

1. Data review. The IP data were reviewed and edited prior to preparing pseudosections and preparing the data sets for inversion. During data collection, data with error greater than 5 mVN were repeated, multiple times if data were not repeatable. Outliers were rejected, then repeat readings were averaged to leave only a single reading at each station and separation. If multiple readings were not repeatable, no data for that station and separation were processed further.
2. Pseudosection plotting. Pseudosections of the apparent resistivity, chargeability and error in chargeability were prepared from the final edited data using the Geosoft IP package. Consistent scales were used for the pseudosections (Figures 11, 12 and 13 of this report). For apparent resistivity, a linear colour scale of 100-2600 Ohm-m, major contours at 500 Ohm-m intervals and minor contours at 100 Ohm-m intervals were used; for apparent chargeability, a linear colour scale of 0-42 mVN, major contours at 10 mVN and minor contours at 2 mVN ; for error in apparent chargeability, a linear colour scale of $0-5 \mathrm{mVN}$, major contours at 5 mVN and minor contours at 1 mVN .
3. Data formatting. The apparent chargeability, resistivity (in normalized voltage over current) and topographic data were formatted for entry into the UBC inversion program.
4. Resistivity modelling. For each line, errors in the apparent conductance were assigned to the data. There is no means of directly quantifying these errors because neither the transmitter nor receiver record the error in the current or voltage. Errors were assumed to be $0.0002+2 \% \mathrm{~S} / \mathrm{m}$. Following error assignment, the data were inverted. A deep mesh was constructed to adequately incorporate the topography on the grid. Default initial and reference models were used, based on an average of the apparent resistivity. The target misfit was hand-adjusted to ensure convergence, reasonable data misfit and plausibility of the recovered model. This could indicate that the errors in the data were underestimated or that the errors were not Gaussian.

After the default run, the data were inverted a second time using initial and reference models of $10,000 \mathrm{Ohm}-\mathrm{m}$ (a much higher value than the average in the survey area). The purpose of this second run was to generate a model with a background resistivity greatly different than the average values used in the default run. After the second run, the two models were compared and regions which showed more than $10 \%$ discrepancy were blanked out from the default run. In these blanked out regions, the final model is not sensitive to the field data and there is no reliable subsurface information.

For all three lines, the initial target misfit could not be achieved and the condition $\mathrm{Y}_{\mathrm{d}}=\mathrm{N}$ was relaxed to ensure convergence. L3800E required a target misfit multiplier of 28.5, L4000E a multiplier of 6 and L4200E a multiplier of 45 . Nevertheless, the predicted
data adequately reproduced the observed data with the following exceptions: A single slash of high apparent resistivity was unable to be modelled successfully in L3800E and a few points of low apparent resistivity were insufficiently reproduced in the recovered pseudosection of L4200E. All recovered pseudosections can be seen in Appendix IV.
5. Chargeability modelling. For each datum, the observed standard deviation of chargeability was used as a measure of error for apparent chargeability. The IP data were first inverted using default values, with the same mesh as the resistivity modelling, using the default recovered resistivity model. The target misfit was hand-adjusted when necessary to ensure convergence, reasonable data misfit and plausibility of the recovered model. This could indicate that the errors in the data were underestimated or that the errors were not Gaussian.

After the first run, the data were inverted a second time using initial and reference models, which incorporated background chargeabilities of 100 mVN (a much higher value than the average in the survey area). The two models were then compared and regions which showed more than $10 \%$ discrepancy were blanked out in the final models. In these blanked out regions, the final model is not sensitive to the field data and there is no reliable subsurface information.

On lines 4000E and 4200E the target misfit could not be achieved and the condition $Y_{d}$ $=\mathrm{N}$ was relaxed to ensure convergence. L4000E required a target misfit multiplier of 50 and L4200E a multiplier of 215 . The predicted data for L4000E adequately reproduces the observed data in most of the pseudosection except for several data points circa station 6700 N where data with observed apparent chargeability greater than 40 mVN were unable to be modelled accurately. The predicted pseudosection for L4200E differs significantly from the observed data. Although the broad pattern is similar, the predicted maxima and minima are not as extreme as the observed data. All recovered pseudosections can be seen in Appendix 5.
6. Image extraction. After the modelling was complete, data ranges were compiled and overall data scales were assigned for both the resistivity and chargeability models. A logarithmic scale of 50 to 50,000 Ohm-m was used as a standard scale for all resistivity models. A linear scale of 0 to 90 mVN was used in all chargeability model sections. Final images were generated with the inversion software and converted to JPEGs, which appear in Appendix IV. Stacked sections of the models are compiled in Figures 14 and 15.

## IP Results

The stacked chargeability models in Figure 14 show widespread high-chargeability throughout the three lines, generally increasing towards the centre of the grid (L4200E). L3800E has continuous chargeabilites of 30 mVN extending from 5650 N to 6650 N in the Target Zone, at a depth of 50 metres in the south, rising to 10 metres in the north. On L4000E, chargeabilities of 45 mVN extend almost throughout the line from 5250 N to 6825 N in the Target Zone. These are at a depth of 50 m in the south rising to surface at
station 6500 N . A chargeability of $45 \mathrm{mV} N$ suggests a possible sulphide content of 3 to $5 \%$. The zone becomes more discontinuous north of station 6200 N , with increased chargeability culminating with a pod of $90+\mathrm{mVN}$ modelled at 6775 N . This is consistent with the negative apparent chargeabilities in the observed pseudosection, which are usually indicative of small pods or thin zones of very chargeable material. This style of chargeability continues on L4200E where discontinuous pods of very chargeable material are modelled from 5250 N to 6100 N . Although the data misfit is poor for this line, this high-chargeability model is consistent with the high incidence of negative apparent chargeabilities seen in the data for this line (Figure 13). The pods at 5300N, 5660 N and 5960 N are 90 mVN anomalies which the most robust of these features on this line (they persist through a range of parameter-space in multiple inversion runs).

Two resistivity low zones are identified and shown on Figure 15 as conductor A and B . Both zones have resistivities of $50-500$ Ohm-m and are most conductive in the central part of the grid (L4200E). Conductor A occurs on L3800 E from 5550N to 5800N; L4000E from 5325 N to 5775 N ; L4200E from 5300 N to 5650 N . The conductor is modelled at a depth of approximately 50 metres on all three lines. Conductor B, which may comprise several smaller discrete conductors, occurs on L3800E from 6325N to $6650 N$; L4000E from 6300 N to $6825 N$; and L4200E from 5825 N to 6075 N . Conductor B is modelled to extend to surface on L3800E and is 30 metres deep on L4200E.

The general pattern of a resistive core flanked by conductors is typical of a porphyry copper alteration system where there is a silicified (or potassic) core surrounded by clay alteration in an argillic alteration zone. Although there is some overlap between the conductive zones and the anomalous soil geochemistry, the high soil values tend to be centered on the less-conductive core. In general, the elevated soil geochemical results fall within the chargeable zone (which encompasses most of the three lines surveyed). The extensive chargeability throughout both conductive and resistive regimes is consistent with sulphide mineralization throughout a silicified core and clay-altered corona. The style of recovered chargeability model at the northern end of L4000E and throughout L4200E is suggestive of marginal, poddy, skarn mineralization, or structurally controlled mineralization radiating outward from the core. Although it does not coincide with the presumed edge of the porphyrytic system.

### 16.0 RECOMMENDATIONS

Recommendations for future work on the property are to drill test the chargeabilty high that is coincident with anomalous copper-gold-molybdenum in soils in the Target Zone and to test spotty chargeability highs on the easternmost IP line. In addition, it is recommended to complete the magnetic survey and to conduct infill IP surveying at 100 m line spacing and extend the survey east and westward. If drill testing identifies significant mineralization, the soil sample and geophysical grids should be expanded eastward and westward to determine the extents of the mineralizing system.

Four drill targets are recommended to test the chargeability highs, they are:

| Coordinate | Azimuth | Dip | Depth |
| :--- | :---: | :---: | :---: |
| Line 3800E /5900N | 0 | -65 | 150 m |
| Line 4000E /5775N | 0 | -70 | 175 m |
| Line 4200E /5650N | 0 | -70 | 100 m |
| Line 4200E / 5275 N | 0 | -70 | 100 m |

To this end, the following is two-phased program is recommended:

## Phase I Program

1) Complete the magnetic survey on the property.
2) Fill in the IP survey lines at 100 m spacing from line 3500 E to line 4500 E .
3) Drill test three or four of the best targets with an estimated 525 m of drilling.

The budget for these programs is estimated at:

Magnetic survey
IP Survey (including line cutting)
Drilling (525 m @ \$300/m, all inclusive)
Sub total Phase I
\$ 15,000
\$ 60,000
$\$ 157,500$
\$232.500

## Phase II Program (contingent on significant results from Phase I)

1) Extend the soil geochemical and magnetic survey grid to the east and west to determine the extent of the anomalies.
2) Extend the IP survey to determine the extent of the mineralization and to define additional drill targets.
3) Expand the drill program to delineate the mineralization identified in the first phase program and to test any additional anomalies.

The Budget for the Phase II program is estimated at:

## Phase II

| Soil sampling and magnetic survey | $\$ 50,000$ |
| :--- | :--- |
| IP Survey | $\$ 80,000$ |
| 1000 m of diamond drilling (all inclusive) | $\$ 300,000$ |
|  | Sub total Phase II |
| Total | $\underline{\underline{\$ 430,000}}$ |
|  | $\$ \underline{\underline{662,500}}$ |

Much of this work need not be staged and can be run simultaneously to affect efficiencies with camp, crew and helicopter costs.


Scott Cassetmán, B.Sc., P.Geo
Geologist


David H. D. Hildes, PhD.
Geophysicist

### 17.0 STATEMENT OF EXPENDITURES



## Total 75,793.50



### 18.0 REFERENCES

Casselman, S, 2002. 2002 Mineral Exploration Program on the Severance Property. 4763 NWT Ltd private report.

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Oldenburg, D. W.. and Li, Y, 1994. Inversion of Induced Polarization Data. Geophysics, Volume 59, No. 9. pp. 1327-1341.

Smuk, K. A., Williams-Jones, A. E. and Francis, D., 1996. The Carmacks Hydrothermal Event: An Alteration Study in the Dawson Range, Yukon. In Yukon Exploration and Geology, Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada.

## APPENDIX I

## STATEMENT OF QUALIFICATIONS

## Statement of Qualifications

I, Scott Casselman, P. Geo., certify that:

1) I reside at 33 Firth Road, Whitehorse, Yukon Territory, Y1A 4R5
2) I am a geologist employed by Aurora Geosciences Ltd. of Whitehorse, Yukon Territory.
3) I graduated from Carleton University in Ottawa, Ontario with a Bachelor of Science Degree in Geology in 1985 and have worked as a geologist since that time.
4) I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, Registration No. 20032.
5) I supervised the field exploration program on the Severance Project for Eagle Plains Resources Ltd during the summer of 2004. While I was not on the property in 2004, I have worked on the property in the 2002 and in 2003.
6) I am responsible for the preparation of this report entitled "Report on the 2004 Mineral Exploration Program on the Severance Property, Dawson Ranges, Yukon", and dated December 2004.
7) I am not aware of any material fact or material change with respect to the subject matter of this Technical Report that is not reflected in the Technical Report, the omission of which, would make this Technical Report misleading.
8) I have read National Instrument 43-101 and Form 43-101F1, and this technical report has been prepared in compliance with this Instrument and Form.
9) I am not completely independent of the issuer. I am a principle in 4763 NWT Ltd, which is holds 50,000 shares in Eagle Plains Resources Ltd.
10) I consent to the filing of this Technical Report with any stock exchange or other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 6 th dern $\sqrt{3}$, 2005, at Whitehorse, Yukon Territory.

Scott G. Cassefmanitic., P.Geo.

## Statement of Qualifications

I, David Henry Degast Hildes, Ph. D., with residence address in Whitehorse, Yukon Territory do hereby certify that:

1. I am a member in training of the Association of Professional Engineers and Geoscientists of British Columbia.
2. I am a graduate of the Queens University of Ontario with a B.Sc. (Honours) degree in Chemical Physics obtained in 1991 and a graduate of the University of British Columbia with a Ph. D. in Geophysics obtained in 2001.
3. I have been actively involved in mineral exploration since 1999 and am now employed as a geophysicist with Aurora Geosciences Ltd.
4. I assisted in the preparation of this report with the interpretation of the Induced Polarization survey and preparation of the IP maps.
5. I have not work on the Severance property.

Dated this $6^{\text {th }}$ of JAN_, 2005 in Whitehorse, Yukon.

Respectfully submitted,


Dave Hildes, Ph. D

## APPENDIX II

## GEOCHEMICAL ANALYTICAL CERTIFICATES

##  (ISO 9002 Accredited Co.) <br>   <br> 



G-1
L35E $60+00 \mathrm{~N}$ L35E 59+75N L35E 59+50N L35E 59+25N

$$
1.3
$$

1.3
1.9
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1.1 1.9
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$\begin{array}{rrrrr}.9 & 3.9 & 72 & <.1 & <.1 \\ 25.6 & 2.9 & 27 & .4 & .6\end{array}$

| 1 | .1 | 41 | . |
| ---: | ---: | ---: | ---: |
| 6 | 1.7 | 67 | . |
| 8 | 2.9 | 81 | .2 |
| 4 | .8 | 72 | . | $\begin{array}{rrr}.51 & .075 & 7 \\ .35 & .017 & 11 \\ .22 & .031 & 10 \\ .26 & .030 & 10 \\ 27 & .017 & 8\end{array}$ $\begin{array}{llllll}42.1 & .54 & 246 & .125 & 2 \\ 29.3 & .60 & 149 & .066 & 2 \\ 26.7 & 61 & 118 & 067 & 2\end{array}$

2.92$\begin{array}{lll}4 & .49 & .3\end{array}$

| 3 | .01 | 2.3 | $.3<.05$ | 5 | $<.5$ |
| :--- | :--- | :--- | :--- | :--- | ---: |
| 1 | .01 | 3.3 | $.1<.05$ | 6 | .6 |
| 2 | .02 | 3.4 | $.1<.05$ | 8 | 1.1 |
| 2 | 02 | 3.6 | $1<.05$ | 6 | 5 |

 $\begin{array}{lllllllllllllllll}.1 & 29.3 & 9.5 & 56 & .7 & 23.1 & 13.2 & 246 & 3.15 & 60.0 & .4 & 5.4 & 2.8 & 23 & .4 & .5 & 2.1\end{array} \quad 78$

| .8 | 31.1 | 9.8 | 56 | .3 | 23.3 | 10.9 | 266 | 3.04 | 30.2 | .5 | 7.0 | 3.6 | 28 | .1 | .5 | 1.1 | 80 | .3 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| .8 | 31.3 | 7.5 | 62 | .2 | 19.3 | 12.8 | 611 | 2.79 | 17.6 | .5 | 2.3 | 3.1 | 28 | .2 | .3 | 1.0 | 74 | .3 |
| .8 | 27.3 | 7.5 | 54 | .2 | 20.5 | 11.8 | 268 | 2.66 | 45.1 | .5 | 3.4 | 2.8 | 21 | .3 | .5 | 2.5 | 67 | .25 |
| .9 | 39.1 | 8.2 | 55 | .3 | 18.7 | 10.7 | 234 | 2.85 | 36.9 | .5 | 19.5 | 2.6 | 26 | .2 | .5 | 2.4 | 68 | .27 |
| 1.7 | 119.3 | 40.4 | 98 | .5 | 14.9 | 16.0 | 254 | 4.20 | 148.0 | .8 | 67.1 | 4.5 | 28 | .4 | 1.1 | 4.6 | 84 | .2 | $35 \mathrm{E} 58+75 \mathrm{~N}$ $\begin{array}{lllllllllllll}.8 & 31.1 & 9.8 & 56 & .3 & 23.3 & 10.9 & 266 & 3.04 & 30.2 & .5\end{array}$ $\begin{array}{lll}7.0 & 3.6\end{array}$ $\begin{array}{llllllllllllllllllll}8 & 27.3 & 7.5 & 54 & 2 & 20.5 & 11.8 & 268 & 2.66 & 45.1 & 5 & 3.4 & 3.8 & 28\end{array}$ $\begin{array}{rrrrrrrrrrrrrrrrrrrrrrr}.9 & 39.1 & 8.2 & 55 & .3 & 18.7 & 10.7 & 234 & 2.85 & 36.9 & .5 & 19.5 & 2.6 & 26 & .2 & .5 & 2.4 & 68 & .27 \\ 1.7 & 119.3 & 40.4 & 98 & .5 & 14.9 & 16.0 & 254 & 4.20 & 148.0 & .8 & 67.1 & 4.5 & 28 & .4 & 1.1 & 4.6 & 84 & .21\end{array}$


$\begin{array}{llllllllllll}31 & .017 & 8 & 38.8 & .72 & 130 & .090 & 1 & 2.29 & .010 & .09\end{array}$ $\begin{array}{rrrrrrrrrrr}.31 & .017 & 8 & 38.8 & .62 & 130 & .090 & 1 & 2.29 & .010 & .09 \\ .024 & 9 & 34.0 & .64 & 165 & .087 & 1 & 2.17 & .014 & .09 & .3 \\ .25 & .018 & 8 & 31.7 & .53 & 131 & .070 & 2 & 2.29 & .010 & .08 \\ .1 \\ .27 & .015 & 8 & 31.2 & .61 & 129 & .063 & 1 & 1.87 & .010 & .07 \\ .21 & .018 & 11 & 25.1 & .87 & 165 & .036 & <1 & 2.57 & .012 & .15 \\ .1\end{array}$ | .015 | 8 |
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3.014 .1$.1<.05 \quad 6 \quad .7$SSE 58+75N. 014.0$\begin{array}{ll}1<.05 & 6 \\ 1<05 & 7\end{array}$$\begin{array}{lllll}1.01 & 3.0 & .1<.05 & 7 & .5 \\ .1<.05 & 6<.5\end{array}$
1.024 .8
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2 & .96 \\
.1 & 17 \\
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\end{array}
$$$\begin{array}{lllll}1.2 & 74.0 & 11.6 & 64 & .2 \\ 1.4 & 87.5 & 12.3 & 60 & 3\end{array}$

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& 122.050 \\
& 117.069 \\
& 125.070
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9 & <1 & 2 .
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\end{aligned}
$$$\begin{array}{rrrrrrrrrrrrrr}1.6 & 78.1 & 8.7 & 60 & .3 & 15.3 & 12.9 & 237 & 3.67 & 64.1 & .9 & 9.9 & 5.3 & 35 \\ 1.6 & 9.2 & 20.1 & 12.1 & 259 & 3.69 & 53.0 & .9 & 50.0 & 5.1 & 36\end{array}$

$$
\begin{array}{lll}
5 & .15 & .3 \\
2 & .11 & .1 \\
5 & .16 & .3
\end{array}
$$$\begin{array}{lllllllllllllllllllll}1.6 & 78.1 & 8.7 & 64 & .2 & 20.1 & 12.1 & 259 & 3.69 & 53.0 & .9 & 50.0 & 5.1 & 36 & .2 & .6 & 2.8 & 91 \\ 1.1 & 95.8 & 9.9 & 64 & .4 & 15.2 & 13.3 & 405 & 3.34 & 125.2 & .8 & 39.7 & 4.4 & 37 & .2 & 9 & 5.2 & 76\end{array}$$\begin{array}{rrrrrrrrrrrr}3.8 & 87.8 & 12.9 & 71 & .4 & 13.1 & 11.0 & 246 & 3.86 & 126.3 & .9 \\ 4.0 & 88.9 & 13.2 & 70 & .4 & 13.5 & 11.2 & 248 & 3.97 & 129.2 & .9 \\ .7 & 43.7 & 7.0 & 56 & .2 & 20.2 & 12.1 & 362 & 3.09 & 28.3 & 1.0\end{array}$3759.2

25.1$\begin{array}{lll}.2 & 5.3 & 4 \\ .1 & 5.8 & 4\end{array}$
.21 $\begin{array}{rrr}1.0 & 5.2 & 85 \\ .9 & 5.3 & 8 \\ 4 & 1.7 & 8\end{array}$ ..... $\begin{array}{ll}87 & .35 \\ 81 & .44 \\ 83 & .38\end{array}$
$\begin{array}{rrr}.4 & 1.1 & 83 \\ .4 & 2.1 & 100\end{array}$$\begin{array}{rrr}.38 & .017 & 14\end{array}$$\begin{array}{llllllllllllll}.6 & 32.4 & 6.9 & 57 & .2 & 24.2 & 11.8 & 279 & 3.07 & 12.7 & .8 & 3.3 & 4.9 & 30\end{array}$$\begin{array}{lllllllllllllll}.7 & 28.2 & 10.8 & 73 & .2 & 24.3 & 11.1 & 279 & 3.21 & 16.3 & .7 & 2.4 & 9.0 & 33\end{array}$$\begin{array}{lllllllll}28.2 & 10.8 & 73 & .2 & 24.3 & 11.1 & 279 & 3.21 & 16.3\end{array}$$\begin{array}{rrrr}.4 & 1.2 & 94 & .28 \\ .5 & 1.3 & 105 & .39 \\ .4 & .8 & 84 & .36 \\ .5 & 1.6 & 98 & .39 \\ 5 & 8 & 105 & .41\end{array}$
$28.023 \quad 16$$\begin{array}{rrrrrrr}2.8 & 13.2 & 43 & .4 & .5 & 1.3 & 105 \\ 1.5 & 5.6 & 31 & .2 & .4 & .8 & 84 \\ 6.3 & 5.9 & 33 & .2 & .5 & 1.6 & 98 \\ 2.4 & 7.6 & 39 & .4 & .5 & .8 & 105\end{array}$$\begin{array}{lllllll}8 & .023 & 16 & 39.7 & .71 & 166 & .113\end{array}$$3 \quad 13.51 .011$$\begin{array}{ll}.11 & .1 \\ .16 & .3 \\ .11 & .\end{array}$
$.015 .8 \quad .2$
$2<.05 \quad 101$ $1<.057 \quad .8$ $.014 .9 \quad .1<.05 \quad 6 \quad 1.2$ $3.015 .2 \quad .1<.05-8 \quad .6$ $\begin{array}{lll}3.01 & 5.3 & .1<.05\end{array}$

5.014.| 5 |
| :--- |
| 6 |
| 6 | .014 .7$.2<.05$

.2 .06.058.9
.9$\begin{array}{ll}.027 & 1 \\ .028 & 11\end{array}$$\begin{array}{ll}12 & 22.6 \\ 11 & 22.9\end{array}$170.02
12
$<12$$\begin{array}{ll}1 & 2.53 .019 \\ 12.55 .019 \\ 1 & 2.22 .015\end{array}$$\begin{array}{ll}.13 & .5 \\ .09 \\ .09 & .2\end{array}$
$.07 \quad .3$ 3.025 .8 . 1 $1<.05 \quad 9$$\begin{array}{llllllllll}36 & .027 & 15 & 29.3 & .80 & 230 & .126 & 1 & 4.00 & .014 \\ .018 & 13 & 38 & .9 & .9\end{array}$

| .2 | .02 | 7.5 | $.1<.05$ |
| :--- | :--- | :--- | :--- |
| .3 | $7<.5$ |  |  |
|  | 6.2 | $.1<.05$ | $9<.5$ |6$+50 \mathrm{~N}$$35 \mathrm{E} 55+25 \mathrm{~N}$L35E 55+00N$35 E 54+75 \mathrm{~N}$

35 E
$54+50 \mathrm{~N}$

| 1.0 | 39.1 | 12.4 | 102 | .6 | 17.3 | 11.8 | 370 | 3.65 | 17.9 | .9 | .8 | 13.2 | 43 | .4 | .5 | 1.3 | 105 | .39 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| .7 | 18.0 | 9.3 | 63 | .4 | 21.7 | 13.0 | 439 | 3.08 | 12.1 | .5 | 1.5 | 5.6 | 31 | .2 | .4 | .8 | 84 | .36 |
| 1.2 | 24.6 | 10.6 | 78 | .2 | 19.9 | 13.3 | 482 | 3.53 | 28.3 | .7 | 6.3 | 5.9 | 33 | .2 | .5 | 1.6 | 98 | .39 |
| .9 | 20.7 | 13.5 | 86 | .3 | 17.5 | 14.2 | 513 | 3.79 | 12.8 | .6 | 2.4 | 7.6 | 39 | .4 | .5 | .8 | 105 | .41 |$\begin{array}{rrrrrrrrrrrr}1.0 & 25.5 & 18.0 & 87 & .3 & 18.7 & 13.8 & 460 & 4.08 & 12.6 & .9 \\ .9 & 27.0 & 16.6 & 85 & .4 & 19.3 & 12.8 & 491 & 3.93 & 14.7 & 1.0\end{array}$


$\begin{array}{lllllllllll}27.0 & 16.6 & 85 & 4 & 19.3 & 12.8 & 491 & 3.93 & 14.7 & 1.0\end{array}$$22.7 \quad 9.8 \quad 66 \quad 123.613 .2471341 \quad 11.71 .0$| 7 | 22.7 | 9.8 | 66 | .1 | 23.6 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 7 | 24.0 | 11.0 | 86 | .1 | 21.1 | 14.053563 .884.111 .46$.911 .6 \quad 4$

$3 \quad .4$
. 3 . 4 $\begin{array}{lllllllll}.9 & 117 & .49 & .026 & 13 & 30.8 & .93 & 240 & .171 \\ .8 & 107 & .45 & .024 & 19 & 32.0 & .87 & 215 & .109\end{array}$
$\begin{array}{rrrrrrllllllll}.7 & 24.0 & 11.0 & 86 & .1 & 21.1 & 14.0 & 536 & 3.88 & 13.7 & .9 & 3.0 & 8.1 & 35 \\ .5 & 31.5 & 11.6 & 106 & .3 & 20.6 & 13.1 & 717 & 3.49 & 13.0 & 1.4 & 4.9 & 5.5 & 52\end{array}$
$\begin{array}{lllllllllllllll}.4 & 26.5 & 13.2 & 111 & .2 & 16.0 & 11.1 & 505 & 3.44 & 10.8 & .9 & 6.1 & 5.9 & 42 & .3\end{array}$
$\begin{array}{llllllllllll}6 & 24.7 & 9.6 & 75 & .2 & 18.8 & 10.6 & 442 & 2.79 & 8.0 & 5.9 & 2.3 \\ 4.2 & 52\end{array}$
$\begin{array}{lllllllllllll}.6 & 23.0 & 7.6 & 76 & .1 & 19.8 & 10.0 & 375 & 2.73 & 6.9 & 1.1 & 4.0 & 4.3\end{array}$
$\begin{array}{llllllllllll}.8 & 30.6 & 9.9 & 79 & .2 & 23.1 & 12.3 & 579 & 2.84 & 9.2 & 8.4 & 3.6 \\ 3.8 & 5\end{array}$
$\begin{array}{rrrrrrrrrrrrrrrrrrr}3.1 & 141.7 & 38.9 & 157 & 1.9 & 17.0 & 17.4 & 529 & 3.94 & 233.7 & 3.4 & 35.0 & 6.7 & 54 & 1.0 & 1.7\end{array}$L35E 54+25NL35E 54+00N35E 53+75NL35E 53+50N$35 \mathrm{E} 53+25 \mathrm{~N}$L35E 53+00N35E $52+75 \mathrm{~N}$L35E $52+50 \mathrm{~N}$$35 \mathrm{E} 52+50 \mathrm{~N}$35E 52+25N


[^0] - SAMPLE TYPE: SOIL SS80 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data $\ \mathcal{L A}$ $\qquad$ DATE RECEIVED: SEP 152004 DATE REPORT MAILED:


| SAMPLE\# | $\begin{array}{r} \mathrm{Mo} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{rr} \mathrm{Cu} & \mathrm{~Pb} \\ \mathrm{ppm} & \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Zn} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Ag} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{cr} \mathrm{g} & \mathrm{Ni} \\ \mathrm{~m} & \mathrm{ppm} \end{array}$ | Co <br> ppm | $\begin{array}{r} \mathrm{Mn} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{cc} \mathrm{n} & \mathrm{Fe} \\ \mathrm{n} & \mathrm{y} \end{array}$ | As ppm | $\begin{array}{r} U \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Au} \\ \mathrm{ppb} \end{array}$ | Th pprn | $\begin{array}{r} \mathrm{Sr} \\ \mathrm{ppm} \end{array}$ | $\begin{gathered} \mathrm{Cd} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \mathrm{Sb} \\ \mathrm{ppm} \end{gathered}$ | $\begin{array}{r} \mathrm{Bi} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{V} \\ \mathrm{ppm} \end{array}$ | $\begin{gathered} \mathrm{Ca} \\ \% \end{gathered}$ | $\%$ | $\begin{array}{r} \mathrm{La} \\ \mathrm{ppm} \end{array}$ | $\begin{gathered} \mathrm{Cr} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \mathrm{Mg} \\ \% \end{gathered}$ | $\begin{array}{r} \mathrm{Ba} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Ti} \\ \% \end{array}$ | $\begin{array}{r} \mathrm{B} \\ \mathrm{ppm} \end{array}$ | $\begin{aligned} & \text { Al } \\ & \% \end{aligned}$ | $\begin{gathered} \mathrm{Na} \\ \boldsymbol{\%} \end{gathered}$ | $\begin{aligned} & \mathrm{K} \\ & \% \end{aligned}$ | $\begin{array}{r} W \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Hg} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Sc} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Tl} \\ \mathrm{ppm} \end{array}$ | $\begin{aligned} & \mathrm{S} \\ & \% \end{aligned}$ | $\begin{array}{r} \mathrm{Ga} \\ \mathrm{ppm} \end{array}$ | Se ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-1 | 1.2 | 2.52 .0 | 47 | $<.1$ | 14.5 | 4.3 | 582 | 1.88 | < 5 | 1.9 | $<.5$ | 4.6 | 79 | < 1 | <. 1 | . 1 | 42 | . 50 | . 082 | 7 | 43.9 | . 59 | 271 | . 132 | 1 | . 87 | 064 | . 50 | 4 | <. 01 | 2.1 |  | . 05 | 5 | <. 5 |
| -36E 59+75N | 1.6 | 31.110 .2 | 62 |  | 12.3 | 6.5 | 233 | 2.58 | 40.2 | . 7 | 6.5 | 2.8 | 24 | 5 | . 5 | 1.8 | 69 | . 29 | . 023 | 8 | 24.1 | 54 | 97 | . 068 | 1 | 1.47 | 010 | . 07 | . 2 | 02 | 3.1 |  | <. 05 | 6 | 5 |
| -36E 59+50N | 1.9 | 50.012 .6 | 54 |  | 814.8 | 9.4 | 225 | 3.35 | 65.6 | . 6 | 27.6 | 3.2 | 27 | 4 | . 5 | 3.8 | 79 | . 24 | . 027 | 7 | 27.7 | 58 | 140 | . 062 | 1 | 1.98 | . 010 | . 06 | . 2 | . 02 | 3.3 |  | <. 05 | 7 | . 7 |
| -36E 59+25N | 1.0 | 33.688 | 40 | . 3 | 311.0 | 6.5 | 312 | 2.16 | 24.5 | . 6 | 10.6 | 1.9 | 27 | . 3 | . 3 | 1.6 | 60 | . 28 | . 039 | 7 | 22.3 | 44 | 125 | . 059 | 2 | 1.41 | 013 | . 08 | 2 | . 03 | 2.7 |  | <. 05 | 6 | <. 5 |
| -36E 59+00N | . 8 | 23.36 .9 | 44 | . 3 | 318.5 | 10.2 | 247 | 2.63 | 17.0 | . 4 | 21.2 | 2.8 | 20 | . 2 | . 3 | . 9 | 62 | . 26 | . 045 | 9 | 30.7 | . 52 | 139 | . 069 | 1 | 1.74 | 009 | . 05 | 3 | . 02 | 2.6 |  | <. 05 | 5 | <. 5 |
| 36E 58+75N | . 9 | 14.47 .0 | 44 |  | 217.6 | 9.3 | 497 | 2.57 | 13.5 | 4 | 3.1 | 2.2 | 21 | . 2 | 4 | 4 | 65 | . 26 | . 029 | 8 | 30.9 | . 55 | 145 | 069 |  | 1.64 | 010 | . 05 | 2 | . 02 | 2.7 |  | . 05 | 5 | <. 5 |
| -36E 58+50N | 1.3 | 35.49 .6 | 64 |  | 515.5 | 12.3 | 374 | 3.45 | 37.7 | . 5 | 12.3 | 2.5 | 24 | . 5 | . 4 | . 8 | 83 | . 28 | . 048 | 6 | 28.4 | . 59 | 165 | . 068 | 1 | 1.95 | . 010 | . 11 | . 2 | . 02 | 3.3 |  | <. 05 | 7 | <. 5 |
| -36E 58+25N | 1.1 | 60.58 .8 | 60 | 1.2 | 216.4 | 11.0 | 506 | 3.04 | 27.2 | . 5 | 14.7 | 2.7 | 23 | . 3 | . 5 | . 8 | 72 | . 23 | . 030 | 9 | 29.8 | . 59 | 159 | . 044 | 1 | 1.79 | . 011 | . 08 | . 1 | . 02 | 3.1 |  | <. 05 | 6 | 5 |
| -36E 58+00N | 2.0 | 81.113 .6 | 85 | . 5 | 13.9 | 14.5 | 1045 | 3.85 | 18.3 | . 8 | 28.5 | 4.5 | 46 | 1.1 | . 6 | 1.3 | 67 | . 39 | . 044 | 11 | 20.2 | . 54 | 262 | . 014 |  | 2.27 | 018 | . 15 | . 2 | . 04 | 3.9 |  | <. 05 | 8 | < 5 |
| -36E 57+75N | 1.6 | 84.712 .5 | 81 | . 5 | 512.9 | 12.8 | 417 | 3.68 | 34.6 | . 6 | 30.9 | 5.8 | 34 | . 4 | . 6 | 3.3 | 78 | . 35 | . 025 | 12 | 23.2 | . 59 | 219 | . 016 | 1 | 2.42 | . 015 | . 08 | . 1 | . 01 | 4.1 |  | <. 05 | 8 | $<.5$ |
| -36E 57+50N | 1.5 | 49.610 .0 | 77 |  | 414.3 | 12.7 | 491 | 3.75 | 11.3 | . 7 | 31.2 | 5.4 | 46 | . 5 | . 5 | 2.1 | 84 | . 40 | 028 | 10 | 24.7 | . 65 | 242 | . 070 | 1 | 2.40 | . 015 | . 18 | . 1 | . 02 | 4.8 |  | <. 05 | 8 | <. 5 |
| -36E 57+25N | 1.5 | 58.610 .4 | 74 | . 3 | 315.8 | 12.6 | 425 | 4.17 | 13.5 | . 8 | 33.6 | 5.4 | 40 | . 3 | . 5 | 2.3 | 90 | . 43 | . 027 | 10 | 23.6 | . 70 | 175 | . 057 | 1 | 2.66 | . 016 | . 10 | . 5 | . 02 | 5.0 |  | <. 05 | 9 | < 5 |
| -36E 57+00N | 1.4 | 48.412 .7 | 96 |  | 215.6 | 15.7 | 701 | 4.20 | 13.8 | . 8 | 12.2 | 5.8 | 48 | . 5 | . 4 | 2.2 | 91 | . 48 | . 033 | 10 | 25.4 | . 71 | 259 | . 079 | 1 | 2.86 | . 017 | . 14 | . 6 | . 02 | 5.8 |  | < 05 | 10 | <. 5 |
| -36E 56+75N | 2.2 | 42.210 .0 | 63 |  | 212.1 | 10.2 | 366 | 3.67 | 12.1 | . 9 | 147.8 | 5.0 | 39 | 2 | . 4 | 2.1 | 91 | . 41 | . 022 | 9 | 21.3 | . 70 | 225 | . 063 | 1 | 2.65 | . 014 | . 09 | . 3 | . 01 | 5.2 |  | <. 05 | - | < 5 |
| -36E 56+50N | 1.6 | 59.49 .9 | 94 | . 8 | 815.5 | 11.2 | 234 | 4.07 | 15.8 | . 8 | 10.8 | 4.1 | 33 | . 3 | . 4 | 5.1 | 94 | . 24 | . 028 | 8 | 26.1 | . 65 | 125 | . 063 | <1 | 2.71 | . 014 | . 06 | . 2 | . 02 | 4.1 |  | <. 05 | 9 | <. 5 |
| -36E 56+25N | 1.1 | 33.311 .3 | 100 |  | 417.7 | 14.3 | 560 | 3.96 | 13.7 | . 7 | 5.9 | 4.4 | 39 | 4 | . 4 | 4.1 | 95 | . 38 | . 033 | 8 | 25.4 | . 72 | 332 | . 125 |  | 2.73 | 017 | . 12 | . 3 | . 01 | 4.5 |  | < 05 | 10 | $<.5$ |
| RE L36E 56+25N | 1.1 | 35.411 .1 | 105 |  | 417.6 | 14.6 | 583 | 4.03 | 14.0 | . 7 | 6.0 | 4.5 | 40 | 5 | 4 | 4.2 | 103 | . 37 | . 032 | 8 | 27.0 | . 72 | 332 | . 130 | 2 | 2.80 | 017 | . 13 | . 3 | . 02 | 4.5 |  | <. 05 | 10 | < 5 |
| -36E 56+00N | 1.1 | 29.310 .5 | 91 |  | 418.0 | 12.2 | 357 | 3.59 | 14.3 | . 7 | 20.4 | 3.9 | 36 | . 3 | 4 | 3.7 | 91 | . 34 | . 029 | 8 | 28.2 | . 70 | 223 | . 099 |  | 2.86 | . 013 | . 09 | . 5 | . 02 | 3.6 |  | < 05 | , | <. 5 |
| 36E 55+75N | 1.1 | 19.614 .1 | 149 | . 4 | 419.1 | 16.2 | 741 | 3.88 | 14.6 | . 6 | 5.1 | 5.0 | 38 | . 5 | . 5 | 2.9 | 100 | . 43 | . 023 | 10 | 33.2 | . 65 | 300 | . 114 | 1 | 2.66 | 014 | . 10 | . 4 | . 02 | 5.0 |  | <. 05 | 9 | < 5 |
| -36E 55+50N | 1.2 | 22.315 .9 | 140 | . 3 | 317.8 | 14.4 | 578 | 3.93 | 12.1 | . 7 | 12.3 | 4.5 | 44 | . 7 | . 5 | 2.3 | 98 | . 45 | . 035 | 8 | 27.8 | . 73 | 306 | . 132 | 2 | 2.93 | 017 | . 09 | 1.4 | . 03 | 4.5 |  | <. 05 | 10 | < 5 |
| 36E 55+25N | 1.1 | 17.811 .4 | 110 |  | 316.6 | 13.0 | 855 | 3.33 | 10.2 | . 4 | 5.6 | 4.0 | 35 | 5 | . 4 | 1.6 | 82 | . 36 | . 026 | 8 | 27.9 | . 62 | 363 | . 082 |  | 2.33 | . 016 | . 06 | . 3 | . 02 | 4.0 |  | <. 05 | 8 | . 5 |
| -36E 55+00N | 1.1 | 12.098 | 82 |  | 215.8 | 12.2 | 699 | 3.39 | 9.0 | 4 | 1.7 | 4.2 | 39 | 4 | . 4 | . 8 | 82 | . 46 | . 030 | 10 | 30.0 | . 60 | 330 | . 093 |  | 2.07 | . 015 | . 12 | . 4 | . 02 | 4.7 |  | < 05 | 7 | . 5 |
| -36E 54+75N | . 9 | 14.610 .6 | 91 | . 3 | 317.0 | 12.5 | 1340 | 3.14 | 8.0 | . 5 | 4.2 | 3.4 | 39 | . 7 | . 3 | . 7 | 71 | . 49 | . 038 | 9 | 27.3 | . 59 | 346 | . 100 |  | 2.06 | . 018 | . 14 | . 2 | . 02 | 5.1 |  | < 05 | 7 | < 5 |
| 36E 54+50N | . 9 | 21.510 .2 | 79 | . 3 | 315.8 | 11.8 | 670 | 3.23 | 16.2 | . 5 | 2.0 | 5.0 | 37 | . 3 | . 4 | 2.2 | 78 | . 42 | . 022 | 11 | 31.7 | . 66 | 257 | . 095 |  | 2.15 | . 014 | . 12 | . 2 | . 02 | 4.9 |  | < 05 | 8 | . 5 |
| -36E 54+25N | . 9 | 21.912 .3 | 103 | . 2 | 216.0 | 13.6 | 779 | 3.87 | 21.5 | . 7 | 3.9 | 6.6 | 34 | . 4 | . 4 | 2.2 | 89 | . 34 | . 024 | 11 | 28.1 | . 69 | 301 | . 103 | 1 | 2.56 | . 015 | . 08 | . 3 | . 01 | 5.2 |  | <. 05 | 9 | < 5 |
| -36E 54+00N | . 9 | 15.012 .5 | 92 |  | 317.0 | 12.5 | 744 | 3.44 | 14.4 | . 6 | 4.5 | 5.8 | 36 | . 5 | 4 | 1.1 | 88 | . 42 | . 025 | 11 | 28.7 | . 62 | 359 | . 106 |  | 2.51 | . 016 | . 07 | . 2 | . 02 | 4.7 |  | <. 05 | 8 | $<.5$ |
| -36E 53+75N | 1.1 | 18.610 .6 | 78 |  | 219.1 | 13.9 | 1050 | 3.32 | 10.3 | . 5 | 1.4 | 4.5 | 35 | . 5 | 4 | . 9 | 81 | . 44 | . 027 | 11 | 32.2 | . 63 | 337 | . 112 |  | 2.12 | . 018 | . 15 | . 2 | . 02 | 4.9 |  | <. 05 | 8 | < 5 |
| -36E 53+50N | . 8 | 21.088 | 66 |  | 120.0 | 12.2 | 737 | 3.09 | 9.2 | . 4 | 5.9 | 5.1 | 32 | . 2 | 4 | . 5 | 75 | . 46 | . 031 | 11 | 36.6 | . 69 | 278 | 142 |  | 1.98 | . 022 | . 11 | . 2 | . 01 | 5.8 |  | < 05 | 7 | < 5 |
| -36E 53+25N | . 7 | 25.011 .4 | 75 |  | 220.7 | 12.7 | 429 | 3.49 | 14.3 | . 8 | 3.8 | 6.4 | 38 | . 3 | 4 | . 7 | 87 | . 55 | . 027 | 13 | 35.7 | . 77 | 228 | 164 |  | 2.49 | . 019 | . 15 | . 3 | . 01 | 6.8 |  | <. 05 | 8 | < 5 |
| -36E 53+00N | 1.8 | 37.218 .6 | 116 | . 9 | 13.5 | 10.8 | 483 | 2.86 | 24.0 | 3.4 | 9.3 | 5.4 | 64 | . 9 | . 6 | 1.1 | 72 | 1.26 | . 048 | 17 | 25.4 | . 70 | 185 | . 127 |  | 2.25 | . 020 | . 15 | . 4 | . 01 | 6.5 |  | <. 05 | 8 | . 5 |
| -36E 52+75N | . 8 | 37.313 .8 | 86 |  | 318.7 | 13.7 | 758 | 3.56 | 17.0 | 1.2 | 13.1 | 7.0 | 48 | . 4 | . 4 | . 9 | 91 | . 96 | . 046 | 19 | 33.8 | . 89 | 226 | . 190 |  | 2.46 | . 030 | . 16 | . 3 | . 02 | 8.0 |  | < 05 | 9 | $<.5$ |
| -36E 52+50N | . 7 | 41.715 .1 | 104 |  | 319.7 | 14.0 | 651 | 3.93 | 26.2 | 1.0 | 11.8 | 7.1 | 59 | . 5 | . 5 | . 8 | 102 | 1.12 | . 061 | 24 | 31.7 | . 94 | 241 | . 204 |  | 2.74 | . 031 | . 17 | . 5 | . 03 | 8.6 |  | <. 05 | 10 | . 5 |
| -36E 52+25N | . 6 | $17.7 \quad 5.7$ | 54 |  | 122.8 | 9.5 | 250 | 2.43 | 7.6 | 9 | 4.9 | 4.7 | 30 | . 1 | . 3 | . 2 | 63 | . 57 | 083 | 15 | 39.2 | . 70 | 105 | . 094 |  | 1.11 | . 027 | . 07 | . 3 | . 01 | 3.9 |  | <. 05 | 4 | < 5 |
| -37E 60+00N | 8.3 | 87.313 .7 | 57 |  | 717.0 | 8.8 | 256 | 2.50 | 53.4 | 4.5 | 129.7 | 2.1 | 81 | . 3 | . 8 | 1.8 | 51 | 1.42 | . 051 | 20 | 26.2 | . 53 | 145 | . 058 |  | 1.55 | . 021 | . 07 | . 3 | . 03 | 4.5 | . 1 | . 08 | 6 | 1.9 |
| -37E 59+75N | 5.1 | 72.113 .0 | 60 |  | 415.0 | 11.1 | 436 | 3.01 | 85.9 | 4.8 | 70.9 | 2.7 | 81 | 4 | 1.2 | 1.6 | 58 | 1.30 | . 052 | 15 | 26.8 | . 64 | 127 | . 062 | 2 | 1.77 | . 021 | . 10 | 1 | . 02 | 4.5 | . 1 | . 07 | 6 | 1.5 |
| STANDARD DS5 | 12.5 | 144.625 .7 | 137 | . 3 | 32.6 | 12.6 | 788 | 3.04 | 19.3 | 6.5 | 43.8 | 2.8 | 49 | 5.4 | 3.9 | 6.2 | 62 | . 74 | . 095 | 13 | 90.0 | . 69 | 142 | . 096 | 17 | 2.01 | . 033 | . 14 | 4.8 | . 18 | 3.6 | 1.1 | <. 05 | 6 | 4.7 |

[^1]G-1
L37E 59+50N L37E 59+25N L37E 59+00N L37E $58+75 \mathrm{~N}$ L37E 58+25N L37E 58+00N L37E $57+75 \mathrm{~N}$ L37E 57+50N

## L37E 57+25N 37E 57+00N L37E 56+75N L37E $56+50 \mathrm{~N}$ L37E $56+25 \mathrm{~N}$ <br> L37E 56+00N L37E 55+75N L37E 55+50N L37E 55+25N

 37E $55+25 \mathrm{~N}$ RE L37E $55+00 \mathrm{~N}$ L37E $54+75 \mathrm{~N}$ L37E 54+50N L37E 54+25N L37E 54+00NL37E 53+75N L37E 53+50N 37E $53+25 \mathrm{~N}$
L37E 53+00N L37E 52+75N

L37E 52+50N L37E $52+25 \mathrm{~N}$ L37E 52+00N L38E $60+00 \mathrm{~N}$ L38E $59+75 \mathrm{~N}$


Sample type: S0IL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.
$\mathrm{Mo} \quad \mathrm{Cu} \mathrm{Pb} \quad \mathrm{Zn}$


G-1 L38E $59+50 \mathrm{~N}$ L38E $59+25 \mathrm{~N}$ L38E $59+00 \mathrm{~N}$ L38E 58+75N

L38E 58+50N L38E $58+25 \mathrm{~N}$ L38E 58+00N L38E $57+75 \mathrm{~N}$ L38E $57+50 \mathrm{~N}$

L38E 57+25N L38E 57+00N L38E $56+75 \mathrm{~N}$ L38E $56+50 \mathrm{~N}$ L.38E $56+25 \mathrm{~N}$ L38E $56+00 \mathrm{~N}$ L38E 55+75N RE L38E $55+75 \mathrm{~N}$ L38E 55+50N L38E 55+25N
1.2
5.1
8.8
9.6
6.8

| 1.2 | 2.3 | 2.1 | $45<1$ | 4.4 |
| :--- | :--- | :--- | :--- | :--- | :--- |

$\begin{array}{rrrlllllllllllllllllllllllll}2.3 & 2.1 & 45 & <.1 & 4.4 & 4.4 & 576 & 1.91 & <.5 & 2.0 & <.5 & 4.2 & 81 & <.1<.1 & .1 & 47 & 49 & .081 & 7 & 47.5 & 61 & 258 & 136\end{array}$





L38E 52+75N L38E 52+50N L38E 52+00N L39E $60+00 \mathrm{~N}$ L39E 59+75N

## L39E 59+50N

 L39E $59+25 \mathrm{~N}$ L39E $59+00 \mathrm{~N}$ L39E $58+75 \mathrm{~N}$L39E $58+50 \mathrm{~N}$ L39E $58+25 \mathrm{~N}$ L.39E $58+00 \mathrm{~N}$ L39E $57+75 \mathrm{~N}$ L39E 57+50N L39E $57+50 \mathrm{~N}$
L39E $57+25 \mathrm{~N}$

| 3.7 | 95.8 | 17.1 | 87 | .7 | 14.1 | 7.7 | 357 | 2.71 | 86.3 | 5.3 | 54.9 | 2.5 | 82 | .7 | 1.3 | 2.0 | 51 | 1.17 | .053 | 17 | 23.4 | .54 | 146 | .052 | 1 | 1.64 | .021 | .08 | .2 | .03 | 3.7 | $.1<.05$ | 6 | 2.5 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 3.2 | 89.6 | 21.2 | 92 | .6 | 11.6 | 10.2 | 367 | 2.78 | 106.4 | 2.8 | 94.4 | 4.6 | 56 | .7 | 1.5 | 3.3 | 54 | .74 | .050 | 16 | 21.1 | .61 | 145 | .055 | $<1$ | 1.49 | .019 | .09 | .2 | .03 | 3.8 | $.1<.05$ | 5 | 2.1 |
| 1.2 | 71.3 | 8.6 | 43 | .3 | 14.9 | 10.1 | 265 | 2.48 | 25.7 | 1.5 | 39.6 | 4.0 | 38 | .2 | .5 | 1.1 | 59 | .48 | .042 | 12 | 23.2 | .58 | 126 | .081 | $<1$ | 1.56 | .020 | .06 | .3 | .02 | 3.7 | $.1<.05$ | 5 | 1.0 |
| 1.2 | 76.0 | 8.3 | 44 | .3 | 15.6 | 9.8 | 235 | 2.54 | 23.2 | 1.6 | 31.6 | 4.1 | 41 | .2 | .7 | .9 | 62 | .55 | .039 | 14 | 25.0 | .61 | 135 | .093 | 2 | 1.62 | .023 | .06 | .3 | .03 | 3.8 | $.1<.05$ | 6 | .8 |
| 1.0 | 72.7 | 8.8 | 52 | .2 | 16.8 | 10.2 | 318 | 2.79 | 22.3 | 1.4 | 28.1 | 4.7 | 39 | .1 | .5 | 1.0 | 68 | .50 | .045 | 14 | 29.0 | .70 | 150 | .104 | $<1$ | 1.71 | .025 | .06 | .2 | .03 | 4.4 | $.1<.05$ | 5 | .6 |



|  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |

 $\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr}2.4 & 79.8 & 14.6 & 68 & .4 & 14.4 & 12.8 & 272 & 4.10 & 8.9 & 1.1 & 15.8 & 4.6 & 30 & .5 & .5 & 1.1 & 95 & .29 & .024 & 9 & 26.1 & .71 & 120 & .034 & <1 & 2.54 & .013 & .08 & .1 & .01 & 3.7 & .2<.05 & 9 & .8 \\ 1.4 & 59.0 & 11.6 & 56 & 2 & 17.9 & 11.6 & 284 & 3.63 & 9.0 & .9 & 9.8 & 5.2 & 34 & .3 & .5 & .8 & 87 & .34 & .016 & 10 & 36.2 & .78 & 142 & .063 & <1 & 2.46 & .020 & .06 & .1 & .02 & 4.7 & .2<.05 & 7 & .5\end{array}$
 $\begin{array}{lllllllllllllllllllllllllllllllllllllllllllllll}1.1 & 60.2 & 8.0 & 53 & .1 & 18.2 & 10.7 & 328 & 3.13 & 6.8 & .8 & 13.1 & 4.1 & 37 & .1 & .3 & .7 & 85 & .42 & .028 & 8 & 34.5 & .75 & 158 & .137 & 2 & 2.15 & .021 & .11 & .2 & .01 & 4.9 & .1<.05 & 7 & <.5\end{array}$ $\begin{array}{llllllllllllllllllllllllllllllllllllllllllllll}1.0 & 62.9 & 7.1 & 53 & .1 & 17.0 & 10.2 & 289 & 3.21 & 11.1 & .8 & 13.6 & 4.3 & 42 & .1 & .3 & 1.3 & 86 & .43 & .026 & 9 & 30.0 & .76 & 155 & .132 & 1 & 2.15 & .023 & .19 & .2 & .01 & 4.7 & .1<.05 & 7 & <.5\end{array}$ $\begin{array}{llllllllllllllllllllllllllllllllllllllllllllll}1.1 & 64.4 & 7.7 & 51 & .1 & 16.8 & 10.4 & 286 & 3.41 & 10.9 & .8 & 13.3 & 4.2 & 40 & .1 & .3 & 1.3 & 86 & .45 & .026 & 9 & 29.2 & .75 & 162 & .131 & 1 & 2.09 & .023 & .19 & .2 & .01 & 4.7 & .1<.05 & 7 & .5\end{array}$




 $\begin{array}{llllllllllllllllllllllllllllllllllllllllllllll}3.0 & 24.8 & 51.5 & 94 & .7 & 14.5 & 9.4 & 418 & 2.68 & 42.4 & .6 & 6.6 & 2.0 & 35 & .8 & .6 & .8 & 71 & .39 & .023 & 9 & 26.4 & .53 & 147 & .089 & 2 & 1.87 & .019 & .08 & .1 & .02 & 2.8 & .1<.05 & 7 & <.5\end{array}$



 $\begin{array}{llllllllllllllllllllllllllllllllllllllllllllllllllllll}6.2 & 68.3 & 8.4 & 58 & .4 & 13.5 & 7.7 & 345 & 2.56 & 53.6 & 1.2 & 46.9 & 2.6 & 69 & .6 & .9 & 1.2 & 51 & .94 & .051 & 11 & 22.3 & .61 & 103 & .074 & <1 & 1.72 & .024 & .11 & .2 & .03 & 4.0 & .1<.05 & 6 & .8\end{array}$






[^2]

[^3]G-1
L40E $56+50 \mathrm{~N}$
L40E $56+25 \mathrm{~N}$
L40E $56+00 \mathrm{~N}$
L40E $55+75 \mathrm{~N}$
L40E 55+50N L40E 55+25N L40E $55+00 \mathrm{~N}$ L40E $54+75 \mathrm{~N}$ L40E 54+50N

L40E $54+25 \mathrm{~N}$ L40E 54+00N L40E $53+50 \mathrm{~N}$ L40E 53+25N 40E $53+00 \mathrm{~N}$

| L40E 52+75N <br> L40E 52+50N <br> L40E $52+25 \mathrm{~N}$ <br> RE L40E $52+2$ |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |

L41E $60+00 \mathrm{~N}$ L41E 59+75N L1E 59+50N L41E 59+50N L41E 59+25N
L41E 58+50N
L41E 58+25N L41E 58+00N L4IE 57+50N
L41E 57+25N L41E $57+00 \mathrm{~N}$

L41E $56+75 \mathrm{~N}$ L41E $56+50 \mathrm{~N}$
L41E 56+25N L41E 56+00N L41E 55+75N
$\begin{array}{lllllllllllllllllllllllllllllll}1.4 & 2.5 & 2.1 & 52 & <.1 & 5.0 & 4.5 & 558 & 1.99 & <.5 & 1.8 & <.5 & 4.5 & 77 & <.1 & <.1 & .1 & 45 & .48 & .079 & 7 & 44.1 & .59 & 260 & .132 & <1 & .84 & .077 & .49\end{array}$





[^4]| SAMPLE\# | $\begin{array}{r} \text { Mo } \\ \text { ppm } \end{array}$ | $\begin{array}{r} \mathrm{Cu} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Pb} \\ \mathrm{ppm} \\ \hline \end{array}$ | $\begin{array}{r} 2 n \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Ag} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{cc} \mathrm{Ni} \\ m & \mathrm{pprm} \end{array}$ | Co ppm | $\begin{array}{r} \mathrm{Mn} \\ \mathrm{ppm} \end{array}$ | $\begin{gathered} \text { ne } \\ \mathrm{n} \\ \mathrm{n} \\ \hline \end{gathered}$ | As <br> ppm | $\begin{array}{rr} \mathrm{U} & \mathrm{Au} \\ \mathrm{ppm} & \mathrm{ppb} \\ \hline \end{array}$ | $\begin{array}{r} \text { Th } \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} \mathrm{Sr} \\ \mathrm{ppm} \end{array}$ | Cd ppm | Sb ppm | $\begin{array}{r} \mathrm{Bi} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{r} v \\ \mathrm{ppm} \end{array}$ | $\begin{array}{cc} \mathrm{Ca} & \mathrm{P} \\ \% & \% \end{array}$ | $\begin{array}{r} \mathrm{La} \\ \mathrm{ppm} \\ \hline \end{array}$ | $\begin{gathered} \mathrm{Cr} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \mathrm{Mg} \\ \underset{8}{2} \end{gathered}$ | Ba ppm | $\begin{array}{r} \mathrm{Ti} \\ \% \end{array}$ | $\begin{array}{r} \mathrm{B} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{lr} \hline B & A l \\ \mathrm{~m} & \% \end{array}$ | $\begin{gathered} \mathrm{Na} \\ \% \end{gathered}$ | $\begin{aligned} & K \\ & \% \\ & \hline \end{aligned}$ | $\begin{array}{r} W \\ \text { ppm } \end{array}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ppm} \end{gathered}$ | $\begin{array}{r} \mathrm{Sc} \\ \mathrm{ppm} \end{array}$ | $\begin{array}{cc} \mathrm{Tl} & \mathrm{~S} \\ \mathrm{ppm} & \% \\ \hline \end{array}$ | $\begin{array}{r} \mathrm{Ga} \\ \mathrm{ppm} \end{array}$ | ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a-1 | 1.1 | 2.1 | 2.0 | 42 | <. 1 | 13.6 | 3.7 | 533 | 1.77 | <. 5 | $1.7<.5$ | 3.7 | 59 | <.1 | <. 1 | . 1 | 37 | . 48.065 | 6 | 10.7 | . 52 | 226 | . 115 | <1 | 1.82 | . 061 | 48 | 1.5 | <. 01 | 1.9 | . $3<.05$ | 5 |  |
| -41E 55+50N | 1.4 | 15.3 | 9.9 | 71 |  | 218.0 | 12.9 | 842 | 3.25 | 12.7 | . 5 . 9 | 2.6 | 29 | . 4 | . 6 | . 4 | 77 | . 40.021 | 8 | 32.4 | . 57 | 224 | . 065 |  | 11.80 | 013 | 11 | 1 | 02 | 3.2 | . $1<.05$ | 7 | < 5 |
| -41E 55+25N | 1.1 | 31.6 | 7.8 | 63 |  | 320.7 | 10.8 | 329 | 3.27 | 18.6 | . 42.0 | 3.1 | 26 | 2 | . 5 | . 3 | 81 | . 36.018 | 7 | 35.9 | . 68 | 185 | . 090 |  | 12.16 | 011 | 10 | . 2 | 01 | 3.1 | . $1<05$ | 7 | <. 5 |
| -41E 55+00N | 1.7 | 58.5 | 12.4 | 164 |  | 220.9 | 16.3 | 556 | 5.22 | 78.9 | 1.01 .7 | 4.7 | 49 | 1.0 | 1.0 | . 7 | 123 | 30.024 | 8 | 27.7 | . 91 | 256 | . 121 |  | 3.38 | 013 | . 07 | . 3 | 02 | 5.2 | . $2<.05$ | 13 |  |
| -41E 54+75N | 1.1 | 14.6 | 10.7 | 94 |  | 320.3 | 13.5 | 569 | 3.91 | 10.2 | . 63.1 | 4.7 | 31 | . 7 | . 6 | 1.2 | 101 | . 40.019 | 10 | 33.2 | . 65 | 260 | . 101 |  | 12.60 | 015 | . 12 | . 1 | 01 | 4.8 | $2<.05$ | 9 | <. 5 |
| -41E 54+50N | 1.5 | 28.2 | 10.6 | 87 |  | 211.2 | 9.5 | 365 | 3.34 | 25.4 | . 63.2 | 5.7 | 65 | . 4 | 1.0 | 2.8 | 78 | . 39.013 | 10 | 19.9 | . 70 | 246 | . 013 |  | 2.32 | 014 | . 07 | . 1 | 01 | 3.8 | . $2<.05$ | 8 | <. 5 |
| -41E 54+25N | 3.1 | 47.7 | 40.2 | 105 |  | 214.9 | 10.6 | 303 | 3.75 | 66.8 | . 719.8 | 4.0 | 41 | . 7 | 1.4 | 54.8 | 87 | . 39.022 | 10 | 25.6 | . 64 | 154 | . 032 |  | 12.36 | 013 | 07 | 1.3 | 02 | 3.8 | . $2<.05$ | 8 | . 6 |
| 41E 54+00N | 5.3 | 35.4 | 18.8 | 76 |  | 316.7 | 10.4 | 290 | 3.60 | 30.6 | 1.99 .2 | 5.8 | 59 | . 5 | . 7 | 4.9 | 94 | . 65.013 | 10 | 32.3 | . 76 | 186 | . 134 |  | 12.51 | . 019 | . 12 | . 8 | . 02 | 4.8 | . $1<.05$ | 9 | . 7 |
| 41E 53+75N | 5.6 | 60.6 | 37.0 | 121 | 1.7 | 713.3 | 310.6 | 421 | 4.09 | 54.0 | 3.646 .2 | 8.5 | 94 | . 7 | 1.5 | 9.2 | 1091 | 1.18 .056 | 18 | 26.51 | 1.02 | 268 | . 183 |  | 12.31 | . 024 | . 23 | 2.7 | 03 | 7.8 | . 1.06 | 9 | 1.3 |
| -41E 53+25N | 10.5 | 55.9 | 107.1 | 156 | 1.7 | 714.4 | 411.9 | 400 | 4.13 | 61.3 | 2.328 .5 | 7.5 | 80 | . 5 | 3.8 | 8.4 | 106 | . 95.048 | 12 | 30.01 | 1.04 | 183 | 177 |  | 12.46 | 024 | 20 | 2.5 | 02 | 6.9 | . $2<.05$ | 10 | 2.8 |
| -41E 53+00N | 5.0 | 59.5 | 41.7 | 110 |  | 118.2 | 210.1 | 380 | 3.68 | 37.8 | 2.030 .4 | 6.5 | 70 | . 3 | 1.4 | 5.6 | 93 | . 90.051 | 18 | 33.2 | . 97 | 162 | . 162 |  | 12.29 | 028 | . 17 | 1.1 | 02 | 6.9 | . 1.06 | 9 | 1.6 |
| -41E 52+75N | 5.4 | 52.2 | 17.4 | 85 |  | 619.4 | 10.6 | 349 | 3.09 | 21.6 | 3.520 .2 | 5.2 | 79 | . 4 | . 8 | 5.2 | 78 | . 97.058 | 16 | 32.0 | . 81 | 197 | . 129 |  | 21.83 | . 028 | . 12 | . 7 | 02 | 5.7 | . $1<.05$ | 7 | 2.2 |
| -41E 52+50N | 5.8 | 46.5 | 17.4 | 73 |  | 719.8 | 8.8 | 356 | 2.97 | 27.7 | 4.923 .9 | 3.9 | 71 | . 1 | . 7 | 3.5 | 701 | 1.08 .057 | 14 | 32.6 | . 77 | 176 | . 107 |  | 11.77 | 027 | . 08 | . 9 | . 03 | 5.4 | . 1.06 | 6 | 1.6 |
| 41E 52+25N | 9.1 | 55.9 | 12.2 | 67 |  | 315.8 | 8.4 | 353 | 2.94 | 34.5 | 3.429 .7 | 4.5 | 54 | . 2 | . 8 | 1.7 | 71 | . 89.049 | 14 | 27.4 | . 70 | 115 | . 108 |  | 11.68 | . 026 | . 09 | . 9 | . 02 | 5.0 | . 1.07 | 7 | 1.8 |
| -42E 60+00N | 5.9 | 53.6 | 12.9 | 52 |  | 315.1 | 8.2 | 213 | 3.87 | 88.9 | . 518.0 | 2.5 | 23 | . 4 | 1.2 | 1.0 | 97 | . 25.032 | 7 | 26.5 | 45 | 75 | . 048 |  | 12.19 | . 011 | . 14 | . 2 | . 03 | 3.0 | . $2<.05$ | 11 | . 6 |
| -42E 59+25N | 3.8 | 47.6 | 11.6 | 51 |  | 315.0 | 7.1 | 248 | 2.63 | 64.1 | . 612.8 | 2.6 | 31 | . 3 | 1.1 | 1.4 | 67 | . 47.018 | 9 | 25.0 | . 54 | 119 | . 064 |  | 11.61 | 015 | . 12 | . 2 | . 01 | 3.3 | . $1<.05$ | 7 | 7 |
| -42E 59+00N | 3.9 | 75.3 | 34.0 | 168 |  | 417.5 | 11.3 | 434 | 3.53 | 77.3 | 1.330 .0 | 5.2 | 44 | . 6 | 1.1 | 1.0 | 69 | . 50.016 | 13 | 29.2 | . 74 | 119 | . 077 |  | 12.12 | 020 | . 10 | . 2 | . 02 | 4.5 | $1<.05$ | 7 | . 8 |
| -42E 58+75N | 5.8 | 28.3 | 16.5 | 95 |  | 415.5 | 10.0 | 350 | 3.26 | 39.3 | . 510.9 | 2.5 | 30 | . 7 | . 7 | . 6 | 75 | . 36.015 | 8 | 26.9 | . 44 | 118 | . 039 |  | 11.87 | 012 | . 10 | . 1 | . 01 | 2.4 | . $1<.05$ | 8 | <. 5 |
| -42E 58+50N | 4.8 | 68.6 | 12.4 | 63 |  | 319.9 | 10.0 | 319 | 3.09 | 47.6 | 1.310 .3 | 3.6 | 40 | . 3 | . 9 | . 5 | 67 | . 59.018 | 11 | 31.4 | . 62 | 132 | . 063 |  | 12.03 | . 018 | . 13 | . 1 | . 01 | 3.9 | . $1<.05$ | 7 | 1.0 |
| RE L42E 58+50N | 4.7 | 67.9 | 11.2 | 63 |  | 321.2 | 210.5 | 324 | 3.05 | 47.1 | 1.211 .7 | 3.2 | 39 | . 2 | . 9 | . 4 | 69 | . 59.018 | 11 | 33.1 | . 60 | 124 | . 068 |  | 12.06 | . 017 | . 14 | . 2 | . 02 | 4.1 | . $1<.05$ | 7 | 8 |
| -42E 58+25N | 12.1 | 194.9 | 12.1 | 91 |  | 615.7 | 12.0 | 334 | 4.16 | 56.2 | 3.344 .6 | 6.6 | 75 | . 6 | 1.2 | . 8 | 90 | . 82.055 | 19 | 24.1 | . 92 | 169 | . 139 |  | 11.96 | . 024 | . 20 | . 2 | . 01 | 7.6 | . $2<.05$ | 8 | 1.2 |
| -42E 58+00N | 3.1 | 29.0 | 8.0 | 57 |  | 320.7 | 12.4 | 435 | 3.14 | 16.3 | . 410.5 | 2.7 | 26 | . 3 | . 5 | . 3 | 80 | . 28.016 |  | 33.8 | . 60 | 152 | . 086 |  | 12.04 | . 014 | . 07 | . 1 | . 01 | 3.2 | . $1<.05$ | 7 | <. 5 |
| -42E 57+75N | 5.7 | 65.4 | 11.5 | 81 |  | 316.3 | 11.2 | 280 | 3.54 | 32.3 | . 742.0 | 3.3 | 29 | . 4 | . 7 | . 5 | 84 | . 29.017 | 7 | 26.9 | . 66 | 88 | . 041 |  | 12.30 | . 010 | . 07 | . 1 | . 01 | 3.6 | . $2<.05$ | 7 | . 6 |
| -42E 57+50N | 4.1 | 41.0 | 20.0 | 137 |  | 317.4 | 410.9 | 410 | 3.52 | 39.5 | . 616.1 | 3.3 | 33 | . 6 | . 7 | . 8 | 85 | . 39.017 | 9 | 31.4 | . 76 | 196 | . 074 |  | 11.92 | 012 | . 13 | 1 | 01 | 4.5 | . $1<.05$ | 7 |  |
| -42E 57+25N | 5.2 | 53.3 | 11.8 | 111 |  | 325.3 | 16.3 | 492 | 5.12 | 13.9 | 1.019 .7 | 4.6 | 42 | . 5 | . 6 | 1.4 | 126 | . 47.037 | 10 | 40.21 | 1.09 | 333 | . 175 |  | 23.62 | . 013 | . 15 | . 1 | . 02 | 6.6 | 2<.05 | 13 |  |
| -42E 57+00N | 3.0 | 43.6 | 11.9 | 119 |  | 320.7 | 15.7 | 959 | 4.31 | 7.7 | . 82.5 | 4.5 | 32 | . 5 | . 6 | . 8 | 105 | . 37.034 | 8 | 29.3 | . 81 | 325 | . 118 |  | 12.78 | 016 | . 06 | . 2 | . 02 | 4.5 | . $2<.05$ | 11 | < 5 |
| -42E 56+75N | 2.2 | 38.4 | 10.5 | 64 |  | 118.8 | 10.1 | 380 | 3.47 | 21.2 | . 68.0 | 4.6 | 38 | . 2 | . 7 | . 6 | 88 | . 41.019 | 8 | 29.8 | . 67 | 204 | . 040 |  | 12.59 | . 012 | . 07 | . 2 | . 01 | 3.7 | . $1<05$ | 8 | . 5 |
| -42E 56+50N | 2.7 | 37.4 | 10.5 | 67 |  | 214.2 | 11.3 | 347 | 3.35 | 23.1 | . $7 \quad 3.3$ | 5.1 | 37 | . 2 | . 8 | . 5 | 84 | . 44.014 | 11 | 24.8 | 73 | 184 | . 039 |  | 12.67 | . 012 | . 07 | . | . 01 | 4.3 | . $2<.05$ | 8 | < 5 |
| -42E 56+25N | 5.3 | 107.3 | 11.6 | 110 |  | 319.7 | 21.2 | 599 | 5.58 | 28.7 | 1.541 .0 | 9.7 | 64 | . 5 | . 7 | 1.8 | 143 | . 55.040 | 14 | 29.5 | 1.16 | 497 | 230 |  | 34.19 | . 017 | . 31 | 3 | . 02 | 7.1 | . $3<05$ | 14 | . 7 |
| -42E 56+00N | 2.5 | 54.2 | 11.8 | 78 |  | 522.5 | 17.6 | 520 | 4.80 | 14.2 | 1.012 .2 | 6.4 | 42 | . 3 | . 5 | 2.5 | 121 | . 47.022 | 10 | 32.01 | 1.10 | 464 | . 228 |  | 13.51 | . 015 | . 23 | . 5 | . 02 | 5.8 | . $3<.05$ | 11 |  |
| -42E 55+75N | 4.9 | 37.7 | 11.2 | 71 |  | 421.9 | 15.1 | 375 | 4.68 | 14.9 | 3.813 .3 | 7.1 | 43 | . 3 | . 5 | 1.1 | 125 | . 55.019 | 12 | 32.2 | . 95 | 412 | . 221 |  | 23.34 | 017 | . 18 | . 2 | . 01 | 5.0 | . $2<.05$ | 11 | . 5 |
| -42E 55+50N | 5.4 | 62.1 | 6.9 | 57 |  | 317.2 | 9.9 | 436 | 2.98 | 21.5 | 7.016 .2 | 4.8 | 86 | . 4 | . 6 | . 9 | 781 | 1.65.086 | 16 | 26.4 | 77 | 267 | . 147 |  | 21.64 | . 027 | . 15 | . 4 | . 02 | 5.0 | . 2.08 | 6 | 4.1 |
| -42E 54+75N | 25.6 | 56.1 | 7.4 | 73 |  | 211.6 | 9.4 | 401 | 3.20 | 40.9 | 2.322 .0 | 4.6 | 49 | . 2 | . 9 | . 7 | 82 | . 96.068 | 14 | 20.7 | 77 | 148 | . 151 |  | 11.68 | . 021 | . 15 | 7 | . 02 | 5.8 | .1 . 07 | 7 | 1.5 |
| -42E 54+50N | 18.8 | 45.3 | 7.4 | 66 |  | 215.4 | 9.3 | 353 | 3.06 | 12.8 | 2.18 .1 | 4.6 | 47 | 2 | . 6 | . 5 | 79 | . 88.072 | 16 | 26.3 | 76 | 200 | . 159 |  | 11.68 | 022 | . 13 |  | . 02 | 5.4 | . 1.06 | 6 | . 7 |
| -42E $54+25 \mathrm{~N}$ | 24.7 | 50.2 | 7.8 | 78 |  | 215.3 | 10.1 | 433 | 3.37 | 12.3 | 2.512 .3 | 4.4 | 50 | . 2 | . 5 | . 6 | 87 | . 92.061 | 14 | 25.7 | . 81 | 218 | . 181 |  | 11.81 | . 020 | . 17 | . 3 | . 02 | 5.5 | . $1<.05$ | 7 |  |
| STANDARD OS5 | 13.0 | 143.7 | 25.8 | 139 |  | 325.4 | 11.9 | 794 | 2.99 | 17.7 | 6.144 .0 | 2.6 | 47 | 5.6 | 3.8 | 6.0 | 63 | . 72.088 | 12 | 188.6 | . 69 | 133 | . 102 |  | 72.00 | . 034 | . 14 | 4.9 | . 17 | 3.4 | $1.0<.05$ | 7 | 5.3 |

[^5]

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.


[^6]

Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.
AC

GROUP 1D - 0.50 GM SAMPLE LEACHED HITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, analysed by icp-es.
(>) CONCENTRATION exceeds upper limits. some minerals may be partially attacked. refractory and graphitic samples can limit au solubility. ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > $1 \%$, AG > 30 PPM \& AU > 1000 PB

- SAMPLE TYPE: ROCK R150 60C AU* IGNITED, ACID LEACHED, ANALYZED BY ICP-MS. ( 15 gm )

Data $\ell_{p a}$ $\qquad$ DATE RECEIVED:

SEP 152004
DATE REPORT MAILED $045 / 04 \ldots$


## APPENDIX III

## CREW LOG



# AURORA GEOSCIENCES LTD. 2004 SEVERANCE PROJECT Job BEI-04-003-YT <br> BOOTLEG EXPLORATION INC. 

Crew: Kel Sax (Project Geologist)
Susanne Aichelle (Field Assistant)
Calvin Delwisch (Field Assistant) Jean Francois Page (Field Assistant)
Shawn Horte (Geophysical Technician)
Andrea Langerud (Geological Technician)
June 6 Big Salmon Air positions gasoline, helicopter fuel and survey pickets at the Nisling River airstrip for use later in summer.
Fri, Aug 20 Susanne and Warren organised camp gear, Kel prepares maps and reports, etc.
Sat, Aug 21 Pick-up groceries and remaining supplies and load gear in truck for departure the next morning.
Sun, Aug 22 Kel, Susanne, Calvin and JF mob from Whitehorse to Carmacks. Will Thompson of Trans North Heli, flies Kel and Calvin Delwisch to Severance Property. Susanne and JF drive staging area at Mt Nansen minesite. CAMp mobilization is coordinated with a demobilization from Chimo Property where geophysical crews has just completed work. Chimo tents and camp gear flown to Severance Property. Helicopter hours and divided 60\% Severance / 40\% Chimo. Last sling load at 2200h.
Mon, Aug 23 JF and Kel line cut L38E starting at 5200N. SA and CD start L40E at 52N.
Production: 1100 m of line cut
Tue, Aug 24 Jf and Kel continue on L38E, SA and CD continue on L40E.
Production: 1200 m of line cut

Wed, Aug 25 JF and Kel continue on L38E, SA and CD finish L40E.
Production: 880 m of line cut
Thur, Aug 26 JF and Kel finish L38E and start L42E. SA and CD start L44E.
Production: 1290 m of line cut
Fri, Aug $27 \quad J F$ and Kel continue L42E, SA and CD continue L44E.
Production: 1200 m of line cut

Sat, Aug 28 JF and Kel continue L42E, SA and CD finish L44E.
Production: 1200 m of line cut
Sun, Aug 29 JF and Kel finish L42E, SA and CD chain in L44E and start soil sampling.

Production: 750 m of line cut
50 soil samples
Mon, Aug 30 JF and CD chain L42E, JF collect 17 soils on L42E. CD collects 15 samples from L38E. SA runs mag on L50E and L49E. KS prospects and maps east end of grid.

Production: 3.5 km mag surveying
70 soil samples, one rock sample
Tue, Aug 31 Shawn Horte and Andrea Langerud (IP crew) arrive at 10h, sling a load of gear to camp and set up IP equipment. SA soil samples in AM and runs mag in afternoon. Kel coordinates helicopter loads in morning and prospects west end grid in afternoon. JP and CD soil sample.

Production: 3.8 km mag
58 soil samples
Wed, Sept 1 Andrea soil samples L36E, Kel soil samples L37E and fill-in samples on L38E. Rest of crew on IP.

Production: 1.275 km IP
51 soil samples

Thur, Sept 2 AL soil samples L39 and 40E, KS runs mag on L40, 38, 35, 37E. Overcast, rain in afternoon.

$$
\begin{array}{ll}
\text { Production: } & 1.275 \mathrm{~km} \text { IP } \\
& 5.2 \mathrm{~km} \text { of mag } \\
& 31 \text { soil samples }
\end{array}
$$

Fri, Sept $3 \quad$ AL soil samples L 39, L40. KS runs mag on L42,36,39 and parts of 44 and 43E.

Production: 0.825 km IP
3.8 km of mag

20 soil samples
Sat, Sept 4 AL soil samples L41 and 46E. KS runs mag on L41 and parts of L49, 45 and 40E. Snow.

Production: 1.8 km mag
49 soil samples
Sun, Sept 5 Demobe. KS goes to Mt. Langham to scope out gossan - Mountain is under snow and gossan cannot be located. Fly over proposed stream sediment sample sites - water is not running or creeks are dry. It is decided to abandon Mt Langham Project. 1hr of helicopter time for Mt Langham.

## APPENDIX IV

IP INVERSION RESULTS

Severance_L3800E : pole-dipole : 411 data
Observed Apparent Chargeability


Predicted Data


Chargeability Model


Iterations done: 19


Severance_L3800E : pole-dipole : 411 data
Observed Apparent Resistivity


Predicted Data


## Resistivity Model



Iterations done: 15


Severance_L4000E : pole-dipole : 407 data
Observed Apparent Chargeability


Predicted Data


Chargeability Model


Iterations done: 22


Severance_L4000E : pole-dipole : 407 data
Observed Apparent Resistivity


Resistivity Model

$-5 e+0 C$
-1.581
-5000
-1581
-500
-158.1
-50
Ohm -m

Iterations done: 26


Severance_L4200E : pole-dipole : 258 data
Observed Apparent Chargeability


Predicted Data



Iterations done: 20


Severance_L4200E : pole-dipole : 260 data
Observed Apparent Resistivity


Predicted Data



## APPENDIX V GEOPHYSICAL INSTRUMENT SPECIFICATIONS

## APPENDIX G GSM-19T MAGNETOMETER/GRADIOMETER

## THEORETICAL DESCRIPTION

## Introduction

The GSM-19T is a portable standard proton magnetometer/gradiometer designed for handheld or base station use for geophysical, geotechnical, or archaeological exploration, long term magnetic field monitoring at Magnetic Observatories. volcanological and seismic research. etc. The GSM19 T is a secondary standard for measurement of the Earth's magnetic field. having 0.2 nT resolution, and $\operatorname{lnT}$ absolute accuracy over its full temperature range.

The GSM-19T is a microprocessor based instrument with storing capabilities. Large memory storage is a available (up to 2Mbytes). Synchronized operation between hand held and base station units is possible, and the corrections for diurnal variations of magnetic field are done automatically. The results of measurement are made available in serial form (RS-232-C interface) for collection by data acquisition systems, terminals or computers. Both on-line and post-operation transfer are possible.

The measurement of two magnetic fields for determination of gradient is done concurrentlly with strict control of measuring intervals. The result is a high quality gradient reading, independent of diurnal variations of maganetic field.

Optionally the addition of a VLF sensor for combined magnetometer / gradiometer-VLF measurement is available.

## Magnetic Field Measurement

The magnetic field measuring process consist of the following steps:
a) Polarization: A strong DC current is passed through the sensor creating polarization of a proton-rich fluid in the sensor.
b) Pause: The pause allows the electrical transients to die off, leaving a slowly decaying proton precession signal above the noise level.
c) Counting: The proton precession frequency is measured and converted into magnetic field units.
d) Storage: The results are stored in memory together with date, time and coordinates of measurement. In base station mode, only the time and total field are stored.

Resolution:
Accuracy:
Range:
Gradient Tolerance:
Operating Interval:

Input / Output:
Power Requirements:

Power Source:

Battery Charger:
Operating Ranges:

Storage Temperature:
Display:

Dimensions:

VLF
Frequency Range:
Parameters Measured:
Resolution:
Number of Stations:
Storage:

Terrain Slope Range:
Sensor Dimensions:
Sensor Weight:

## INSTRUMENT SPECIFICATIONS

## MAGNETOMETER / GRADIOMETER

0.01 nT (gamma), magretic field and gradient.
0.2 nT over operating range.

20,000 to $120,000 \mathrm{nT}$.
Over $10,000 \mathrm{nT} / \mathrm{m}$
3 seconds minimum, faster optional. Readings initiated from keyboard, external trigger, or carriage return via RS-232C.
6 pin weatherproof connector, RS-232C, and (optional) analog output.
$12 \mathrm{~V}, 200 \mathrm{~mA}$ peak (during polarization), 30 mA standby. 300 mA peak in gradiometer mode.
Internal 12V, 2.6Ah sealed lead-acid battery standard, others optional.
An External 12 V power'source can also be used.
Input: 110 VAC, 60 Hz . Optional $110 / 220 \mathrm{VAC}, 50 / 60 \mathrm{~Hz}$.
Output: dual level charging.
Temperature: $-40^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$.
Battery Voltage: 10.0 V minlmum to 15 V maximum.
Humidity: up to $90 \%$ relative, non condensing.
$-50^{\circ} \mathrm{C}$ to $+65^{\circ} \mathrm{C}$.
LCD: $240 \times 64$ pixels, OR $8 \times 30$ characters. Built in heater for operation below $-20^{\circ} \mathrm{C}$.
Console: $223 \times 69 \times 240 \mathrm{~mm}$.
Sensor Staff: $4 \times 450 \mathrm{~mm}$ sections.
Sensor: $170 \times 71 \mathrm{~mm}$ dia.
Weight: consoie 2.1 kg , Staff 0.9 kg , Sensors 1.1 kg each.

## $15-30.0 \mathrm{kHz}$ plus 57.9 kHz (Alaskan station)

Vertical in-phase and out-of-phase components as percentage of total field.
2 relative components of horizontal field. Absolute amplitude of total field.
$0.1 \%$.
Up to 3 at a time.
Automatic with: time, coordinates, magnetic field / gradient, slope, EM field, frequency, in- and out-of-phase vertical, and both horizontal components for each selected station.
$0^{\circ}-90^{\circ}$ (entered manually).
$140 \times 150 \times 90 \mathrm{~mm}$. ( $5.5 \times 6 \times 3$ inches).
1.0 kg ( 2.2 lb ).

Flyers high / low resolution Txil/1 ( 63 KB ) / Txil/2 (1 MB)

At Last, a High-Quality
Affordable IP Transmitter
Txll-1800 Model, 1800 watts
Its high power, up to 10 amperes, combined with its light weight and a $21 \mathrm{~kg} / 2000 \mathrm{~W}$ Honda generator makes it particularly suitable for dipole-dipole Induced Polarization surveys.

Features

- Protection against short circuits even at zero (0) ohms
- Output voltage range: 150 V to 2400 V / 14 steps
- Power source: 120 V, Optional: 220 V / 50/60 Hz
- Operates from a light backpackable standard 120 V generator
- Up to three years warranty

This backpackable 1800 watts induced polarization (I.P.) transmitter works from a standard 120 V source and is well adapted to
rocky environments where a high output voltage of up to 2400 V is needed. Moreover, in highly conductive overburden, at 150 V , the highly efficient Txll-1800 watts transmitter is able to send a current of up to 10 amperes. By using this I.P. transmitter, you obtain fast and high-quality I.P. readings even in the most difficult conditions.

## Txll-3600 Model, 3600 watts

Its high power, up to 10 amperes, combined with a Honda generator makes it particularly suitable for pole-dipole Induced Polarization surveys.

## Features

- Protection against short circuits even at zero (0) ohms
- Output voltage range: $\mathbf{1 5 0} \mathrm{V}$ to 2400 V / 14 steps
- Power source: $220 \mathrm{~V}, 50 / 60 \mathrm{~Hz}$
- Operates from a standard 220 $\checkmark$ generator
- Up to three years warranty

This 3600 watts induced polarization (I.P.) transmitter works from a standard 220 V source and is well adapted to rocky environments where a high output voltage of up to 2400 V is needed. Moreover, in highly conductive overburden, at 150 V , the highly efficient Txll-3600 watts transmitter is able to send a current of up to 10 amperes. By using this I.P. transmitter, you obtain fast and highquality I.P. readings even in the most difficult conditions.

## Specifications

| General |  |
| :---: | :---: |
| $\begin{array}{\|ll\|} \hline \text { Size } & \text { Txll- } \\ 1800 \end{array}$ | $21 \times 34 \times 39 \mathrm{~cm}$ |
| $\begin{array}{ll} \hline \text { Size } & \text { TxII- } \\ 3600 & \end{array}$ | $21 \times 34 \times 50 \mathrm{~cm}$ |
| Weight Txll-1800 | approx. 20 kg |
| Weight TxII-3600 | approx. 35 kg |


| Operating temperature | $-40^{\circ} \mathrm{C}$ to $65^{\circ} \mathrm{C}$ |
| :---: | :---: |
| Electrical |  |
| Used for timedomain IP | $\begin{aligned} & 2 \mathrm{sec} . \mathrm{ON} \\ & 2 \mathrm{sec} . \mathrm{OFF} \end{aligned}$ |
| Time Base | 1-2-4-8 sec. |
| Output current range | 0.005 to 10 A |
| Output voltage range | 150 to 2400 V |
| Power source TxII-1800 | Recommended motorigenerator set: Standard 120 V / 60 Hz backpackable Honda generator Suggested Models: EU1000iC, 1000 W, 13.5 kg . or EU2000iC, 2000 W, 21.0 kg. |
| Power Source Txll-3600 | Recommended motor/generator set: Standard $220 \mathrm{~V}, 50 / 50 \mathrm{~Hz}$ Honda generator Suggested Madels: EM3500XK1C, 3500 W, 62 kg or EM5000XK1C, $5000 \mathrm{~W}, 77 \mathrm{~kg}$ |
| Controls |  |
| Power | ON/OFF |
|  | $150 \mathrm{~V}, 180 \mathrm{~V}, 350 \mathrm{~V}, 420 \mathrm{~V}, 500 \mathrm{~V}, 600 \mathrm{~V}, 700$ V, 840 V, $1000 \mathrm{~V}, 1200 \mathrm{~V}, 1400 \mathrm{~V}, 1680 \mathrm{~V}$, 2000 V, 2400 V |
| Displays |  |
| Output current LCD | reads to $\pm 0,001 \mathrm{~A}$ |
| Very cold weather | standard LCD heater on readout |
| Protection | Total protection against short circuits even at zero (0) ohms |
| Indicator lamps <br> (in case of overload) | - High voltage ON-OFF <br> - Output overcurrent <br> - Generator over or undervoltage <br> - Overheating <br> - Logic failure <br> - Open loop protection |

## Purchase and Rental Info

## Interested by the Txll-1800 W IP or the Txll-3600 W IP transmitter?

It is simple. You can rent it or purchase it. The choice is yours. Here is some information you

## ANNEX 7: SPECIFICATIONS

## Technical:

- Input impedance: 10 Mohm
- Input overvoltage protection up to 1000 V
- Automatic SP bucking with linear drift correction
- Internal calibration generator for a true calibration on request of the operator
., का-Intemal memory: 3200 dipoles reading
automatic synchronization and re-synchronization process on primary voltages signals whenever needed
- Proprietary intelligent stacking process rejecting strong non-linear SP drifts

Common mode rejection: more than 100 dB (for $\mathrm{Rs}=0$ )
Self potential (Sp) : range: $-15 \mathrm{~V}-+15 \mathrm{~V}$
: resolution: 0.1 mV

- Ground resistance measurement range: 0.1-100 kohms
- Primary voltage : range: $10 \mu \mathrm{~V}-15 \mathrm{~V}$
: resolution: $1 \mu \mathrm{~V}$
: accuracy: typ. 0.3\%
- Chargeability : resolution: $10 \mu \mathrm{~V} / \mathrm{V}$
: accuracy: typ. $0.6 \%$


## General:

- Dimensions: $31 \times 21 \times 25 \mathrm{~cm}$
-Weight (with the internal battery): 9 kg
Operating temperature range: $-30^{\circ} \mathrm{C}-70^{\circ} \mathrm{C}$
- Case in fiber-glass for resisting to field shocks and vibrations









EAGLE PLAINS RESOURCES LTD SEVERANCE PROPERTY
SHADED RELIEF TOTAL MAGNETIC FIELD (nT)

Klotassin River Area
December, 2004


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[^0]:    GROUP DX - 15.00 GM SAMPLE LEACHED WITH 90 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 300 ML , ANALYSED BY ICP-MS. (>) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBIL

[^1]:    Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

[^2]:    Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

[^3]:    Sample type: SOIL SS8060C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

[^4]:    Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

[^5]:    Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

[^6]:    Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

