BC Geological Survey
Assessment Report
30236

Surface Pulse EM Surveys

over

Myra Falls Operation Project

for

NVI Mining Ltd.

during

September – October of 2007

by

Geophysical Survey Report

covering

Surface Pulse EM Surveys

over

Myra Falls Operation Project

for

NVI Mining Ltd.

during

September – October of 2007

by

CRONE GEOPHYSICS & EXPLORATION LTD

Survey Area:	**Myra Falls Operation, near Campbell River British Columbia**
Survey Type:	**Surface Pulse EM Survey**
Survey Operator:	**Ryan Kilty**
Survey Period:	**September 17th – October 25th, 2007**
Report By:	**Kevin Ralph**
Report Date:	**May , 2008**

LIST OF TABLES

LIST OF FIGURES

1. INTRODUCTION

Crone Geophysics & Exploration Limited was contracted by NVI Mining Ltd. to conduct a 3D Borehole Pulse Electromagnetic survey on its Myra Falls Operation Project near Campbell River, British Columbia. One surface line was also surveyed during this period as a test to determine the suitability and applicability of this technique in this locality. This brief report summarizes the logistical aspects pertaining to this surface TDEM geophysical work as a detailed summary of this BHEM results are presented in a previous report.

The appendices to this report contain a plan map showing the location of the survey line, the Pulse EM Lin-Log Profiles for this one line, and a description of Crone Instrument Specifications.

2. PROPERTY LOCATION AND DESCRIPTION (PROVIDED BY THE CLIENT)

The Myra Falls Operation is located at the southern end of Buttle Lake in Strathcona-Westmin Provincial Park on Vancouver Island, British Columbia at a latitude of 49° 33' 14" N and a longitude of 125° 33' 38" W. Strathcona-Westmin Provincial Park is a class "B" provincial park that covers all of the Company's land holdings and is surrounded by the class "A" Strathcona Provincial Park. The Myra Falls mine operates under the Strathcona-Westmin Master Plan and is the only provincial park in British Columbia in which mining is permitted.

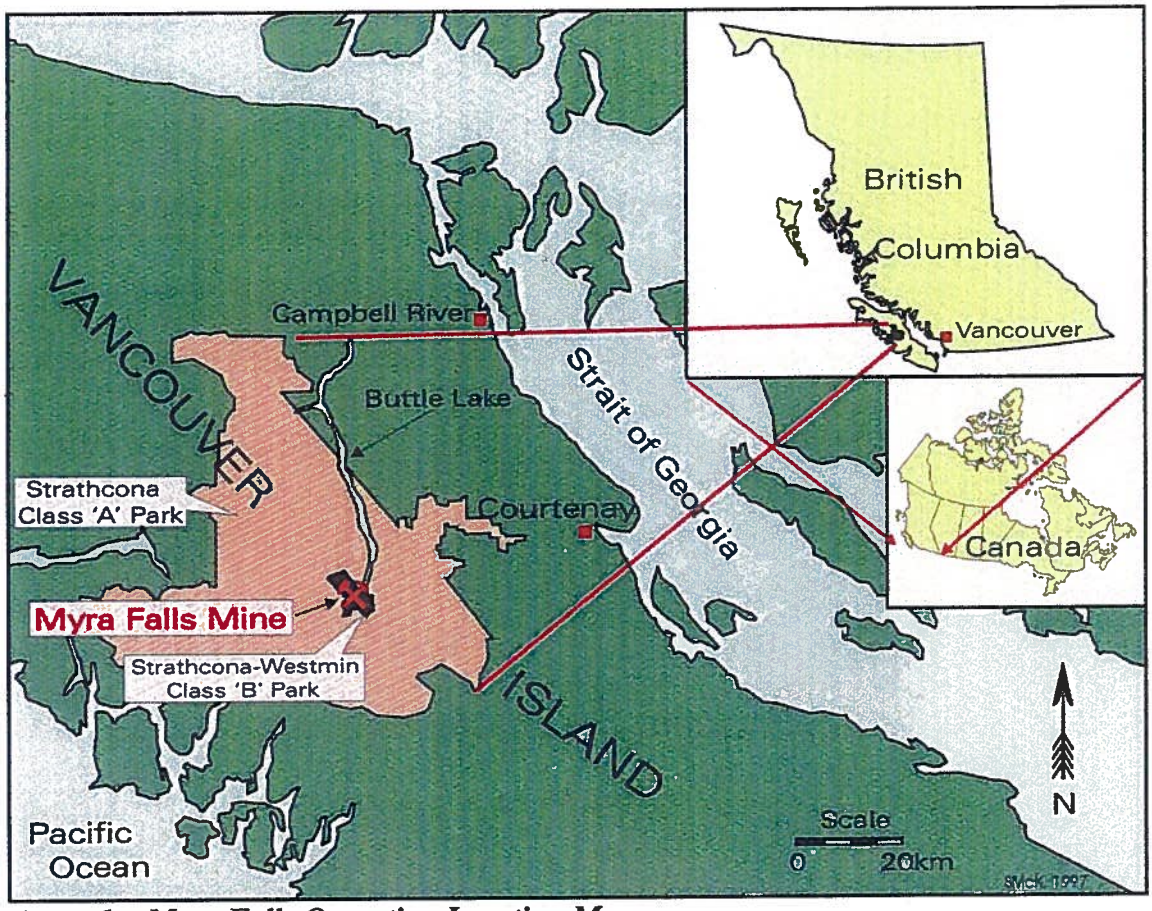


Figure 1 – Myra Falls Operation Location Map

Myra Falls mining properties comprise 3,637.59 hectares held under surveyed mining leases, surveyed freehold title to minerals and unsurveyed two post mining claims.

Title to mineral claims and mining leases is issued and administered by the Mineral Titles Branch, Ministry of Energy and Mines ("MEM"), and is subject to all provisions in the Mineral Tenure Act. A claim or lease title conveys to the holder the right to all minerals as defined in the Mineral Tenure Act and which were available at the time of location or have subsequently become available under the terms of the Act.

The total area held by mining lease is 2,209.97 hectares. Title to the land is maintained by yearly rental payments to the MEM. There are no work requirements for maintaining a lease. Each lease is for a fixed term, which is renewable. The title gives the right to exploit the minerals, subject to obtaining all other mining production permits.

Table I: Myra Falls Mining Leases

	Tenure number	Disposition name	Area (hectares) surveyed	Lease issue date	NTS map area
1	201320	Lease 26	496.20	27-Mar-1986	092F/12E
2	201321	Lease 27	680.20	27-Mar-1986	" "
3	201322	Lease 28	508.10	27-Mar-1986	" "
4	201323	Lease 29	493.80	27-Mar-1986	" "
5	201324	Lease 51	31.67	04-Jul-1962	" "
			2,209.97		

Freehold title to minerals is maintained by payment of a Mineral Land tax. Freehold title is administered by the Land Title Branch, Ministry of Attorney General. The total land area is 317.62 hectares. All of the lands have been surveyed as district lots.

Table II: Myra Falls Freehold Title to Minerals

	District lot number	Original name	Parcel ID number	Area (hectares)	Date of original grant	NTS map area
1	L1340	PEARL	000-312-576	13.07	23-Aug-1965	092F/12E
2	L1341	betty (lower case)	000-049-328	7.77	23-Aug-1965	092F/12E
3	L1342	ELWOOD	000-312-584	6.59	23-Aug-1965	092F/12E
4	L1344	BEAR PAW	000-039-195	19.32	26-Jan-1972	092F/12E
5	L1345	BEAVER PAW	000-039-209	19.79	26-Jan-1972	092F/12E
6	L1346	RIGHT PAW	000-039-187	20.36	26-Jan-1972	092F/12E
7	L1347	LEFT PAW	000-039-217	14.00	26-Jan-1972	092F/12E
8	L1659	MINK	000-039-336	15.54	20-May-1964	092F/12E
9	L1660	LYNX	000-049-352	11.64	23-Aug-1965	092F/12E
10	L1661	COUGAR	000-049-379	10.89	23-Aug-1965	092F/12E
11	L1663	BLUE GROUSE	000-049-387	8.14	23-Aug-1965	092F/12E
12	L1664	BLUE JAY	000-049-409	9.19	23-Aug-1965	092F/12E
13	L1665	RED SQUIRREL	000-049-425	11.54	20-May-1964	092F/12E
14	L1666	GREY SQUIRREL	000-049-468	10.96	23-Aug-1965	092F/12E
15	L1667	BESSIE B.	000-049-476	18.68	20-May-1964	092F/12E
16	L1668	SOUTH PAW	000-049-492	17.67	26-Jan-1972	092F/12E
17	L1669	WEST PAW	000-049-506	20.40	26-Jan-1972	092F/12E
18	L1670	NORTH PAW	000-049-557	12.95	26-Jan-1972	092F/12E
19	L1671	EAST PAW	000-049-573	20.85	26-Jan-1972	092F/12E
20	L1971	BOULDER	000-312-592	11.94	26-Jan-1972	092F/12E
21	L1972	BARITE	000-312-631	18.11	26-Jan-1972	092F/12E
22	L1973	RAVEN	000-312-649	11.72	26-Jan-1972	092F/12E
23	L1974	BETTY	000-312-649	6.50	26-Jan-1972	092F/12E
				317.62		

All mining claims are unsurveyed two post claims. The approximate area is 1,100 hectares. A mining claim provides exclusive exploration rights only, that are maintained by the continual performance and reporting of work by due dates (anniversaries of recording). The current due dates for work are in 2007, due to a recent filing.

Table III: Myra Falls Two Post Mining Claims

	Tenure number	Disposition name	Approximate area (hectares) unsurveyed	Original recorded date	NTS map area
1	201378	W. NO. 17	25	24-May-1961	092F/12E
2	201370	W. NO. 7	25	24-May-1961	" "
3	201371	W. NO. 8	25	24-May-1961	" "
4	201372	W. NO. 10	25	24-May-1961	" "
5	201373	W. NO. 12	25	24-May-1961	" "
6	201374	W. NO. 13	25	24-May-1961	" "
7	201375	W. NO. 14	25	24-May-1961	" "
8	201368	W. NO. 5	25	24-May-1961	" "
9	201377	W. NO. 16	25	24-May-1961	" "
10	201367	W. NO. 4	25	24-May-1961	" "
11	201379	W. NO. 18	25	24-May-1961	" "
12	201376	W. NO. 15	25	24-May-1961	" "
13	201369	W. NO. 6	25	24-May-1961	" "
14	201366	W. NO. 3	25	24-May-1961	" "
15	201492	W-100	25	13-Jun-1963	" "
16	201461	W-75	25	03-Apr-1962	" "
17	201462	W-76	25	03-Apr-1962	" "
18	201463	W-77	25	03-Apr-1962	" "
19	201464	W-78	25	03-Apr-1962	" "
20	201465	W-79	25	03-Apr-1962	" "
21	201486	W-80	25	17-May-1962	" "
22	201487	W-81	25	17-May-1962	" "
23	201491	W-87	25	08-Nov-1962	" "
24	201415	W 56	25	22-Dec-1961	" "
25	201493	W-116 FR	25	13-Aug-1963	" "
26	201494	W-121	25	08-May-1964	" "
27	201495	W-122	25	08-May-1964	" "
28	201488	W-82	25	17-May-1962	" "
29	201407	W. NO. 64	25	18-Jan-1962	" "
30	201380	W. NO. 19	25	24-May-1961	" "
31	201381	W. NO. 20	25	24-May-1961	" "
32	201403	W. NO. 59	25	18-Jan-1962	" "
33	201404	W. NO. 61	25	18-Jan-1962	" "
34	201460	W-74	25	03-Apr-1962	" "
35	201406	W. NO. 63	25	18-Jan-1962	" "
36	201459	W-72	25	03-Apr-1962	" "
37	201408	W. NO. 65	25	18-Jan-1962	" "
38	201409	W. NO. 66	25	18-Jan-1962	" "
39	201410	W. NO. 67	25	18-Jan-1962	" "
40	201411	W. NO. 68	25	18-Jan-1962	" "
41	201412	W. NO. 69	25	18-Jan-1962	" "
42	201413	W. NO. 70	25	18-Jan-1962	" "
43	201414	W. NO. 71	25	18-Jan-1962	" "
44	201405	W. NO. 62	25	18-Jan-1962	" "
			1,110		

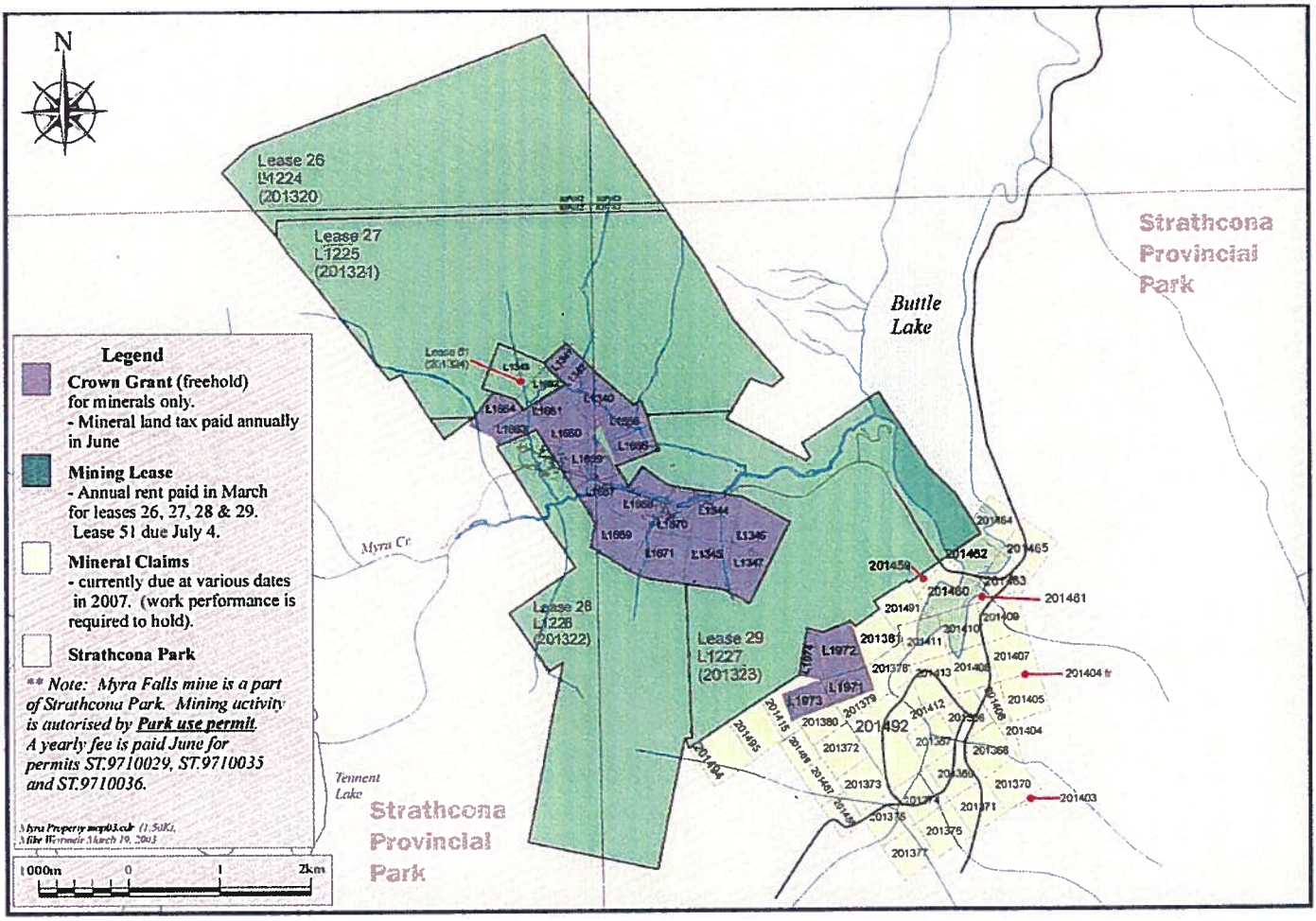


Figure 2: Mineral Title at Myra Falls Mine

The site is linked by a 90 kilometre paved road to Campbell River on the east coast of Vancouver Island and also by paved road to the west coast of Vancouver Island via the town of Gold River. In addition to mining, the main industries in and around Campbell River, a community of some 30,000 inhabitants, are forestry, pulp/paper, fishing and tourism. The town is connected by road to the provincial capital, Victoria, 270 kilometres away and there are regular air services to Vancouver.

The mine and other installations are located on the floor of the Myra Valley at an elevation of around 275 metres above sea level. On both sides of the valley are steep, rugged mountains rising to around 1,850 metre above sea level. The lower

slopes are covered by forest comprising fir, hemlock and cedar. Alpine meadow occurs at higher elevations and the summits are bare rock with local glacial ice.

3. PERSONNEL

The following personnel were involved in the collection and processing of the data and production of this report:

Survey Operators: Ryan Kilty

Final Report: Kevin Ralph

4. SURVEY METHOD & EQUIPMENT

Crone Pulse EM is a time domain electromagnetic method in which a precise pulse of current with a controlled linear shut off is transmitted through a large loop of wire on the ground and the rate of decay of the induced secondary field is measured across a series of time windows during the off-time. The electro-magnetic field (EMF) created by the shutting-off of the current induces eddy currents in nearby conductive material thus setting-up a secondary magnetic field. When the primary field is terminated, this magnetic field will decay with time. The amplitude of the secondary field and the decay rate are dependent on the quality and size of the conductor.

The equipment used on this project was a Crone Pulse EM e system. This includes a 4.8 kW transmitter with a 220V voltage regulator powered by a 11hp motor generator. The Crone Digital Receiver with a roving Receiver Surface coil was used to collect the field data. The synchronization between the Transmitter and the Receiver was maintained by crystal clock synchronization.

The following table shows the various time gates, in ms that constitute the channel configurations set up in the Crone PEM Receiver used in the surveys.

Table IV: Channel Configuration, 20 Channels

Channel	Start	Finish	Channel	Start	Finish
PP	-2.000e-04	-1.000e-04	**1**	4.800e-05	6.400e-05
2	6.400e-05	8.400e-05	**3**	8.400e-05	1.120e-04
4	1.120e-04	1.520e-04	**5**	1.520e-04	2.040e-04
6	2.040e-04	2.680e-04	**7**	2.680e-04	3.600e-04
8	3.600e-04	4.800e-04	**9**	4.800e-04	6.400e-04
10	6.400e-04	8.480e-04	**11**	8.480e-04	1.128e-03
12	1.128e-03	1.496e-03	**13**	1.496e-03	1.992e-03
14	1.992e-03	2.644e-03	**15**	2.644e-03	3.512e-03
16	3.512e-03	4.664e-03	**17**	4.664e-03	6.192e-03
18	6.192e-03	8.220e-03	**19**	8.220e-03	1.092e-02
20	1.092e-02	1.440e-02			

5. SURVEY PARAMETERS

Table V: Surface Survey Coverage

Line	Tx loop	Start	End	Length Read (m)	Component Measured
1A	Mine	314391 E,5491386 N	314770 E,5492075 N	~900	X,Z

Table VI: Surface PEM Survey Parameters and Loop Location

TX Loop	Size (m)	Loop Corners (approximate)	Ramp Time (ms)	Current (amps)	Time Base (ms)
Mine	~300m x 500m	314529 E, 5491965 N 314451 E, 5491848 N 314434. E, 5491723 N 314471 E, 5491620 N 314721 E, 5491370 N 314848 E, 5491487 N 314927 E, 5491642 N	1.0	17	16.66

6. PRODUCTION SUMMARY

Table VII: Production Summary

Date	Description
September 17th, 2007	Mobilization to Vancouver.
September 18th, 2007	Mob to Campbell River and met with client.
September 19th, 2007	Drove to Mine site, attended mine and surface inductions.
October 18th, 2007	Accessed the area for the surface survey and laid out the survey loop.
October 22nd, 2007	Set up and surveyed Line1 using Loop 1 for the surface survey. Packed up and left the survey area.
October 23rd, 2007	GPS'ed the surface loop and picked up both Target C loop and Surface Loop1. Returned to mine and started to pack up equipment.

7. DATA PRESENTATION

The data have been presented in the form of PEM lin-log profiles plots and plan maps showing the location of the test surface line. The data itself is quite noisy and this is due to the close proximity to the mine, mine workings etc. Given the onset of winter conditions no further lines were surveyed at this time. No discrete anomalies have been observed in the recorded data.

Given the responses observed from the boreholes surveyed on the property, there is every reason to believe that surface TDEM surveys can be an effective tool for outlining potential targets in this environment. However given the nature of the responses it would be best to consider any future surveys be undertaken away from any mine workings or supporting infrastructure.

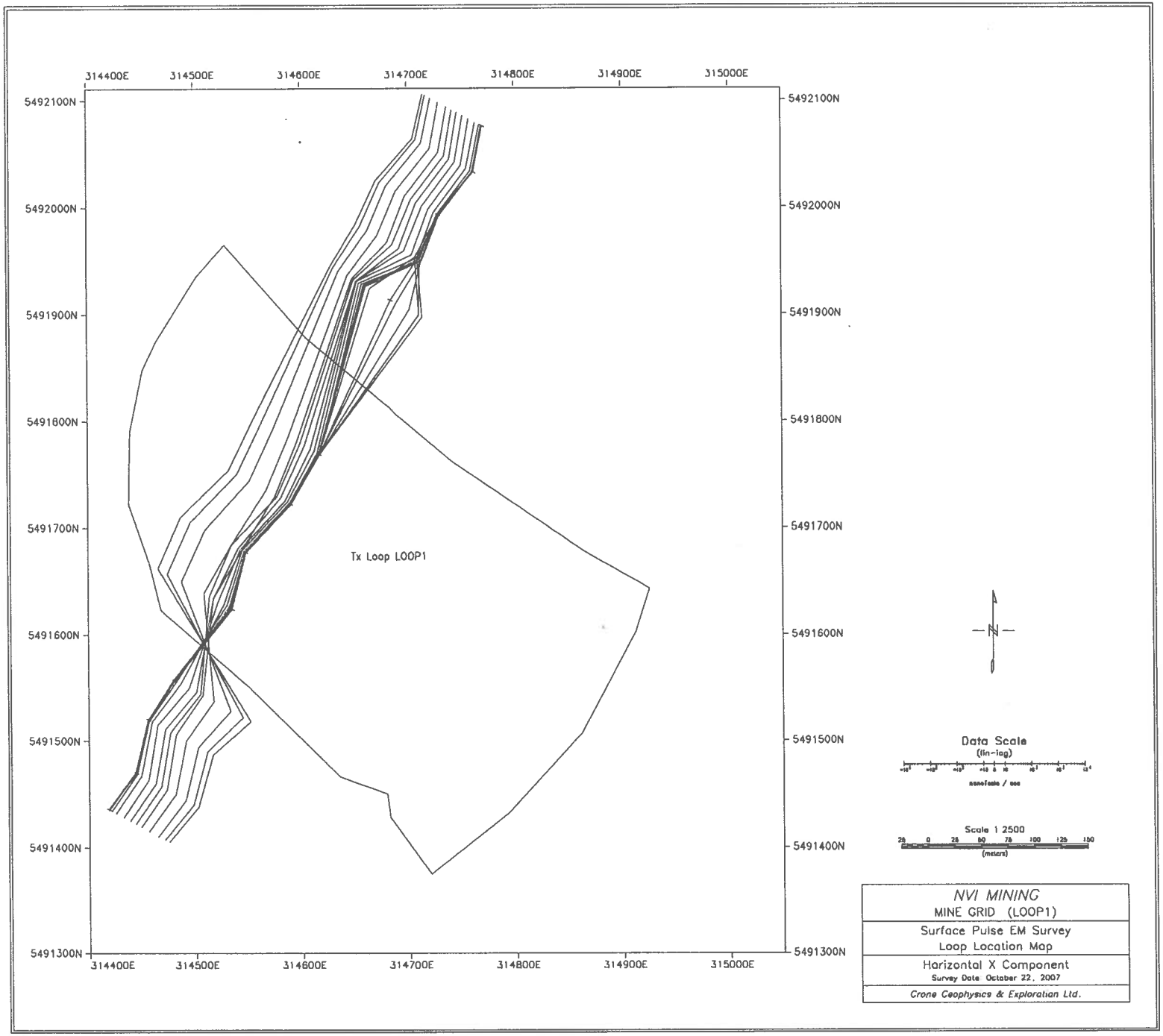
Consideration should also be given to other geophysical survey techniques, particularly CSAMT, Controlled Source audio-frequency magnetotellurics (assuming these have not been trialed already) which may work quite well in this geological environment.

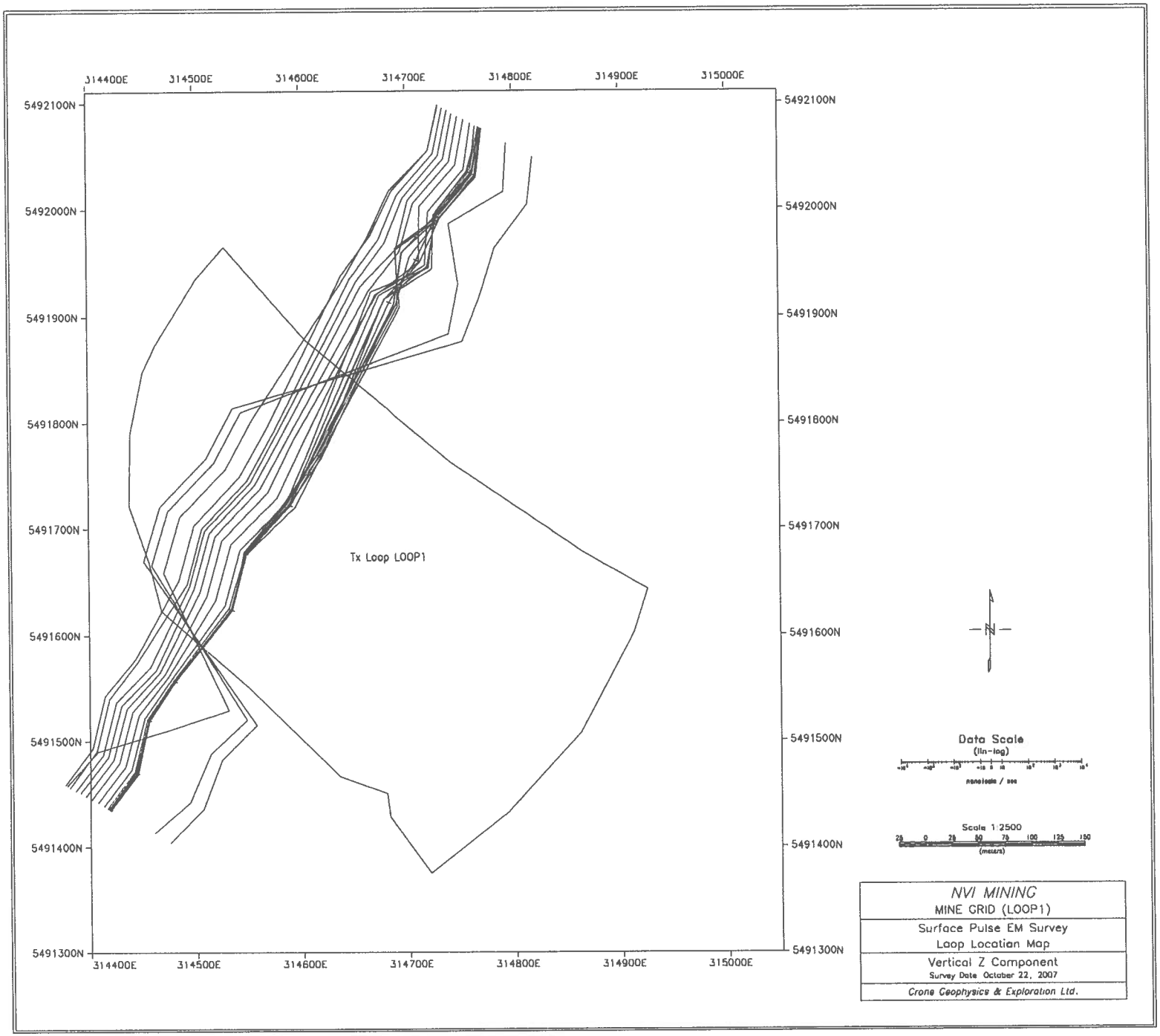
Respectfully submitted,

Kevin Ralph
Crone Geophysics & Exploration Ltd.
April , 2008

APPENDIX I

PLAN MAPS


314400E
314500E
314600E
314700E
314800E
314900E
315000E
5492100N
5492000N
5491900N
5491800N
5491700N
5491600N
5491500N
5491400N
5491300N
Tx Loop LOOP1
Data Scale
(lin-log)
nanoTesla / sec
Scale 1 2500
(meters)
NVI MINING
MINE GRID (LOOP1)
Surface Pulse EM Survey
Loop Location Map
Horizontal X Component
Survey Date October 22, 2007
Crone Geophysics & Exploration Ltd.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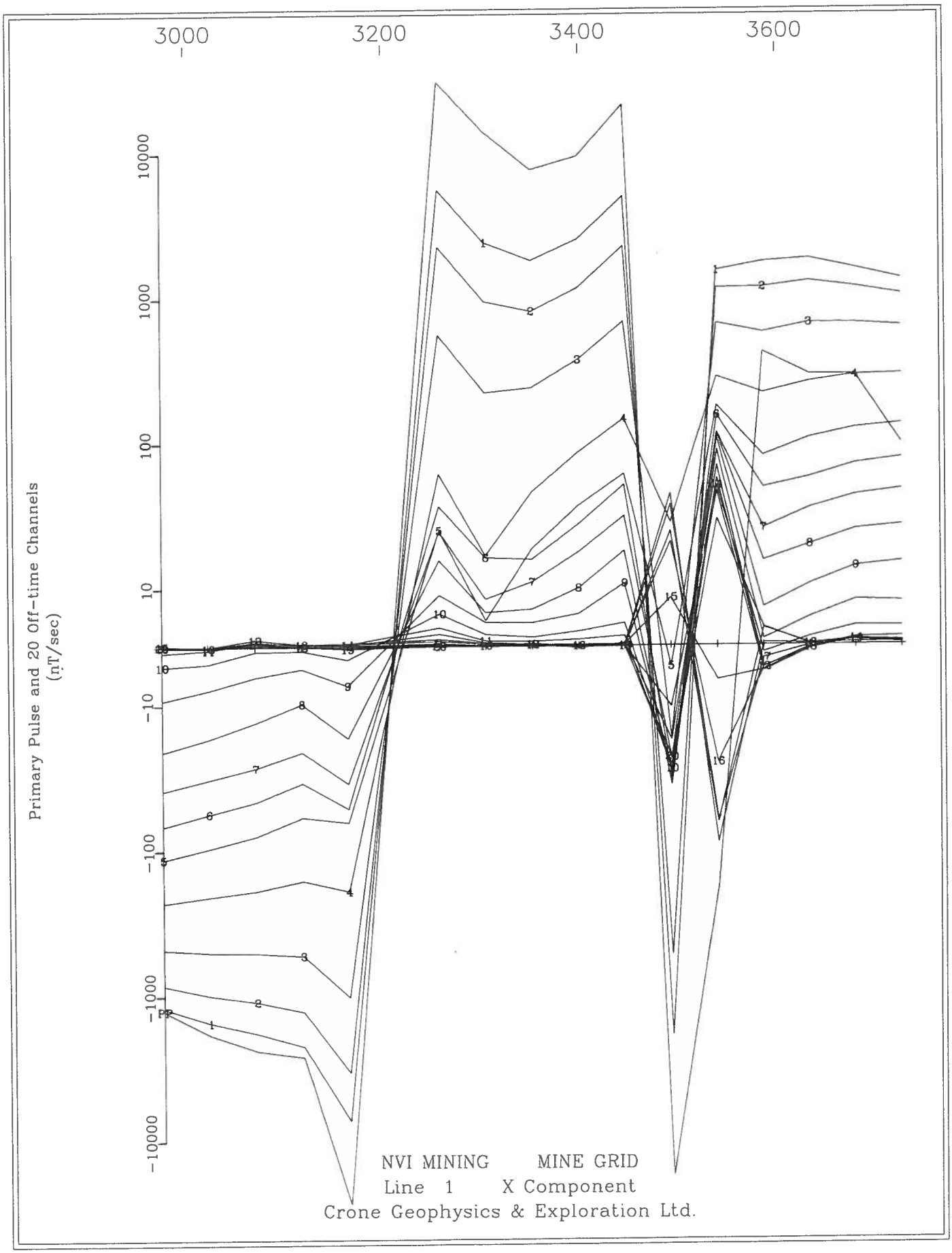
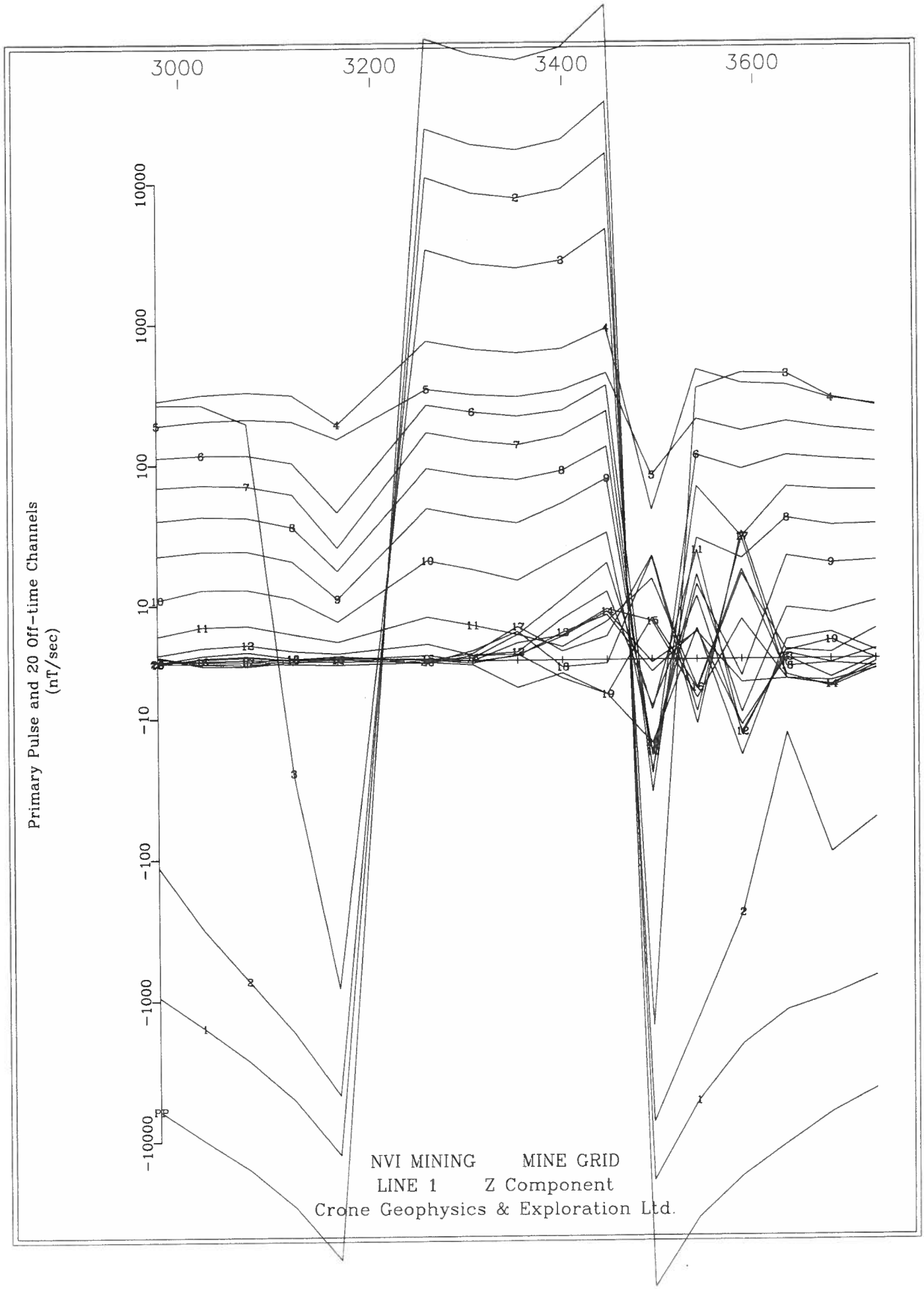
5491700N
5491600N
5491500N
5491400N
5491300N
Tx Loop LOOP1
N
Data Scale
(lin-log)
nanoteslo / sec
Scale 1:2500
(meters)
NVI MINING
MINE GRID (LOOP1)
Surface Pulse EM Survey
Loop Location Map
Vertical Z Component
Survey Date October 22, 2007
Crone Geophysics & Exploration Ltd.

APPENDIX II

PULSE EM LIN-LOG PROFILE PLOTS


3000
3200
3400
3600
10000
1000
100
10
-10
-100
-1000
-10000
Primary Pulse and 20 Off-time Channels
(nT/sec)
NVI MINING MINE GRID
Line 1 X Component
Crone Geophysics & Exploration Ltd.


3000
3200
3400
3600
10000
1000
100
10
-10
-100
-1000
-10000
PP
Primary Pulse and 20 Off-time Channels
(nT/sec)
NVI MINING MINE GRID
LINE 1 Z Component
Crone Geophysics & Exploration Ltd.

APPENDIX III

CRONE INSTRUMENT SPECIFICATIONS

CRONE PULSE EM SYSTEM

SYSTEM DESCRIPTION

The Crone Pulse EM system is a time domain electromagnetic method (TDEM) that utilizes an alternating pulsed primary current with a controlled shut-off and measures the rate of decay of the induced secondary field across a series of time windows during the off-time. The system uses a transmit loop of any size or shape. A portable power source feeds a transmitter which provides a precise current waveform through the loop. The receiver apparatus is moved along surface lines or down boreholes.

The transmitter cycle consists of slowly increasing the current over a few milliseconds, a constant current, abrupt linear termination of the current, and finally zero current for a selected length of time in milliseconds. The EMF created by the shutting-off of the current induces eddy currents in nearby conductive material thus setting-up a secondary magnetic field. When the primary field is terminated, this magnetic field will decay with time. The amplitude of the secondary field and the decay rate are dependent on the quality and size of the conductor. The receiver, which is synchronized to the off-time of the transmitter, measures this transient magnetic field where it cuts the surface coil or borehole probe. These readings are across fixed time windows or "channels".

SYSTEM TERMINOLOGY

Ramp Time

"Ramp time" refers to the controlled shut-off of the transmitter current. Three ramp times are selectable by the operator; 0.5ms, 1.0ms, and 1.5ms. By controlling the shut-off rather than having it depend on the loop size and current ensures that the same waveform is maintained for different loops so data can be properly compared.

The 1.5ms ramp is the normally used setting for good conductors. It keeps the early channel responses on scale and decreases the chance of overload. The faster ramp times of 1.0ms and 0.5ms will enhance the early time responses. This can be useful for weak conductors when data from the higher end of the frequency spectrum is desired.

Time Base

Time base is the length of time the transmitter current is off (it includes the ramp time). This also equals the on time of the current. Eight time bases are selectable by the operator. They include the original time bases used in the analog system as well as time bases to eliminate the effects of powerline interference. The eight time bases are as follows: compatible to analog Rx: 10.89ms, 21.79ms; 60hz powerline noise reduction: 8.33ms, 16.66ms, & 33.33ms; 50hz powerline noise reduction: 10.00ms, 20.00ms, & 40.00ms

Since readings are taken during the off cycles, the time base will have an effect on the receiver channels. Normally, a standard time base is selected for the type of system and survey being used, but this can be changed to suit a particular situation. A longer time base is preferred for conductors of greater time constants, and in surveys such as resistive soundings where more channels are desired.

Zero Time Set

The term "zero time set" or "ZTS" refers to the starting point for the receiver channel measurements. It is manually set on the receiver by the operator thus allowing adjustments for the ramp times and fine tuning for any fluctuations in the transmitter signal.

Receiver Channels

The rate of decay of the secondary field is measured across fixed time windows which occupy most of the off-time of the transmitter. These time windows are referred to as "channels". These channels are numbered in sequence with "1" being the earliest. The analog and datalogger receivers measured eight fixed channels. The digital receiver, being under software control, offers more flexibility in the channel positioning, channel width, and number of channels.

PP Channel

The PEM system monitors the primary field by taking a measurement during the current ramp and storing this information in a "PP channel". This means that data can be presented in either normalized or unnormalized formats, and additional information is available during interpretation. The PP channel data can provide useful diagnostic information and helps avoid critical errors in field polarity.

Synchronization

Since the PEM system measures the secondary field in the absence of the primary field, the receiver must be in "sync" with the transmitter to read during the off-time. There are three synchronization methods available: cable connection, radio telemetry, and crystal clock. This flexibility enhances the operational capabilities of the system.

SURVEY METHODS

The wide frequency spectrum of data produced by a Pulse EM survey can be used to provide structural geological information as well as the direct detection of conductive or conductive associated ore deposits. The various types of survey methods, from surface and borehole, have greatly improved the chances of success in deep exploration programs. There are eight basic profiling methods as well as a resistivity sounding mode.

Moving Coil

A small, multi-turn transmitter loop (13.7m diameter) is moved for each reading while the receiver remains a fixed distance away. This method is ideal for quick reconnaissance in areas of high background conductivity.

Moving Loop

Same as Moving Coil method, but with a larger transmit loop (100 to 300 meters square). This method provides deeper penetration in areas of high background conductivity, and works best for near-vertical conductors. This method can be used in conjunction with the Moving In-loop survey for increased sensitivity to horizontal conductors.

Moving In-Loop

A transmit loop of size 100 to 300 meters square is moved for each reading while the receiver remains at the center of the loop. This method provides deep penetration in areas of very high background conductivity, and works best for near-horizontal conductors. It can be used in conjunction with the Moving Loop survey.

Large In-Loop

A very large, stationary transmit loop (800m square or more) is used, and survey lines are run inside the loop. This mode provides very deep penetration (700m or more) and couples best with shallow dip conductors (<45 deg.) under the loop.

Deepem

A large, stationary transmit loop is used, and survey lines are run outside the loop. This mode provides very deep penetration, and couples best with steeply dipping conductors (>45 deg.) outside the loop.

Borehole (Z Component only)

Isolated Borehole: A drill hole is surveyed by lowering a probe down a hole and surveying it with a number of transmit loops laid out on surface. The data from multiple loops gives directional information on the conductors.

Multiple Boreholes: One large transmit loop is used to survey a number of closely spaced holes. The change in anomaly from hole to hole provides directional information.

These methods have detected conductors to depths of 2500m from surface and up to 200m from the hole.

3-D Borehole

Drill holes are surveyed with both the Z and the XY borehole probes. The X and Y components provide accurate direction information using just one transmit loop.

Since the probe rotates as it moves down the hole a correction is required for the X-Y data. This is accomplished in one of two ways. The standard approach is to use the measurement of the primary field from the "PP" channel, apply a "cleaning" algorithm to remove most of the secondary field contamination, and compare this to theoretical values. The amount of probe rotation is then calculated, and the correction can be made. The second method involves the use of an optional orientation device for the X-Y probe which is produced in co-operation with IFG Corp. This attachment uses dipmeters to calculate the probe rotation.

Underground Borehole

Underground drill holes can be surveyed in any of the above mentioned borehole methods with one or more transmit loops on the surface. Near-horizontal holes can be surveyed using a push-rod system.

Resistivity Soundings

By reading a large number of channels in the centre of a transmit loop it is possible to perform a decay curve analysis giving a best-fit layer earth model using programs such as ARRTI or TEMIX.

EQUIPMENT

Transmit Loops

The PEM system can operate with practically any size of transmit loop, from a multi-turn circular loop 13.7m in diameter, to a 1 or 2 turn loop of any shape up to 1 or 2 kilometers square using standard insulated copper wire of 10 or 12 gauge. The multi-turn loop is made in two sections with screw connectors. The 10 or 12 gauge loop wire comes on spools in either 300m or 400m lengths. The spools can be mounted on packframe winders for laying out or retrieving.

Power Supply

The PEM system normally operates with an input voltage from 24v to 120v. Modifications have recently been made to increase the power to 240 volts. The maximum current is still 20 amps. For low power surveys a 20amp/hr 24v battery can be used. The power supply requires a motor generator and a voltage regulator to control and filter the input voltage to the transmitter.

Specifications: PEM Motor Generator

- 4.5 hp Wisconsin, (2 kw) - 11 hp Honda (4 kw); 4 cycle engine
- belt drive to D.C. alternator
- cable output to regulator

- maximum output: 120v, 20amp (2 kw); 240v, 20amp (4 kw)
- fuse type overload protection

- steel frame
- external gas tank
- unit weight: 33kg (2 kw); 52kg (4 kw)
- optional packframe
- wooden shipping box
- shipping weight: 47kg (2 kw); 80kg (4 kw)

Specifications: PEM Variable Voltage Regulator

- selectable voltage between 24v and 120v or 48v and 240v
- 20amp maximum current
- fuse and internal circuit breaker protection
- cable connections to motor generator and transmitter
- anodized aluminum case
- unit weight 10kg; shipping weight 18kg
- padded wooden shipping box

Transmitter

The transmitter controls the bi-polar on-off waveform and linear current shut-off ramp. The latest 2000w PEM Transmitter has the following specifications:

Specifications: PEM Transmitter

- time bases: 10.89ms, 21.79ms, 8.88ms, 16.66ms, 33.33ms, 10ms, 20ms, 30ms
- ramp times: 0.5ms, 1.0ms, 1.5ms
- operating voltage: 24v to 120v (2 kw); 48v to 240v (4 kw)
- output current: 5amp to 20amp
- monitors for input voltage, output current, shut-off ramp, tx loop continuity, instrument temperature, and overload output current
- automatic shut-off for open loop, high instrument temperature, and overload
- fuse and circuit breaker overload protection
- three sync modes: 1) built-in radio and antenna
  2) cable sync output for direct wire link to receiver or remote radio
  3) connectors for the crystal clock
- anodized aluminum case
- optional packframe
- unit weight 12.5kg; shipping weight 22kg
- padded wooden shipping box

Receiver

The receivers measure the rate of decay of the secondary field across several time channels. Three types of receivers are available with the PEM system: Analog Rx, Datalogger Rx, and Digital Rx. The Analog Rx and Datalogger Rx read eight fixed time channels while the Digital Rx, under software control, offers a variety of channel configurations. The Digital Rx has been used in the field for contract surveys since 1987.

Specifications: Digital PEM Receiver

- operating temperature -40°C to 50°C
- optional packframe
- unit weight 15kg; shipping weight 25.5kg
- padded wooden shipping box

Menu driven operating software system offering the following functions:

- controls channel positions, channel widths, and number of channels

- time bases: 10.89ms, 21.79ms, 8.88ms, 16.66ms, 33.33ms, 10ms, 20ms, and 30ms
- ramp time selection
- sample stacking from 512 to 65536
- scrolling routines for viewing data
- graphic display of decay curve and profile with various plotting options
- routines for memory management
- control of data transmission
- provides information on instrument and operating status

Sync Equipment

There are three modes of synchronization available; radio, cable, and crystal clock. The radio sync signal can be transmitted through a booster antenna from either the PEM Transmitter internal radio or through a Remote Radio.

Specifications: Sync Cable

- 2 conductor, 24awg, Teflon coated
- approx. 900m per aluminum spool with connectors

Specifications: Remote Radio

- operating frequency 27.12mhz
- 12v rechargeable gel cell battery supply
- fuse protection
- sync wire link to transmitter
- coaxial link to booster antenna
- anodized aluminum case
- unit weight 2.7kg

Specifications: Booster Antenna

- 8m, 4 section aluminum mast
- guide rope support
- ¼ wave CB fiberglass antenna
- range up to 2km
- coaxial connection to transmitter or remote radio

Specification: Crystal Clocks

- heat stabilized crystals
- 24v rechargeable gel cell battery supply
- anodized aluminum case
- rx unit can be separate or housed in the receiver
- outlet for external supplementary battery supply

Surface PEM Receive Coil

The Surface PEM Receive Coil picks up the EM field to be measured by the receiver. The coil is mounted on a tripod that can be positioned to take readings of any component of the field.

Specifications: Surface PEM Receive Coil

- ferrite core antenna
- VLF filter
- 10khz bandwidth
- two 9v transistor battery supply
- tripod adjustable to all planes
- unit weight 4.5kg; shipping weight 13.5kg

- padded wooden shipping box

Borehole PEM Z Component Probe

The Z component probe measures the axial component of the EM field. The Z component data is not affected by probe rotation so no correction are required.

Specifications: Borehole PEM Z Component Probe

- ferrite core
- dimensions: length - 1.6m; dia - 3.02cm (3.15cm for high pressure tested probes)
- internal rechargeable ni-cad battery supply
- replaceable heat shrink tubing for abrasion protection
- pressure tested for depths 1300m, 2000m, and 2800m
- packaged in padded cover and aluminum tube
- shipped in padded wooden box; total weight 17kg

Borehole PEM XY Component Probe

The XY probe measures two orthogonal components of the EM field perpendicular to the axis of the hole. Correction for probe rotation can be achieved by two methods. The standard approach is to use the measurement of the primary field from the "PP" channel, apply a "cleaning" algorithm to remove most of the secondary field contamination, and compare this to theoretical values. The amount of probe rotation is then calculated, and the correction can be made. The second method involves the use of an optional orientation device for the X-Y probe that uses dipmeters to calculate the probe rotation.

Specifications: Borehole PEM XY Component Probe

- ferrite core
- dimensions: length - 2.01m; dia - 3.02cm
- internal rechargeable ni-cad battery supply
- selection of X or Y coils by means of a switch box on surface or automatic switching with Digital receiver
- replaceable heat shrink tubing for abrasion protection
- pressure tested for depths to 2800m
- packaged in padded cover and aluminum tube
- shipped in padded wooden box; total shipping weight 20kg

Orientation Device

The orientation device is an optional attachment for the XY probe which measures the rotation of the probe using two dipmeters.

Specifications: Orientation Device

- 2 axis tilt sensors
- sensitivity +/- 0.1 deg.
- operating range -89.5 to -10 deg.
- dimensions: length - 0.94m; dia - 28.5cm
- packaged in padded cover and aluminum tube
- shipped in padded wooden box; total shipping weight 11kg

Borehole Equipment

To lower the probe down a drill hole requires a cable and spool, winch assembly frame and cable counter. Borehole surveys also require equipment to "dummy probe" the hole before doing the survey.

TABLE OF CONTENTS

APPENDICES

Specifications: Borehole Cable

- two conductor shielded cable
- kevlar strengthened
- lengths are available up to 2600m on three sizes of spools.
- shipped in wooden box

Specifications: Slip Ring

- attaches to side of borehole cable spool providing a connection to the receiver while allowing the spool to turn.
- VLF filter
- pure silver contacts

Specifications: Borehole Frame

- welded aluminum frame
- removable axle
- chain driven, 3 speed gear box
- hand or optional power winding
- hand brake and lock
- two sizes: standard for up to 1300m cable; larger for longer cables
- shipped in wooden box

Specifications: Borehole Counter

- attaches to the drill hole casing
- calibrated in meters
- shipped in wooden box; total weight 13kg

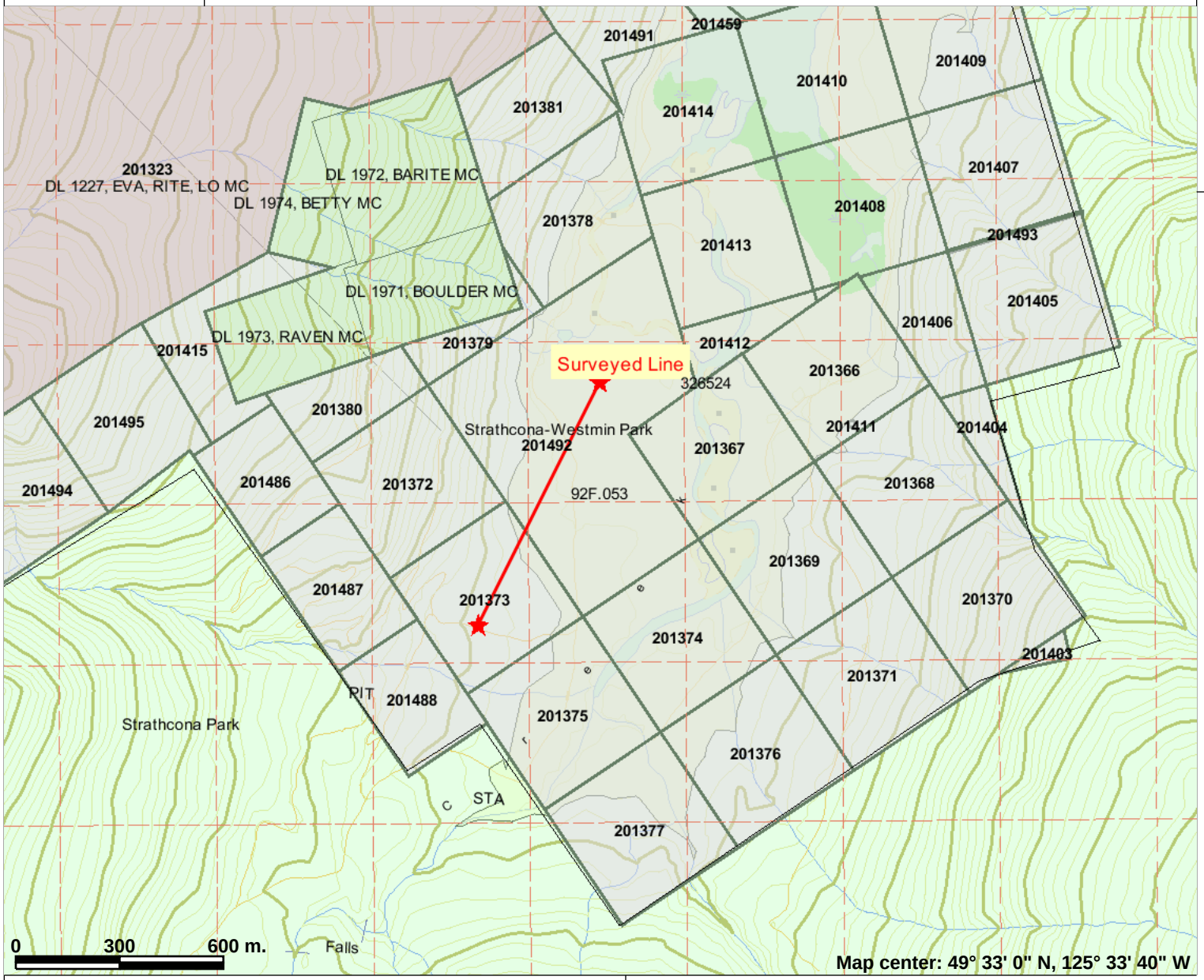
Specifications: Dummy Probe and Cable

- solid steel or steel pipe
- same dimensions as borehole probe
- shear pin connection to dummy cable
- steel dummy cable on aluminum spool
- cable mounts on borehole frame
- various lengths to 2600m on 3 spool sizes.

CRONE GEOPHYSICS & EPLORATION LTD.

3607 WOLFEDALE ROAD, MISSISSAUGA, ONTARIO, CANADA L5C 1V8
Phone: 905 270-0096 • Fax: 905 270-3472 • www.cronegeophysics.com

Thelwood Valley Pulse EM Survey



Legend

- Indian Reserves
- National Parks
- Parks
- Mineral Titles Grid (LRDW)
- Mineral Tenures (Mineral - LRDW)
- Mineral Claim
- Mineral Lease
- Reserves (Mineral - LRDW Sites)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- Mining Division (MTO)
- Integrated Cadastral Fabric
- Survey Parcels
- BCGS Grid
- Contours (TRIM)
- Contour - Index
- Contour - Index.Indefinite
- Contour - Index.Depression
- Contour - Index.Depression Indefinite
- Contour - Intermediate
- Contour - Intermediate.Indefinite
- Contour - Intermediate.Depression
- Contour - Intermediate.Depression Indefinite
- Areaof Exclusion
- Areaof Indefinite Contours
- Annotation (1:20K)

N

Scale: 1:17,261

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: Location of Pulse EM survey line ran by Crone Geophysics in Oct, 2007

Crone Expenses

		Total	Manpower	Rental	Expenses
Mob-Demob					
Invoice # 14188	Manpower - Sept 17 to 19	$2,685.00	$2,685.00		
	Flight on Sept 30	$365.00	$365.00		
	Equipment Rental for Mob	$4,080.00		$4,080.00	
	Expenses and Handling Charges	$5,922.47			$5,922.47
Invoice # 14209	3 days mob (crew changes)	$1,095.00	$1,095.00		
	2 days demob	$2,020.00	$2,020.00		
	Equipment Rental for Demob	$2,880.00		$2,880.00	
	Expenses and Handling Charges	$3,532.87			$3,532.87
Total Mob-Demob		$22,580.34	**$6,165.00**	**$6,960.00**	**$9,455.34**
Geophysics on Lease - 33 days					
Invoice # 14188	Manpower and Rental - Sept 20 to 30	$23,575.00	$10,560.00	$13,015.00	
Invoice # 14209	Manpower and Rental - Oct. 1 to 17	$38,720.50	$16,320.00	$22,400.50	
	Manpower and Rental - Oct 19 to 21	$6,874.50	$2,880.00	$3,994.50	
	Manpower and Rental - Oct. 24 to 25	$4,583.00	$1,920.00	$2,663.00	
Portion of Mob-Demob ($22,580.34 * 33/36)		$20,698.65	$5,651.25	$6,380.00	$8,667.40
		$94,451.65			
Geophysics on Thelwood - 3 Days					
Invoice # 14209	**Manpower and Rental - Oct. 18th**	**$2,291.50**	**$960.00**	**$1,331.50**	
	Manpower and Rental - Oct 22 and 23	**$4,583.00**	**$1,920.00**	**$2,663.00**	
Portion of Mob-Demob ($22,580.34 * 3/36)		**$1,881.70**	**$513.75**	**$580.00**	**$787.95**
		$8,756.20	**$3,393.75**	**$4,574.50**	**$787.95**

Note: Helicopter costs are not shown as they were all for explroation on the lease

CRONE GEOPHYSICS & EXPLORATION LTD

3607 WOLFEDALE ROAD, MISSISSAUGA, ONTARIO, CANADA L5C 1V8
TEL.: (905) 270-0096 • FAX: (905) 270-3472 • E-MAIL: 102021.1447@compuserve.com

14188

INVOICE

SOLD TO:

NVI Mining Ltd.
Myra Falls Operation
P.O. Box 8000
Campbell River, BC
V9W 5E2

RECEIVED
NOV 16 2007
MYRA FALLS OPERATIONS

SHIP TO: SAME

PO A10621

CONSULTING ☐ CONTRACT ☐ SALE ☐ RENTAL ☐ REPAIR ☐ CREDIT ☐

DATE	SALESMAN	CUSTOMER P.O.	SHIP VIA	TERMS
Sept. 30 /07				30 DAYS NET

ITEM #	QTY.	DESCRIPTION	PERIOD COVERED	UNIT PRICE	AMOUNT
		Pulse EM Survey Myra Falls, BC September 2007			
		Survey Charges for September			$ 30,705.00
		GST (101208858)			$ 1,842.30
		Expenses & Handling Charge			$ 5,922.47
		TOTAL AMOUNT DUE			$ 38,469.77
				TOTAL	

paid receipts

AUTHORIZATION TO PAY
APPROVED BY:
GENERAL MANAGER — 22/11/07 DATE
DEPARTMENT HEAD — Nov 22/07 DATE
ORIGINATOR — DATE

ENTERED APR 02 2008

CRONE GEOPHYSICS & EXPLORATION LTD.

3607 WOLFEDALE ROAD, MISSISSAUGA, ONTARIO, CANADA L5C 1V8
Phone: 905 270-0096 • Fax: 905 270-3472 • www.cronegeophysics.com

INVOICE
Invoice No.: 14188
Date: September 30, 2007

Any past due invoices will be subject to a 2% handling charge per month (24% per annum) without formal notice.

To: **NVI Mining Ltd.**
Myra Falls Operation
P.O. Box 8000
Campbell River, BC
V9W 5E2

Phone: (205) 287-9271 Ext 235
Fax: (205) 287-7123

Re: Borehole & Surface Pulse EM Surveys, Myra Falls, Vancouver, British Columbia for September 2007

Crone Operator: Ryan Kilty (R)
Crone Helper: Valerie Simmons (v)

Date		Description of Work	Cost
September			
17	R+v	Flew from Toronto to Vancouver, picked up rental truck and checked on equipment.	$ 895.00
18	R+v	Drove to Campbell River, spoke with client and made arrangements for the morning.	$ 895.00
19	R+v	Drove to Mine Site and met with client, attended surface and underground inductions. Received loop maps and other information and unpacked some equipment.	$ 895.00
20	R+v	Accessed loop area and started to lay out survey loop.	$ 895.00
21	R+v	Accessed loop area and continued to lay out survey loop.	$ 2,291.50
22	R+v	Continued to lay out survey loop for targets D & E, very difficult and steep.	$ 2,291.50
23	R+v	Continued to lay out survey loop for targets D & E.	$ 2,291.50
24	R+v	Finished laying out the loop for targets D & E, tested loop and it was open. Attempted to fly up to loop area for Target A but the mountain was fogged in.	$ 2,291.50
25	R+v	Unable to assess the loops in the morning due to heavy fog. Made it out late morning and fond the break in the first loop. Moved to the second loop and it took till late in the afternoon to find the break, tested loop and they were both closed.	$ 2,291.50
26	R+v	Drove to the transmitter location and set up. Drove to the porthole and loaded up the equipment onto mine cart. Pushed all the equipment into the mine, this took some time as the track need to be repaired in numerous locations. Found the 4 holes to be surveyed, set up and dummied the two holes. Packed up and left the area.	$ 2,291.50
27	R+v	Drove to the transmitter location and set up, accessed the porthole and set up at the holes and surveyed LX10-1996 and LX10-2000 using Target D & E Loop. Unable to get to the bottom of each hole due to blockage. Packed up and left the survey area.	$ 2,291.50
28	R+v	Flew to the transmitter location, set up and the transmitter. Flew back to the mine site, accessed the porthole, set up and surveyed LX15-500, unable to get to the end of the hole due to a blockage. Packed up and left the area.	$ 2,291.50
29	R+v	Accessed transmitter location, started transmitter and had an open loop. Walked loop and found break in the later afternoon. Tested loop and packed up.	$ 2,291.50

,0 R Set up the transmitter system, accessed mine and located holes to be surveyed which all had their casing either bent or broken off making it impossible to survey the holes. Packed up and left the mine. $ 2,056.50

v Flew from Campbell river to Vancouver $ 365.00

Equipment rental during mobilization:

13 – 17, 5 days @ $240.00/day $ 1,200.00

18 – 20, 3 days @ 960.00/day $ 2,880.00

Sub-Total: $ 30,705.00

GST (101208858): $ 1,842.30

Expenses & Handling Charge: $ 5,922.47

TOTAL AMOUNT DUE: $ 38,469.77

Expenses & Handling Charge:

Net

Freight: Manitoulin: 70369551, 11763022 Net $ 4,366.68

Air Canada: 014-85919083 $ 443.34 ✓

Airfare, excess bags, Ferry $ 574.04 ✓

Total Expenses: $ 5,384.06

10% Handling Charge: $ 538.41

Total Expenses & Handling Charge: $ 5,922.47

CRONE GEOPHYSICS & EXPLORATION LTD

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14209

INVOICE

D7091

SOLD TO:

NVI Mining Ltd.
Myra Falls Operation
P.O. Box 8000
Campbell River, B.C.
V9W 5E2

SHIP TO:

SAME

RECEIVED
DEC 2 4 2007
MYRA FALLS OPERATIONS

CONSULTING ☐ CONTRACT ☐ SALE ☐ RENTAL ☐ REPAIR ☐ CREDIT ☐

DATE	SALESMAN	CUSTOMER P.O.	SHIP VIA	TERMS
Oct.31/07				30 DAYS NET

ITEM #	QTY.	DESCRIPTION	PERIOD COVERED	UNIT PRICE	AMOUNT
		Borehole & Surface Pulse EM Surveys **Myra falls, Vancouver, B.C.**	17571		
		Survey Charges			**$ 63,047.**
		GST (101208858)			**3,782.**
		Expenses & Handling Charge			**3,532.**
		TOTAL AMOUNT DUE			**$ 70,363.**

need receipts

Mar 24/08.

ENTERED APR 0 3 2008

TOTAL

CRONE GEOPHYSICS & EXPLORATION LTD.

3607 WOLFEDALE ROAD, MISSISSAUGA, ONTARIO, CANADA L5C 1V8
TEL: (905) 270-0096 • FAX: (905) 270-3472 • TELEX: 06-961260

INVOICE
Invoice No.: 14209
Date: October 31, 2007

Any past due invoices will be subject to a 2% handling charge per month (24% per annum) without formal notice.

To: **NVI Mining Ltd.**
Myra Falls Operation
P.O. Box 8000
Campbell River, BC
V9W 5E2

Phone: (205) 287-9271 Ext 235
Fax: (205) 287-7123

Re: Borehole & Surface Pulse EM Surveys, Myra Falls, Vancouver, British Columbia for October 2007

Crone Operator: Ryan Kilt (R)
Crone Helper: William Wicks (w)

Date October		Description of Work	Cost
	w	3 days mobilization, 3 days @ $ 365/day	$ 1,095.00
01	R	Accessed the mine, set up and dummied 3 sets of holes, all blocked. Packed up and left the mine.	2,056.50
02	R+w	Accessed the mine, located a block of 9 holes, dummied all of them, all blocked. Hole RR12-0009 was open to 227m (EOH 658m) was decided to survey the top. Set up and surveyed hole RR12-0009. Packed up and left the mine.	2,291.50
03	R+w	Flew to loop for Target D & E and started to pick up wire, difficult due to heavy snow.	2,291.50
04	R+w	Flew up to the loop for Target D & E and continued to pick up the loop.	2,291.50
05	R+w	Accessed the survey area, inspected landslide from yesterday which was very close to survey location, it was decided to postpone loop set up till inspected by professionals. Started to lay loop in different area.	2,291.50
06	R+w	Finished laying out loop for Target C.	2,291.50
07	R+w	Accessed the survey area, set up and dummied hole W-0209 which was open to 820m. Set up transmitter and had an open loop, found break which was at river. River had risen too high to cross. Dummied 3 other holes at the same set up which were all open.	2,291.50
08	R+w	Accessed the survey area and laid out a modified loop for Target B to avoid the area where the landslide had occurred. Returned to loop for Target C, water had not dropped from the previous day so walked through river to connect the loop.	2,291.50
09	R+w	Set up and surveyed hole W-0212 using Target C loop.	2,291.50
10	R+w	Set up and surveyed hole W-0209 using Target C loop, continued to pick up loop from Target D & E.	2,291.50
11	R+w	Accessed the area of the landslide. Set up and dummied the 4 holes in this area. All holes blocked within 130m. Packed up and left the area, moved to another set of holes, dummied these holes and 2 of the 4 holes were open.	2,291.50
12	R+w	Set up and surveyed W-0247 and W-0248 using Target B loop.	2,291.50
13	R+w	Picked up equipment from yesterday and moved to next set of holes. Dummied holes and 2 open out of the 4. Set up and surveyed W-0253.	2,291.50
14	R+w	Set up and surveyed W-0254. Moved to hole W-0244, dummied hole it was blocked and lost dummy probe in hole. Packed up, moved to W-0245, dummied and it was	

		open.	2,291.50
15	R+w	Set up and surveyed W-0245 using loop for Target C, picked up part of Target B loop.	2,291.50
16	R+w	Set up and surveyed the Z component in hole W-0246 using loop for Target C, planned surface loop and line.	2,291.50
17	R+w	Set up and surveyed the XY component in hole W-0246 using loop for Target C. Finished picking up loop used for Target B.	2,291.50
18	R+w	Accessed the area for the surface survey and laid out the survey loop.	2,291.50
19	R+w	Set up and surveyed W-0265 using the Target C loop. GPS'ed part of Target A loop.	2,291.50
20	R+w	Flew up to Target A loop and continued to GPS, difficult going due to 2-4 feet of snow.	2,291.50
21	R+w	Flew back up to Target A and completed the GPS. Returned to mind and started to pick up Target C loop.	2,291.50
22	R+w	Set up and surveyed Line1 using Loop 1 for the surface survey. Packed up and left the survey area.	2,291.50
23	R+w	GPS'ed the surface loop and picked up both Target C loop and Surface Loop1. Returned to mine and started to pack up equipment.	2,291.50
24	R+w	Flew up the mountain and continued to pick up loop for Target D & E.	2,291.50
25	R+w	Flew up the mountain and finished picking up the Target D & E loop. Packed up and flew back to the mine. Finished packing up equipment to be shipped back to the office. Drove to Campbell River for the night.	2,291.50
	R+w	Demobilization 2 days @ $ 895.00/day (plus 1 day truck rental @ $230/day)	2,020.00

Equipment rental during demobilization:	
October 26 - 30, 5 days @ $240.00/day (as per contract)	1,200.00
October 31 – November 06, 7 days @ Discounted rate of $240.00/day (regular 960.00/day)	1,680.00
Sub-Total:	**$ 63,047.50**
GST (101208858):	**3,782.85**
Expenses & Handling Charge:	**3,532.87**
TOTAL AMOUNT DUE:	**$ 70,363.22**

Expenses & Handling Charge:

Freight: Air Canada: Oct 5 and 16	$ 442.05
Airfare:	2,232.35
Other mob/demob transportation	537.30
Total Expenses:	$3,211.70
10% Handling Charge:	321.17
Total Expenses & Handling Charge:	$3,532.87

Req'n D 7246.

CRONE GEOPHYSICS & EXPLORATION LTD

3607 WOLFEDALE ROAD, MISSISSAUGA, ONTARIO, CANADA L5C 1V8
TEL.: (905) 270-0096 • FAX: (905) 270-3472 • E-MAIL: 102021.1447@compuserve.com

14259

INVOICE

SOLD TO:

NVI Mining Ltd.
P.O. Box 8000
Campbell River, B.C.
V9W 5E2

A19571

SHIP TO:

SAME

CONSULTING ☐ CONTRACT ☐ SALE ☐ RENTAL ☐ REPAIR ☐ CREDIT ☐

DATE	SALESMAN	CUSTOMER P.O.	SHIP VIA	TERMS
Dec. 31/07				30 DAYS NET

ITEM #	QTY.	DESCRIPTION	PERIOD COVERED	UNIT PRICE	AMOUNT
		Pulse EM SQUID Surveys **Myra Falls, B.C.**			
		Expenses & Handling Charge			
		Freight for equipment – Oct. 26/07 Air Canada **(not charged)**			**$ 962.26**
		Includes GST			
				TOTAL	

ENTERED APR 0 3 2008

OK.
Ma- 16/08

REQ # D7248

CRONE GEOPHYSICS & EXPLORATION LTD

3607 WOLFEDALE ROAD, MISSISSAUGA, ONTARIO, CANADA L5C 1V8
TEL.: (905) 270-0096 • FAX: (905) 270-3472 • E-MAIL: 102021.1447@compuserve.com

14265

INVOICE

SOLD TO:

NVI Mining Ltd.
Myra Falls Operation
P.O. Box 8000
Campbell River, B.C.
V9W 5E2

A17571

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RECEIVED SAME
MAR - 5 2008
MYRA FALLS OPERATIONS

CONSULTING ☐ CONTRACT ☐ SALE ☐ RENTAL ☐ REPAIR ☐ CREDIT ☐

DATE	SALESMAN	CUSTOMER P.O.	SHIP VIA	TERMS
Dec. 31/07				30 DAYS NET

ITEM #	QTY.	DESCRIPTION	PERIOD COVERED	UNIT PRICE	AMOUNT
		Myra Falls Operation **Vancouver, B.C.**			
		Consultint Charges			**$ 1,230.00**
		GST (101208858)			**73.80**
		TOTAL AMOUNT DUE			**$ 1,303.80**

OK
Mar 10/08

ENTERED APR 0 3 2008

TOTAL