Geophysical Survey Report

covering

3D Borehole Pulse EM Surveys

over the

Shakespeare Project
Agnew Lake Property: Grid B, Grid C

for

URSA Major Minerals Incorporated.

during
March, 2004

by

CRONE GEOPHYSICS & EXPLORATION LTD.

Survey Area:	**Shakespeare Project, Sudbury ,Ontario** **Agnew Lake Property, Grid B, Grid C**
Survey Type:	**3D Borehole Pulse EM Survey**
Holes Surveyed:	**U-07-01 (Grid C), U-07-06 (Grid B)**
Survey Operator:	**Wayne Pearson**
Survey Period:	**March 4-10 2004**
Report By:	**Conrad Dix**
Report Date:	**June 2004**
Submitted To:	**URSA Major Minerals Inc.**

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

1 INTRODUCTION

Crone Geophysics and Exploration Ltd. was contracted by URSA Major Minerals Incorporated to conduct a Three Dimensional Pulse Time Domain Electromagnetic (PEM) Borehole survey on its Agnew Lake Property, near Sudbury Ontario. The survey was conducted over the interval of March 4-10, 2004 during which time two holes were surveyed. This report outlines the geophysical work performed on this property and presents an interpretation of the results. The appendices to this report contain plan and section maps of all holes, the PEM profiles, the linear profile plots, Rad-tool survey results and the Crone Instrument Specifications

2 PROPERTY LOCATION AND ACCESS

The Agnew Lake Property is located approximately 20 km west of the Sudbury Basin in Ontario. Access to the Property area is by vehicle to the shore of Agnew Lake and then via snowmobile across and into the survey area.

3 PERSONNEL

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

Survey Operator: Wayne Pearson
Logistics Report: Conrad Dix
Data Interpretation: 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 electromagnetic 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 Borehole system. This includes a 2.4kW transmitter with a 120V voltage regulator powered by a 4.5 hp motor generator. The Crone Digital Receiver was used to collect the field data. The synchronization between the Transmitter and the Receiver was maintained by direct cable synchronization for borehole work.

On this project, a 3D Borehole Pulse EM survey was conducted in which an axial component (Z) probe and a cross component (XY) probe which were used to measure the three components of the induced secondary field. The first pass with the 'Z' probe detects any in-hole or off-hole anomalies and gives information on size, conductivity, and distances to the edge of conductors. The second pass with the 'XY' probe measures two orthogonal components of the EM field in a plane oriented at right angles to the borehole. Therefore these results give directional information to the center of the conductive body.

The rotation of the XY probe was corrected through the use of an orientation (RAD) tool, so that positive X points in the direction of the hole azimuth and positive Y is horizontal and points to the left of an observer looking down the hole. The Rad-tool encompasses both 3 component accelerometers and 3 component magnetometers and can be utilized to provide accurate hole dip and azimuth data for each hole surveyed. The azimuth determination of course will be largely affected by any localized Magnetic sources and will be erroneous in highly magnetic sections of the hole. But by calculating the Total Magnetic Field for each hole, greater confidence can be gained in the azimuth determinations and those derived from Magnetic sections of the hole can easily be rejected. This can be extremely beneficial information, and can assist the Project Geologist in determining whether costly Gyro surveys are required for each hole / project area.

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 I: Channel Configuration, 20 Channels- 16.66msec Time Base

Channel	Start	Finish	Channel	Start	Finish
PP	-1.982e-04	-9.900e-05	**1**	4.950e-05	6.299e-05
2	6.299e-05	8.550e-05	**3**	8.550e-05	1.125e-04
4	1.125e-04	1.531e-04	**5**	1.531e-04	2.027e-04
6	2.027e-04	2.700e-04	**7**	2.700e-04	3.600e-04
8	3.600e-04	4.815e-04	**9**	4.815e-04	6.389e-04
10	6.389e-04	8.505e-04	**11**	8.505e-04	1.129e-03
12	1.129e-03	1.498e-03	**13**	1.498e-03	1.993e-03
14	1.993e-03	2.646e-03	**15**	2.646e-03	3.514e-03
16	3.514e-03	4.666e-03	**17**	4.666e-03	6.192e-03
18	6.192e-03	8.221e-03	**19**	8.221e-03	1.091e-02
20	1.091-02	1.440e-02			

5 SURVEY PARAMETERS

Table II: Borehole Survey Coverage

Hole	Tx loop	Survey Grid	Collar Location	Dip	Azimuth	Length Read (meters)	Component
U-07-01	1	Grid C	1200E, 200N	-44°	171°	10-220	X ,Y, Z
U-07-06	1	Grid B	5400E, 224S	-45°	180°	10-210	X ,Y, Z

Table III: Borehole Loop Coverage

Loop	Size	Location	Ramp Time	Current	Time Base
1 Grid C	~200m x ~200m	1100E – 350N, 1100E – 150N, 1300E – 150N, 1300E – 350N	1.5 msec	16 amps	16.66 msec
1 Grid B	~300m x ~400m	5250E – 100N, 5250E – 300S, 5550E – 300S, 5550E – 100N	1.5 msec	15 amps	16.66 msec

6 PRODUCTION SUMMARY

Table IV: Production Summary

March 4th, 2004	Accessed the area and located hole U-07-06. Brought in equipment and dummied the hole to a depth of 215m.
March 5th, 2004	Very bad weather, blizzard conditions. Crew was unable to survey.
March 6th, 2004	Brought in rest of the equipment and set up. Was slow going into the site because of slush on the lakes. Had to take small loads and go at a slow pace.
March 8th, 2004	Accessed hole U-07-06. Surveyed the hole XYZ. Packed up the equipment and left the area.
March 9th, 2004	Went in to hole U-07-01. Needed help to find casing, as it was not flagged. Picked up loop from hole U-07-06. Moved equipment over to hole U-07-01. Laid out loop and dummied hole to a depth of 215m. Surveyed the Z in hole U-07-01.
March 10, 2004	Went out to hole U-07-01 and collected the XY data. Packed up equipment and picked up the loop. Moved all equipment back to landing area, loaded up the trucks and left the area.

Regards,

Conrad Dix

Conrad Dix
Crone Geophysics & Exploration Ltd.

7 INTERPRETATION SUMMARY

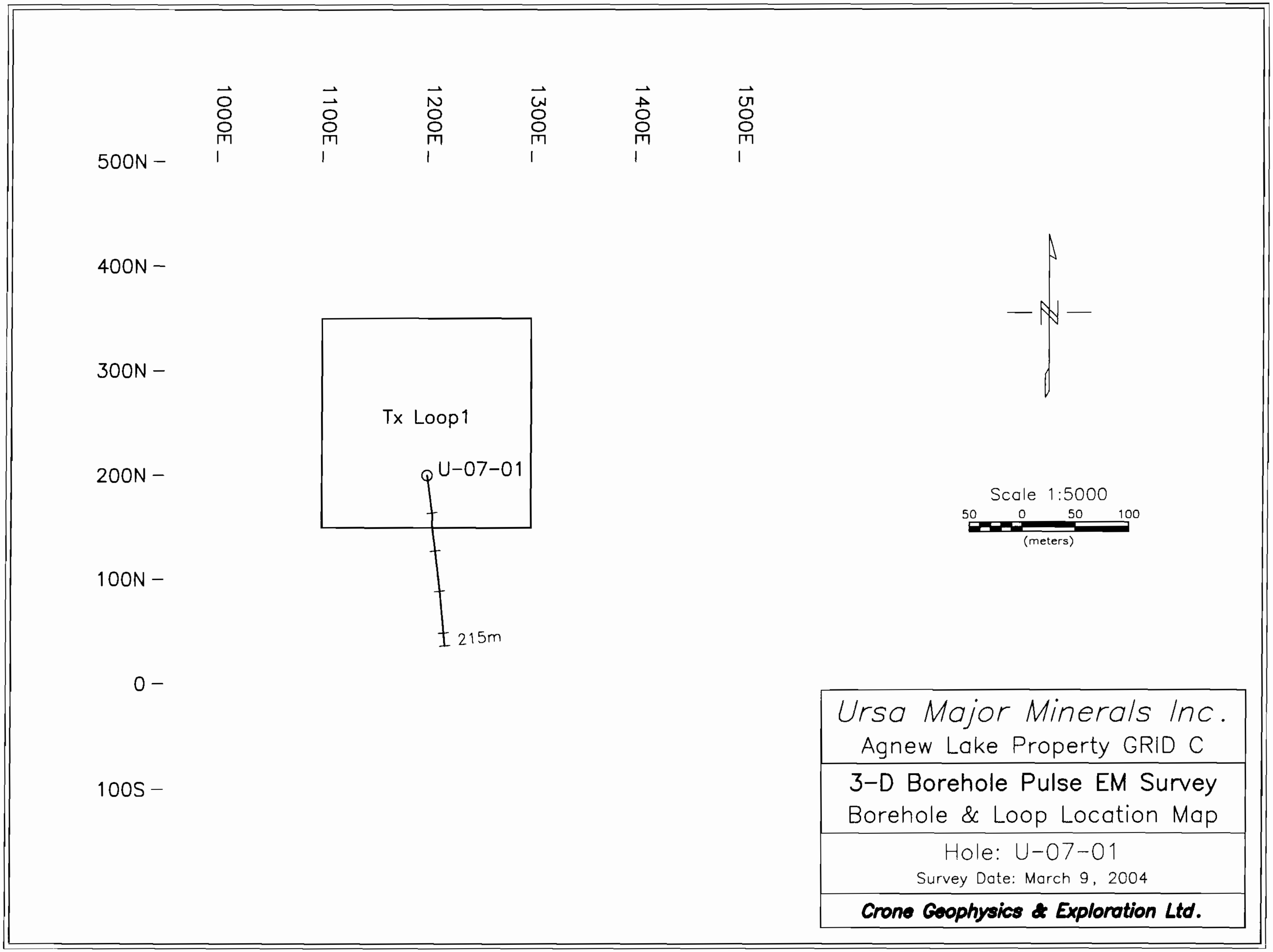
No apparent anomaly seen in either hole U-07-01 or U-07-06.

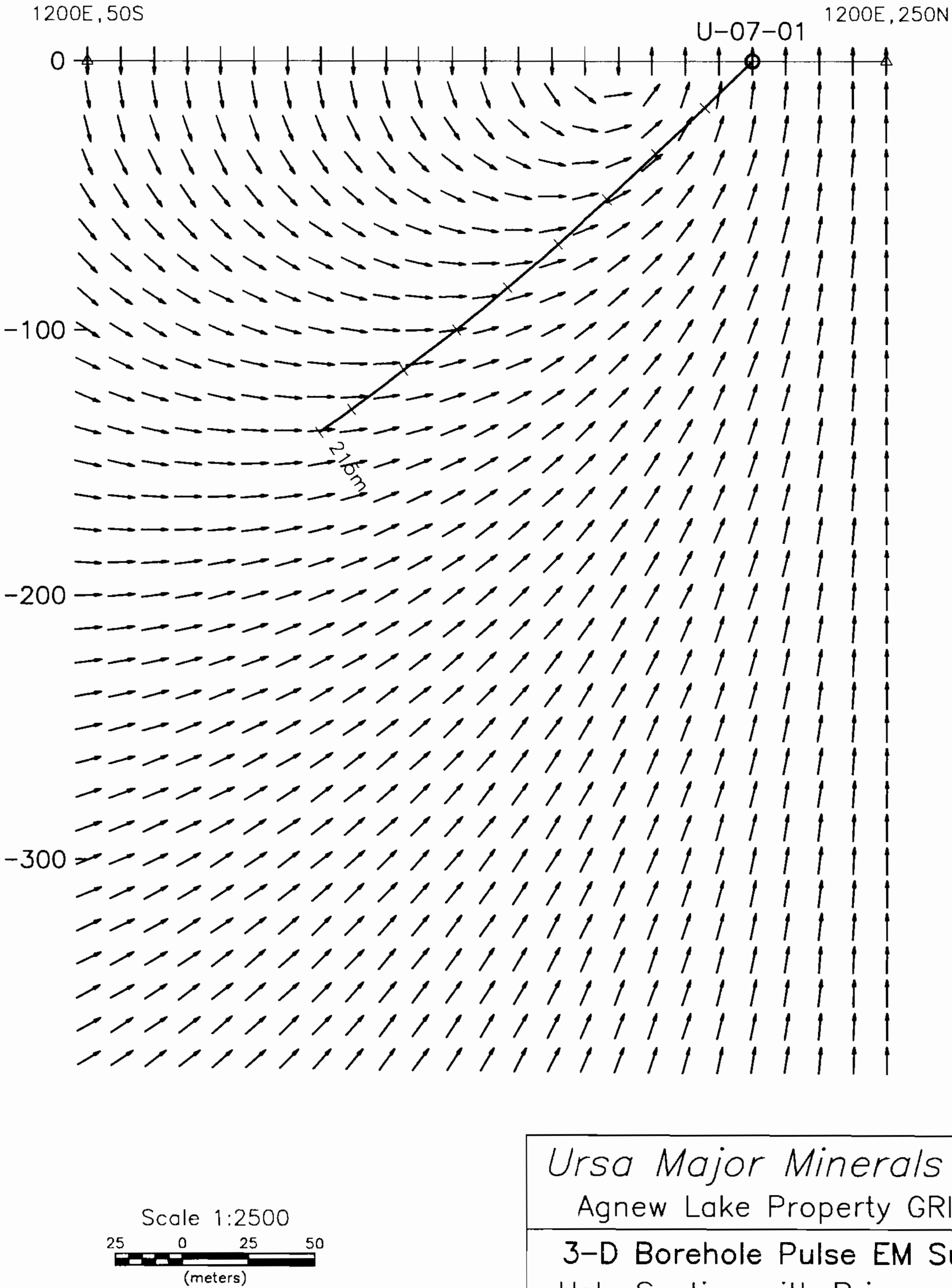
Regards,

Kevin Ralph
Senior Geophysicist
Crone Geophysics & Exploration Ltd.

APPENDIX A

PLAN AND SECTION MAPS


1000E
1100E
1200E
1300E
1400E
1500E
500N
400N
300N
200N
100N
0
100S
Tx Loop1
U-07-01
215m
N
Scale 1:5000
50 0 50 100
(meters)
Ursa Major Minerals Inc.
Agnew Lake Property GRID C
3-D Borehole Pulse EM Survey
Borehole & Loop Location Map
Hole: U-07-01
Survey Date: March 9, 2004
Crone Geophysics & Exploration Ltd.

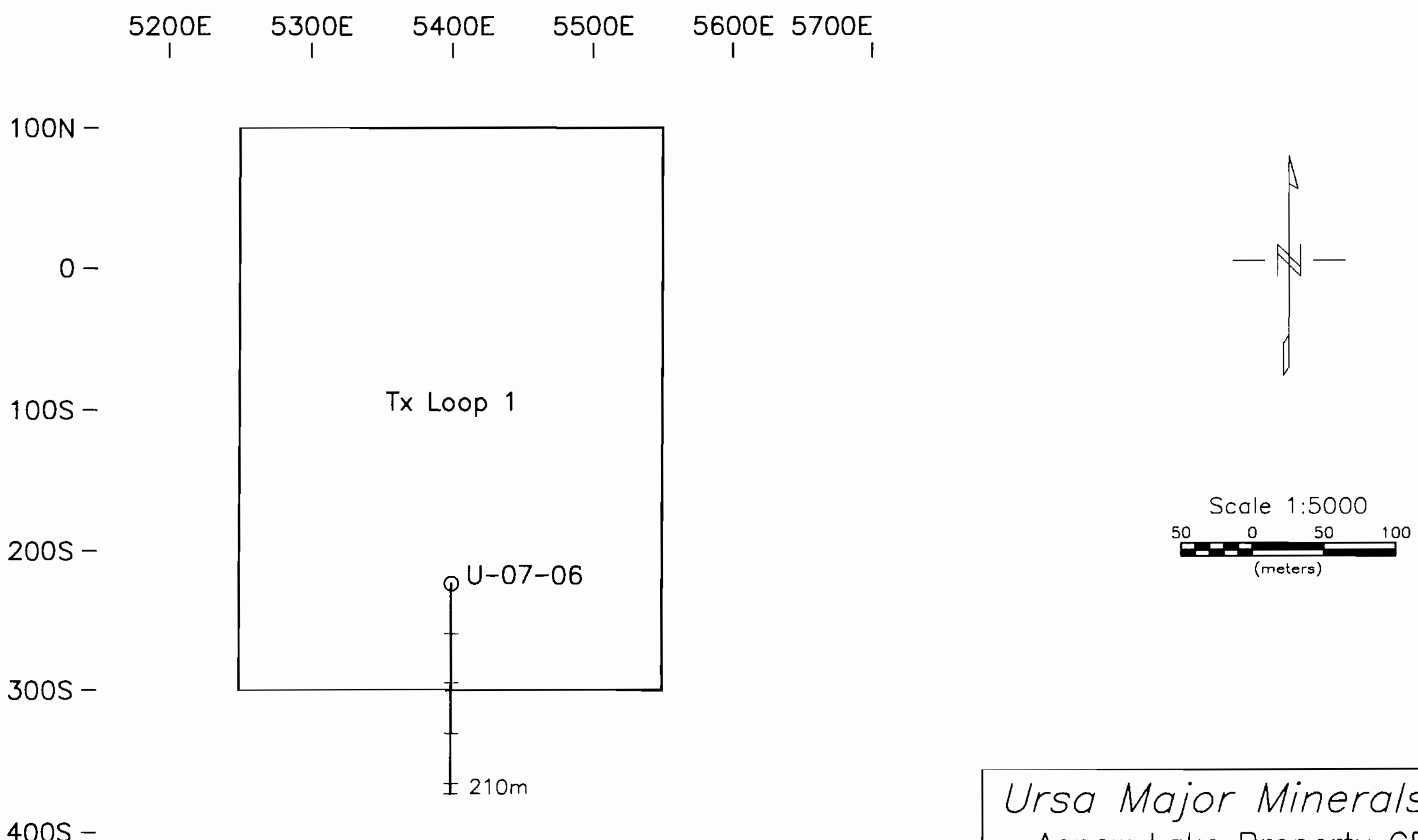


Ursa Major Minerals Inc.
Agnew Lake Property GRID C

3-D Borehole Pulse EM Survey
Hole Section with Primary Field

Hole: U-07-01
Survey Date: March 9, 2004

Crone Geophysics & Exploration Ltd.



Ursa Major Minerals Inc.

Agnew Lake Property GRID B

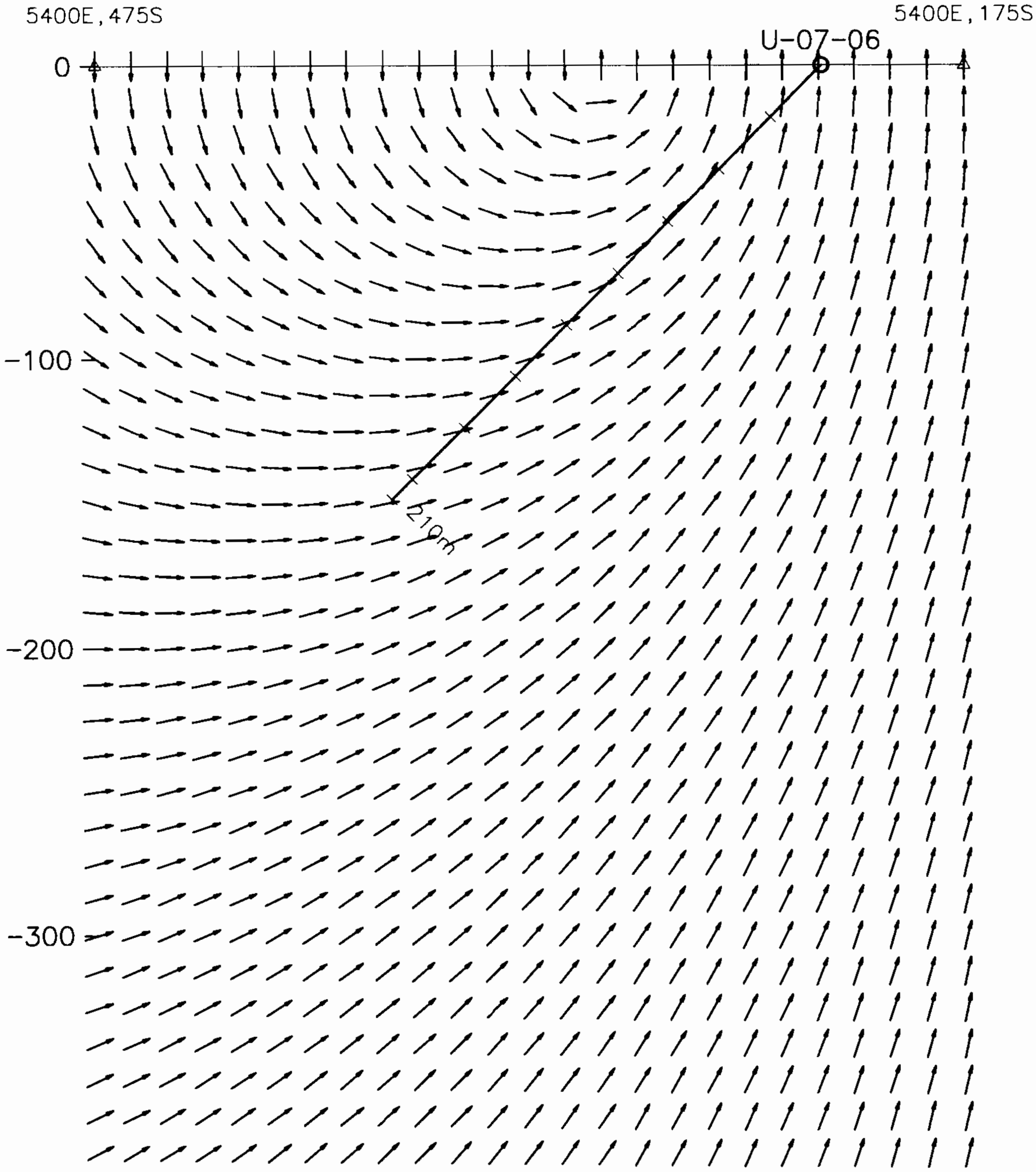
3-D Borehole Pulse EM Survey

Borehole & Loop Location Map

Hole: U-07-06

Survey Date: March 8, 2004

Crone Geophysics & Exploration Ltd.



Scale 1:2500

25 0 25 50

(meters)

Ursa Major Minerals Inc.

Agnew Lake Property GRID B

3-D Borehole Pulse EM Survey

Hole Section with Primary Field

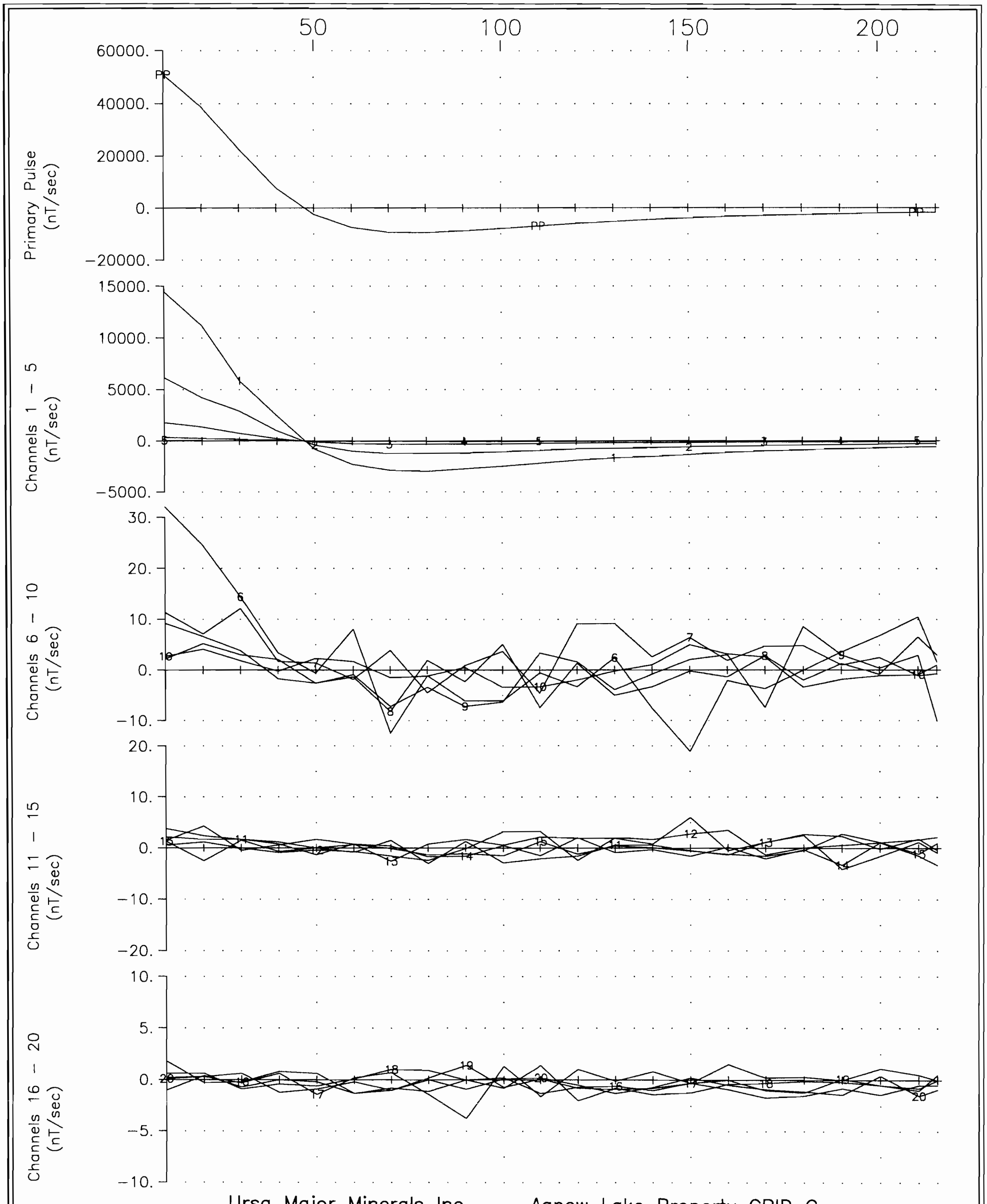
Hole: U-07-06

Survey Date: March 8, 2004

Crone Geophysics & Exploration Ltd.

APPENDIX B

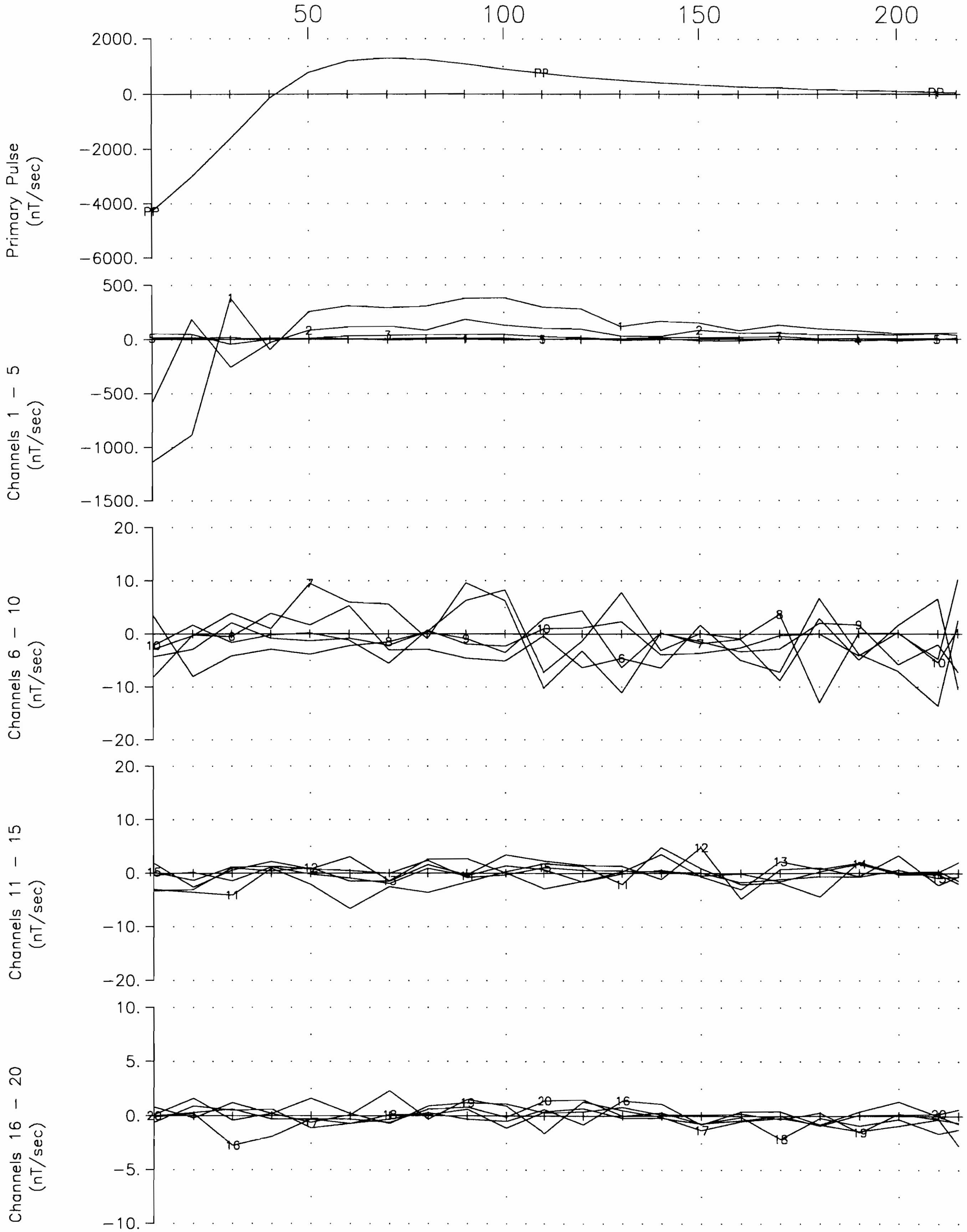
LINEAR (5-AXIS) PULSE EM DATA PROFILES



Ursa Major Minerals Inc. Agnew Lake Property GRID C

Hole U-07-01 X Component

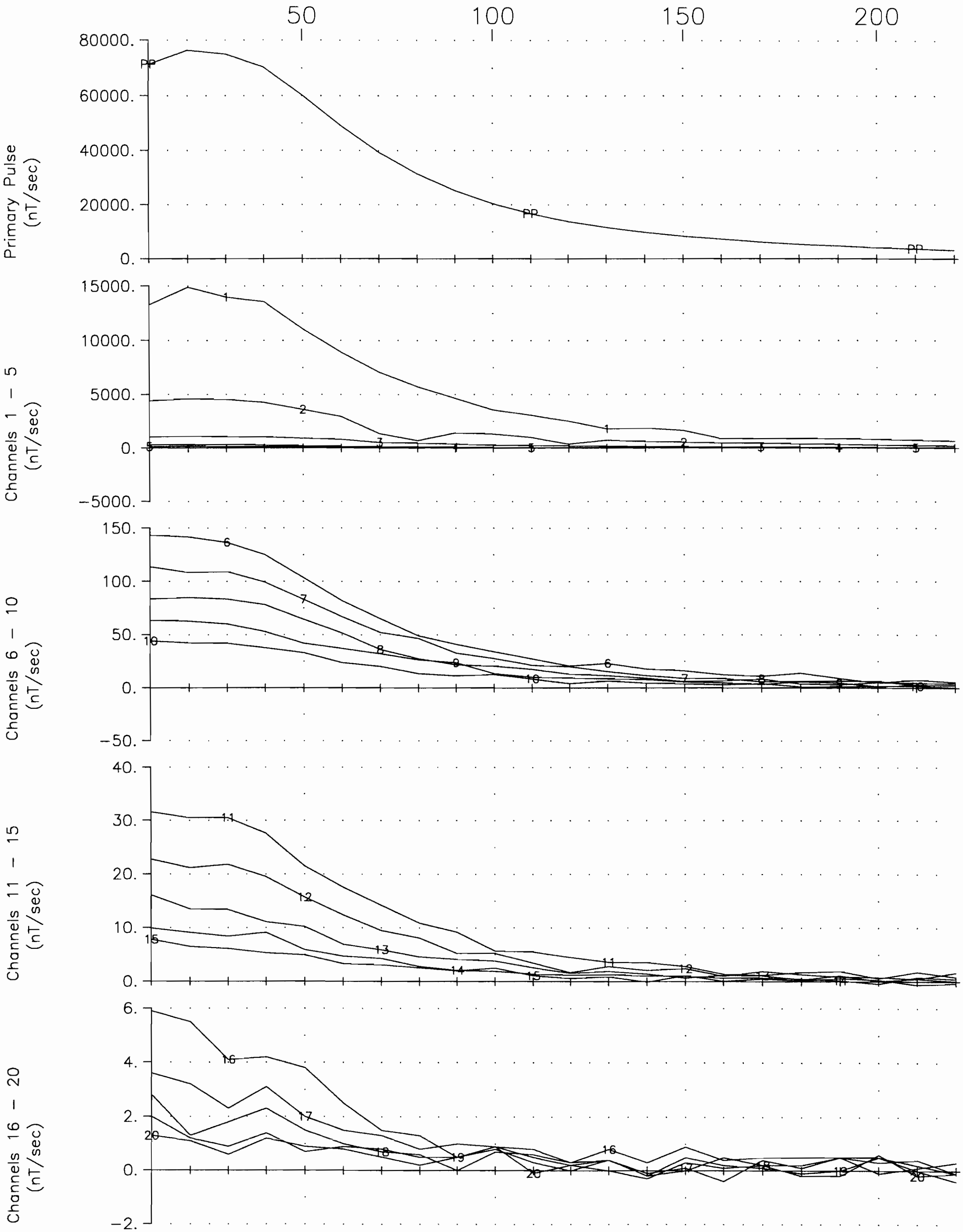
Crone Geophysics & Exploration Ltd.



Ursa Major Minerals Inc. Agnew Lake Property GRID C

Hole U-07-01 Y Component

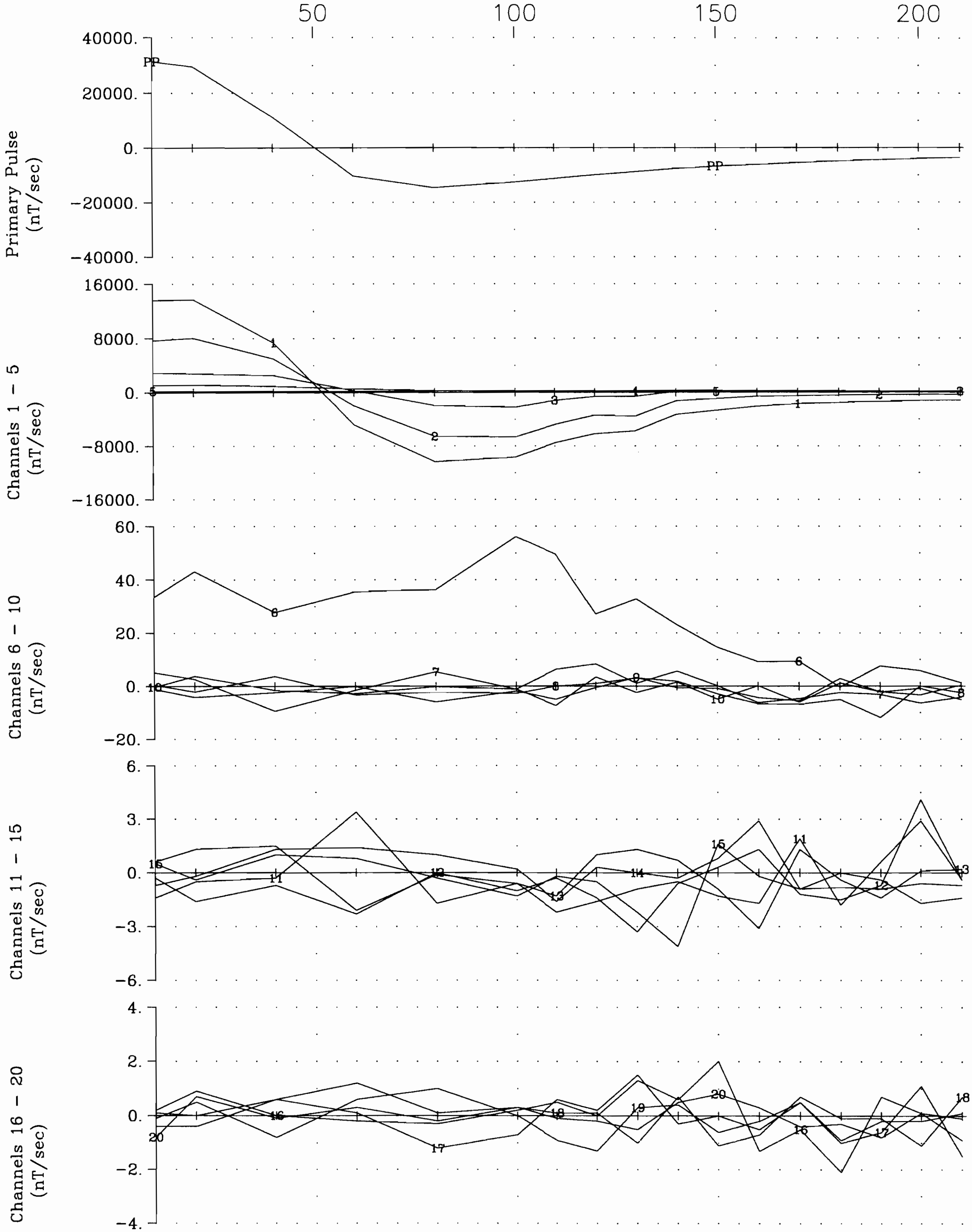
Crone Geophysics & Exploration Ltd.



Ursa Major Minerals Inc. Agnew Lake Property GRID C

Hole U-07-01 Z Component

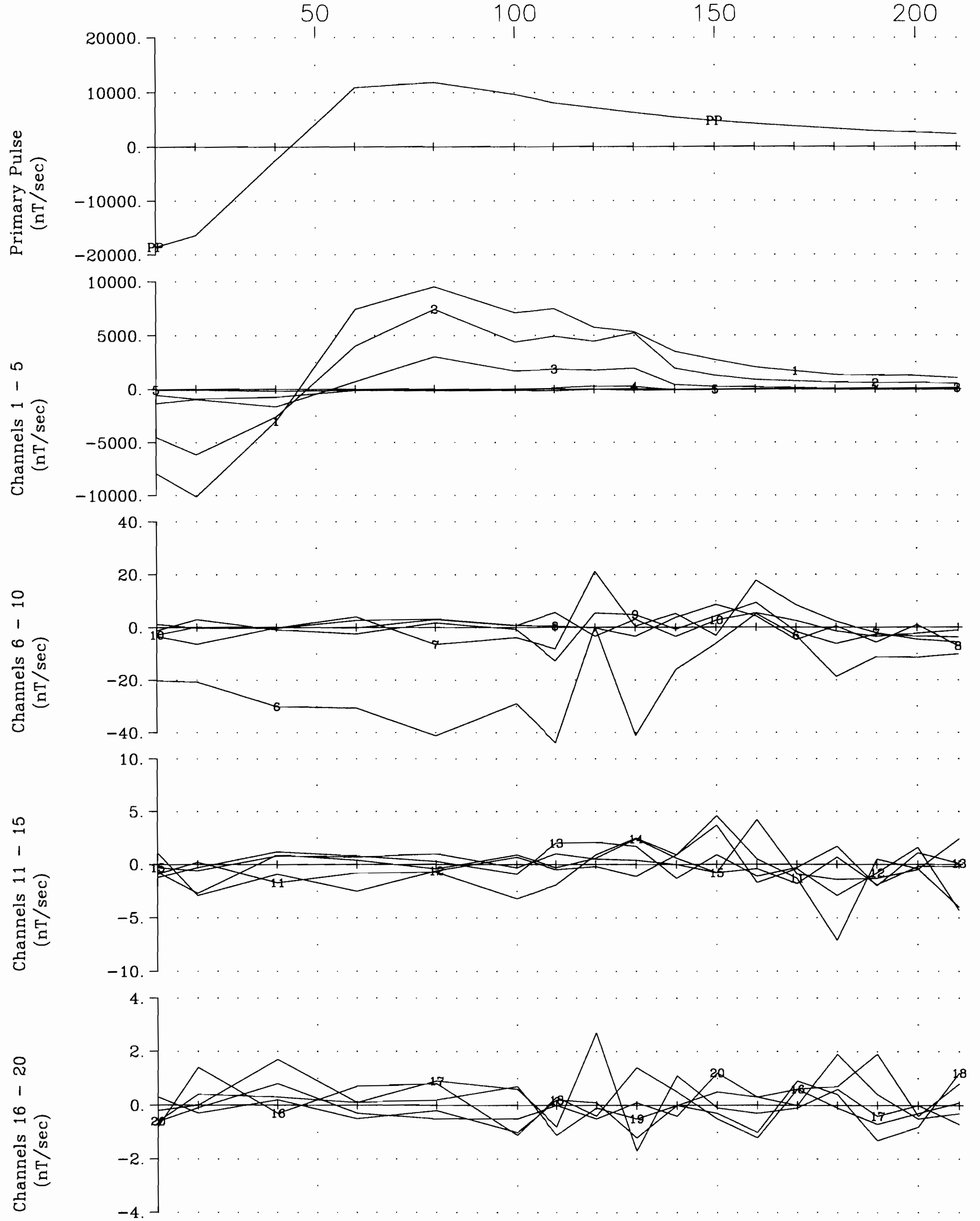
Crone Geophysics & Exploration Ltd.



Ursa Major Minerals Inc. Agnew Lake Property GRID B

Hole U-07-06 X Component

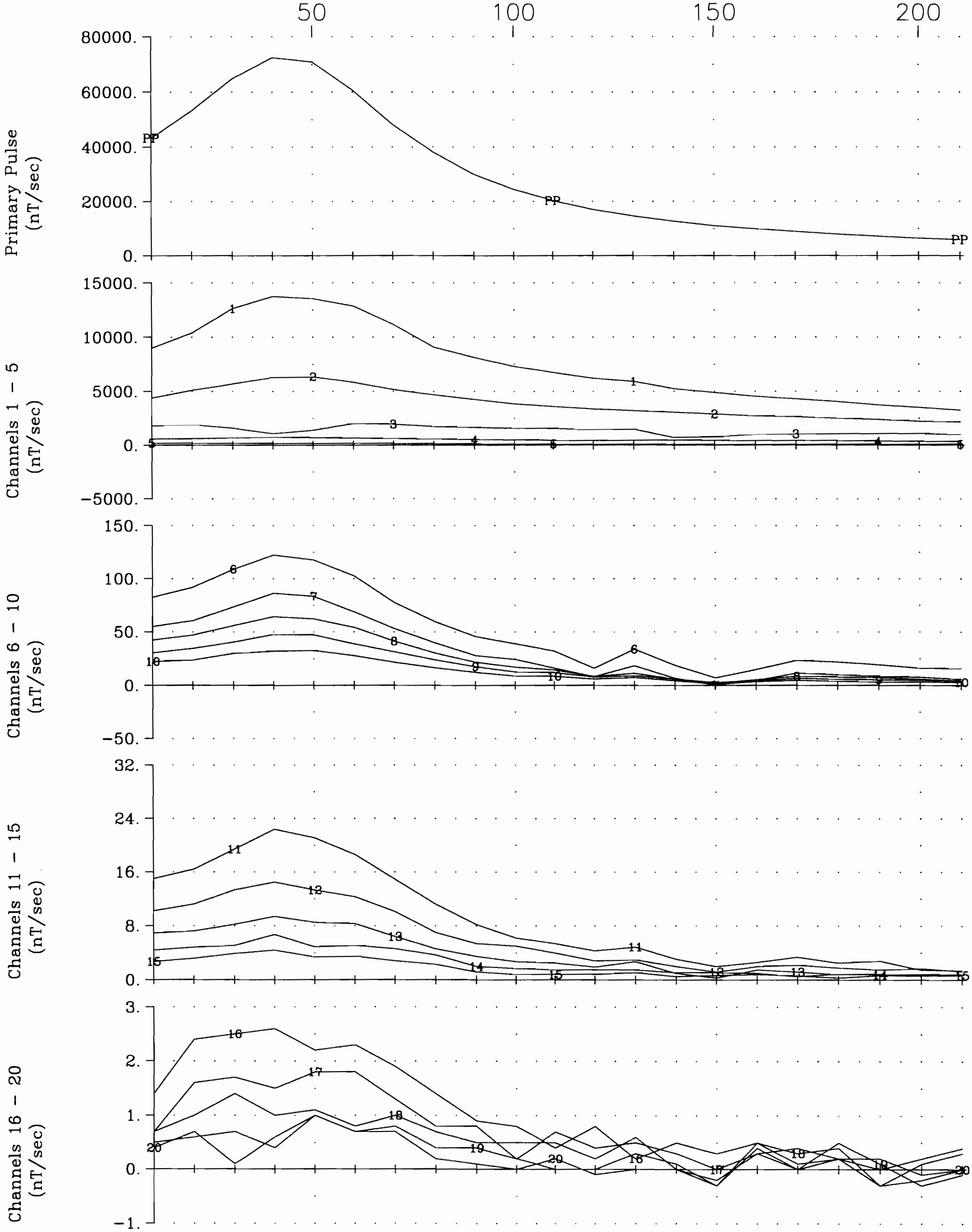
Crone Geophysics & Exploration Ltd.



Ursa Major Minerals Inc. Agnew Lake Property GRID B

Hole U-07-06 Y Component

Crone Geophysics & Exploration Ltd.



Ursa Major Minerals Inc. Agnew Lake Property GRID B

Hole U-07-06 Z Component

Crone Geophysics & Exploration Ltd.

APPENDIX C

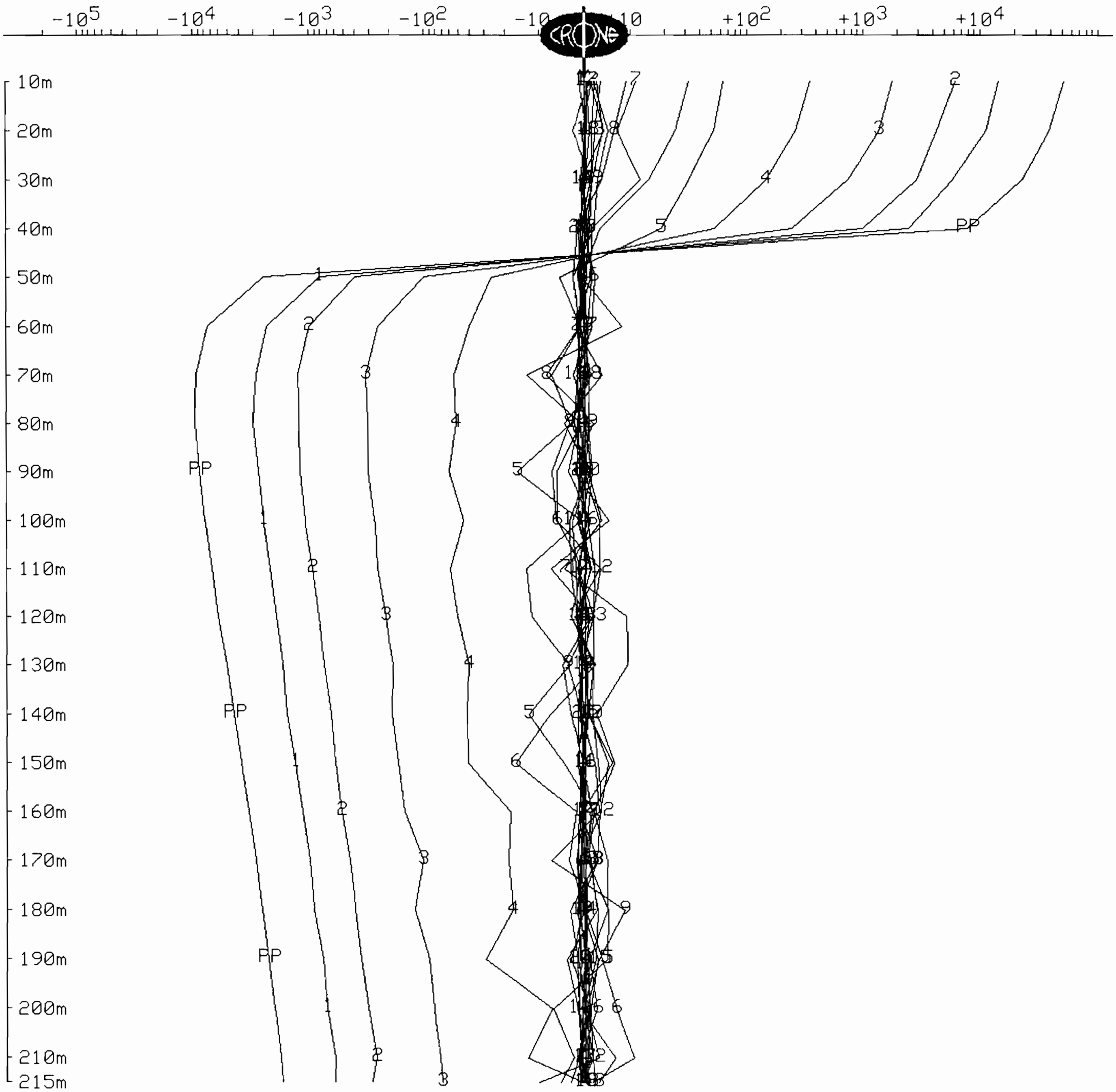
PULSE EM DATA PROFILES (LIN-LOG SCALE)

CRONE GEOPHYSICS & EXPLORATION LTD
Borehole Pulse EM Survey

Client	: **Ursa Major Minerals Inc.**	Hole	: **0701**
Grid	: **Agnew Lake Property GRID C**	Tx Loop	: **LOOP 1**
Date	: Mar 10, 2004	File name	: 7XYGT.PEM

Data Corrected for Probe Rotation using Orientation Tool #103
X COMPONENT dBx/dt nanoTesla/sec - 20 of 20 channels and PP

Scale: 1:1250

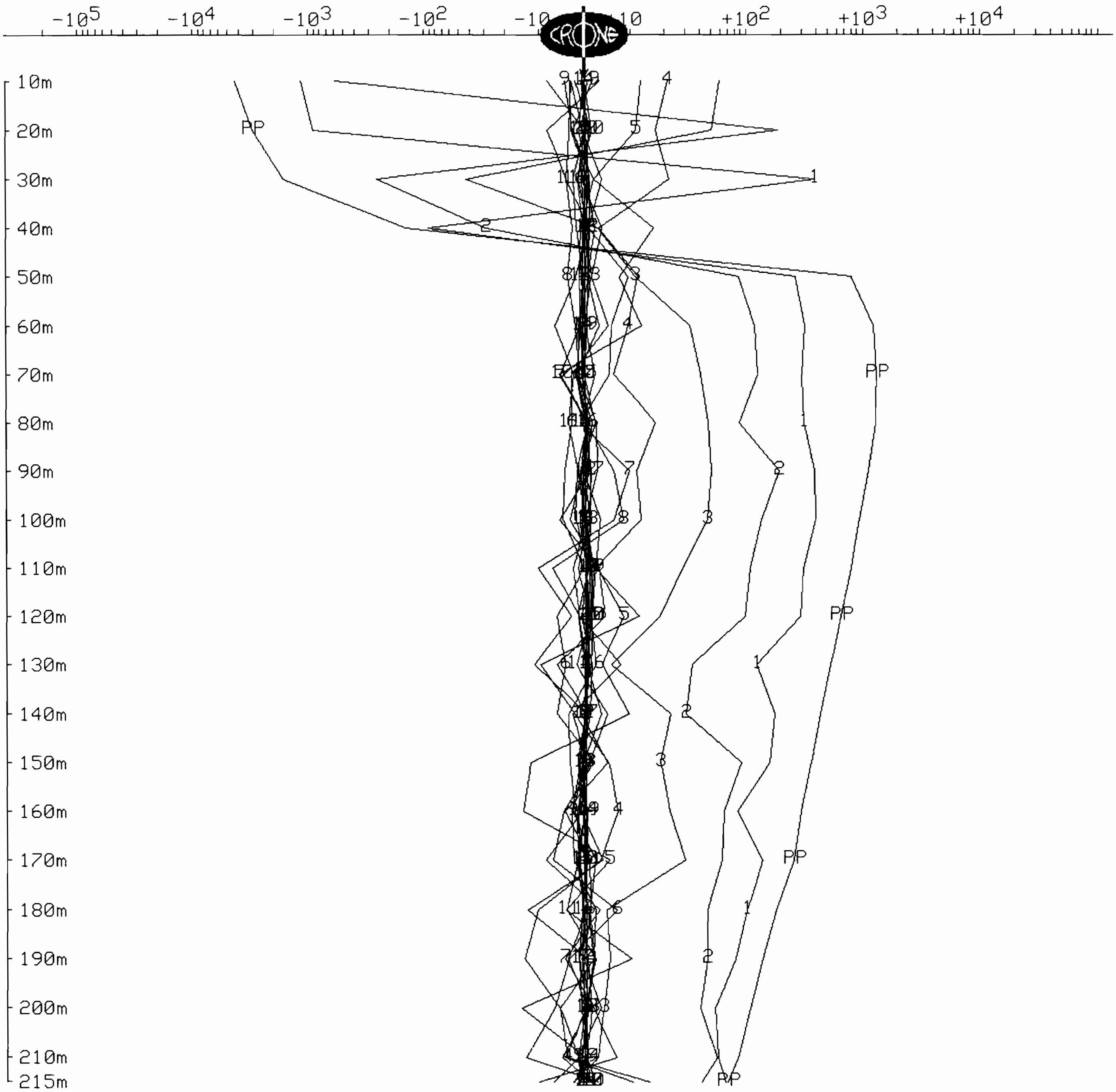


CRONE GEOPHYSICS & EXPLORATION LTD
Borehole Pulse EM Survey

Client	: **Ursa Major Minerals Inc.**	Hole	: **0701**
Grid	: **Agnew Lake Property GRID C**	Tx Loop	: **LOOP 1**
Date	: Mar 10, 2004	File name	: 7XYGT.PEM

Data Corrected for Probe Rotation using Orientation Tool #103
Y COMPONENT dBy/dt nanoTesla/sec - 20 of 20 channels and PP

Scale: 1:1250

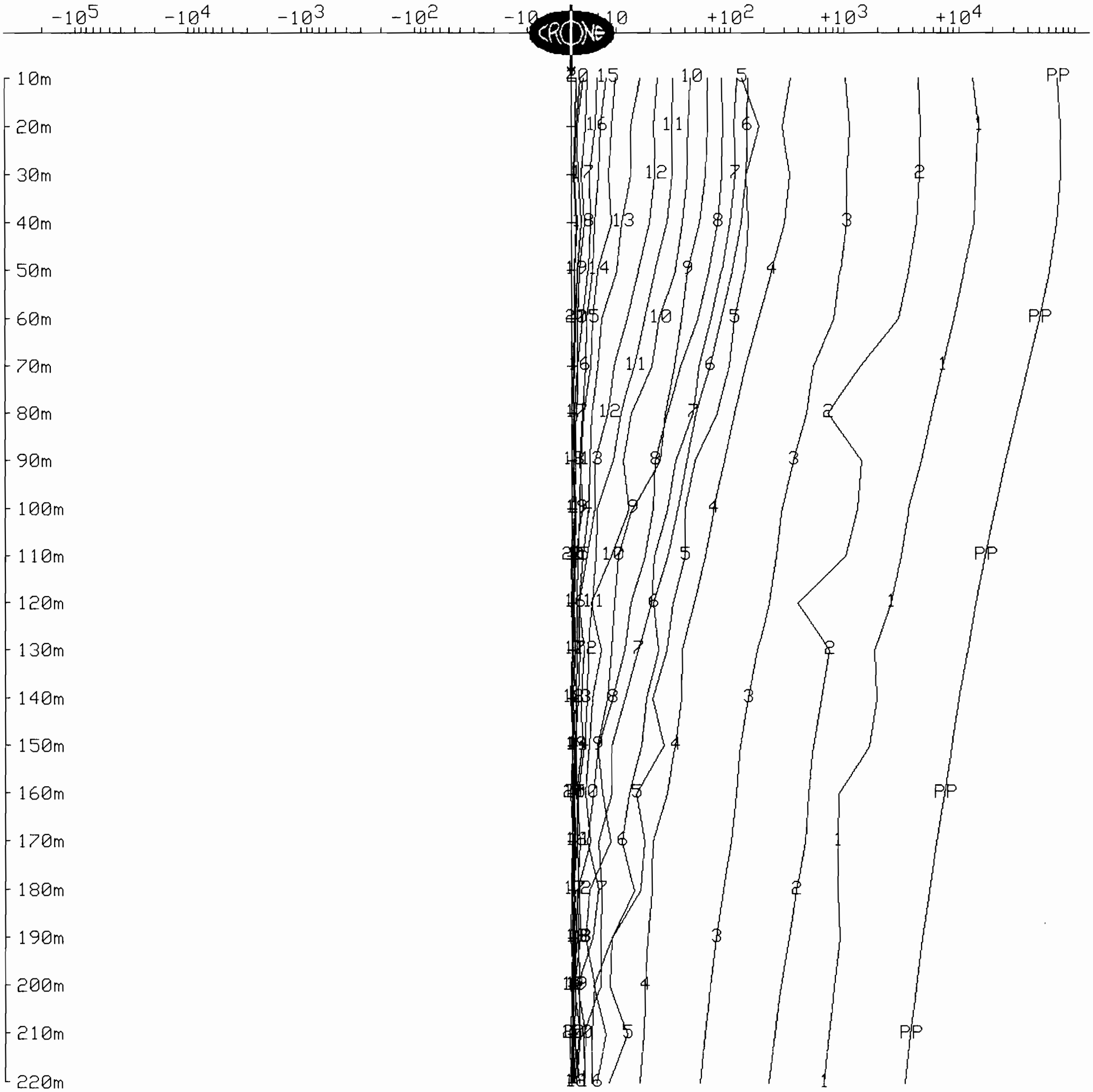


CRONE GEOPHYSICS & EXPLORATION LTD
Borehole Pulse EM Survey

Client	: **Ursa Major Minerals Inc.**	Hole	: **0701**
Grid	: **Agnew Lake Property GRID C**	Tx Loop	: **Loop1**
Date	: Mar 9, 2004	File name	: 07AV.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 20 of 20 channels and PP

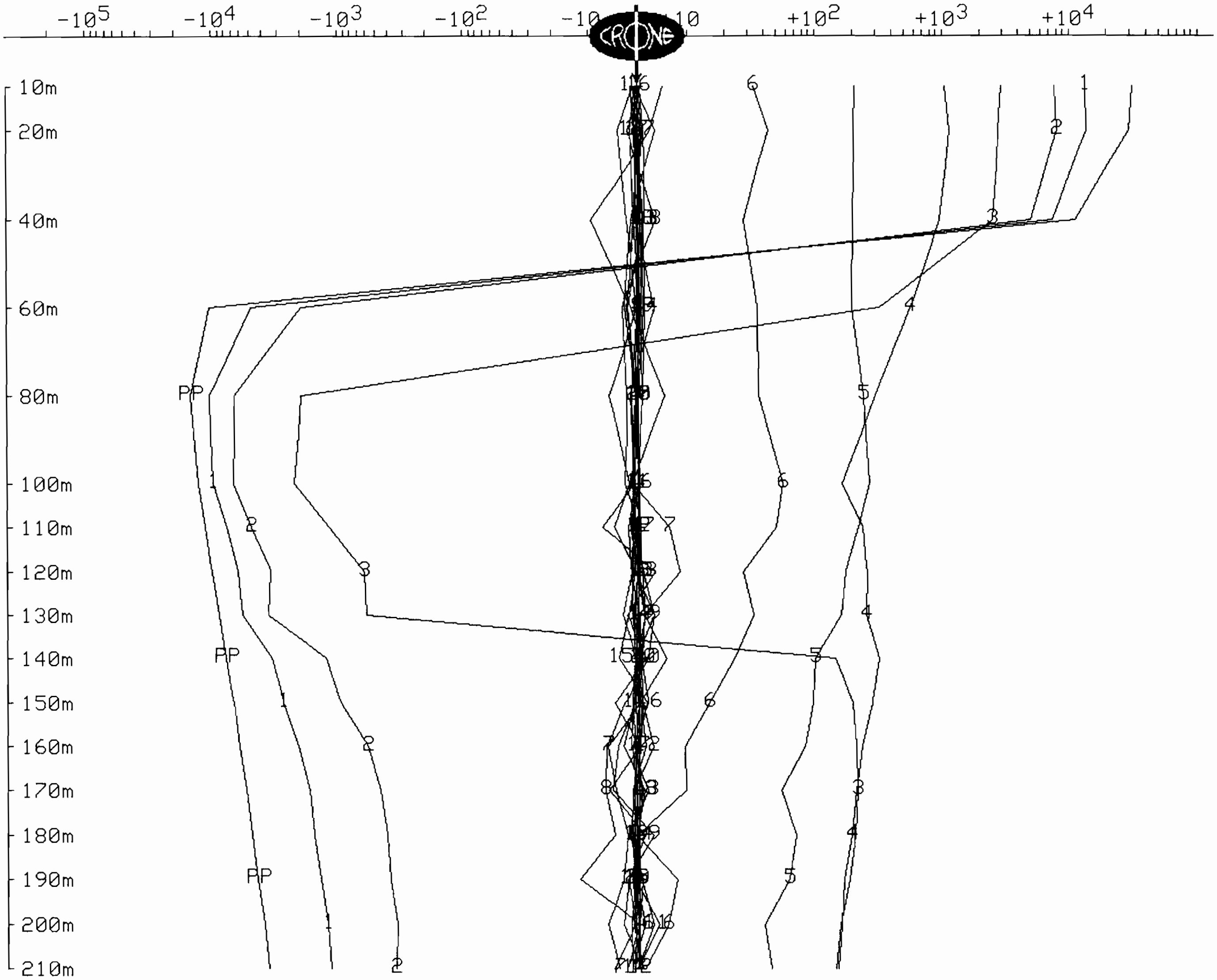
Scale: 1:1250



CRONE GEOPHYSICS & EXPLORATION LTD
Borehole Pulse EM Survey

Client : **Ursa Major Minerals Inc.** Hole : **U-07-06**
Grid : **Agnew Lake Property GRID B** Tx Loop : **LOOP 1**
Date : March 8, 2004 File name : 0706XYT.PEM

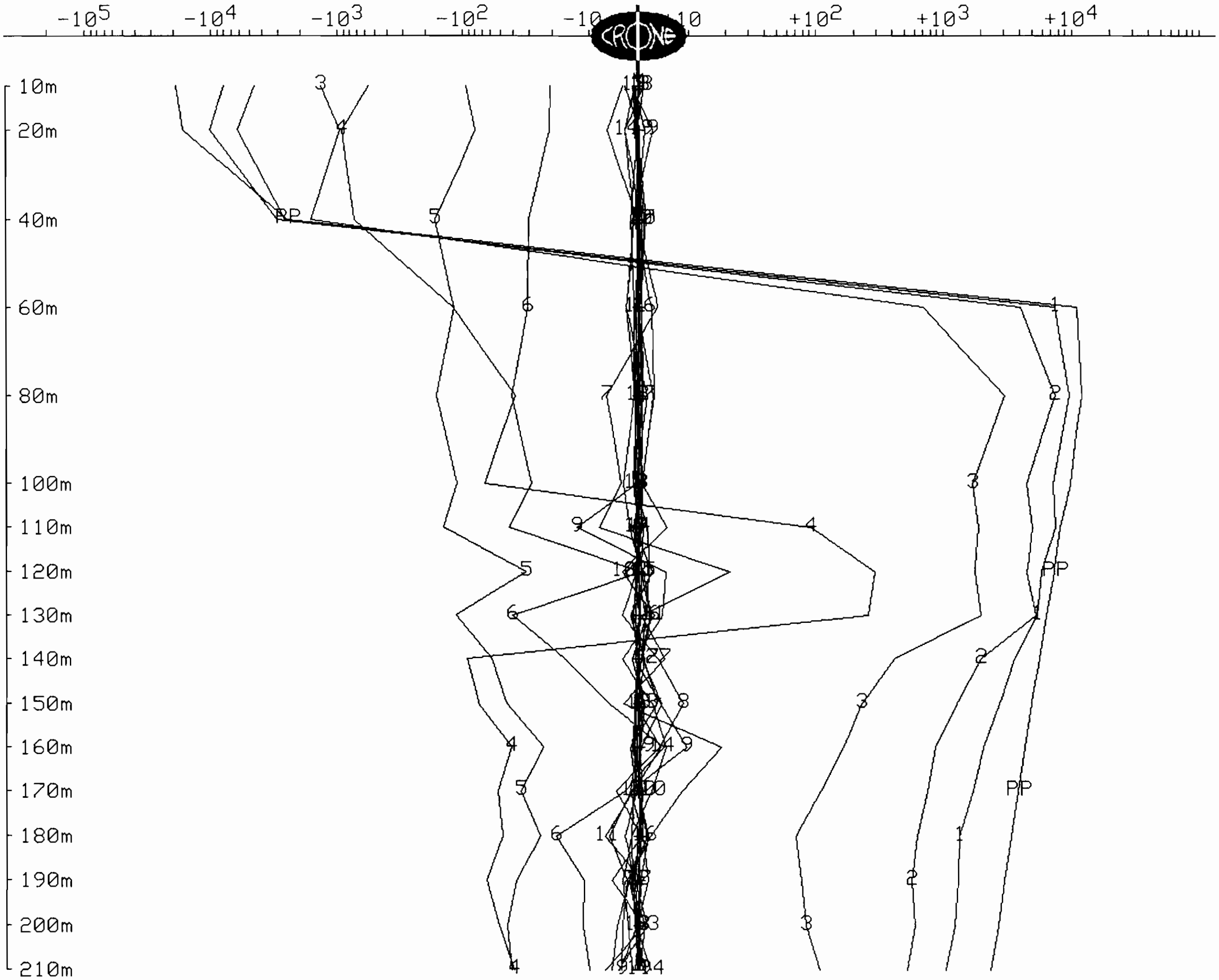
Data Corrected for Probe Rotation using Orientation Tool #3
X COMPONENT dBx/dt nanoTesla/sec - 20 of 20 channels and PP
Scale: 1:1500



CRONE GEOPHYSICS & EXPLORATION LTD
Borehole Pulse EM Survey

Client	: **Ursa Major Minerals Inc.**	Hole	: **U-07-06**
Grid	: **Agnew Lake Property GRID B**	Tx Loop	: **LOOP 1**
Date	: March 8, 2004	File name	: 0706XYT.PEM

Data Corrected for Probe Rotation using Orientation Tool #3
Y COMPONENT dBy/dt nanoTesla/sec - 20 of 20 channels and PP
Scale: 1:1500

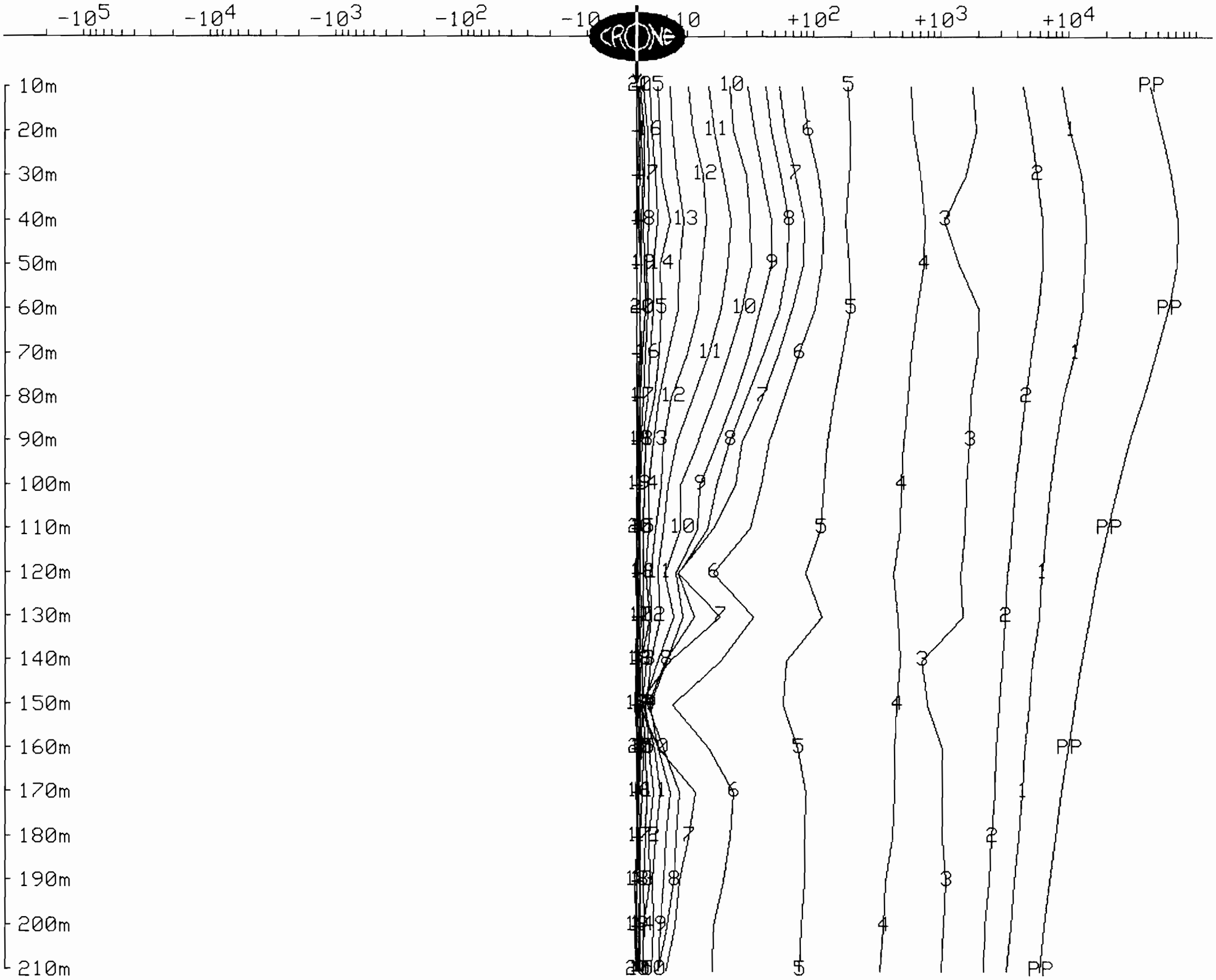


CRONE GEOPHYSICS & EXPLORATION LTD
Borehole Pulse EM Survey

Client	: **Ursa Major Minerals Inc.**	Hole	: **U-07-06**
Grid	: **Agnew Lake Property GRID B**	Tx Loop	: **LOOP 1**
Date	: March 8, 2004	File name	: 0706Z.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 20 of 20 channels and PP

Scale: 1:1500

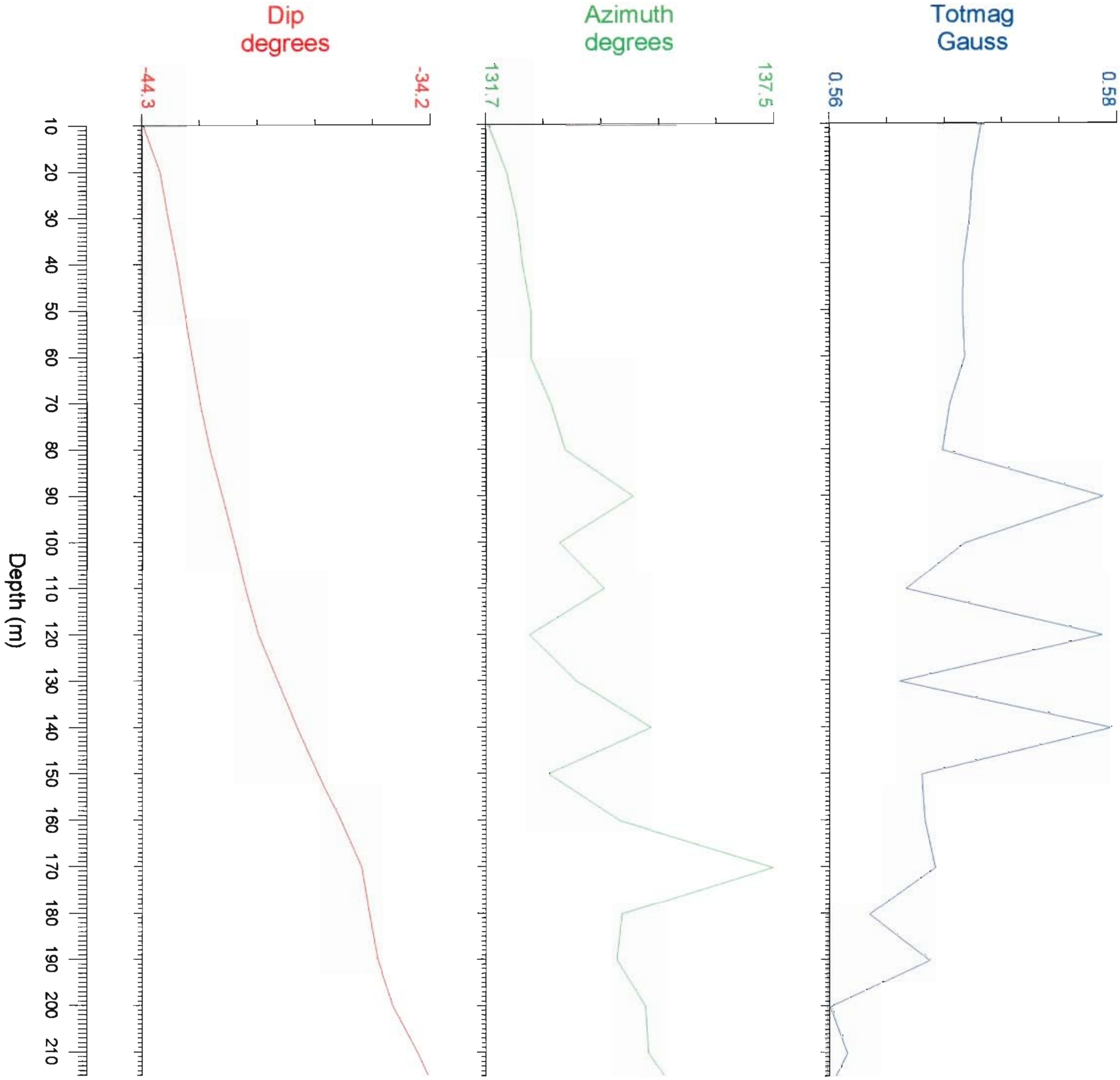


APPENDIX D

RAD-TOOL SURVEY RESULTS

Ursa Major Minerals Inc. Agnew Lake Property

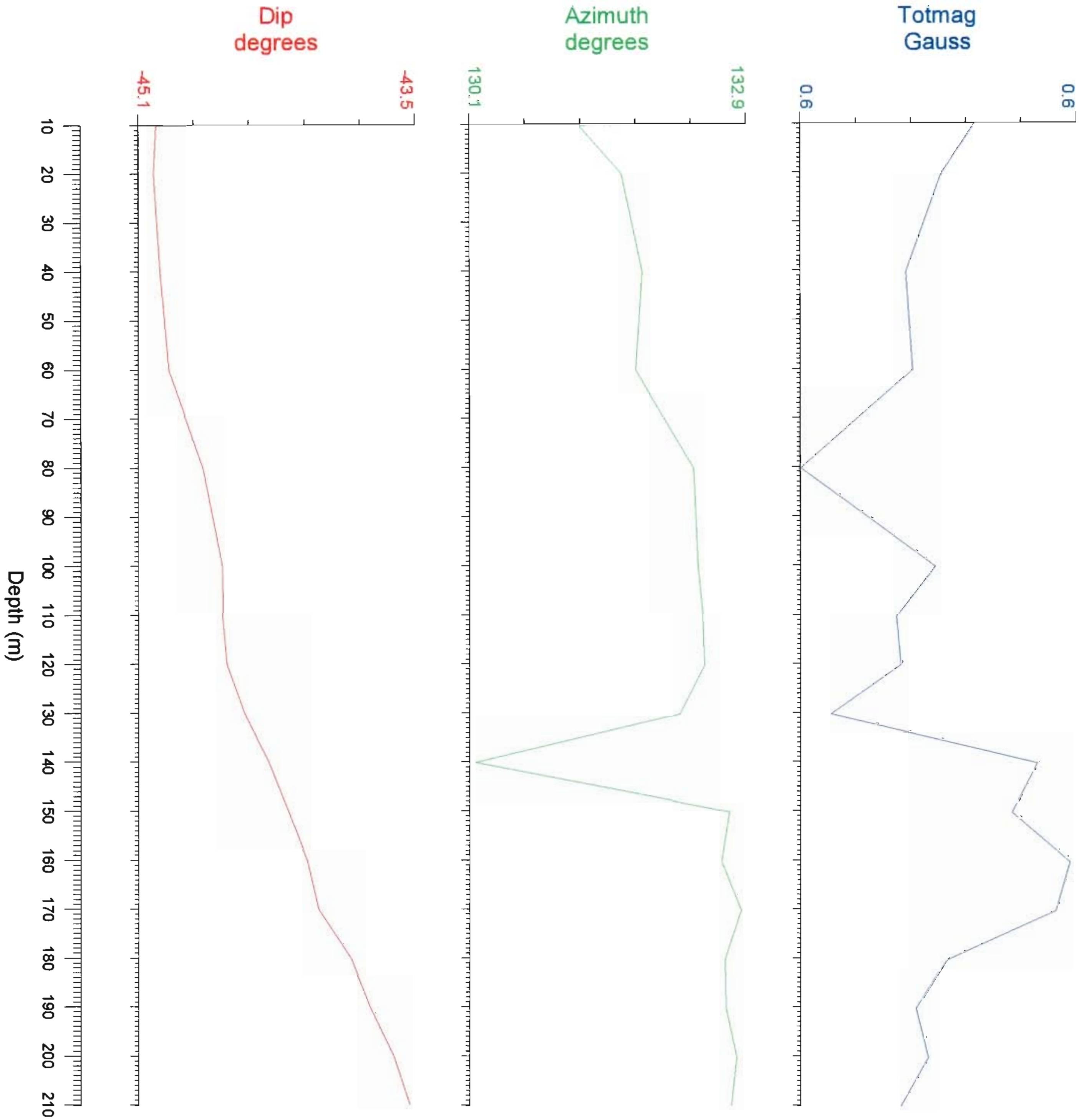
Grid C - Hole U-07-01
Rad tool Survey Results



Ursa Major Minerals Inc. Agnew Lake Property

Grid B - Hole U-07-06

Rad Tool Survey Results



APPENDIX E

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, 8.33ms, 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.

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 the 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

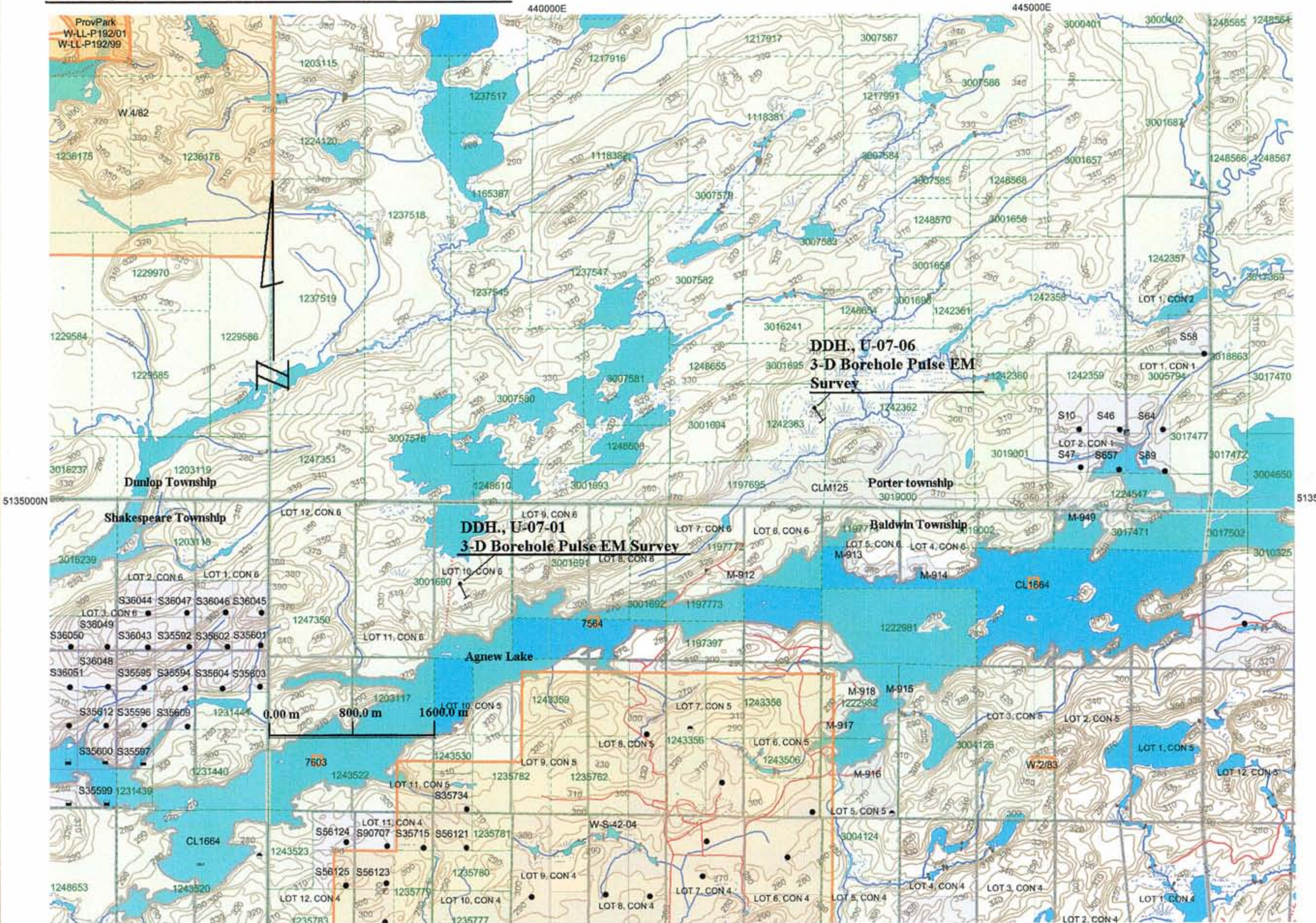
Specifications: Borehole Counter

- 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.

Ursa Major Minerlas Inc., North Shore of Agnew Lake Property



Prepared By: Harold Tracanelli November 10th., 2004

UTM Zone 17
5000m grid