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Geophysical Survey Report

covering

Borehole Pulse EM Surveys
over the
CARNEGIE and LUCAS Grids
for
Falconbridge Ltd.
during
January - February of 2000

by

CRONE GEOPHYSICS & EXPLORATION LTD.

Survey Area:	**CARNEGIE and LUCAS Grids Timmins**
Survey Type:	**3D Borehole Pulse EM Survey**
Survey Operators:	**Gilles Ouelette**
Holes Surveyed:	**CARN13-05, CARN22-01,-02,-04,-06,-09, -12, Luc1401**
Survey Period:	**Jan 18th - Feb 21st, 2000**
Report By:	**Kevin Ralph**
Report Date:	**March, 2000**
Submitted To:	**Falconbridge Ltd. Timmins**

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1. INTRODUCTION

Crone Geophysics & Exploration Limited was contracted by Falconbridge Ltd. to conduct a 3 Dimensional Pulse Electromagnetic Borehole survey on its CARNEGIE and LUCAS Grids. This report summarizes the geophysical work carried out on the property. Eight holes were surveyed during the time period of January 18- February 21, 2000. The appendices to this report contain the plan and section maps, step response profiles, linear profile plots, PEM profiles and Crone Instrument Specifications.

2. PERSONNEL

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

Survey Operators: Gilles Ouelette
Data Processing: Henry Odwar
Report: Kevin Ralph

3. 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 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.

On this project, a 3D Borehole Pulse EM system was assembled in which an axial component (Z) probe and a cross component (XY) probe 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 orientated at right angles to the borehole. 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 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.

In addition to measuring the standard Primary Pulse channel on the ramp and the 20 off-time channels, the Step Response was also calculated. Step Response requires accurate geometrical control in which the loop position and the hole geometry are accurately determined. Ideally loop geometry is supplied as GPS coordinates while hole geometry is given as Gyroscopic readings. The Gyro data is then processed by Crone to produce a smoothly segmented hole, and together with loop geometry data, a new PEM data file is formed.

In this survey, however, loop geometry was supplied as local coordinates while hole geometry was given as Sperry Sun readings. The Sperry Sun data was incorporated into the PEM data together with the local loop coordinates. The Crone Step Response transformation was then performed on the data. The calculated Step Response values are binned into an S1 channel (from 0.5T to T), an S2 channel (from 0.25T to 0.5T), an S3 channel (from 0.125T to 0.25T) and an S4 channel (from 0.0625T to 0.125T, where T is the time base). The S1 channel is normalized to the theoretical primary field, while S2, S3 and S4 are normalized to S1.

Without an accurate GPS of the loop and gyro data, as is the case in this survey, it is difficult to obtain an accurate Step Response. It is quite evident there are geometric errors in the Step Response and likely arise from inaccuracies in the loop geometry.

The equipment used on this project was a Crone Pulse EM Borehole system. This includes a 2.4kW transmitter with a 120V voltage regulator which is powered by a 4.5hp 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 sync and by remote radio. Using sync cable is the most accurate type of synchronization because it is a direct connection between the Transmitter and Receiver.

4. SURVEY PARAMETERS

Table I: Borehole Survey Coverage

Hole	Tx loop	Collar Location	Dip	Azimuth (grid)	Depth (meters)	Length Read (meters)	Component
Carn13-05	1305	5000 E \ 9160 N	-50°	180°	224	217	X,Y,Z
Carn22-01	Carn22	6100 E \ 15500 N	-50°	180°	464	455	X,Y,Z
Carn22-02	Carn22	6700 E \ 15300 N	-50°	180°	487	480	X,Y,Z
Carn22-04	Carn22	6600 E \ 15420 N	-60°	180°	666	666	X,Y,Z
Carn22-06	22-06	8160 E \ 10805 N	-50°	85°	284	275	X,Y,Z
Carn22-09	Carn22	6780 E \ 15420 N	-65°	180°	610	610	X,Y,Z
Carn22-12	22-12	4700 E \ 10342 N	-50°	360°	324	324	X,Y,Z
Luc14-01	1401	17340 E \ 18360 N	-50°	180°	244	236	X,Y,Z

Table II: Borehole Loop Coverage

Loop	Size (meters)	Location	Ramp Time	Current	Time Base
1305	200 x 200	4900 E - 5100 E 8880 N - 9080 N	1.5 ms	18 amps	20 ms
22-06	200 X 200	8100 E - 8300 E 10700 N - 10900 N	1.5 ms	18 amps	20 ms
22-12	200 x 200	4600 E - 4800 E 10260 N - 10460 N	1.5 ms	18 amps	20 ms
Carn22	800 x 500	6000 E - 6800 E 15100 N - 15600 N	1.5ms	18 amps	20ms
1401	300 x 300	17200 E - 17500 E 18300 N - 18600 N	1.5 ms	18 amps	20 ms

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 survey of all the holes in this report.

Table III: Channel Configuration, 20 Channels

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	1.091e-02	1.449e-02			

5. PRODUCTION SUMMARY

Table IV: Production Summary

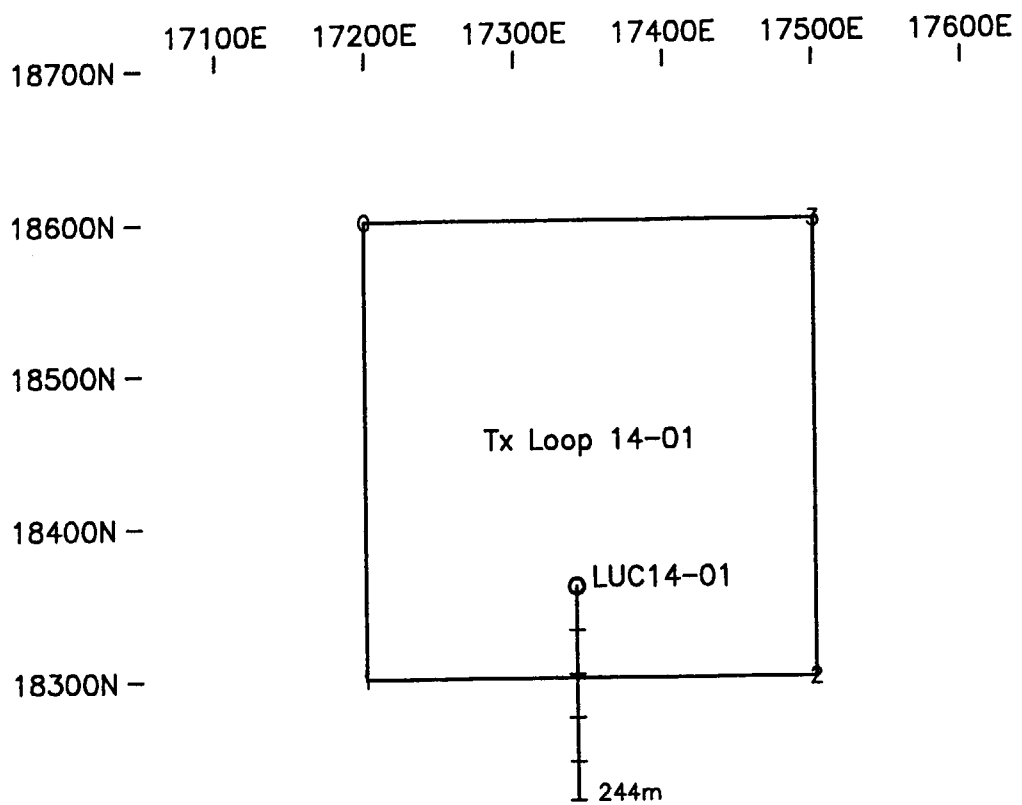
Jan 18th ,2000	Crew traveled to Timmins.
Jan. 22nd ,2000	Laid loop and dummied holes 22-09, 22-02,22-04 and 22-01.
Jan. 23rd, 2000	Surveyed hole 22-01. Moved gear to hole 22-12.
Jan. 24th, 2000	Laid new loop and surveyed hole 22-12.
Jan. 25th, 2000	Surveyed hole 22-09.
Jan. 26th, 2000	Surveyed hole 22-02.

Jan. 27th, 2000	Surveyed hole 22-04.
Jan.28th, 2000	Picked up loop, laid new loop, dummied hole 13-05.
Jan.29th, 2000	Surveyed hole 13-05,picked up loop, laid new loop and surveyed hole 24-06 and later picked up loop.
Feb.18th,2000	Laid loop, surveyed hole LUC14-01, and picked up loop.

Respectfully submitted,

Kevin Ralph
Crone Geophysics & Exploration Ltd.
March, 2000

Appendix A:
Plan Map and Primary Field Sections



Scale 1:5000

50 0 50 100

(meters)

FALCONDBRIDGE LTD.

LUCAS GRID

3-D Borehole Pulse EM Survey

Borehole & Loop Location Map

Hole: LUC14-01

Survey Date: Feb 18, 2000

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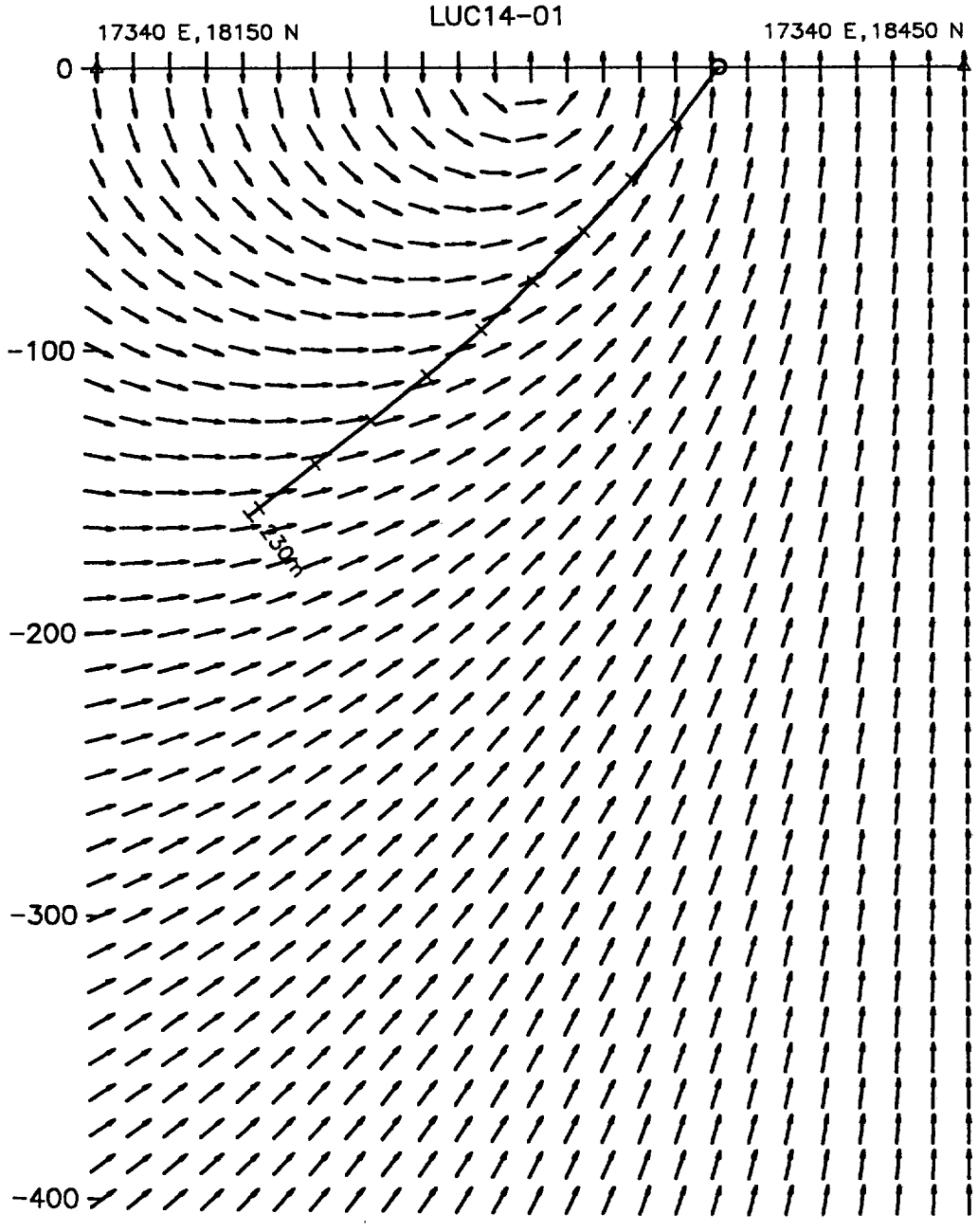

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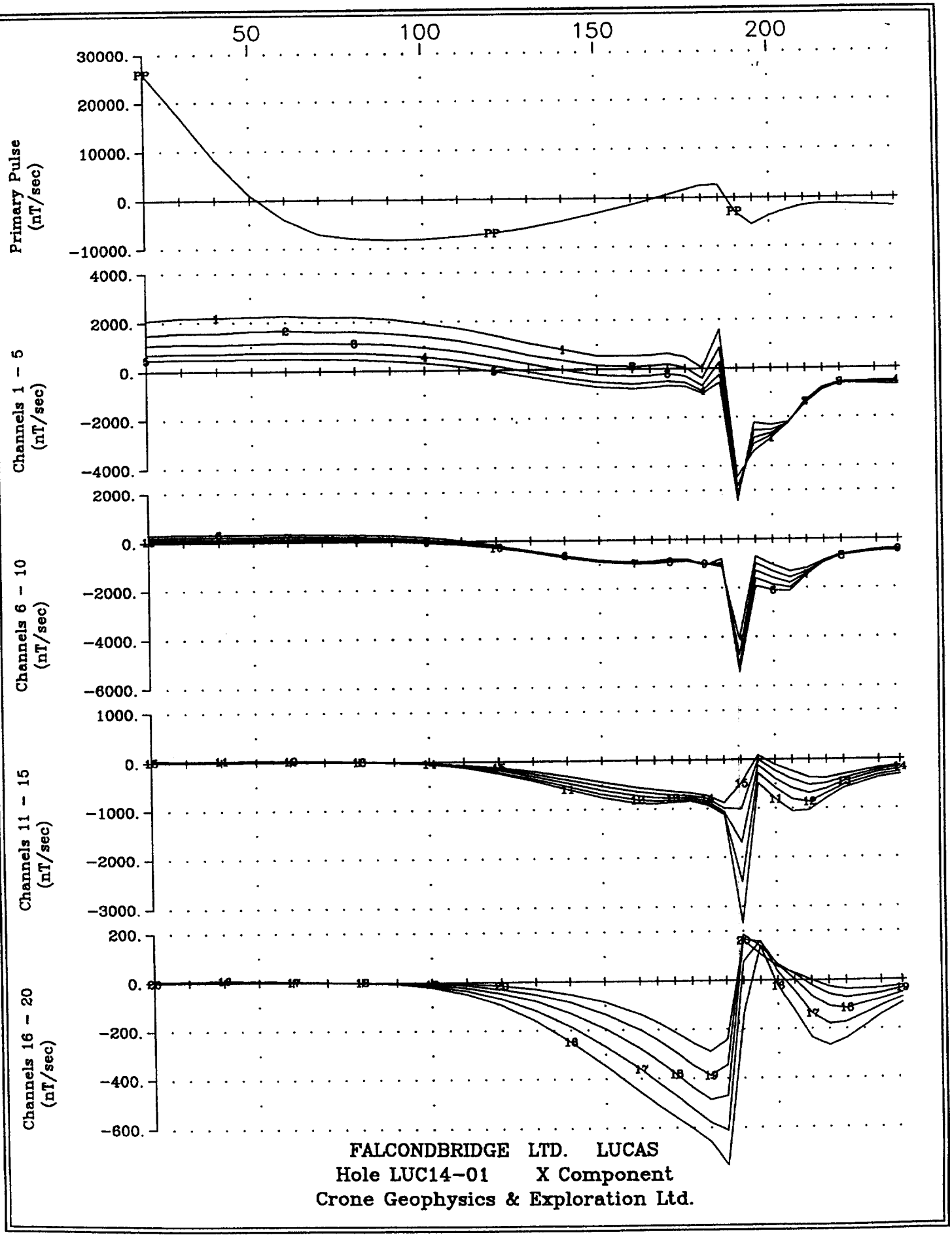
25 0 25 50

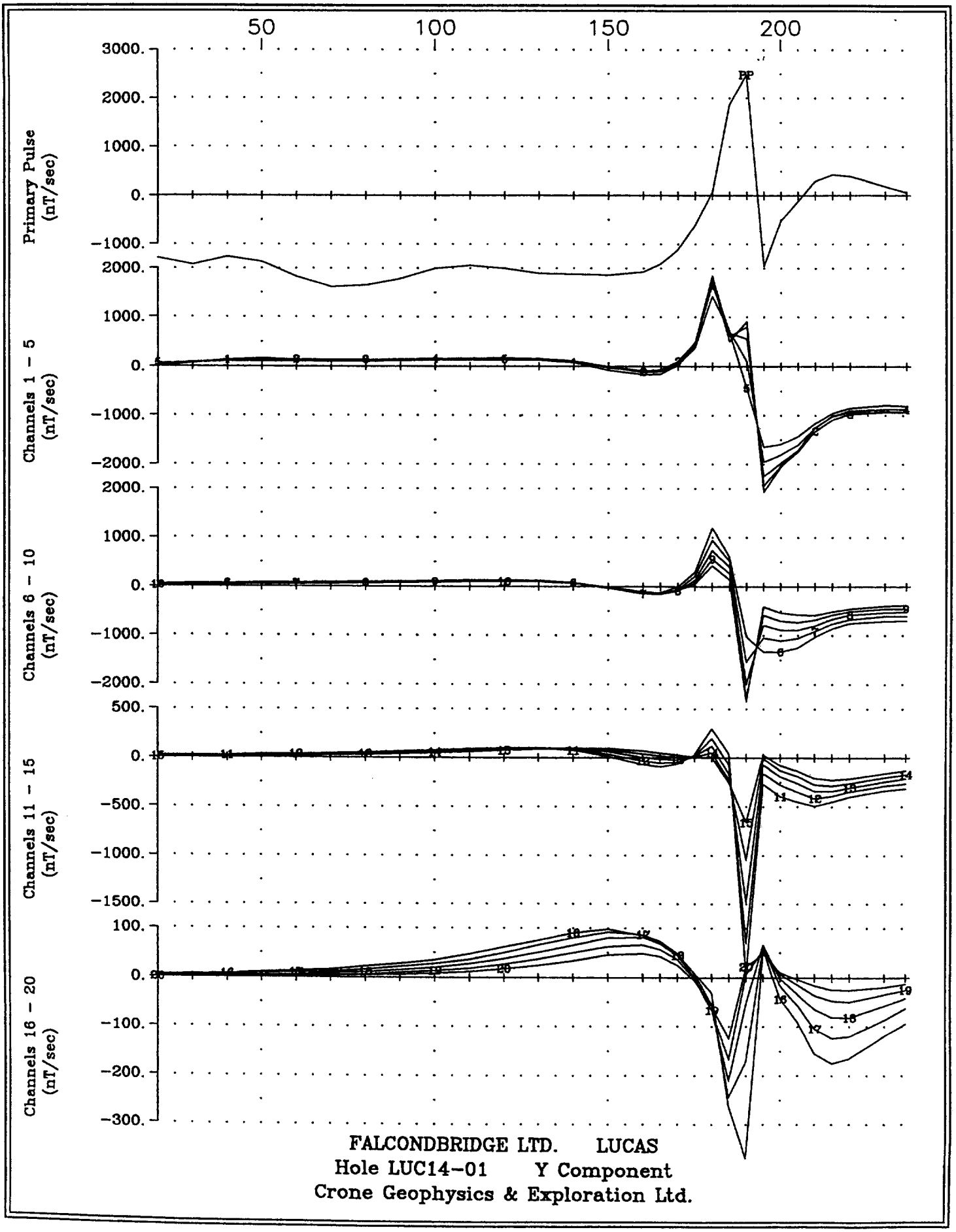
(meters)

FALCONDBRIDGE LTD.
LUCAS
3-D Borehole Pulse EM Survey
Hole Section with Primary Field
Hole: LUC14-01
Survey Date: Feb 18, 2000
Crone Geophysics & Exploration Ltd.

Appendix B:
Linear (5-axis) Pulse EM Data Profiles



FALCONDBRIDGE LTD. LUCAS
Hole LUC14-01 X Component
Crone Geophysics & Exploration Ltd.



FALCONDBRIDGE LTD. LUCAS
Hole LUC14-01 Y Component
Crone Geophysics & Exploration Ltd.

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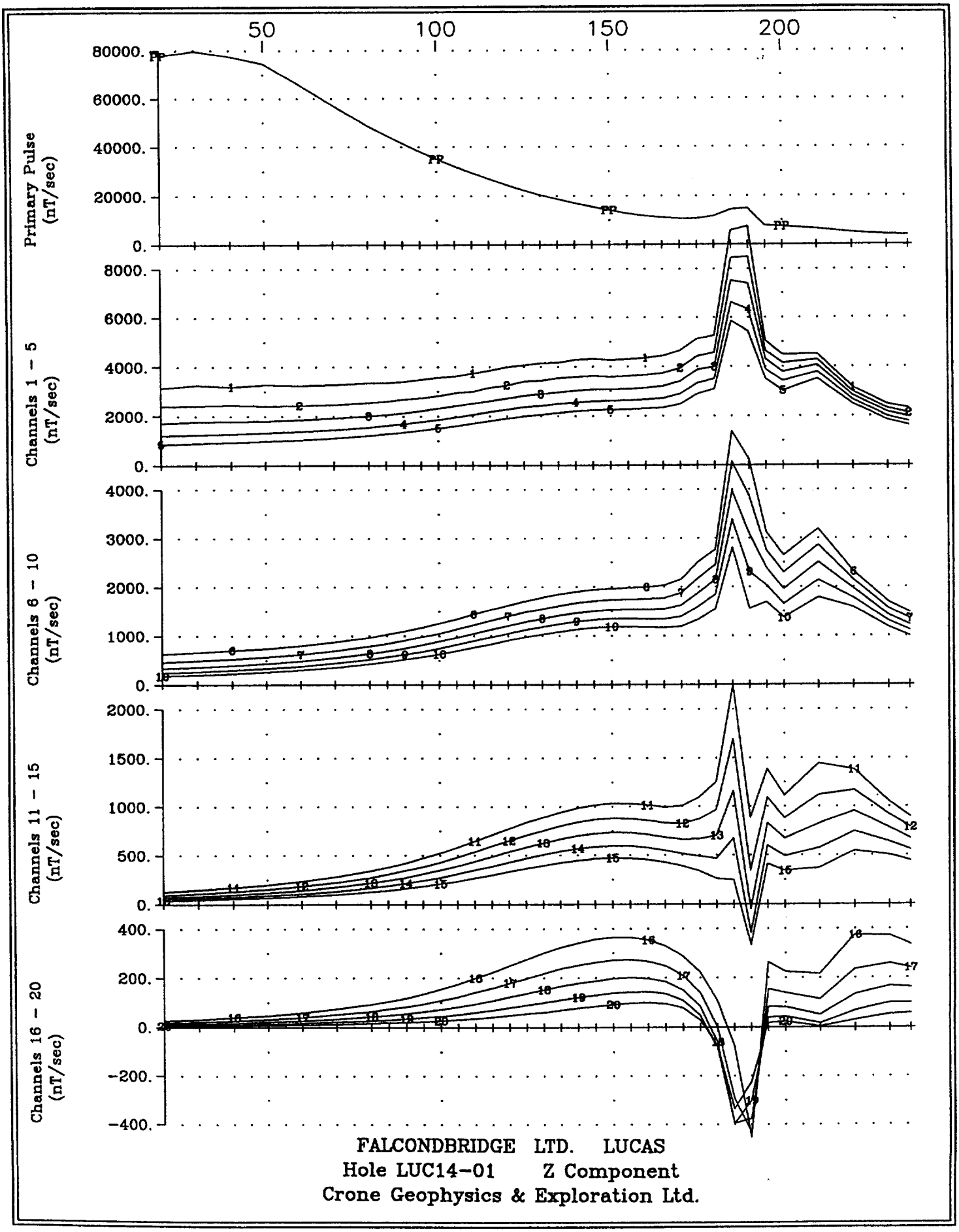
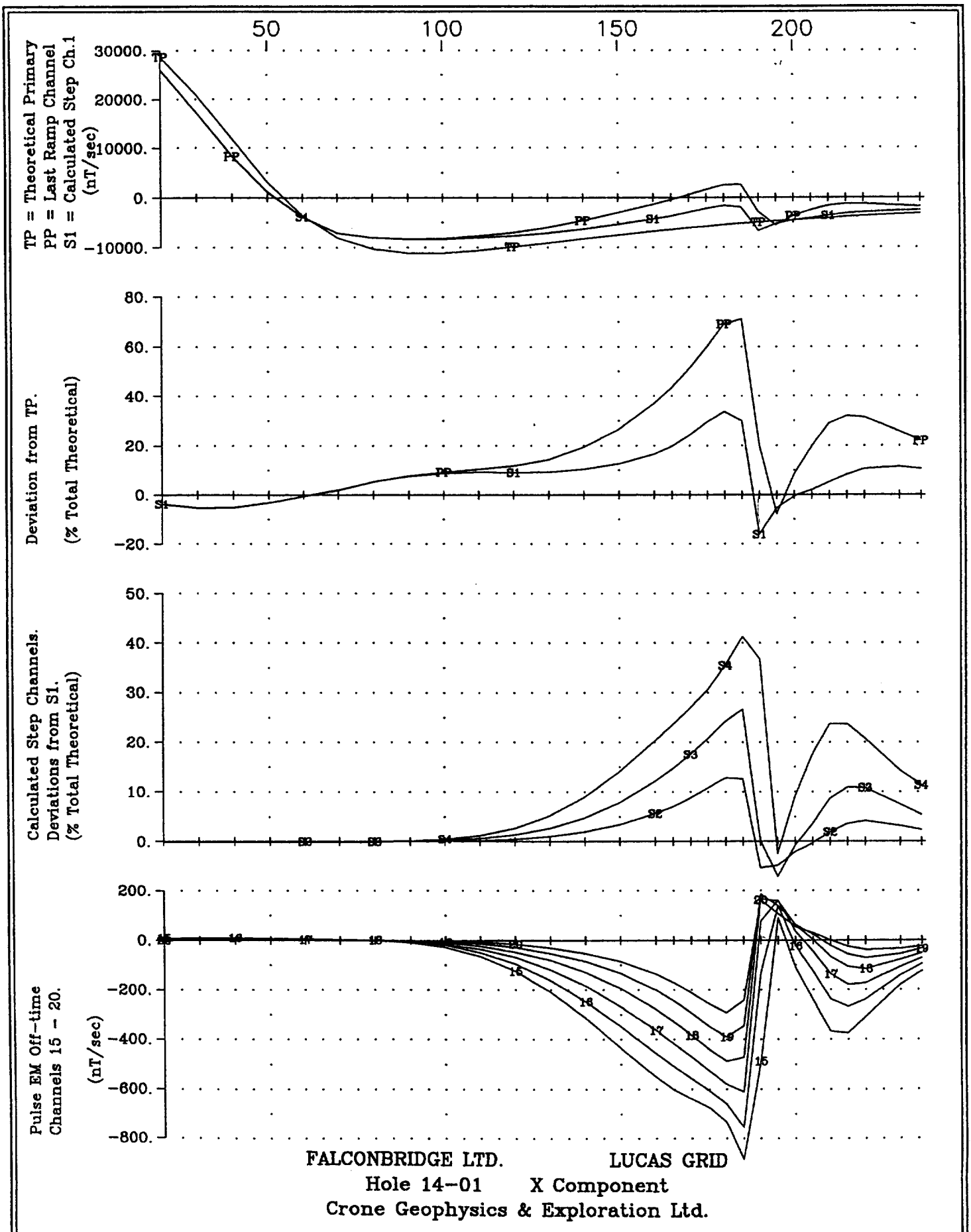


FALCONDBRIDGE LTD. LUCAS
Hole LUC14-01 Z Component
Crone Geophysics & Exploration Ltd.

Appendix C:
Step Response Profiles



FALCONBRIDGE LTD. LUCAS GRID

Hole 14-01 X Component

Crone Geophysics & Exploration Ltd.

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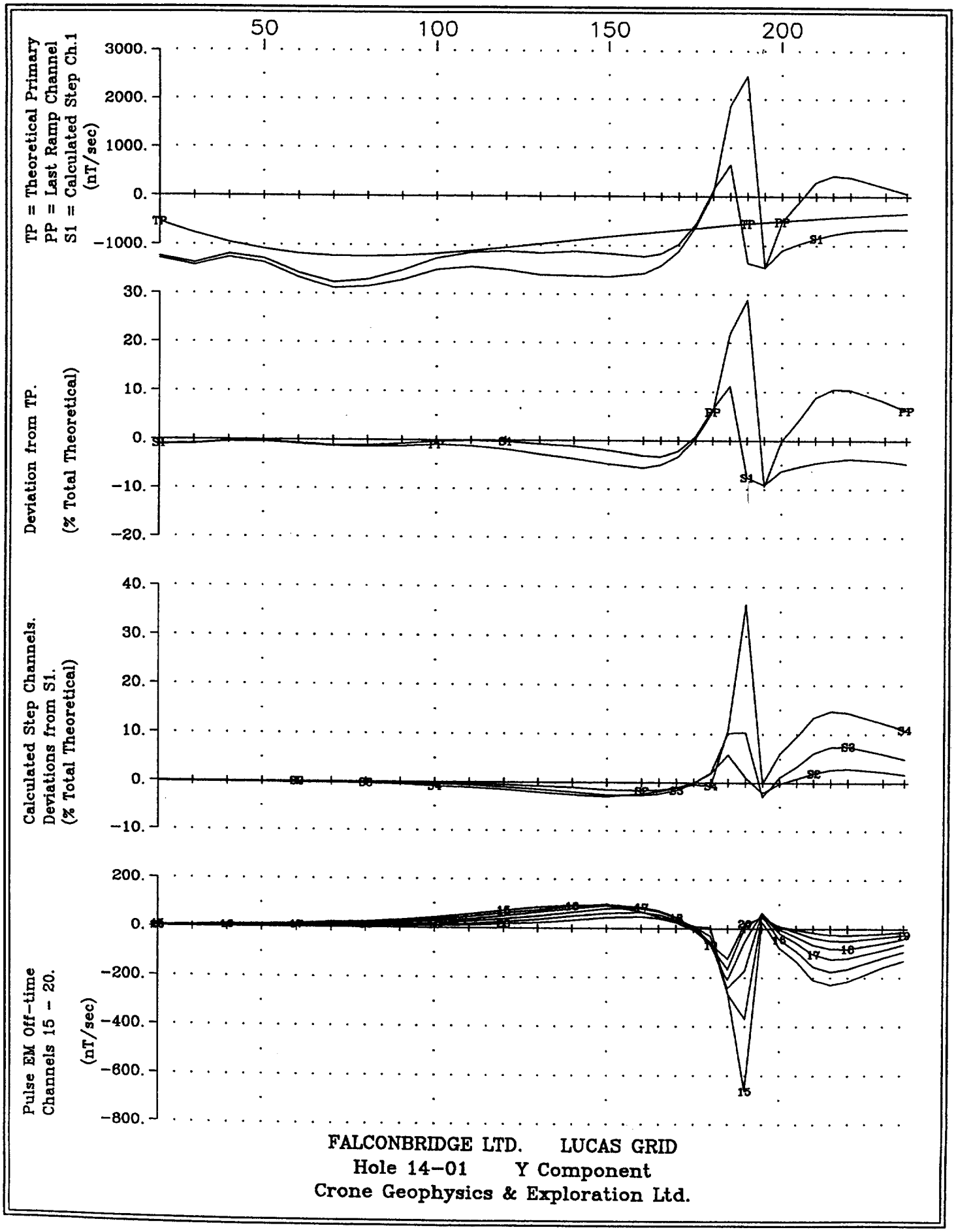
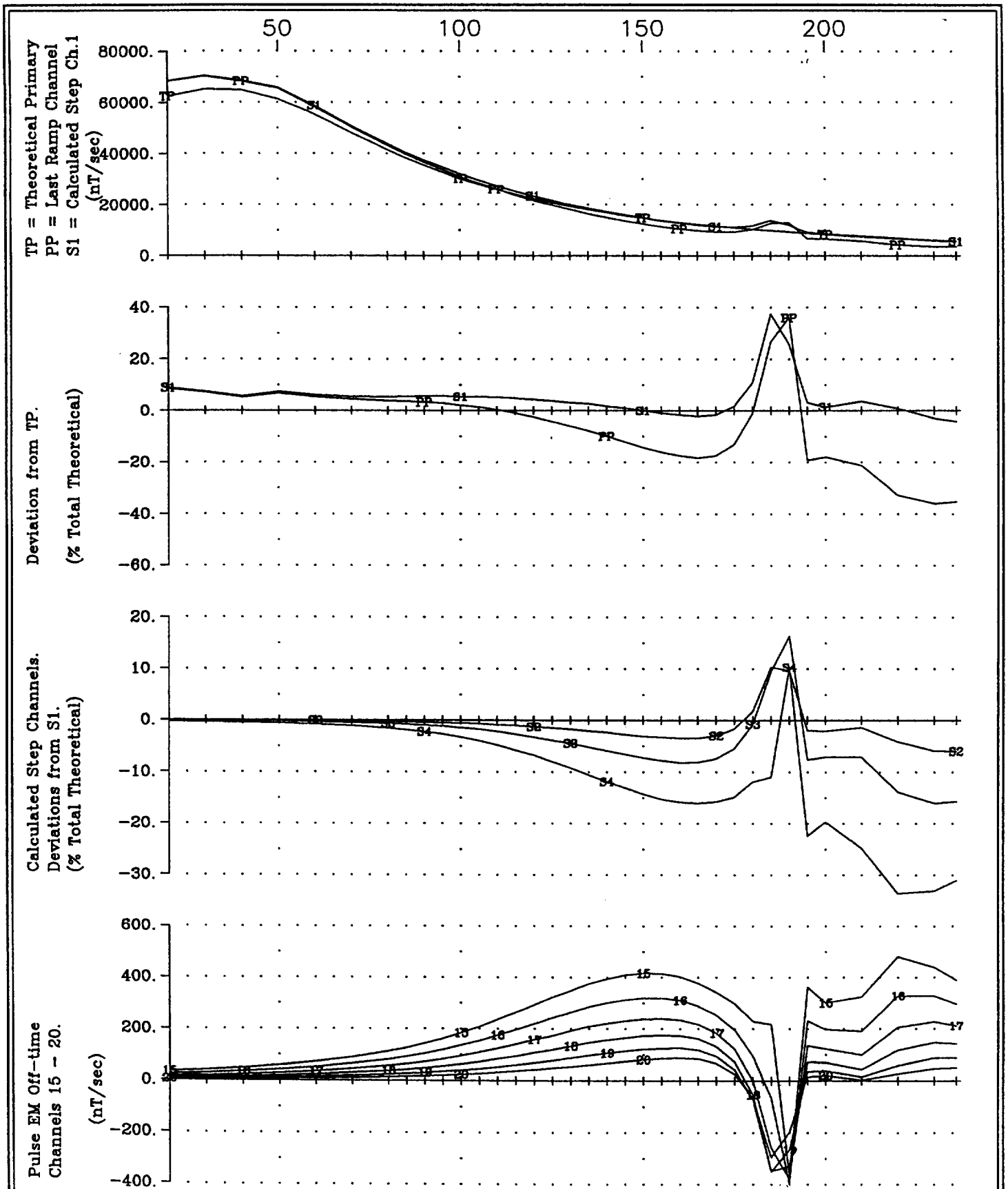


FALCONBRIDGE LTD. LUCAS GRID
Hole 14-01 Y Component
Crone Geophysics & Exploration Ltd.



FALCONBRIDGE LTD. LUCAS GRID
Hole 14-01 Z Component
Crone Geophysics & Exploration Ltd.

Appendix D:
Pulse EM Data Profiles (Lin-Log scale)

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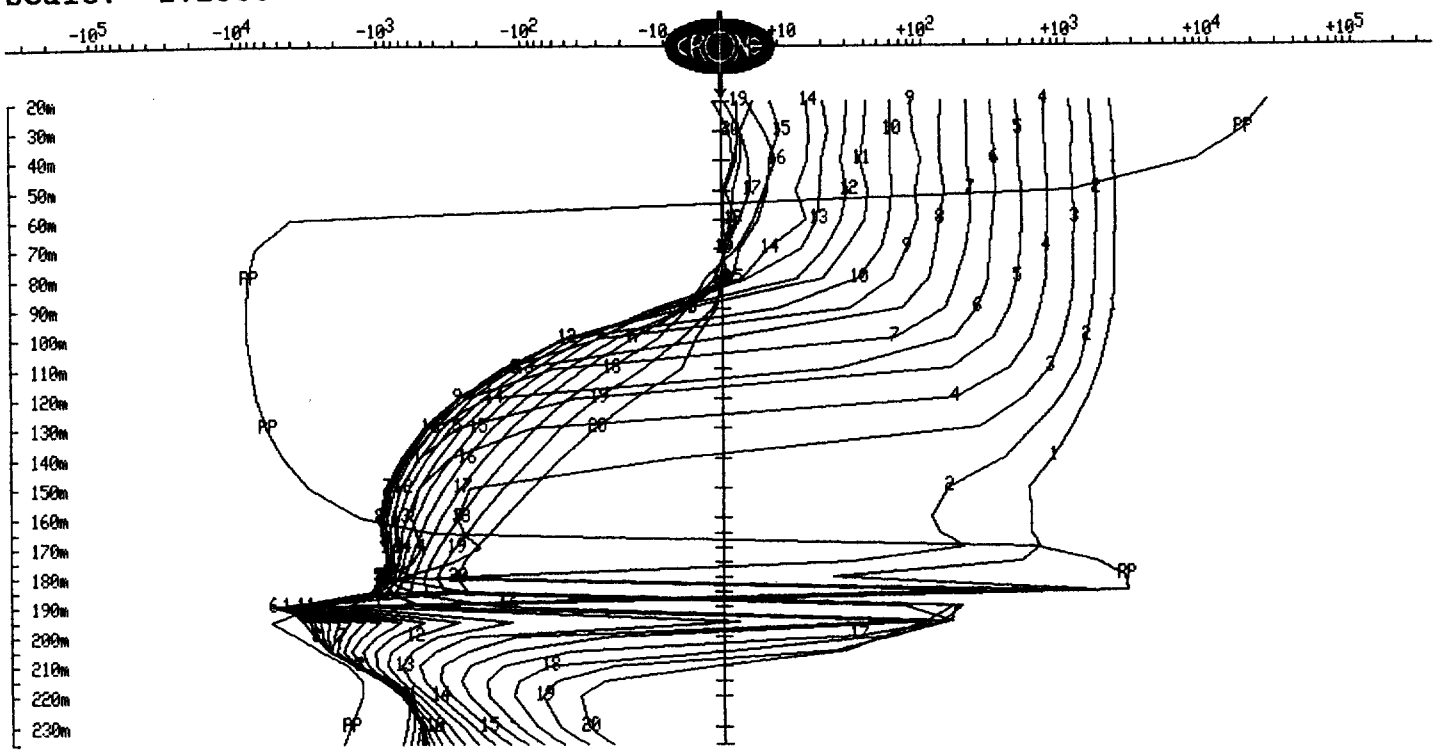
BOREHOLE PEM 2.222 17.

Client	: **FALCONDBRIDGE**	Hole	: **LUC14-01**
Grid	: **LUCAS**	Tx Loop	: **14-01**
Date	: **Feb 18, 2000**	File name	: **1401XYT.PEM**

Data Corrected for Probe Rotation using Orientation Tool #17
X COMPONENT dBx/dt nanoTesla/sec - 20 channels and PP

Scale: 1:2500



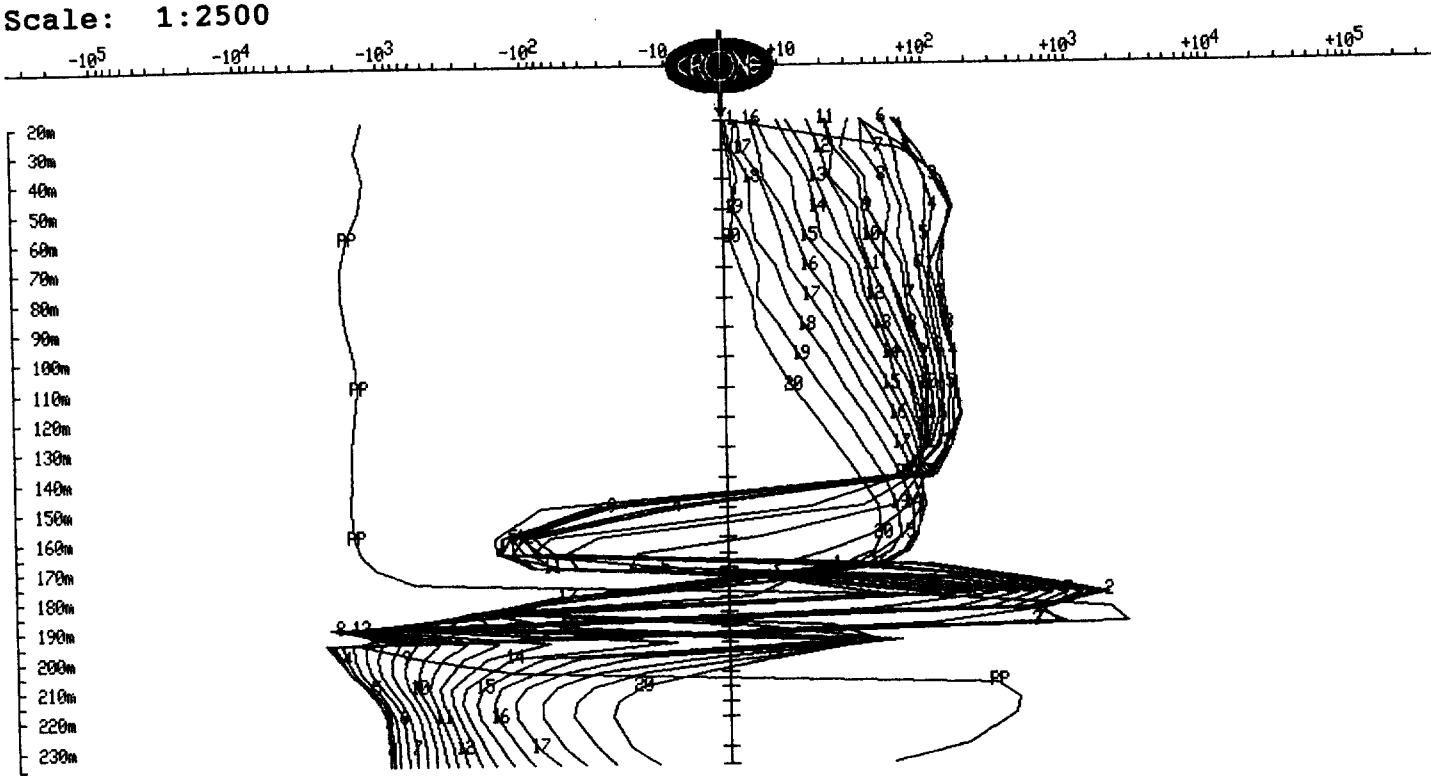
CRONE GEOPHYSICS & EXPLORATION LTD
BOREHOLE PEM

2.22217

Client	: FALCONDBRIDGE	Hole	: LUC14-01
Grid	: LUCAS	Tx Loop	: 14-01
Date	: Feb 18, 2000	File name	: 1401XYT.PEM

Data Corrected for Probe Rotation using Orientation Tool #17
Y COMPONENT dBy/dt nanoTesla/sec - 20 channels and PP

Scale: 1:2500



CRONE GEOPHYSICS & EXPLORATION LTD.

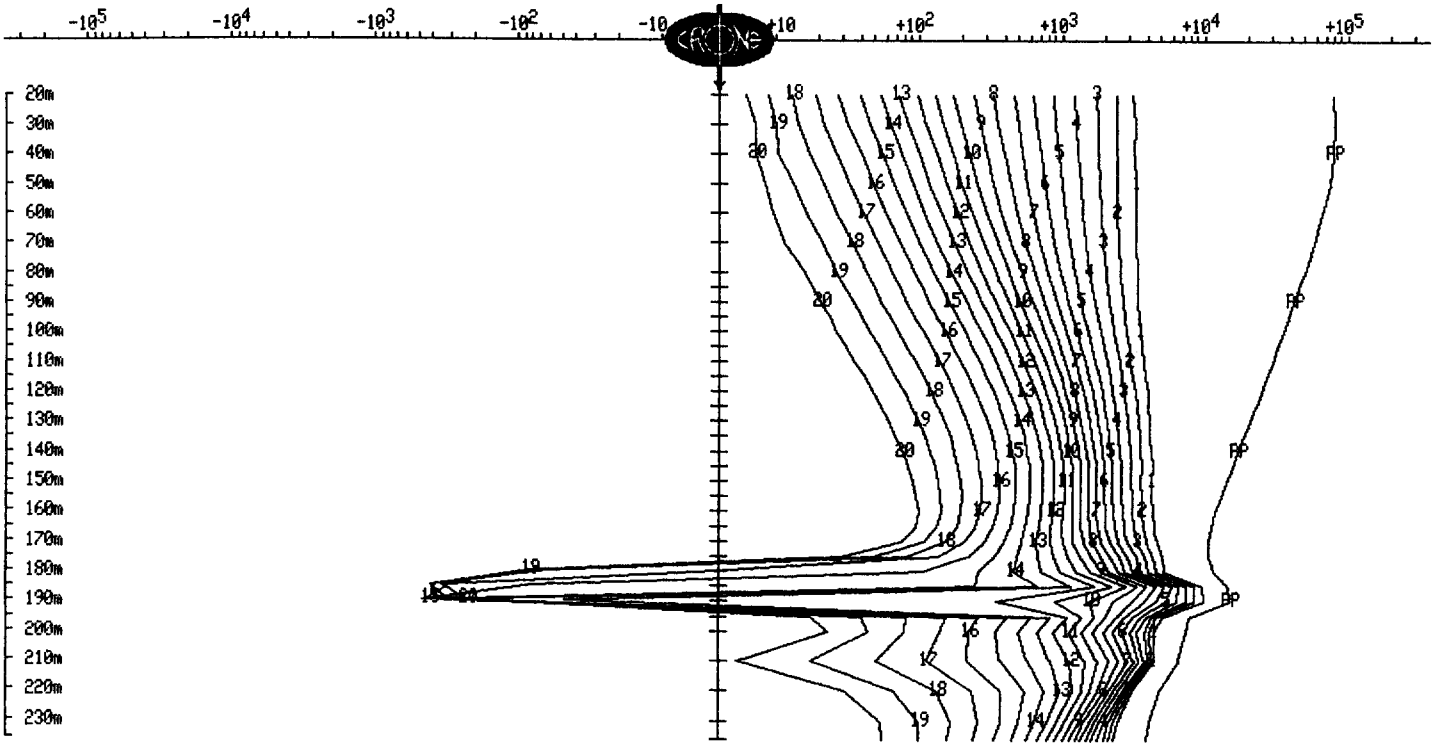
BOREHOLE PEM

22217.

Client	: **FALCONDBRIDGE**	Hole	: **LUC14-01**
Grid	: **LUCAS**	Tx Loop	: **14-01**
Date	: Feb 18, 2000	File name	: LUC1401Z.PEM

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

Scale: 1:2500



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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, 8.88ms, 16.66ms, 50.00 ms, 100.00ms, 150ms, 33.33ms, 10ms, 20ms, 30ms
- ramp times: 0.5ms, 1.0ms, 1.5ms + fast ramp option
- operating voltage: 24v to 120v (2 kw); 48v to 240v (4 kw)
- output current: 5amp to 30amp
- 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 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.

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HOLE NUMBER: LUC13-01

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 04/19/2001
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: KIDD-HBED JV
PROJECT NUMBER: 426
CLAIM NUMBER: A1; SpectrEM Target 10
LOCATION: South Lucas Twp

PLOTTING COORDS GRID: UTM
NORTH: 5405386.00N
EAST: 479378.00E
ELEV: 3320.00

ALTERNATE COORDS GRID: 99Luc13
NORTH: 184+20N
EAST: 155+80E
ELEV: 3320.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 224.00M
START DEPTH: 0.00M
FINAL DEPTH: 224.00M

COLLAR ASTRONOMIC AZIMUTH: 360° 0' 0"

GRID ASTRONOMIC AZIMUTH: 360° 0' 0"

DATE STARTED: 02/18/ 00
DATE COMPLETED: 02/22/ 00
DATE LOGGED: 02/27/ 00

COLLAR SURVEY: NO
RQD LOG: NO
HOLE MAKES WATER: YES

PULSE EM SURVEY: YES
PLUGGED: YES
HOLE SIZE: BQ

CONTRACTOR: Bradley Bros.
CASING: 22m BW left in hole
CORE STORAGE: Kidd Creek Minesite
UTM COORD.:

COMMENTS : Targeted SpectrEm anomaly 10; intersected weakly sulphidic 5ag at approx 192m depth
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
35.00	0° 0' 0"	-47° 0' 0"	S	OK	shallow?	-	-	-	-	-	
86.00	1° 0' 0"	-46°30' 0"	S	OK		-	-	-	-	-	
140.00	1°30' 0"	-44° 0' 0"	S	OK		-	-	-	-	-	
200.00	0° 0' 0"	-43° 0' 0"	S	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 22.00	«┤ob├» Overburden	Overburden -expected deeper cover				
22.00 TO 79.16	«2/7,a,m» Mafic volcanic/intrusive	Carbonitized medium grained mafic volcanic or fine grained mafic intrusive -finely mottled deep green with tiny off-white to grey spots (leucoxene-bearing); coarser light grey to off-white spots are feldspar phenocrysts; in places the feldspars get large enough to impart a "gabbroic" texture to the core -could be a fine grained intrusive (gabbro) or a medium grained flow -relatively soft, massive (non-foliated) and non to weakly magnetic -frequent zones on the metre scale that are brecciated (overpressure) with mm to cm sized angular fragments cemented by carbonate (jigsaw like bx); these zones occasionally contain sulphides -few zones contain fine grained, hard, black to grey mineral is probably magnetite; this would explain the wild fluxuations in mag suscept -leucoxene-bearing rock becomes more obvious at approximately 59m on -broken core/rubble from 66.88-67.78m -lower contact is gradational and is marked by the abrupt decrease in tiny grey spots (leucoxenes?)		-strong pervasive carbonitization throughout -strong fracture controlled (brecciated) carbonitization throughout -weak to moderate pervasive chloritization makes the core relatively soft	metre scale carbonate (calcite)-hosted breccia zones contain up to 10% blebby pyrrhotite -23.86-24.42m: 5-7% Po within carbonate hosted breccia (trace exolved Cp) -25.12-25.56m: 2-3% Po within carbonate hosted breccia zone	Mag susceptibility varies wildly from 0.30 to > 71 (magnetite-ilmenite?) -core recovery is good -individualy blebs of Po are conductive
79.16 TO 191.82	«2,a,p» Mafic volcanic	Massive to weakly pillowed mafic volcanic -distinctly finer grained than above unit -medium to dark green -non magnetic, occasionally amygdaloidal -rare amygdaloidal zone contains well rounded carbonate-filled amygduals to 7mm in size -weak schistosity developped at upper contact from 79.16-82.50m at 55° to CA and is defined by alignment of chlorites and stetching of amygdules -cherty-carbonate-rich and chloritic selvages are 0.5 to 4cm wide and usually contain 5-7% sulphides; selvages spaced at >1m intervals and some are probably not recognized due to quartz-carbonate flooding -115.02-115.07m: crabonate-rich band (selvage?);		-strong pervasive and fracture controlled carbonitization throughout unit -strong to moderate pervasive to patchy chloritization from 79.16 to 171.97m ╢116.05-118.91╟ «SPChl,WPCb»	-overall, trace amounts of Po+Py disseminated throughout unit usually associated with quartz-carbonated flooding -115.04-115.09m: 5cm carbonate rich (selvage?) contains 13-15% finely disseminated Po, 2-3% blebby Py and trace amounts of exolved Cp -116.00-116.07m: same as above but more visible Cp (Tr-0.5%) 117.88-117.90m: massive (75%) pyrrhotite band @45° to CA is strongly conductive	117.88-117.90m: massive pyrrhotite band is strongly conductive -mag suscept ranges from 0.35-0.70 for the unit (pyrrhotite dependant?)

HOLE NUMBER: LUC13-01 DRILL HOLE RECORD DATE: 04/19/2001

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		contains much fine grained disseminated Po and mm thin Po-rich edges (rims) that are strongly conductive -amygdule concentration increases moderately from approx 119m -@ approx 131m the core takes on a ghosty fragmental appearance with mixed motled dark green and dark grey-green decimetre sized patches (may be alteration phenomenon) -weak graphitic component to core commences at approximately 138m and imparts or follows a weakly developped schistosity ╢138.10-138.50╟ «┤S250-55°├» weakly developped schistosity defiend by carbonaceous wisps and possibe fragment flattening ╢171.97-173.04╟ «5,a,g,s» weakly graphitic and sulphidic argillite; sed portions are poor conductors but a 2-3cm wide spongy stringer of po at upper contact is an excellent conductor; bedding in argillite is contorted in places but averages 45° to CA ╢172.28-172.35╟ «┤S0=45°├» bedding in argillite; poor tops indicator (gradding) in gritty portion of sed suggests tops are uphole -173.04-191.82m: mafic unit takes on a distinctive grey colour (bleaching) lower contact is sharp at 55° to CA		-starting at approximately 138m, the core contains a weak graphitic component as wisps and stringers ususally associated with trace pyrrhotite 172.04-191.882m: moderate to strong pervasive carbonitization imparts a bleached look to the core	148.30-148.36m: 2-5% wispy pyrrhotite 157.52-157.93m: carbonate rich selvages as above (10% finely disseminated and blebby po mineralization) with 1-3mm thick conductive po rims -171.97-171.99m: spongy pyrrhotite stringer at top of argillite sub unit is strongly conductive; graphitic portions of sed unit are poor conductors	
191.82 TO 195.31	«5,a,g,s» Graphitic argillite	Moderately sulphidic graphitic argillite -charcoal grey to black, finely bedded to laminated with thin laminations of sulphides -more graphitic portions are weak to strong conductors -broken and poker chip core from 192.50-193.40m (lost core?) -small intervals of bleached mafic volcanic rocks from 192.08-192.25m, 193.73-193.79m and 193.87-194.65m -grading of sulphide concentrations suggest tops is uphole (poor indicator, low confidence)		-weak fracture controlled carbonitization throughout argillite -weak to moderate pervasive carbonitization in mafic subintervals	-very fine grained disseminations of pyrrhotite within the argillite intervals reach 20-25%? (all argillite units are magnetic) -blebby pyrite in argillites reaches 2%	-poor RQD for argillite (40%) -graphitic portions are variably conductive but po-rich seams and layers are excellent conductors

HOLE NUMBER: LUC13-01 DRILL HOLE RECORD DATE: 04/19/2001

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		╢193.60-193.75╟ «┤S0=55°├» bedding in argillite -lower contact is sharp but irregular				
195.31 TO 224.00	«2,a,m» Mafic volcanic	Massive mafic volcanic -medium to dark green-grey, fine grained, non magnegtic -distinct foliation imparted by platty minerals (chlorite) at approx 40° to CA ╢212.50-212.75╟ «┤S2=40°├» well developped foliation -weakly amygdaloidal in places with difuse 1-3mm well rounded calcite-filled blebs -broken core/rubble from 215.57-215.84m -218.60-218.70m: calcite rich+pyrrhotite selvage(?). The selvage is rimmed by mm-thin po which is strongly conductive		-moderate to strong pervasive and weak fracture controlled carbonitization throughout unit -weak pervasive chlorotization throughout	-5-7% wispy and disseminated pyrrhotite associated with calcite+chlorite selvage (?) from 218.60-218.70m	-good core recovery except for 205.56-205.83m -mag suscept ranges from 0.24-0.36 -mm thin po wisps are conductive @218.60-218.80m
224.00 TO 224.00	«EOH»	End of Hole				36 boxes of BQ core hole is capped core stored at Kidd Creek Minesite

HOLE NUMBER : LUC13-01

ASSAYS SHEET

DATE: 19/04/2001

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Sb ppm
AU08188	23.36	23.86	0.50	78	155	1	63.0	0	0									
AU08189	23.86	24.42	0.56	56	157	1	38.0	0	0									
AU08190	24.42	25.12	0.70	114	101	1	57.0	3	0									
AU08191	25.12	25.56	0.44	92	102	1	53.0	3	0									
AU08192	25.56	26.18	0.62	94	111	1	54.0	0	0									
AU08194	114.25	114.90	0.65	117	79	1	36.0	0	0									
AU08195	114.90	115.21	0.31	128	107	1	33.0	0	0									
AU08196	115.21	116.00	0.79	114	83	1	38.0	0	0									
AU08197	116.00	116.30	0.30	246	100	1	42.0	3	0									
AU08198	116.30	117.53	1.23	142	118	1	39.0	0	0									
AU08199	117.53	117.78	0.25	85	119	1	29.0	10	0									
AU08200	117.78	118.38	0.60	86	165	1	30.0	7	0									
AU08201	157.10	157.52	0.42	112	185	1	26.0	0	0									
AU08202	157.52	157.93	0.41	135	261	1	25.0	7	0									
AU08203	157.93	158.35	0.42	56	208	1	38.0	0	0									
AU08204	171.41	171.97	0.56	156	317	5	14.0	7	0									
AU08205	171.97	173.04	1.07	84	1410	5	34.0	14	0									
AU08206	173.04	173.42	0.38	80	213	1	79.0	0	0									
AU08207	191.00	191.82	0.82	94	142	1	102.0	0	0									
AU08208	191.82	193.87	2.05	58	368	4	44.0	3	0									
AU08209	193.87	194.65	0.78	40	167	1	82.0	0	0									
AU08210	194.65	195.31	0.66	92	325	10	43.0	3	0									
AU08211	195.31	195.86	0.55	48	182	1	11.0	0	0									

HOLE NUMBER : LUC13-01 GEOCHEMICAL ASSAY DATE: 19/04/2001

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AU08501	26.00	29.00	3.00	43.07	12.35	10.58	4.75	2.83	0.10	10.74	1.21	0.12	0.26		10.81	96.82	20	70					70	100	55	145	2/7,a,m2	(h)v!	91
AU08502	56.00	59.00	3.00	51.85	12.88	7.11	3.90	4.09	0.19	9.37	1.27	0.22	0.19		6.36	97.43	20	120					25	95	40	125	2/7,a,m2	(j)	113
AU08503	86.00	89.00	3.00	44.12	14.03	10.04	4.55	2.95	0.07	11.45	1.54	0.14	0.32		7.73	96.94	25	80					120	130	45	90	2,a,m,p2	(h)v	107
AU08504	116.00	119.00	3.00	38.57	13.78	6.64	5.78	0.44	0.27	19.01	1.83	0.18	0.53		7.75	94.78	30	110					65	210	40	50	2,a,m,p2	(h)v	187
AU08505	149.00	152.00	3.00	46.98	13.16	6.81	6.36	2.00	0.01	12.03	1.58	0.24	0.35		7.35	96.87	30	100					25	170	75	155	2,a,bx,2	(h)v	149
AU08506	185.00	188.00	3.00	49.15	17.52	4.84	5.72	3.71	0.13	9.40	1.57	0.17	0.18		4.85	97.24	20	100					55	140	120	190	2,a,m,C2	(j)w	202
AU08507	212.00	215.00	3.00	53.92	13.42	6.37	2.32	4.44	0.13	8.55	1.63	0.50	0.29		5.74	97.31	30	150					30	140	15	45	2,a,m 2	(j)yB	123

HOLE NUMBER : LUC13-01 GEOCHEMICAL ASSAYS DATE: 19/04/2001

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	HF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
AU08501	26.00	29.00	3.00			40		0.12	220																				
AU08502	56.00	59.00	3.00			30		0.07	105																				
AU08503	86.00	89.00	3.00			50		0.11	315																				
AU08504	116.00	119.00	3.00			55		0.20	330																				
AU08505	149.00	152.00	3.00			40		0.06	235																				
AU08506	185.00	188.00	3.00			55		0.11	220																				
AU08507	212.00	215.00	3.00			30		0.07	90																				

HOLE NUMBER : LUC13-01 GEOCHEMICAL ASSAYS DATE: 19/04/2001

Sample	From (M)	To (M)	Leng. (M)	DY PPM	ER PPM	LU PPM	OS PPB	IR PPB	RU PPB	RH PPB	PT PPB	PD PPB	LI PPM	BE PPM	MN PPM	GA PPM	GE PPM	IN PPM	TL PPM	SC PPM	BR PPM	YB PPM	NB PPM	HG PPB	MGO#	CA/AL	NI/MGO	ISHIKW	ZN/NA2
AU08501	26.00	29.00	3.00											5						25			10		0.51	0.86	12	27	35
AU08502	56.00	59.00	3.00											5						15			<10		0.50	0.55	10	27	23
AU08503	86.00	89.00	3.00											5						35			10		0.49	0.72	10	26	44
AU08504	116.00	119.00	3.00											5						35			10		0.42	0.48	7	46	477
AU08505	149.00	152.00	3.00											5						25			10		0.56	0.52	12	42	85
AU08506	185.00	188.00	3.00											5						30			10		0.59	0.28	21	41	38
AU08507	212.00	215.00	3.00											5						20			<10		0.39	0.47	6	18	32

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HOLE NUMBER: LUC14-01

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 04/21/2001
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: KIDD-HBED JV
PROJECT NUMBER: 426
CLAIM NUMBER: A1;SpectrEM Target 8
LOCATION: South Lucas Twp

PLOTTING COORDS GRID: UTM
NORTH: 5405191.00N
EAST: 481192.00E
ELEV: 3320.00

ALTERNATE COORDS GRID: 99Luc14
NORTH: 183+60N
EAST: 174+40E
ELEV: 3320.00

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 244.00M
START DEPTH: 0.00M
FINAL DEPTH: 244.00M

COLLAR ASTRONOMIC AZIMUTH: 180° 0' 0"

GRID ASTRONOMIC AZIMUTH: 180° 0' 0"

DATE STARTED: 02/14/ 00
DATE COMPLETED: 02/17/ 00
DATE LOGGED: 02/23/ 00

COLLAR SURVEY: NO
RQD LOG: NO
HOLE MAKES WATER: YES

PULSE EM SURVEY: YES
PLUGGED: YES
HOLE SIZE: BQ

CONTRACTOR: Bradley Bros.
CASING: 10m BW left in the hole
CORE STORAGE: Kidd Creek Minesite
UTM COORD.:

COMMENTS : Targeted SpectrEm anomaly 8; intersected minor selvage controlled Po mineralization at target depth
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
20.00	188° 0' 0"	-53°30' 0"	S	OK	spotted 8 degrees off?	-	-	-	-	-	
71.00	189°30' 0"	-47° 0' 0"	S	OK	shallowed significantly	-	-	-	-	-	
122.00	193° 0' 0"	-42° 0' 0"	S	OK		-	-	-	-	-	
173.00	200° 0' 0"	-36°30' 0"	S	OK		-	-	-	-	-	
230.00	200° 0' 0"	-37° 0' 0"	S	OK		-	-	-	-	-	
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LOGGED BY: G. De Schutter

HOLE NUMBER: LUC14-01 DRILL HOLE RECORD DATE: 04/19/2001

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 10.00	«ob»	Overburden -expected more overburden (40m?)				
10.00 TO 114.20	«2,a,p,bx» Mafic volcanic breccia	Mafic Volcanic (pillowed) Breccia -coarsely patchy dark green and lighter green with occasional minor intervals that contain very dark green to black mm sized fracture fills -generally hard except where chloritic -non to very weakly magnetic -unit is generally massive (non foliated) with intervals that are internally brecciated (autobrecciated) -rare pillow selvages are chloritic and may contain hyaloclastite material are up to 3cm wide -broken/poker chip core from 39.85-40.55m -sulphide content of main rock mass incresses slightly from 77m on down to 1-2 and locally 5% over 2-3m intervals; this is confirmed by the increase of the mag suscept readings that change from an average of 0.40 to 0.80 and greater at this depth -few mm to cm thick chert bands (selvages?) contain appreciable amounts of very fine grained Po and trace Cp (e.g. 81.79-81.82m; 90.45-90.46m;90.94-90.95m) -weak foliation imparted by the alingment/stretching of fragments (maybe even amygduals) at approx 50° to CA @ 93.50m -lower contact is sharp at 70° to CA and is demarked by a quartz vein.		-weak to moderate patchy and fracture controlled chloritization throughout; especially in autobrecciated zones (e.g. 20-23.00m; 46.00-53.00m) -moderate to strong pervasive and fracture controlled carbonitization -weak to moderate fracture controlled and patchy quartz-epidote alteration from 21-40m	-trace recrystallized pyrite cubes to 3mm in size disseminated throughout unit -nil to trace pyrrhotite blebs rarely seen in more chloritic sections (usually within selvages) -2-5% Pyrite blebs from 39.90-40.30m -81.79-81.82m and 90.45-90.46m: very finely disseminated pyrrhotite +/- Cp within a cherty bands to 8mm wide. Band is at 40° to CA	-very good core recovery for unit (RQD=80%) -magnetic susceptibility for unit ranges from 0.28 to o.47 mostly depending on Po content
114.20 TO 131.87	«7,b,m» Mafic intrusive	Spotted medium grained mafic intrusive (sill) -dark green with very dark green to black 2-3mm sized spots -generally massive but occasionally demonstrating a weak foliation at 55° to CA (e.g. 116.90-117.20m) -relatively hard and non magnetic -compared to overlying unit, this rock interval does NOT react to warm dilute HCL -rare fracture fills are weakly chloritic -lower contact is sharp and distinct at 60° to CA		-weak fracture controlled chloritization throughout	-trace recrystallized pyrite blebs to 2 mm noted on fracture planes -pyrite also occurs as rare 2-3 cm clusters	-very good core recovery (RQD=90%) -mag suscept ranges from 0.39 to 0.54

HOLE NUMBER: LUC14-01 DRILL HOLE RECORD DATE: 04/19/2001

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		and is demarked by a chloritic slip plane and the immediate loss of the spotted texture				
131.87 TO 156.33	«2,a,p,bx» Mafic volcanic breccia	Mafic Volcanic (pillowed) Breccia -similar to 10.00-114.20m above. -coarsely mottled green and very dark green to black with zones of silicified/carbonitized (bleached) green rock -selvages are 0.5 to 4cm wide and are very chloritic and contain variable amounts of sulphides -brecciated mixture of boudinaged (rounded) milky to weakly smoke quartz vein matrial (to 7cm in size) and mafic volcanic fragments from 133.54-134.96m (carbonitized too) -considerably more sulphide mineralization in this unit than it's equivalent above -lower contact is relatively faint, distinct and irregular and demarked by the loss of carbonitization, change in texture (fine grained to very fine grained) and onset of xenoliths		-strong pervasive and fracture controlled carbonitization (calcite) throughout unit -strong fracture controlled (selvage controlled) chloritization from 149.35-156.33m ‖149.35-156.33‖ «SFCh» Strong fracture controlled chloritization (with sulphides) confined to selvages and breccia matrix -strong fracture controlled and pervasive silicification + carbonitization from 133.54-134.96m	-pyrrhotite-rich (+/- exolved Cp) selvages to 5cm thick at 149.87-149.91m and 149.94-194.98m ‖149.35-150.40‖«5-7%Po»fine grained Po as large blebs and fracture controlled pillow selvages ‖154.16-156.33‖«7-10% Po, Tr-1% Sp» selvage controlled pyrrhotite in chloritic selvages wiith trace fine grained recrystallized glassy ruby red sphalerite as blebs and knots	-good core recovery for unit (RQD=85%) -mag suscept ranges from 0.38-0.52 for unmineralized unit (reaches >2.5 in Po-rich intervals) -mm thick Po stringers that boarder the selvages are strongly conductive as are the mm thick stringers that cut the core at all angles
156.33 TO 192.86	«7,b,m» Mafic intrusive	Spotted Mafic intrusive (sill) -similar to 114.20-131.87m above -overal the unit is green with 1-3mm spots of very dark green to black -weak foiliation defined by stretching or flattening of spots to 50° to CA (e.g. 169.90-170.00m) -from 156.33 to 160.48m the unit is very fine grained (chilled) and contains 20% of xenoliths to 10cm in size of overlyling unit (chloritic pillow breccia) -quartz-feldspar-epidote alteration in patches throughout -minute off-white to pinkish spots disseminated in 2-3m zones (leucoxene-bearing?) -last 50cm of unit is very fine grained (chilled) and contains up to 5% fine recrystallized cubes of py to 1mm in size 183.52-185.19m:strongly silicified (cherty) mafic volcanic; waxy grey in colour and amorphous looking; very hard and non magnetic; ghosty		-moderate patchy to fracture controlled quartz-feldspar-epidote-carbonate alteration throughout unit imparts a streaky texture to the core -milky white quartz veining with minor chlorite, trace py and dc scale xenoliths of 2apbx from 177.15-178.00m -183.52-185.19m: strong pervasive silicification and weak fracture controlled carbonitization	-183.00-183.52: 5% fine recrytallized py cubes -183.52-184.15m: 7-10% stringer and banded pyrrhotite including a 3cm wide band of massive Po at 183.55m	-excellent core recovery for unit (RQD=95%) -mag suscept ranges from 0.45 to 0.75 but increases with increase of sulphide content -mag suscept =0.01 for the strongly altered interval (183.52-185.19) except for sulphide rich portions

2.22217

HOLE NUMBER: LUC14-01 DRILL HOLE RECORD DATE: 04/19/2001

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fragments from 5cm to 25cm in size (flow-top bx?); considerable amount of sulphides present within this subinterval; pseudo flow banding/bedding at 45° to CA at 184.90-185.00m ╢183.52-185.19╟ «2,a,m,Si» -lower contact is sharp and irregular to CA			(conductive) and 3-5% coarsely recrystallized pyrite -183.54-183.79m: 2-3% honey brown coloured sphalerite as smears and stringers ╢183.54-183.79╟ «SphF2-3%»	strongly conductive 3cm wide massive pyrrhotite band @ 183.55m
192.86 TO 195.95	«2,a,bx,Sul» Mafic volcanic breccia	Sulphidic Mafic Volcanic Breccia (Flow top bx?) -coarsely mottled light grey, dark green to black and brassy orange -interval consists of variably altered angular to subangular mafic volcanic fragments to 25cm in size cemented by a highly chloritic, sulphidic, carbonitized and silicified matrix (50/50 mix) -lower contact is sharp and irregular		-strong pervasive and fracture controlled carbonitization throughout unit imparts a bleached appearance to some the larger fragments -moderate to strong pervasive chloritization throughout unit	-10-15% stringer, blebby and wispy pyrrhotite throughout unit at all angles; the po stringers that are subparallel to CA are strongly conductive -trace amounts of exolved chalcopyrite within the po masses -192.86-193.55m: 2-3% sphalerite as isolated patches and smears to 4mm in diameter as well as fine dustings (looks like Kidd-type sphalerite staining) impart a pale pink to purple look to portions of the core ╢192.86-193.55╟ «SphD2-3%»	-excellent core recovery (RQD=90%) -mag suscept readings not accurate due to pyrrhotite content of rock
195.95 TO 244.00	«2,a,Cb» Mafic volcanic	Strongly carbonitized Mafiv volcanic -pale (bleached) grey green to light green -massive (non foliated), non magnetic, relatively soft -ubiquitous calcite and quartz calcite veining throughout unit impart a pseudo brecciated look to the core		-very strong pervasive carbonitization throughout unit -strong fracture controlled quartz-carbonate alteration throughout	-trace amounts of recrystallized pyrite associated with calcite veins and quartz floods	-mag suscept ranges from 0.30-0.42 -good core recovery (RQD=75%)
244.00 TO 244.00	«EOH» End of Hole	End of Hole				42 boxes of BQ core stored at Kidd Creek Minesite -hole making water and is capped

HOLE NUMBER : LUC14-01

ASSAYS SHEET

DATE: 19/04/2001

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Sb ppm
AU08162	68.00	69.00	1.00	95	135	1	36.0	0	0									
AU08163	69.00	70.00	1.00	71	127	1	32.0	0	0									
AU08164	70.00	71.00	1.00	82	122	1	33.0	0	0									
AU08165	89.00	90.00	1.00	81	128	1	25.0	0	0									
AU08166	90.00	91.00	1.00	101	117	1	28.0	0	0									
AU08167	91.00	92.00	1.00	86	122	1	26.0	0	0									
AU08168	148.69	149.35	0.66	129	103	1	88.0	7	0									
AU08169	149.35	150.40	1.05	122	124	1	59.0	3	0									
AU08170	150.40	150.95	0.55	89	141	1	73.0	3	0									
AU08171	153.58	154.16	0.58	115	170	1	71.0	7	0									
AU08172	154.16	154.55	0.39	69	191	1	48.0	7	0									
AU08173	154.55	156.00	1.45	75	289	1	31.0	7	0									
AU08174	156.00	156.33	0.33	143	361	1	62.0	0	0									
AU08175	156.33	156.80	0.47	102	145	1	68.0	3	0									
AU08176	183.00	183.48	0.48	100	199	1	80.0	3	0									
AU08177	183.48	184.14	0.66	395	1630	10	47.0	0	0									
AU08178	184.14	185.19	1.05	50	26	1	13.0	3	0									
AU08179	185.19	185.74	0.55	138	92	1	60.0	7	0									
AU08180	192.33	192.86	0.53	50	232	1	45.0	0	0									
AU08181	192.86	193.55	0.69	165	3160	10	28.0	0	0									
AU08182	193.55	194.14	0.59	130	385	8	32.0	3	0									
AU08183	194.14	195.21	1.07	38	190	1	27.0	3	0									
AU08184	195.21	195.95	0.74	80	81	2	87.0	10	0									
AU08185	195.95	196.69	0.74	91	71	1	122.0	3	0									

HOLE NUMBER : LUC14-01

GEOCHEMICAL ASSAY

DATE: 19/04/2001

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
KA04039	17.00	20.00	3.00	48.29	14.08	8.22	5.72	1.78	0.70	10.14	1.31	0.23	0.14		7.69	98.30	20	120					15	110	40	40	2,a,p,b2(j)v		132
KA04041	47.00	50.00	3.00	43.57	13.24	11.14	4.34	1.30	0.03	13.95	2.17	0.22	0.40		7.58	97.94	45	140					50	165	45	45	2,a,p,b2(h)vB		106
KA04042	80.00	83.00	3.00	45.09	12.74	9.07	3.29	1.52	1.01	14.26	1.99	0.18	0.46		8.38	97.99	40	130					75	150	55	25	2,a,p,b2(h)vB		110
KA04043	110.00	113.00	3.00	44.86	13.28	7.84	6.19	1.87	0.36	16.86	1.79	0.16	0.24		4.29	97.74	35	110					120	155	45	35	2,a,p,b2(h)v		132
KA04044	122.00	125.00	3.00	46.42	13.46	8.55	5.80	3.41	0.60	15.57	1.62	0.16	0.23		2.00	97.82	30	100					100	145	50	40	7,b,m 7(h)v		107
KA04045	137.00	140.00	3.00	48.81	12.11	7.91	3.33	2.45	0.09	11.97	1.58	0.17	0.36		7.79	96.57	25	100					70	105	35	60	2,a,p,b2(h)v		116
KA04046	152.00	155.00	3.00	40.13	12.22	11.70	3.73	1.31	0.18	14.25	1.20	0.12	0.50		10.54	95.88	20	70					45	200	65	135	2,a,p,b2(h)vIC		93
KA04047	183.52	185.14	1.62	75.17	11.54	1.62	1.85	3.07	1.46	2.34	0.23	0.09	0.04		1.75	99.16	5	130					25	45	15	205	2,a,m,S4jA		188
KA04048	192.86	195.93	3.07	54.04	8.52	5.33	3.73	0.79	0.87	16.40	0.32	0.07	0.66		4.61	95.34	5	70					25	465	30	140	2,a,bx,4jA		122
KA04049	215.00	218.00	3.00	48.00	15.30	11.65	6.13	1.52	0.04	8.37	0.74	0.07	0.24		5.57	97.63	10	40					70	60	125	410	2,a,m,C2(h)w		116

HOLE NUMBER : LUC14-01

GEOCHEMICAL ASSAYS

DATE: 19/04/2001

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	HF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
KA04039	17.00	20.00	3.00			35		0.04	200																				
KA04041	47.00	50.00	3.00			55		0.03	345																				
KA04042	80.00	83.00	3.00			50		0.10	340																				
KA04043	110.00	113.00	3.00			50		0.08	340																				
KA04044	122.00	125.00	3.00			50		0.21	315																				
KA04045	137.00	140.00	3.00			40		0.10	265																				
KA04046	152.00	155.00	3.00			40		0.19	225																				
KA04047	183.52	185.14	1.62			5		0.17	20																				
KA04048	192.86	195.93	3.07			10		2.39	80																				
KA04049	215.00	218.00	3.00			35		0.10	185																				

HOLE NUMBER : LUC14-01

GEOCHEMICAL ASSAYS

DATE: 19/04/2001

Sample	From (M)	To (M)	Leng. (M)	DY PPM	ER PPM	LU PPM	OS PPB	IR PPB	RU PPB	RH PPB	PT PPB	PD PPB	LI PPM	BE PPM	MN PPM	GA PPM	GE PPM	IN PPM	TL PPM	SC PPM	BR PPM	YB PPM	NB PPM	HG PPB	MGO#	CA/AL	NI/MGO	ISHIKW	ZN/NA2
KA04039	17.00	20.00	3.00											5						20			10		0.57	0.58	7	39	62
KA04041	47.00	50.00	3.00											10						35			30		0.42	0.84	10	26	127
KA04042	80.00	83.00	3.00											10						30			20		0.35	0.71	17	29	99
KA04043	110.00	113.00	3.00											10						35			10		0.47	0.59	7	40	83
KA04044	122.00	125.00	3.00											5						30			10		0.47	0.64	9	35	43
KA04045	137.00	140.00	3.00											5						25			10		0.40	0.65	11	25	43
KA04046	152.00	155.00	3.00											5						25			10		0.38	0.96	17	23	153
KA04047	183.52	185.14	1.62											<5						5			<10		0.65	0.14	8	41	15
KA04048	192.86	195.93	3.07											<5						10			<10		0.35	0.63	8	43	589
KA04049	215.00	218.00	3.00											5						25			10		0.64	0.76	20	32	39

ONTARIO

MINISTRY OF NORTHERN DEVELOPMENT AND MINES

Work Report Summary

Transaction No: W0160.30893 **Status:** APPROVED
Recording Date: 2001-OCT-05 **Work Done from:** 2000-FEB-14
Approval Date: 2001-NOV-16 **to:** 2000-FEB-27

Client(s):

130679 FALCONBRIDGE LIMITED

Survey Type(s):

ASSAY DHGEO PDRILL

Work Report Details:

Claim#	Perform	Perform Approve	Applied	Applied Approve	Assign	Assign Approve	Reserve	Reserve Approve	Due Date
G 6060015	$13,130	$13,130	$0	$0	$3,200	3,200	$9,930	$9,930	
G 6060016	$15,588	$15,588	$0	$0	$3,200	3,200	$12,388	$12,388	
P 1212938	$0	$0	$6,400	$6,400	$0	0	$0	$0	2005-DEC-20
	$28,718	$28,718	$6,400	$6,400	$6,400	$6,400	$22,318	$22,318	

Status of claim is based on information currently on record.

42A14SE2014 2.22217 LUCAS 900

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

Date: 2001-NOV-19

GEOSCIENCE ASSESSMENT OFFICE
933 RAMSEY LAKE ROAD, 6th FLOOR
SUDBURY, ONTARIO
P3E 6B5

Tel: (888) 415-9845
Fax:(877) 670-1555

FALCONBRIDGE LIMITED
SUITE 1200, 95 WELLINGTON STREET WEST
TORONTO, ONTARIO
M5J 2V4 CANADA

Submission Number: 2.22217
Transaction Number(s): W0160.30893

Dear Sir or Madam

Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

If you have any question regarding this correspondence, please contact LUCILLE JEROME by email at lucille.jerome@ndm.gov.on.ca or by phone at (705) 670-5858.

Yours Sincerely,

Ron Gashinski
Supervisor, Geoscience Assessment Office

Cc: Resident Geologist

Falconbridge Limited
(Claim Holder)

David Brett Stevenson
(Agent)

Assessment File Library

Falconbridge Limited
(Assessment Office)

MINISTRY OF NORTHERN DEVELOPMENT AND MINES
PROVINCIAL MINING RECORDER'S OFFICE

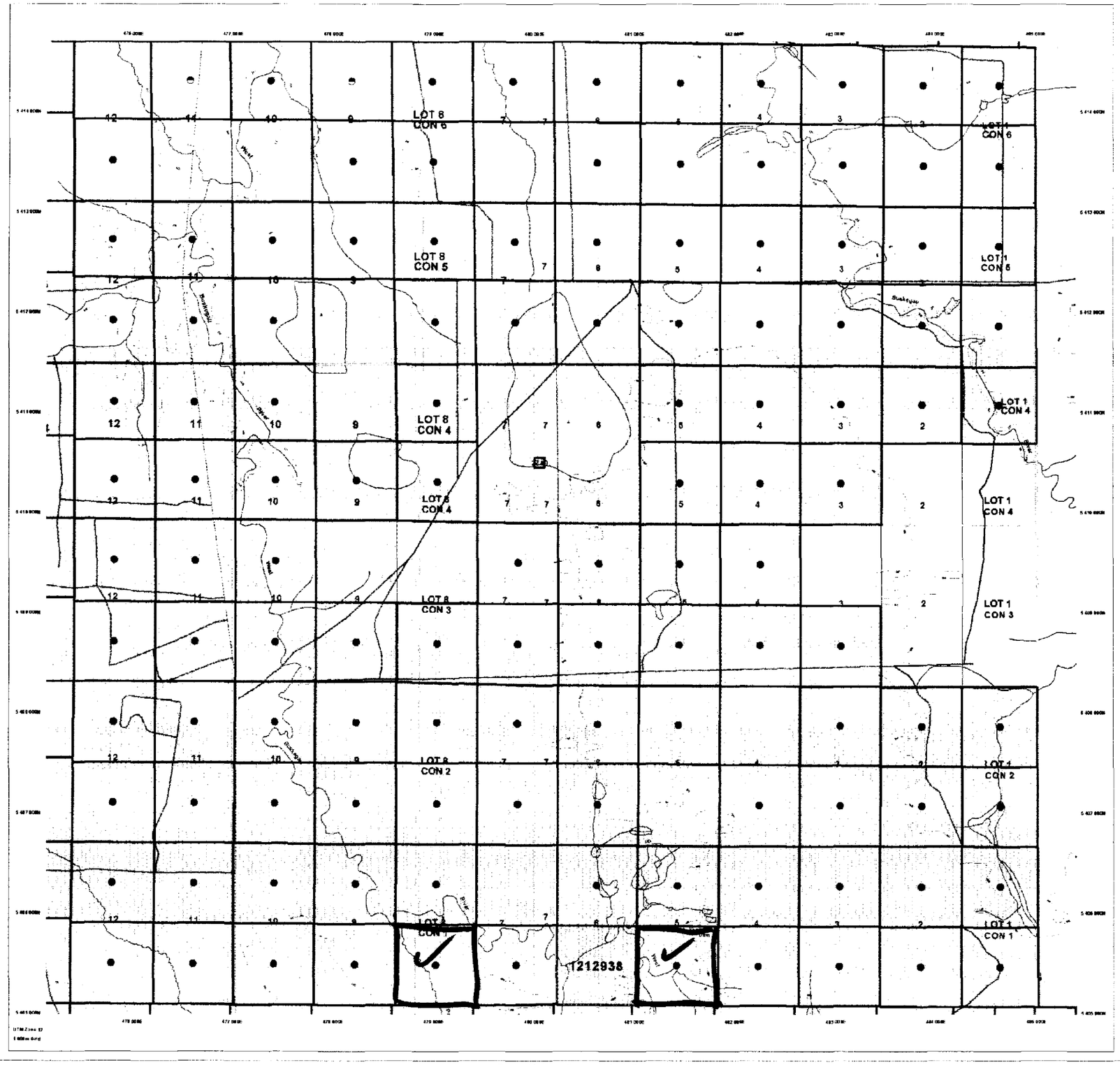
MINING LAND TENURE MAP

Date / Time of Issue Oct 5 2001 14:14h Eastern

TOWNSHIP / AREA	PLAN
LUCAS	G-3534

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division	Porcupine
Land Titles/Registry Division	COCHRANE
Ministry of Natural Resources District	COCHRANE



TOPOGRAPHIC

LAND TENURE

LAND TENURE WITHDRAWALS

IMPORTANT NOTICES

LAND TENURE WITHDRAWAL DESCRIPTIONS

Identifier	Type	Date	Description
2249	Wmin	Jan 1 2001	400 FEET SURFACE RIGHTS RESERVATION AROUND ALL LAKES & RIVERS

IMPORTANT NOTICES

Areas shown which a special regulations, limitations or conditions exist that affect normal prospecting, staking and mineral development ARMIDA.

2.22217
PDRILL
ASSAY
DHGEO

Those wishing to stake mining claims should consult with the Provincial Mining Recorder's Office of the Ministry of Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Currency/accuracy and accuracy are not guaranteed. Additional information may also be obtained through the local Lands Titles or Registry Office, or the Ministry of Natural Resources.

The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of consolidating into the Ministry of Northern Development and Mines web site.

General Information and Limitations

Contact Information:
Provincial Mining Recorders' Office: Toll Free:
Visitor Information Desk: Fax: (807) 475-1196
103 Ranger Lake Rd. E-Mail: (807) 475-1468
Kenbeny, ON P3K 6B5
Home Page: www.mndm.gov.on.ca/MNDM/MINES/LANDS/landsmap_e.htm

Map Datum: NAD 83
Projection: UTM Zone 17
Topographic Data Source: Land Information Ontario
Mining Land Tenure Source: Provincial Mining Recorders' Office

This map may not show unregistered land claims and interests in land including certain patents, leases, easements, right of ways, flooding rights, reserves, or other forms of dispositions of rights and interest from the Crown. Also certain land tenure and land uses that restrict or prohibit them may be staked mining claims may not be found and

200
42A14SE2014 2.22217 LUCAS

230 NEC

234 NEC

611 SND

P 1212939

Creek

LUC14-01
481192mE, 5405191mN
174+40 E, 183+60 N
Az. 180°, Dip -55°

2,a,p,bx
7,b,m
2,a,p,bx
7,b,m
2,a,bx,Sul
2,a,Cb
244.00m. EOH

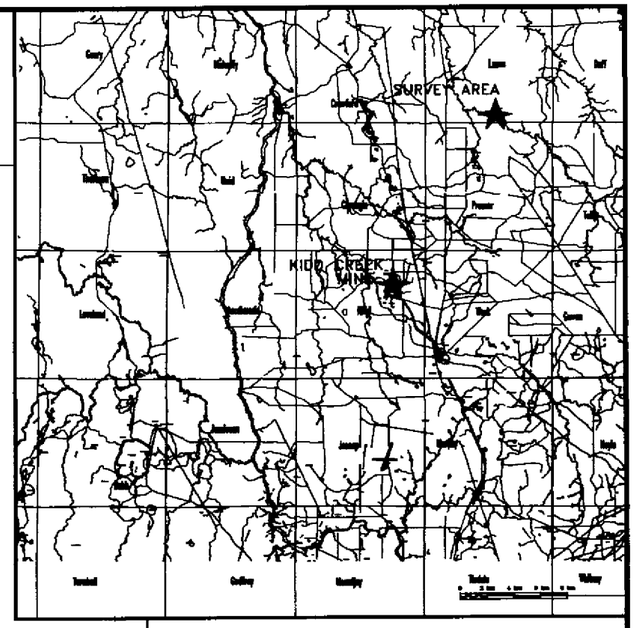
Lucas Twp.

Prosser Twp.

5189 NEC

3769 NEC

Creek



N

FALCONBRIDGE LIMITED
Exploration Division Timmins ONTARIO

KIDD / HBED JOINT VENTURE
LUCAS TOWNSHIP

DIAMOND DRILL PLAN
LUC14-01

TRACED: Prodea	DATE: 23/04/2001	NTS: 42-A/14	PROJECT: 034
DRAWN: del DRAFTING	DATE: 26/04/2001	MAP No:	FILE: LUC14PLAN
SUPERVISED: C G Collins	DATE: 18/04/2001	SCALE 1:5 000 (metres)	
REVISED:	DATE:	0 40 80 120 160	

654 SND

635 SND

4628 SWS

Lucas Twp.

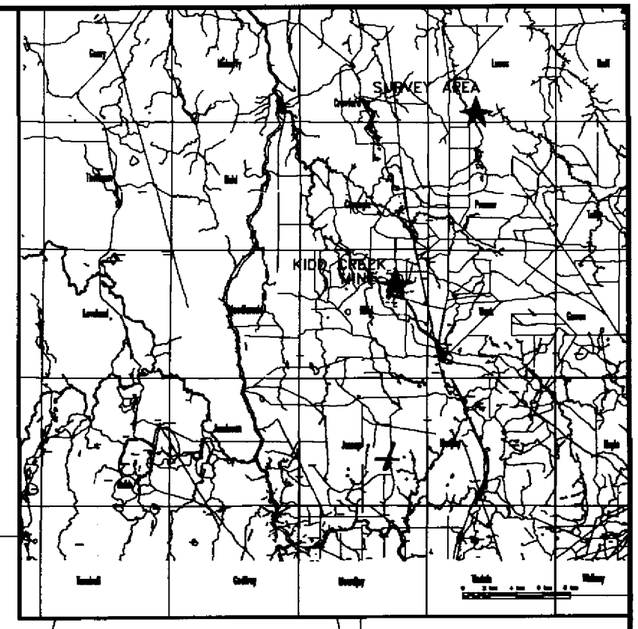
West Buskegau River

Creek

Creek

224.00m.
EOH
2,a,m
5,a,g,s
2,a,p
2/7,a,m

LUC13-01
479378mE, 5405386mN
155+80 E, 184+20 N
Az. 360, Dip -50°



N

FALCONBRIDGE LIMITED

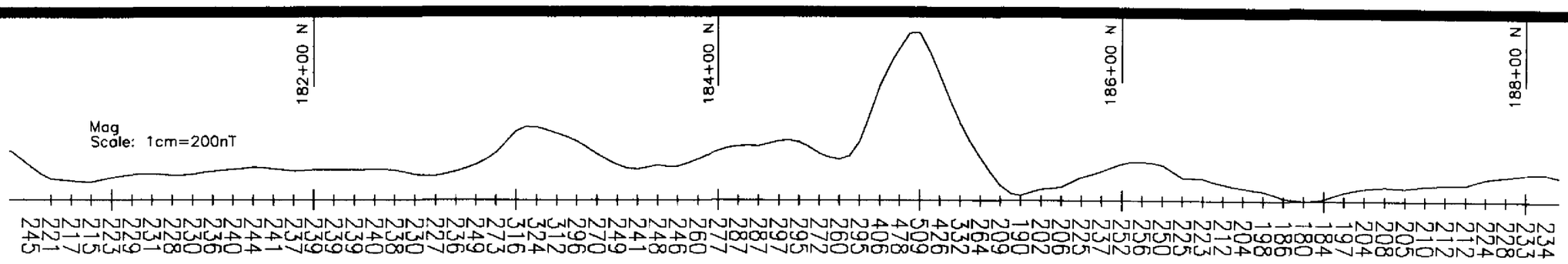
Exploration Division — Timmins ONTARIO

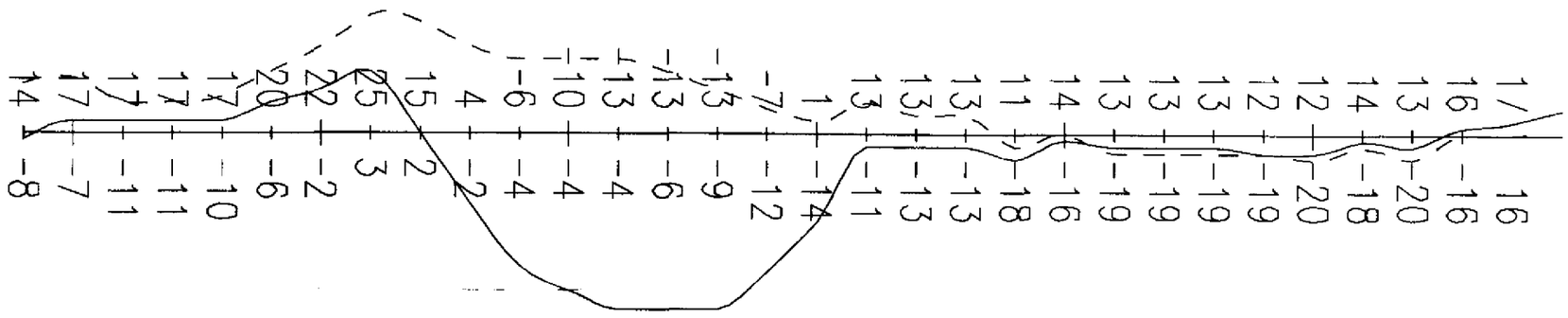
KIDD / HBED JOINT VENTURE

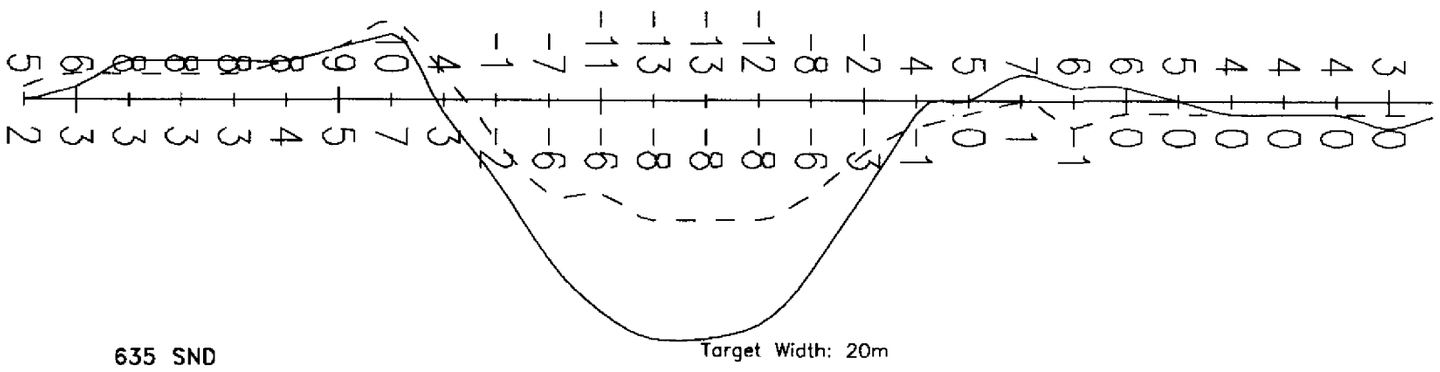
LUCAS TOWNSHIP

DIAMOND DRILL PLAN
LUC13-01

TRACED: Prodee	DATE: 23/04/2001	NTS: 42-A/14	PROJECT: 034
DRAWN: del DRAFTING	DATE: 26/04/2001	MAP No:	FILE: LUC13PLAN
SUPERVISED: C G Collins	DATE: 18/04/2001	SCALE 1:5 000 (metres)	
REVISED:	DATE:	0 40 80 120 160	

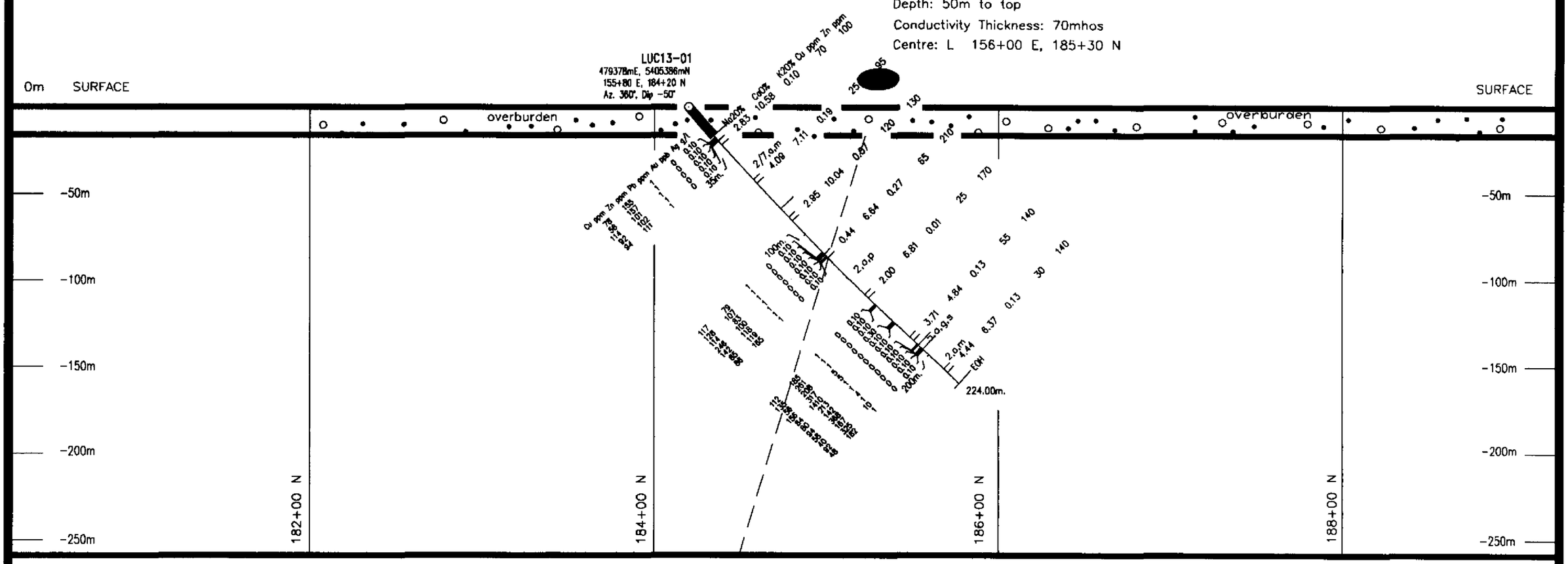






635 SND

Target Width: 20m
Dip: 60° South
Depth: 50m to top
Conductivity Thickness: 70mhos
Centre: L 156+00 E, 185+30 N



Target Property A1 (PN# 426)
SectrEM Target 10

42A14SE2014 2.22217 LUCAS

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KIDD-HBED JV GEOCHEM TABLE LUC13-01

SAMPL No.	FROM (M)	TO (M)	Int (M)	SiO2 %	AL203 %	CAO %	MGO %	NA20 %	K20 %	FE203 %	TIO2 %	P205 %	MNO %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	SR PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM	AG PPM	CD PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	TA PPM	W PPM	MO PPM	LA PPM	LI PPM	BE PPM	MN PPM	CA PPM	SC PPM	NB PPM	MODI	CA/AL	NA/MGO	ISHKW	ZN/NA2
AU08501	26.00	29.00	3.0	43.07	12.35	10.58	4.75	2.83	0.10	10.74	.21	0.12	0.26	10.81	96.82	26	70			70	100	55	145	2/7,a,	2(h)v	91		40		0.12	220											5			25	10	0.51	0.86	12	27	35
AU08502	56.00	59.00	3.0	51.85	12.88	7.11	3.90	4.09	0.19	9.37	1.27	0.22	0.19	8.36	97.43	20	120			25	85	40	125	2/7,a,	2(j)	113		30		0.07	105											5			15	<10	0.50	0.55	10	27	23
AU08503	86.00	89.00	3.0	44.12	14.03	10.04	4.55	2.95	0.07	11.45	1.54	0.14	0.32	7.73	98.94	25	60			120	130	45	90	2,a,m,	2(h)v	107		50		0.11	315											5			35	10	0.49	0.72	10	26	44
AU08504	116.00	119.00	3.0	36.57	13.78	5.64	5.78	0.44	0.27	9.01	1.83	0.18	0.53	7.75	94.78	36	110			65	210	40	50	2,a,m,	2(h)v	187		55		0.20	330											5			35	10	0.42	0.48	7	46	477
AU08505	149.00	152.00	3.0	46.98	13.16	6.81	5.38	2.00	0.01	12.03	1.58	0.24	0.35	7.35	96.87	36	100			25	170	75	155	2,a,bx	2(h)v	149		40		0.06	235											5			25	10	0.56	0.52	12	42	85
AU08506	185.00	188.00	3.0	49.15	17.52	4.84	5.72	3.71	0.13	8.40	1.57	0.17	0.18	4.85	97.24	20	100			55	140	120	190	2,a,m,	2(j)w	202		55		0.11	220											5			30	10	0.59	0.28	21	41	38
AU08507	212.00	215.00	3.0	53.92	13.42	6.37	2.32	4.44	0.13	6.56	1.63	0.50	0.29	5.74	97.31	30	150			30	140	15	45	2,a,m	2(f)B	123		30		0.07	90											5			20	<10	0.39	0.47	6	18	32

KIDD-HBED JV ASSAY TABLE LUC13-01

SAMPL No.	FROM (M)	TO (M)	Int (M)	Cu ppm	Zn ppm	Pb ppm	Bi ppb	Au ppb	Ag ppm	Co %	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Gn %	ROCK T
AU08188	23.38	23.86	0.5	78	155	1	53	<2	0.1								2/7,m
AU08189	23.86	24.42	0.6	56	157	1	58	<2	0.1			5-7%					2/7,m,
AU08190	24.42	25.12	0.7	114	101	1	57	3	0.1								2/7,a,
AU08191	25.12	25.56	0.4	92	102	1	53	3	0.1			3-5%		Tr			2/7,a,
AU08192	25.56	26.18	0.6	94	111	1	54	<2	0.1								2/7,a,
AU08194	114.25	114.90	0.7	117	79	1	56	<2	0.1								2,a,m,
AU08195	114.90	115.21	0.3	28	107	1	53	<2	0.1			10-15%					2,a,m,
AU08196	115.21	116.00	0.8	114	83	1	58	<2	0.1								2,a,m,
AU08197	116.00	116.30	0.3	246	100	1	62	5	0.1			5-7%					2,a,m,
AU08198	116.30	117.53	1.2	42	118	1	59	<2	0.1								2,a,m,
AU08199	117.53	117.78	0.2	95	119	1	29	10	0.1			25%?					2,a,p
AU08200	117.78	118.38	0.6	86	165	1	30	7	0.1								2,a,m,
AU08201	157.10	157.52	0.4	112	185	1	26	<2	0.1								2,a,m,
AU08202	157.52	157.93	0.4	135	261	1	25	7	0.1			7%					2,a,p
AU08203	157.93	158.35	0.4	56	208	1	38	<2	0.1								2,a,m,
AU08204	171.41	171.97	0.6	56	317	5	14	7	0.3								2,a,m
AU08205	171.97	173.04	1.1	94	1410	5	34	14	0.1			5-7%					5,a,(g
AU08206	173.04	173.42	0.4	80	213	1	79	<2	0.1								2,a,m,
AU08207	191.00	191.82	0.8	94	142	1	302	<2	0.1								2,a,m
AU08208	191.82	193.87	2.1	56	368	4	44	3	0.1			5-7%					5,a,g
AU08209	193.87	194.65	0.8	40	187	1	82	<2	0.1								2,a,m
AU08210	194.65	195.31	0.7	92	325	10	43	3	0.1			20%					5,a,g
AU08211	195.31	195.88	0.6	48	182	1	91	<2	0.1								2,a,m

FALCONBRIDGE LIMITED

Exploration Division Timmins ONTARIO

SECTION LOOKING WEST
DDH LUC13-01
GRID 99LUC13

Az 360° Lucas Twp.

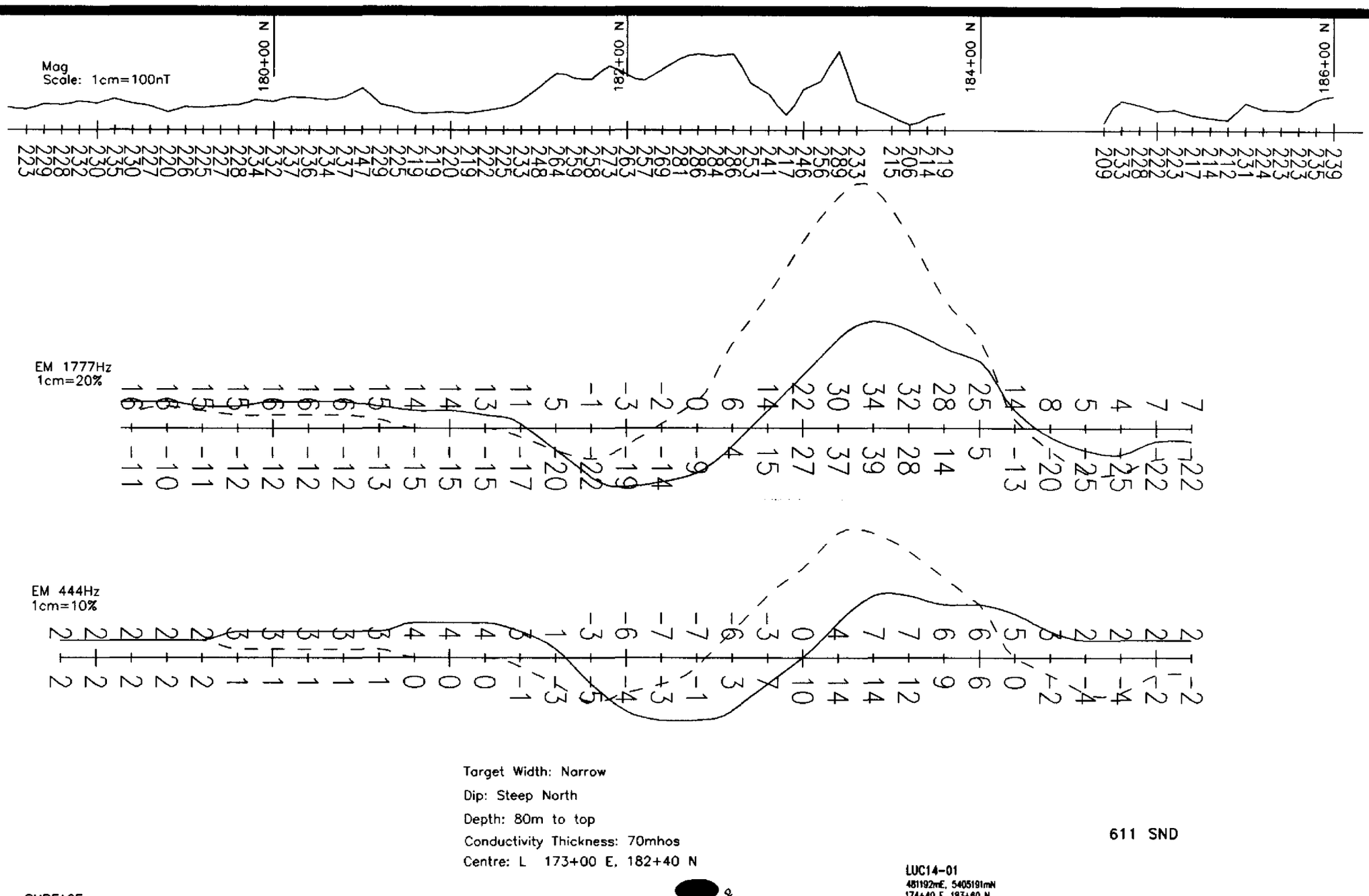
Target Property #: A1

Project #: 426

SCALE 1:2,500 (metres)

0 28 56 84 112

2.22217



Target Property A1 (PN# 426)

SectrEM Target 8

42A14SE2014 2.22217 LUCAS

240

KIDD-HBED JV GEOCHEM TABLE LUC14-01

SAMPL. No.	FROM (M)	TO (M)	Int (M)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	TiO2 %	P2O5 %	MnO %	LOI %	SUM %	Y PPM	Zr PPM	Ba PPM	Sr PPM	Cu PPM	Zn PPM	Ni PPM	Cr PPM	FIELD NAME	CHEM ID	Al PPM	Ag PPM	Cd PPM	Pb PPM	S %	V PPM	As PPM	Sn PPM	Cd PPM	Sb PPM	Bi PPM	Ta PPM	W PPM	Mo PPM	La PPM	Li PPM	Be PPM	Mn PPM	Ga PPM	Sc PPM	Nb PPM	MgO#	CA/AL	Mn/MgO	ISHKW	CN/NA2
KA04039	17.00	20.00	3.0	48.29	14.08	8.22	5.72	1.78	0.70	10.14	1.31	0.23	0.14	7.89	98.30	20	120			15	110	40	40	2.a.p.	2(f)v	132		35		0.04	200											5			20	10	0.57	0.58	7	39	62
KA04041	47.00	50.00	3.0	43.57	13.24	11.14	8.34	1.30	0.03	13.95	2.17	0.22	0.40	7.58	97.94	45	190			50	165	45	45	2.a.p.	2(h)vB	106		55		0.03	345											10			35	30	0.42	0.84	10	26	127
KA04042	80.00	83.00	3.0	45.09	12.74	9.07	3.29	1.52	1.01	14.26	1.99	0.18	0.46	8.38	97.99	40	100			75	150	55	25	2.a.p.	2(h)vB	110		50		0.10	340											10			30	20	0.35	0.71	17	29	98
KA04043	110.00	113.00	3.0	44.86	13.28	7.84	8.19	1.87	0.36	16.86	1.79	0.16	0.24	4.29	97.74	35	110			120	55	85	35	2.a.p.	2(h)v	132		80		0.06	340											10			35	10	0.47	0.59	7	40	83
KA04044	122.00	125.00	3.0	46.42	13.46	8.55	5.80	3.41	0.60	15.57	1.82	0.16	0.23	2.00	97.82	30	100			100	45	90	40	7.b.m	7(h)v	107		50		0.21	315											5			30	10	0.47	0.64	9	35	43
KA04045	137.00	140.00	3.0	48.81	12.11	7.91	3.33	2.46	0.09	11.97	1.58	0.17	0.36	7.79	96.57	25	100			70	105	35	60	2.a.p.	2(h)v	116		40		0.10	265											5			25	10	0.40	0.65	11	25	43
KA04046	152.00	155.00	3.0	40.13	12.22	11.70	3.73	3.31	0.18	14.25	1.20	0.12	0.50	10.54	95.88	20	70			45	200	85	135	2.a.p.	2(h)vl	93		40		0.19	225											5			25	10	0.38	0.96	17	23	153
KA04047	183.52	185.14	1.6	75.17	11.54	1.62	1.85	3.07	1.46	2.34	0.23	0.09	0.04	1.75	99.16	5	130			25	45	15	205	2.a.m.	jA	188		5		0.17	20											<5			5	<10	0.65	0.14	8	41	15
KA04048	192.86	195.93	3.1	54.04	8.52	5.33	3.73	0.79	0.87	8.40	0.32	0.07	0.68	4.61	85.34	5	70			25	465	30	140	2.a.bx	jA	122		10		2.39	80											<5			10	<10	0.35	0.63	8	43	589
KA04049	215.00	218.00	3.0	48.00	15.30	11.65	5.13	1.52	0.04	8.37	0.74	0.07	0.24	5.67	97.83	19	40			70	80	125	410	2.a.m.	2(h)w	116		35		0.10	185											5			25	10	0.64	0.76	20	32	39

KIDD-HBED JV ASSAY TABLE LUC14-01

SAMPL. No.	FROM (M)	TO (M)	Int (M)	Cu ppm	Zn ppm	Pb ppm	Bi ppb	Au ppb	Ag ppm	Co ppm	Est.Ni %	Est.Pb %	Est.Py %	Est.Cp %	Est.Sp %	Est.Gn %	LOOK T
AU08162	68.00	69.00	1.0	85	135	1	36	<2	0.3			2%	2%				2.a.p.
AU08163	69.00	70.00	1.0	71	127	1	32	<2	0.1			Tr	Tr				2.a.p.
AU08164	70.00	71.00	1.0	82	122	1	33	<2	0.1				2%				2.a.p.
AU08165	89.00	90.00	1.0	81	128	1	25	<2	0.1			Tr					2.a.m.
AU08166	90.00	91.00	1.0	101	117	1	28	<2	0.1			2%		Tr			2.a.p.
AU08167	91.00	92.00	1.0	86	122	1	26	<2	0.1			2%		Tr			2.a.p.
AU08168	148.69	149.35	0.7	129	103	1	88	7	0.1								2.a.p.
AU08169	149.35	150.40	1.1	122	124	1	59	3	0.2			7%					2.a.p.
AU08170	150.40	150.95	0.5	89	141	1	73	3	0.1								2.a.p.
AU08171	153.58	154.16	0.6	115	170	1	71	7	0.2								2.a.p.
AU08172	154.16	154.55	0.4	89	191	1	48	7	0.1			7-10%					2.a.p.
AU08173	154.55	156.00	1.4	75	289	1	31	7	0.1			3-5%					2.a.p.
AU08174	156.00	156.33	0.3	143	361	1	32	<2	0.2			3-5%			1-2%		2.a.p.
AU08175	156.33	156.80	0.5	902	145	1	58	3	0.1								7.a.m
AU08176	183.00	183.48	0.5	100	99		30	5	0.2				3-5%				7.a.m
AU08177	183.48	184.14	0.7	395	630	10	17	<2	0.4			5-7%	3-5%		2-3%		2.a.p.
AU08178	184.14	185.19	1.1	90	26	1	13	3	0.2			Tr			Tr		2.a.m.
AU08179	185.19	185.74	0.6	138	92	1	50	7	0.1				1%				7.a.m
AU08180	192.33	192.86	0.5	50	232	1	45	<2	0.1				2%				7.a.m
AU08181	192.86	193.55	0.7	165	3160	10	28	<2	0.3			10%	1%		2-3%		2.a.bx
AU08182	193.55	194.14	0.6	130	585	3	32	3	0.4			7-10%			Tr		2.a.bx
AU08183	194.14	195.21	1.1	38	90		27	5	0.2			5-7%					2.a.p.
AU08184	195.21	195.95	0.7	90	81	2	87	10	0.2			3-5%					2.a.bx
AU08185	195.95	196.69	0.7	91	71	1	122	3	0.1			Tr					2.a.m

FALCONBRIDGE LIMITED

Exploration Division Timmins ONTARIO

SECTION LOOKING WEST

DDH LUC14-01

GRID 00LUC14

Az 180° Lucas Twp.

Target Property #: A1

Project #: 426

SCALE 1:2,500 (metres)

0 28 56 84 112

LU 222.2