OUTER-RIM EXPLORATION SERVICES

ABN 88 104 028 417

Geophysical Contracting Services

100% Australian Owned

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Volume 1 of 1

Client	:	Zinifex Limited
Prospect	:	Chamderlain
Area	:	Rosebery, Tas.
Survey	:	Borehole PEM Survey
Survey Period	:	24th to 30th January, 2007
Operator	:	Muhamad Humam

DAILY LOG: Zinifex Limited - January, 2007

DATE	COMMENTS	CHARGES

Operator: Humam
Fieldie: Vance

24-01-07 We arrived at the Zinifex office at 7.15am, undertook a JSAE (Job Safety Analysis and Environment) for program, dummied CP-254, set up and read the Z component to 625m (using 1024 stacks and 3 to 4 readings per station). We finished up at 6.00pm.

SURVEY PARAMETERS

Loop C4	:400 x 600m
	376725E, 5371600N ; 377100E, 5371600N
	376725E, 5370875N ; 377100E, 5371000N
	376930E, 5370985N ; 377040E, 5370920N
Current	:18 Amps
Time Base	:50 ms
Ramp Time	:1ms
Sync	:Cable
Hole No.	**:CP-354**
	377162E, 5371331N
Depth	:625m
Channels	:36
Components	:Z

1 Survey day $2150.00
1 Field Assist. day $ 300.00

25-01-07 We drove out to site at 7.00am, continued the Z component to 845m and then read the X-Y to 525m. (We packed up all the gear each day in case of theft). The rained nearly all day. We finished up at 5.00pm.

SURVEY PARAMETERS

Loop C4	:400 x 600m
	376725E, 5371600N ; 377100E, 5371600N
	376725E, 5370875N ; 377100E, 5371000N
	376930E, 5370985N ; 377040E, 5370920N
Current	:18 Amps
Time Base	:50 ms
Ramp Time	:1ms
Sync	:Cable
Hole No.	**:CP-354**
	377162E, 5371331N
Depth	:845m (X-y to 525m)
Channels	:36
Components	:Z,X,Y

1 Survey day $2150.00
1 Field Assist. day $ 300.00

26-01-07 We drove out to site at 7.00am and completed the X-Y components by 1.30pm. Meanwhile, Vance retrieved half of the loop wire from the previous job and laid out loop C5 at Chamberlain. We packed up all the gear and returned to the village at 4.30pm - it rained all day.

SURVEY PARAMETERS

Loop C4	:400 x 600m
	376725E, 5371600N ; 377100E, 5371600N
	376725E, 5370875N ; 377100E, 5371000N
	376930E, 5370985N ; 377040E, 5370920N
Current	:18 Amps
Time Base	:50 ms
Ramp Time	:1ms
Sync	:Cable
Hole No.	**:CP-354**
	377162E, 5371331N
Depth	:845m
Channels	:36
Components	:X,Y

1 Survey day $2150.00
1 Field Assist. day $ 300.00

27-01-07 We drove out to site at 7.30am, waited a little while for the weather to ease, set up and read the Z component again for CM-354, using loop C5. We then read the X-Y components to 350m, packed up and returned to the village by 5.00pm. It rained nearly all day.

SURVEY PARAMETERS

Loop C5	:900 x 600m
	377100E, 5371600N ; 378000E, 5371600N
	377100E, 5371000N ; 378000E, 5371000N
Current	:12 Amps
Time Base	:50 ms
Ramp Time	:1ms
Sync	:Cable
Hole No.	**:CP-354**
	377162E, 5371331N
Depth	:845m (X-Y to 350m)
Channels	:36
Components	:Z,X,Y

1 Survey day $2150.00
1 Field Assist. day $ 300.00

28-01-07 We drove out to site at 7.00am, set up and completed the X-Y

components. We then dummied CP-353 to about 900m, packed up all the gear and returned to the village at 5.00pm.

SURVEY PARAMETERS

Loop C5	:900 x 600m
	377100E, 5371600N ; 378000E, 5371600N
	377100E, 5371000N ; 378000E, 5371000N
Current	:12 Amps
Time Base	:50 ms
Ramp Time	:1ms
Sync	:Cable
Hole No.	**:CP-354**
	377162E, 5371331N
Depth	:845m
Channels	:36
Components	:X,Y

1 Survey day $2150.00
1 Field Assist. day $ 300.00

29-01-07 We drove out to site at 7.00am, set up gear then started the X-Y survey on CP-353. We got an open loop at 11.00am and it took a couple of hours to locate and repair it (seems it may have been a bike rider on an old track). We continued reading the X-Y to 725m before packking up and heading back by 5.00pm.

SURVEY PARAMETERS

Loop C5	:900 x 600m
	377100E, 5371600N ; 378000E, 5371600N
	377100E, 5371000N ; 378000E, 5371000N
Current	:12 Amps
Time Base	:50 ms
Ramp Time	:1ms
Sync	:Cable
Hole No.	**:CP-353**
	377163E, 5371332N
Depth	:725m
Channels	:36
Components	:X,Y

1 Survey day $2150.00
1 Field Assist. day $ 300.00

30-01-07 We drove out to site at 7.00am, set up and waited for the weather to ease a bit. We completed the X-Y, recovered the loop (in really bad weather conditions), packed up and returned to the Zinifex office at 2.00pm. We spoke to the geologist, letting him know the job was finished, then returned to town at 3.00pm.

SURVEY PARAMETERS

Loop C5	:900 x 600m
	377100E, 5371600N ; 378000E, 5371600N
	377100E, 5371000N ; 378000E, 5371000N
Current	:12 Amps
Time Base	:50 ms
Ramp Time	:1ms
Sync	:Cable
Hole No.	**:CP-353**
	377163E, 5371332N
Depth	:900m
Channels	:36
Components	:X,Y

1 Survey day $2150.00
1 Field Assist. day $ 300.00

31-01-07 We drove to the next job.

¼ Mob. day $ 287.50

Appendix

CRONE GEOPHYSICS & EXPLORATION LTD.

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

3-D PULSE EM - SYSTEM DESCRIPTION

Name of System: Crone Pulse EM (PEM).

Method Employed: TDEM (Time-domain electromagnetics) or TEM (Transient EM).

Survey Types:
- **Surface** - DEEPEM, Large In-Loop, Moving Loop, Moving Coil - 3 components.
- **Borehole** - 3D Borehole PEM - 3 components are measured and oriented.
- **Underground** - 3D Borehole PEM - including flat or up-dipping holes.

Measured Quantity: Rate of change of magnetic field in nanoTesla/second (same as nV/m^2).

Receiver: Fully digital (input is digitized before stacking) with 24 bit dynamic range.

Channels (Gates):
- Typically 20 logarithmic channels in off-time and 1 during ramp (PP).
- Operator can select from several built-in tables including:
  - 10, 20, or 30 channel system (single, double, triple density)
  - 45 channels 4.5 usec wide covering the end of ramp and start of off-time.
  - 42 channels and PP for 150 msec time base.
  - full sampling of ramp and off-time (8 on ramp and full off-time starting at 0 usec).
- Programmable channel positions in the field.

Stacking: 512 to 65536 stacks with spike rejection.

Gain Control: Automatic software control (no selection or correction required).

Rx Operation: Menu-driven software. Large 16x40 character LCD. Full alphanumeric keyboard.

Display: 256 x 128 pixel scrollable graphic LCD for decay curves and profiles in the field.

Data Handling: Solid state storage; multiple files; all files can be appended at any time. Plot, list, sort, delete data. RS232 transmission of all data or only certain files.

Synchronization: Radio, cable, or crystal clock

Current Waveform: Bipolar on-off square waveform with exponential turn-on and ramp off.

Time Base: Off-time plus ramp time.
- 8.33, 16.66, 50, 100 and 150 msec for 60 Hz noise rejection (equivalent base frequencies of 30, 15, 5, 2.5, 1.67 Hz.)
- 10.0, 20.0, 50.0, 100.0 and 150 msec for 50 Hz noise rejection (equivalent base frequencies of 25, 12.5, 5, 2.5, 1.67 Hz.)

Ramp Time: The time required for the current to turn off.
- 500, 1000, or 1500 usec selections for precisely controlled linear turn-off ramps.
- "fast ramp" option turns current off as quickly as possible for a given loop size and current (2 usec or less to a few hundred usec).

Transmit Loop:
- Single turn loop of any dimension (less than 100m x 100m to greater than 2km x 2km).
- Multi-turn 14m diameter loop for near-surface Moving Coil surveys.

Tx Output Current:
- 30 Amps maximum at 160 Volts for 4.8 kWatt system.
- 20 Amps maximum at 120 Volts for 2.4 kWatt system.

Tx Output Voltage:
- 48 to 240 Volts continuously adjustable for 4.8 kWatt system.
- 24 to 120 Volts continuously adjustable for 2.4 kWatt system.

Tx Safety features: Transmitter automatically shuts off when loop is opened. Also shuts off with high instrument temperature and overload. Fuse and circuit breaker overload protection.

Borehole Probes: 32 mm diameter. Pressure-tested for depths of 2500m or more.

Operating Temperature: -40°C to 50°C

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3-D PULSE EM - SPECIAL FEATURES

High Power: A new 4.8 kWatt transmitter allows very large loops to be used while maintaining a high current.

Precise Current Ramps: Precisely- controlled linear ramps of fixed duration allow for proper comparisons to be made between data from different loop sizes, and also allows for the step response transformation.

Long Time Base (Low Frequency): A new long time base of 150 msec (1.67 Hz) ensures that very long time constant conductors can be seen in complicated environments.

Step Response: A new step response transformation allows even longer time-constant conductors to be seen by reproducing the response that would be seen in a direct measurement of the step response. Our controlled linear ramps and our standard Primary Pulse (PP) measurement on the ramp are necessary for this calculation.

Fast Ramp Option: A new "fast ramp" option duplicates the response seen from other pulse-type systems, but this does not allow for the step response calculation. We do not recommend fast ramps because they are not as linear as our controlled ramps, they drift in duration as the loop warms up, and there is no advantage in terms of power put into the ground since the *area* under the dB/dt pulse produced by the ramp is the same.

Calculation of Impulse Response: The "fast ramp" response can be calculated (as well as the true impulse response) from our standard linear ramp data.

True Digital Receiver: The Crone receiver is a true digital receiver in that the input is immediately digitized before stacking and binning. This produces the following feature (programmable gate positions) .

Programmable Gate Positions: There is complete freedom of channel (or gate) positions and widths, which can be programmed in the field. There are also numerous built-in tables.

Full Sampling: The entire ramp and off-time can be sampled with contiguous channels if desired.

Current Ramp always Sampled: A Primary Pulse (PP) measurement is always made on the current ramp, which is of great help to ensure proper polarities, and also is crucial for the step response transformation.

High Quality LCD Display: The 256 x 128 pixel LCD on the receiver allows for accurate plots of decay curves and line or borehole profiles on the receiver, and is of great assistance to the operator to monitor noise and anomaly build-up.

No Data Reduction: There is no data reduction for surface surveys and Z-component borehole surveys, so that what is seen on the receiver is what will be seen in the final plots. For 3-D borehole surveys, there is only the correction applied to the direction of the X and Y components to aid interpretation. Gain controls are automatic, so that the output is always in nanoTeslas/sec (= nV/m^2).

Slim-line Probes: A 32 mm probe diameter ensures that virtually all holes can be surveyed with 3-component measurements.

Oriented X and Y Components: X-Y orientation tools accurately orient the X and Y components. This helps tremendously with giving direction to off-hole conductors and to the centre of in-hole conductors.

Reliable, Durable and Portable Equipment: The PEM system has been in use since the early 1970's under temperature extremes of -40°C to +50°C, in desert, jungle, arctic, mountainous, and underground mining conditions.

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3-D PULSE EM - APPLICATIONS

- Base metals ⇒ direct detection of:
  - ◊ volcanogenic massive sulphide (VMS) deposits
  - ◊ magmatic sulphide deposits
  - ◊ sedex massive sulphide deposits
  - ◊ higher grade ore within disseminated zones

  ⇒ indirect detection of :
  - ◊ sphalerite and other non-conductors
  - ◊ galena and other poorly connected minerals

  through detection of associated well-connected conductors.

  ⇒ detection of conductive marker zones related to deposits

- Gold ⇒ detection of associated conductors - e.g. pyrite/pyrrhotite
  ⇒ detection of the host - e.g. banded iron formations

- Uranium ⇒ detection of associated graphitic basement conductors
  ⇒ detection of associated conductive alteration zones

- Diamonds ⇒ detection and definition of clay-rich layer overlying kimberlites
  ⇒ locating kimberlites under locally thinned conductive cover

In the ore definition, delineation and production stages of a mining operation, Pulse EM can still be highly effective to:

- Define the boundaries of conductive ore
- Determine the size of intersected conductors and thereby determine whether they are connected to main ore zones.
- Reduce the number of necessary drillholes by exploring between holes.
- Survey underground drillholes - even flat or inclined holes.

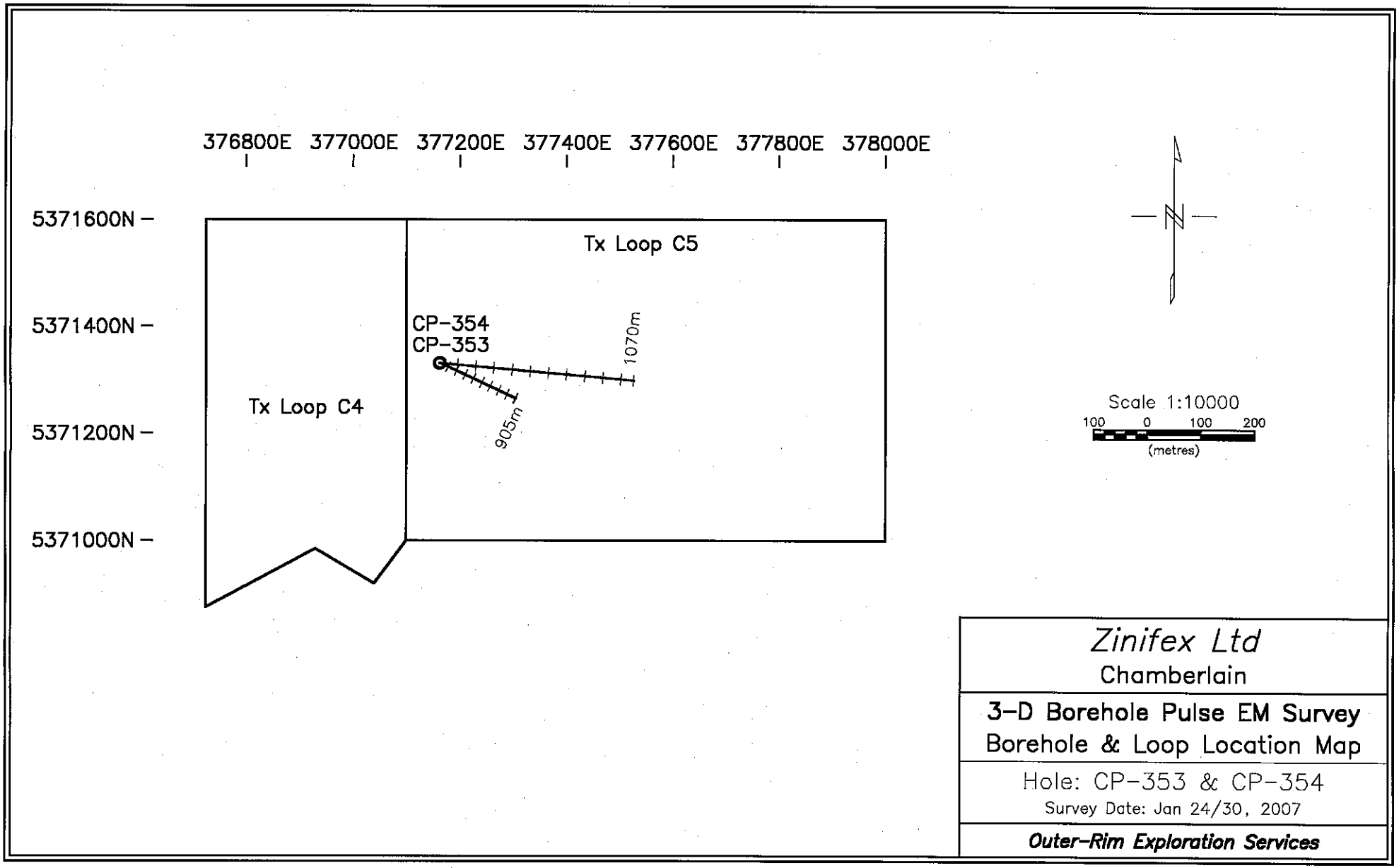
Pulse EM can also be used for:

- General geological mapping of conductive structures
  - ⇒ shears, fractures, lineaments
  - ⇒ hydrothermal alteration
  - ⇒ graphite-rich rocks, including graphitic schist, shale, slate, and argillite
  - ⇒ clay alteration and zeolites
  - ⇒ differential and clay weathering
  - ⇒ conductive weathered layer at surface
- Groundwater exploration
- Mapping groundwater contamination plumes and freshwater-saltwater interface
- Geothermal exploration
- Mapping depth and thickness of horizontal strata
- Mapping permafrost thickness

PLOTS

CONTENTS

Plan No.	Plan Type	ID.	Description	Scale
1	Plan	CP-353,354	Hole location plan	1:10000
2	Section	CP-354	Primary Field plot	1:10000
3		CP-353,354	Primary Field plot	1:10000
4	Header	CP-353	Header information	N/A
5	Profile	(C5)	X - Log plot	1:5000
6			- Linear, Ch1-20, 1:750	1:5000
7			- Linear, Ch20-30, 1:10	1:5000
8			- Linear, Ch30-36, 1:2	1:5000
9			Y - Log plot	1:5000
10			- Linear, Ch1-20, 1:750	1:5000
11			- Linear, Ch20-30, 1:10	1:5000
12			- Linear, Ch30-36, 1:2	1:5000
13			Total Field plot	1:5000
14	Header	CP-354	Header information	N/A
15	Profile	(C4)	Z - Log plot	1:5000
16			- Linear, Ch1-20, 1:500	1:5000
17			- Linear, Ch20-30, 1:30	1:5000
18			- Linear, Ch30-36, 1:5	1:5000
19			X - Log plot	1:5000
20			- Linear, Ch1-20, 1:1000	1:5000
21			- Linear, Ch20-30, 1:25	1:5000
22			- Linear, Ch30-36, 1:2	1:5000
23			Y - Log plot	1:5000
24			- Linear, Ch1-20, 1:1000	1:5000
25			- Linear, Ch20-30, 1:25	1:5000
26			- Linear, Ch30-36, 1:2	1:5000
27			Total Field plot	1:5000
28	Header	CP-354	Header information	N/A
29	Profile	(C5)	Z - Log plot	1:5000
30			- Linear, Ch1-20, 1:1000	1:5000
31			- Linear, Ch20-30, 1:15	1:5000
32			- Linear, Ch30-36, 1:2	1:5000
33			X - Log plot	1:5000
34			- Linear, Ch1-20, 1:1000	1:5000
35			- Linear, Ch20-30, 1:10	1:5000
36			- Linear, Ch30-36, 1:2	1:5000
37			Y - Log plot	1:5000
38			- Linear, Ch1-20, 1:1000	1:5000
39			- Linear, Ch20-30, 1:10	1:5000
40			- Linear, Ch30-36, 1:2	1:5000
41			Total Field plot	1:5000



Zinifex Ltd

Chamberlain

3-D Borehole Pulse EM Survey

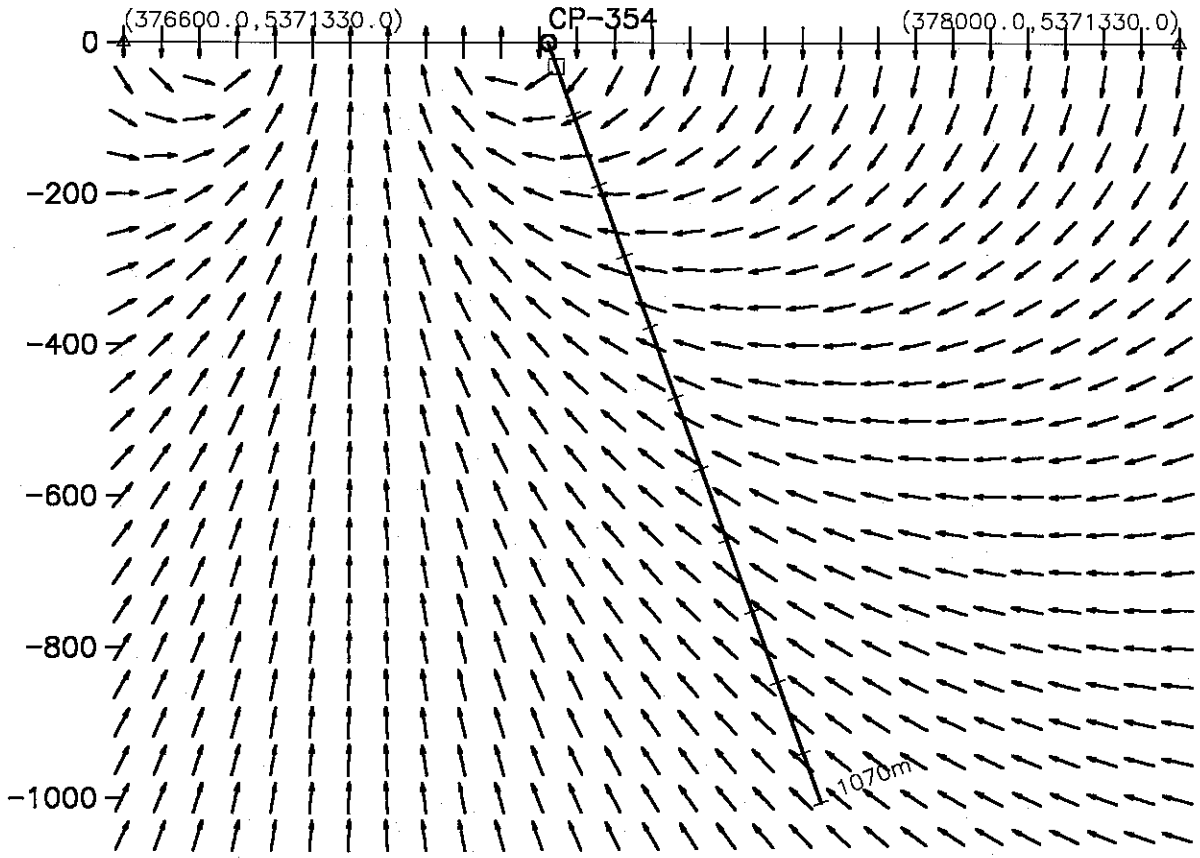
Borehole & Loop Location Map

Hole: CP-353 & CP-354

Survey Date: Jan 24/30, 2007

Outer-Rim Exploration Services

Loop C4



Scale 1:10000

100 0 100 200

(metres)

Zinifex Ltd

Chamberlain

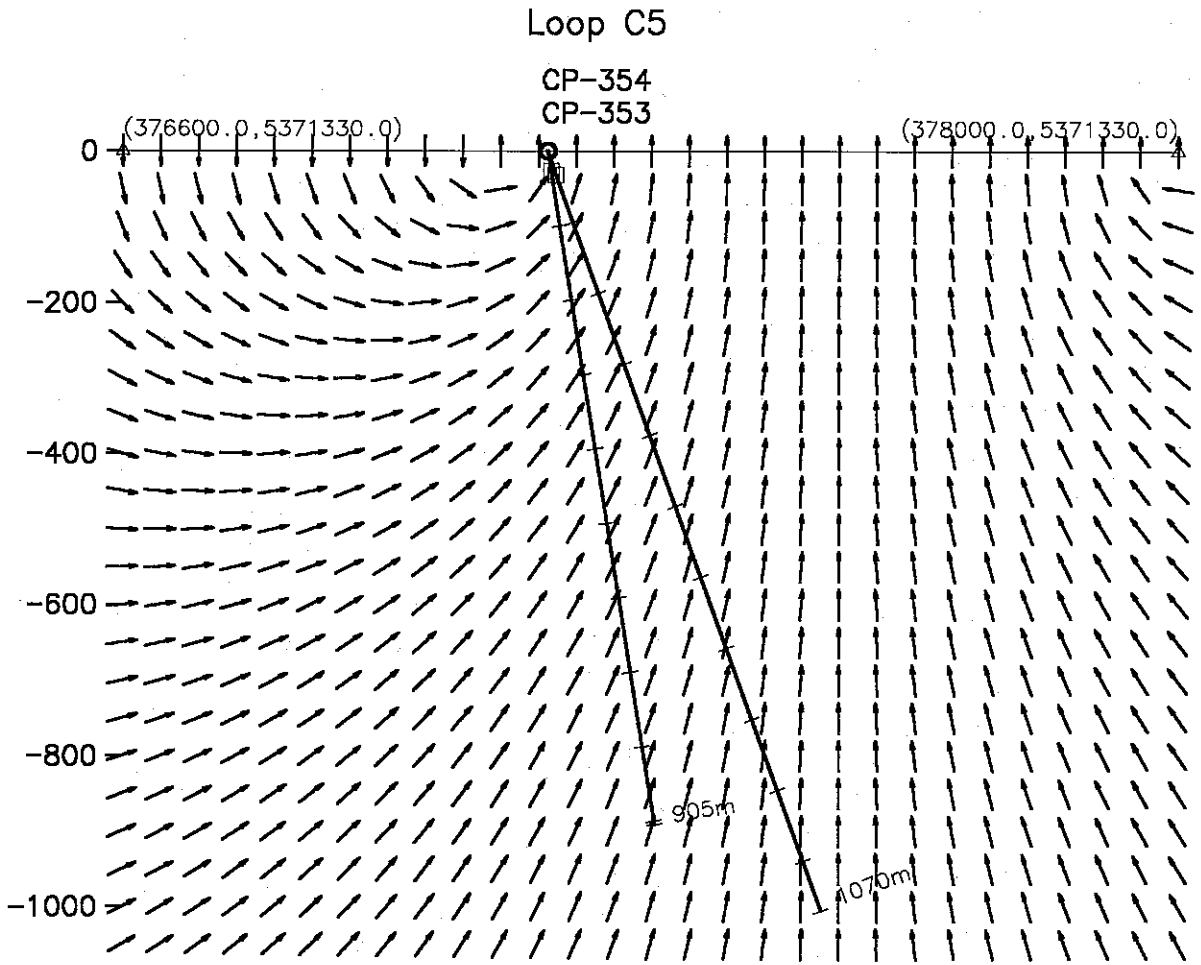
3-D Borehole Pulse EM Survey

Hole Section with Primary Field

Hole: CP-354

Survey Date: Jan 24, 2007

Outer-Rim Exploration Services



Scale 1:10000

100 0 100 200

(metres)

Zinifex Ltd

Chamberlain

3-D Borehole Pulse EM Survey

Hole Section with Primary Field

Hole: CP-353 & CP-354

Survey Date: Jan 27/30, 2007

Outer-Rim Exploration Services

OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-353**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 29, 2007	File name	: CP353XY.PEM
Time Base	: 50.00 ms	# Readings	: 56
Ramp Time	: 1.00 ms	Stn Units	: Metric
# Channels	: 36	Coil Area	: 2800 sq m
Sync Type	: Cable	Polarity	: +
Loop Size	: 900m X 600m	Receiver	: Digital #105
Current	: 12 Amps	Operator	: Humam

Loop Coordinates (X,Y,Z)

1. 377100m, 5.3716e+06m, 0m
2. 377100m, 5.371e+06m, 0m
3. 378000m, 5.371e+06m, 0m
4. 378000m, 5.3716e+06m, 0m

Hole Coordinates (X,Y,Z) or (Azimuth,Dip,Length)

1. 377163m, 5.37133e+06m, 0m
2. 115deg, 80deg, 905m

Channel Times (usec)

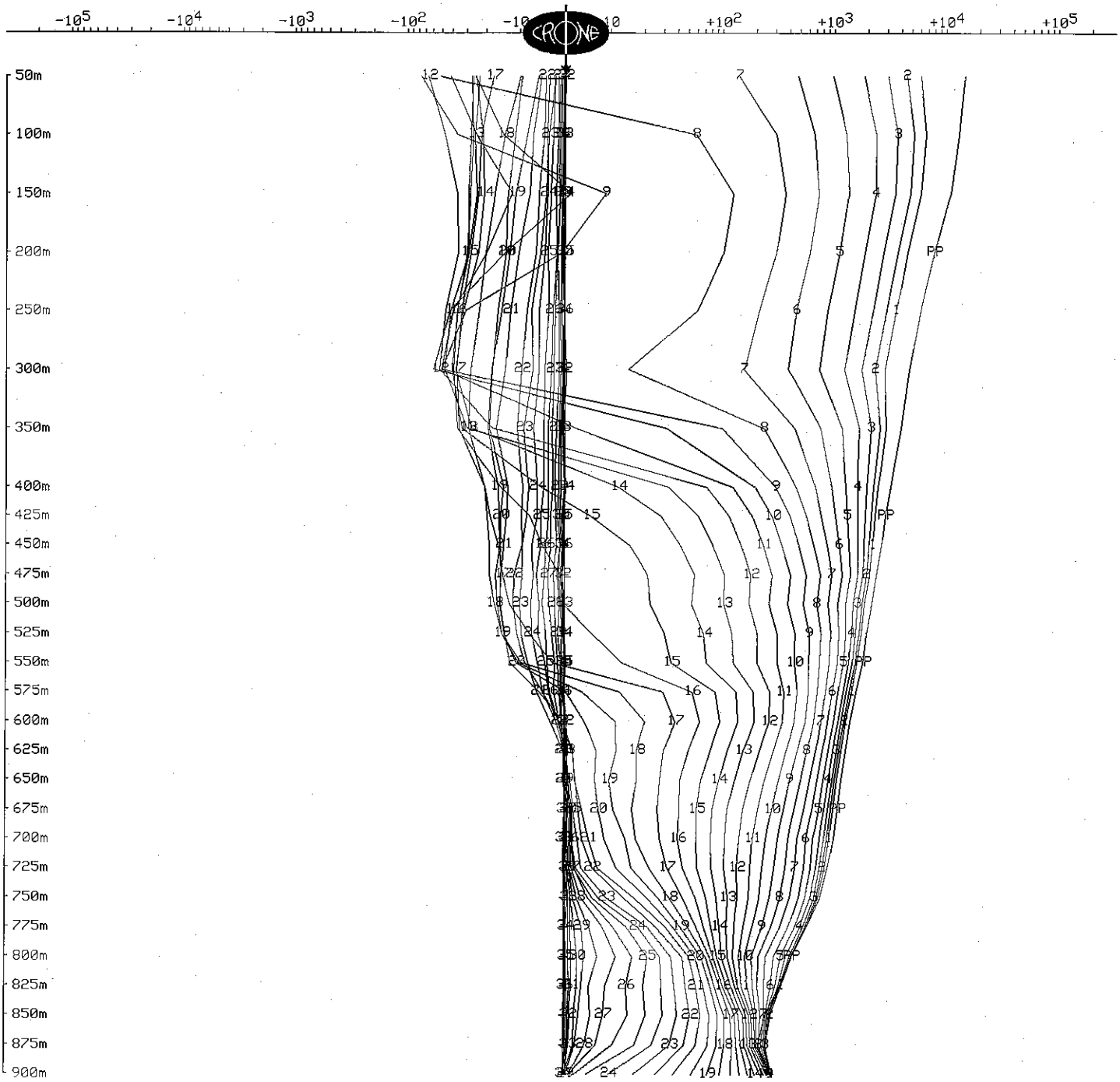
Ch	Start	End	Center	Ch	Start	End	Center	Ch	Start	End	Center
PP	-200	-100	-150	1	48	56	52	2	56	72	64
3	72	84	78	4	84	104	94	5	104	124	114
6	124	152	138	7	152	184	168	8	184	224	204
9	224	268	246	10	268	328	298	11	328	396	362
12	396	480	438	13	480	580	530	14	580	700	640
15	700	848	774	16	848	1024	936	17	1024	1240	1132
18	1240	1496	1368	19	1496	1812	1654	20	1812	2188	2000
21	2188	2644	2416	22	2644	3196	2920	23	3196	3860	3528
24	3860	4664	4262	25	4664	5632	5148	26	5632	6808	6220
27	6808	8220	7514	28	8220	9936	9078	29	9936	12000	10968
30	12000	14400	13200	31	14400	17520	15960	32	17520	21150	19335
33	21150	25560	23355	34	25560	30870	28215	35	30870	37290	34080
36	37290	45040	41165								

OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-353**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 29, 2007	File name	: CP353XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 36 of 36 channels and PP

Scale: 1:5000

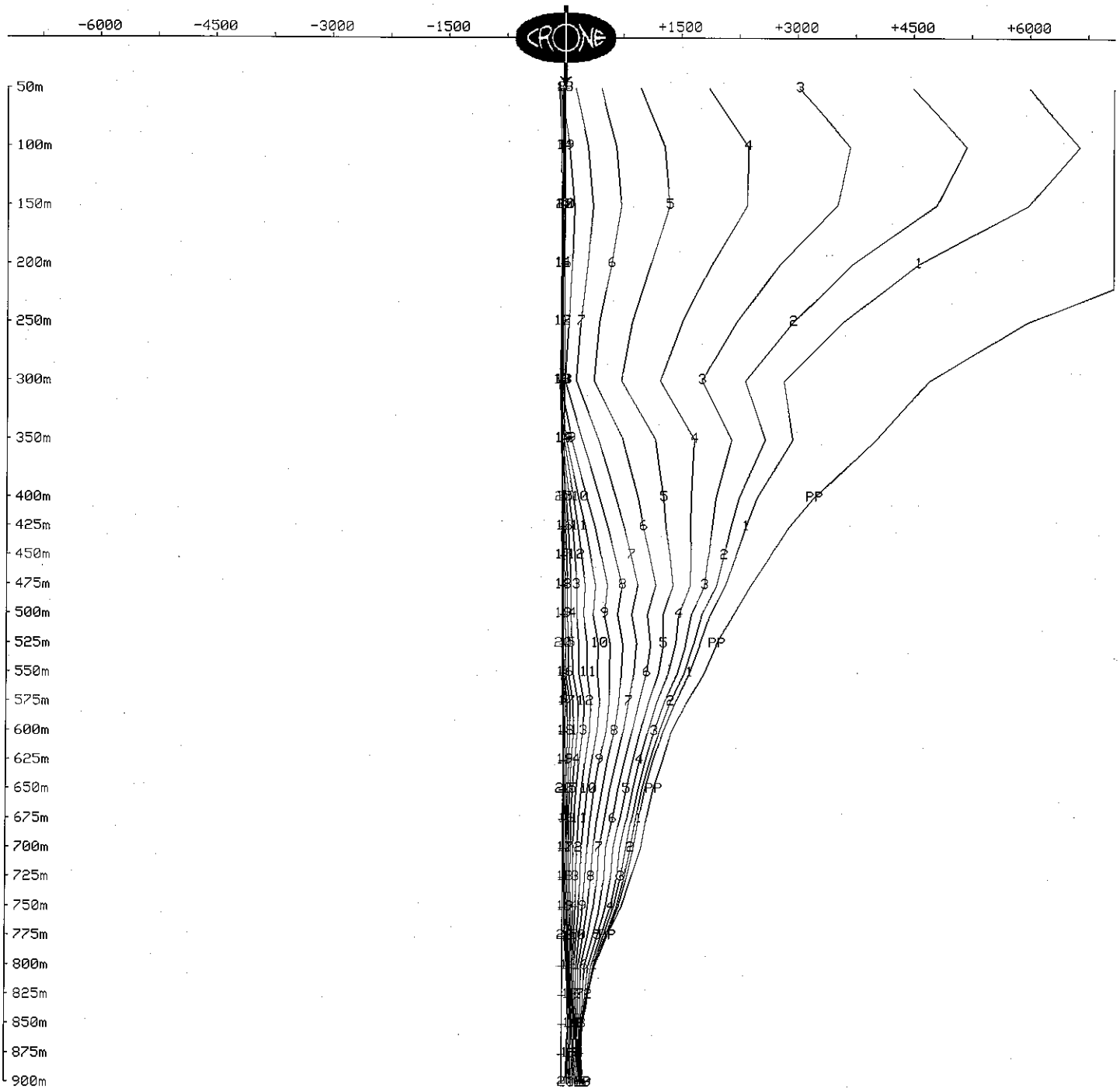


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-353**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 29, 2007	File name	: CP353XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 20 of 36 channels and PP

Scale: 1:5000 Unit Scale: 1cm = 750 nT/s

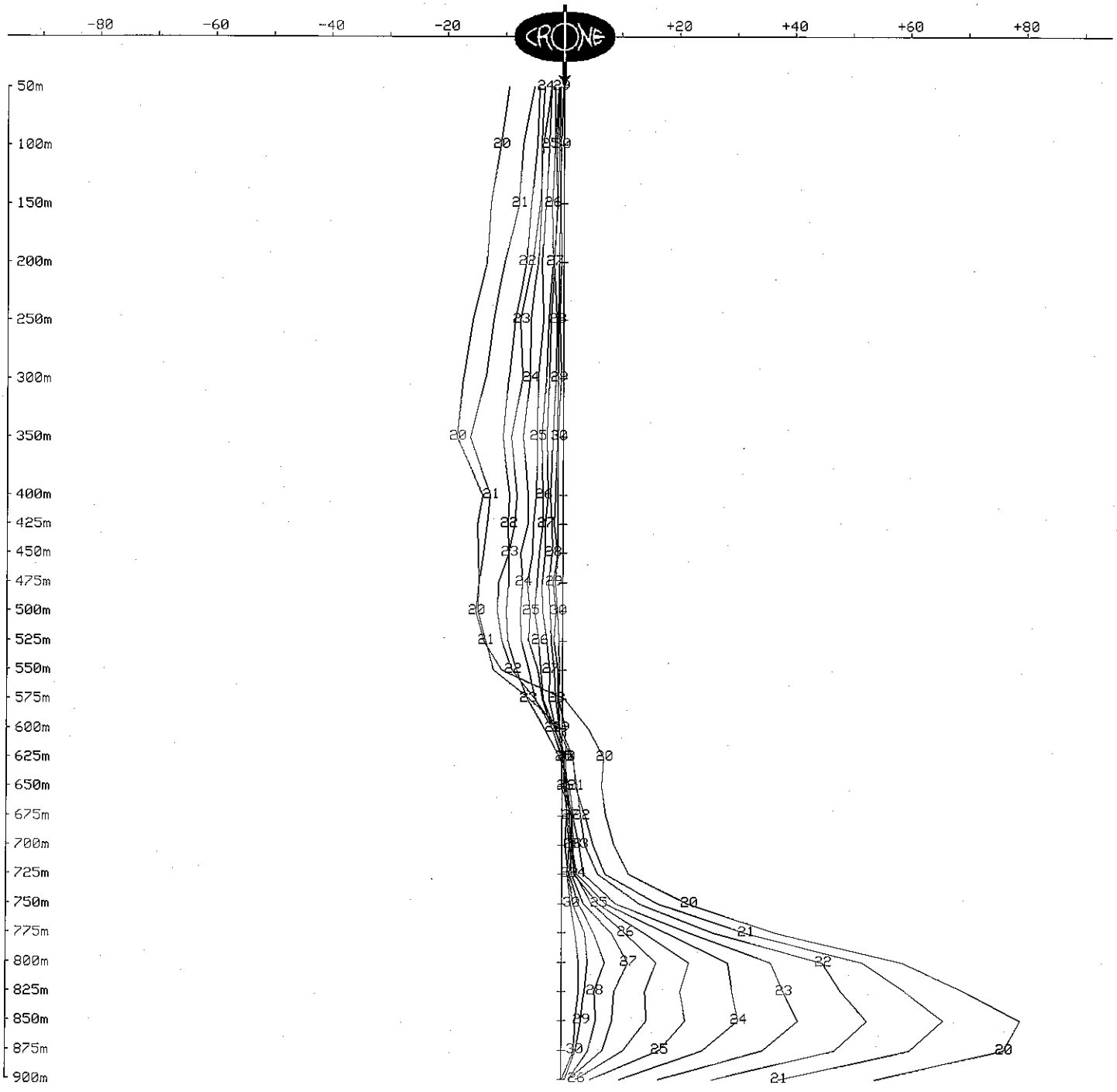


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-353**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 29, 2007	File name	: CP353XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 11 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 10 nT/s

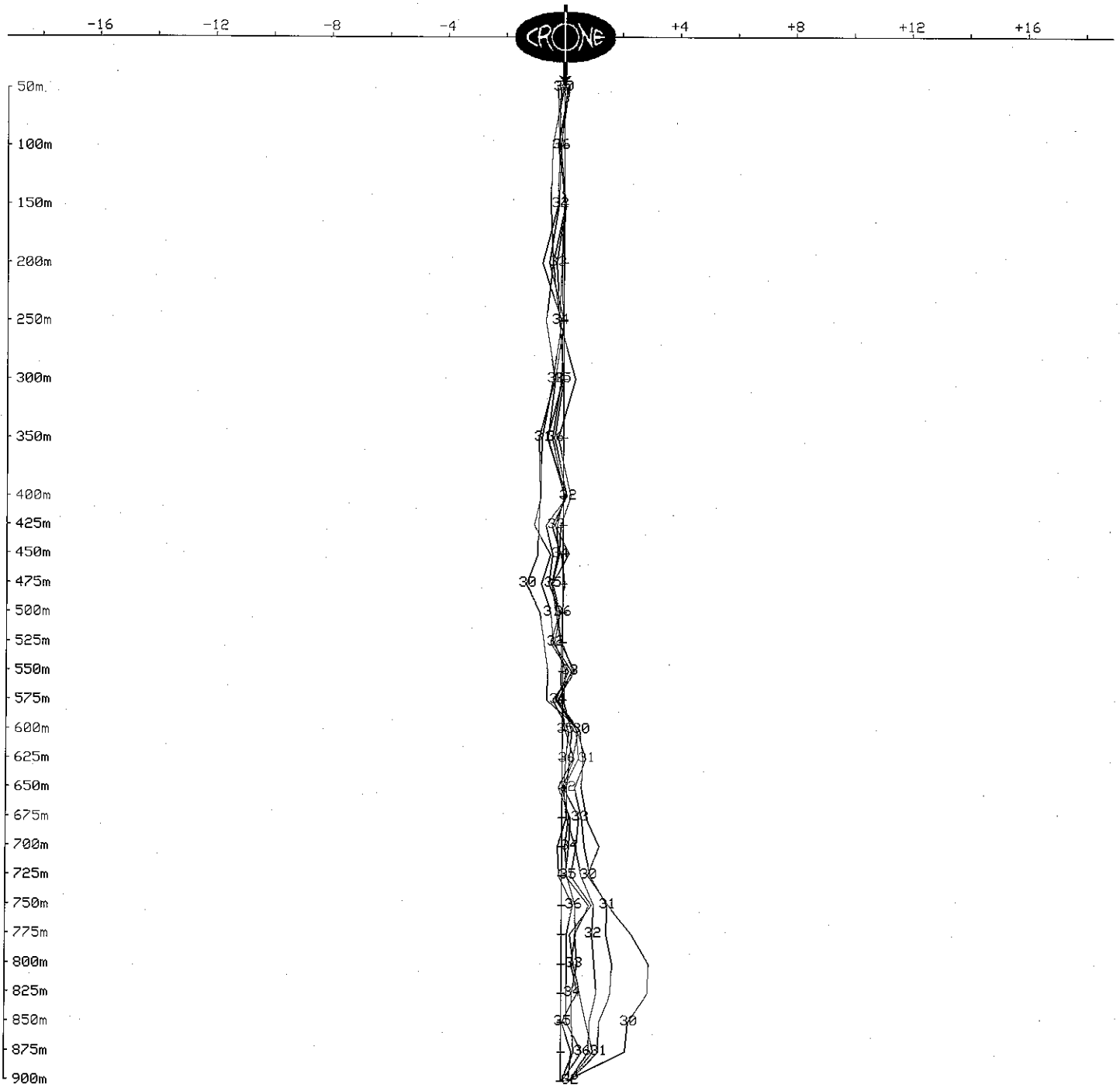


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-353**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 29, 2007	File name	: CP353XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 13 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 2 nT/s

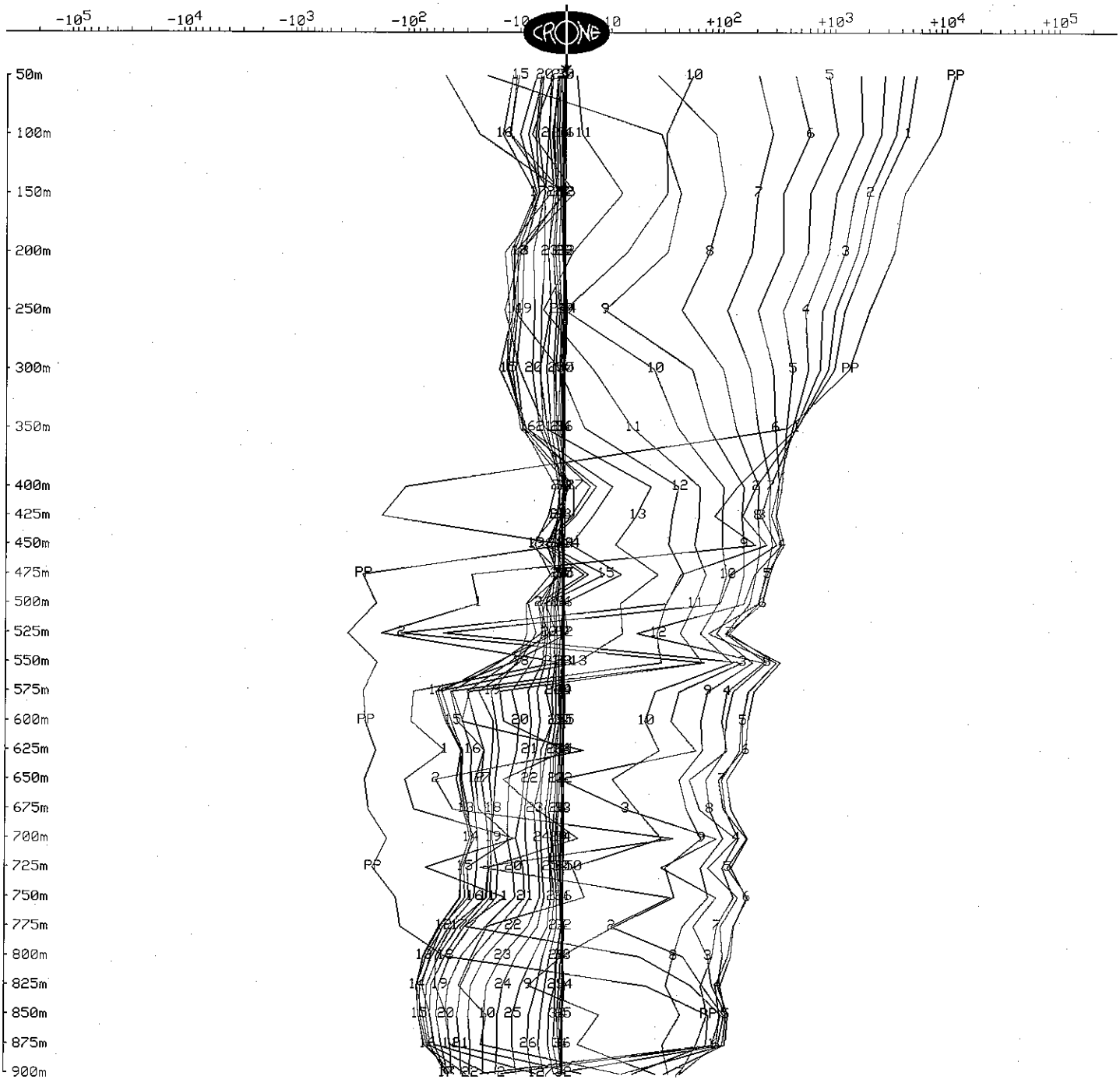


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-353**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 29, 2007	File name	: CP353XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 36 of 36 channels and PP

Scale: 1:5000

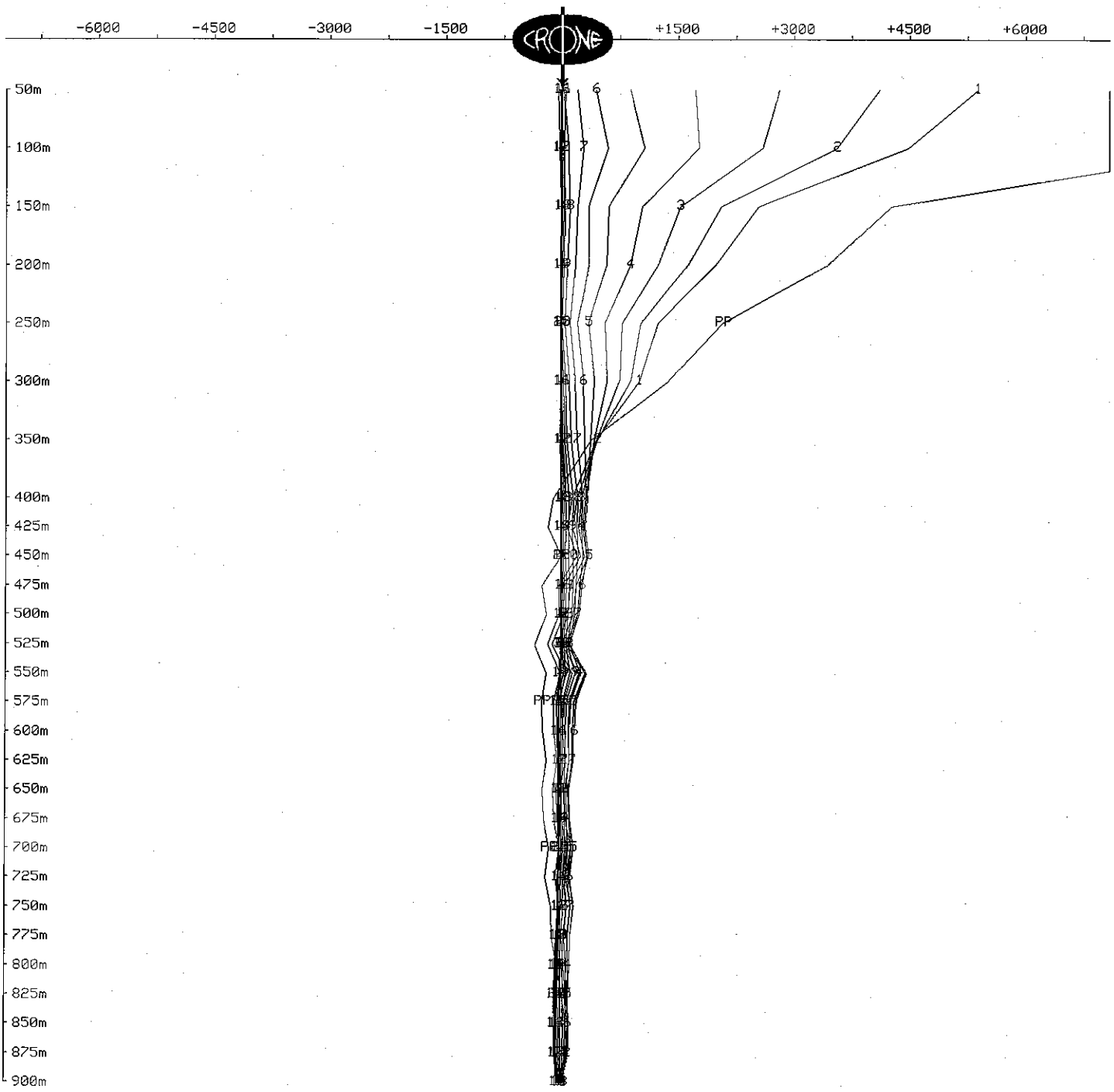


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-353**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 29, 2007	File name	: CP353XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 20 of 36 channels and PP

Scale: 1:5000 Unit Scale: 1cm = 750 nT/s

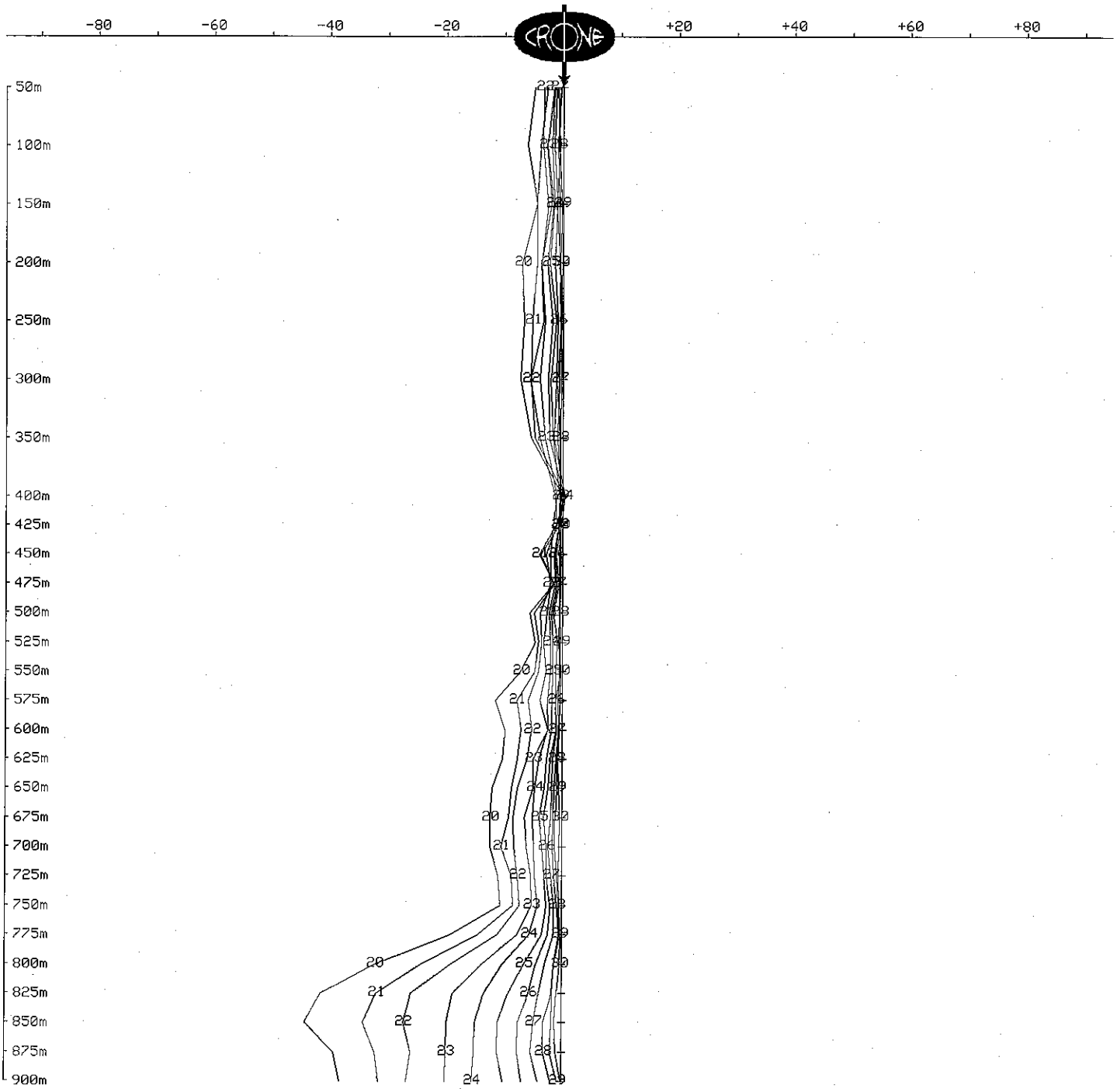


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-353**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 29, 2007	File name	: CP353XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 11 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 10 nT/s

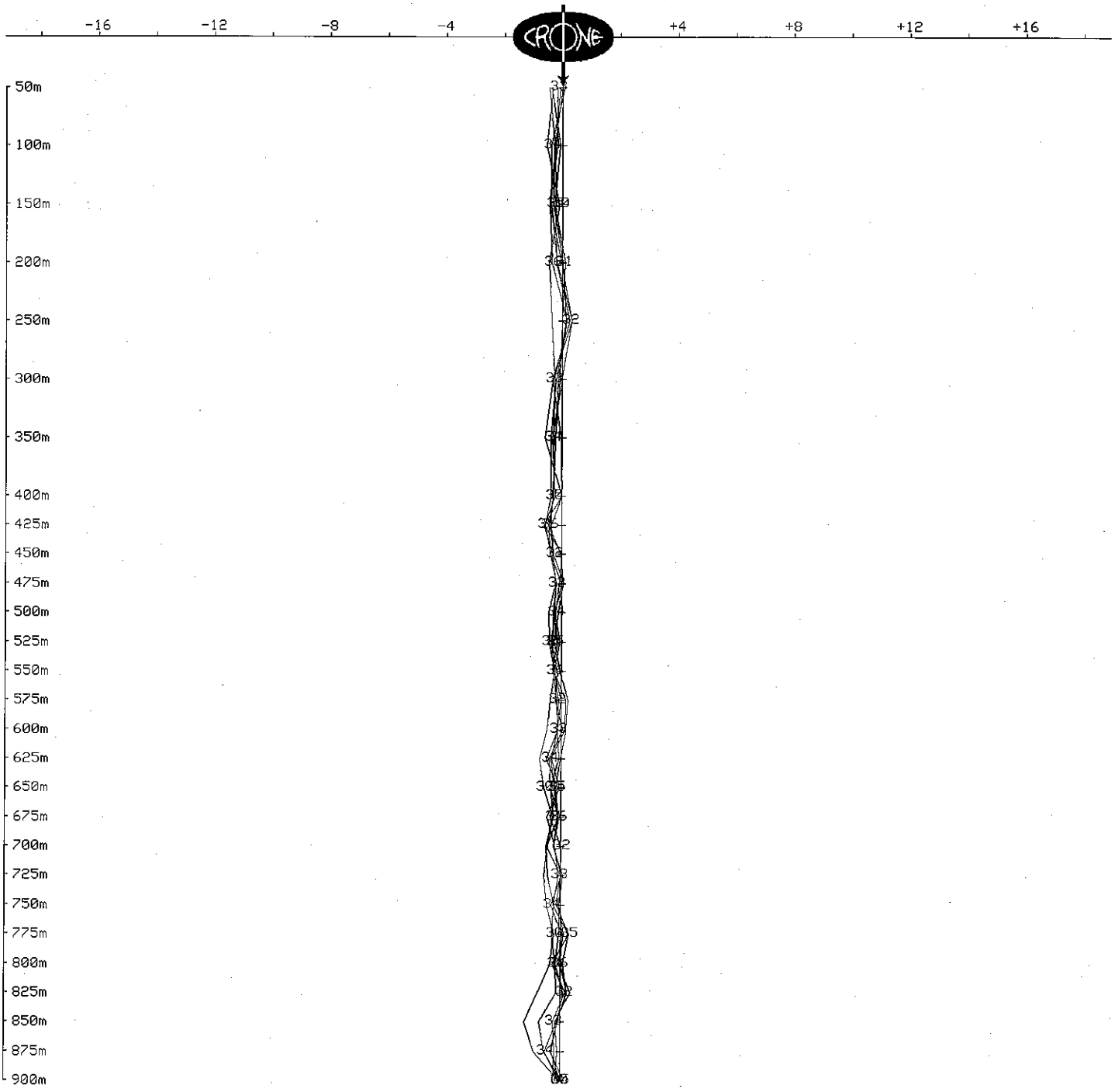


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-353**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 29, 2007	File name	: CP353XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 13 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 2 nT/s



OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 24, 2007	File name	: CP354Z.PEM
Time Base	: 50.00 ms	# Readings	: 34
Ramp Time	: 1.00 ms	Stn Units	: Metric
# Channels	: 36	Coil Area	: 8000 sq m
Sync Type	: Cable	Polarity	: -
Loop Size	: 400m X 400m	Receiver	: Digital #105
Current	: 18 Amps	Operator	: Humam

Loop Coordinates (X,Y,Z)

1. 376725m, 5.3716e+06m, 0m
2. 376725m, 5.37088e+06m, 0m
3. 376930m, 5.37098e+06m, 0m
4. 377040m, 5.37092e+06m, 0m
5. 377100m, 5.371e+06m, 0m
6. 377100m, 5.3716e+06m, 0m

Hole Coordinates (X,Y,Z) or (Azimuth,Dip,Length)

1. 377162m, 5.37133e+06m, 0m
2. 95deg, 70deg, 1070m

Channel Times (usec)

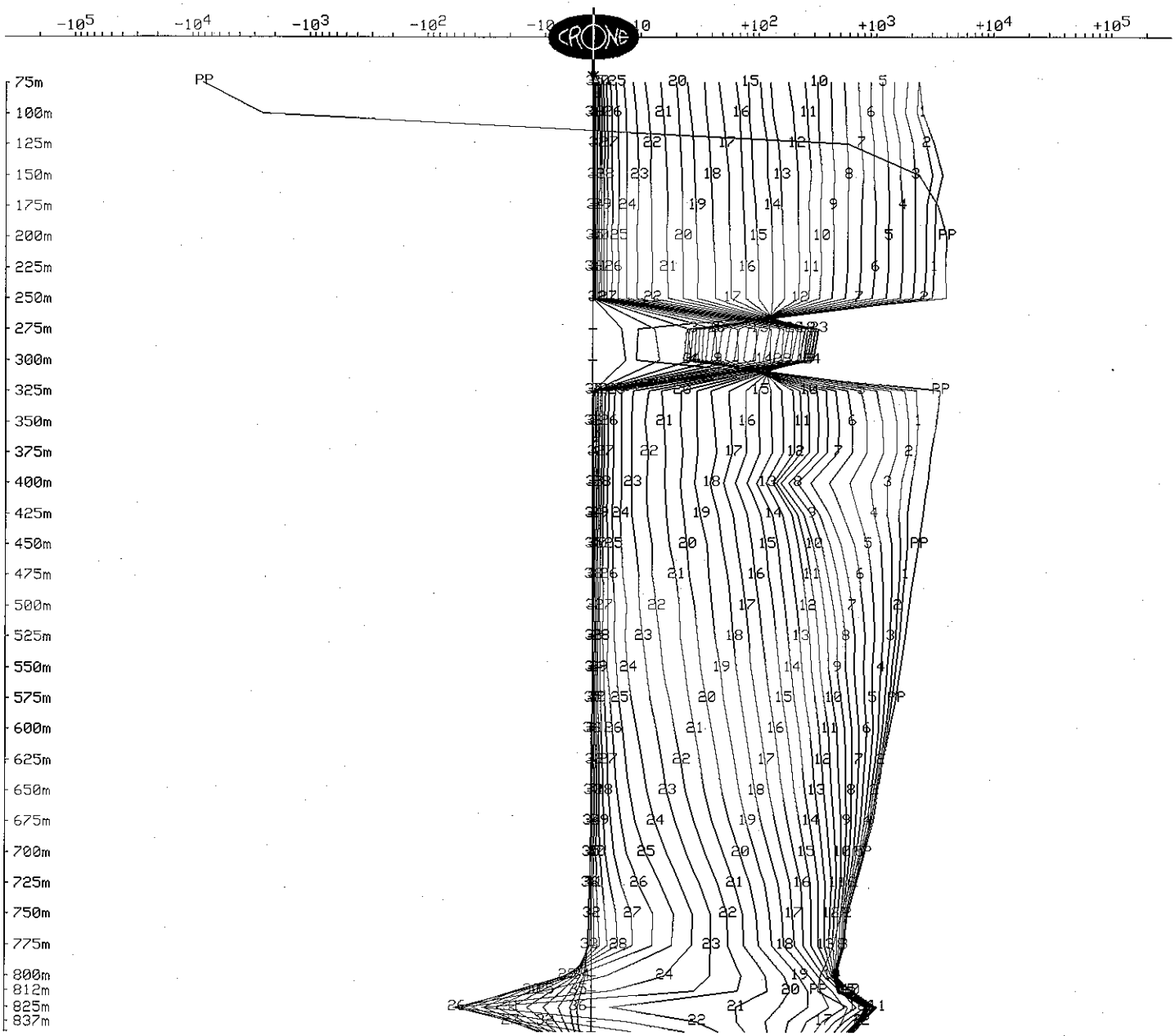
Ch	Start	End	Center	Ch	Start	End	Center	Ch	Start	End	Center
PP	-200	-100	-150	1	48	56	52	2	56	72	64
3	72	84	78	4	84	104	94	5	104	124	114
6	124	152	138	7	152	184	168	8	184	224	204
9	224	268	246	10	268	328	298	11	328	396	362
12	396	480	438	13	480	580	530	14	580	700	640
15	700	848	774	16	848	1024	936	17	1024	1240	1132
18	1240	1496	1368	19	1496	1812	1654	20	1812	2188	2000
21	2188	2644	2416	22	2644	3196	2920	23	3196	3860	3528
24	3860	4664	4262	25	4664	5632	5148	26	5632	6808	6220
27	6808	8220	7514	28	8220	9936	9078	29	9936	12000	10968
30	12000	14400	13200	31	14400	17520	15960	32	17520	21150	19335
33	21150	25560	23355	34	25560	30870	28215	35	30870	37290	34080
36	37290	45040	41165								

OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 24, 2007	File name	: CP354Z.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 36 of 36 channels and PP

Scale: 1:5000

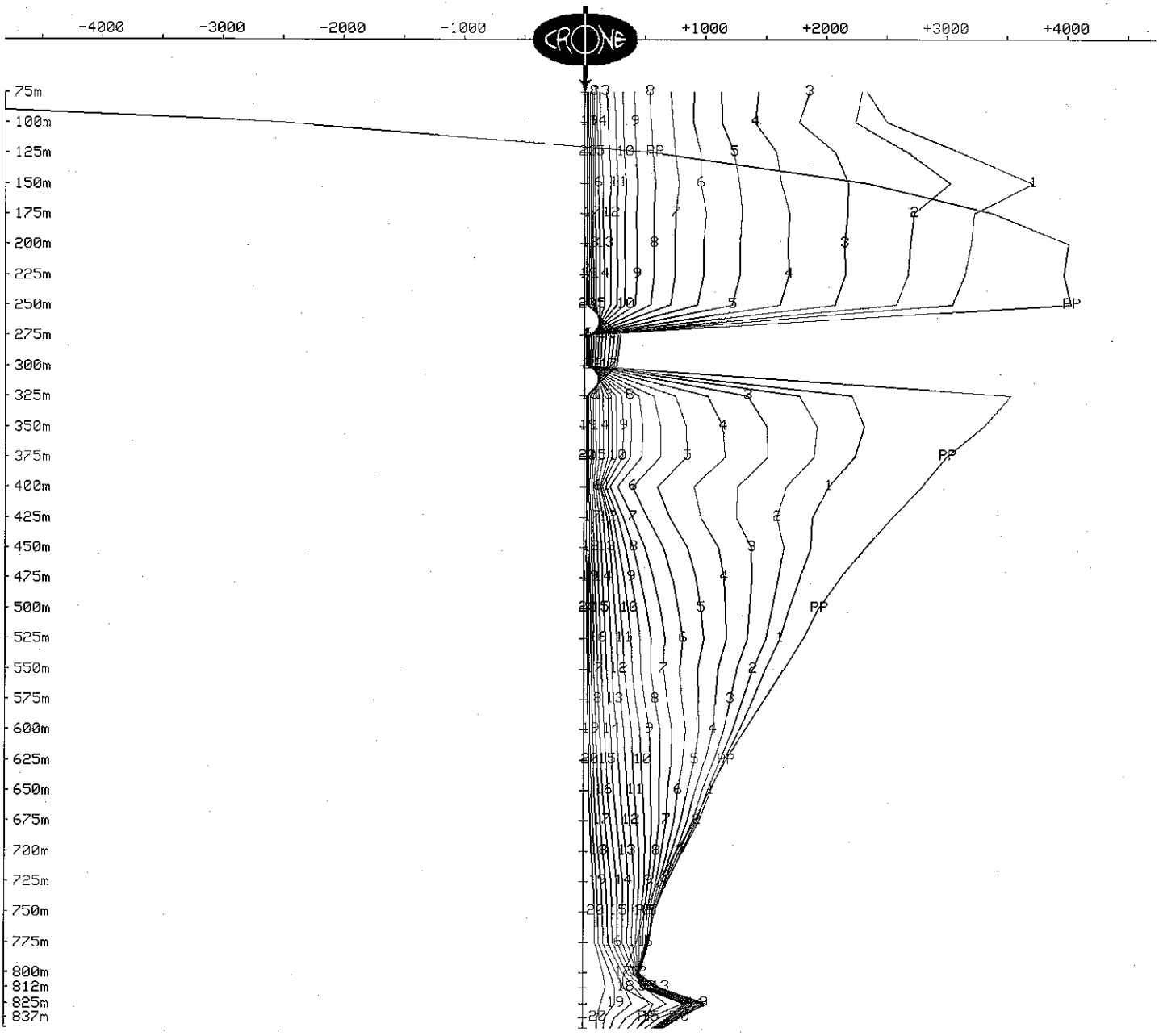


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 24, 2007	File name	: CP354Z.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 20 of 36 channels and PP

Scale: 1:5000 Unit Scale: 1cm = 500 nT/s

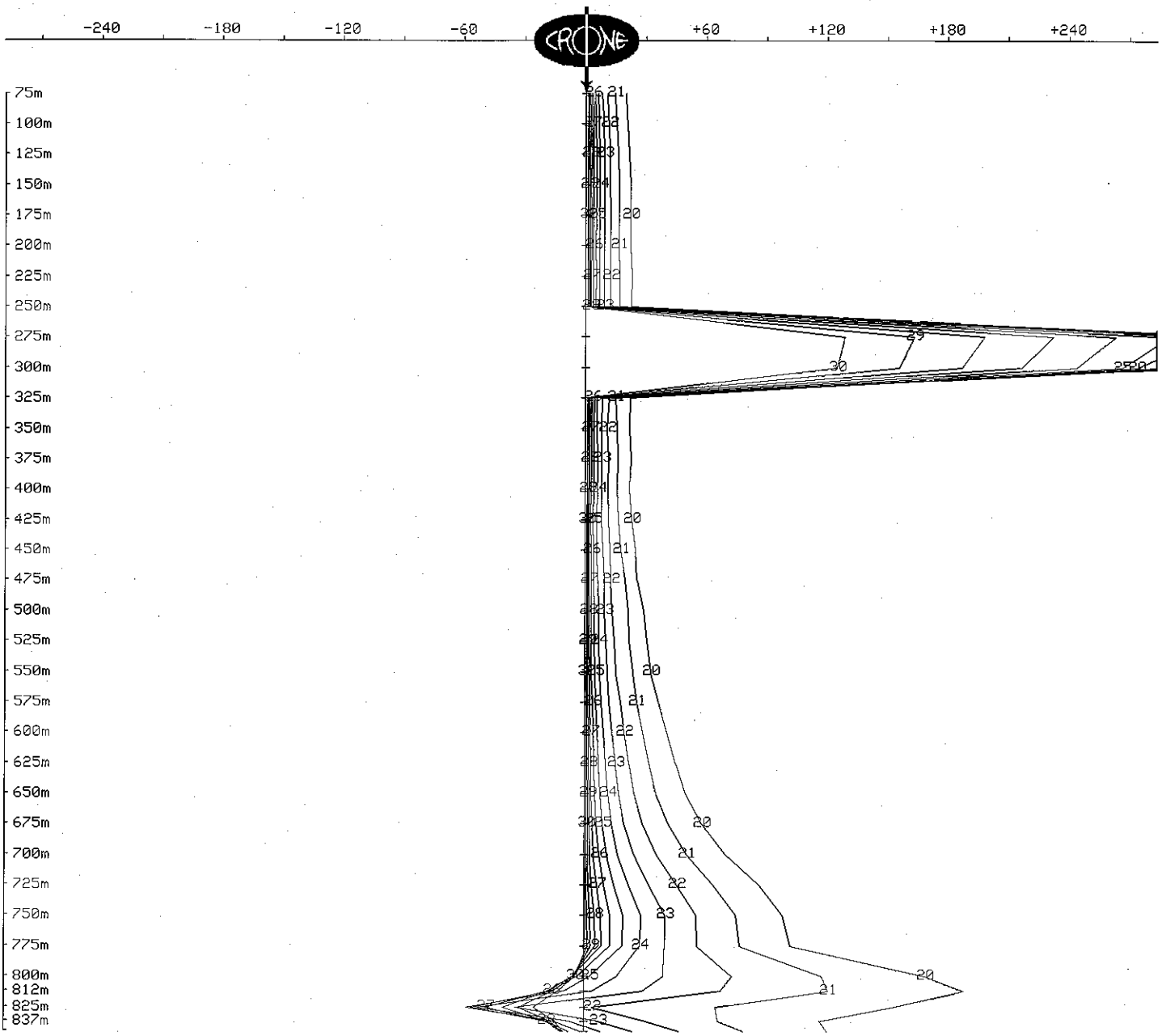


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 24, 2007	File name	: CP354Z.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 11 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 30 nT/s

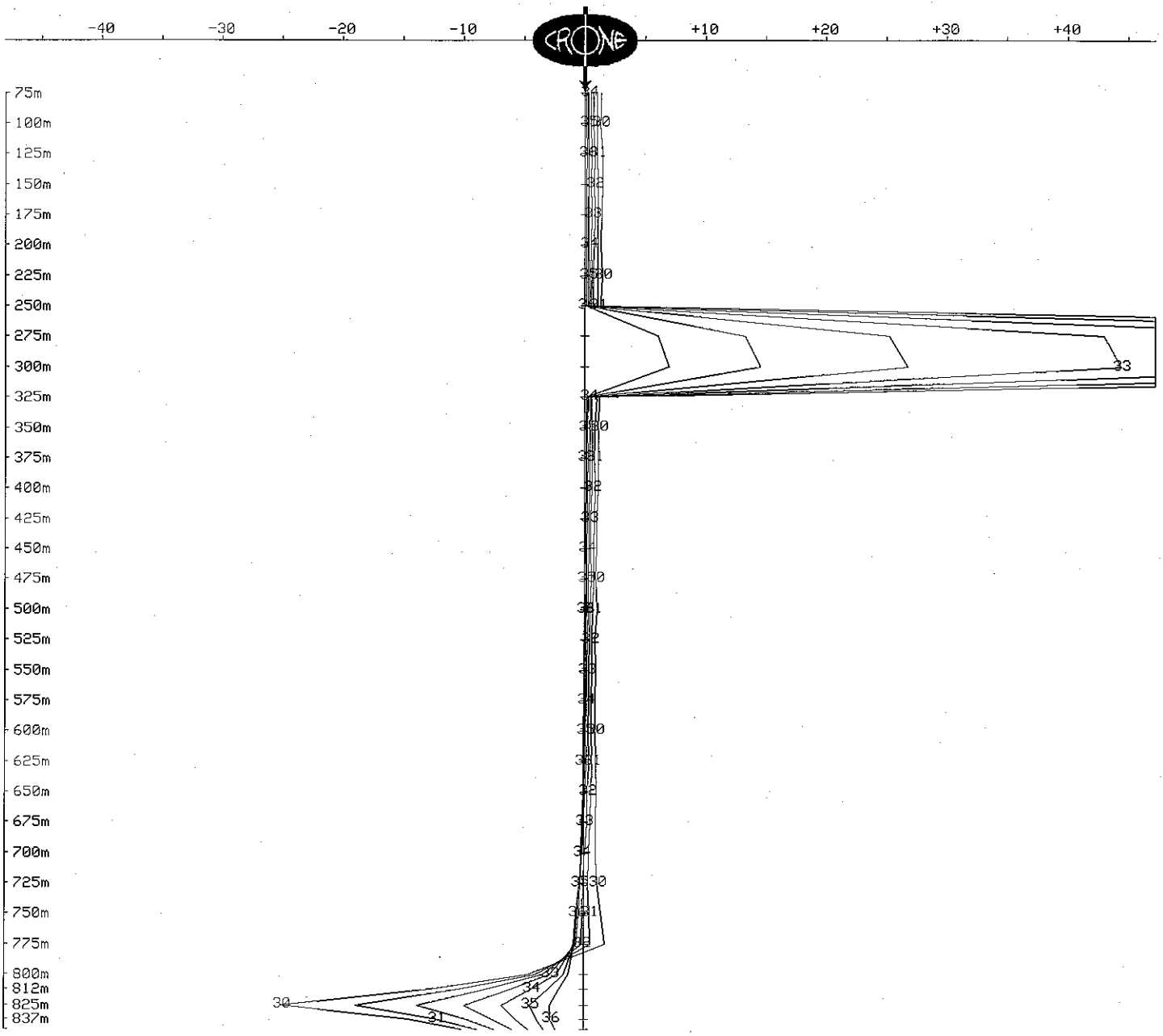


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 24, 2007	File name	: CP354Z.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 13 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 5 nT/s

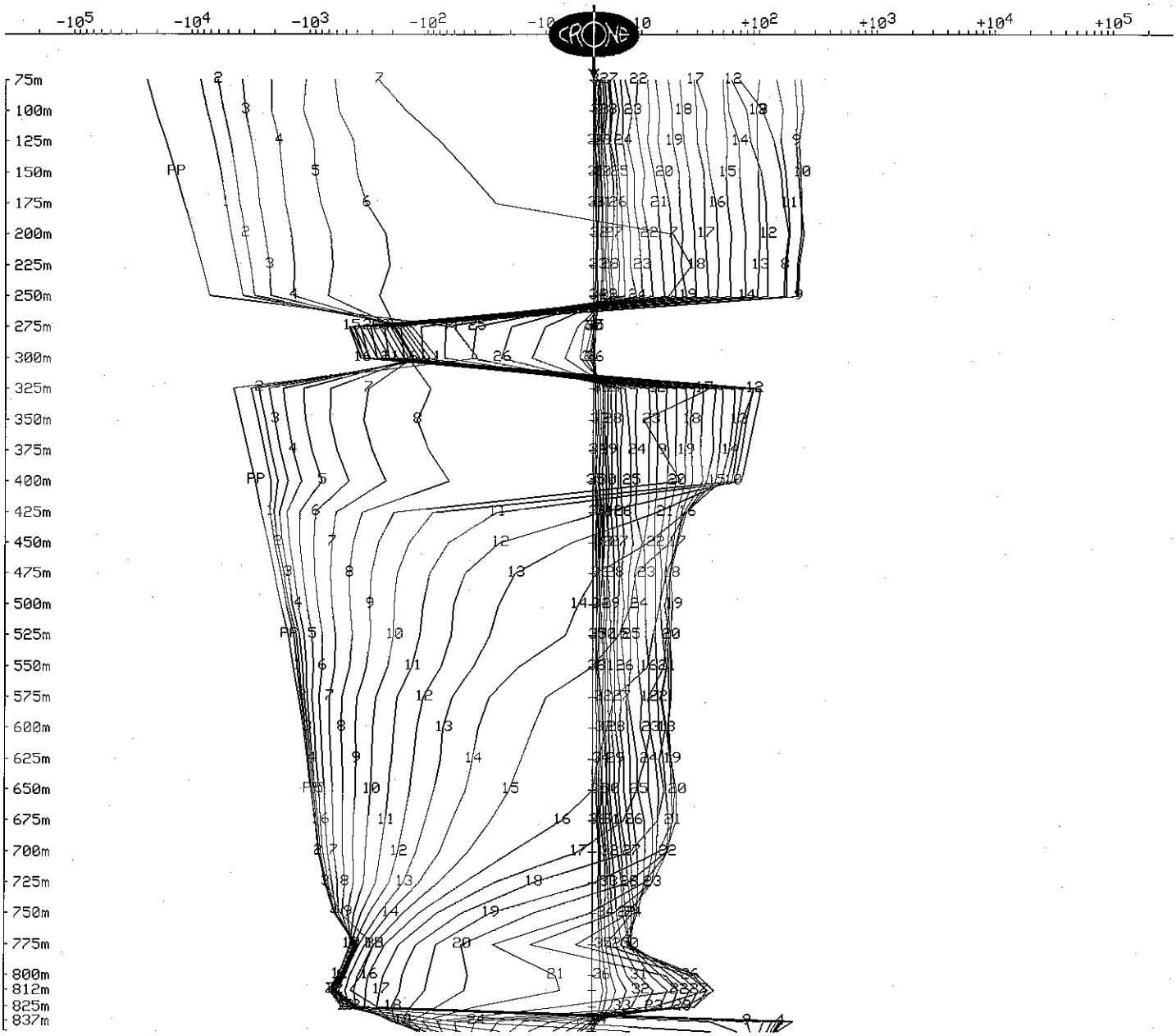


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 25, 2007	File name	: CP354XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 36 of 36 channels and PP

Scale: 1:5000

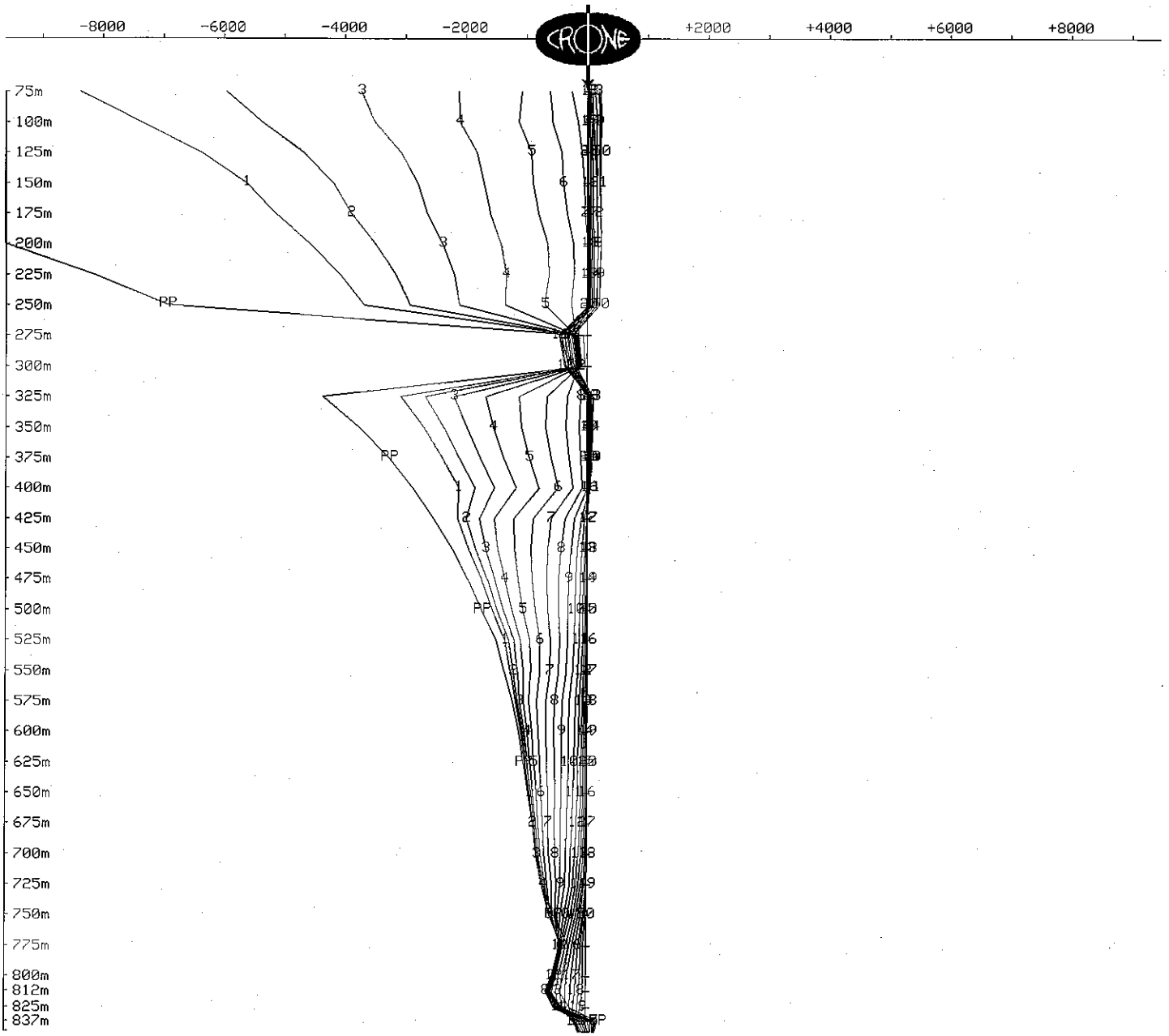


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 25, 2007	File name	: CP354XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 20 of 36 channels and PP

Scale: 1:5000 Unit Scale: 1cm = 1000 nT/s

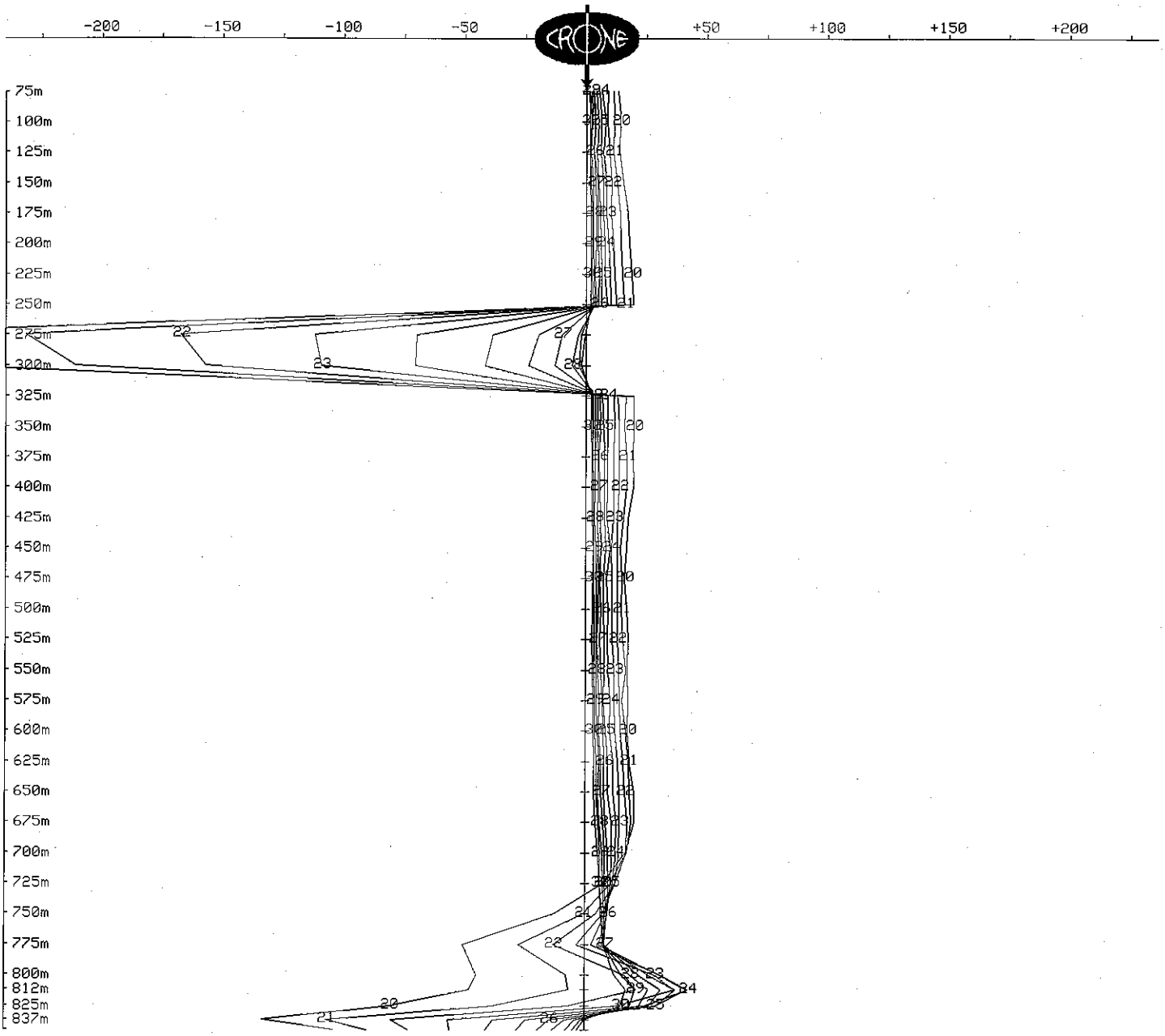


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 25, 2007	File name	: CP354XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 11 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 25 nT/s

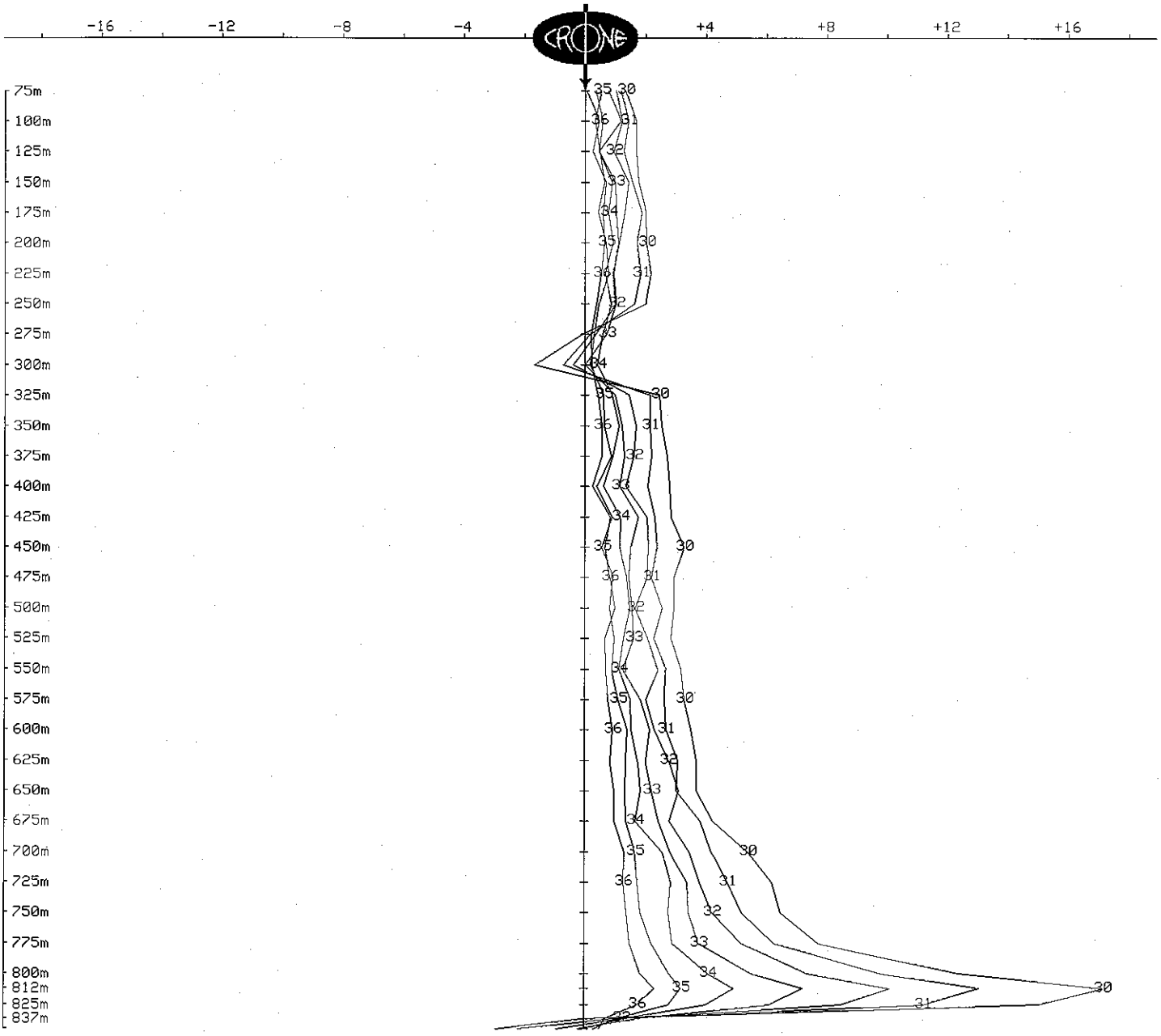


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 25, 2007	File name	: CP354XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 13 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 2 nT/s

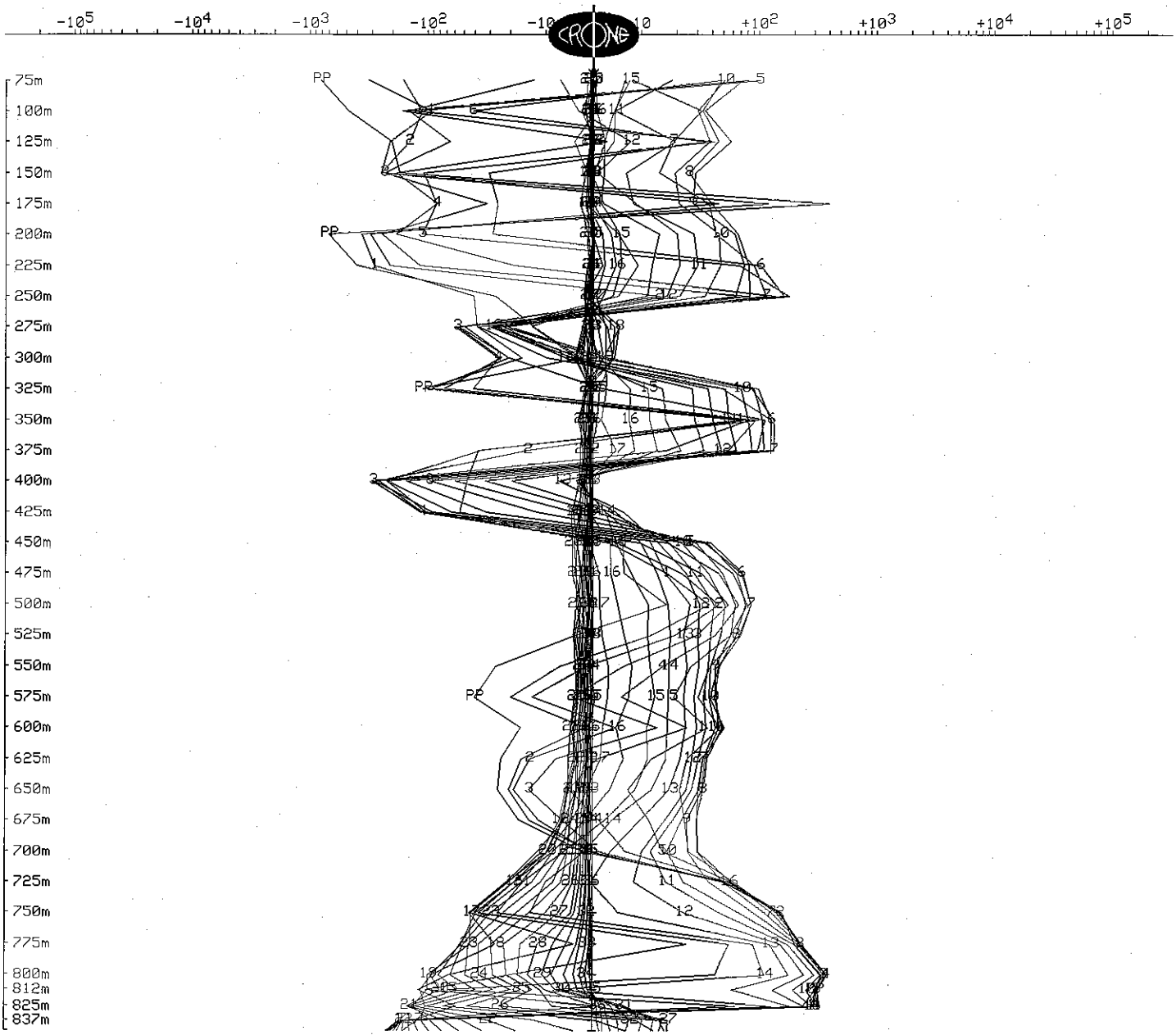


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 25, 2007	File name	: CP354XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 36 of 36 channels and PP

Scale: 1:5000

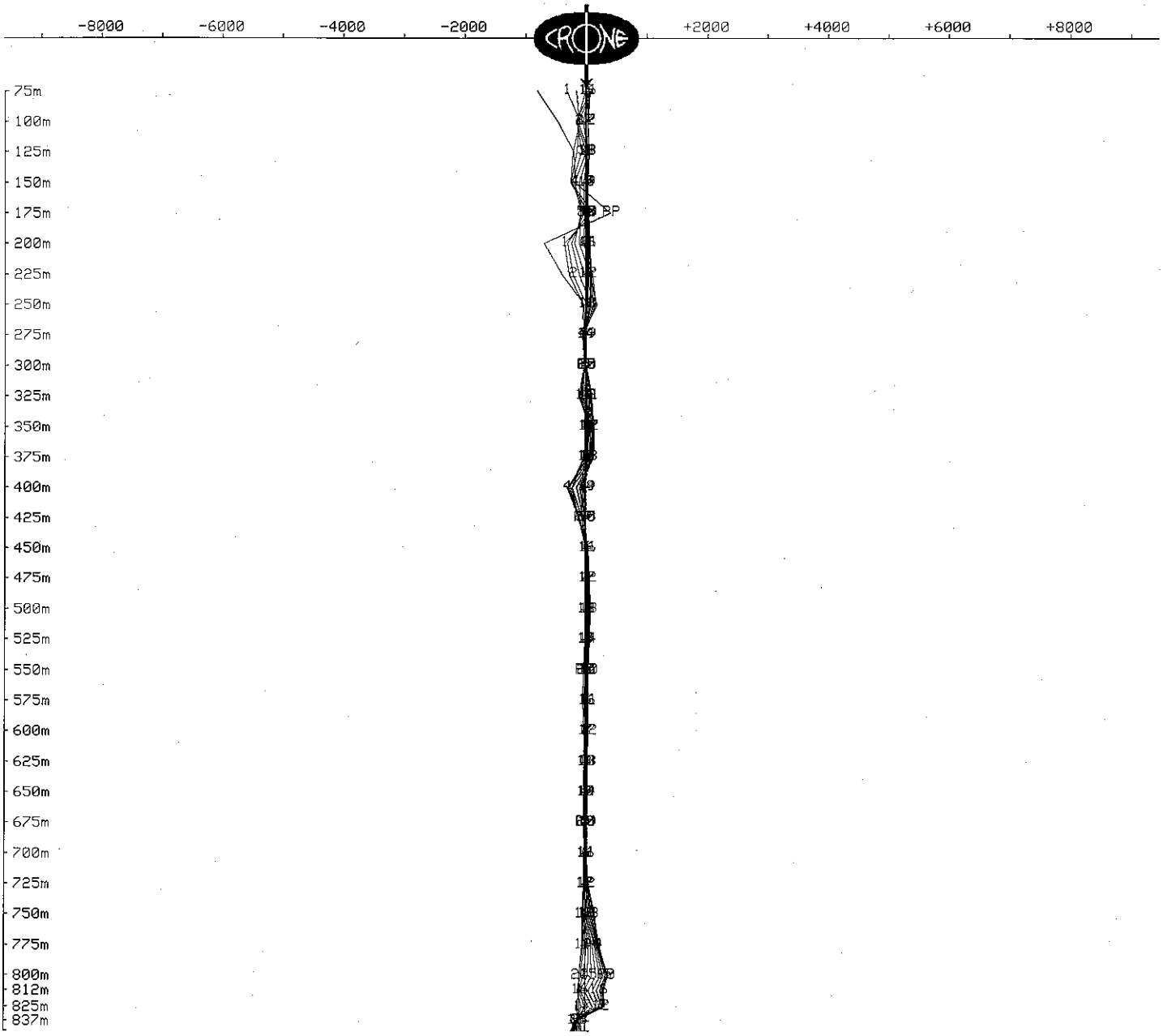


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 25, 2007	File name	: CP354XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 20 of 36 channels and PP

Scale: 1:5000 Unit Scale: 1cm = 1000 nT/s

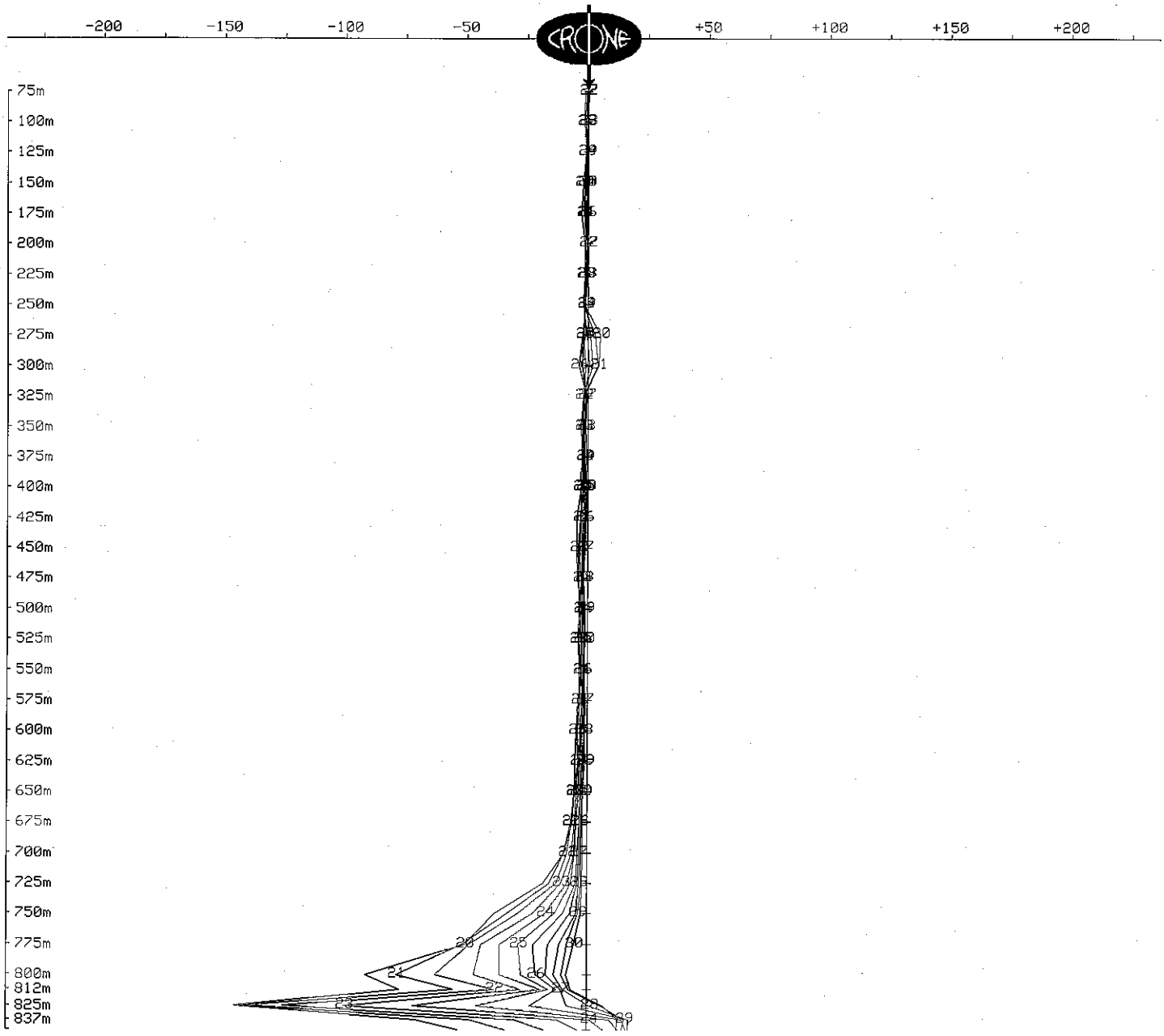


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 25, 2007	File name	: CP354XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 11 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 25 nT/s

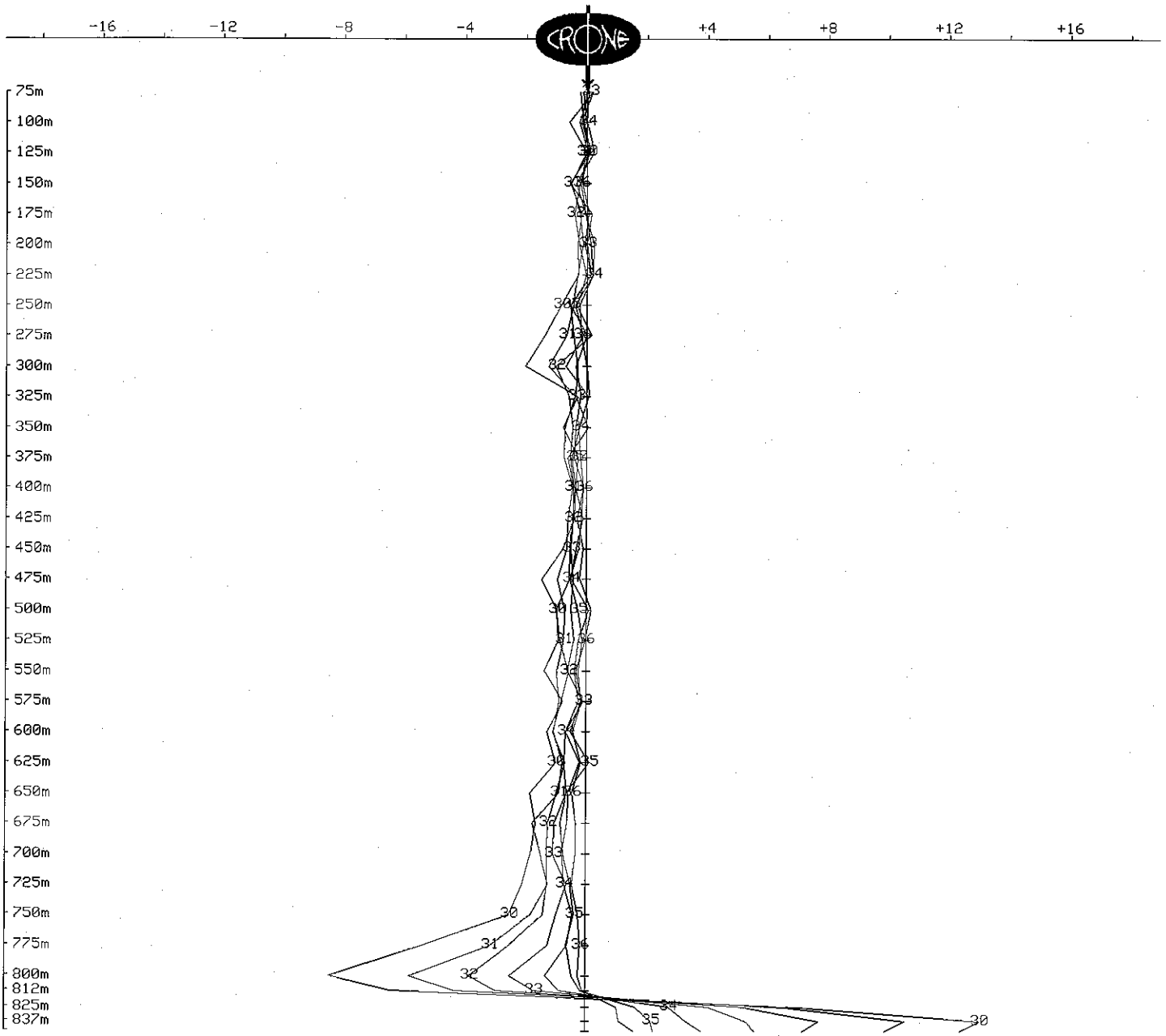


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 25, 2007	File name	: CP354XY.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 13 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 2 nT/s

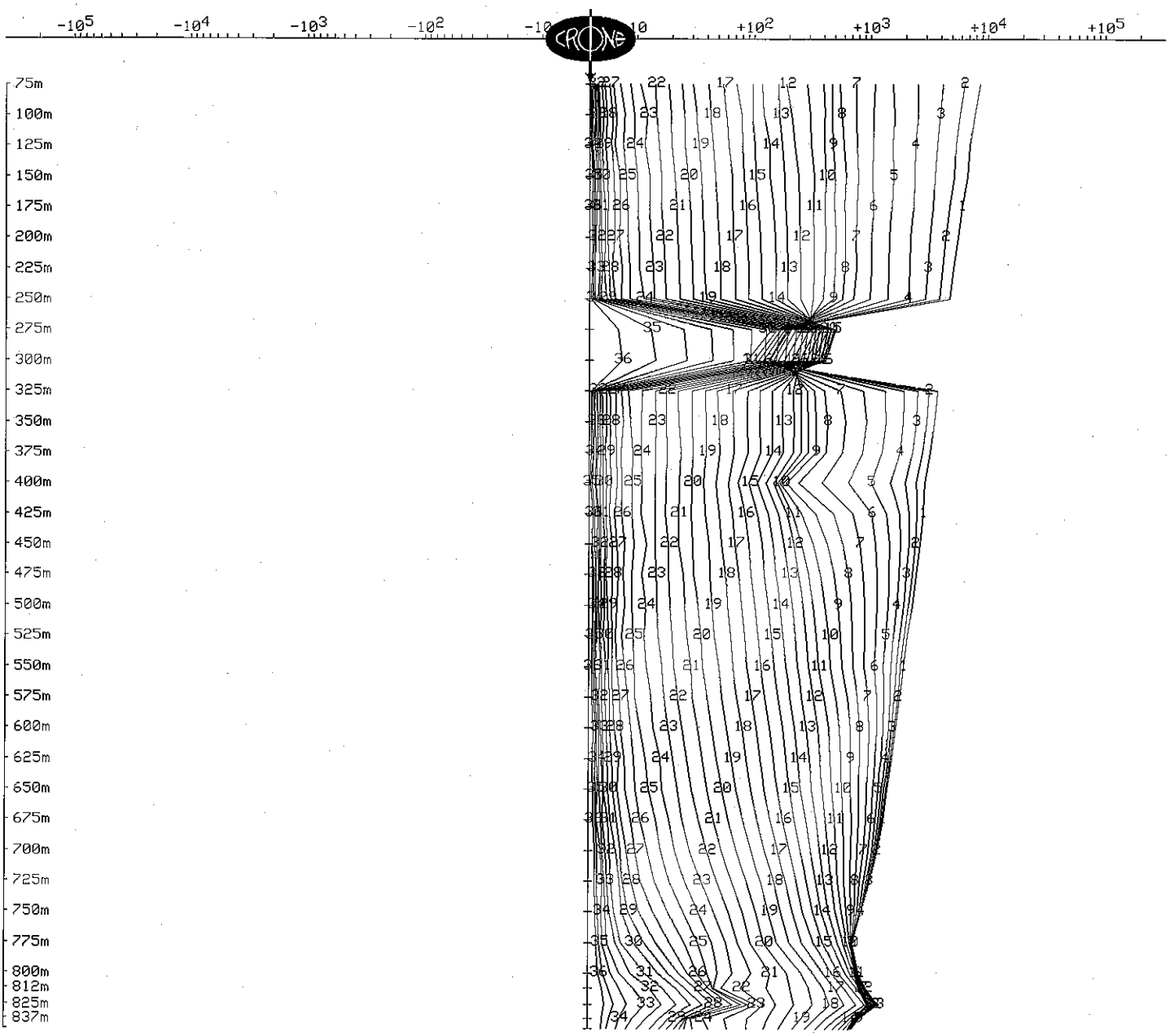


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C4**
Date	: Jan 25, 2007	File name	: CP354XYZ.PEM

TOTAL FIELD dBxyz/dt nanoTesla/sec - 36 of 36 channels

Scale: 1:5000



OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: CP354Z2.PEM
Time Base	: 50.00 ms	# Readings	: 32
Ramp Time	: 1.00 ms	Stn Units	: Metric
# Channels	: 36	Coil Area	: 8000 sq m
Sync Type	: Cable	Polarity	: +
Loop Size	: 900m X 600m	Receiver	: Digital #105
Current	: 12 Amps	Operator	: Humam

Loop Coordinates (X,Y,Z)

1. 377100m, 5.3716e+06m, 0m
2. 377100m, 5.371e+06m, 0m
3. 378000m, 5.371e+06m, 0m
4. 378000m, 5.3716e+06m, 0m

Hole Coordinates (X,Y,Z) or (Azimuth,Dip,Length)

1. 377162m, 5.37133e+06m, 0m
2. 95deg, 70deg, 1070m

Channel Times (usec)

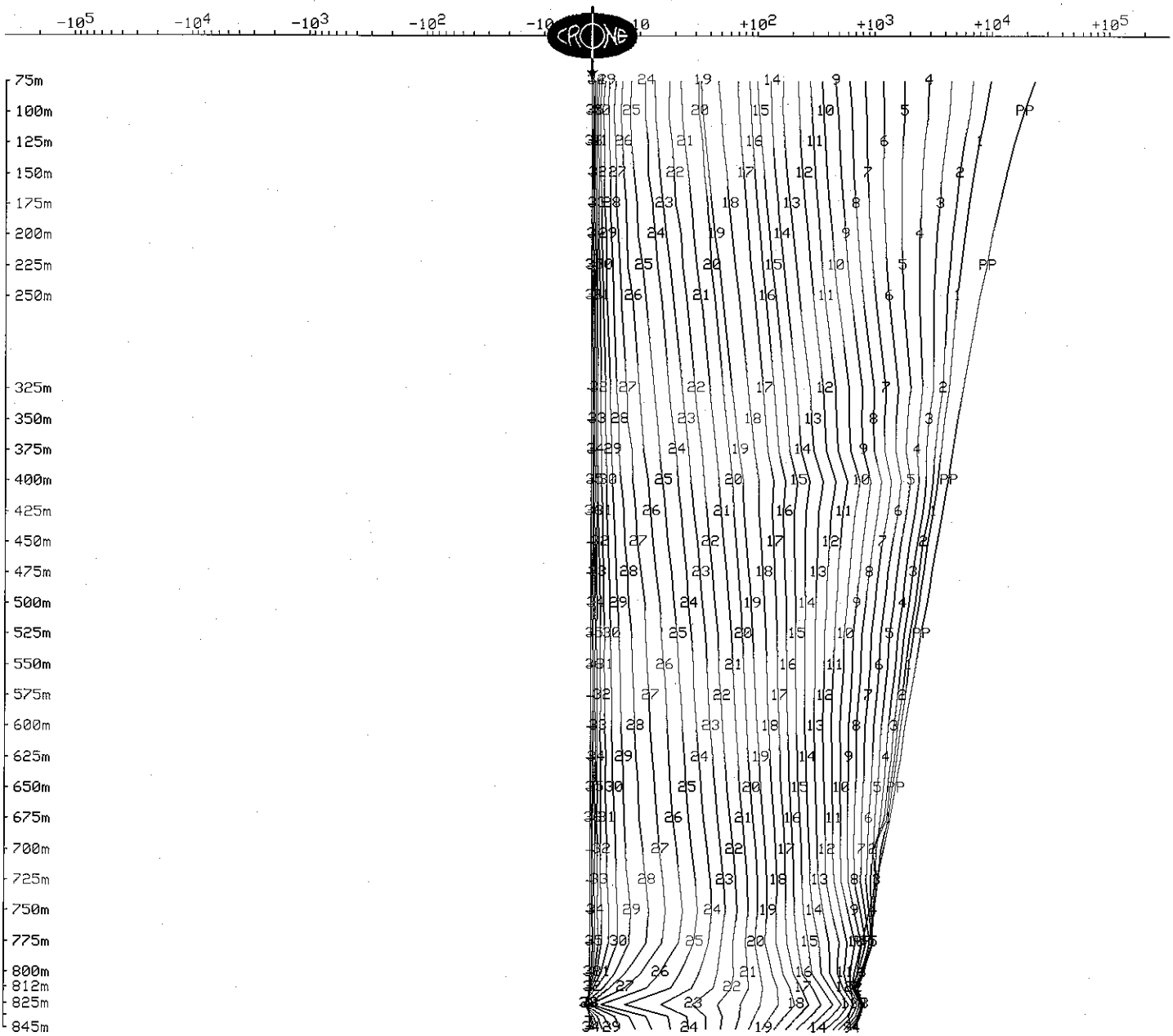
Ch	Start	End	Center	Ch	Start	End	Center	Ch	Start	End	Center
PP	-200	-100	-150	1	48	56	52	2	56	72	64
3	72	84	78	4	84	104	94	5	104	124	114
6	124	152	138	7	152	184	168	8	184	224	204
9	224	268	246	10	268	328	298	11	328	396	362
12	396	480	438	13	480	580	530	14	580	700	640
15	700	848	774	16	848	1024	936	17	1024	1240	1132
18	1240	1496	1368	19	1496	1812	1654	20	1812	2188	2000
21	2188	2644	2416	22	2644	3196	2920	23	3196	3860	3528
24	3860	4664	4262	25	4664	5632	5148	26	5632	6808	6220
27	6808	8220	7514	28	8220	9936	9078	29	9936	12000	10968
30	12000	14400	13200	31	14400	17520	15960	32	17520	21150	19335
33	21150	25560	23355	34	25560	30870	28215	35	30870	37290	34080
36	37290	45040	41165								

OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: CP354Z2.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 36 of 36 channels and PP

Scale: 1:5000

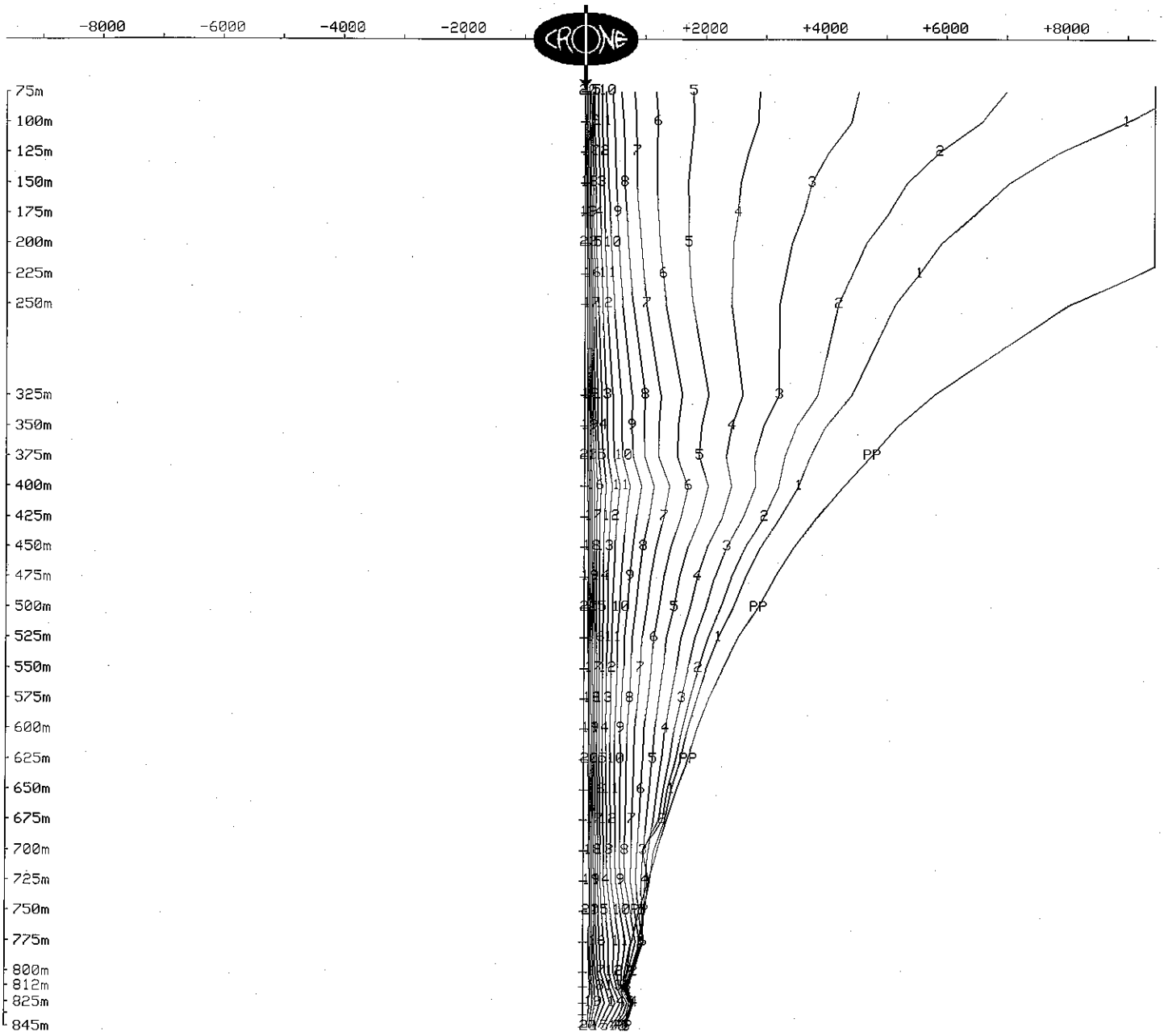


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: CP354Z2.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 20 of 36 channels and PP

Scale: 1:5000 Unit Scale: 1cm = 1000 nT/s

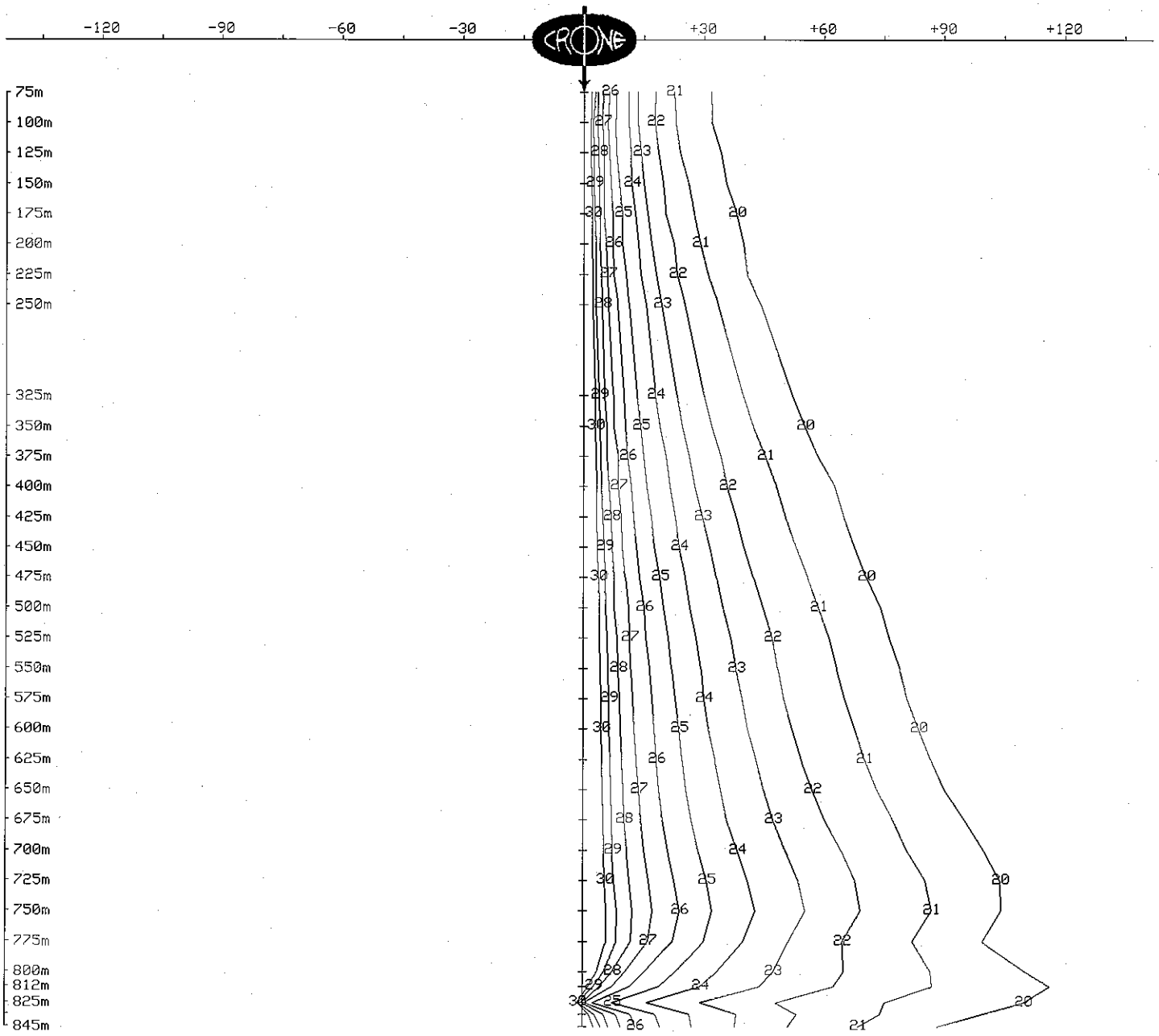


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: CP354Z2.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 11 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 15 nT/s

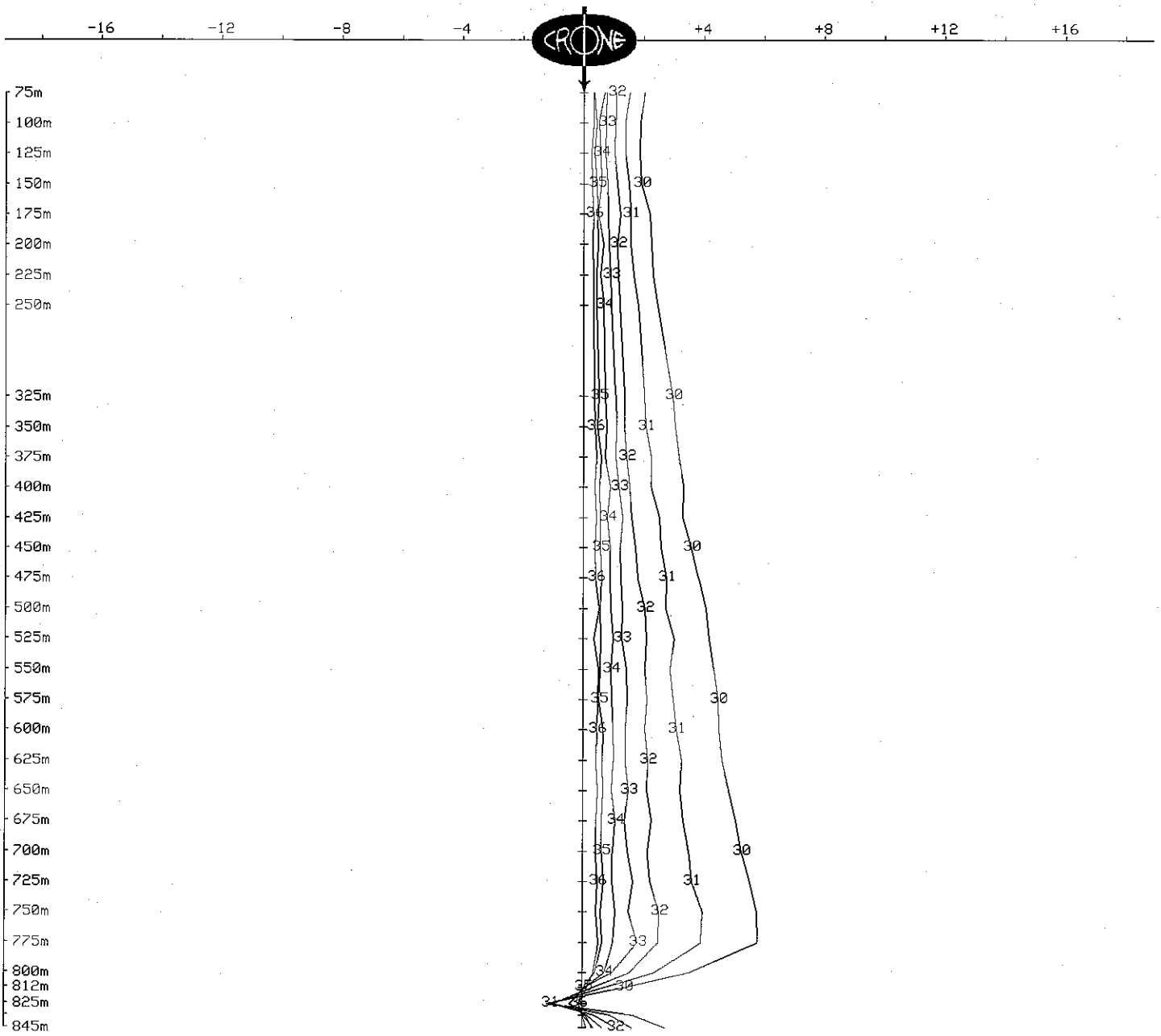


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: CP354Z2.PEM

Z COMPONENT dBz/dt nanoTesla/sec - 13 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 2 nT/s

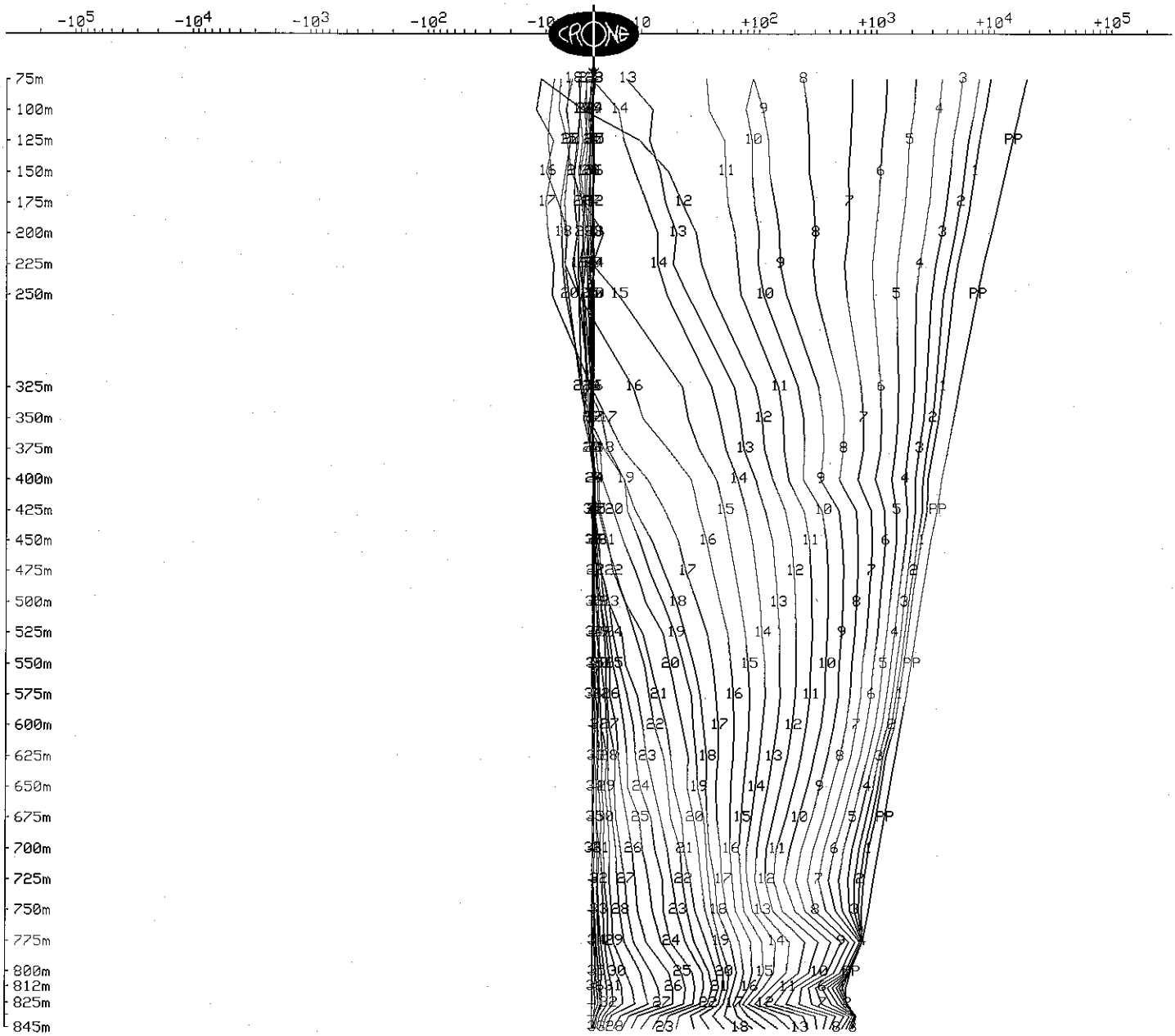


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: C354XY2.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 36 of 36 channels and PP

Scale: 1:5000

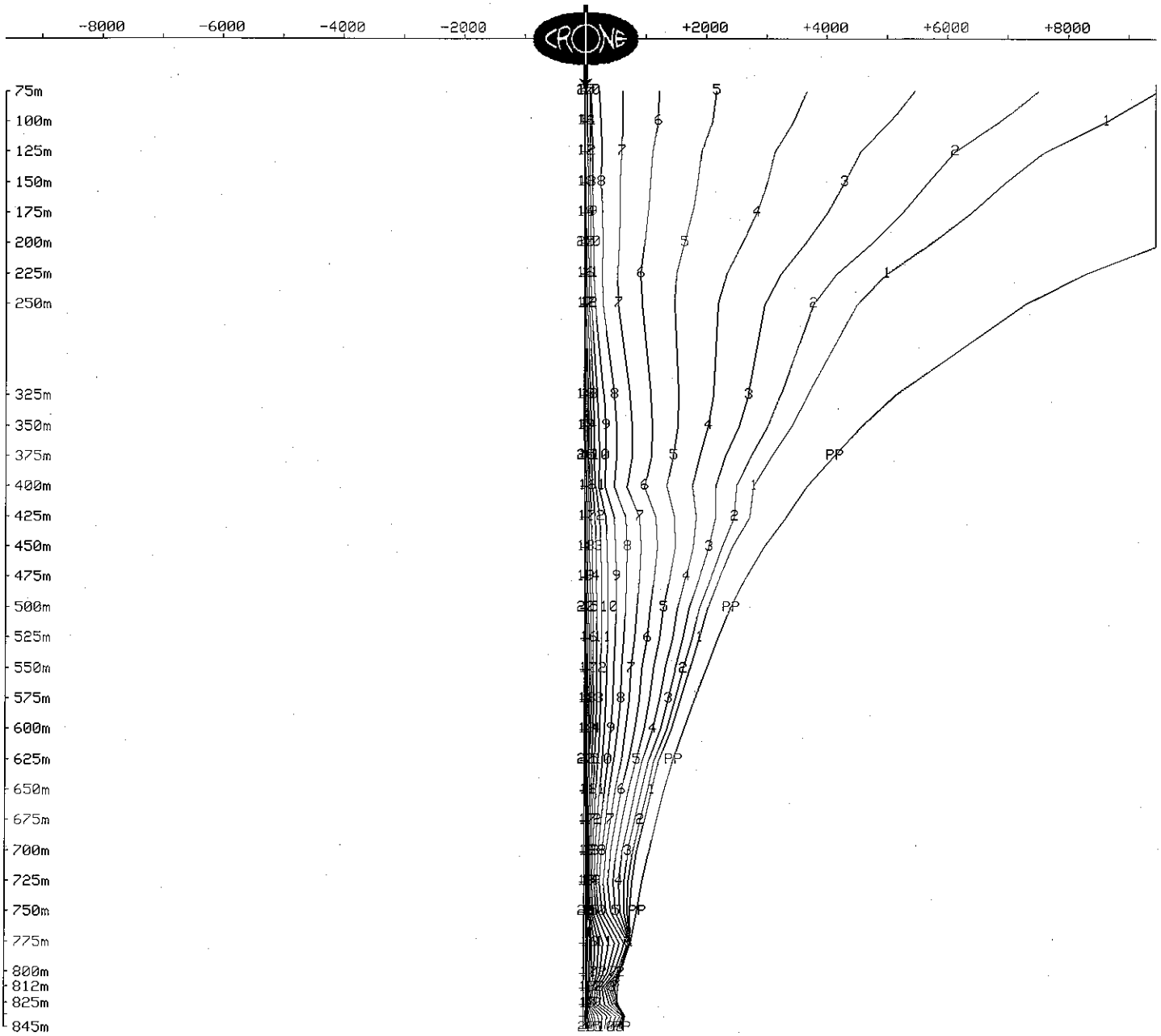


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: C354XY2.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 20 of 36 channels and PP

Scale: 1:5000 Unit Scale: 1cm = 1000 nT/s

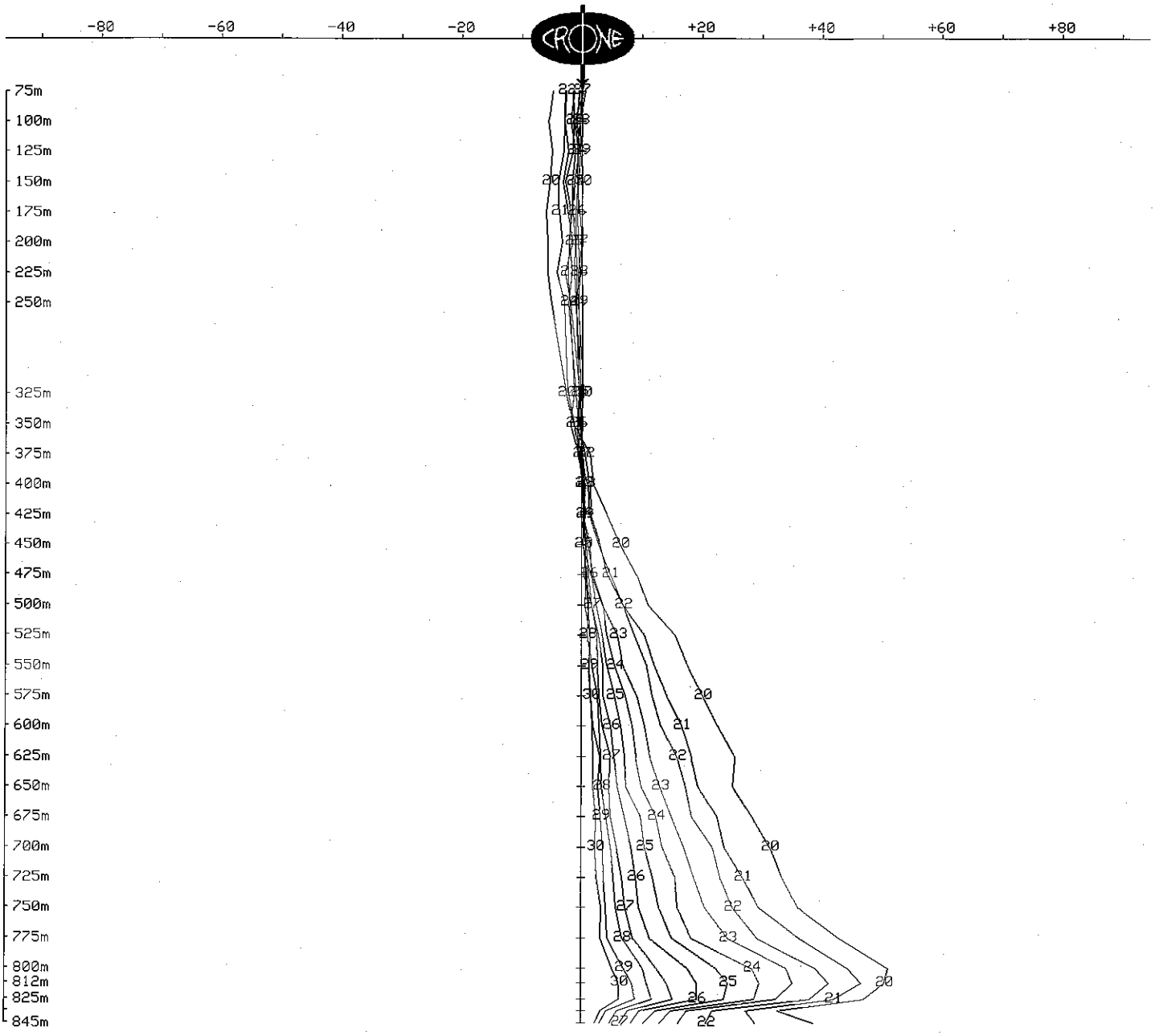


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: C354XY2.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 11 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 10 nT/s

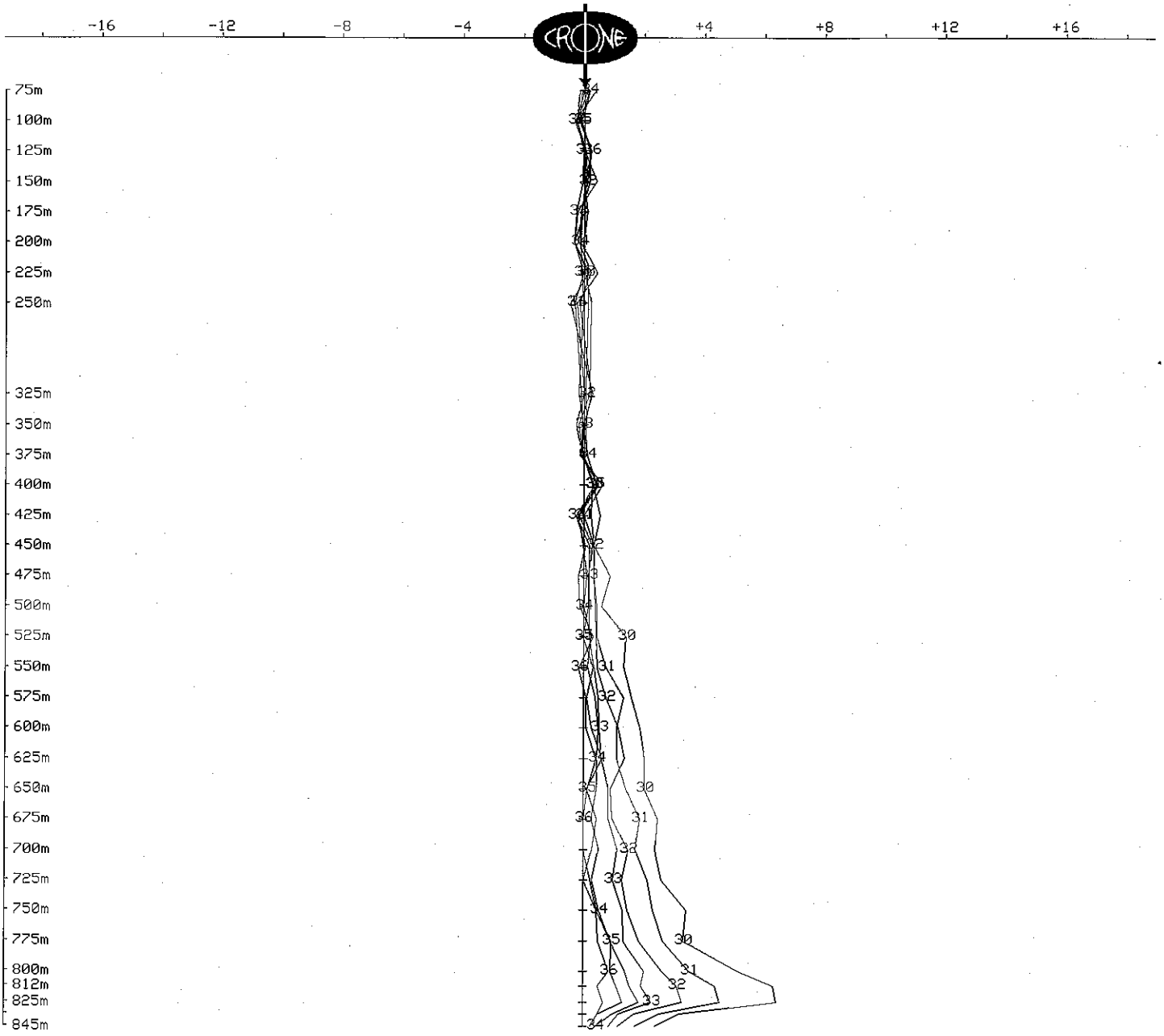


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: C354XY2.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
X COMPONENT dBx/dt nanoTesla/sec - 13 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 2 nT/s

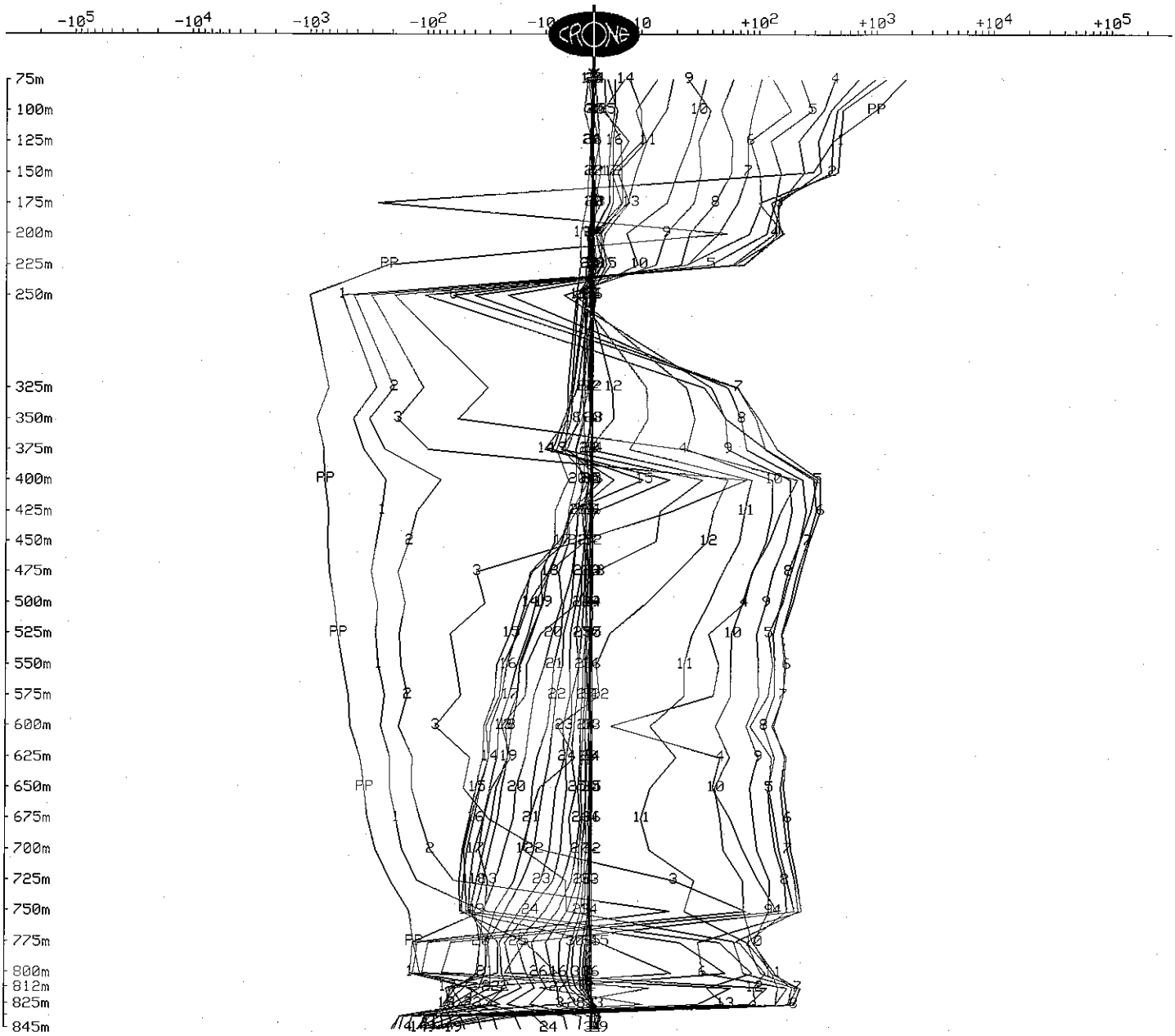


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: C354XY2.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 36 of 36 channels and PP

Scale: 1:5000

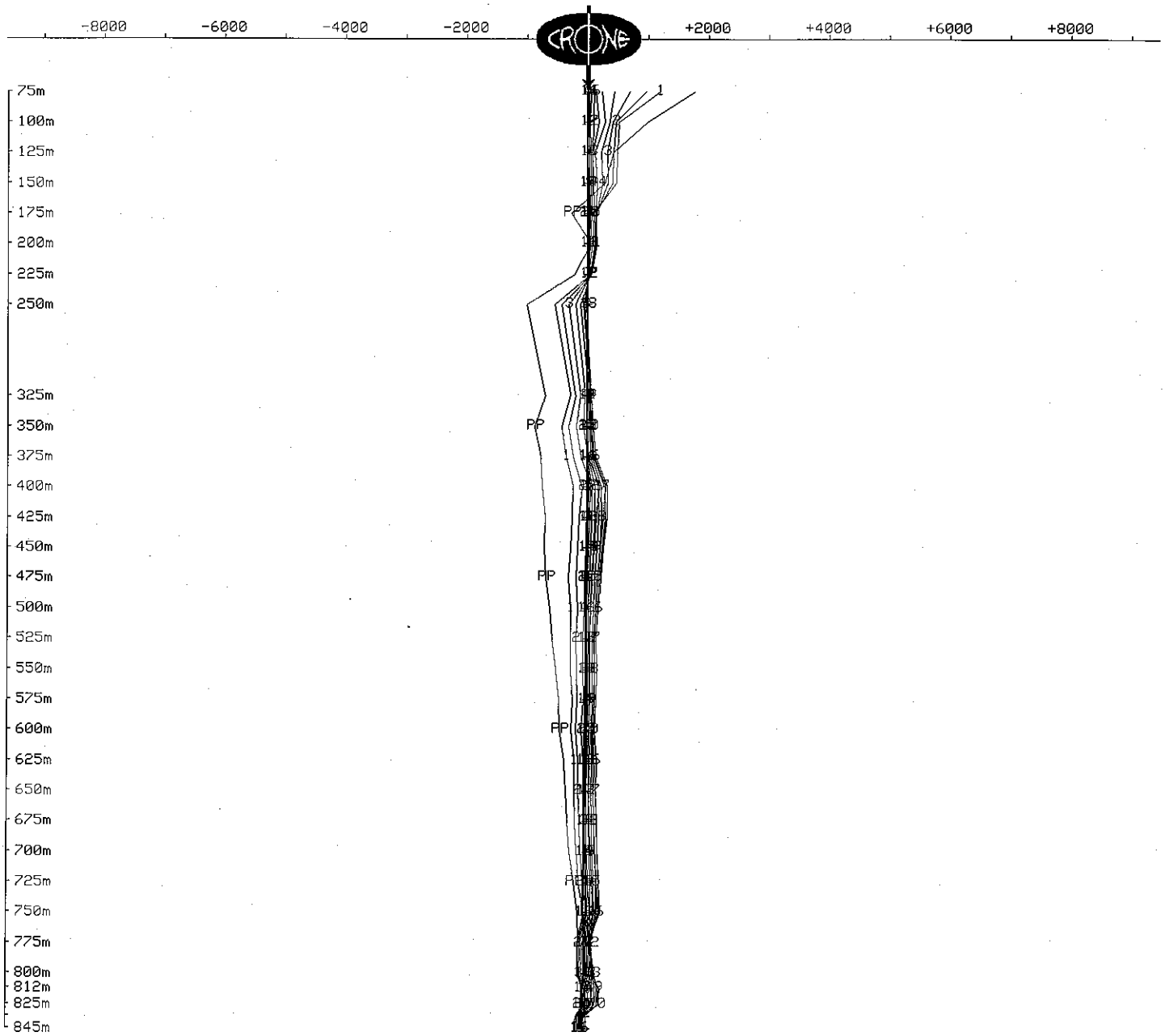


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: C354XY2.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 20 of 36 channels and PP

Scale: 1:5000 Unit Scale: 1cm = 1000 nT/s

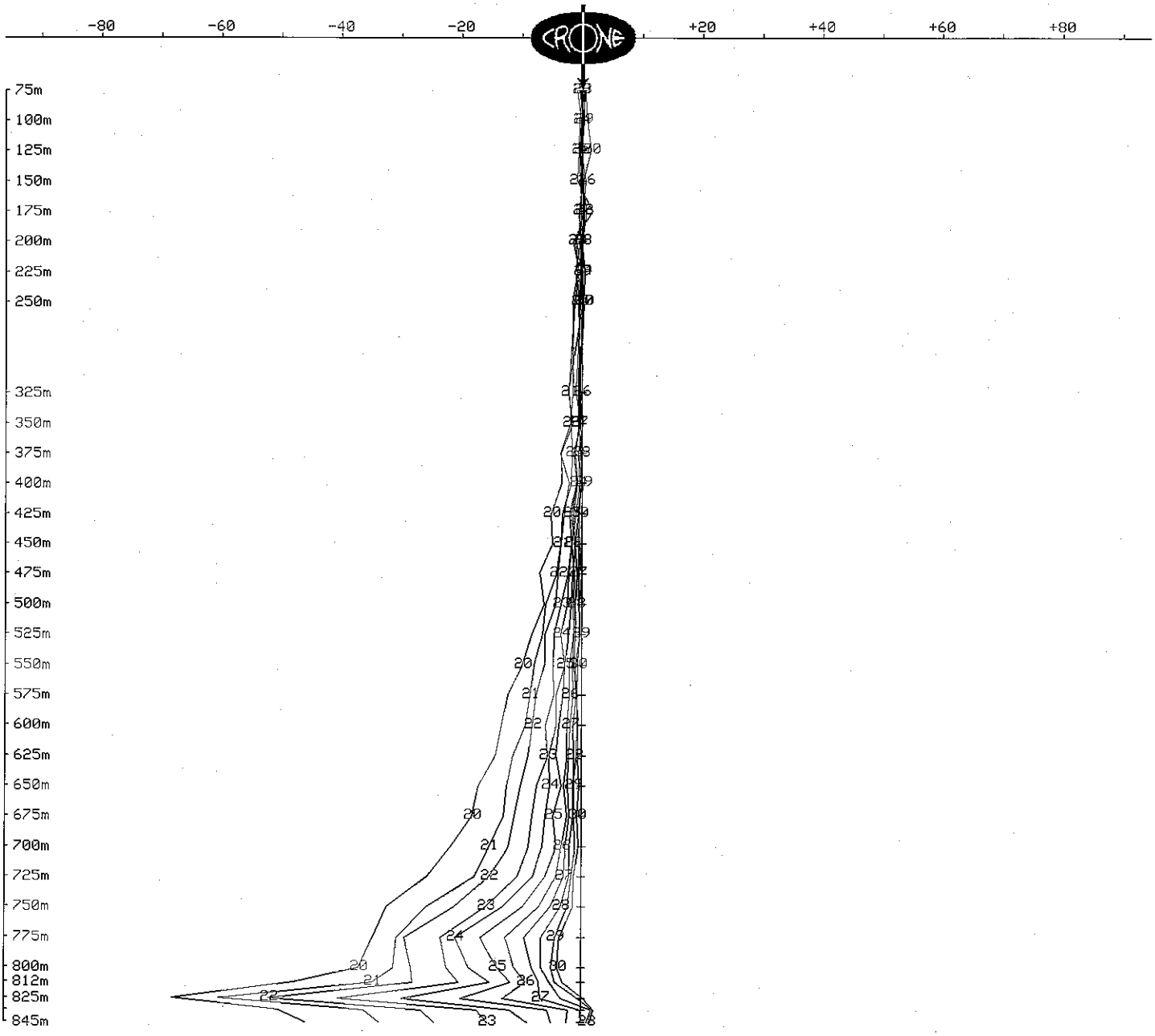


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: C354XY2.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 11 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 10 nT/s

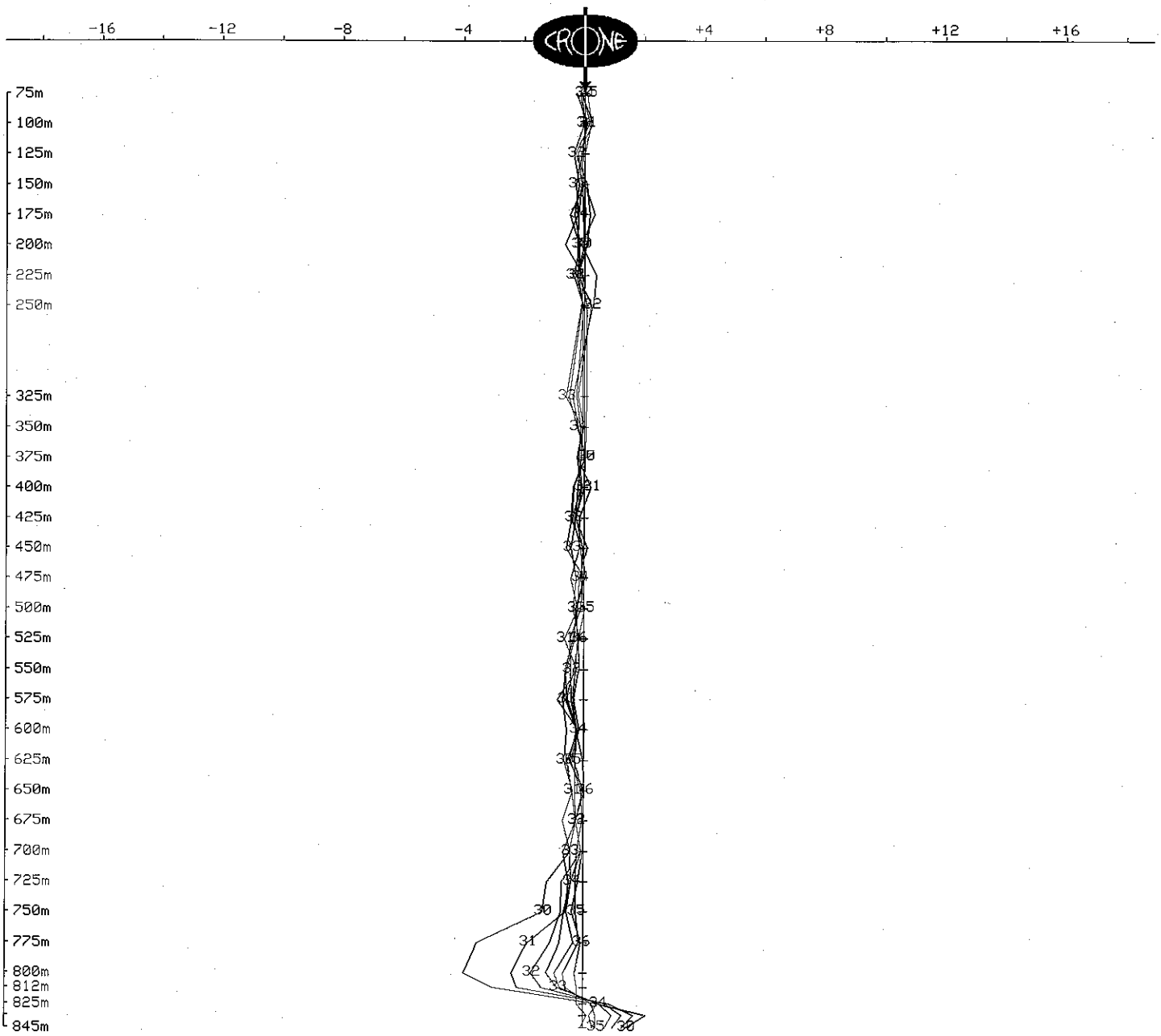


OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: C354XY2.PEM

Data Corrected for Probe Rotation using Orientation Tool #5
Y COMPONENT dBy/dt nanoTesla/sec - 13 of 36 channels

Scale: 1:5000 Unit Scale: 1cm = 2 nT/s



OUTER-RIM EXPLORATION SERVICES
Borehole Pulse EM Survey

Client	: **Zinifex Ltd**	Hole	: **CP-354**
Grid	: **Chamberlain**	Tx Loop	: **C5**
Date	: Jan 27, 2007	File name	: C354XYZ2.PEM

TOTAL FIELD dBxyz/dt nanoTesla/sec - 36 of 36 channels

Scale: 1:5000