ASSESSMENT REPORTS

Watson Lake M. D.

MAP No. 105 B 1 TYPE OF WORK: Diamond Drilling

REPORT FILED UNDER	Butler Mountain Minerals Corp. 091501
DATE PERFORMED	Aug. 8- Oct. 4, 1983 DATE FILED: Dec. 9, 1983
LOCATION – LAT.	60° 03' N Rancheria area, Yukon.
LONG.	130° 22' W
CLAIM Nos.	YP 1-4 YA
$6600.00	
WORK DONE BY	G.E. Furneaux and White (Glen E. White Geophysical Consulting & Services Ltd.)
WORK DONE FOR	Butler Mountain Mineral Corp.
REMARKS	Nine drill hole logs totalling 7815 feet(2382 m) intersected minor Au,Ag,Cu,Pb,Zn,WO_3,Sn values. The best mineralization is in a green chloritized porphyry (DDH-6-YP 9.86 oz/ton Ag and 5.06% Zn).

091501

Indian and Northern Affairs / Affaires indiennes et du Nord

P. O. Box 269
Watson Lake, Yukon
YOA 1CO

13 December 83

Your file / Votre référence

Our file / Notre référence

340-13-3

REGIONAL DIRECTOR RESOURCES

Attention: Supervising Mining Recorder

RESTRICTED

Enclosed for your files are Diamond Drill logs submitted by Butler Mountain Minerals Corp. for assessment on the YP, Idaho, and B.T.F. mineral claims located on 105-B-1.

Drill holes were as follows:

DDH 83 1A	YP 2, 4	46'
DDH 83 1	YP 3, 4	866'
DDH 83 2	YP 4	992'
DDH 83 3	YP 3, 4	1044'
DDH 83 4	YP 4	1105'
DDH 83 5A	YP 3	284'
DDH 83 5	YP 1-4	1517'
DDH 83 6	YP 4	846'
DDH 83 7	YP 1	1115'

Total assessment credit requested is $6,600.00.

Drill core is being stored at Grant Stewart Construction, Watson Lake.

Patti L. McLeod
Mining Recorder
Watson Lake Mining District

PLM/pj
cc: Regional Geologist

091501

BUTLER MOUNTAIN MINERALS CORP.
LEAD ZINC SILVER GOLD
GEOPHYSICAL DISCOVERY
RANCHERIA AREA-YUKON TERRITORY

AUTHOR: GLEN E.WHITE,P.ENG.

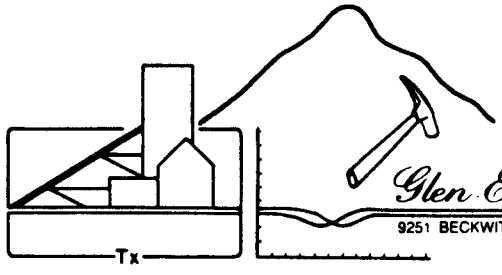
INTRODUCTION

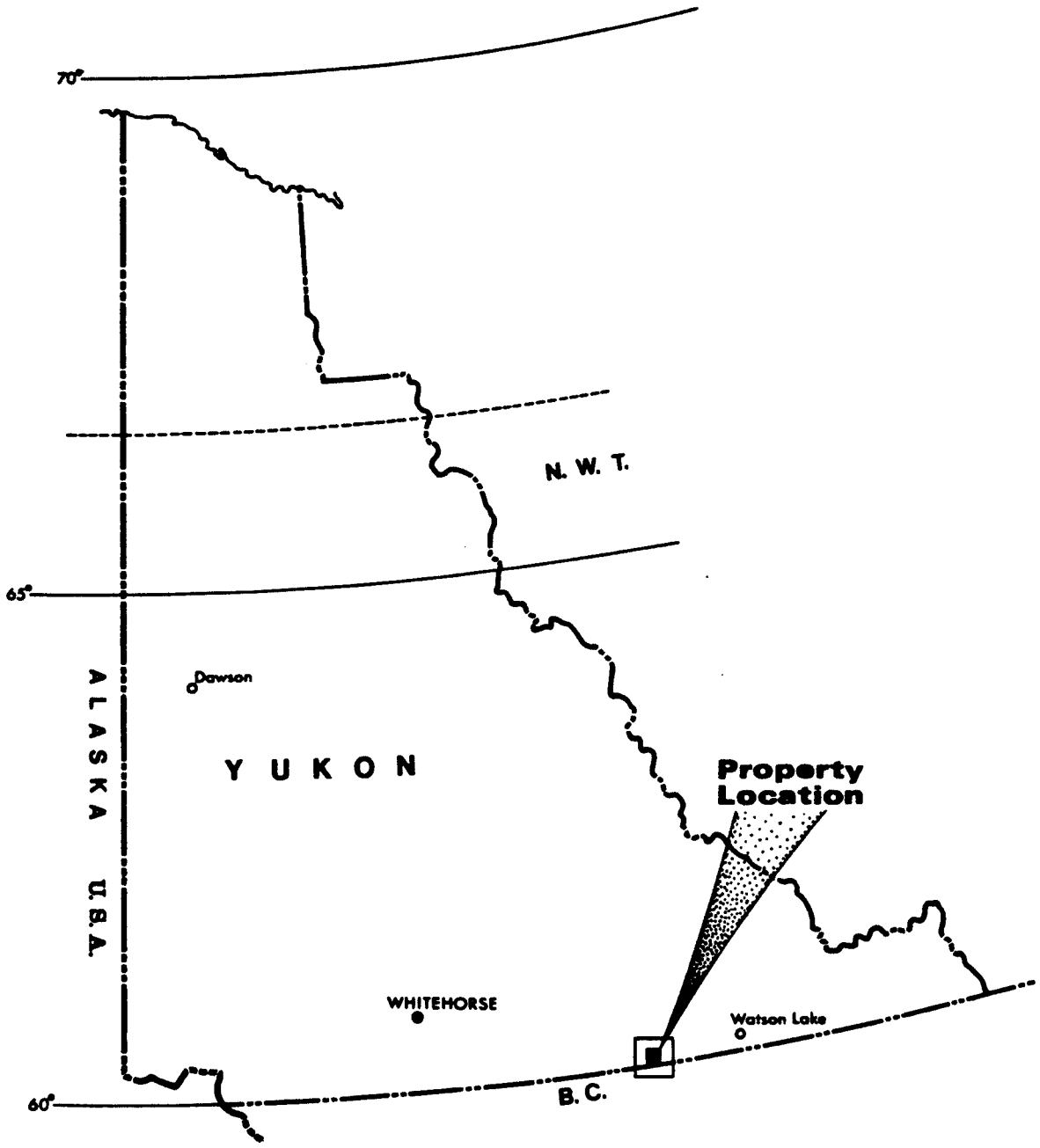
In 1983, Butler Mountain Minerals Corporation diamond drill program intersected some 30m of massive and semi-massive sulphide mineralization at a depth of 220m. The drill target was a well defined, deeply buried time domain electromagnetometer conductor. The conductor has been diamond drilled along a strike length of some 500m and is estimated to contain in excess of three million tonnes of massive sulphide mineralization consisting largely of pyrrhotite with low grade zinc, lead and silver values. Intersections of 3.5m of some 10% zinc and 10 oz./ton of silver have been obtained as well as an elusive zone of 3.5m of .446 oz.Au/ton. An exploration program of some 2 million dollars has been recommended by J. Vincent, P.Eng.

This paper describes the successful use of surface and downhole time domain electromagnetometer surveying which led to the discovery of this mineral deposit.

LOCATION

The turn off to the survey area is the Regional Resources Tootsie River road located near mile 703 on the Alaska Highway, Yukon Territory, 110 km. from Watson Lake. Rancheria is at mile 706. The Butler Mountain Minerals Corporation road to the YP claims is clearly marked and is some 8 km. from the Alaska Highway.





BUTLER MOUNTAIN MINERALS CORP.

YP PROJECT

LOCATION MAP

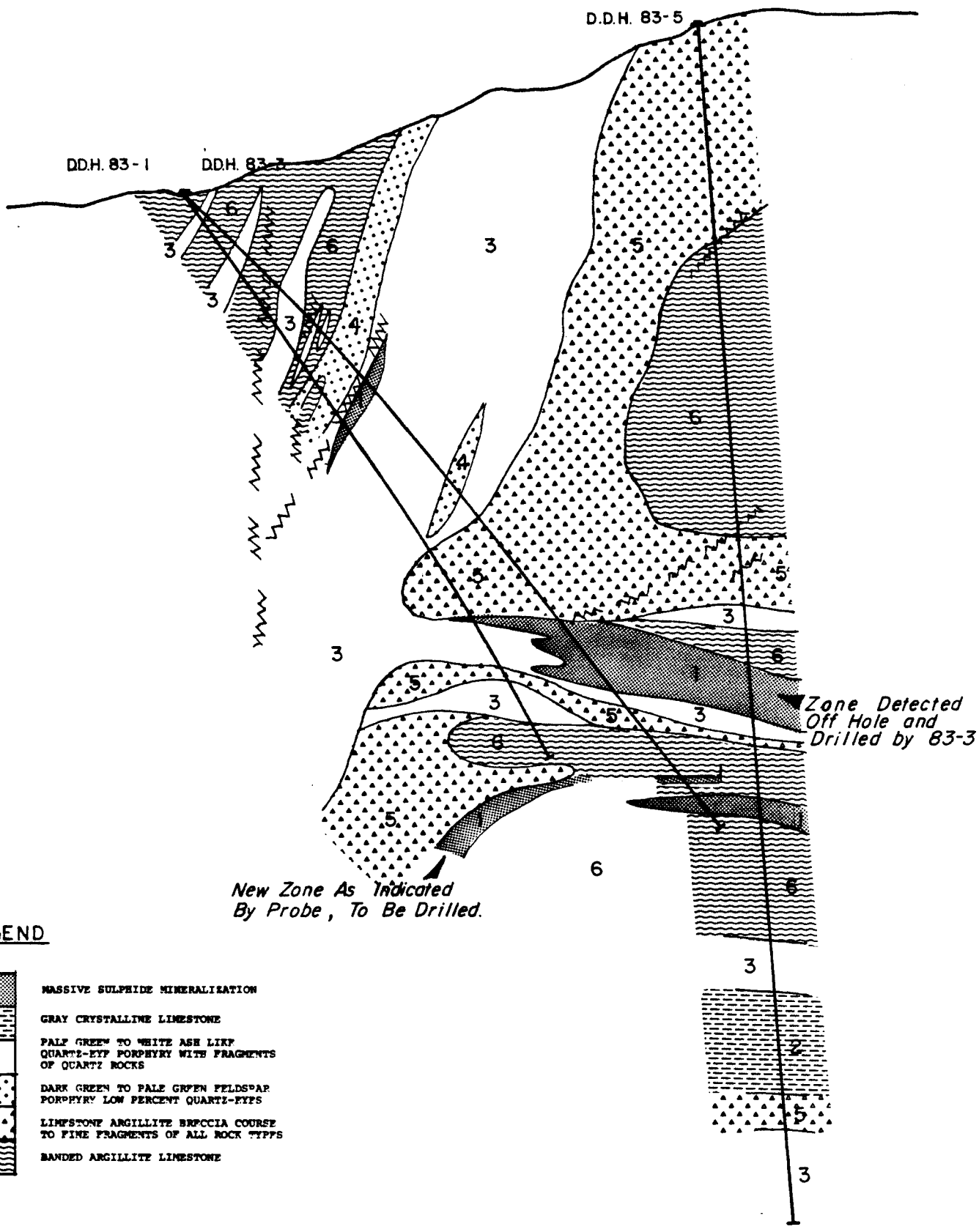
Glen & White geophysical consulting & services ltd.

FIGURE 1

GENERAL GEOLOGY

The property is underlain by carbonates of the Cambrian-Atan group which form an anticline and are in contact with the Cassiar Batholith. The carbonates strike northeast and dip 30^{o}-40^{o} eastward. The YP claims are cut by a strong north-south regional fault which shows as a Landsat linear. The known mineralization consisted of narrow veins of replacement silver-lead-zinc mineralization in the carbonate sediments. In his November 22,1983, Summary Report 1983 Field Season, Mr. B. Furneaux, Project Manager states;

"The 1983 geological work has drastically altered this simple picture. The west side of the grid contains steeply westerly dipping carbonates. The high grade galena vein appears conformable to the dip. The east side of the grid clearly shows the antiform with both westerly and easterly dips being evident in a thinly banded argillaceous limestone. The significant geological change is that a well defined quartz-eye rhyolite porphyrite or tuff has been mapped which in some instances appears conformable to the bedding. It forms a fragmental zone containing a variable mixture of quartz-eye rhyolite-argillaceous limestone fragments. The question as to whether this is a diatreme or brecciation associated with a deep water porphyrite has yet to be answered. Regardless of the geological model a major sulphide zone has been discovered at a depth of 220m beneath the eastern most hill on the YP claims. Correlation of the surface geology, geochemistry and diamond drilling suggests two types of mineralization. The near surface mineralization is argentiferous galena which appears to be associated with a carbonate breccia bound by siderite, while the mineralization at depth occurs as massive sulphide mineralization consisting largely of pyrrhotite and sphalerite. This mineral zone appears to be a shallow easterly dipping multilayered zone in an argillite-limestone breccia to banded limestones. Sometimes the host is the quartz-eye porphyry. The upper portion of the mineral zone contains 10 to 14 feet of largely sphalerite-pyrrhotite-arsenopyrite mineralization. Underneath this horizon are other bands up to 10 feet in thickness of largely pyrrhotite with minor sphalerite chalcopyrite which appears as layers. Hole 83-4 contained approximately 120 feet of such mineralization. This zone has been detected by diamond drill holes 83-3 to 6 and appears to be a northward plunging sheet. Minor zones containing visible sphalerite, chalcopyrite, arsenopyrite and galena occur throughout the holes. These cannot be ignored and have been sampled for information purposes."



LEGEND

1 MASSIVE SULPHIDE MINERALIZATION

2 GRAY CRYSTALLINE LIMESTONE

3 PALE GREEN TO WHITE ASH LIKE QUARTZ-EYE PORPHYRY WITH FRAGMENTS OF QUARTZ ROCKS

4 DARK GREEN TO PALE GREEN FELDSPAR PORPHYRY LOW PERCENT QUARTZ-EYES

5 LIMESTONE ARGILLITE BRECCIA COURSE TO FINE FRAGMENTS OF ALL ROCK TYPES

6 BANDED ARGILLITE LIMESTONE

PROJECTED GEOLOGY SECTION

LINE 100N S70°E

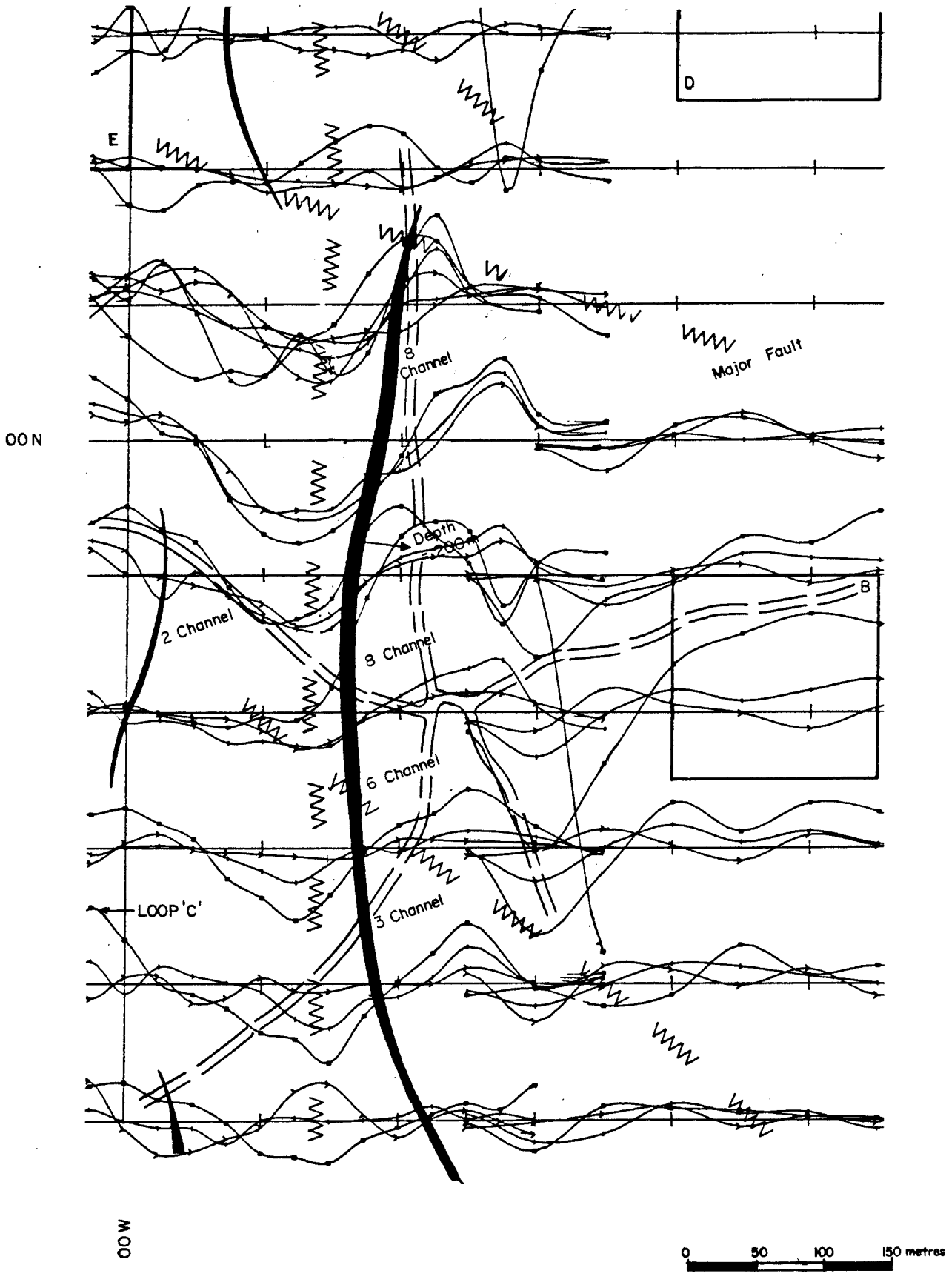
Glen E. White geophysical consulting & services ltd

FIGURE 2

A preliminary model deduced from the 1984 geological mapping and diamond drilling seems to suggest that the mineralization (Fig.2) occurs in two formats, flat and steeply dipping, although multiple phases of deposition may have occurred. The breccias are likely steeply dipping diatreme breccias associated with the quartz-eye porphyry. It would appear that hydraulic fracturing of the limestone-argillite sequences allowed hydrothermal solutions to permeate the bedding planes and thus give a pseudo-bedding appearance showing shallow easterly dips. This would explain the presence of brecciated sulphides and rock particles along the bedding planes as there would be multiple phases of hydraulic fracturing. There is some suggestion that the arsenopyrite and the argentiferous galena are associated with the more steeply dipping breccias and hydrothermally altered fault zones, possibly a later phase of mineralization.

GEOPHYSICAL SURVEY

The normal geophysical approach to exploration of this type of property where mineralization occurs in pits and trenches would be to run a VLF-EM, Max-Min, Geni or like instrument with a coil separation of likely 50-100m. Experience in this area over the last 12 years indicated that any multi-million ton ore body was either buried beneath a deep swamp, lake, or at depth; thus the Vector Pulse Electromagnetometer system was selected. This system is a time domain electromagnetic unit which employs a fixed loop for the primary field and a receiver and coil which are moved along the survey lines to obtain the vertical and horizontal components of any secondary field which may be present. Primary loops vary in



COMPOSITE PROFILE MAP

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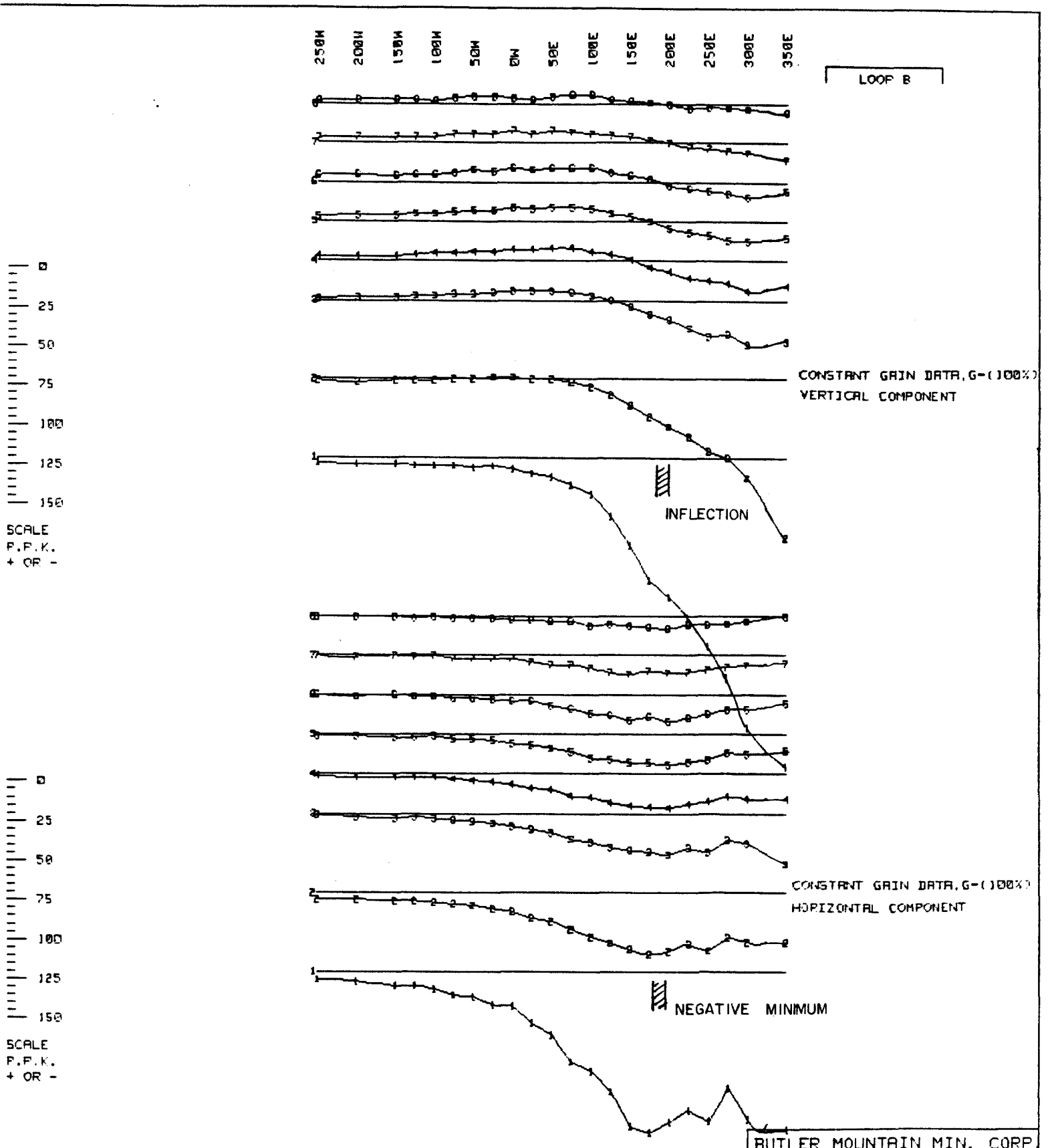
FIGURE 3



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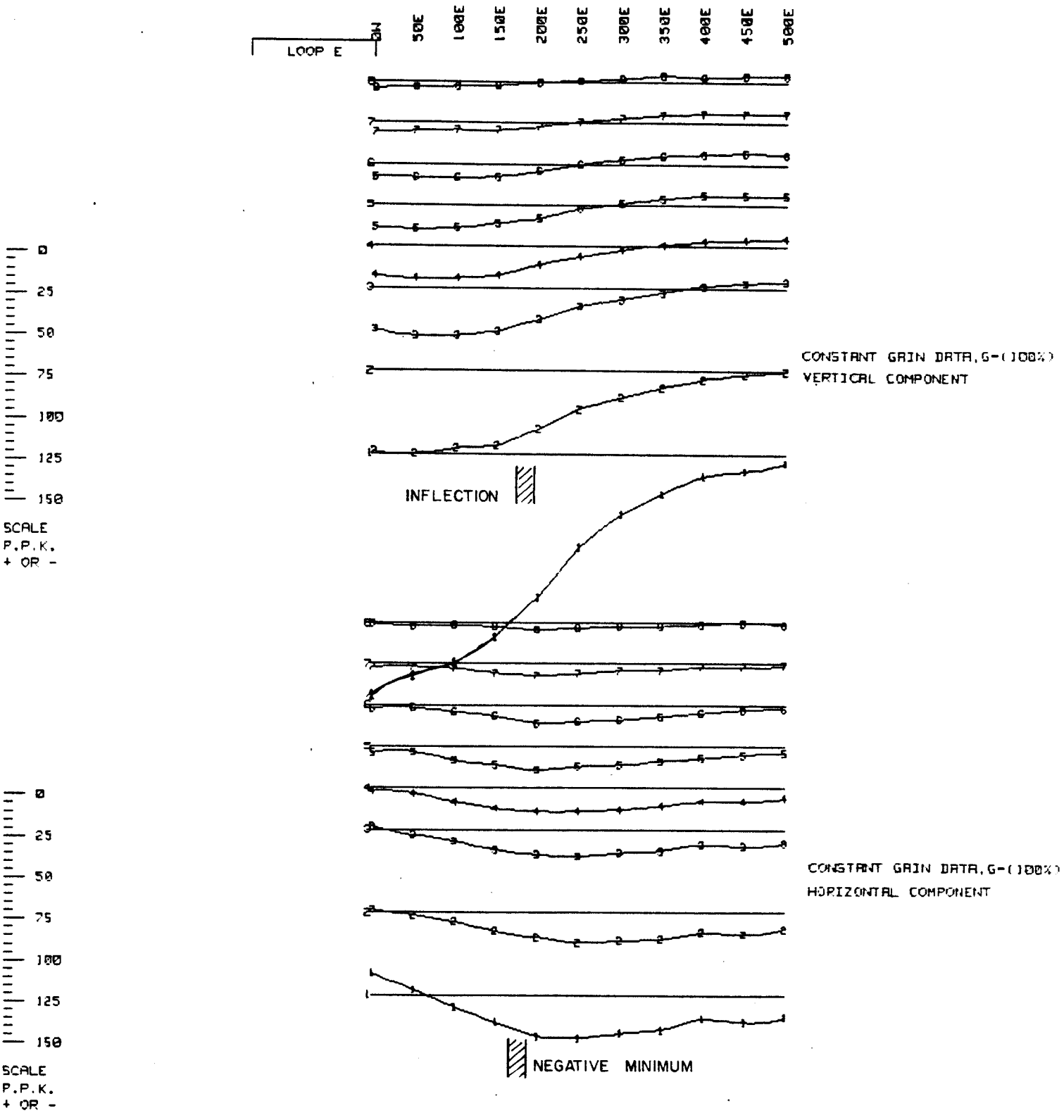
& SERVICES LTD.

CONSTANT GAIN DATA, G-(100%)
NUMBER IN LINE-CHANNEL NUMBER
INSTRUMENT: CRONE P.E.M.

METRES
0 50 100 150 200

BUTLER MOUNTAIN MIN. CORP.
YP CLAIMS
VECTOR PULSE ELECTROMAGNETOMETER
LINE 00N LOOP B

DATE: JULY/83 | FIG.: 4



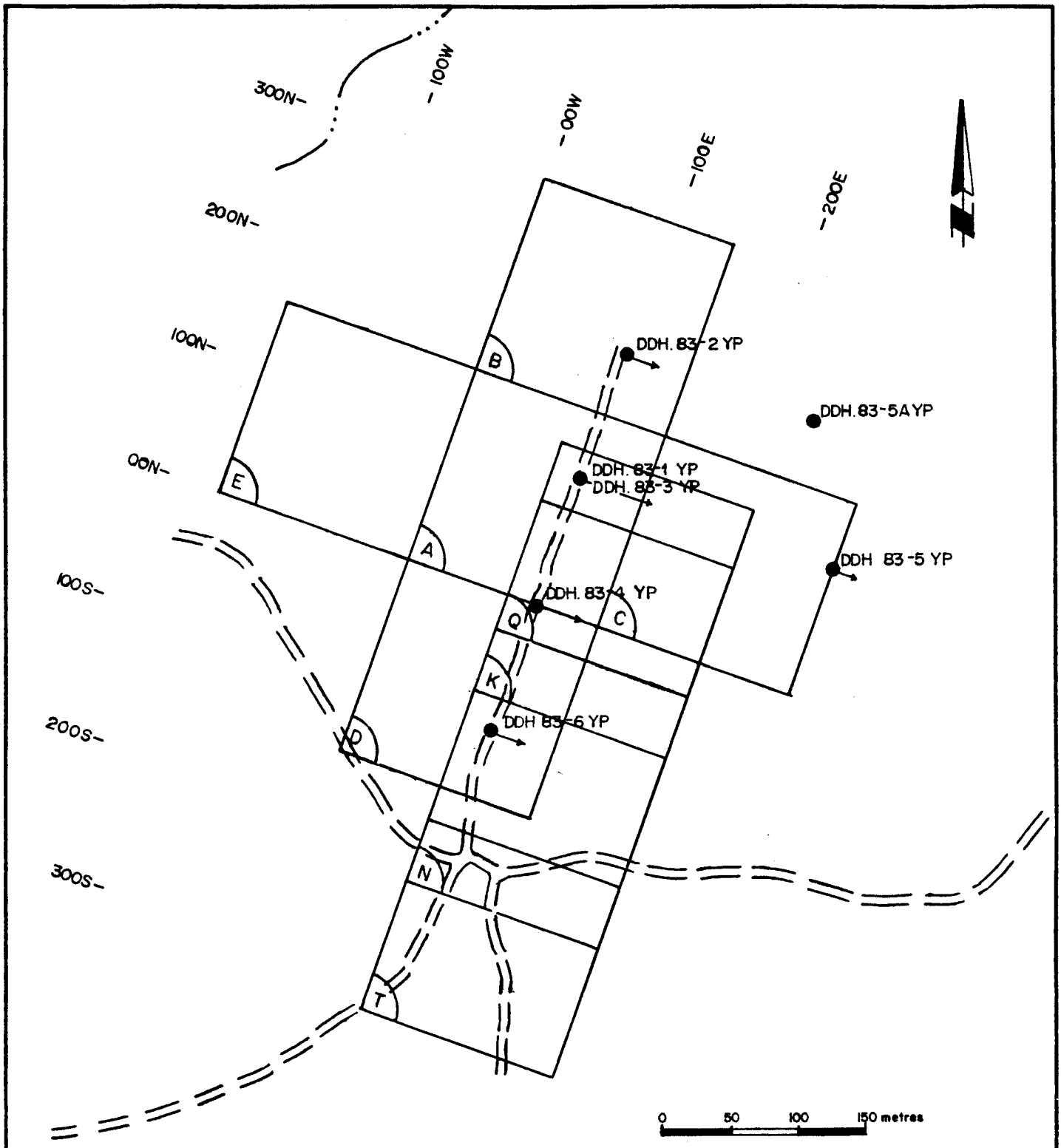
GLEN E. WHITE
GEOPHYSICAL CONSULTING
& SERVICES LTD.

CONSTANT GAIN DATA, G=(100%)
NUMBER IN LINE-CHANNEL NUMBER
INSTRUMENT: CRONE P.E.M.

METRES
0 50 100 150 200

BUTLER MOUNTAIN MIN. CORP
YP CLAIMS
VECTOR PULSE ELECTROMAGNETOMETER
LINE 00N LOOP E

DATE: JULY/83 | FIG.: 5



DOWNHOLE LOOP POSITION MAP — YP GRID

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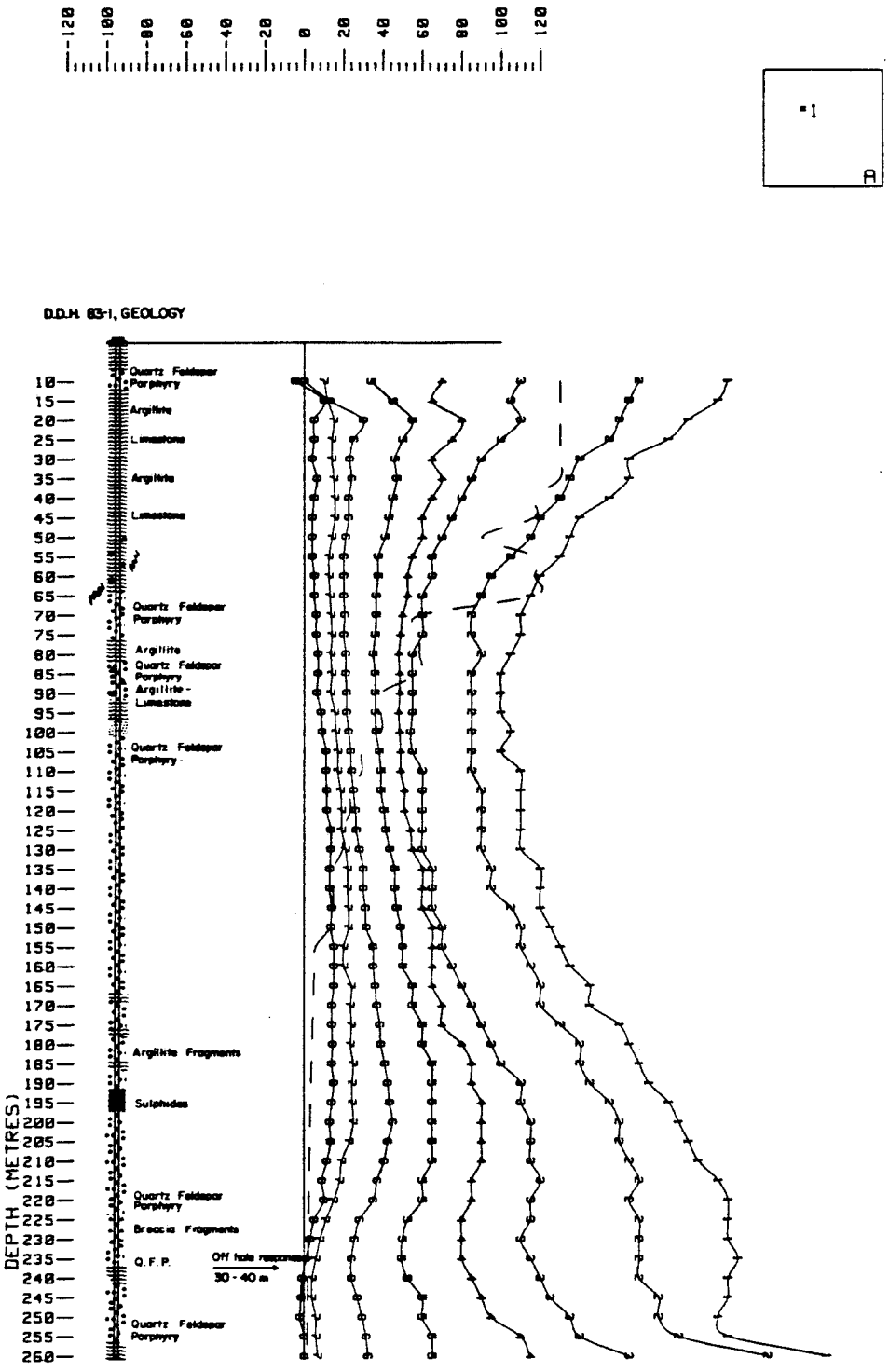
& services ltd.

FIGURE 6

size from 150m per side to 500m x 1 km. depending upon the power of the transmitter. A 500 watt system with a 150m loop was used for the 1983 surface and downhole probing. This gave a continuous search depth from surface to 300m rather than a single search depth as with a fixed separation system. This dramatically increases the cost effectiveness of electromagnetic surveying.

Figure 3 shows the conductor in plan as detected from loops B,D and E. The responses plotted are the first derivative filtered vertical components which give negative anomalies similar to Max-Min II horizontal loop curves. Here the data shows a conductor with an easterly dip. Figures 4 and 5 show the constant gain data along line 0 from loops D and E. The vertical component shows a broad inflection through channels 1 to 8 (0.15m.s.) and the horizontal component shows a broad negative minimum. The distance between the inflection points on the vertical component is some 225m which approximates the depth to the conductor. An inspection trip was made to the property by the author and no graphite zones were seen in outcrop in the area of the conductor. Near the conductor axis at 200E, a dolomitized breccia containing sulphide mineralization was noted. Nearby trenches had produced assays of high grade argentiferous galena in a cinderlike, siderite, gangue and iron oxide breccia zone flanking a quartz-eye porphyry dike. Hole No. 1 was drilled to intersect the conductor at a depth of some 200m. Approximately 2.5m of low grade sphalerite-galena and pyrrhotite in a argillite-quartz porphyry breccia zone was intersected at 195m which was insufficient to cause an eight channel conductor. The diamond drill hole was then probed with the time domain electromagnetometer downhole system. The hole was energized by five loop set ups at the ground surface as illustrated in Figure 6. By varying the



INSTRUMENT: CRONE P.E.M.

TIME BASE: 10 MILLISECONDS

CONSTANT GAIN 50%

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YP CLAIMS

BOREHOLE PULSE ELECTROMAGNETOMETER

DDH 83-1YP LOOP A

DATE: SEPT/83 | FIG: 7

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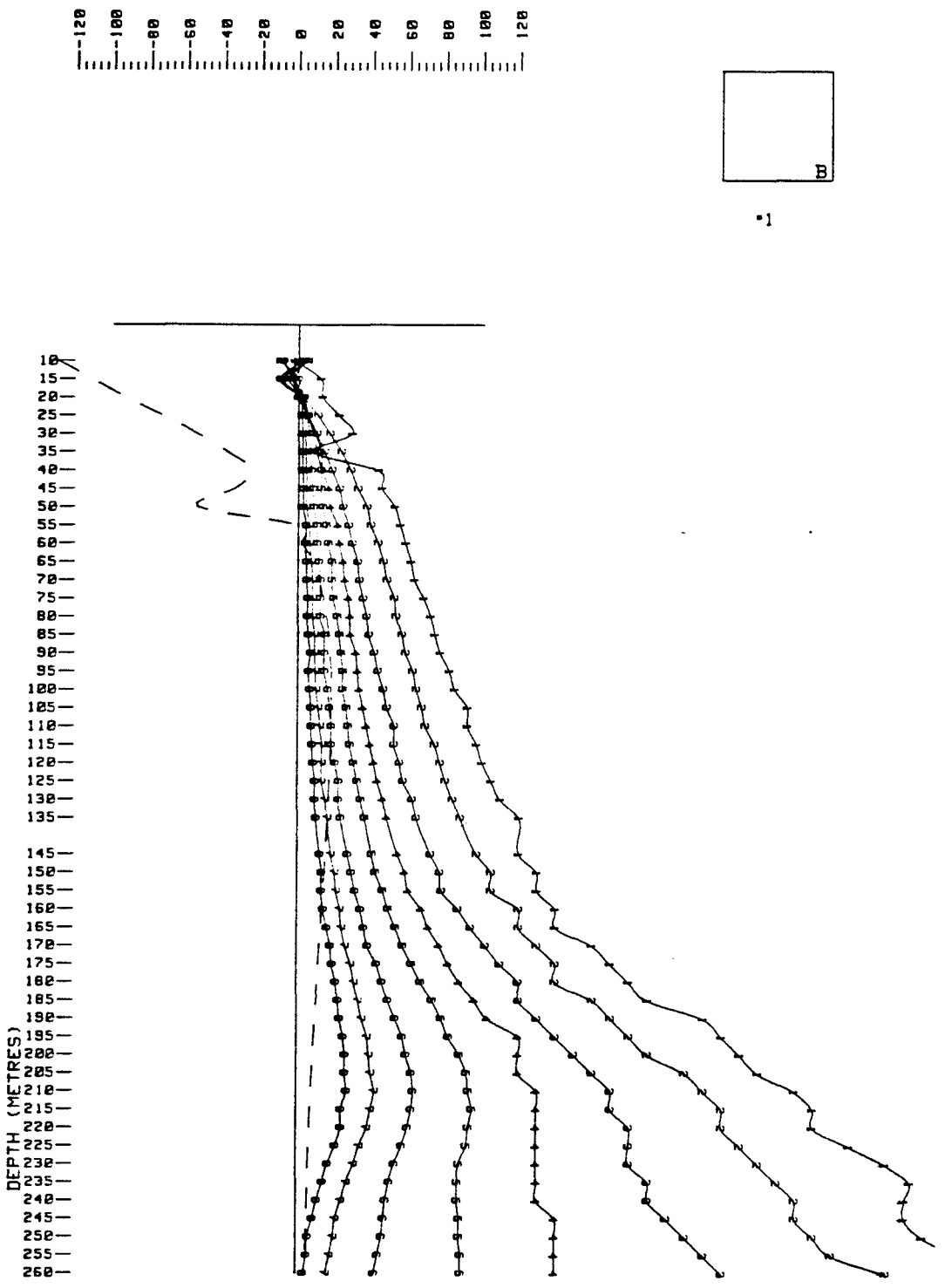

INSTRUMENT: CRONE P.E.M.

TIME BASE: 10 MILLISECONDS

CONSTANT GAIN 50%

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YP CLAIMS

BOREHOLE PULSE ELECTROMAGNETOMETER

DDH 83-1YP LOOP B

DATE: SEPT/83 | FIG: 8

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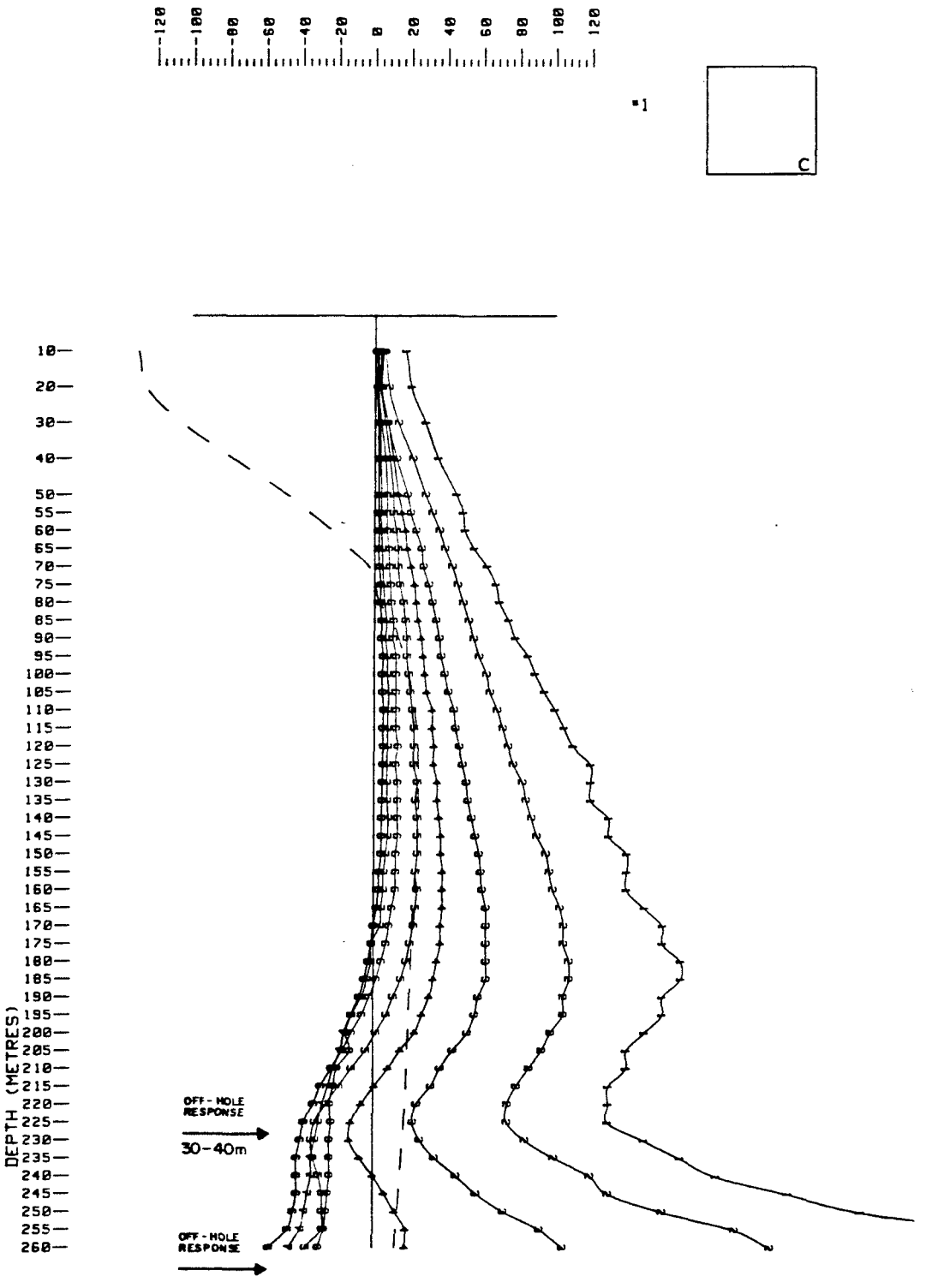

INSTRUMENT: CRONE P.E.M.

TIME BASE: 10 MILLISECONDS

CONSTANT GAIN 50%

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YP CLAIMS

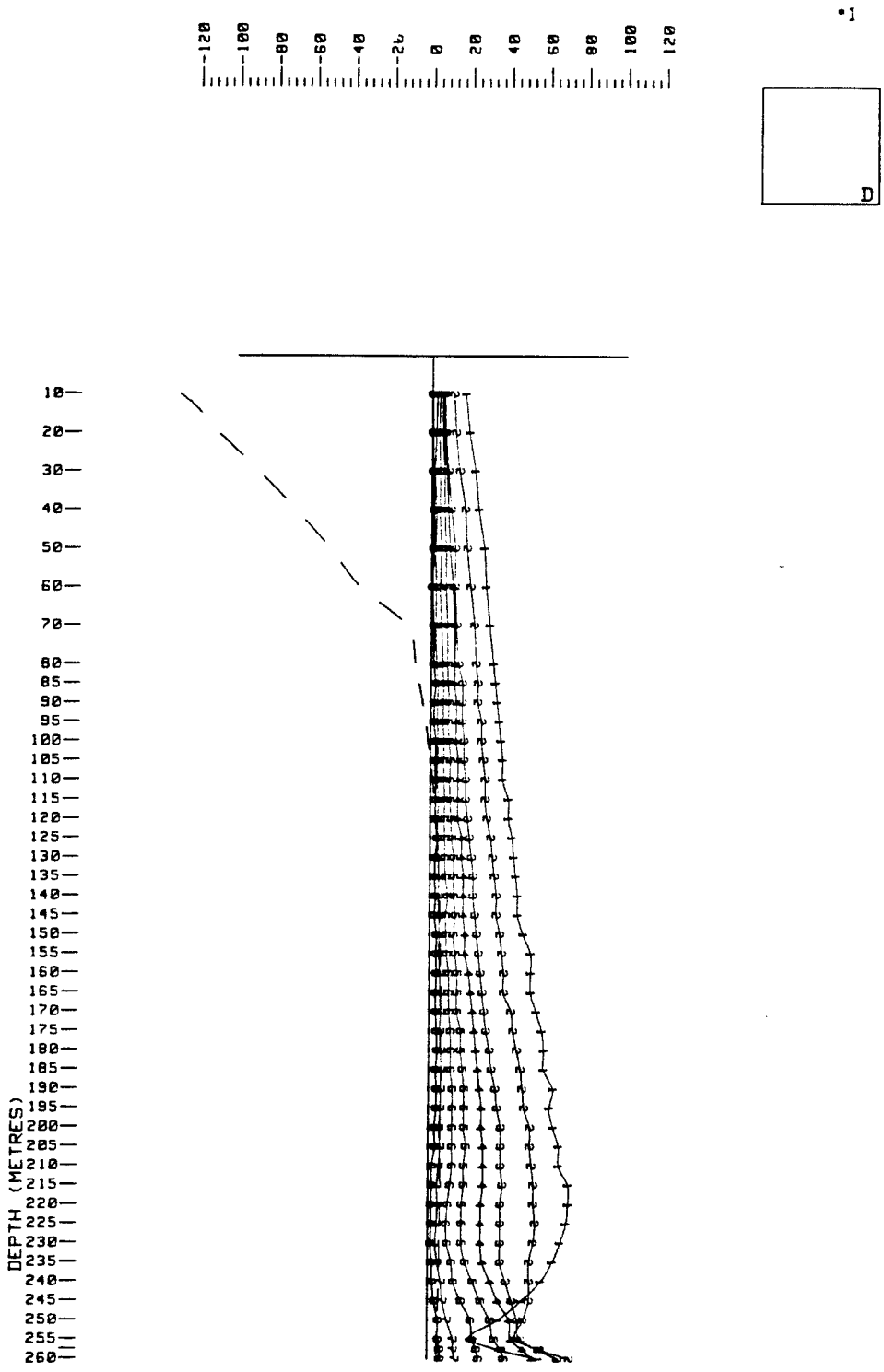
BOREHOLE PULSE ELECTROMAGNETOMETER

DDH 83-1YP LOOP C

DATE: SEPT/83 | FIG: 9

surface loops, the conductor is energized at different angles which changes the polarity of the secondary field. Utilizing this procedure, an attitude and direction to the conductor can be obtained.

The center loop around the hole, Figure 7, shows no response at 195m, however, there is a negative broad off-hole response at 235m. At this stage of investigation a direction to the conductor is not known. A sharp positive response also occurs at the end of the hole indicating a conductor on the opposite side of the hole to the conductor at 235m. The second probe from loop B placed north of the hole gives a broad positive response showing that the conductor is south of the loop. Channels 5,6,7 and 8 show the response clearly indicating a good conductor. Loop C, because it is situated over the top of the conductor, gives a well defined negative response at 230m. Strong positive values occur at the end of the hole indicating yet another conductor away from the loop. Loop D, to the south of the hole, gives a gentle negative minimum response at235m showing the zone continues southward. The response at the end of the hole has shifted sharply negative. This same response occurs from loop E to the west of the hole. This zone is interpreted as being west of the hole and more steeply inclined as the conductor seems to be minimum coupled to the primary electromagnetic field, that is, the primary field lines are flowing parallel to the body instead of across it. The conductor at 235m was interpreted to be 30-40m east of the hole. Hole 83-3 was drilled to test this conductor as illustrated on Figure 2. Approximately 30m of massive and semi-massive sulphide mineralization was penetrated at 223m. Hole 3 collapsed and could not be logged.



INSTRUMENT: CRONE P.E.M.

TIME BASE: 10 MILLISECONDS

CONSTANT GAIN 50%

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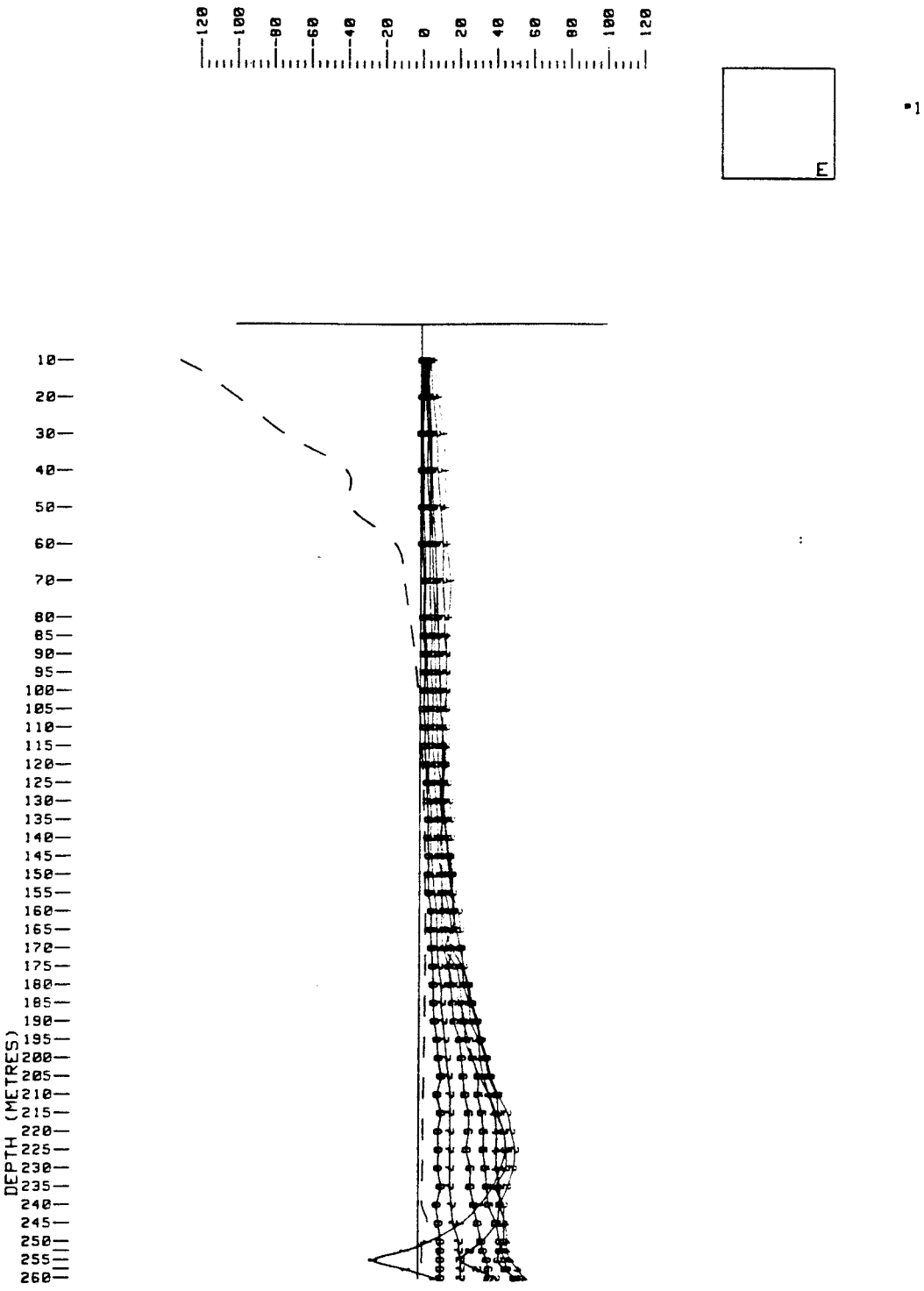
BOREHOLE PULSE ELECTROMAGNETOMETER

DDH 83-1YP LOOP D

DATE: SEPT/83	FIG: 10



INSTRUMENT: CRONE P.E.M.

TIME BASE: 10 MILLISECONDS

CONSTANT GAIN 50%

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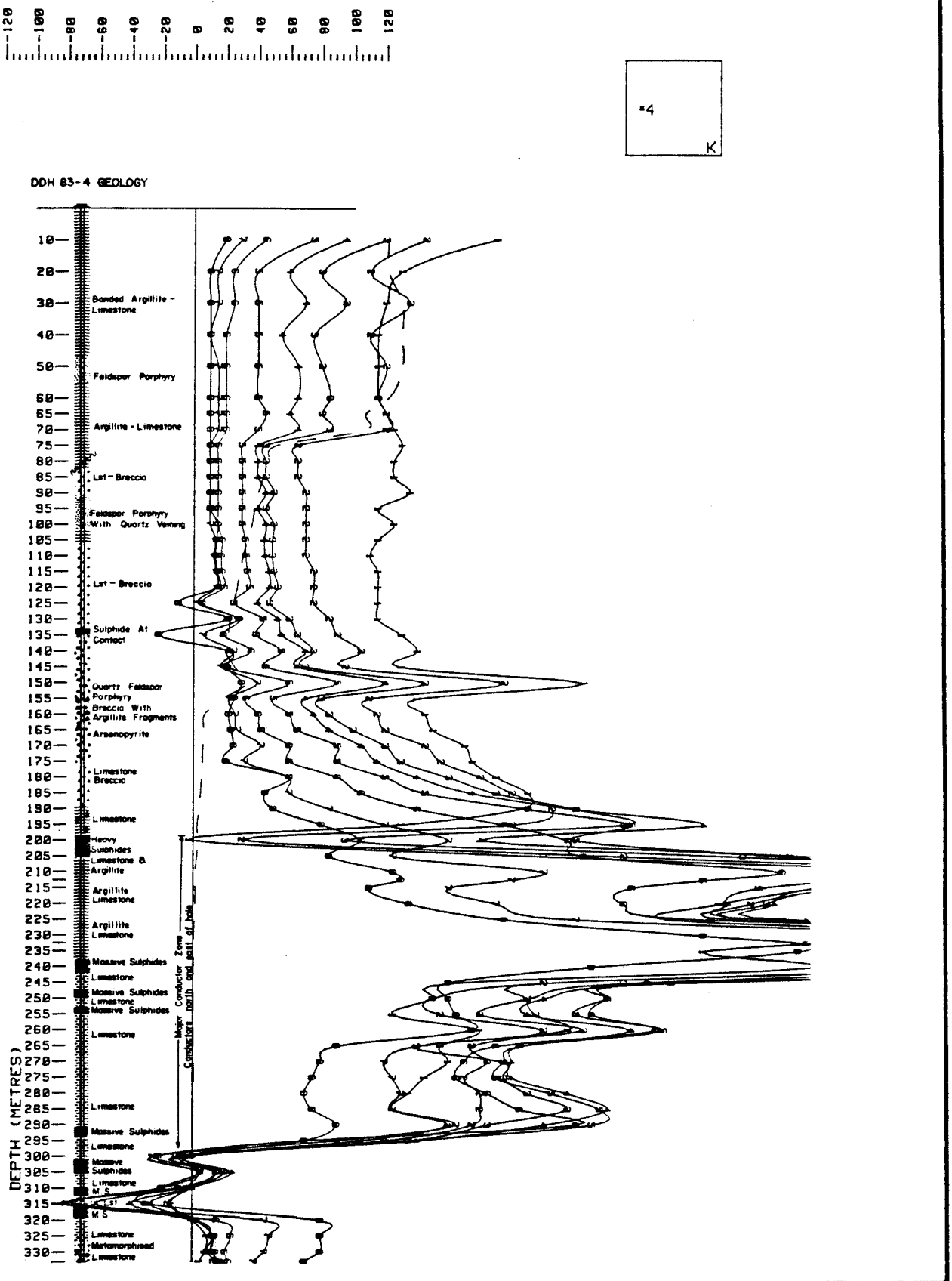
YP CLAIMS

BOREHOLE PULSE ELECTROMAGNETOMETER

DDH 83-1YP LOOP E

DATE: SEPT/83	FIG: 11



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YP CLAIMS
BOREHOLE PULSE ELECTROMAGNETOMETER
DDH 83-4YP LOOP K

INSTRUMENT: CRONE P.E.M.
TIME BASE: 10 MILLISECONDS
CONSTANT GAIN 50%

DATE: SEPT/83 | FIG: 12

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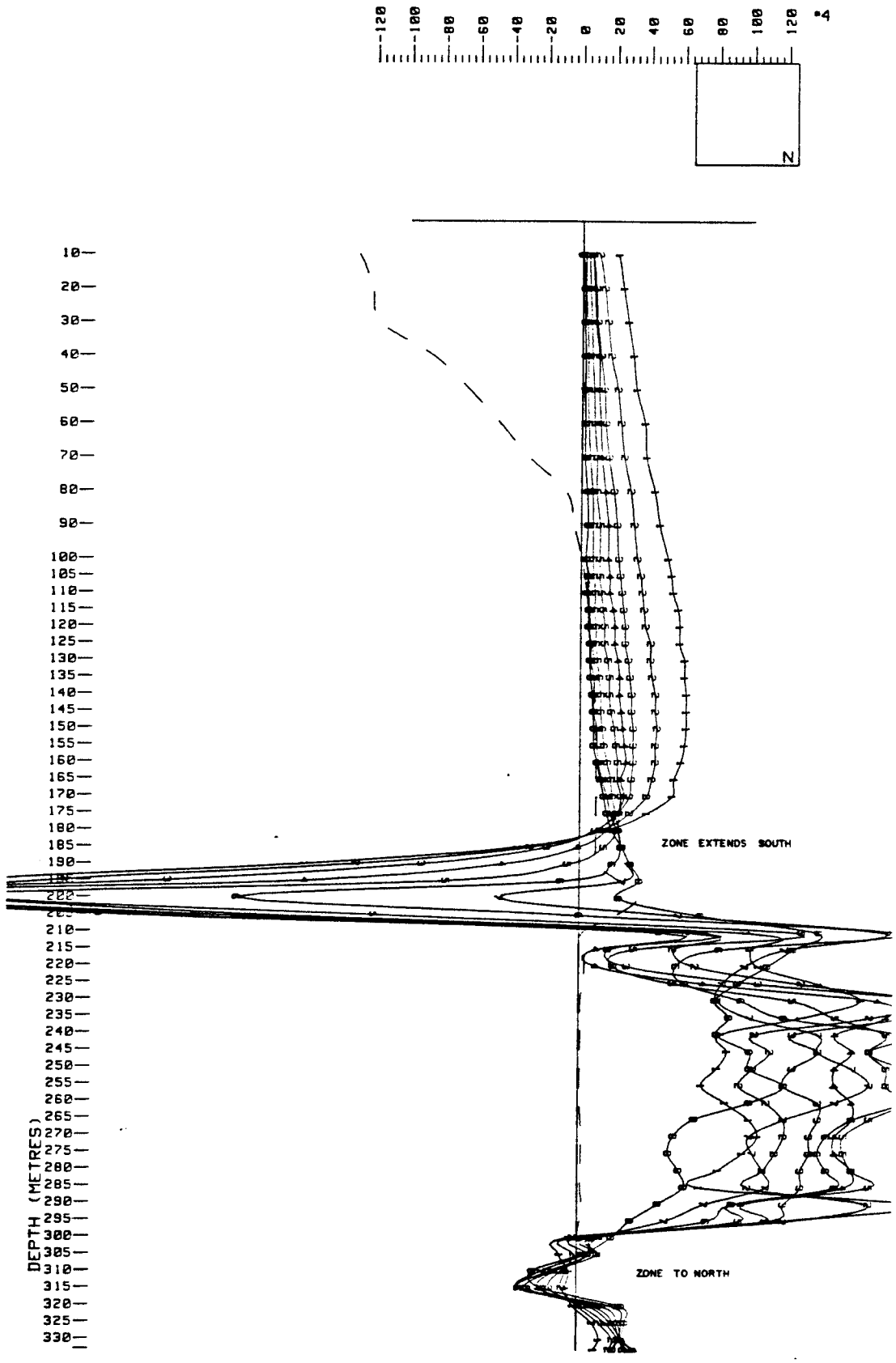

INSTRUMENT: CRONE P.E.M.

TIME BASE: 10 MILLISECONDS

CONSTANT GAIN 50%

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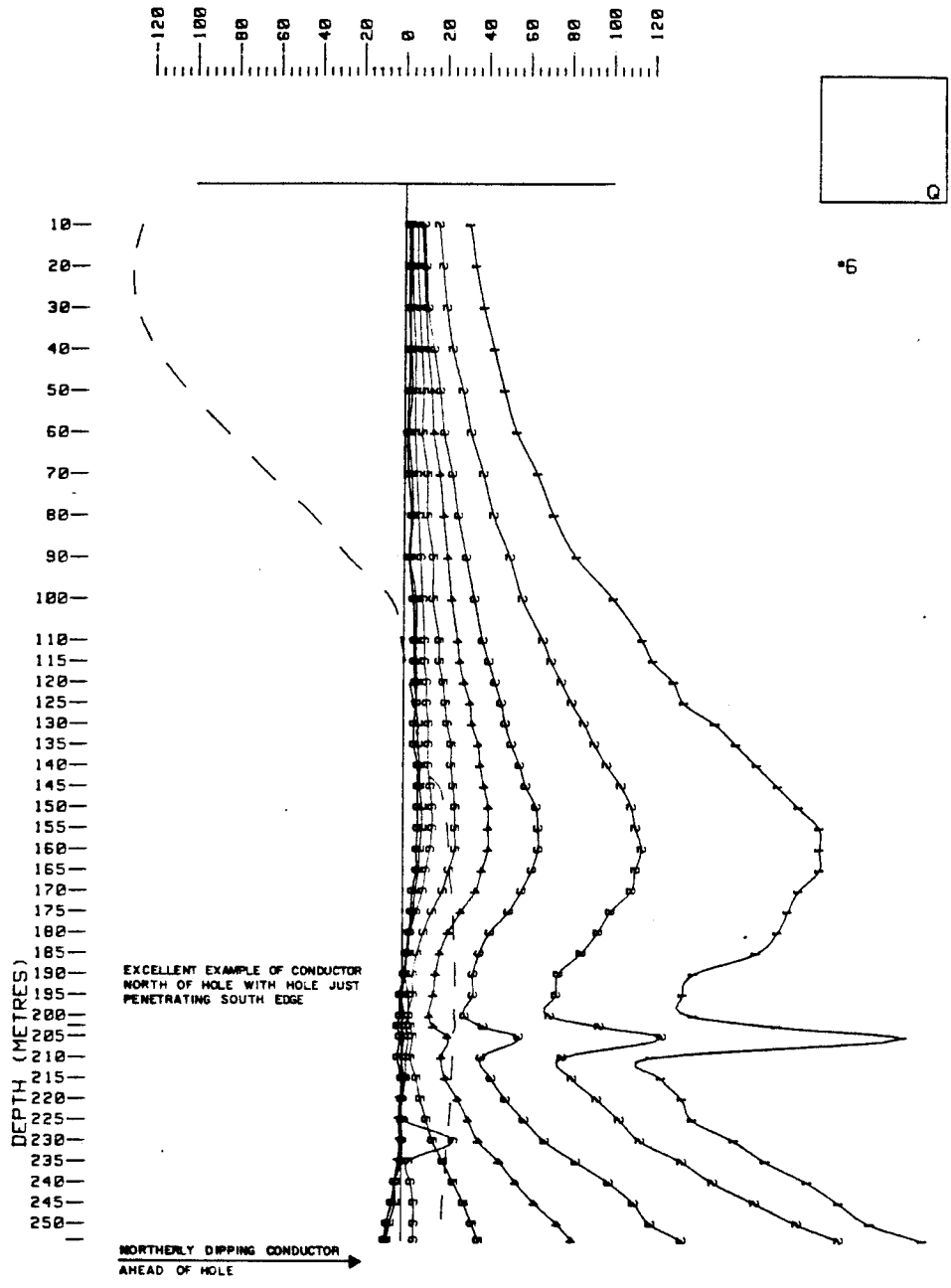
YP CLAIMS

BOREHOLE PULSE ELECTROMAGNETOMETER

DDH 83-4YP LOOP N

DATE: SEPT/83 | FIG: 13



INSTRUMENT: CRONE P.E.M.

TIME BASE: 10 MILLISECONDS

CONSTANT GAIN 50%

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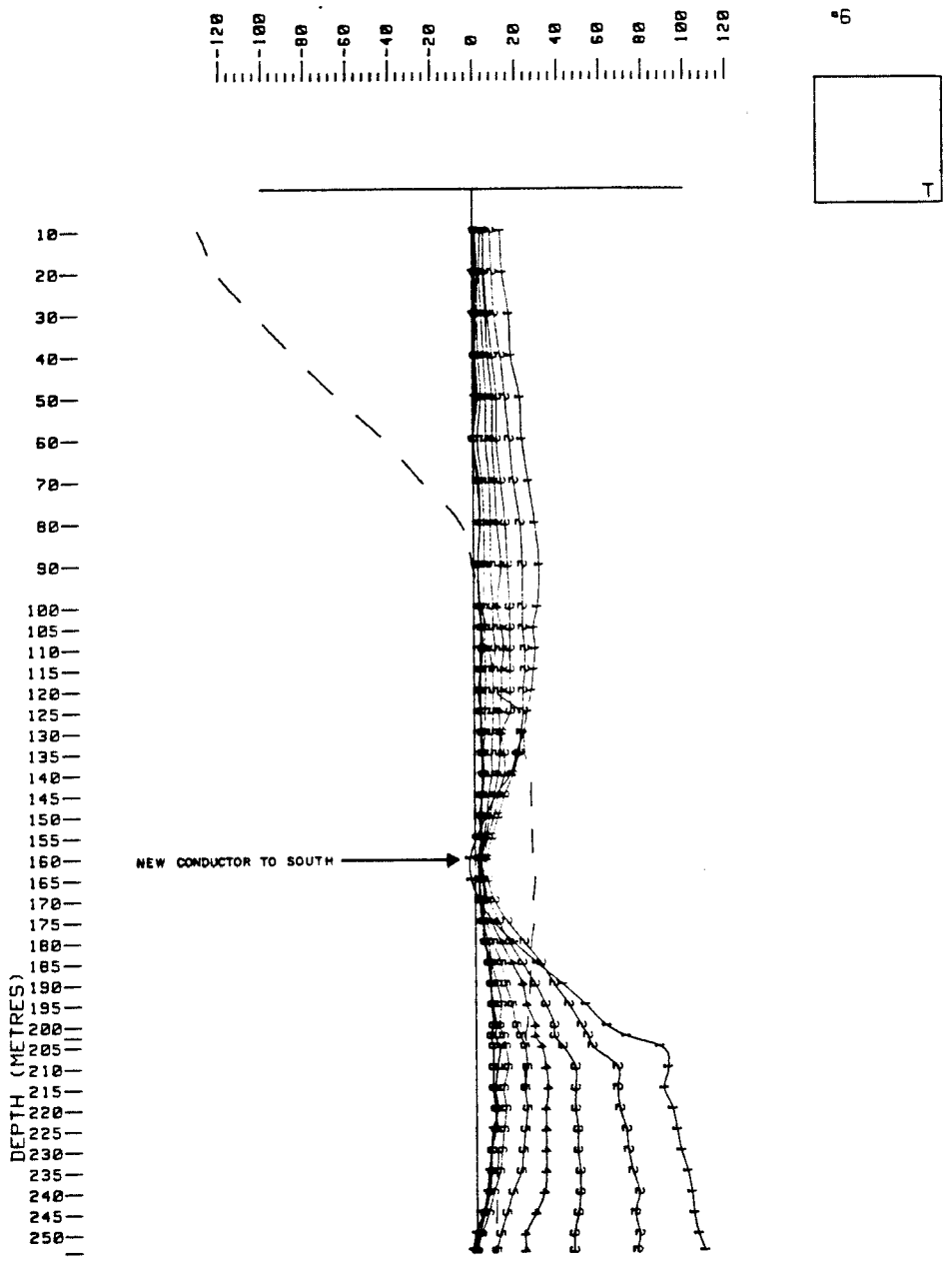
YP CLAIMS

BOREHOLE PULSE ELECTROMAGNETOMETER

DDH 83-6YP LOOP Q

DATE: SEPT/83 | FIG: 14



INSTRUMENT: CRONE P.E.M.

TIME BASE: 10 MILLISECONDS

CONSTANT GAIN 50%

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YP CLAIMS

BOREHOLE PULSE ELECTROMAGNETOMETER

DDH 83-6YP LOOP T

DATE: SEPT/83 | FIG: 15

Hole 83-4, drilled 100m to the south,intersected eight massive sulphide zones as illustrated by the complex responses on Figure 12. Figure 13, from the southern loop N, shows that the 200m zone extends southward as evidenced by the strong negative values.

Hole 83-6 was drilled 100m south of 83-4. Here the northern loop Q, Figure 14, is situated over the conductor. A strong negative minimum with a positive spike occurs at 205m. This is a very clear example of a conductor to the north of the hole, where the drill has just penetrated the southern edge of the conductor. This conductor forms a massive sheet between holes 83-4 and 83-6, located 100m apart. The final example is Figure 15, from loop T, which is south of hole 6. The data from this probe clearly shows a new conductor to the south at 160m. This conductor in turn was successfully penetrated in the 1984 program but could not be logged due to an accident which damaged the plastic pipe in the diamond drill hole. Plastic pipe should be inserted in the hole to facilitate electromagnetic logging. These techniques expand the effective search radius of the drill hole to some 100-150m depending upon the size of the conductor. The cost of the plastic pipe and electromagnetic logging are some 10-15% of the diamond drill costs.

Regional Resources Ltd. also used the downhole system in their geological environment where the massive sulphide mineralization occurs in limestones and coincident with a graphitic shale horizon. The system showed excellent results where the mineral zones were not coincident with graphite horizons.

Near the shale horizons the sulphide responses were dominated by the graphite but the overall data could be used to evaluate stratigraphy. Thus it is important in all cases to understand the geology such that the time domain electromagnetic system can be an effective search and mapping tool.

A special thanks is warranted to Mr. E. Hemmingson, President of Butler Mountain Minerals Corp. for allowing the author to present this paper.

7+00 6+00 5+00 4+00 3+00 2+00 1+00W 0+00W 1+00E 2+00E 3+00E 4+00E 5+00E 6+00E 7+00E

YP3

YP1

YP4

YP2

YP CLAIM GROUP

IDAHO CLAIM GROUP

HIGH GRADE GALENA SHOWING

D.D.H. 83-7

D.D.H. 83-2

D.D.H. 83-5A, 90°

D.D.H. 83-1, 55°

D.D.H. 83-3, 45°

D.D.H. 83-5, 85°

D.D.H. 83-4, 45°

D.D.H. 83-6, 45°

1300 1350 1400 1450 1500

667-1642

1630
8830

LEGEND:

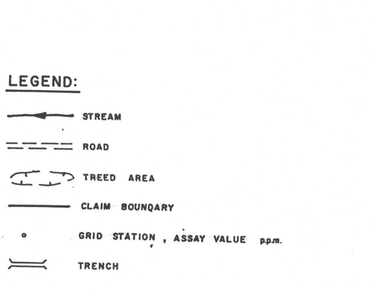
- STREAM
- ROAD
- TREED AREA
- CLAIM BOUNDARY
- GRID STATION , ASSAY VALUE p.p.m.
- TRENCH

GEOLOGIC LEGEND:

5	Quartz-eye quartz porphyry tuff; Quartz feldspar tuff
4	Tuffaceous argillite rhyolite breccia
3	Pale green to white quartz-eye porphyry tuff
2	Banded limestone phyllite argillite
1	Limestone dolomite

Geologic contact

N.T.S. 105 B/1



LOCATION MAP
1" = 34mi.

50m 25m 0 50m 100m 150m 200m
1 : 2500

BUTLER MOUNTAIN MINERALS CORP.

— YP GRID —

WATSON LAKE MINING DIVISION - YUKON TERRITORIES

GENERAL GEOLOGY

091501

Glen E. White geophysical consulting & services ltd.

Interpreted By:	G. E. W.
Drawn By:	FINELINE DRAFTING
Checked By:	G. E. W.
Date:	AUGUST / 83
Fig. No.:	7

To Accompany Geophysical Report on
YP CLAIMS
Date SEPT/83
By GLEN E. WHITE - B.Sc. GEOPHYSICIST

Glen C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY YA HOLE DDH YP 83 1A

GRID REF Line 1N 0+100E (False start out of line) ELEVATION 1390 m STARTED Sept. 8 COMPLETED Sept. 9 DRILLER KEN Sheck 091501

DEPTH 46' (14 m) DIP (-55E) BEARING S70E ASSAYER NONE LOGGED BY Flanagan & White

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS
10-21	banded argillite dark gray black/ quartz vein at 16'				
21-36	chilled contact with rhyolite, manganese on fracture, quartz eye rhyolite tuff, banding 45° to core, specks purple fluorite				
36-46	phyllite-argillite shattered quartz stringers				
	END Hole went out of line!				

Ron W. White GEOPHYSICAL CONSULTING & SERVICES LTD. DRILL LOG

PROPERTY YP HOLE DDH YP 83 1
091501

GRID REF Line 1N 0+100E ELEVATION 1390' STARTED Aug. 8 COMPLETED Aug. 13 DRILLER KEN SHECK

DEPTH 866' (264M) DIP (-55E) BEARING S 70° E ASSAYER BONDAR CLEGG LOGGED BY WHITE & FARNEPU

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn		
10 - 20	dark argillite quartz one ft qtz. vein at 16' surface alteration										
	manganese & limonite on fractures										
20 - 36	chilled contact fine grained rhyolite at 19½' 45° to core										
36 - 208	contact swirled phyllite-argillite black & white bands perpendicular to										
	core; brecciated, calcite healed, sericite										
	56-72 phy-arg. some chl. alt. fg.py. minor clay										
	72-91 above										
	91-109 arg-py pyrr. bedding parallel to core, mylonized section 5% pyrr										
	109-128 arg-phy talc, calcite										
	128-146 phy-arg swirled bedding parallel to core fg.py. pyrr on bedding plane.										
	146-164 phy-arg. swirled, fault 157-158, 158 breccia										
	164-183 phy-arg-crushed, talc, black clay, sericite, pyrr, py in calcite fractures.										
	183-208 Arg. pyrr increases towards contact										
208-252	abrupt contact 30° to core pale green quartz-eye crystaline rhyolite flow? (tuff)										
	208-243 rhyolite flow pale green quartz eyes										
	243-252 quartz-feldspar rhyolite										
	252-253 clay alteration gouge										
252-274	grades into dark black chloritic phyllite, brecciated										
274-281	contact 30° to core dark reddish brown fine grained rhyolite										
281-302	phy-arg. larger calcite bands some brecciation and chloritization minor py (& pyrr in bedding										
302-366	contact with qtz-feldspar prophyry rhyolite at 50° sulphides in fractures										

John G. White GEOPHYSICAL CONSULTING & SERVICES LTD. **DRILL LOG**

PROPERTY _____ HOLE DDH YP 83-1

091501

GRID REF._____ ELEVATION._____ STARTED._____ COMPLETED._____ DRILLER _____

DEPTH._____ DIP._____ BEARING._____ ASSAYER _____ LOGGED BY._____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn		
	minor py & sphal blebs.										
	319-330 - well kaolinized, purple fluorite specs, dis. py, fractures py										
	330-348 dark green quartz-feldspar rhyolite with quartz-(sphal, galena eyes minor py, sphal, gal. in frac. increase in fluorite	348	353		0.002	0.72	<0.01	0.03	0.03		
		353	358		0.002	0.06	<0.01	0.05	0.08		
	357-359 heavy py, spal, gal in a band 40° to core frac filled some green	358	363		0.003	0.68	0.01	0.50	0.46		
366-386	increase in qtz-eyes become greenish qtz-eye rhyolite scattered py, sphal, (fluorite (gal.	363	366.5		0.002	0.20	<0.01	0.18	0.14		
386-405	dark & clear qtz-eyes increase in dis. sulphides with fluorite										
405-424	qtz-eye rhy. becomes whitish with definite increase in bright green epidote, dis. py. ½%-1% minor sphal, gal.										
424-545	424-442 whitish qtz-eye rhy. tuff. frac. contain purple & green fluorite & epidote, py.										
	442-499 as above										
	499-518 above with several ¼" frac 40° to core with solid py. & black (sphal										
	518-545 w-qtz-eye rhy. tuff increase in gas vugs & py. qtz frac with black sphal, gal, py.										
556-650	545-556 above fragments of argillite increasing										
	556-611 above increase in arg. fragments & rhyolite arg. frag. 25%, ½" vein py sphal 30° to core pyrr in arg fragments										
	611-631 rhyolite-argillite course breccia 30% of core pyrr. in fragments	611	616		<0.002	0.04	<0.01	0.02	<0.01		
	631-650 w-qtz-eye rhy. breccia fractures, py, sphal, gal.	616	621		0.002	0.09	0.01	0.22	0.20		
	637.5 - 545.5 13 fractures - assayed 30° to core	621	626		<0.002	0.04	<0.01	0.02	0.01		
650-706	650-690 w-qtz-eye rhy. decrease in arg. fragments	626	631		0.002	0.09	<0.01	0.09	0.12		
		637.5	646.5		0.002	0.66		0.16	1.70		

Hem C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY _____ HOLE ~~DDH YP 83-1~~ 091501

GRID REF _____ ELEVATION _____ STARTED _____ COMPLETED _____ DRILLER _____

DEPTH _____ DIP _____ BEARING _____ ASSAYER _____ LOGGED BY _____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn		
	690-691 fractures containing arsenopyrite, Assay (690-691) Au.	690.0	691.0	1	0.002						
706-737	w-qtz-eye rhy. ash fine grained matrix arg. fragments 10%										
737-745	major phearitic breccia, course rhy. -fragments phy-arg. fragments 75%										
745-782	743-782 w-qtz-eye rhy. tuff fine grained tuff 5% frag, fine grained bands										
782-801	arg-breccia with rhyolite fragments 2-3" in size heavy pyrr. minor 45° to core										
	chalcopyrite Assay (797-804)	797.0	804.0	7	0.002	0.03	0.02		0.03		
801-829	White-fine grained quartz-eye rhy. tuff										
829- 840	above becomes rhyolite-argillite breccia										
840-866	swirled arg-phyillite breccia with pyrr, py. bands going parallel (10°)										
264m	to core pyrr 20%										
END											

Hon C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY YP HOLE DDH -83-2 YP 091501

GRID REF. Line 2N 0+080E ELEVATION 1370 M STARTED Aug. 14 COMPLETED Aug. 18 DRILLER KEN SHECK

DEPTH 992' (302 M) DIP -50°E BEARING S 70° E ASSAYER BONDAR - CLEGG LOGGED BY WHITE & FARNHAM

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS
10 - 26	qtz-feld porphyry almost qtz.diorite				
26 - 66	quartz-eye rhyolite variable graining fractures 30° to core 1" wide				
	heavy manganese dendritic and limonite down several 100 feet				
66-107	rhyolite-qtz-eyes dis. py. & minor sphal. contains some greenish fluorite				
	& apalite textures				
107-133	increase in pink & green fluorite, increase in porphyry texture				
	increase in dis.py.				
133-152	change to qtz-feldspar porphyry increase in alteration white argillic				
	frac. pink & green fluorite				
152-167	becoming fine grained tuffaceous				
167-176	light green fine gr. qtz-eye rhy. tuff many manganese weathering fractures				
176-218	above increase in course texture 198-frac-black sphal, py. (1"-2" thick				
218-238	texture becomes more tuffaceous, an increase in feldspar phenocrysts				
	236 gouge clay alteration vuggy				
238-327	238-239 contact with argillite-phyllite breccia 30° to core broken and				
	altered near contact				
	247 course fine grained dark green rhyolite clasts with 10% pyrr-				
	clasts are angular at all angles, all rock types arg, phy, rhy. some				
	bands of py 40° to core				
	317 decrease in angular to more rounded elongate fragments in dark				
	argillaceous matrix, some banding parallel to core, increase in				
	quartz veining to 3" wide some pyrite clasts increasing py.				

Glen G. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY YT HOLE DDH -83-2 YP 091501

GRID REF Line 2N 0+080E ELEVATION 1370 M STARTED Aug. 14 COMPLETED Aug. 18 DRILLER KEN SHECK

DEPTH 992' (302 M) DIP -50° E BEARING S 70° E ASSAYER BONDAR - CLEGG LOGGED BY WHITE & FURNEAUX

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS
10 - 26	qtz-feld porphyry almost qtz.diorite				
26 - 66	quartz-eye rhyolite variable graining. fractures 30° to core 1" wide heavy manganese dendritic and limonite down several 100 feet				
66-107	rhyolite-qtz-eyes dis. py. & minor sphal. contains some greenish fluorite & apalite textures				
107-133	increase in pink & green fluorite, increase in porphyry texture increase in dis. py.				
133-152	change to qtz-feldspar porphyry increase in alteration white argillic frac. pink & green fluorite				
152-167	becoming fine grained tuffaceous				
167-176	light green fine gr qtz-eye rhy. tuff many manganese weathering fractures				
176-218	above increase in course texture 198-frac-black sphal, py. (1"-2" thick				
218-238	texture becomes more tuffaceous, an increase in feldspar phenocrysts 236 gouge clay alteration vuggy				
238-327	238-239 contact with argillite-phyllite breccia 30° to core broken and altered near contact				
	247 course fine grained dark green rhyolite clasts with 10% pyrr- clasts are angular at all angles, all rock types arg, phy, rhy. some bands of py 40° to core				
	317 decrease in angular to more rounded elongate fragments in dark argillaceous matrix, some banding parallel to core, increase in quartz veining to 3" wide some pyrite clasts increasing py.				

Glen C. White GEOPHYSICAL CONSULTING & SERVICES LTD. **DRILL LOG** PROPERTY _____ HOLE DDH-83-2 YP

091501

GRID REF_____ ELEVATION_____ STARTED_____ COMPLETED_____ DRILLER _____

DEPTH_____ DIP_____ BEARING_____ ASSAYER _____ LOGGED BY_____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn		
	317-327 dark green quartz-eye feldspar porphyritic tuff										
327-330	argillite-phyllite breccia fine grained										
330-348	course swirled arg-phy breccia										
348-371	dark green qtz-eye rhy tuff sharp contact 70°										
371-415	contact 45° with arg-phy swirled appears to be going down bedding										
	386 light grey coloured, more light bands containing qtz, calcite 60% (of rock										
	396 silica veinlet 20% py,pyrr 10% to core										
415-481	grey ash argillite tuff ripple bedding & chlorite on more mafic bands-										
	micro shearing 45° to core										
	431 increase in calcite to 3" bands										
	476 bedding 30° to core increasing argillite blacker core										
481-536	arg-phy with py bedding 30° to core minor breccia band with pyrr-										
	calcite filled tension joints 50° to core qtz band 3" py,pyrr, minor										
	sphal 20° to core										
536-573	increasing quartz bands										
	553 increasing breccia healed with quartz arg-phy increase in sericite										
	alteration qtz with minor gal, sphal, py, fine grained py band										
	parallel to bedding										
573-596	arg-phy increase in quartz, chlorite sericite alteration										
	green altered clasts 4" with 15% pyrr, py 578-583; 592-599 Assay for Au										
596-659	dense black porphyritic arg breccia with quartz bands 10° to core and										
	tension gashes 45° to core with pyrr, minor chalco,gal,sphal	610.0	615.0		<0.002	0.05					
	610-615 - Assay for Au,Ag. 654-659 arg-breccia										

Hans C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY _____ HOLE DDH-83-2 YP 091501

GRID REF_____ ELEVATION_____ STARTED_____ COMPLETED_____ DRILLER_____

DEPTH_____ DIP_____ BEARING_____ ASSAYER _____ LOGGED BY_____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn		
659-704	apple green feldspar tuff minor qtz-eyes dis. py. arg. fragments ½" in										
684	increasing qtz-eyes minor sphal, gal. dis. py. feldspar being altered (core to Kaolinite										
704-796	fine grained quartz-eye rhyolite tuff, purple fluorite 1-3% dis py,	721.0	726.0	<	0.002	0.07		0.03	0.04		
	sphal, gal, some sulphides as 1/8-¼' fragments	726.0	731.0	<	0.002	0.07		0.03	0.04		
	Assay 721-760 - arseno pyrite at 720	731.0	736.0	<	0.002	0.04		0.04	0.04		
796-848	decrease in sulphides but an increase in epidote alteration	736.0	741.0	<	0.002	0.07		0.02	0.04		
848-853	argillite (chlorite) in stock work fractures around rhy. fragments	741.0	746.0	<	0.002	0.02		0.02	0.03		
853-866	qtz-eye green tuff-epidote dis. py, gal, sphal 1-3%	746.0	751.0	<	0.002	0.07		0.03	0.02		
866-886	qnartz-eye rhy tuff grey alters to greenish matrix fine grained	751.0	755.0	<	0.002	0.07		0.04	0.02		
	occasional ½" py, blk sphal vein 40° to core	755.0	760.0	<	0.002	0.04		0.02	0.05		
886-910	qtz-eye rhy tuff-epidote splotchy green-grey minor dis. py, sphal, gal.										
910-992	fine gr dense white qtz-eye rhy tuff with epidote kaolinized with	910.0	914.0	<	0.002	0.02					
302m	arseno pyrite, py, sphal in fractures 30° to core at 924-27, 945, 947-52,	938.0	941.0	<	0.002	0.09					
	987-92 Assay 910-14, 938-45, 987-92	941.0	945.0	<	0.002	0.07					
END		987.0	992.0	<	0.002	0.08					

Glen C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY YP HOLE DDH 83-3 YP

GRID REF Line 1N 0+100E ELEVATION 1390 m STARTED Aug-20 COMPLETED Aug-25 DRILLER KEN SHECK 091501

DEPTH 1044 (318m) DIP -45°E BEARING S 70° E ASSAYER BONDAR CLEGG LOGGED BY WHITE & FURDEAUX

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS
0-28"	broken arg. with qtz.				
28-30	contact zone mixed arg. & dark green rhy.				
30-44	w-qtz-eye rhy. limonite staining fine grained banding in upper rhy. 70° to core, purple fluorite				
44-87	arg-phy. (LST) banded 70° to core, swirled tension frac. 45° to core micro qtz. folding, pyrr.				
87-101	87' chilled contact 45° pale apple green rhy. flow 10% qtz-eyes becomes dense rhy. minor fluorite				
101-163	arg-phy (LST) micro swirls bedding 50° 108-111 fault gouge, black clay 151 broken, pyrr. with silica, bedding (30° to core				
163-197	163 dense pale green rhy-tuff qtz-eyes 10% specs. fluorite, heavy limonite manganese on fractures				
197-218	197 contact 45° feldspar qtz. rhy. heavily kaolinized ta brown to green, pinkish calcite vuggy py, sphal. 206-206.5				
218-256	218 arg-phy (LST) pink silica py, pyrr, sphal. qtz. calcite breccia qtz. clasts or veins 2"-3" py,				
	236 broken & gouge to 244 broken with chunks of limonite rhy.				
	240 arg. black bedding parallel to core				
	247-249 sheared 45° to core				
	249-250 heavy gouge argillite				
	251-253 3 ft. quartz vein breccia - gouge 252				
	254-256 mylonized breccia				

Ken O. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY _____ HOLE DDH 83-3 YP

091501

GRID REF._____ ELEVATION_____ STARTED_____ COMPLETED_____ DRILLER _____

DEPTH_____ DIP_____ BEARING_____ ASSAYER _____ LOGGED BY_____

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS
256-265	256 - 265 feldspar porphyry rhy. tan colour grading to pale grey 5% qtz-				
265-285	feldspar porphyry, kaolinized pale green vuggy with tension fractures (eyes				
	30° to core, pink & white calcite fair amount py. and black sphal,				
	minor gal. in fractures				
321	increase in tension fractures vugg ½" at 321' sphal-py kaolinized				
339	increase in feldspar darkish green frac. 30°-40° to core pink calcite, py,				
358	pale green feldspar rhy. increase in epidote decrease in pink cal. frac (sphal, gal				
376	increase qtz-eyes to 20% green fluorite (30°-40°				
396	grey white qtz-eye rhy. increase green & pink fluorite plus sulphide				
433	feldspar porphy tuff, grey white; dis. sulphides & fluorite				
	quartz fragments increased qtz-eyes				
450	dramatic increase in purple fluorite (grey-white core) increasing dis.				
	sulphides - arseno. frac.				
486	same less fluorite				
496-504	496 contact 30° dark gray feldspar porphyry, kaolinized, chlorite				
	qtz-eyes ragged-banding 30° to core				
504-543	504 pale green white qtz-eyes rhy. tuff increases in fluorite				
543-618	543 increases in quartz-eye chards and dis. sulphides arg. frag.				
618-704	arg. frag. increasing				
704-710	704 dramatic increase in chards becomes LST breccia				
	increase of pyrr, sphal. & chalco.				
710-712	qtz-LST-breccia				

Ivor D. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY _____ HOLE DDH -83-3 YP

09150;

GRID REF._____ ELEVATION_____ STARTED_____ COMPLETED_____ DRILLER _____

DEPTH_____ DIP_____ BEARING_____ ASSAYER _____ LOGGED BY_____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn		
731	massive sulphides in dark arg.Lst.	730.0	742.0	<	0.002	1.09	0.09	0.32	6.20		
	Assay 1- 732-742	742.0	759.0	<	0.002	0.07	0.02	0.02	0.38		
	2- 742-760	759.0	770.0		0.446	0.37	0.08	0.07	0.82		
	3- 760-769 split & sent to Van. Aug.25/83. Core boxes	770.0	782.0	<	0.002	0.04	0.02	0.01	0.32		
	4- 769-782 40,41,42,43 also went to Van.	782.0	790.0		0.029	0.18	0.05	0.03	0.04		
	5- 782-790	790.0	796.0		0.031	0.08	0.03	0.01	0.07		
	6- 790-796										
	7- 796-801	796.0	802.0	<	0.002	0.32	0.04	0.09	0.11		
801-831	more argillites increase pink calcite banded sulphides (should assay)	801	803.5	<	0.002	0.04					
831-852	argillaceous L.S. breccia- sulphides in bands and in shards. Also disseminated. Core appears grey black with bands of calcite and qtz										
852-880	good sharp contact @ both ends @ 40° (@ 40° to core) Qtz-eye pale green to white. kaolinized feldspars banded ; disseminated mineralization, qtz rhyolite tuff breccia.										
880-1044	banded swirly argillaceous L.S. with bands, shards & disseminations of	930.0	935.0		0.014	0.09	0.05	0.01	<0.01		
	pyrrhotite-sphalerite,chalcopyrite, etc . At 1002.5 to 1003.5 there is	935.0	940.0	<	0.002	<0.02	0.03	<0.01	<0.01		
	1' of solid metallic breccia which conducts an electric current. 60%										
	pyrrhotite rest is chalco-sphalerite, galena. An explosion breccia!										
	Where is the main ore bed?										
	The last 40' has banded mineralization but the % is dropping off										
END	rapidly. No more fragments or disseminations										

Hans O. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY _____ HOLE DDH-93-3-VP

091501

GRID REF._____ ELEVATION._____ STARTED._____ COMPLETED._____ DRILLER _____

DEPTH._____ DIP._____ BEARING._____ ASSAYER _____ LOGGED BY._____

FOOTAGE	DESCRIPTION		SECTION			ASSAYS						
			FROM	TO	WIDTH	Cd	Ni	Co	W	Sn		
		P	742	759		<0.01	<0.01	<0.01	<0.01	<0.01		
		P	759	770		<0.01	<0.01	<0.01	<0.01	<0.01		
		P	770	782		<0.01	0.01	0.01	<0.01	<0.01		
		P	782	790		<0.01	<0.01	<0.01	<0.01	<0.01		
		P	790	796		<0.01	0.01	<0.01	<0.01	<0.01		
		P	930	935		<0.01	<0.01	<0.01	<0.01	<0.01		

Tom O. White GEOPHYSICAL CONSULTING & SERVICES LTD. DRILL LOG

PROPERTY _____ HOLE 091501

GRID REF _____ ELEVATION _____ STARTED _____ COMPLETED _____ DRILLER _____

DEPTH _____ DIP _____ BEARING _____ ASSAYER _____ LOGGED BY _____

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS
	NOTES HOLE #3				
	819 dark phyllitic mudstone pyrrhotite becomes brecciaed with chlorite towards 858- enters quartz-eye rhyolite				
	858-889 quartz rhy.- with arseno- a few bands				
	889 phy-arg. swirled heavy pyrr with cpy				
	904 arseno in 3" pyrr. band				
	970-984 rock is banded light brown, green & grey; has breccia frag to 5cm of a brown (felsite) also fragments of white, grey, reddish rocks and frag. of sulphides particularly pyrrhotite. The bands of pyrrhotite are swirly and follow the swirly banding of the host				
	SAMPLED 930-935 1 of 2				
	935-940 2 of 2				
	Assay Pb,Ag,Zn,Au,Cu,				
	Sent out with J. Harrington Aug. 26/83				

Glen E. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY ?? HOLE DDH 83-4-YP 091501

GRID REF Line 0+000 NS 0+100E ELEVATION 1400 M STARTED Aug. 27 COMPLETED Sept. 1/83 DRILLER KEN SHECK

DEPTH 1105' (337m) DIP -45° BEARING S 70° E ASSAYER BONDAR - CLEGG LOGGED BY FURNEAUX & White

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn		
0-16	OB & boulders										
16-168	banded, thin bedded, argillaceous L.S. -85° westerly dip rusty staining on fracture plans to 120'. rusty grey black rx bedding? @ rt. angles to core to 145' then becoming swirly fracture planes										
168-175	highly altered qtz-feldspar porphry, almost gouge material fault zone? Contact @ 168 is 40° ± to core conformable. Many pink softened feldspar vein lets to 1cm. Random orientation. PINK MATERIAL MAY BE RHODOCHROSITE										
175-258	as @ 145-168										
258-260	fault gouge with sulphides.										
260-268	brecciated L.S. entirely fragmental (to 3cm)										
268-284	arg. L.S. some fragments qtz-veining										
284-307	286-296 breccia containing many rhyolite fragments mainly a L.S. breccia with some greenstone frag. & some felsite frag. Badly pulverized 302-307 start of fault zone?										
307-315	Vuggy-feldspar qtz.porphry- highly altered with sulphides present and a distinct green color.pyrite,pyrrhotite, black sphalerite, galena Mostly as fragments.	313	315	2'	<0.002	0.51	0.01		1.10		
315-326	As @ 302-307										
326-355	Arg.L.S. some breccia frag. Swirly fracture planes random qtz-veining to 10cm in width. Some of the qtz-is mineralized. Varies from 40° to 11 to core.										

Glen E. White GEOPHYSICAL CONSULTING & SERVICES LTD. **DRILL LOG** PROPERTY TC HOLE DDH 83-4-YP 091501

GRID REF Line 0+ 000 NS 0+100E ELEVATION 1400 M STARTED Aug. 27 COMPLETED Sept. 1/83 DRILLER KEN SHECK

DEPTH 1105' (337m) DIP -45° BEARING S 70° E ASSAYER BONDAR-CLEGG LOGGED BY FURNEAUX & WHITE

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS Au	Ag	Cu	Pb	Zn
0-16	OB & boulders								
16-168	banded, thin bedded, argillaceous Lst -85° westerly dip rusty staining on fracture plans to 120'. rusty grey black rx bedding? @ rt. angles to core to 145' then becoming swirly fracture planes								
168-175	highly altered qtz-feldspar porphry, almost gouge material fault zone? Contact @ 168 is 40° ± to core conformable. Many pink softened feldspar vein lets to 1cm. Random orientation. PINK MATERIAL MAY BE RHODOCHROSITE								
175-258	as @ 145-168								
258-260	fault gouge with sulphides.								
260-268	brecciated L.S. entirely fragmental (to 3cm)								
268-284	arg. L.S. some fragments qtz-veining								
284-307	286-296 breccia containing many rhyolite fragments mainly a L.S. breccia with some greenstone frag. & some felsite frag. Badly pulverized 302-307 start of fault zone?								
307-315	Vuggy-feldspar qtz.porphry- highly altered with sulphides present and a distinct green color.pyrite,pyrrhotite, black sphalerite, galena Mostly as fragments.	313	315	2'	<0.002	0.51	0.01		1.10
315-326	As @ 302-307								
326-355	Arg.L.S. some breccia frag. Swirly fracture planes random qtz-veining to 10cm in width. Some of the qtz-is mineralized. Varies from 40° to 11 to core.								

FAULT ZONE

Jon C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY _____ HOLE DDH-83-4-YP

091501

GRID REF._____ ELEVATION_____ STARTED_____ COMPLETED_____ DRILLER _____

DEPTH_____ DIP_____ BEARING_____ ASSAYER _____ LOGGED BY_____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn	Cd	Ni
355-440	Varies from L.S. breccia with qtz. & other rock frag. @ 335 to qtz.										
	breccia with Lst. frag. @ 440'. Distinctive grey & white rock.										
440-576	Some sulphide frag. 440' has 2" of sulphide fragments spal. pyrr. at										
	contact in breccia	545	551	<	0.002	0.04			0.88		
440-576	Vuggy-pale green 440-490, white 490-560, green 560-565, white 565-576,	551	561	<	0.002	0.08		0.08	0.80		
	qtz.-eye, qtz.-feldspar, rhyolite, porphry breccia fragments of arg. L.S.	561	566	<	0.002	0.04		0.02	0.06		
	all throughout 525-534 more arg. L.S. than rhyolite fracturing &										
	banding @ 40° to core scattered sulphides @ 545, arsenopyrite 6"										
	556-559 bands & chunks of sulphides (heavy arsenopyrite)										
576-602	L.S. breccia with qtz. fragments										
602-641	L.S. & qtz. breccia course fragments 4"										
641-652	banded swirly arg. L.S. with fragments of L.S. & qtz. Sulphides accom-	651	656	<	0.002	0.60	0.06		4.20	0.03	<0.01
	pany the qtz. (qtz. veinlets with pyrr. & cpy. increasing)	656	661	<	0.002	0.91	0.08		4.57	0.04	<0.01
652-666	as above but heavily mineralized. (rained out)	662	664	<	0.002	2.78	0.09	0.94	3.85		
	652 massive pyrr with spal. 30% heavy quartz-sulphides fragmental 1"	681	688	<	0.002	0.19			2.52		
666-688	as @ 641-652 - much less silica-mineralized pyrr. & sphal. swirled with (broken	774	776	<	0.002	0.20	0.03		1.75		
	less fragments	785	791	6' <	0.002	0.60	0.11		0.74		
688-785	L.S.										
785-791	heavy mineralization 785 massive pyrr. sphal. to 791				Co	W	Sn				
791-811	L.S. swirled and banded #	651	656		0.01	<0.01	<0.01				
	#	656	661		<0.01	<0.01	<0.01	-			

Ian C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY _____ HOLE DDH-83-4-XP

091501

GRID REF._____ ELEVATION._____ STARTED._____ COMPLETED._____ DRILLER _____

DEPTH._____ DIP._____ BEARING._____ ASSAYER _____ LOGGED BY._____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Zn	Cd	Ni	Co
811-812.6	Solid metal pyrr-cpy. & sphal. (minor)										
812.5-831	L.S.										
831-831.5	6" arsenopyrite										
831.5-955	L.S.	811	812.6	<	0.002	0.72	0.18	0.01			
955-967	(12'), sulphide zone	956	967	<	0.002	0.05	0.06	0.03			
		982	994	<	0.002	0.13	0.13	0.02			
967-982	L.S.	994	999	<	0.002	0.16	0.15	0.01	<0.01	<0.01	0.02 *
982-1004	(22') sulphides	999	1004	<	0.002	0.38	0.19	0.01	<0.01	<0.01	0.02 *
1004-1016	L.S.	1020	1025	<	0.002	0.06	0.15	<0.01	<0.01	<0.01	0.02 *
1016-1052	(36') sulphides L.S. banded @ 1041-1044	1025	1030	<	0.002	0.06	0.17	<0.01	<0.01	<0.01	0.02 *
1052-1105	L.S. with intermittant banded sulphides and qtz veins (vuggy) to 15cm										
END	containing sulphides Strong mineralized breccia @ 1097-1099										
	Hole still in mineral @ end. increasing thermal gradient- slight to				W	Sn					
	moderate metamorphism? *	994	999		<0.01	<0.01					
	Assays 313-315 956-967 *	999	1004		<0.01	<0.01					
	545-551 982-994 *	1020	1025		<0.01	<0.01					
	551-561 1015-1020 *	1025	1030		<0.01	<0.01					
	561-566 1029-1042										
	662-664 1044-1052				Au	Ag	Cu	Zn			
	681-688 1095-1103	1015	1020	<	0.002	0.12	0.13	<0.01			
	774-776	1029	1042		0.002	0.19	0.17	0.01			
	785-791	1044	1052	<	0.002	0.09	0.18	<0.01			
	811-812.6	1095	1103	<	0.002	0.08	0.09	<0.01			

Glen G. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY YP HOLE DDH-5A YP 091501

GRID REF 200N-300E ELEVATION 1400' (Vertical faulted) STARTED Sept. 2 COMPLETED Sept. 4/83 DRILLER KEN SHECK

DEPTH 284 (87M) DIP 90° BEARING 0° ASSAYER NONE LOGGED BY WHITE & FORNERIS

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH							
0-87	Broken, banded limestone - at 85° to core										
87-96	fine grained pink-white qtz. (10%) rhyolite										
	77-96 broken & faulted with mechanical gouge										
96-284	broken limestone (banded) fault gouge 180-190 highly broken										
	239 gouge										
284	stopped hole (drill rods seized)										

Don C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY YP HOLE DDH-83-5-YP 091501

GRID REF ~~100N~~ -300E ELEVATION 1450m STARTED Sept 13 COMPLETED Sept 21/83 DRILLER KEN SHECK

DEPTH 1517 (462m) DIP -85° E BEARING S70E ASSAYER BONDAR-CLEGG LOGGED BY FURNEAUX

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn		
0-22	OB & Boulders										
22-27	argilaceous l.s. badly broken										
27-62	carbonate breccia - with some Dol + Ls+ frag, carb. cement many different	47	57		0.003	0.18		0.06	0.06		
	fragments of various dolomites & limestones rusty veinlets	57	67	<	0.003	0.50		0.29	0.51		
	around the frag. (in places it looks like frozen beach gravel). limonite	67	77		0.003	0.20		0.42	0.37		
	increases to 62'.	77	87	<	0.003	0.18		0.57	0.43		
62-114	rusty (limonite) gossan. Visible galena. Host rock is the above carb.	87	97	<	0.003	0.40		0.97	0.48		
	breccia. Very vuggy. The breccia cement is decomposing and the rock is	97	107		0.003	0.48		1.22	0.82		
	reducing to its constituent fragments.	107	117	<	0.003	0.64		1.25	1.11		
114-124	breccia not so heavily oxidized	124	138	<	0.003	1.62		3.56	3.01		
124-138	extremely oxidized. Almost reduced to rust alone	117	124	<	0.003	0.18		0.32	0.35		
138-148	some oxidation	138	143	<	0.003	0.22		0.61	0.86		
148-178	carb. breccia	176	185		0.003	3.20		5.92	2.40		
178-185	pure rusty mud	312	324	<	0.003	0.14		0.06	0.08		
185-195	breccia (carb)										
195-230	breccia frag decreasing										
230-256	crystalline L.S. grey large crystals of calcite										
256-265	becomes dolomitized brecciated and badly broken. Fault Zone!										
265-301	banded (grey & black), partially brecciated crystalline L.S. somewhat										
	argilaceous. (bedding 80° to core) Some siderite veinlets random										
301-312	siderite (dolomite) calcite breccia (spectacular brown & white stone)										
312-323	badly decompsoed - highly oxidized siderite. carbonate rock grading to										

Ken C. White GEOPHYSICAL CONSULTING & SERVICES LTD. DRILL LOG PROPERTY _____ HOLE DDH-83-5-YP 091501

GRID REF_____ ELEVATION_____ STARTED_____ COMPLETED_____ DRILLER _____

DEPTH_____ DIP_____ BEARING_____ ASSAYER _____ LOGGED BY_____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH							
323-332	thinly badned argil. L.s. with siderite (dolomite?)										
332-349	rusty, muddy, dolomite siderite breccia grading to										
349-396	grey & black thin banded argl. L.s. slightly brecciated some rusty oxidation on shear planes										
396	cave										
397-660	Grey, Black thin banded arg. L.s core is clean bedding at 80° to core in places swirly bedding??										
	640-660 crushed broken fault zone										
660-751	gray black carbonate breccia (all fragments are limestone or dolomite)										
	742 silica fragments coming in also some pyrrhotite										
751-755	pale green quartz-eye rhyolite										
755-1000	breccia as at 742										
	pyrrhotite increasing downward black sphalerite appears at 847 as individual crystals and small blebs to 970										
986-1017	intermittant bands of massive sulphides up to one foot wide										
1000-1162	breccia is diminishing banded swirly arg. L.s. is now inter bedded, pyrrhotite is still present as bands and blebs										
1161-1226	qtz-eye rhyolite, clean white kaolinized										
1226-1358	banded swirly arg. L.s. scattered and banded pyrrhotite										
1358-1362	rhyolite arg. L.s. breccia										
1362-1375	qtz-eye rhyolite										
1375-1378	arg. L.s. breccia										

Ron C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY _____ HOLE DDH-83-5-YP

091501

GRID REF._____ ELEVATION._____ STARTED._____ COMPLETED._____ DRILLER _____

DEPTH._____ DIP._____ BEARING._____ ASSAYER _____ LOGGED BY._____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH							
1378-1438	qtz-eye rhyolite										
1438-1517	End in qtz-eye rhyolite										
(462')											

Hon O. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY YP HOLE DDH-6-YP 091501

GRID REF. 100S-100E ELEVATION 1425M STARTED Sept.5 COMPLETED Sept.10/83 DRILLER KEN SHECK

DEPTH 846' (257M) DIP -45° BEARING S 70° E ASSAYER BONDAR-CLEGG? LOGGED BY WHITE & FERNEAUX

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn		
0 - 237	Banded & swirled Lst. gouge contact chl. alteration with a fine grained green felsite										
	58-61 gouge										
	81-91 broken with gouge clay alteration right angles to bedding										
	120-128 broken heavy gouge										
	*150 bedding 40° core										
237-243	gouge contract both ends with a porphyry andesite dike? dark greenish										
243-263	Lst some breccia, mang, tension fillings with calcite										
263-266	fine grained felsite pale green										
266-292	Lst some breccia arg-phyllite sulphides & tension										
292-296	Lst broken with gouge, arg-phyllite										
296-306	dark green feldspar porphyry										
306-309	gouge (Lst)										
309-316	Lst dense some sulphides										
316-328	Kaolinized, brecciated, chloritized pale green limy siltstone 6" pyrr-sphal. 324-326 mineral	320	325		<0.003	0.16		0.53	1.89		
329-438	Lst; some bedding at right angles										
	336-353 gouge seam										
	356 regular grey Lst to banded brecciated with calcite bands Lst breccia (increasing										
	426-433 large gouge seam										
	433-438 largely brecciated to contact										

Glen D. White GEOPHYSICAL CONSULTING & SERVICES LTD. DRILL LOG

PROPERTY _____ HOLE DDH-6-YP 091501

GRID REF._____ ELEVATION_____ STARTED_____ COMPLETED_____ DRILLER _____

DEPTH_____ DIP_____ BEARING_____ ASSAYER _____ LOGGED BY_____

FOOTAGE	DESCRIPTION	SECTION			ASSAYS						
		FROM	TO	WIDTH	Au	Ag	Cu	Pb	Zn	W	Sn
438-472	one foot of alteration at margin at each end then on to white to pale green rhy,feldspar-kaolinized qtz-eyes 10%										
472-492	~~altered contact with minor sulphide clasic Lst breccia~~ (off sediment sampling)										
492-510	regular banded Lst										
510-520	oxidation & faulting - brecciated Lst										
520-535	Lst- brecciated.										
535-555	brecciated,mylonized oxidized- vuggy Lst										
555-594	555 competent grey Lst breccia	580	583	3'	<0.003	0.90	0.04		1.15	0.05	<0.01
590-593	arsenopyrite vein, mylonized										
593-605	highly altered feldspar porphyry kaolinized										
605-657	605- rusty altered contact with vuggy Lst large solution cavities	656.5	658	1½'	<0.003	2.34		0.95	0.66	Was Nil 0.001	
657-658	mineral py,sphal,pyrr mylonized										
658-676	contact with pale green feldspar,porphy tuff- vuggy kaolinized-pink feldspar minor sulphide blackjack & pyrr- gets greener	676	683	7'	<0.003	3.04	0.15		10.70	0.02	<0.01
676-683	676 gets green with chards & fragments high chl. alteration then high grade mineral . Massive Sphalerite pyrrhotite										
683-686	Lst trend	686	693	7'	<0.003	9.86	0.18		5.06	0.11	<0.01
686-691	mineral Massive Sphalerite pyrrhotite										
691-696	green chloritized porphyry grading unto white feldspar quartz-eye tuff with minor sulphides with chards & fragments- fractures @ 45° to core & highly kaolinized- possible fault										

MAIN ZONE

Ken C. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY ____________ HOLE DDH-6-YP

091501

GRID REF ______ ELEVATION ______ STARTED ______ COMPLETED ______ DRILLER ______

DEPTH ______ DIP ______ BEARING ______ ASSAYER ______ LOGGED BY ______

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS Au	Ag	Cu	Pb	Zn	W	Sn
438-472	one foot of alteration at margin at each end then on to white to pale										
	green rhy.feldspar-kaolinized qtz-eyes 10%										
472-492	altered contact with minor sulphide clasic Lst breccia (off sediment sampling)										
492-510	regular banded Lst										
510-520	oxidation & faulting - brecciated Lst										
520-535	Lst- brecciated.										
535-555	brecciated,mylonized oxidized- vuggy Lst										
555-594	555 competent grey Lst breccia	580	583	3'	<0.003	0.90	0.04		1.15	0.05	<0.
590-593	arsenopyrite vein, mylonized										
593-605	highly altered feldspar porphyry kaolinized										
605-657	605- rusty altered contact with vuggy Lst large solution cavities	656.5	658	1½'	<0.003	2.34		0.95	0.66	[illegible] 0.001	
657-658	mineral py,sphal,pyrr mylonized										
658-676	contact with pale green feldspar,porphy tuff- vuggy kaolinized-pink	676	683	7'	<0.003	3.04	0.15		10.70	0.02	<0.[illegible]
	feldspar minor sulphide blackjack & pyrr- gets greener										
676-683 (MAIN ZONE)	676 gets green with chards & fragments high chl. alteration then										
	high grade mineral . *Massive Sphalerite pyrrhotite*										
683-686	Lst trend	686	693	7'	<0.003	9.86	0.18		5.06	0.11	<0.[illegible]
686-691	mineral *Massive Sphalerite pyrrhotite*										
691-696	green chloritized porphyry grading unto white feldspar quartz-eye tuff										
	with minor sulphides with chards & fragments- fractures @ 45° to core										
	& highly kaolinized- possible fault										

Ken O. White GEOPHYSICAL CONSULTING & SERVICES LTD. DRILL LOG PROPERTY _____ HOLE DDH-6-YP 091501

GRID REF_____ ELEVATION_____ STARTED_____ COMPLETED_____ DRILLER_____

DEPTH_____ DIP_____ BEARING_____ ASSAYER_____ LOGGED BY_____

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS
696-741	White qtz-eye tuff with fragments *				
	706- mud seam				
741-758	Lst arg banded a *gradational* contact heavily brecciated				
	756-758 mineral				
758-816	contact with white qtz-eye tuff heavily broken, kaolinized, fault (768-834)				
816-835	816 chloritized, kaolinized gouge. dark green altered phyllites in qtz-tuff- qtz. feldspar porphyry				
835-838	Lst breccia				
838-846	pale green slightly vuggy whitish chloritized qtz-eye tuff with fragments				
(257 M)					

Glen G. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY YP HOLE DDH-83-7-YP

GRID REF 340E - 130N ELEVATION 1380 STARTED Sept. 23 COMPLETED Oct. 4/83 DRILLER KEN SHECK 091501

DEPTH 1115' (340m) DIP VERTICAL BEARING 0° ASSAYER NONE LOGGED BY White & Fuhrlean

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS
0-21	OB. cased				
21-36	Qtz- F. porphry - breccia sections 30-31 (heavy MnO_2 & limonite alteration.				
36-52	Breccia - composed of QFP. frag. and Arg. L.s. frag.				
	42-47 heavy limonite in fracture zone				
52-77	Kaolinized QFP. some lim.& MnO_2; scattered pyrite as dissem.				
	Sections of Arg. Lst. frag.- rock becomes a breccia				
77-96	Mainly QFP. with limonite & Kal. feldspar minor chlorite & fluorite.				
	MnO_2 stain with lim. Rock is pitted				
96-115	Argillized QFP. (99-102 breccia - with both QFP. & Arg. Lst. frag.)				
	Pyrite present as interstitial and bands				
115-133-	Mainly QFP. 2 short sect. of breccia frag. sparse sulphides				
133-153	A.A. with less frag.				
153-172	Kaol. QFP. minor Arg. Lst. frag.				
172-191	Mainly QFP. short sections of frag. Kaol. & cholorite - no limonite				
191-210	QFP. Kaol. minor breccia with gouge limonite & pyrite on fractures. (very rotten rock)				
210-229	A.A.				
229-247	QFP. highly kaolinized, rusty fractures.				
247-264	QFP. highly Kaol. 251-253 brecciated with chlorite present. also 255.5 (256.5				
264-283	QFP. highly Kaolinized chl. on frac. minor Arg. Lst. frag.				
283-301	QFP. some Arg. Lst. frag.				
301-318	QFP. some sections abundant frag. arg. Lst.				

Glen E. White GEOPHYSICAL CONSULTING & SERVICES LTD.

DRILL LOG

PROPERTY _____ HOLE DDH 83-7-YP 091501

GRID REF_____ ELEVATION_____ STARTED_____ COMPLETED_____ DRILLER _____

DEPTH_____ DIP_____ BEARING_____ ASSAYER _____ LOGGED BY_____

FOOTAGE	DESCRIPTION	SECTION FROM	SECTION TO	SECTION WIDTH	ASSAYS
318-366	QFP. strongly kaolinized, chlorite f.f. (fault zone 323-327)				
	366 contact @ 60° with Lst. breccia				
366-415	Mainly carbonate breccia, some QFP. frag.				
415-455	Alternating thinly banded Lst. and carb. breccia				
455-572	Breccia with Lst.,arg. & poss. QFP. fragments also probably some dolomite				
572-592	thinly banded Lst. (checker board pattern) alternating with Lst. breccia				
592-760	Contact @ 60° to core fragments in QFP. of thinly banded silty Lst. ,				
	banding @ 65° to core angle , 1' brecciated wall rock @ contact,				
	Pale green QFP. All feldspars kaolinized. dissem. pyrite occasional				
	fracture fillings fluorite, calcite, py, galena?				
	Dyke contact @ 40° C.L 5-10% biotite relatively fresh (652-687)				
	755-760 chilled silicous margin				
	grading to Lst. breccia				
760-806	Lst. breccia with interbedded thinly banded Lst. Some QFP. frag. near				
806-907	QFP. grey,hard,fresh stringers to ¼" of arsenopyrite, chalco, galena (lower contact				
	sphalerite 857-877				
	kaolinized and pitted places				
907-1115	QFP. fresh				
(340M) END					

305 770
091501

GRANT STEWART CONSTRUCTION LTD.

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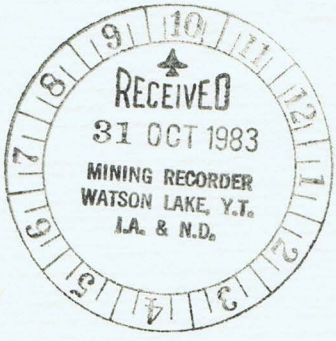
October 31, 1983



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