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REPORT ON THE 1986 EXPLORATION PROGRAM OF REGAL PETROLEUM LTD. SWAYZE PROPERTY PORCUPINE MINING DIVISION ONTARIO

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SUMMARY

The 1986 exploration program on Regal Petroleum's Swayze gold property was primarily a drilling program aimed at locating higher grade intersections within the known sub-economic mineralization at the shaft area. Additional mapping, geophysics and trenching was carried out along the projected eastern extension of the shaft shear zone. This work confirmed the existence of the shear for a minimum of 3,500 metres along strike.

The I.P. survey was conducted over the area of this eastern extension and outlined a number of anomalous trends flanking the shear trace. Of these, three anomalies were the focus of the second phase drilling.

A test grid for soil geochemistry was conducted southwest of the shaft area, however, results were not encouraging and due to extensive esker and swamp cover over the majority of the property, no further soil sampling was carried out.

The results of the 1986 drilling were similar to previous drilling carried out in 1985. In the area of the shaft and stepping out south easterly, more sub-economic mineralization was encountered within the cataclastic shear zone. No obvious higher grade sections were discovered but the shear system was still evident and strong at the end of the area explored in 1986.

A further 6 kilometers of strike length remains untested and provides an excellent exploration target for future programs.

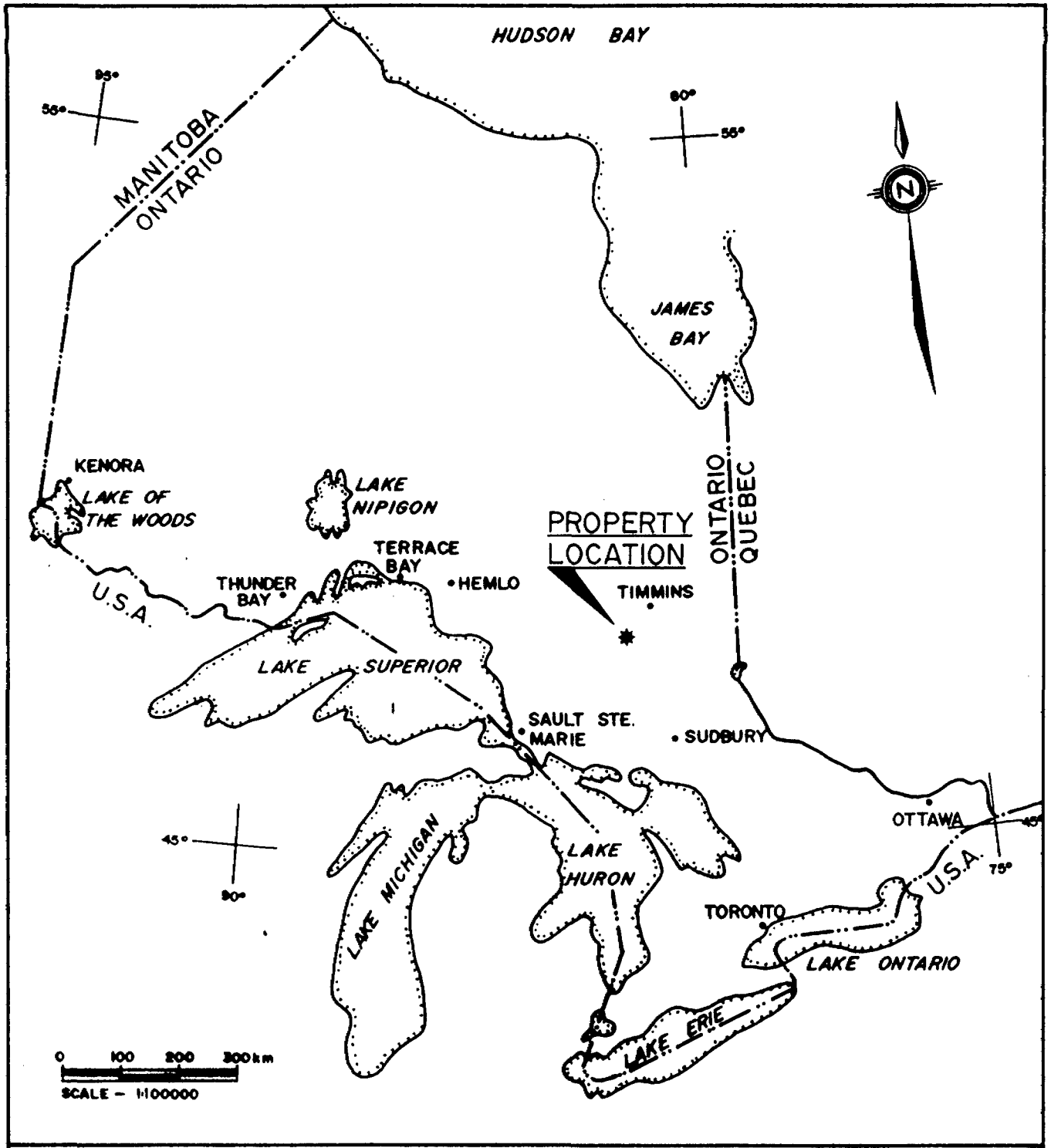

FIGURE 1

PROPERTY LOCATION MAP

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MINING DIV., ONTARIO

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INTRODUCTION

This report details the results of the 1986 exploration and drilling program on the Swayze propery of Regal Petroleum Ltd.

A total of 78 line kilometers were cut on a 100 metre grid spacing for mapping and geophysical control.

Following initial mapping, trenching and an I.P. survey, 2,130 metres of diamond drilling was carried out. This consisted of two phases: the first being a follow up to the 1985 drilling program and the second to test the 1986 survey I.P. anomalies.

The aim of this program was to locate higher grade intersections within the zone outlined by previous work, and trace the continuation of the shear along strike.

Reports on previous exploration programs are listed in the Bibliography.

LOCATION and ACCESS

The Regal Petroleum property is located approximately 40 kilometers east of the town of Chapleau and 120 kilometers southeast of Timmins, Ontario (Figure 1). Highway #101 connecting Chapleau to Timmins lies some 16 kilometers north of the north boundary of the property. A number of logging roads, originating from the small town of Kormak 16 kilometers southeast Chapleau, provide access to the southern portion of the property. During the summer months easiest access is by float plane to the Shunsby Lake camp through charter operators

located in Chapleau or from Ivanhoe Lake, 56 kilometers north. The work described herein was carried out from a base camp located at the south end of Shunsby Lake. A skidder trail was cut from the end of existing access at Betty Lake to the base camp. A shallow ford was constructed to cross the Kinogoma River.

PROPERTY and CLAIM STATUS

The entire property consists of 9 patented claims and 173 unpatented claims in Halcrow, Greenlaw and Tooms townships, Porcupine Mining Division, Ontario (Figure 2). They are listed as follows:

PATENTED

Patent Group - (6 claims)

Township	Claim Number
Halcrow	S-22148
	S-22150
	S-22152 to 22153
	S-22164
	S-22177

Shaft Group - (3 claims)

Township	Claim Number
Halcrow	S-22146
	S-22151
	S-22158

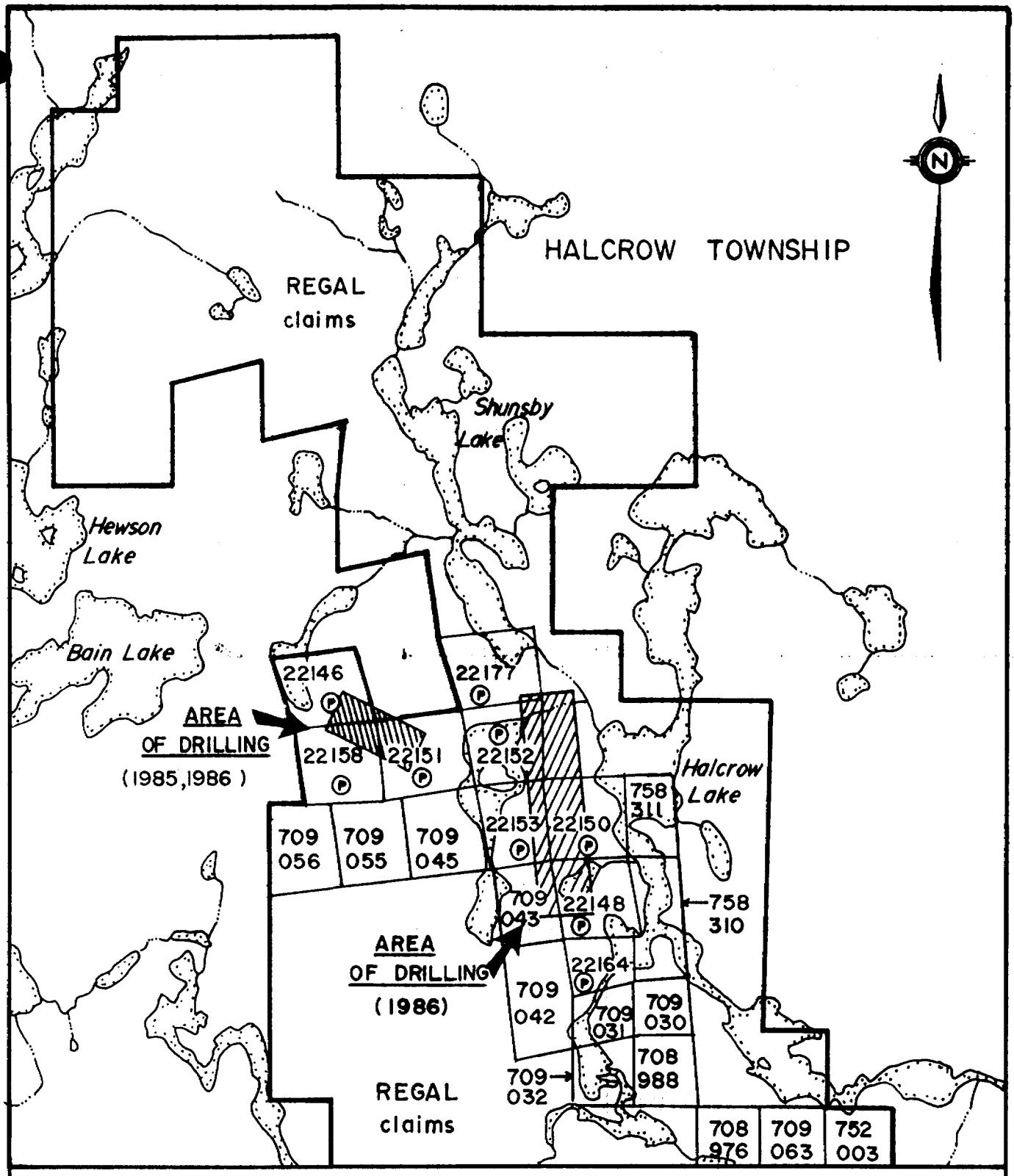

FIGURE 2

CLAIM MAP

REGAL PETROLEUM LTD.

SWAYZE AREA, ONTARIO

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UNPATENTED - (173 claims)

Township	Claim Number	Expiry Date
Greenlaw	P-688610	March 4/87
	P-708930 to 708946 incl.	March 4/87
Tooms	P-688585 to 688590 incl.	March 4/87
	P-688595 to 688609 incl.	March 4/87
	P-708968 to 708969	March 4/87
	P-709068	March 4/87
	P-708950 to 708954 incl.	March 4/87
	P-708958 to 708961 incl.	March 4/87
Halcrow	P-708955 to 708957 incl.	March 4/87
	P-708970 to 708988 incl.	March 4/87
	P-709030 to 709043 incl.	March 4/87
	P-709045 to 709067 incl.	March 4/87
	P-758310 to 758319 incl.	May 5/87
	P-757402 to 757404 incl.	May 5/87
	P-757390 to 757401 incl.	May 5/87
	P-758284 to 758285	May 5/87
	P-708962 to 708967 incl.	March 4/87
	P-783632 to 783634 incl.	Dec. 23/87
	P-783637 to 783644 incl.	Dec. 23/87
	P-779842 to 779847 incl.	Dec. 23/87
	P-779870 to 779873 incl.	Dec. 23/87
	P-783631	Dec. 23/87
	P-752003 to 752008 incl.	Dec. 23/87
	P-779840 to 779841	Dec. 23/87

The patented claims are held in good standing as long as the taxes are paid. The work completed on the Regal property in 1986 will extend the expiry date on all claims to at least 1988 pending government approval.

PHYSIOGRAPHY and VEGETATION

The property area is relatively flat with a maximum elevation change in the order of 30 metres. A low gently sloping ridge, site of the old Halcrow Swayze mine, dominates the Shaft Claims. Overburden cover, consisting of sand and gravel till, mantles over 90% of the claim group.

Vegetation cover, on the Shaft claims, is dominated by mature stands of poplar, birch and jackpine. Outside of the Shaft area, the low ground and swampy areas are covered by spruce, balsam, cedar and abundant undergrowth of alder. The southeastern portion has been recently logged and the new growth is immature, mainly pine.

HISTORY and PREVIOUS WORK

Although the gold potential of the Swayze greenstone belt has been recognized since the early 1900's, the first major thrust in gold exploration occurred in the 1930-1943 period. The discovery of gold to the east of the area in Swayze Township, in 1931, lead to extensive prospecting in the area. A detailed account of other work carried out in the Swayze gold belt can be found in a report by Esson, 1983.

One of the most important gold discoveries of that era was that of the Halcrow Swayze mine, presently located on the three claims of the "Shaft Group" held by Regal Petroleum Ltd. According to Laird (1935) "Development of the property... consisted mainly of surface exploration (trenching), underground development, diamond drilling and the operation of a 25-ton test mill". Testing of the three main veins on surface yielded the following results (Laird, 1935):

Vein	Length (Feet)	Width (Inches)	Gold Content (oz/ton)
No. 1	100	16	.235
No. 2	900	84	.120
No. 4	30	12	.857

A shaft was sunk on No. 2 vein to a depth of 371 feet, with levels at 200

and 354 feet. Drifting on the No. 2 vein at the 200 foot level extended for 1,138 feet over width of 4 to 7 feet and the vein was opened for 200 feet at the 354 foot level. Ore reserves were estimated at 85,500 tons of ore grading .11 oz/ton Au in the No. 2 vein above the 200 foot level and a further 45,000 tons of the same grade between the two levels. Vertical continuity of the ore zone was indicated by diamond drilling to a depth of 500 feet.

Initial exploration work by Regal Petroleum Ltd. on the property commenced in 1984, with an airborne geophysical survey flown by Aerodat Limited. Data from magnetometer, HEM and VLF electromagnetic system were collected over the entire property.

In 1984, the firm of David R. Bell Geological Services Inc. was contracted to undertake a geological assessment of the Regal Petroleum property. A widely spaced cut grid was established over the entire property followed by geological mapping, rock sampling and limited soil geochemistry.

During the same year a preliminary phase of exploration on the "Shaft Group" of Patent Claims (old Halcrow Swayze Mine) was undertaken. Old trenches were cleaned and sampled and a cut grid was established along a 300° surveyed baseline with crosslines spaced at 100 foot intervals. Assays from grab samples ranged from 11 ppb to 0.713 oz Au/ton.

In 1985, exploration was restricted to the Shaft Group of claims (claims S 22146, S 22158 and S 22151). A geochemical soil survey and ground geophysics consisting of induced polarization, VLF-EM and magnetic surveys were completed

in the early part of the summer. Sixteen trenches were also excavated and later mapped and sampled. The trenches were located in two separate areas; twelve trenches were excavated on the Shaft Group and four others were located near the number three post of the claim S 22164. A total of 77 samples consisting mainly of grab samples with some channel and chip samples were collected from the trenches and assayed for gold.

A diamond drilling program was undertaken in November, 1985 to test the structure associated with the Halcrow Swayze Mine on the Shaft Group. The drilling was carried out by Bradley Brothers of Timmins under the supervision of OreQuest Consultants Ltd. A Viking Helicopter Hughes 500D provided the helicopter support. Diamond drilling began on November 15 and terminated on December 10 with the completion of the 14 drill holes for a total of 1,396 metres.

REGIONAL GEOLOGY

The property is situated in the western most corner of the Swayze greenstone belt. The Swayze area is an arcuate volcano-sedimentary belt grouped within the Abitibi sub-province (Figure 3).

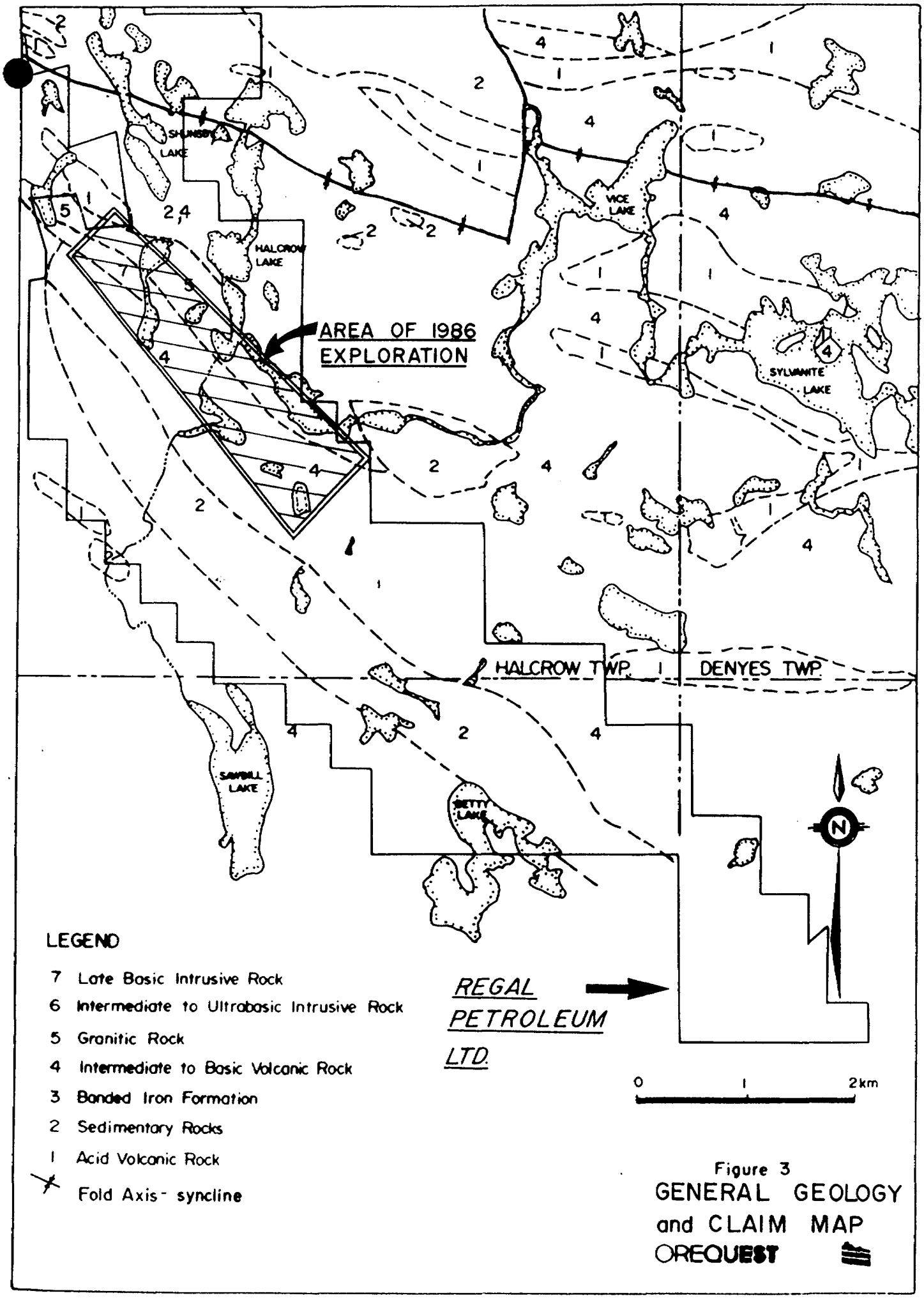

Figure 3
GENERAL GEOLOGY and CLAIM MAP
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A brief account of the regional geology as taken from Ontario Department of Mines Geological Report #63 "Geology of Halcrow-Ridout Lakes Area" by J.F. Donovan (1969) is as follows:

> "The area is underlain by Precambrian rocks, consisting of acid-to basic volcanic rocks, sedimentary rocks and intrusive igneous rocks.
>
> Intermediate-to-basic volcanic rocks are dominant and trend in an east-west direction across the area. Acid volcanic rocks are abundant in Denyes Township, but elsewhere acid volcanic rocks are intercalated with the intermediate-to basic volcanic rocks. Two major belts of sedimentary rocks traverse the map-area and form part of a major synclinal structure. The sedimentary rocks are predominantly conglomerate and quartzite with minor pelitic rocks, greywacke and arkose. A few bodies of intrusive granite cut the western part of Halcrow and Tooms Townships and a contact metamorphic zone is developed by the granite. A few bodies of intrusive diorite are closely associated with the basic volcanic rocks and numerous northwest and northeast trending diabase dikes transect all other rock types. Pleistocene and Recent deposits cover much of the area.
>
> The rocks are steeply dipping and tightly folded about an east-west trending synclinal fold axis. The syncline is doubly plunging and its north limb is overturned; facing south. Major north-south trending fault zones are found along the Kinogama and Wakami Rivers; elsewhere small faults offset lithologic units".

Mapping of the Regal Petroleum property was undertaken by Reukl and Conquer in 1984. They summarized its geology as follows:

> "The property was found to be underlain by a metavolcanic-metasedimentary assemblage dominated by massive to foliated andesites intercalated with discontinued bands of fine to medium grained sediments. Banded iron formation was located in many places on the property occurring as discontinuous pockets or lenses. Granitic rocks occupy the west central and northwest portions of the property representing the eastern margin of a pluton".

The following is a table of geological units used by Donovan (1968):

TABLE 1

TABLE OF FORMATIONS

PRECAMBRIAN INTRUSIVE ROCKS

Late Basic Intrusive Rocks, Diabase

Intrusive Contact

Intermediate to Ultrabasic Intrusive Rocks:
Diorite, gabbro, lamprophyre, serpentine.

Intrusive Contact

Granitic Rocks:
Granite, syenite, monzonite, quartz, monzonite grandiorite, quartz diorite, gneissic granite.

Intrusive Contact

INTERMEDIATE TO BASIC VOLCANIC ROCKS

Massive andesite and basalt, pillow andesite and basalt, chlorite-horneblende-feldspar schist, basic tuff, grey massive andesite, volcanic breccia, amphibolite, hornblende-mica-feldspar schist, diorite and gabbro (flows or intrusions), porphyritic andesite and basalt.

Iron Formation:
Banded iron formation, schistose iron formation.

SEDIMENTARY ROCKS

Shale, argillite, slate, conglomerate, quartzite, greywacke, arkose, paragneiss, mica-hornblende-plagioclase-quarttz schist.

ACID VOLCANIC ROCKS

Massive rhyolite, acid tuff, volcanic breccia, sericite-quartz-feldspar schist, banded rhyolite, silicified rhyolite, rhyolite porphyry, feldspar porphyry.

PROPERTY GEOLOGY

Geology - Shaft Group

Information obtained from diamond core drilling has permitted the identification of rock textures and structures otherwise indistinguishable in surface exposures. As a result, the underlying geology initially inferred from the trenching was re-interpreted.

The claim group is crosscut by a shear zone locally trending at 300° that forms the contact zone between a quartz diorite sill to the northeast and mafic volcanic rocks to the south (Figure 3).

Intense deformation and hydrothermal alteration along the contact has produced a wide cataclastic zone which has affected both the quartz diorite intrusive and the mafic volcanic rocks.

This zone which was initially thought to be sedimentary quartzites and greywackes and in past has been mapped as a felsic volcanic is in fact the result of polyphase deformation and hydrothermal alteration of the quartz diorite.

Structural Geology

The cataclastic zone developed along the contact of a quartz diorite and mafic volcanic succession appears related to a regional fault trending at 300° and extending beyond the boundary of the Shaft Group.

A linear magnetic anomaly (Aerodat, 1984) parallels the trend of the shear

zone and extends for 10 kilometers across the entire Regal property.

West of the shaft the contact zone dips steeply south while east of the shaft, the zone appears to be rotated and faces north.

Deformation of the quartz diorite may have been initiated at an early stage by protoclasis. Protoclasis applies to cataclasis of an igneous body or parts of an igneous body, generally before it has completely crystallized (Higgins, 1971).

The felsic intrusive may originally have been emplaced along a fault plane, only to be deformed by later fault movement. In metamorphic terrain, dikes, veins and sills often formed zones of easiest movement during periods of directed stress. Polyphase deformation is evidenced by thin section examination of the cataclasite from the 1985 drill ore which shows a granulation of quartz and feldspar crystal into fragments less than 2 mm and megascopic examination of rock or core specimens which typically exhibit a micro brecciation of this granulated matrix into .5 to 2 cm fragments separated by a network of sericitic veins. Deformation and alteration gradually increases from north to south, although sinusoidal dispersion of stress during deformation of the quartz diorite has produced zones of highly strained rock adjacent to less deformed rocks. For this reason intercalation of quartz diorite with its tectonised phases are found throughout the map area.

Mapping - 1986

During this phase of the program mapping was carried out on cut lines spaced at 100 metre intervals along a 4 kilometer baseline (Figure 8). The primary aim of the mapping was to attempt to locate the strike extension of the cataclastic zone and identify areas for follow up trenching. Outcrop exposure is poor over most of the area of interest with extensive cedar bog and esker cover.

The 1985 Aerodat survey outlined three sub-parallel magnetic highs trending northwest-southeast. The northern most of these was known to be the quartz diorite dyke flanking the cataclastic zone. A diabase dyke was thought to be the cause of the middle trend, and scattered outcrops located during the mapping proved this to be the case. At line 3+50E/6+80S a windfall tree exposed a 6 metre thick banded iron formation. Trenching exposed the same formation 50 metres along strike to the southeast after which overburden cover became excessive. This zone conforms to the location of the southermost magnetic anomaly.

Follow up on several of the E.M. anomalies revealed no obvious causes other than conductive swamps.

Several old trenches were located during the mapping one of which exposed a 0.3 metre wide quartz sulfide vein, a channel sample of which ran 5,140 ppb Au.

As no significant changes were made to the geological assemblage the reader is referred to the 1986 report by Cavey, LeBel and Dumouchel for more detailed

descriptions.

GEOPHYSICS

An induced polarization geophysical survey was conducted on the property. A previous induced polarization in the vicinity of the old Halcrow-Swayze mine detected a weak but distinct anomaly associated with the known mineralized zone. The purpose of the present survey was to explore for similar anomalies elsewhere on the property.

The survey was conducted in the time domain with an EDA IP-1 receiver and a Phoenix Geophysics IPT-1 transmitter and was done with the dipole-dipole electrode array with an electrode spacing of 25 metres expanded through four separations. The electrode array was selected to provide reasonable depth of detection and resolution of any narrow targets present.

The survey coverage was selectively applied to areas of known or inferred cataclasite and the contact between the cataclasite and volcanics. The coverage was further restricted by initially surveying alternate, 200 metres spaced lines and infilling at 100 metre intervals only if anomalies were recorded. Much of the area surveyed was coincidentally covered by a mantle of glacial till.

The coverage provided by the survey is as follows:

Line	From	To
5+00E	5+00N	8+50N
6+00E	6+00N	8+50N
7+00E	4+25N	7+25N
8+00E	4+25N	6+75N
9+00E	0+25N	7+50N
10+00E	3+75N	6+75N
11+00E	0+00	6+25N
12+00E	3+75N	6+25N
13+00E	3+00S	6+25N
14+00E	3+25N	5+00N
	3+00S	0+25N
15+00E	2+25N	4+75N
	2+50S	0+50N
16+00E	2+75S	4+50N
17+00E	2+00N	4+25N
	3+25S	0+75N
18+00E	4+50S	0+75N
21+00E	1+75S	2+75N
23+00E	2+25S	1+75N
25+00E	2+00S	2+00N
27+00E	2+00S	1+50N
29+00E	1+75S	0+75N
31+00E	1+50S	1+00N
33+00E	0+50S	2+75N
35+00E	0+50S	4+00N
37+00E	1+25S	2+75N

Since the present survey was conducted with a different reciever than the previous survey, a limited amount (2 short lines) of repeat coverage was done in the area of the Halcrow Swayze mine. This coverage did not exactly repeat the previous coverage because different (new) cut lines were used. This coverage is as follows:

Line	From	To
4+00E	0+25S	2+25N
5+00E	0+75S	1+50N

This coverage was also included because a drill hole was contemplated for the area.

The results of the survey are presented in pseudosection format in Appendix E. With the exception of lines 4+00E and 5+00E above only the anomalous portions of the pseudosections are shown in order to reduce the amount of data presented. Locations of the anomalies, in plan, are shown on Figure 6.

Weak chargeability anomalies ie. up to 9 msec. in a background of less than 4 msec. were recorded on llines 4+00E and 5+00E to duplicate previous results obtained in the vicinity of the old Halcrow Swayze mine. Although the anomalies are weak they are quite distinct because background values are uniformly low.

Five anomalous chargeability zones, labelled A to E, and one resistivity anomaly as shown on Figure 6 were recorded by the survey away from the original anomaly near the old Halcrow Swayze mine.

Zone A occurs principally on line 5+00E but is also evident on line 6+00E between 6+50N and 6+75N. On line 5+00E, zone A, exhibits chargeabilities of up to 30 msec. which were the highest values recorded by the survey. At this location zone A reflects a 50 metre wide body centered at about 7+00N. Zone A was tested by (RG-86-6) and was found to be caused by graphitic tuffs and siltstones.

Zone B extends from line 5+00E at 5+75N to line 15+00E at 4+25N. On line

15+00E the anomaly is not completely defined because the Kinogama River impeded the survey coverage. Chargeabilities in zone B range from 10 msec-25 msec. On line 13+00E the zone produced only weakly anomalous results because it is at a depth of 25-50 metres. Elsewhere zone B is generally shallow.

Zone B varies in width from narrow (ie. less than 25 metres) to 75 metres. At its widest located on lines 7+00E and 11+00E, it seems to be composed of a 50 metres wide zone of weakly anomalous values on the north, followed by a 25 metre wide band of strongly anomalous values on the south. Zone B was drilled on line 9+00E (RG-86-8), and on 11+00E (RG-86-7), and found to be a pyritic tuff. In both cases the variability in the anomaly was found to be caused by about 1% sulphides in the first part of the hole followed by a narrow intersection of 5%-50% sulphides.

Zone C crosses lines 13+00E to 18+00E at about 1+25S to 1+50S. Chargeabilities vary up to around 25 msec. and the width of zone C varies from narrow to 25 metres. On line 17+00E the zone is at a depth of 25m and on line 18+00E its depth has increased to about 50 metres.

Zone C appears to be associated with a marked resistivity low. For this reason it was argued that the zone may reflect a mineralized shear zone. Stratigraphically the zone appears to occur at the contact between andesite and volcanics and the cataclasite although geological evidence on line 14+00E possibly positioned the zone within andesites.

Drilling zone C on line 13+00E (RG-86-9) hit 2%-3% pyrite in andesite to

explain to chargeability anomaly. The amount of sulphides present was not sufficient to significantly depress the resistivity of the andesites and no other feature was found to adequately explain the resistivity low associated with the anomaly. A second hole (RG-86-10) in zone C on line 15+00E was not completed because of a major equipment failure.

Zone D is evident on lines 15+00E, 16+00E and 17+00E at about 2+75N. Chargeabilities associated with this zone are low achieving a maximum of 15 msec on line 16+00E. The zone reflects a narrow, less than 25 metre wide, body. This zone was not drilled.

Zone E extends from 21+00E to 37+00E within about 100 metre on either side of the base line with the exception of line 29+00E where no anomaly was obtained. Zone E is weak, rarely achieving over 10 msec in amplitude. Although it is weak the anomaly is quite distinct because background response in the area is unifromily low. The cause of zone C is not known nor was it tested by drilling. It appears to occur in andesites and occupies a similar stratigraphic position as zone C.

An anomaly of about 20 msec occurs on line 18+00E between 3+00S and 3+25S. This feature was not followed up because its location in andesites did not fit the model for the gold mineralization being sought on the property.

SOIL GEOCHEMISTRY

A total of 79 soil and 13 humus samples were collected during this portion of the program. An effort was made to collect B-horizon samples with A-horizon humus samples taken where a good B-horizon was not available. All samples were collected at 25 metre intervals over lines 1W to 4W. This was a test area to determine the viability of soil geochemistry as an exploration tool in an area where overburden cover was not excessive. The samples were analysed for gold, silver and copper by Vangeochem Lab. Ltd. in North Vancouver, B.C.

Results

Results of the soil sampling survey were disappointing with only one anomalous gold value of 150 ppb received on Line 1W, Station 0+25S. This sample was an organic rich muck from a cedar bog. The highest gold geochem in the remaining sampling was 10 ppb. No anomalous copper or silver values were detected. On the basis of these results no further sampling was undertaken as overburden would be more of a problem outside the test area and samples collected would not reflect bedrock mineralization.

A total of 40 rock samples were collected during the geological mapping program. Table 2 is a summary of the rock samples listing sample number, rock type, grid location and gold and copper values.

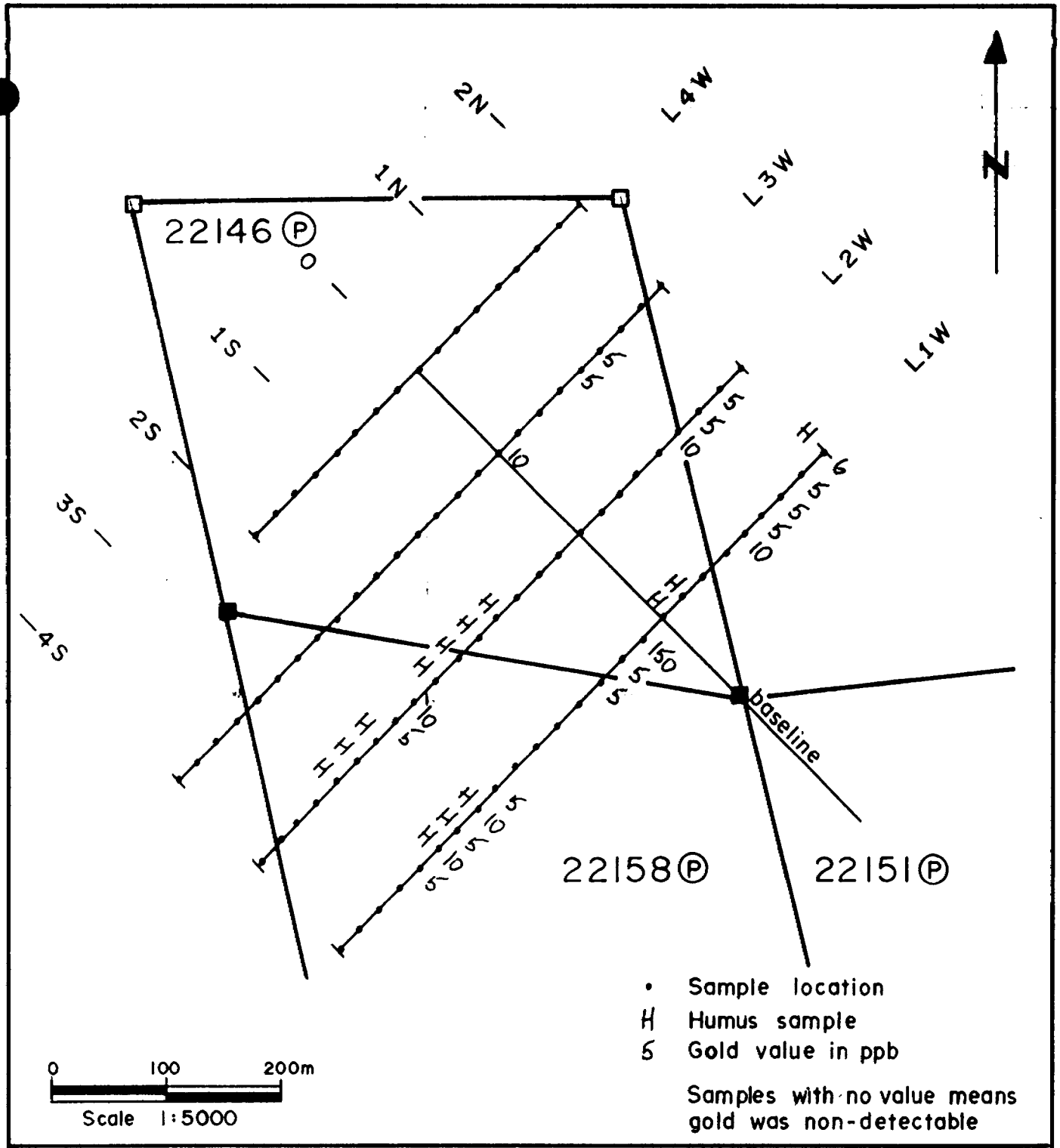

Figure 4

SOIL GEOCHEMISTRY RESULTS

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SWAYZE AREA ONTARIO

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TABLE 2

Sample No.	Rock Type	Grid Location	Gold Value (ppb)	Copper Value (ppm)
09775	QD	1+00E, 1+60N	nd	5
09780	QD	15+90E, 0+75N	nd	91
09781	Quartz vein in QD	15+92E, 2+00N	10	10
09782	QD	16+85E, 0+70N	20	15
09783	QD	18+55E, 0+75N	5	21
09751	CQD	4+15W, 0+50N	20	10
09752	Sulfide vein in CQD	4+06W, 0+70S	2835	3160
09753	Quartz vein in CQD	4+05W, 0+69S	320	115
09754	CQD	3+05W, 0+60N	5	104
09764	CQD	2+95E, 3+30N	nd	13
09765	CQD	2+75E, 1+85N	nd	5
09766	CQD	2+80E, 1+65N	nd	90
09776	CQD	6+00E, 6+35N	10	8
09778	CQD	6+40E, 6+25N	30	3
09788	CQD	15+34E, 2+65N	5	14
09789	CQD	15+60E, 3+55N	nd	7
09769	CAT or Quartzite?	1+30E, 8+00N	5	16
09768	m MV	7+25E, 2+25S	nd	6
09763	f MV	1+98E, 1+60S	nd	26
09767	f MV	6+03E, 0+50S	nd	109
09755	sh MV	3+05W, 3+56S	20	40
09756	sh MV	2+08W, 2+00S	10	131
09757	sh MV	2+00W, 2+08S	nd	50
09758	sh MV	2+10W, 3+90S	nd	37
09759	sh MV	1+00W, 2+05S	5	141
09760	sh MV	1+15W, 2+95S	5	11
09761	sh MV	1+05W, 3+70S	nd	25
09777	sh MV	6+00E, 6+60N	5	50
09790	sh MV	14+35E, 2+95S	nd	40
09787	sh MV breccia	18+95E, 0+10S	nd	45
09762	sh, bl, MV	1+25E, 2+25E	10	120
09772	sh, bl, MV	3+55E, 6+70S	35	111
09773	BIF	3+55E, 6+80S	90	158
09784	BIF	18+75E, 3+25S	15	54
09785	BIF	18+90E, 3+15S	nd	27
09786	sil. MV or sediment	19+00E, 0+15S	nd	60
09770	sil. siltstone	2+50E, 7+30N	15	15
09771	quartz-carb. veins in siltstone	3+00E, 6+80N	70	70
09779	quartz vein in mudstone	8+15E, 2+20S	nd	23
09774	limonitic lamprophyre	3+45E, 6+68S	5	137

See figure 5a for rock type descriptions.

The highest results obtained were from the quartz sulfide vein system at L4+00W, 0+75S which was exposed in TR-86-01. Gold and copper values from a grab of the sulphide vein were 2,835 ppb and 3,160 ppm respectively along with 9.1 ppm silver. A gold value of 320 ppm together with 115 ppm copper and 1.9 ppm silver was received from the surrounding barren quartz vein system. A banded iron fromation, sample # 09773, exposed by TR-86-04 and TR-86-05 returned 90 ppb gold and 158 ppm copper. Sample #09771 returned 70 ppb gold and 70 ppm copper from quartz-carbonate veins in a siltstone unit found outside the main grid area on the west shore of Shunsby Lake. From the remaining samples gold values ranging from 5 ppb to 35 ppb were received.

TRENCHING

The excavation of the trenches was undertaken using a John Deer Backhoe mounted on a S1 Model Muskeg Tractor. After the backhoe removed as much overburden as possible, shoveling cleared any remaining material. The trench was then washed with water utilizing a high pressure pump leaving a clean, well exposed surface.

Channel sampling was conducted at various intervals depending upon the rock type and/or quantity of mineralization present. Areas deemed the most interesting were sampled at 1-1.5 metre intervals with 2-3 metre intervals used over secondary areas. The channel sample was obtained by using a Stihl Model 350 saw with either a composite or diamond blade depending upon the hardness of the rock type encountered. Two parallel grooves approximately 3 cm apart were sawn to a depth of about 3 cm and then chiseled out over the desired interval.

The channel cut provides a more representative sample of the interval than chip sampling or blasting.

A total of seventeen trenches were stripped, mapped and sampled. The objective of the trenching program was to confirm the presence along strike of the major shear zone outlined by previous work programs as well as the testing of other targets located by the 1986 geological mapping program.

Trench target areas were determined from the geological mapping program with an attempt to expose the cataclastic zone and its contacts. Where no outcrop was present the zone was projected along strike and an attempt made to expose bedrock. Over much of the property the overburden cover was excessive and test pits dug to the 4 metre limit of the machine bottomed in sand and gravel.

Table 3 lists trench locations and sample numbers from the trenching program with detailed information contained on the trench maps, Figures 5a to 5r.

Table 4 lists trench number, sample numbers, interval length in metres and gold results in ppb for all samples of greater than or equal to 10 ppb.

Summary

The trenching program succeeded in delineating the shear zone along strike. This shear zone trends northwesterly-southeasterly with steep dips to the north and has been traced along strike from L 4+00W to L 35+70E for a total length of

3,970 metres. Other sub-parallel shear systems were noted in the mafic volcanics, but on a much smaller scale. A generalized section, north to south, across the zone shows it to be bounded by quartz diorite grading into cataclastic quartz diorite (a transitional unit), cataclasite and mafic volcanics. This sequence was consistent with the geological section obtained from the 1985 diamond drill program. Results of the trenching program were disappointing with only anomalous, but sub-economic gold values encountered.

TRENCH DATA

Table 3

Trench No.	Line	Station	Sample Numbers
TR-86-01	4+00W	0+75N - 1+15S	01738-01750, 09826-09832
TR-86-02	3+00W	0+15S - 0+60S	09833-09835
		0+68S - 0+85S	
TR-86-03	1+00W	3+00S - 3+80S	01623-01639
TR-86-04	3+50E	6+35S - 7+05S	01601-01617
TR-86-05	4+00E	6+35S - 6+60S	01618-01619
		6+72S - 7+01S	
TR-86-06	5+00E	1+40N - 0+75N	09836-09839
TR-86-07	15+50E	3+76N - 3+35N	01693-01698
TR-86-08	16+00E	1+98.5N - 1+43.5N	01687-01692
TR-86-09	16+00E	0+62N - 0+10N	01678-01686
TR-86-10	16+75E	0+75N - 0+31N	01675-01677
TR-86-11	18+85E	0+05N - 0+55S	01661-01674
TR-86-12	19+00E	1+06S - 1+51S	01651-01660
TR-86-13	22+00E	0+60N - BLO	01640-01650, 01701-01704
		0+15S - 0+52S	
TR-86-14	24+00E	0+05N - 0+50S	01705-01709
TR-86-15	31+50E	0+89N - 0+63N	01710-01713
TR-86-16	33+20E	1+98N - 1+55N	01714-01726
TR-86-17	35+70E	1+82N - 1+37N	01727-01737

TABLE 4

Trench	Sample No.	Interval Length (metres)	Gold Value (ppb)	Sample No.	Interval Length (metres)	Gold Value (ppb)	Sample No.	Interval Length (metres)	Gold Value (ppb)
TR-86-01	01738	2.3	20	01739	2.0	10	01740	1.0	30
	01741	1.0	80	01742	1.0	170	01743	1.0	30
	01744	1.0	30	01746	1.0	650	01747	1.0	110
	01748	1.0	115	01749	1.7	140	01750	0.3	5140
	09826	2.0	65	09827	2.0	40	09829	2.0	45
	09831	2.0	10	09832	2.3	15			
TR-86-02	09835	2.2	240						
TR-86-03	01627	3.0	260	01628	3.0	25	01635	5.0	10
	01639	5.0	20						
TR-86-04	01602	1.0	140	01603	1.0	80	01604	1.0	25
	01605	1.0	20	01617	2.0	10			
TR-86-05	01619	2.5	15						
TR-86-06	09836	1.25	70	09837	1.25	70	09838	2.0	60
	09839	1.70	140						
TR-86-09	01678	2.0	20						
TR-86-10	01675	2.0	20	01676	2.0	80			
TR-86-11	01662	2.5	30	01666	2.5	20	01669	2.5	50
	01672	3.0	40	01673	2.0	40			
TR-86-12	01658	2.0	10	01659	3.0	10			
TR-86-13	01641	2.0	10	01642	1.5	10	01647	1.0	15
TR-86-14	01705	3.5	15	01707	1.75	20			
TR-86-15	01713	1.5	15						
TR-86-16	01720	2.0	40	01721	1.8	10			
TR-86-17	01729	2.0	15	01730	2.0	20			

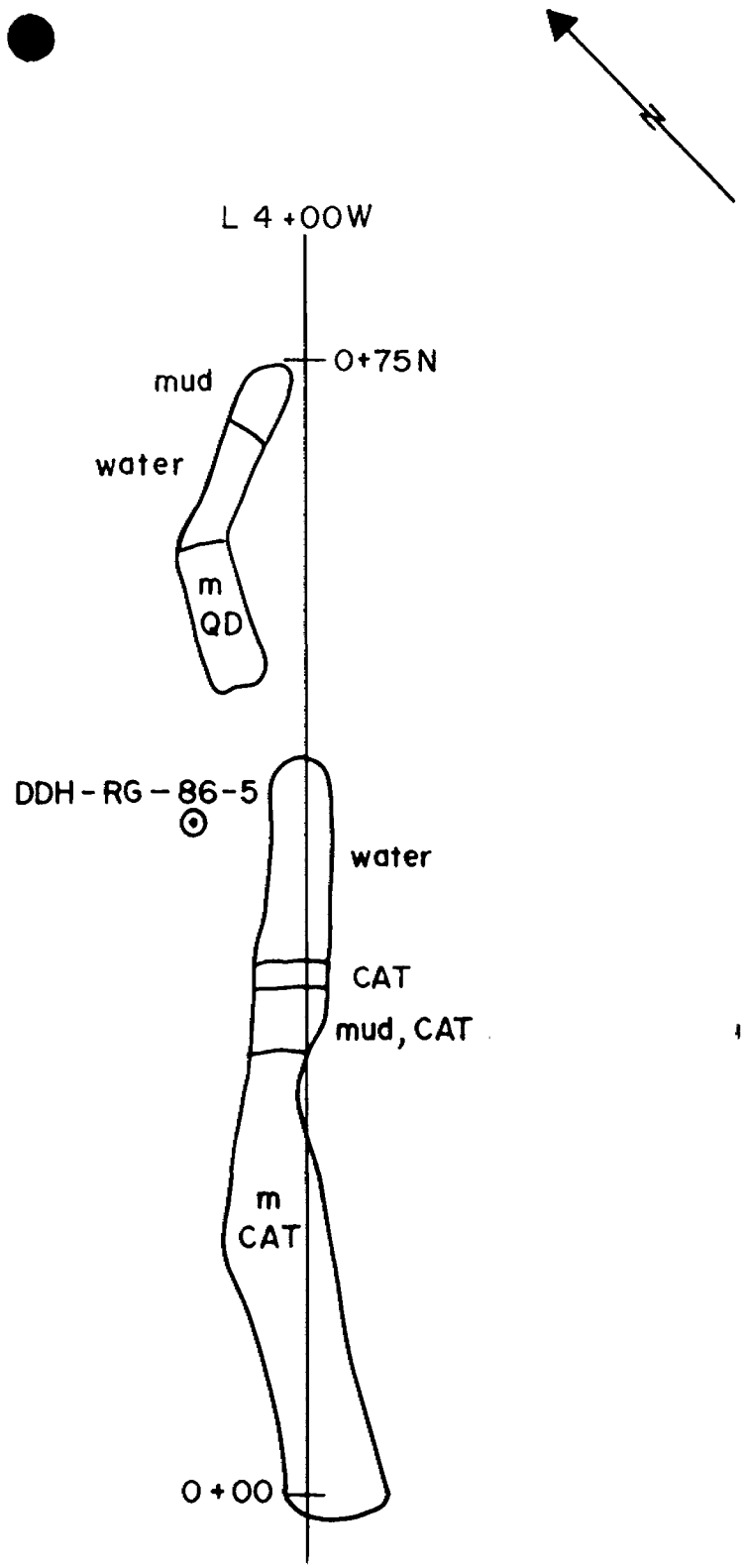
Detailed Trench Geology

TR-86-01

Quartz diorite occurs at the north end of the trench as a massive, equigranular intrusive with weak hematite and silica alteration and contains some porphyritic feldspars. Fractures trending 130/80°N over this section were gossaned and contained minor amounts of disseminated pyrite. A section of quartz diorite roughly 50 metres south of the baseline was found to contain chalcopyrite and malachite as disseminations and along fracture planes.

The cataclasite zone resembled the quartz diorite, but has undergone more intense alteration and the intrusive texture had been destroyed. Alteration included weak to moderate carbonate, hematite, sericite and silica. A variable competancy existed throughout the cataclasite with fractured areas having a stronger alteration imprint and heavier gossanous stains. The fracture systems trended approximately 115/75°N. The zone of quartz diorite/cataclastic quartz diorite was intensely silicified as a result of extensive quartz flooding producing small veins, clots and swells up to 0.5 metres wide. At the mafic volcanic contact a 2-3 metre wide zone contains a convoluted mass of quartz veins and swells. Generally veins are barren, but some wallrock fragments and small areas of sulfide enrichment containing up to 5% pyrite were noted. Of particular interest in this area was a 30 centimetre wide vein containing up to 50% massive pyrite with some chalcopyrite and malachite. The vein can be traced on surface for approximately 8 metres before disappearing under overburden.

Of the 20 samples collected from this trench most returned at least weakly



GEOLOGICAL LEGEND

BIF	Banded iron formation
CAT	Cataclasite
CCS	Chloritic carbonate schist
CQD	Cataclastic Quratz Diorite
DIAB	Diabase dike
LAMP	Lamprophyre dyke
MLT	Mafic lapilli tuff
MV	Mafic volcanics
MYL	Mylonite
MST	Mudstone / Siltstone
QBS	Quartz biotite schist
QD	Quartz diorite
QRY	Quartz eye rhyolite
Ft	Felsic tuff
At	Andesite tuff
It	Intermediate tuff

ABBREVIATIONS

bi	biotite
cp	chalcopyrite
fu	fuchsite
graph	graphitic
mag	magnetite
porpb	porphyroblast
py	pyrite
qtz	quartz
sp	specular hematite
tour	tourmaline
bl	bleached
bn	banded
bx	brecciated
f	foliated
m	massive
sh	sheared
tr	trace

ALTERATIONS

Note: Alterations are underlined

Moderate	Strong	
ca	CA	carbonate
chl	CHL	chloritic
ep	EP	epidotic
hem	HEM	hematite
se	SE	sericite
sil	SIL	siliceous

SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5a

TRENCH – 86 – 1

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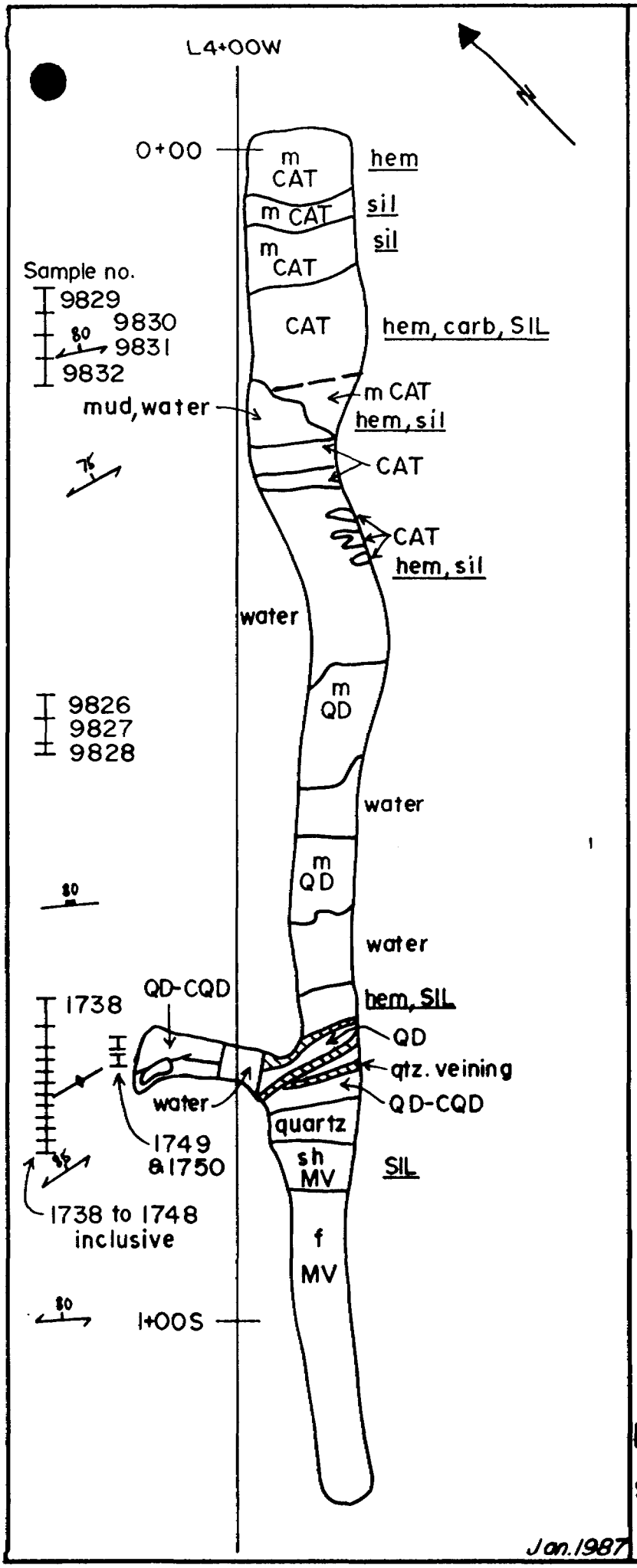
SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST

Jan. 1987



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SYMBOLS

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- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5b

TRENCH – 86 – 1

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anomalous gold results. The highest gold value obtained was 5,140 ppb (.15 oz/ton) coupled with 5.9 ppm silver and 2,140 ppm copper over the 30 centimetre quartz sulfide vein. A 1.7 metre section of the wallrock from either side of this vein returned values of 140 ppb gold, 0.7 ppm silver and 295 ppm copper.

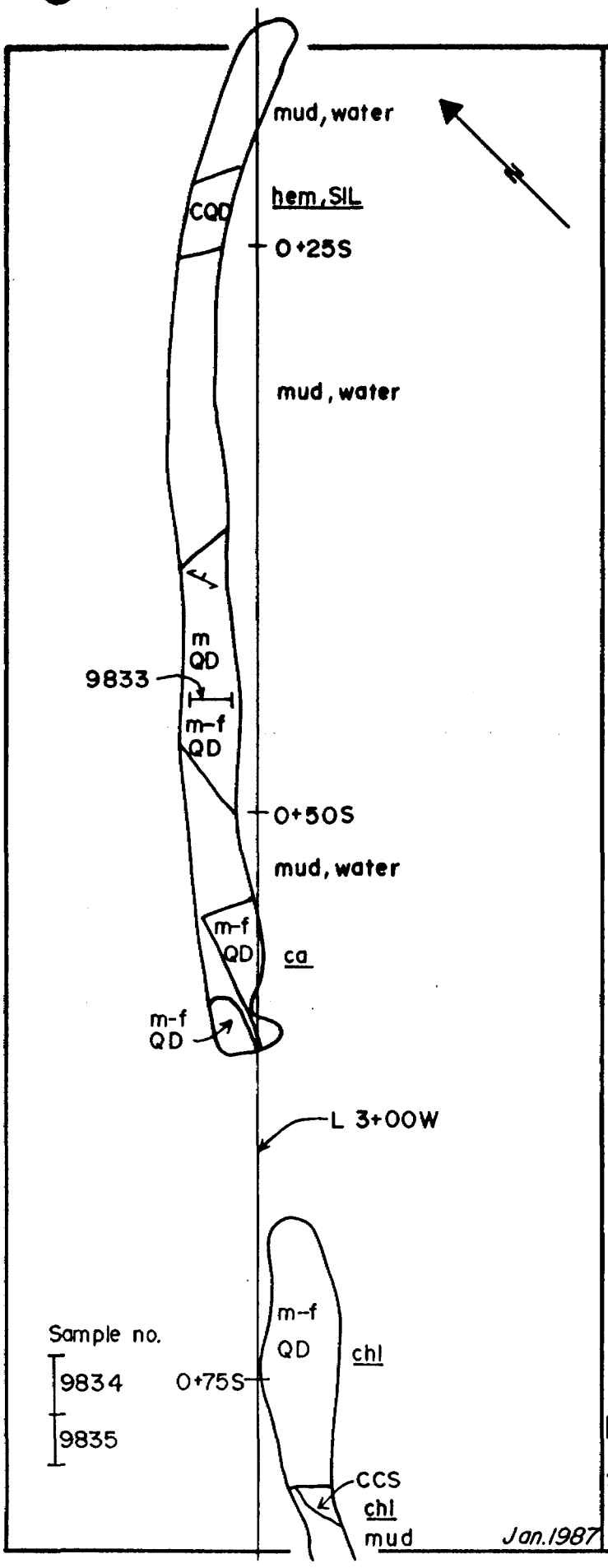
Anomalous gold values were also obtained from the silicified quartz diorite/cataclastic quartz diorite, see table 4, and from the area of quartz flooding at the volcanic contact.

TR-86-02

This trench consists of 2 pits separated by an 8 metre exposure of quartz diorite. The longer northern trench experienced severe flooding problems reducing exposure to about 20%. A small section of cataclastic quartz diorite was mapped at the north end with the remainder being quartz diorite. The cataclastic quartz diorite showed intense fracturing with weak carbonatization and sericitization, moderate to strong hematization and susong silicification. Small quartz-carbonate and chlorite veinlets (less than 1 mm) were noted throughout. The unit was heavily gossaned, but with less than 1% visible sulfides.

The quartz diorite was massive to moderately foliated with weak to moderate carbonate alteration. A stockwork of narrow quartz veins occupied the middle section of the trench, though no sulfides were noted.

The smaller southern trench contained quartz diorite except for a 2 metre section of foliated mafic volcanics. The quartz diorite was massive to very



GEOLOGICAL LEGEND

BIF	Banded iron formation
CAT	Cataclasite
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DIAB	Diabase dike
LAMP	Lamprophyre dyke
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ALTERATIONS

Note: Alterations are underlined

Moderate	Strong	
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sil	SIL	siliceous

SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 5 10m

Figure 5c

TRENCH – 86 – 2

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weakly foliated, intensely chloritized and devoid of carbonate alteration. The mafic volcanics were dark green, well foliated and gossaned with moderate carbonate alteration.

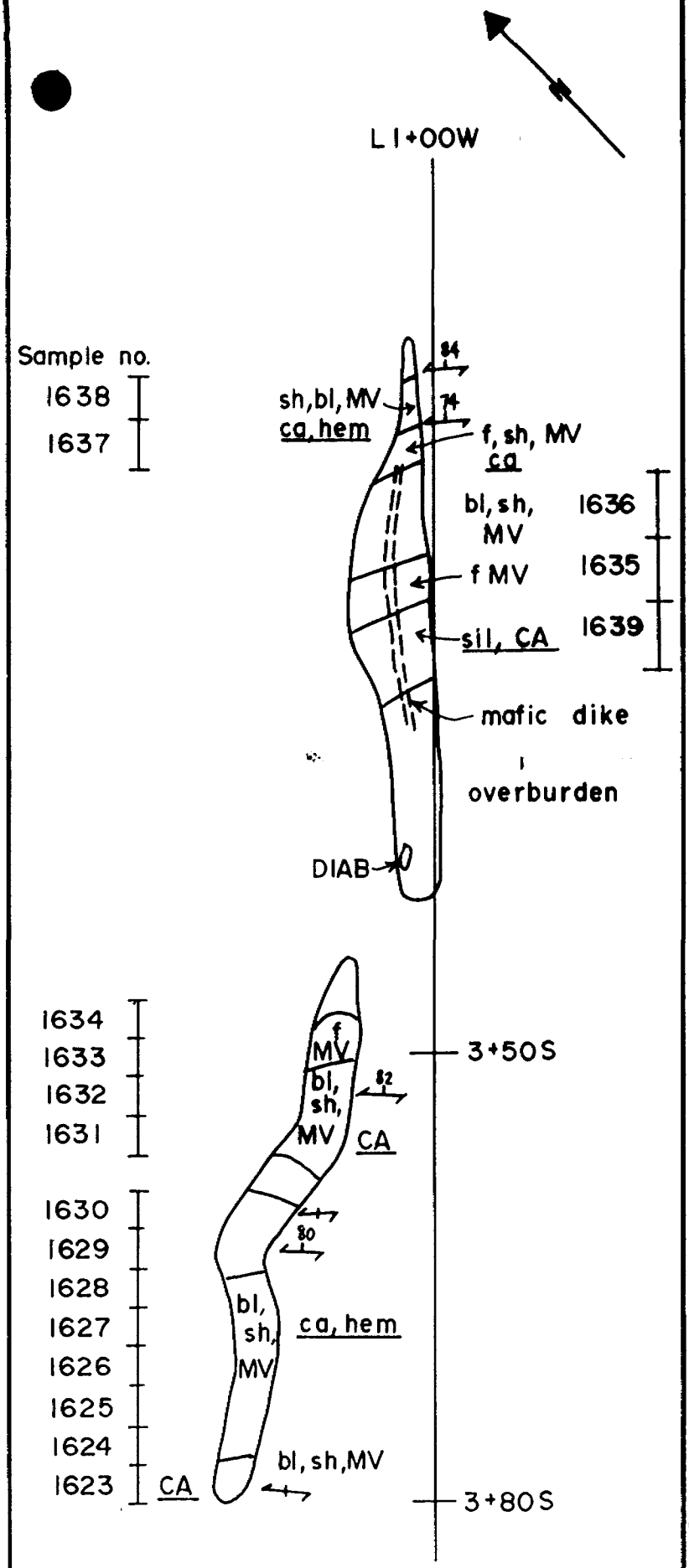
Foliation trends range from 108° in the middle to 130°-135° in the southern portions of the trench with steep northerly dips.

One gold anomaly of 240 ppb over a 2.2 metre interval was obtained from the southern end of the trench in an area of quartz veining near the mafic volcanic contact.

TR-86-03

This trench is underlain by mafic volcanics cut by a 15 metre diabase dyke. A pale to dark green foliated mafic volcanic with weak sericite and hematite alteration is the least altered rock. More intense shearing close to the diabase dyke shows an increase in sericite and hematite alteration. This gives rise to a reddish friable rock locally bleached to an off white colour. Carbonate alteration varies throughout the trench, but is generally moderate. Sulfide content was low throughout with less than 1% disseminated pyrite.

The diabase dyke was medium grained, weakly magnetic and pale greenish black with the typical "salt and pepper" diabasic texture. Minor gossan was observed in some sections and 1%-2% sulfides were common. Emplacement of the diabase in the mafic volcanics formed a 5 metre wide chill margin of fine grained, dense, dark green to black calcareous rock.



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GEOLOGICAL LEGEND

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QBS	Quartz biotite schist
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Ft	Felsic tuff
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ABBREVIATIONS

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ALTERATIONS

Note: Alterations are underlined

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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5d

TRENCH – 86 – 3

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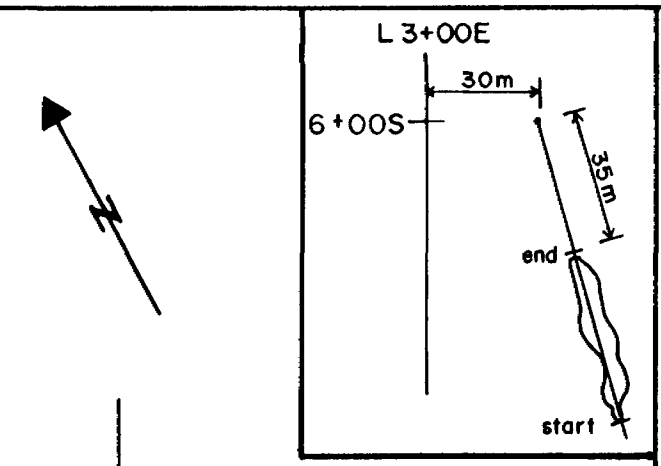
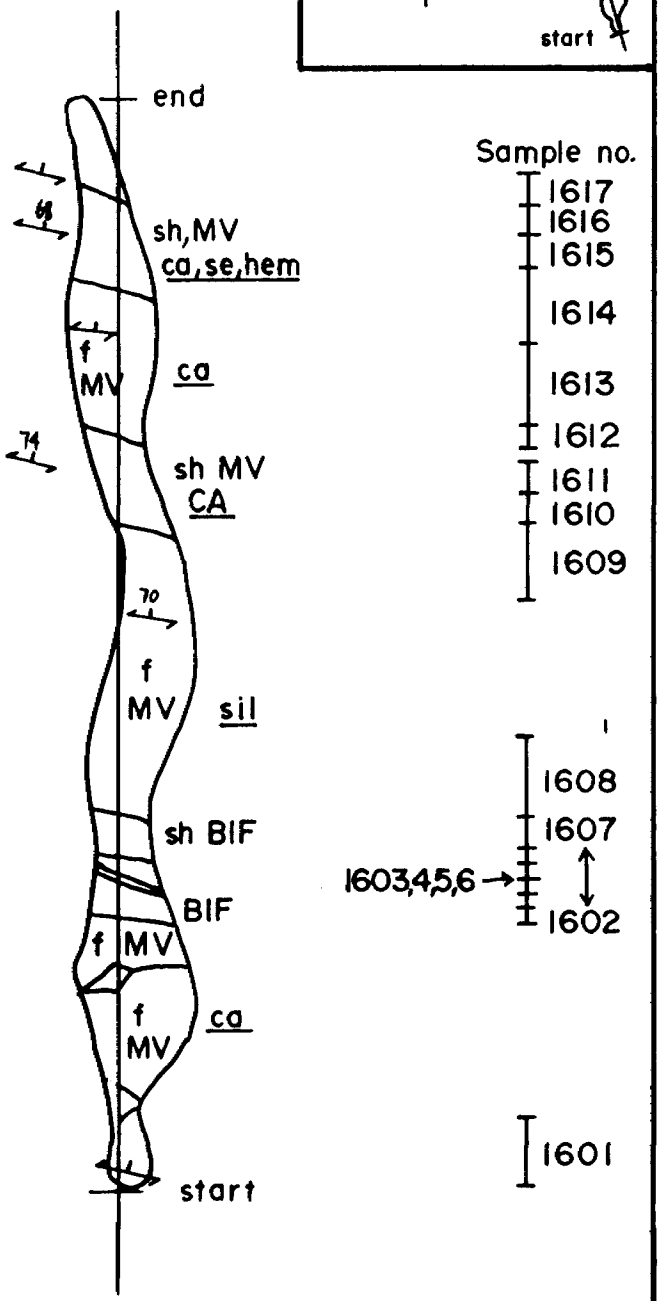
A gold high of 260 ppb over 3 metres was received from a section of sheared mafic volcanics containing a 5-6 centimetre wide rusty brown quartz vein that contained 5%-10% pyrite. An adjacent sample returned 25 ppb gold over 3 metres, this being the only other anomalous result from the 17 samples collected.

TR-86-04 and TR-86-05

These trenches exposed an iron formation unit within the mafic volcanics discovered during the mapping program. The iron formation consisted of thin discontinuous chert-magnetite bands (0.5-3 mm) containing 2%-10% sulfides as disseminations and thin veinlets with pyrite cubes up to 2 mm. Occasionally thin layers of bleached mafic volcanics were found interlayered with the chert bands. Chert was also noted as nodules up to 7 mm. Banding is parallel to the foliation seen in the enclosing volcanics, 130/70°N. Late stage barren quartz-limonite veinlets cut the iron formation. The contacts with the mafic volcanics are sharp. Moderate hematite occurs along with 2%-5% disseminated pyrite over the first metre of the volcanics. The iron formation had a width of approximately 6 metres in TR-86-04 and 3 metres in TR-86-05.

Foliated mafic volcanics comprise the bulk of the trenches. These are medium to dark green showing pervasive carbonate alteration, weak to moderate hematite in section and 1%-2% disseminated pyrite with minor to moderate gossan. Tension gashes and quartz veins were also present, with up to 15% sulfides seen in some veins. At the south end of both trenches the mafic volcanics were extensively chevron folded, the axial surface striking 158° plunge unknown with antiformal chevron folds trending 175/62°N to synformal open folds trending 176/43°N. Bleached tuffs were seen at the north end of both trenches with weak





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bn	banded
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m	massive
sh	sheared
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ALTERATIONS

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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5e

TRENCH – 86 – 4

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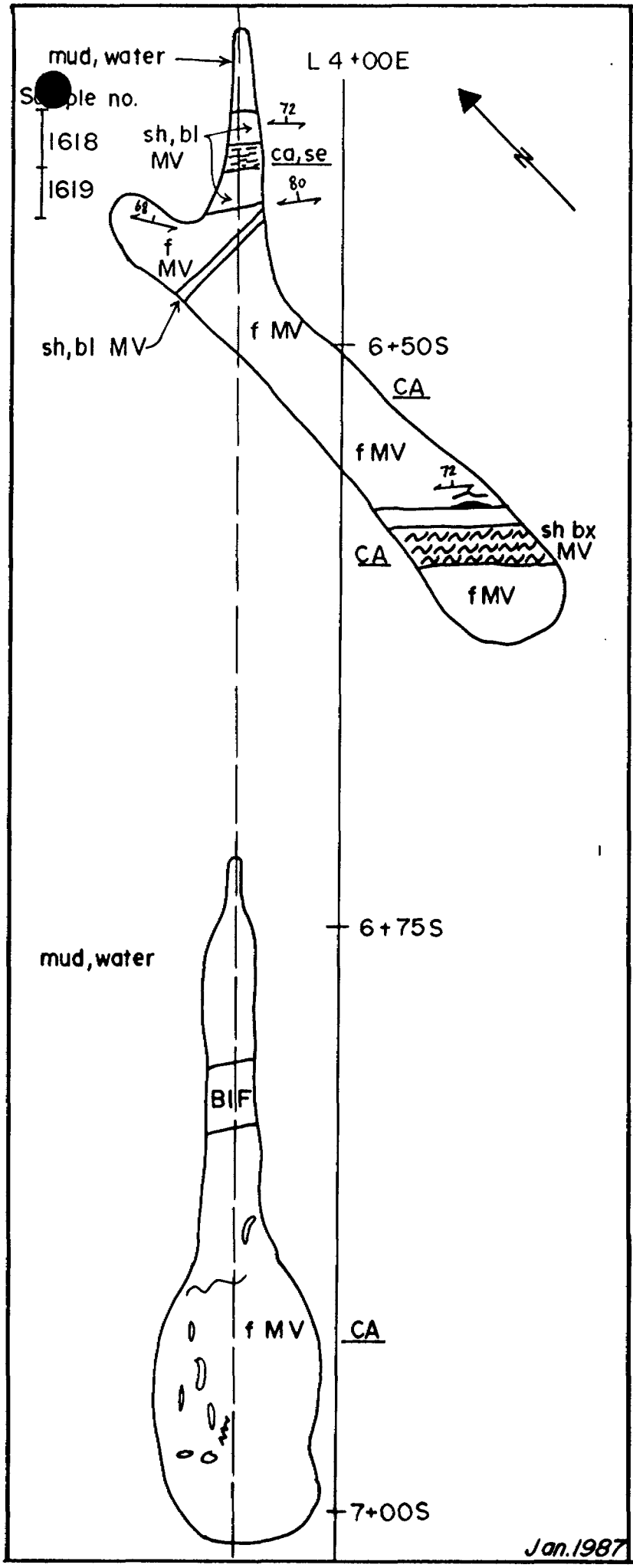

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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 5 10m

Scale 1:250

Figure 5f

TRENCH – 86 – 5

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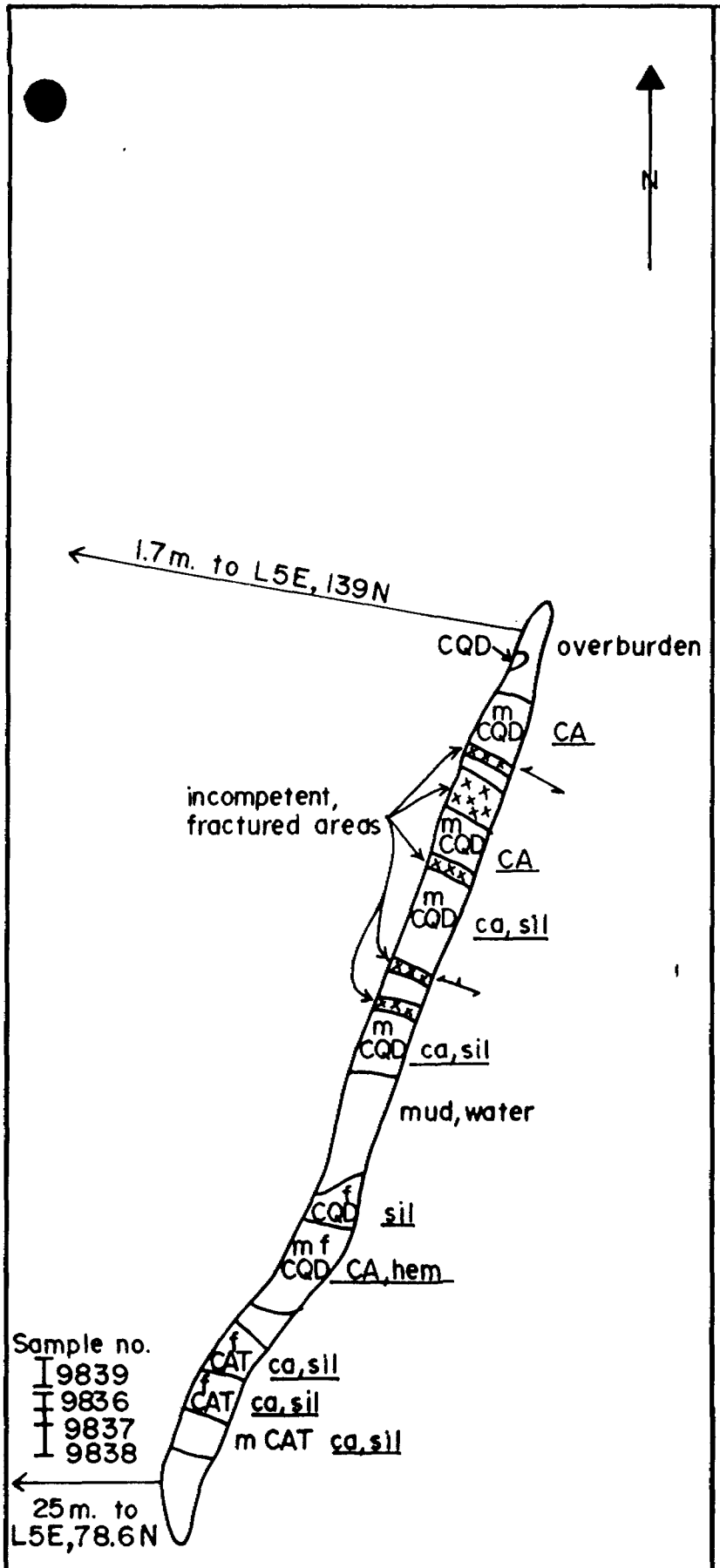
to strong foliation, moderate carbonate and sericite alteration and strong pervasive gossan. Sulfides consisted of 1%-2% disseminated pyrite as subhedral to euhedral crystals.

Samples #01602, #01603 and #01604 returned anomalous gold values of 140, 80 and 25 ppb respectively. Each interval was 1 metre in length and all are from the banded iron formation. Copper values over the iron formation ranged from 94 ppm to 308 ppm and were generally higher than those found over the mafic volcanics. No anomalous results were received from TR-86-05.

TR-86-06

This trench, excavated in 1985, was extended in an attempt to expose the volcanic contact at the south end. Virtually the entire trench was mapped as cataclastic quartz diorite, though the distinction between this and the cataclasite is difficult to make on weathered material. A 7 metre zone of cataclasite was uncovered at the southern end of the trench.

The cataclastic quartz diorite exhibited slight variation throughout the trench, but was generally pale green, weakly foliated, with weak to moderate carbonate hematite, sericite and silica alteration. Sulfide content was low, less than 1%-2% disseminated pyrite. An 8 metre section of strongly hematitic cataclastic quartz diorite occurs at approximately 13 metres north of the trench's south end. North of this hematitic zone the chlorite content increases to 25%, as blebs and stringers before dropping off to about 5% in the northern third of the trench.



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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 5 10m

Scale 1:250

Figure 5g

TRENCH – 86 – 6

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The 7 metre section of cataclasite exposed at the southern end of the trench was also a pale green colour with moderate to strong carbonate (as blebs within quartz-sericite), sericite, and weak to moderate silica alteration. Quartz-carbonate, chlorite veins are found crosscutting the foliation. Sulfides are present as disseminations up to 10% pyrite.

Four samples, #09839, #09836, #09837 and #09838 of the cataclasite returned gold values of 140, 70, 70 and 60 ppb over intervals of 1.7, 1.25, 1.25 and 2.0 metres respectively. Copper and silver values were low.

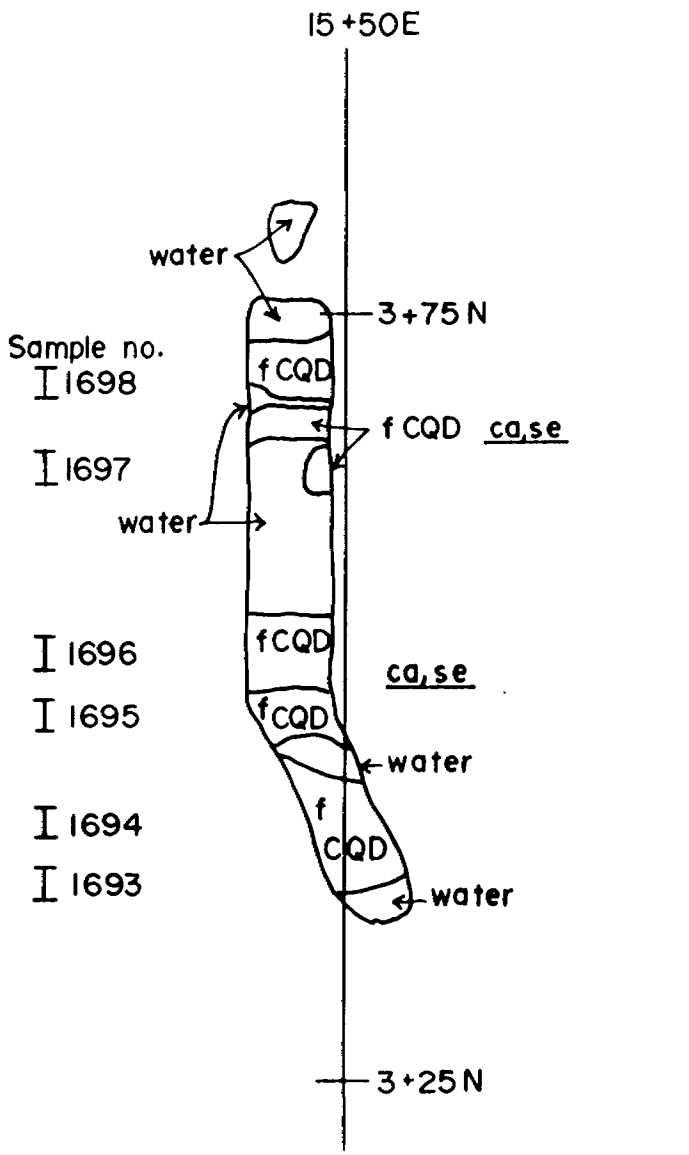
TR-86-07

This trench was completely underlain by cataclastic quartz diorite except for a 0.5 metre lens of foliated mafic volcanics. Overall appearance of the cataclastic quartz diorite is a foliated, pale greenish-white, fine grained intruisve rock. Up to 10% porphyritic quartz eyes and 15% porphyritic feldspars were found sporadically throughout the northern part of the trench dropping to about 5% at the south end. Alteration consists of weak to moderate carbonate and moderate sericite. Only traces of disseminated pyrite was found.

Six samples were collected containing no appreciable gold values.

TR-86-08

The trench is completely underlain by quartz diorite that has been subjected to varying stress and alteration. A well foliated and sheared variety contained moderate chlorite and hematite alteration as hairline to 1 cm bands trending 125/80°N. Up to 5% porphyritic feldspar crystals and occasional quartz



GEOLOGICAL LEGEND

BIF	Banded iron formation
CAT	Cataclasite
CCS	Chloritic carbonate schist
CQD	Cataclastic Quratz Diorite
DIAB	Diabase dike
LAMP	Lamprophyre dyke
MLT	Mafic lapilli tuff
MV	Mafic volcanics
MYL	Mylonite
MST	Mudstone / Siltstone
QBS	Quartz biotite schist
QD	Quartz diorite
QRY	Quartz eye rhyolite
Ft	Felsic tuff
At	Andesite tuff
It	Intermediate tuff

ABBREVIATIONS

bi	biotite
cp	chalcopyrite
fu	fuchsite
graph	graphitic
mag	magnetite
porpb	porphyroblast
py	pyrite
qtz	quartz
sp	specular hematite
tour	tourmaline
bl	bleached
bn	banded
bx	brecciated
f	foliated
m	massive
sh	sheared
tr	trace

ALTERATIONS

Note: Alterations are underlined

Moderate	Strong	
ca	CA	carbonate
chl	CHL	chloritic
ep	EP	epidotic
hem	HEM	hematite
se	SE	sericite
sil	SIL	siliceous

SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5h

TRENCH – 86 – 7

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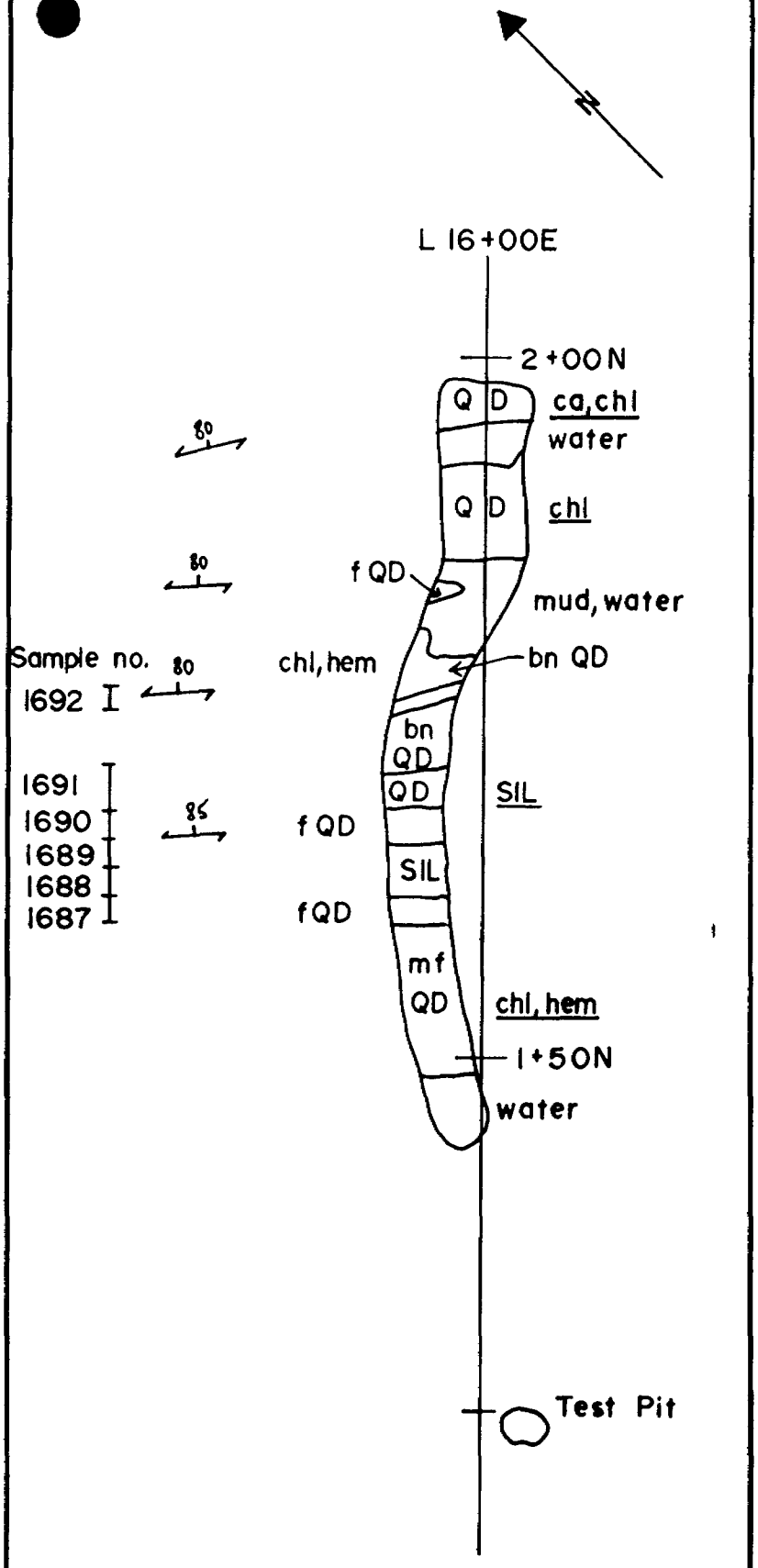

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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5i

TRENCH – 86 – 8

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eyes were also noted. Silicified quartz diorite is somewhat foliated with minor chlorite and hematite alteration, and has been invaded by numerous small quartz veins (3-10 cm) that pinch, swell and form clots. Chlorite is commonly found between the quartz and wallrock material. General trend of the veins is 120/80°N.

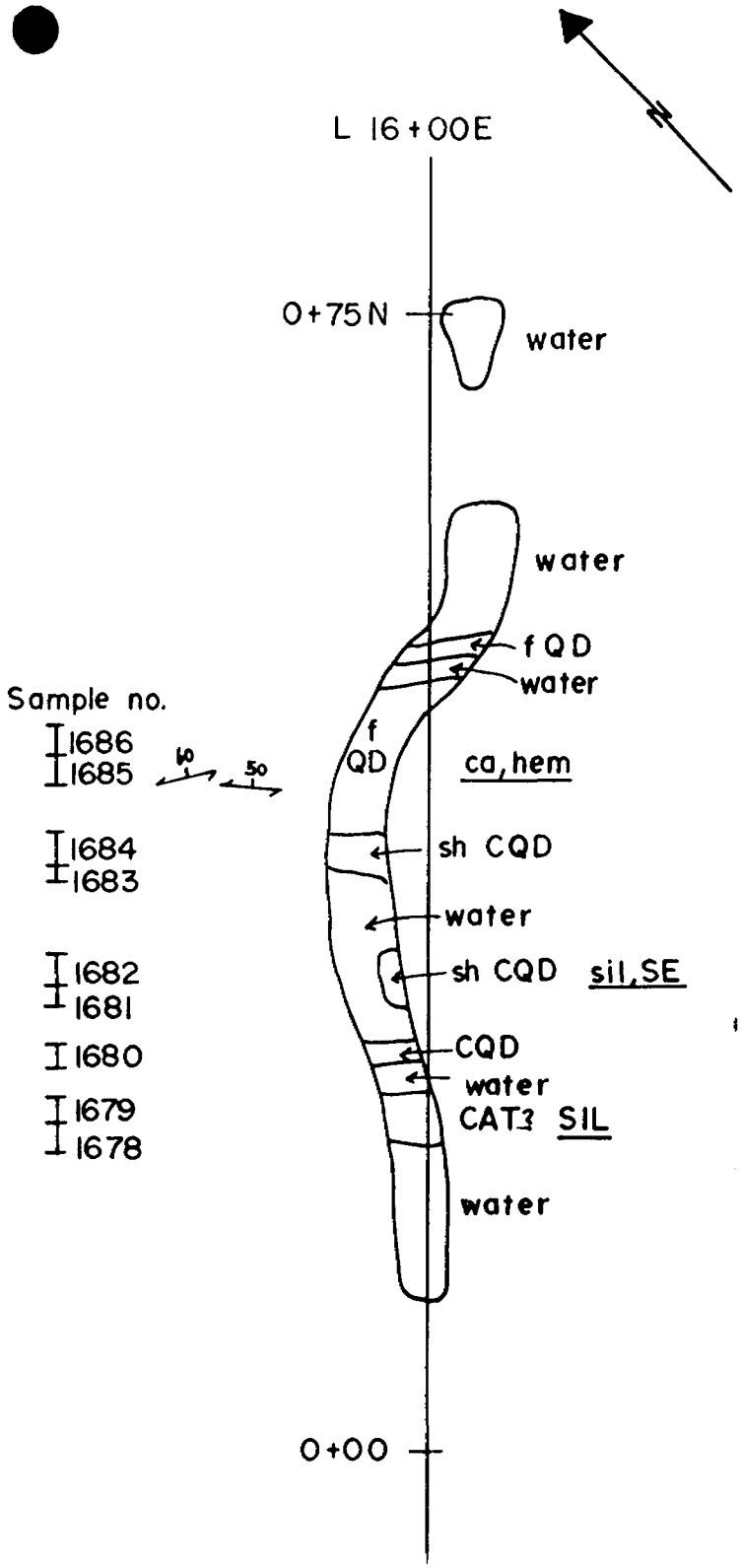
Assay results were disappointing with no detectable gold and low silver and copper values.

TR-86-9

From north to south rock types in this trench are quartz diorite, cataclastic quartz diorite and cataclasite. Rapid flooding during excavations at the south end of the trench prevented exposures of the mafic volcanic contact. The quartz diorite was a medium grained, mottled red and green, weakly to moderately foliated rock with up to 10% porphyritic feldspar and 5% porphyritic quartz eyes. Moderate to strong hematite, weak to moderate carbonate and weak sericite alteration has occurred. The general foliation trend averaged 130/60°N. The cataclastic quartz diorite was pale green and strongly foliated with some relic feldspar crystals and less than 5% porphyritic quartz eyes. Alteration included weak to moderate silicification and strong sericite +/- epidote. The cataclasite was similar to the cataclastic quartz diorite, but more intensely silicified.

TR-86-10

Two small trenches were excavated before overburden depth became excessive. The northern end of the trenches contains dark green chloritic quartz diorite



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GEOLOGICAL LEGEND

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QBS	Quartz biotite schist
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QRY	Quartz eye rhyolite
Pt	Felsic tuff
At	Andesite tuff
It	Intermediate tuff

ABBREVIATIONS

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cp	chalcopyrite
fu	fuchsite
graph	graphitic
mag	magnetite
porpb	porphyroblast
py	pyrite
qtz	quartz
sp	specular hematite
tour	tourmaline
bl	bleached
bn	banded
bx	brecciated
f	foliated
m	massive
sh	sheared
tr	trace

ALTERATIONS

Note: Alterations are underlined

Moderate	Strong	
ca	CA	carbonate
chl	CHL	chloritic
ep	EP	epidotic
hem	HEM	hematite
se	SE	sericite
sil	SIL	siliceous

SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5j

TRENCH – 86 – 9

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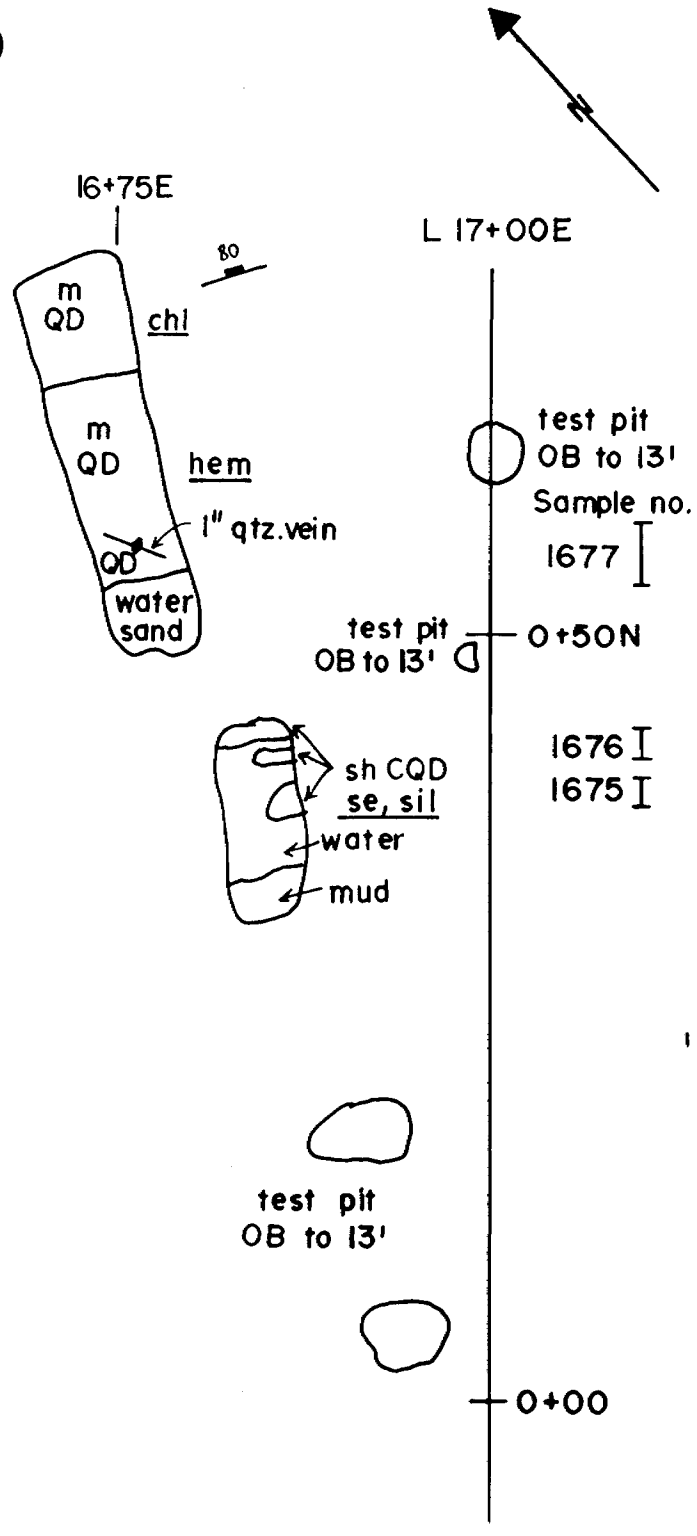

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Moderate	Strong	
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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5k

TRENCH – 86 – 10

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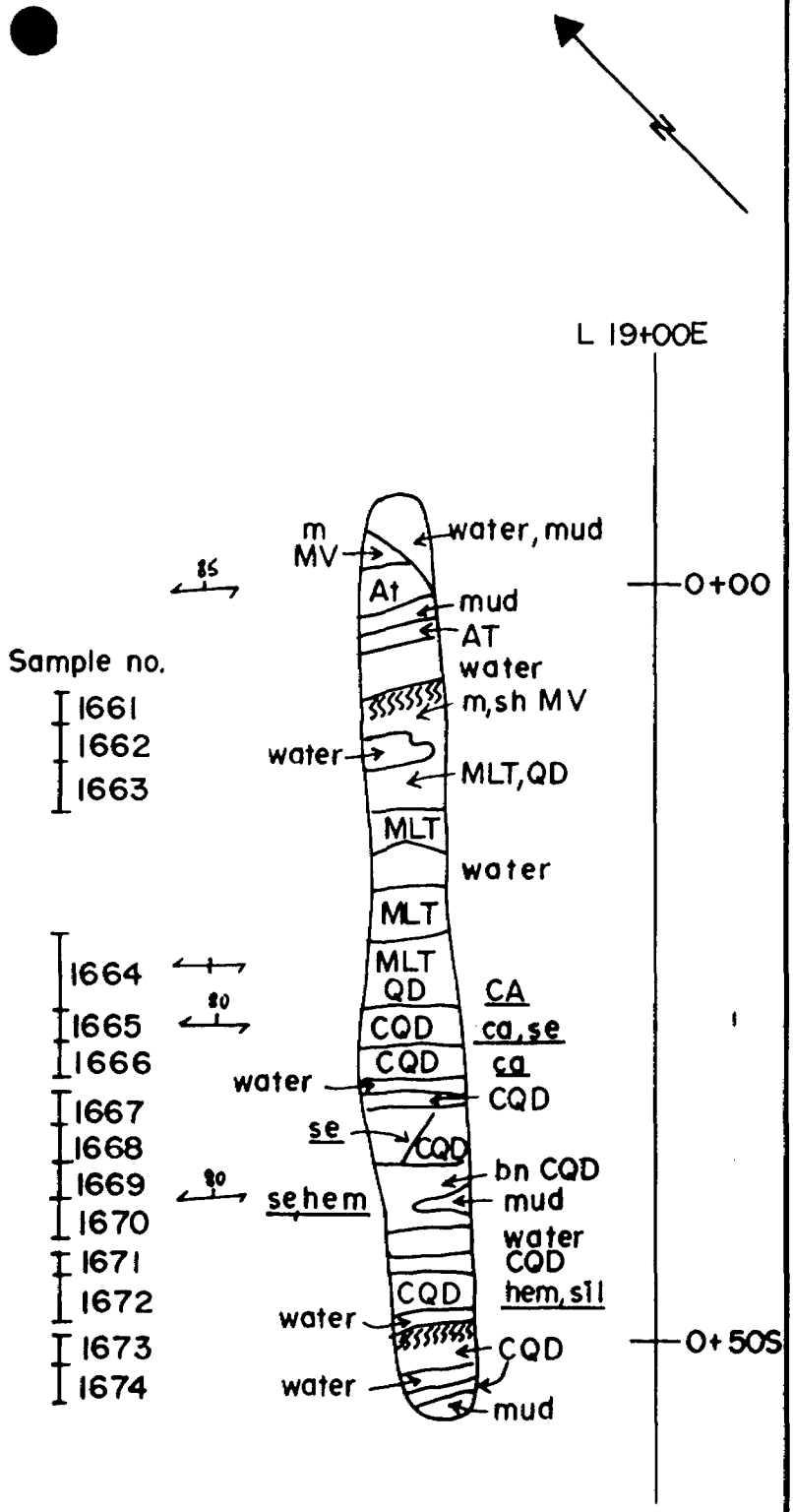
with minor hematite and carbonate alteration. This is bounded to the south by a distinctly red hematitic quartz diorite that contained 1%-2% disseminated sulfides. The cataclastic quartz diorite was pale green, highly sheared and friable with variable foliation trends (100/65°N to 135/80°N) and occasional relic feldspar crystals. Weak carbonate, moderate silica and moderate to strong sericite alteration was observed.

Three samples were taken from the trenches, one in the quartz diorite, returing negligible gold and two samples in the cataclastic quartz diorite returning gold values of 20 and 80 ppb.

TR-86-11

From north to south the trench is underlain by mafic volcanics, interlayered quartz diorite and mafic volcanics and cataclastic quaartz diorite. The mafic volcanics were massive and sheared andesitic tuffs and mafic lapilli tuffs. The massive and sheared tuffs were fine grained, medium green without any notable alteration and contained traces of pyrite. The sheared tuffs displayed a platey breakage along well developed foliation planes trending 120/85°N. The mafic lapilli tuff contained fragments up to 2 cm x 4 cm set in a fine grained mottled matrix of quartz-feldspar-chlorite along with some hematite and epidote-carbonate bands. The matrix also contained 2%-3% recrystallized quartz eyes.

The quartz diorite was a pale greenish-white rock, weakly foliated (133/90°) and contained 5%-10% porphyritic quartz eyes. The cataclastic quartz diorite was generally pale greenish-white with occasional relic feldspar crystals and up



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GEOLOGICAL LEGEND

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ABBREVIATIONS

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py	pyrite
qtz	quartz
sp	specular hematite
tour	tourmaline
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ALTERATIONS

Note: Alterations are underlined

Moderate	Strong	
ca	CA	carbonate
chl	CHL	chloritic
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hem	HEM	hematite
se	SE	sericite
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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 51

TRENCH – 86 – 11

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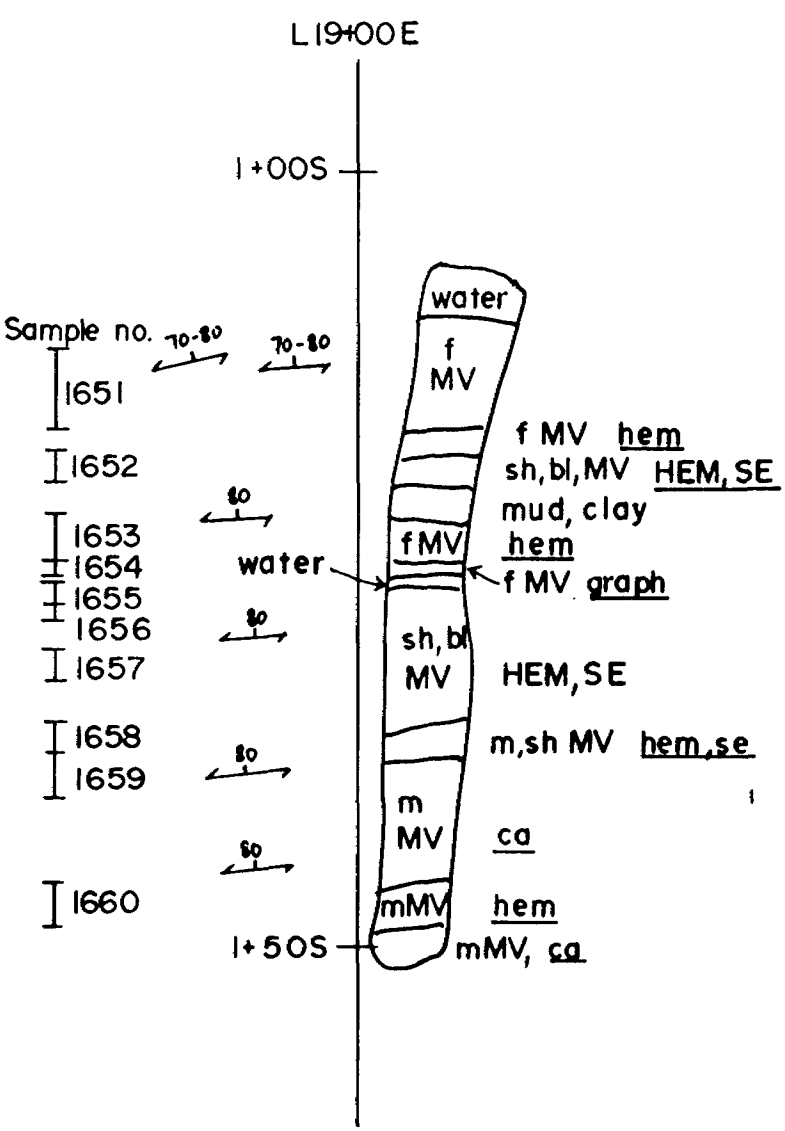
to 5% porphyritic quartz eyes. Alteration showed strong carbonatization, moderate sericitization and weak hematitization. Some sections appear banded, with alternating red hematitic and green chloritic bands. One 2.5 metre section was cross-cut by 0.5-5 mm discontinuous quartz veins and blebs. Foliations ranged from weak to very strong generally trending 130/80°N. Only minor amounts of pyrite were noted.

No anomalous values of copper and silver were detected and only weakly anomalous and sporadic gold values were obtained. A high of 50 ppb gold over 2.5 metres was returned from a sheared hematitic zone within the cataclastic quartz diorite. Two samples in the banded cataclastic quartz diorite at the south end of the trench returned values of 40 ppb gold over a total length of 4.5 metres.

TR-86-12

This trench is completely underlain by mafic volcanics. The foliated mafic volcanics were medium green with weak pervasive carbonate alteration while some sections also contained weak hematitic and sericitic alteration. The sheared and bleached mafic volcanics were a very pale greenish-white on fresh surface with strong pervasive sericite alteration. Heavy gossan made it difficult to obtain a fresh sample. Sulfides included 1% disseminated pyrite with some small (2-3 mm) bands also present. The massive mafic volcanics were very fine grained on weathered surface, but when broken up exhibited a platey almost slate-like cleavage/foliation trending 128/80°N. Weak carbonate and sericitic alteration was observed with one 3 metre wide hematitic zone at the south end. Weak gossan and 1% fine grained disseminated pyrite was observed throughout.



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GEOLOGICAL LEGEND

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Ft	Felsic tuff
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ABBREVIATIONS

bi	biotite
cp	chalcopyrite
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ALTERATIONS

Note: Alterations are underlined

Moderate	Strong	
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chl	CHL	chloritic
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hem	HEM	hematite
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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5m

TRENCH – 86 – 12

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Assays were disappointing with no anomalous gold or silver values detected.

TR-86-13

The contact zone could not be exposed at this location due to excessive overburden. A trench north of the baseline bog exposed quartz diorite while a southern pit uncovered mafic volcanics.

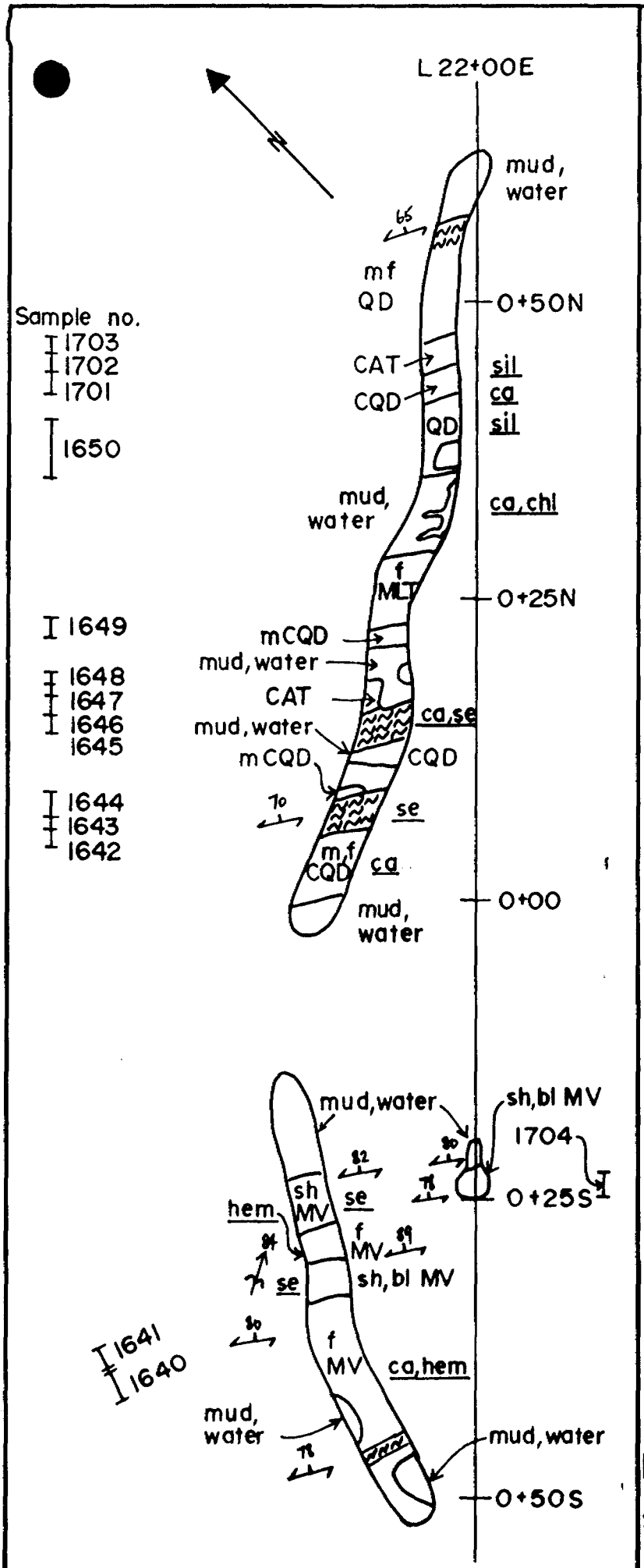
The northern trench contained thin sheared zones within the quartz diorite. The quartz diorite occurs as relatively fresh, fine to medium grained dykes with some porphyritic plagioclase crystals and variable amounts of chlorite. Sulfides consisted of less than 1% pyrite.

Mafic lapilli tuff bands contain 2-40 mm stretched, unsorted, subangular felsic fragments set in a chlorite-epidote matrix. This occurs as a massive to strongly foliated rock with 2%-3% disseminated pyrite seen in the foliated section. Sulfide content was generally low, approximately 1% disseminated pyrite with smaller sections containing up to 10% pyrite.

Assay results were low with no anomalous results detected.

TR-86-14

The southern half of the trench exposed weakly to moderately foliated, dark green fine grained mafic volcanics. Alteration consisted of weak carbonate and minor sericite along foliation planes. No sulfides were visible though gossan was found on the foliation planes. The remainder of the trench was underlain by



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ALTERATIONS

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SYMBOLS

- foliation
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- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5n

TRENCH – 86 – 13

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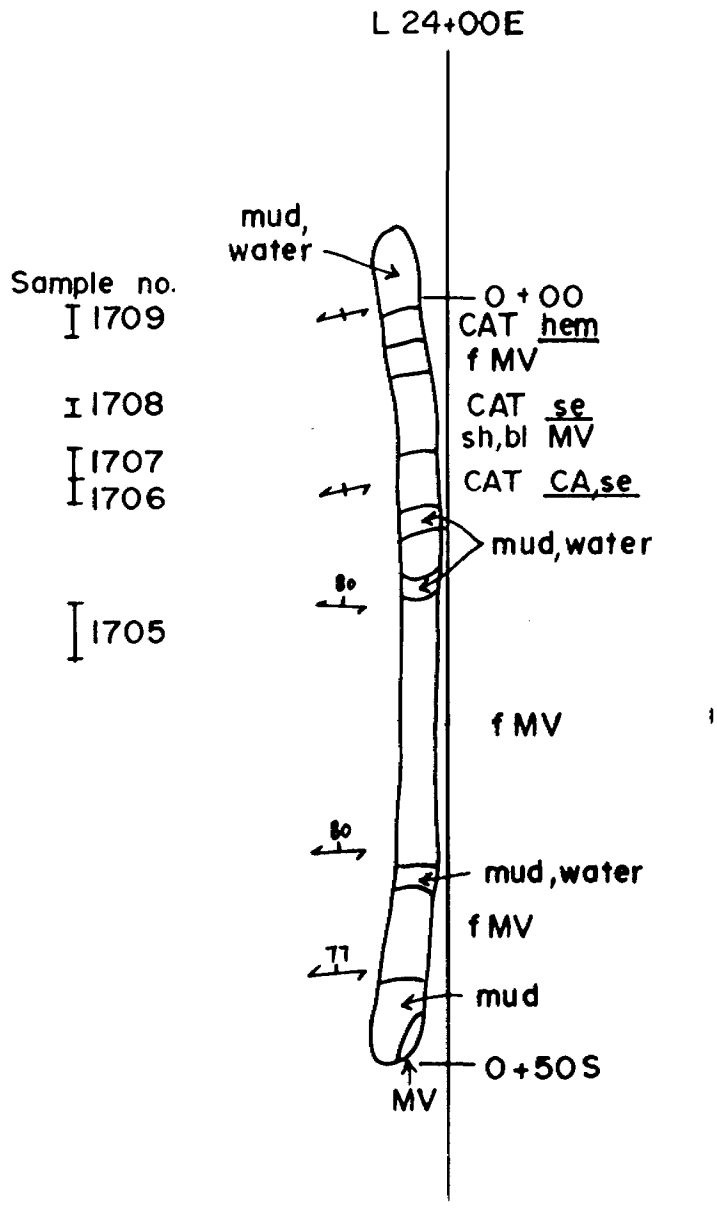

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- fault
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0 10 20m

Scale 1:500

Figure 5 o

TRENCH – 86 – 14

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aphanitic, light grey foliated cataclasite. It was strongly carbonate altered along with moderate hematite and sericite found at the north end. Sulfides were found as pyrite disseminations up to 2%.

No anomalous gold or silver values were received.

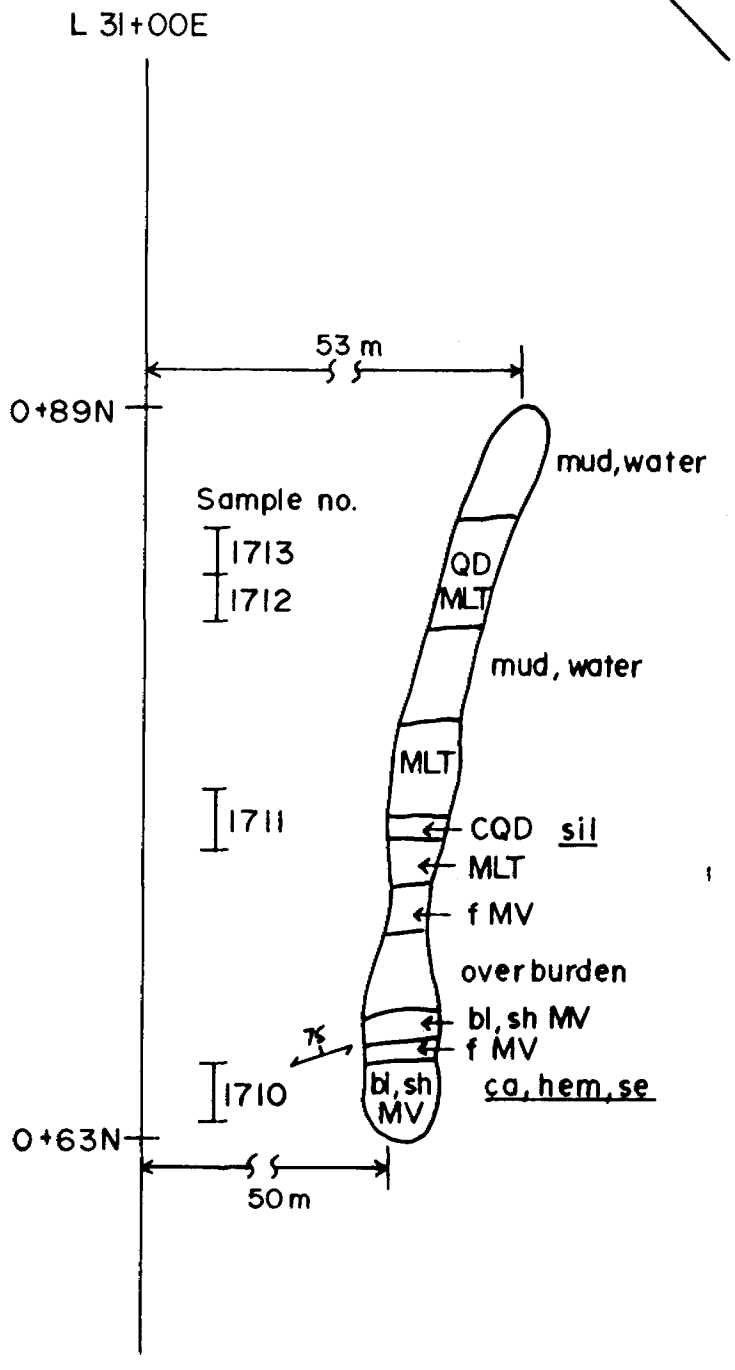
TR-86-15

The bulk of this trench was underlain by mafic volcanics and mafic lapilli tuff with some thin cataclastic quartz diorite dykes at the north end. Foliated and bleached mafic volcanics with weak carbonate, moderate hematitic and moderate to strong sericite alteration occur at the south end. Less than 1% disseminated pyrite was observed. The mafic lapilli tuff contained unsorted, subrounded felsic fragments (1 mm - 6 cm) set in a chlorite-epidote matrix. Fragments were stretched out along a trend of 115°. The cataclastic quartz diorite was pale green and aphanitic with very few clear quartz eyes. Sulfides consisted of less than 1% disseminated pyrite.

Assay results were low with no anomalous values detected.

TR-86-16 and TR-86-17

Both these trenches contain cataclasite in the northern end and cataclastic quartz diorite throughout the rest of the trench. The cataclastic quartz diorite was pale to dark green, fine to medium grained and massive to weakly foliated with a few plagioclase phenocrysts and porphyritic quartz eyes. Weak to moderate carbonate, silica, sericite and chlorite alteration was present. Sulfide content was generally low, less than 1% disseminated pyrite. The



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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 5 10m

Scale 1:250

Figure 5p

TRENCH – 86 – 15

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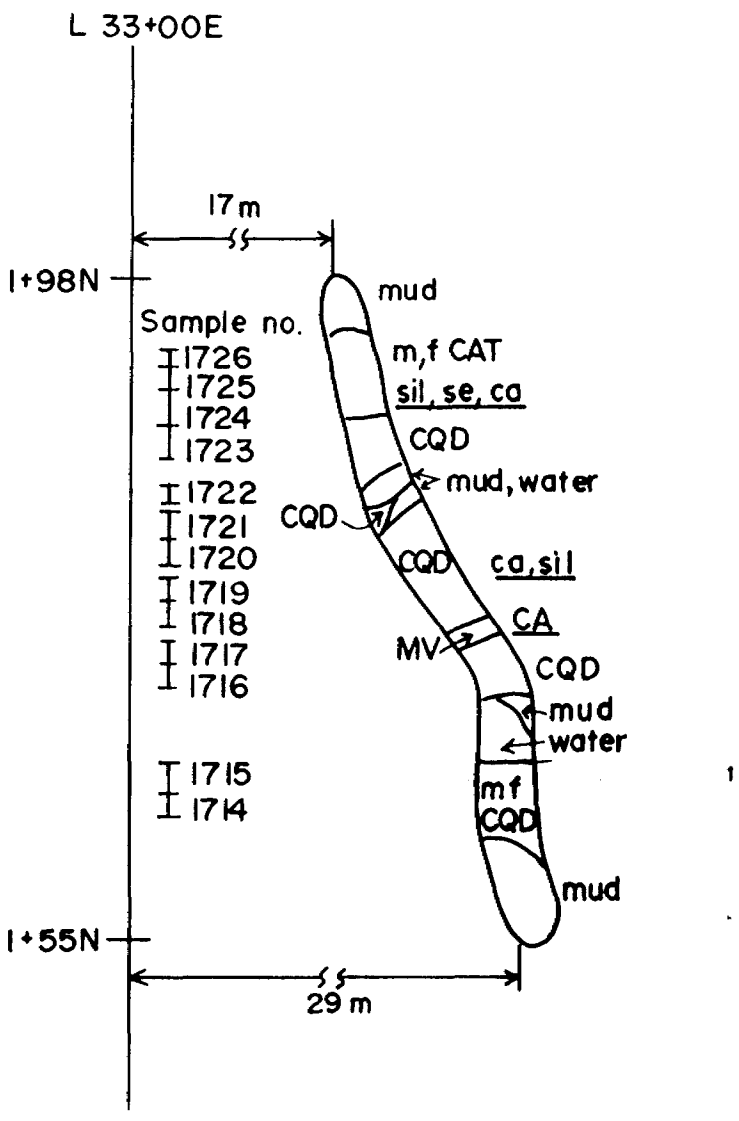

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SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 10 20m

Scale 1:500

Figure 5q

TRENCH – 86 – 16

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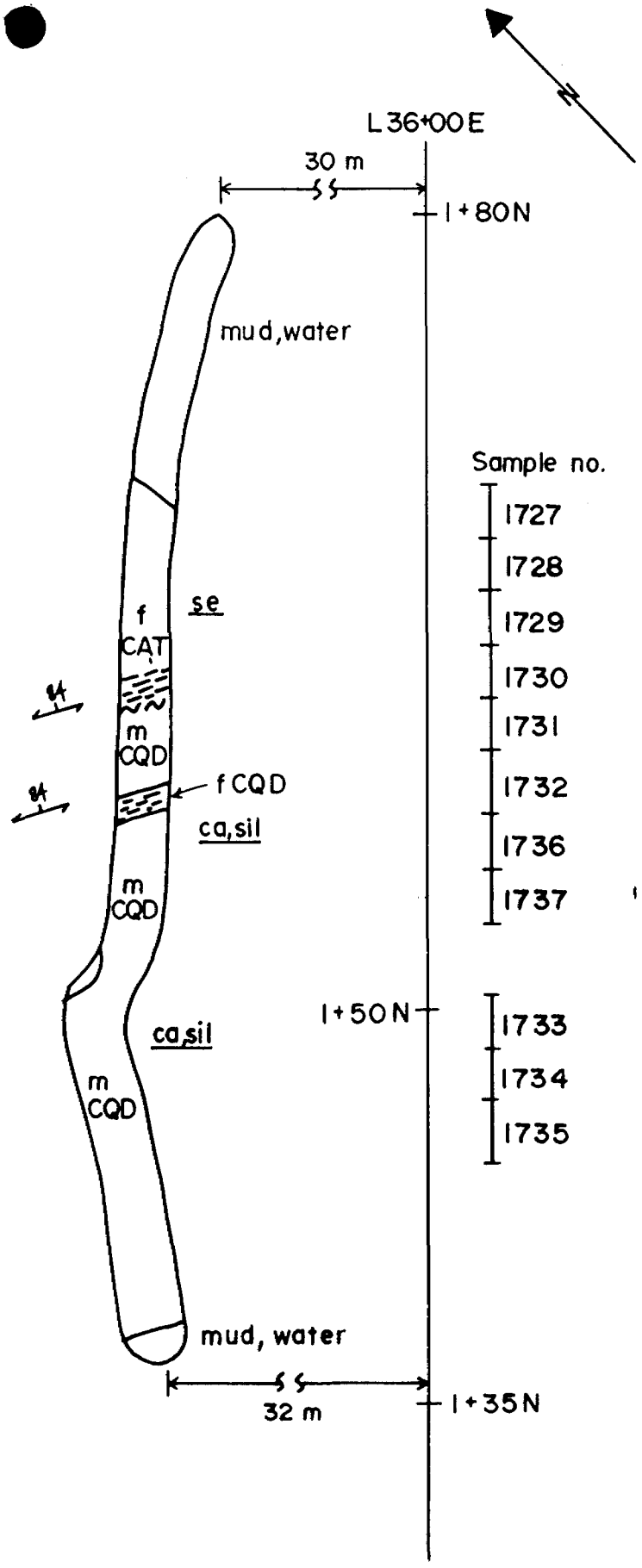
Jan. 1987

OREQUEST



Jan. 1987

GEOLOGICAL LEGEND

BIF	Banded iron formation
CAT	Cataclasite
CCS	Chloritic carbonate schist
CQD	Cataclastic Quratz Diorite
DIAB	Diabase dike
LAMP	Lamprophyre dyke
MLT	Mafic lapilli tuff
MV	Mafic volcanics
MYL	Mylonite
MST	Mudstone / Siltstone
QBS	Quartz biotite schist
QD	Quartz diorite
QRY	Quartz eye rhyolite
Ft	Felsic tuff
At	Andesite tuff
It	Intermediate tuff

ABBREVIATIONS

bi	biotite
cp	chalcopyrite
fu	fuchsite
graph	graphitic
mag	magnetite
porpb	porphyroblast
py	pyrite
qtz	quartz
sp	specular hematite
tour	tourmaline
bl	bleached
bn	banded
bx	brecciated
f	foliated
m	massive
sh	sheared
tr	trace

ALTERATIONS

Note: Alterations are underlined

Moderate	Strong	
ca	CA	carbonate
chl	CHL	chloritic
ep	EP	epidotic
hem	HEM	hematite
se	SE	sericite
sil	SIL	siliceous

SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared
- claim line

0 5 10m

Scale 1:250

Figure 5r

TRENCH – 86 – 17

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST

cataclasite was grey to pale green, aphanitic and weakly foliated with some clear quartz eyes.

Assay results were low throughout both trenches with no anomalous copper or silver values and only one weak gold anomaly of 40 ppb.

DIAMOND DRILLING

Introduction

Drilling commenced on the Swayze property in early October with the first phase of 1,175 metres completed by early November. D.W. Coates Enterprises of Vancouver, B.C. carried out the drilling under supervision of OreQuest Consultants Ltd.

First phase drilling consisted of 4 deep holes in the shaft area to test, at depth, those mineralized horizons intersected by the 1985 drilling.

During the second phase in early December one additional deep hole was completed in the shaft area and 5 short holes tested the IP anomalies to the southeast. This amounted to 955 metres for a total drill contract of 2,130 metres.

Overburden is generally less than 5 metres thick in the shaft area, however to the southeast along the geophysical trend this thickens to 15 metres.

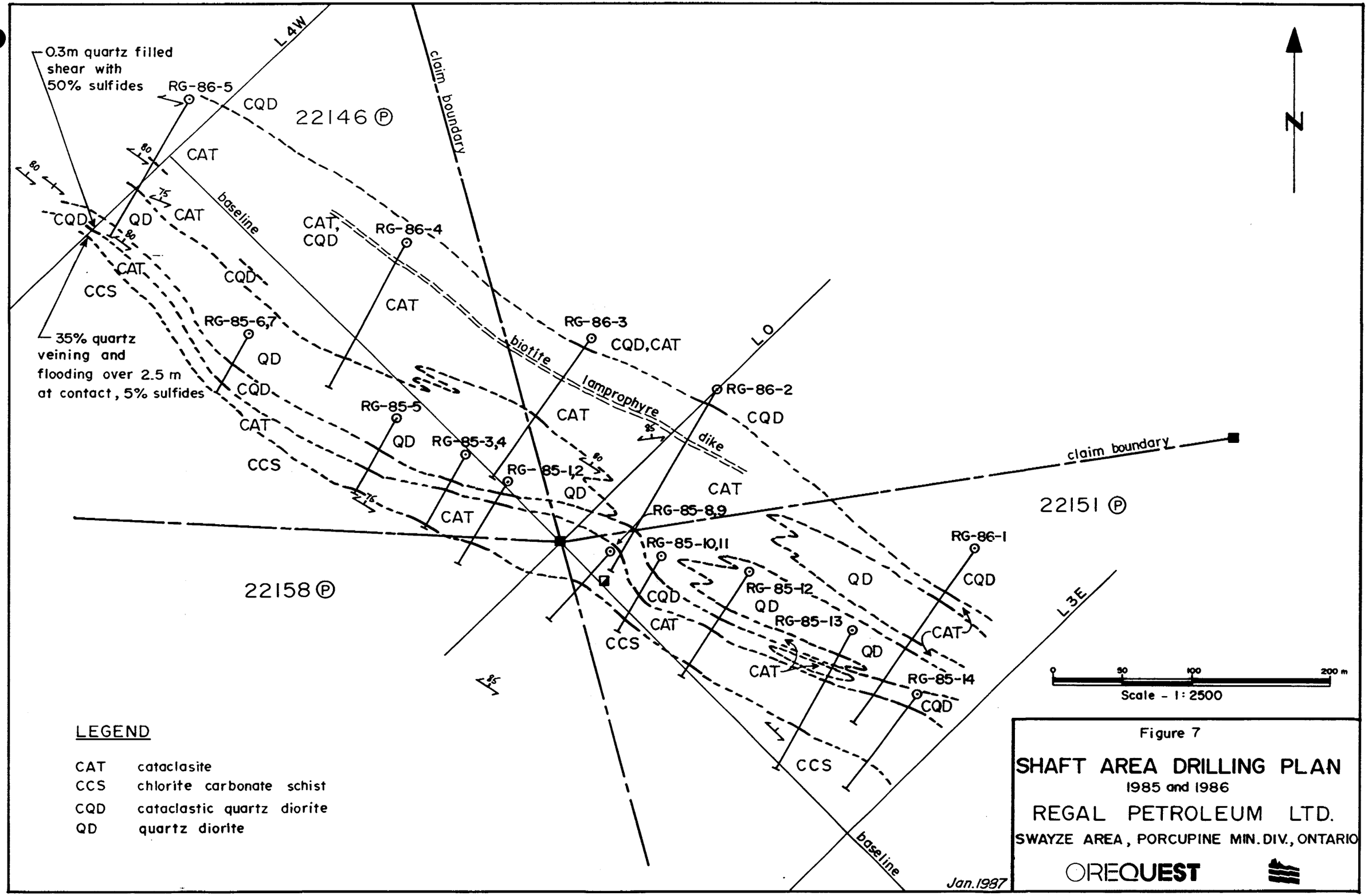
Discussion

Results of the deep drilling on the shaft zone returned values very similar to those encountered during the 1985 drilling program. Wide intersections of sub-economic low grade gold mineralization were encountered in the cataclastic rocks in close proximity to the volcanic contact.

A second major cataclastic horizon was outlined to the northeast (Figure 7). This zone ranged from 50 metres to 150 metres thick and though visually the same as the main contact zone it contains very low gold values. Pinching and swelling of these zones occurs both laterally and vertically as would be expected and additionally thin subsidiary shears are found interfingering with unaltered intrusives and volcanics.

Gold is generally associated with late stage quartz veins and shows a strong correlation with copper values. Copper is present as chalcopyrite both disseminated and in quartz-carbonate-pyrite veins and fracture fillings. Minor amounts of pyrrhotite and fuchsite were noted but showed no close association with gold values. Most gold bearing zones exhibited some degree of silicification and commonly hematization however the degree of alteration did not necessarily reflect the intensity of gold mineralization. Larger 10cm plus quartz veins, with or without sulfides, returned erratic gold values and comprise a very small percentage of the section.

Second phase drilling produced a mixed assemblage of volcanics, sediments and intrusive rocks. Three of the anomalous zones outlined by the IP survey were tested and causes determined for each (Figure 6).



LEGEND

CAT	cataclasite
CCS	chlorite carbonate schist
CQD	cataclastic quartz diorite
QD	quartz diorite

Figure 7

SHAFT AREA DRILLING PLAN

1985 and 1986

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV., ONTARIO

OREQUEST

A single line anomaly at 5E/6N, Zone A, produced the highest chargeability, 30 milliseconds, of the survey. This was determined to be caused by a 50 metre interval of graphitic mudstone/siltstone and interbedded graphitic mudstones and volcanics. The remainder of RG-86-6 consisted predominantly of tuffs. No anomalous gold values were encountered.

Anomaly B occupies a northwest-southeast trend and occurs over 8 lines. Two holes, RG-86-7,8, were used to test this anomaly at 9E and 11E/6N (Figure 6). These holes intersected a similar sequence of mudstone/siltstone and felsic to mafic tuffs as noted in hole RG-86-6. The source for this anomaly is a sulfide bearing felsic tuff 3 metre wide in RG-86-7 and 2 metre wide in RG-86-8 containing up to 10cm of massive pyrite and an average of 10-15% sulfides over the interval. Some quartz veining is associated with this zone, approximately 5%, however no gold values were reported.

Anomaly C occurs within the volcanics to the southwest of the projected trace of the cataclastic-volcanic contact. Hole RG-86-9 cut a section of predominantly intermediate volcanics with a short cataclastic quartz diorite interval. Increased sulfide content, 2-3% pyrite, at 112 m to 129 m is the probable cause of the IP anomaly as the remainder of the hole contains 1% or less sulfides. No gold values were obtained.

Drill hole RG-86-10 was located to test the same anomaly along strike at line 15E however this hole was abandoned at 18.9 metre due to major equipment failure. The hole collared in mafic volcanics and appeared to be a repeat of

the section encountered in RG-86-9. Based on this information it was decided not to attempt another.

Structures, where intersected in the drilling, were generally narrow, less than 10cm, and gave no indication as to either direction or amount of movement. In most cases little or no quartz veining was associated with these features.

Table 5 provides a summary of drill hole locations, attitudes and lengths.

TABLE 5

Drill Hole	Co-ordinates	Dip (degrees)	Azimuth (degrees)	Depth (metres)
RG-86-1	2+10E/2+05N	-60	215	306.7
RG-86-2	0+05W/1+60N	-60	208	306.7
RG-86-3	0+90W/1+20N	-65	218	285.4
RG-86-4	2+10W/1+00N	-65	210	276.2
RG-86-5	4+00W/0+45N	-60	225	214.3
RG-86-6	5+00E/6+00N	-50	225	169.5
RG-86-7	11+00E/6+00N	-50	225	154.3
RG-86-8	9+00E/6+00N	-50	225	181.7
RG-86-9	13+25E/0+25S	-50	225	215.2
RG-86-10	15+00E/1+00S	-50	225	18.9

DDH-RG-86-1

This hole intersected a section composed primarily of quartz diorite with lesser amounts of cataclastic quartz diorite and cataclasite. The cataclasite occurs as several thin horizons, maximum thickness 10 metres, throughout the section and a thin 3 metre zone at the chlorite-carboante schist contact. This is significantly narrower than the approximately 50 metre thickness encountered in DDH-85-13,14 which are the overlying shallow holes. Gold values were generally low with the best being 2 metres of 0.023 oz/ton at 280 metres and 3 metres of 0.018 oz/ton at 271 metres. The former occurs in the cataclasite near the chlorite-carbonate schist contact and the latter in a brecciated section of cataclastic quartz diorite.

DDH-RG-86-2

Hole RG-86-2 was the first to cut the main body of the northeastern cataclastic zone, which has a true thickness of 100 metres. This zone is separated from the 3 metre thick contact cataclastic zone by 70 metes of quartz diorite. A biotite lamprophyre dyke intersected in the upper portion of this hole extends across holes 3 and 4. Gold values occur in both the cataclasite and the quartz diorite. At 92.3 metres a 7 metre section of cataclasite and cataclastic quartz diorite displaying weak to moderate silicification and hematization and very minor quartz-carbonate fracture filling assayed 0.042 oz/ton Au. Within the quartz diorite a quartz-carbonate, pyrite, chalcopyrite vein system assayed 0.02 oz/t Au over 12 metres. A similar vein system at 264 metres to 273.4 metres close to the base of the quartz diorite section assayed 0.03 oz/ton Au. Toward the base of this interval the rock becomes a cataclastic quartz diorite. The final mineralized zone occurs in the cataclasite and

cataclastic quartz diorite adjacent to the chlorite-carbonate schist where a 17 metre section from 277 metres to 294 metres, assayed 0.015 oz/ton Au.

This hole in particular shows the strong correlation between late stage quartz and quartz sulfide veining with gold mineralization. At the same time the interval from 92.3 metre to 99.4 metre contains very little veining yet returned one of the higher assays. The underlying 20m section is quite strongly silicified and locally brecciated and though no gold values were obtained within that interval it is probably related to the overlying mineralization.

DDH-RG-86-3

Pinching and swelling of the shear zone produced a thickness of only 60m for the northeastern cataclastic horizon in this hole (Figure 11). This resulted in a proportionally thicker, 70 metres, mass of intrusive quartz diorite. On surface the cataclasite horizon at the volcanic contact thins along strike to the northwest, however, at depth the reverse holds true and in hole RG-86-3 it has increased to 6 metres.

Gold mineralization was restricted to 2 zones, from 222 metres to 237.8 metres in the quartz diorite and 253 metres to 261 metres in the cataclasite at the chlorite-carbonate schist contact. The diorite hosted interval assayed 0.021 oz/ton Au probably due to moderately silicified cataclastic horizons containing up to 5% pyrite and minor chalcopyrite and a 12cm quartz vein containing 5-10% pyrite and chalcopyrite. At the chlorite carbonate schist contact a strongly silicified brecciated section of cataclasite contains up to 5% pyrite with traces of fuchsite. Only minor quartz veining was present.

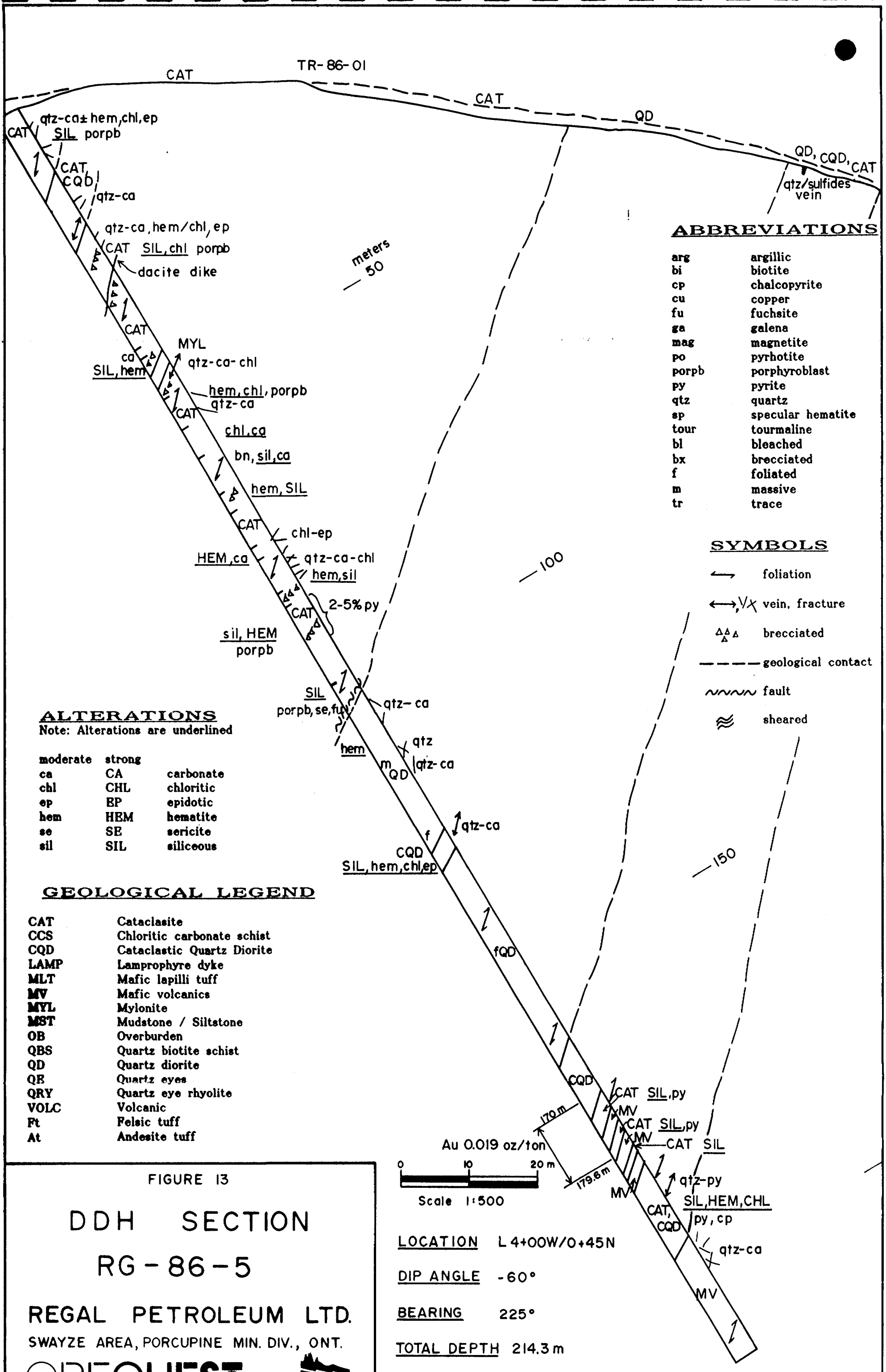
DDH-RG-86-4

Hole RG-86-4 was collared in the cataclastic horizon and cut a true thickness of 110 metres of variably altered cataclasite in the northeastern zone. Approximately 60 metres of quartz diorite and cataclastic quartz diorite separates the two cataclastic zones in this hole. In this hole the contact zone has thickened to 15 metres of siliceous cataclastic and mylonite, locally brecciated and containing up to 5% sulfides. The hole was terminated 6 metres in to the chlorite-carbonate schist.

The longest zone of gold mineralization occured in the siliceous mylonite near the schist contact at 249 metres to 271.5 metres. This assayed 0.016 oz/ton over the 22.5 metre interval. Shorter higher grade intersections were intersected within a mixed sequence of cataclastic quartz diorite and cataclasite overlying the above section. These consisted of moderately to strongly siliceous, moderately hematitic rocks with 1-5% sulfides, predominantly pyrite, as stringers and disseminations. Veining is present but not extensive and generally appears as thin, less than 5mm, quartz-carbonate veinlets or fracture fillings conformable with foliation. This interval from 237 metres to 246 metres included 1 metre of .087 oz./ton Au and 4 metres of 0.019 oz/ton Au.

DDH-RG-86-5

This hole was situated at the west end of the shaft area drilling and intersected 75 metre of cataclasite in the northeast zone. A 35 metre interval of quartz diorite and cataclastic quartz diorite separates the upper cataclastic zone from the contact with the mafic volcanics. In RG-86-5 the volcanic contact



ABBREVIATIONS

arg	argillic
bi	biotite
cp	chalcopyrite
cu	copper
fu	fuchsite
ga	galena
mag	magnetite
po	pyrhotite
porpb	porphyroblast
py	pyrite
qtz	quartz
sp	specular hematite
tour	tourmaline
bl	bleached
bx	brecciated
f	foliated
m	massive
tr	trace

SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared

ALTERATIONS

Note: Alterations are underlined

moderate	strong	
ca	CA	carbonate
chl	CHL	chloritic
ep	EP	epidotic
hem	HEM	hematite
se	SE	sericite
sil	SIL	siliceous

GEOLOGICAL LEGEND

CAT	Cataclasite
CCS	Chloritic carbonate schist
CQD	Cataclastic Quartz Diorite
LAMP	Lamprophyre dyke
MLT	Mafic lapilli tuff
MV	Mafic volcanics
MYL	Mylonite
MST	Mudstone / Siltstone
OB	Overburden
QBS	Quartz biotite schist
QD	Quartz diorite
QE	Quartz eyes
QRY	Quartz eye rhyolite
VOLC	Volcanic
Ft	Felsic tuff
At	Andesite tuff

FIGURE 13

DDH SECTION

RG-86-5

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV., ONT.

OREQUEST

LOCATION L 4+00W/0+45N

DIP ANGLE -60°

BEARING 225°

TOTAL DEPTH 214.3 m

JAN. 1987

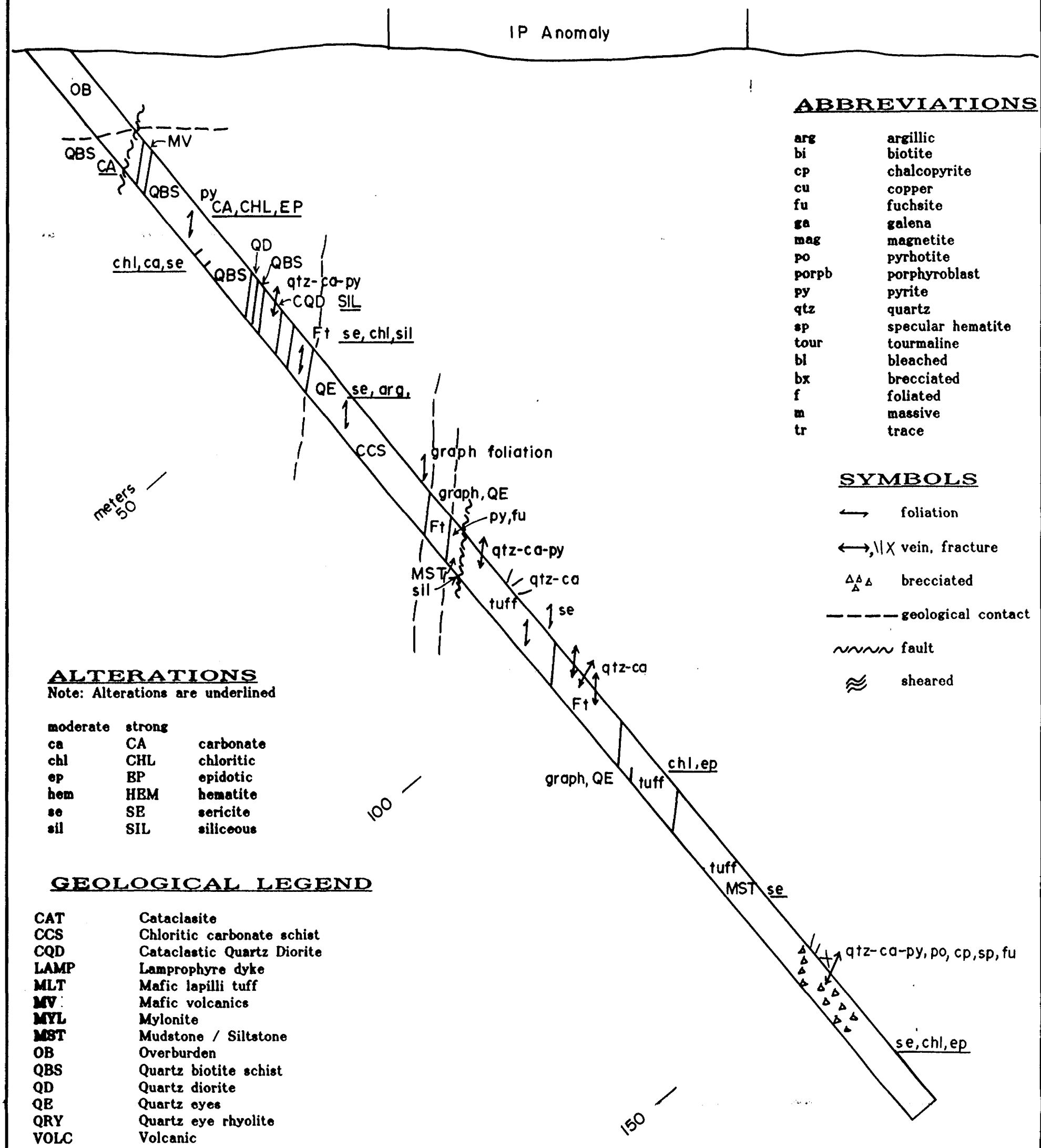
zone occupies a 25 metre interval of cataclasite, cataclastic quartz diorite and quartz diorite cut by several mafic volcanic dykes. Drilling continued for 17 metres past the lowest cataclasite unit because of the interlayered nature at the contact zone.

As in the previous holes the northeastern cataclastic zone contained only weak gold mineralization with the best values occuring above the volcanic contact. At 170 metres to 179.6 metres an assay of 0.019 oz/ton was contained in siliceous pyritic cataclasite cut by mafic volcanics dikes. No other noteable mineralized sections were encountered.

DDH-RG-86-6

An isolated IP anomaly was the target for this hole. Anomaly A showed the highest chargeability of the survey at 30 milliseconds, however, it is a single line anomaly. The section intersected by the drilling consisted primarily of tuffs with some mudstone/siltstone, minor mafic volcanics and intrusives. The anomaly appears to be caused by a 50 metre interval of graphitic tuffs and mudstones. Within the mudstone/siltstone unit the rocks are locally strongly graphitic in the mudstone portions. In the siltstone and tuff sections the graphite tends to occur as thin coatings along foliation planes.

Sulfides were low throughout the hole generally less than 1% but, occassionally increasing 2%-5% for short intervals. No significant gold values were detected in this hole.



ABBREVIATIONS

arg	argillic
bi	biotite
cp	chalcopyrite
cu	copper
fu	fuchsite
ga	galena
mag	magnetite
po	pyrhotite
porpb	porphyroblast
py	pyrite
qtz	quartz
sp	specular hematite
tour	tourmaline
bl	bleached
bx	brecciated
f	foliated
m	massive
tr	trace

SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared

ALTERATIONS

Note: Alterations are underlined

moderate	strong	
ca	CA	carbonate
chl	CHL	chloritic
ep	EP	epidotic
hem	HEM	hematite
se	SE	sericite
sil	SIL	siliceous

GEOLOGICAL LEGEND

CAT	Cataclasite
CCS	Chloritic carbonate schist
CQD	Cataclastic Quartz Diorite
LAMP	Lamprophyre dyke
MLT	Mafic lapilli tuff
MV	Mafic volcanics
MYL	Mylonite
MST	Mudstone / Siltstone
OB	Overburden
QBS	Quartz biotite schist
QD	Quartz diorite
QE	Quartz eyes
QRY	Quartz eye rhyolite
VOLC	Volcanic
Ft	Felsic tuff
At	Andesite tuff

0 10 20 m

Scale 1:500

FIGURE 14

DDH SECTION

RG-86-6

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV., ONT.

OREQUEST

LOCATION L5+00E / 7+60N

DIP ANGLE -50°

BEARING 225°

TOTAL DEPTH 169.5 m

JAN. 1987

DDH-RG-86-7,8

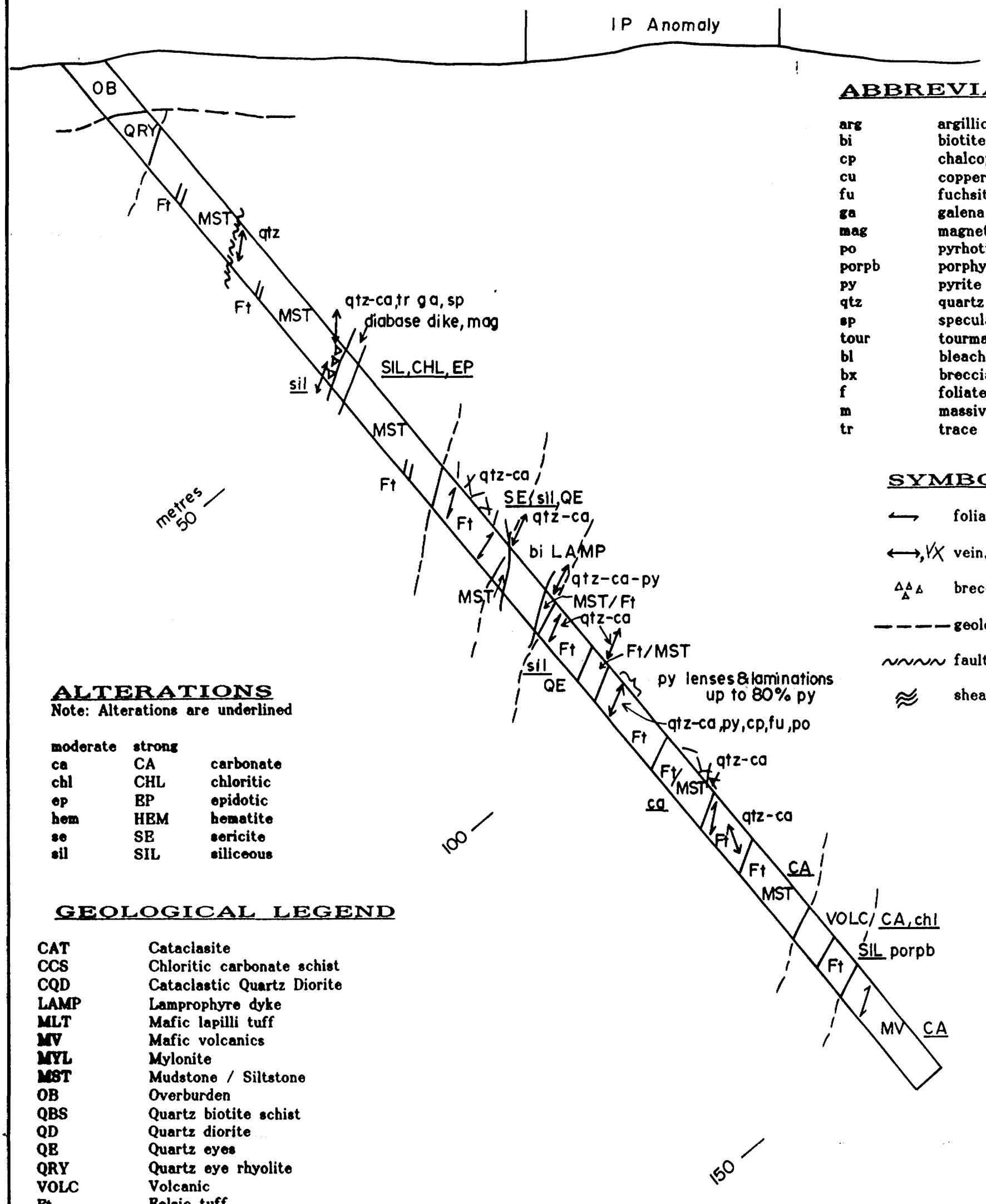
A similar sequence of rocks were intersected in holes 86-6, 7 and 8. This consisted predominantly of tuffs, mudstone/siltstone and mafic volcanics with minor intrusive.

In holes RG-86-7 and RG-86-8 a felsic tuff bed containing massive and disseminated sulfides appears to be the cause of the IP anomaly. Pyrite, the main sulfide, with traces of chalcopyrite, pyrhotite and fuchsite, occurs as stringers and dissemination averaging 10-15%, over 3 metres in 86-7 and 2 metres in RG-86-8. Both intervals also contain narrow, less than 10cm, quartz-carbonate vein hosted massive sulfides. A 3 metre to 5 metre envelope of 1%-3% pyrite surrounds these pyritic tuffs with the remainder of the section containing 1% pyrite or less. No gold values were associated with these zones.

DDH-RG-86-9

This was the first test of the southeastern IP anomaly. The hole encounterd the thickest overburden cover thus far, 16 metres, due to a swamp at the proposed drill site. Tuffs and chlorite carbonate schist make up 95% of the sequence with cataclastic quartz diorite forming the remaining 5%. A zone of chlorite-carbonate schist and felsic tuffs from 112 metres to 129 metres contains from 1%-3% pyrite as compared with less than 1% pyrite throughout the bulk of the section. This pyritic interval is the most likely cause of the IP anomaly with the only other possible source being a short graphitic section from 149 metres to 152 metres. No gold values were reported from this hole.

The results of this hole indicate that the anomaly is not related to the



ABBREVIATIONS

arg	argillic
bi	biotite
cp	chalcopyrite
cu	copper
fu	fuchsite
ga	galena
mag	magnetite
po	pyrhotite
porpb	porphyroblast
py	pyrite
qtz	quartz
sp	specular hematite
tour	tourmaline
bl	bleached
bx	brecciated
f	foliated
m	massive
tr	trace

SYMBOLS

- foliation
- vein, fracture
- brecciated
- geological contact
- fault
- sheared

ALTERATIONS

Note: Alterations are underlined

moderate	strong	
ca	CA	carbonate
chl	CHL	chloritic
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hem	HEM	hematite
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OB	Overburden
QBS	Quartz biotite schist
QD	Quartz diorite
QE	Quartz eyes
QRY	Quartz eye rhyolite
VOLC	Volcanic
Ft	Felsic tuff
At	Andesite tuff

FIGURE 15

DDH SECTION

RG-86-7

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV., ONT.

OREQUEST

0 10 20 m

Scale 1:500

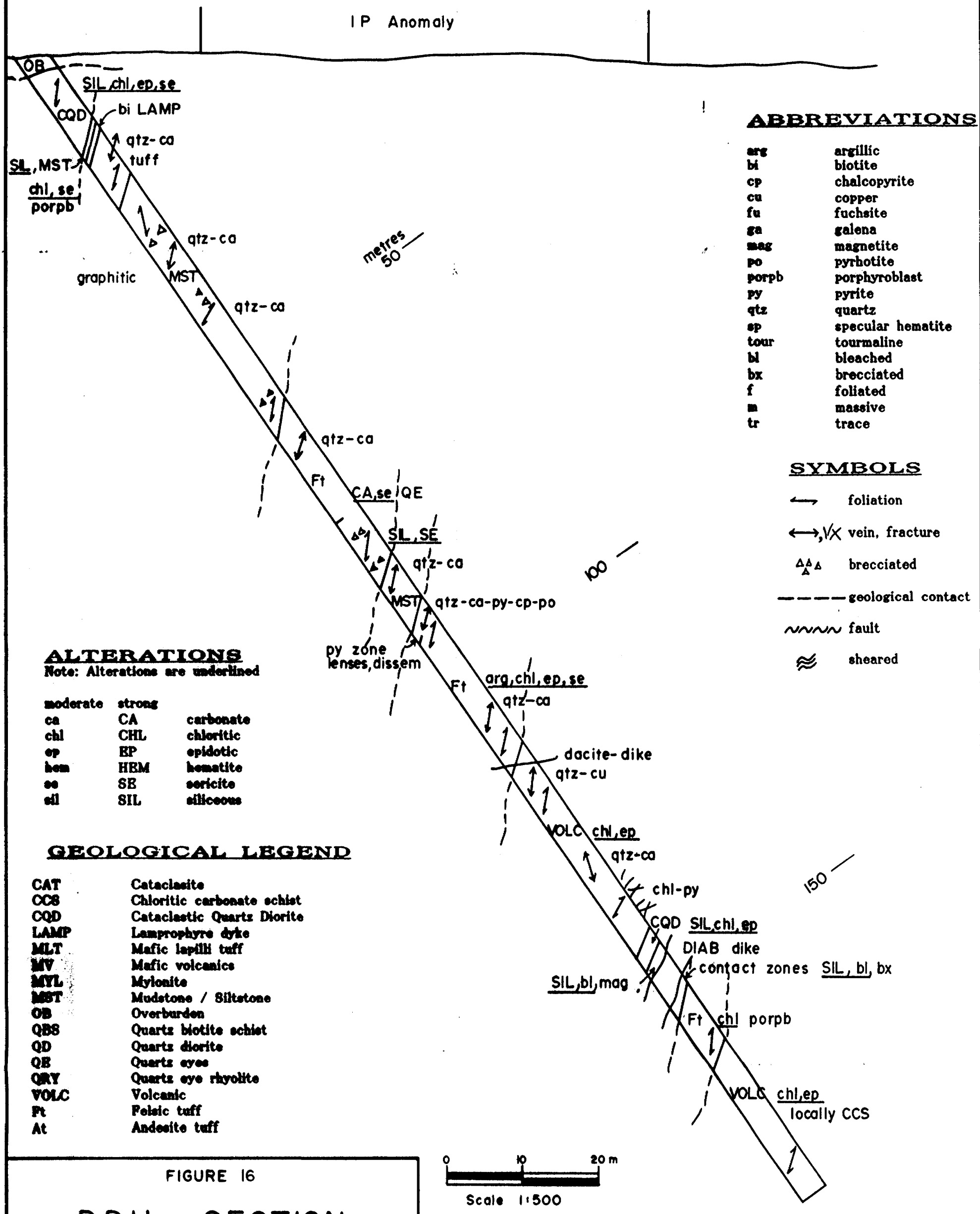
LOCATION L11+00E / 5+50N

DIP ANGLE -50°

BEARING 225°

TOTAL DEPTH 154.3m

JAN. 1987



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QD	Quartz diorite
QE	Quartz eyes
QRY	Quartz eye rhyolite
VOLC	Volcanic
Ft	Felsic tuff
At	Andesite tuff

FIGURE 16

DDH SECTION

RG-86-8

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV., ONT.

OREQUEST

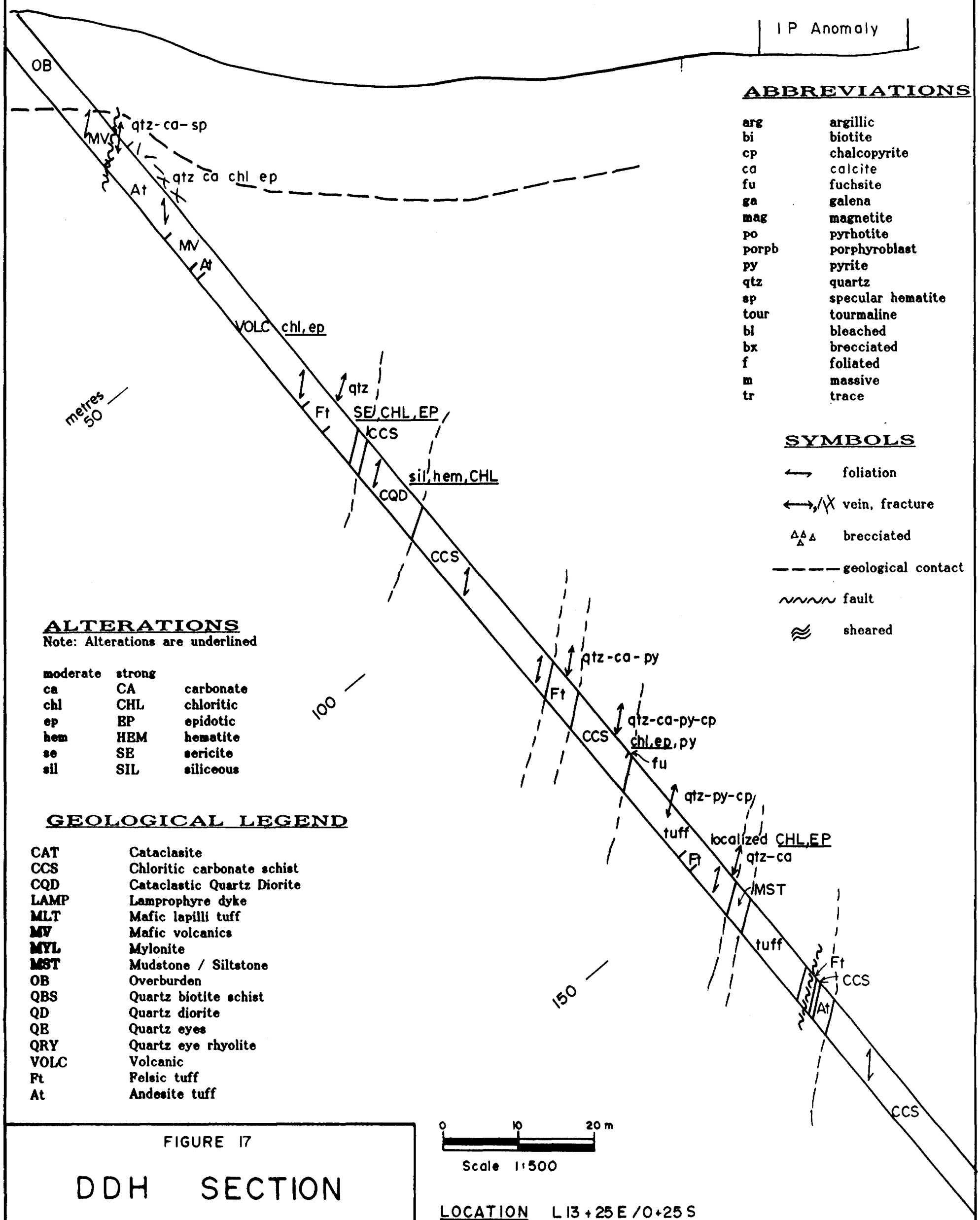
LOCATION L 9+00E / 6+00N

DIP ANGLE -55°

BEARING 225°

TOTAL DEPTH 181.7 m

JAN. 1987



ABBREVIATIONS

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cp	chalcopyrite
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fu	fuchsite
ga	galena
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po	pyrhotite
porpb	porphyroblast
py	pyrite
qtz	quartz
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OB	Overburden
QBS	Quartz biotite schist
QD	Quartz diorite
QE	Quartz eyes
QRY	Quartz eye rhyolite
VOLC	Volcanic
Ft	Felsic tuff
At	Andesite tuff

FIGURE 17

DDH SECTION

RG-86-9

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV., ONT.

OREQUEST

0 10 20 m

Scale 1:500

LOCATION L 13+25 E / 0+25 S

DIP ANGLE -50°

BEARING 240°

TOTAL DEPTH 215.2 m

JAN. 1987

extension of the shaft area shear zone as expected, but lies wholly within the volcanic section.

WHOLE ROCK ANALYSES

A total of 87 samples mostly drill core were sent to X-Ray Laboratories for whole rock analyses (see Appendix G). These included both individual rock type samples and sequential groups encompassing greater than 150 metres of section in some holes. The purpose of this study was to determine variations in major element distribution and their relationship, if any, to gold mineralization. A correlation of sodium (Na) and calcium (Ca) depletion with potassium (K) enrichment and elevated gold values has been observed in the Hemlo deposits by Roger J. Kuhns, and this sampling was designed to check this association on the property.

Average values for Na_2O within the cataclastic units and the quartz diorites range from 5% to 7% with K_2O typically 1% to 2.5%. In DDH-RG-86-4 a series of samples were collected at 15 metre intervals from 15 metres to 180 metres. From 15 metres to 135 metres values remained within the norms for both groups then between 135 metres and 180 metres. Na_2O suffers 23% depletion while K_2O is enriched by 46%. These variations coincide with weak gold enrichment over that interval. From 15 metres to 135 metres the rocks contained no gold values.

A sample from DDH-RG-86-1 which was taken from an interval assaying 0.029 oz/ton Au contained 4.31 % Na_2O and 3.62% K_2O exhibiting the postulated depletion/enrichment. Further examples exist in DDH-RG-86-2 between 165 metres

and 3.63% K_2O. Assay results for this interval were 0.022 oz/ton Au.

Complete results with locations and rock types are contained in Appendix D.

From this information it appears that though the gold values are low the correlation with the enrichment/depletion haloes is quite good.

CONCLUSIONS and RECOMMENDATIONS

Gold values from the shaft area drilling were disappointing in that no higher results were obtained than those reported for the 1985 drilling. Wide zones of upto 0.02oz/ton Au occurred at depth, similar to those delineated near surface.

A parallel shear was outlined to the northeast of the shaft, separated by 40 - 80 metres of massive to foliated quartz diorite. This zone is wholly within the quartz diorite and probably represents a splay off the main shear. Overall, the gold values in the tested portion of this zone were lower than those encountered near the volcanic contact.

The mapping program indicated that the shear zone continues on a 130° trend to the southeast at least as far as Halcrow Lake and previous mapping programs have indicated similar shears 5 km along the strike to the southeast. Extensive exker and swamp development over much of the trench limits exposure even with the aid of backhoe trenching.

With one exception only weakly anomalous gold values were obtained from the

trenching program, however the contact zone was exposed only in TR-86-1, which did return a gold value of 5140 ppb.

Discontinuous lenses of banded iron formation were located but returned only weakly anomalous gold values.

Two subparallel I.P. anomalies outlined by the geophysical survey were tested during the second phase of drilling. A strongly pyritic felsic tuff 2 to 3 metres thick was the cause of Anomaly A and a weakly pyritic sequence of chlorite-carbonate schists and felsic tuffs caused Anomaly B. Neither zone returned anomalous gold values.

Prior to drilling it was thought that Anomaly B represented the shear trace along the volcanic contact. As this proved not to be the case the contact zone remains untested.

As described in the geophysical section of this report, additional I.P. anomalies remain untested along the southeast extension of the shear zone, to the limit of the survey area.

Further mapping and geophysical work to the southeast will likely reveal a continuation of the shear beyond its present limits. This was not done as it was beyond the scope of the current program.

Further work on the property should concentrate on the shear zone at the volcanic contact. Previous work, and this year's results, has shown this site

to have the greatest potential for hosting gold mineralization.

At present, approximately 4 kilometers of this contact zone have been delineated on the property with good probability of this extending an additional 6 kilometers further to the south east. This would require drill testing.

Data from previous programs indicates areas, along this trend, where due to thinness of overburden, soil geochemical surveys would be effective. In others, a combination of trenching and overburden drilling would be necessary. An I.P. survey should be carried out along the projected trace of the shear for anomalies related to the contact.

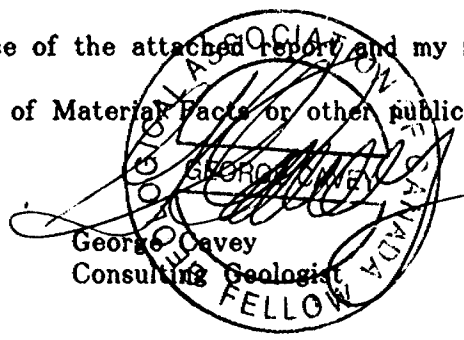
Results of these activities would provide targets for a series of short angle holes to test the structure.

Costs for a program of this nature would be on the order of $400,000 and require a crew for a period of 3 months.

CERTIFICATE of QUALIFICATIONS

I, George Cavey, of 6891 Wiltshire Street, Vancouver, British Columbia hereby certify:

1. I am a graduate of the University of British Columbia (1976) and hold a BSc. degree in geology.
2. I am presently employed as a consulting geologist with OreQuest Consultants Ltd. of 404-595 Howe Street, Vancouver, British Columbia.
3. I have been employed in my profession by various mining companies since graduation.
4. I am a Fellow of the Geological Association of Canada.
5. I am a member of the Canadian Institute of Mining and Metallurgy.
6. The information contained in this report was obtained by direct supervision of the work done on the property by OreQuest Consultants Ltd. in 1986 including several property examinations during the field program.
7. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property nor in the securities of Regal Petroleum Ltd.
8. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts or other public document.



George Cavey
Consulting Geologist

DATED at Vancouver, British Columbia, this 14th day of January, 1987.

2.6938

CERTIFICATE of QUALIFICATIONS

I, Jim Chapman, of 580 West 17th Avenue, Vancouver, British Columbia hereby certify:

1. I am a graduate of the University of British Columbia (1976) and hold a BSc. degree in geology.
2. I am presently employed as a consulting geologist with OreQuest Consultants Ltd. of 404-595 Howe Street, Vancouver, British Columbia.
3. I have been employed in my profession by various mining companies since graduation.
4. I am a member of the Canadian Institute of Mining and Metallurgy.
5. The information contained in this report was obtained from onsite supervision of the program during September to December, 1986, and a review of data listed in the bibliography.
6. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property nor in the securities of Regal Petroleum Ltd. or any of its subsidiaries.
7. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts or other public document.

Jim Chapman
Consulting Geologist

DATED at Vancouver, British Columbia, this 14th day of January, 1987.

CERTIFICATE of QUALIFICATIONS

I, Wesley D.T. Raven, of 481 North 6th Avenue, Williams Lake, British Columbia, hereby certify:

1. I am a graduate of the University of British Columbia (1983) and hold a BSc. degree in geology.
2. I am presently employed as a project geologist with OreQuest Consultants Ltd. of 404-595 Howe Street, Vancouver, British Columbia.
3. I have been employed as an exploration geologist on a full time basis since 1983.
4. The information contained in this report was obtained during an onsite property examination personally conducted by myself and OreQuest Consultants Ltd. in 1986.
5. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property described nor in the securities of Regal Petroleum Ltd.
6. This report may be used by Regal Petroleum Ltd. for all corporate purposes and including any public financing.

Wesley D.T. Raven

Wesley D.T. Raven
Geologist

DATED at Vancouver, British Columbia, this 14th day of January, 1987.

2.8051

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APPENDIX B

ASSAY REPORTS - TRENCHING and DRILLING

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

Rock samples
from mapping program
09775 - 09790 ✓

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LIMITED
ADDRESS: 404 - 595 Howe Street
: Vancouver, B.C.
: V6C 2T5

DATE: Oct 22 1986
REPORT#: 860543 GA
JOB#: 860543

PROJECT#: RG
SAMPLES ARRIVED: Oct 20 1986
REPORT COMPLETED: Oct 22 1986
ANALYSED FOR: Cu Ag Au (FA/AAS)

INVOICE#: 860543 NA
TOTAL SAMPLES: 16
SAMPLE TYPE: 16 ROCK
REJECTS: SAVED

SAMPLES FROM: Timmins, Ontario
COPY SENT TO: WESLEY RAVEN

PREPARED FOR: MR. JIM CHAPMAN

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 860543 BA JOB NUMBER: 860543 **OREQUEST CONSULTANTS LIMITED** PAGE 1 OF 1

SAMPLE #	Cu ppm	Ag ppm	Au ppb
09775	5	.2	nd
09776	8	nd	10
09777	50	.2	5
09778	3	nd	30
09779	23	.3	nd
09780	91	.6	nd
09781	10	.1	10
09782	15	.4	20
09783	21	.3	5
09784	54	.3	15
09785	27	.2	nd
09786	60	.3	nd
09787	81	.7	25
09788	14	.4	5
09789	7	.2	nd
09790	45	.4	nd

DETECTION LIMIT 1 0.1 5

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

Soil Samples

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LIMITED
ADDRESS: 404 - 595 Howe Street
: Vancouver, B.C.
: V6C 2T5

DATE: Oct 29 1986
REPORT#: 860547 GA
JOB#: 860547

PROJECT#: RG
SAMPLES ARRIVED: Oct 20 1986
REPORT COMPLETED: Oct 29 1986
ANALYSED FOR: Cu Ag Au

INVOICE#: 860547 NA
TOTAL SAMPLES: 92
SAMPLE TYPE: 92 SOIL
REJECTS: DISCARDED

SAMPLES FROM: WESLEY RAVEN
COPY SENT TO: Timmins, Ont.

PREPARED FOR: MR. JIM CHAPMAN

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 860547 GA JOB NUMBER: 860547 **OREQUEST CONSULTANTS LIMITED**

SAMPLE #	Cu ppm	Ag ppm	Au ppb
L1W 0+00N	7	.1	nd
L1W 0+25N	11	.1	nd
L1W 0+50N	3	nd	nd
L1W 0+75N	10	.1	nd
L1W 1+00N	6	nd	10
L1W 1+25N	5	.2	5
L1W 1+50N	5	.2	5
L1W 1+75N	3	.3	5
L1W 2+00N	7	.2	5
L1W 0+25S	5	.2	150
L1W 0+50S	5	.2	5
L1W 0+75S	15	.2	5
L1W 1+00S	9	.2	nd
L1W 1+25S	3	.3	nd
L1W 1+50S	15	.1	nd
L1W 1+75S	5	.4	nd
L1W 2+00S	28	.4	5
L1W 2+25S	12	nd	10
L1W 2+50S	7	nd	5
L1W 2+75S	7	.1	10
L1W 3+00S	9	nd	5
L1W 3+25S	17	.2	nd
L1W 3+50S	5	.2	nd
L1W 3+75S	16	.4	nd
L1W 4+00S	7	.1	nd
L2W 0+00N	15	.3	nd
L2W 0+25N	10	.3	nd
L2W 0+50N	2	nd	nd
L2W 0+75N	8	nd	nd
L2W 1+00N	5	.1	nd
L2W 1+25N	6	nd	10
L2W 1+50N	5	nd	5
L2W 1+75N	4	.3	5
L2W 2+00N	42	.3	nd
L2W 0+25S	5	.2	nd
L2W 0+50S	5	.3	nd
L2W 0+75S	16	.2	nd
L2W 1+00S	10	nd	nd
L2W 1+25S	10	.2	nd
DETECTION LIMIT	1	0.1	5

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

SAMPLE #	Cu ppm	Ag ppm	Au ppb
L2W 1+50S	8	.2	nd
L2W 1+75S	10	.1	nd
L2W 2+00S	50	nd	10
L2W 2+25S	31	.5	5
L2W 2+50S	10	.5	nd
L2W 2+75S	7	.2	nd
L2W 3+00S	14	.2	nd
L2W 3+25S	50	nd	nd
L2W 3+50S	5	.2	nd
L2W 3+75S	10	.1	nd
L2W 4+00S	25	.2	nd
L3W 0+00N	5	.3	10
L3W 0+25N	4	.2	nd
L3W 0+50N	4	.1	nd
L3W 0+75N	7	nd	nd
L3W 1+00N	30	.3	5
L3W 1+25N	5	.5	5
L3W 1+50N	5	.5	nd
L3W 1+75N	5	.1	nd
L3W 2+00N	6	nd	nd
L3W 0+25S	6	nd	nd
L3W 0+50S	14	nd	nd
L3W 0+75S	7	nd	nd
L3W 1+00S	5	.4	nd
L3W 1+25S	4	nd	nd
L3W 1+50S	26	.3	nd
L3W 1+75S	13	.2	nd
L3W 2+00S	5	.1	nd
L3W 2+25S	10	.2	nd
L3W 2+50S	4	.3	nd
L3W 2+75S	5	nd	nd
L3W 3+00S	9	nd	nd
L3W 3+25S	11	.2	nd
L3W 3+50S	6	.4	nd
L3W 3+75S	6	.2	nd
L3W 4+00S	4	.1	nd
L4W 0+00N	5	nd	nd
L4W 0+25N	15	nd	nd
L4W 0+50N	10	nd	nd
DETECTION LIMIT	1	0.1	5

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 860547 GA JOB NUMBER: 860547 **OREQUEST CONSULTANTS LIMITED**

SAMPLE #	Cu ppm	Ag ppm	Au ppb
L4W 0+75N	15	nd	nd
L4W 1+00N	5	.2	nd
L4W 1+25N	5	nd	nd
L4W 1+50N	6	.4	nd
L4W 1+75N	5	.1	nd
L4W 2+00N	4	nd	nd
L4W 0+25S	4	nd	nd
L4W 0+50S	24	.1	nd
L4W 0+75S	12	nd	nd
L4W 1+00S	7	nd	nd
L4W 1+25S	3	.2	nd
L4W 1+50S	5	.2	nd
L4W 1+75S	2	nd	nd
L4W 2+00S	14	.2	nd

DETECTION LIMIT 1 0.1 5
nd = none detected — = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

Rock Samples
from mapping program
09751 - 09774 ✓

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LIMITED
ADDRESS: 404 - 595 Howe Street
: Vancouver, B.C.
: V6C 2T5

DATE: Oct 29 1986
REPORT#: 860563 GA
JOB#: 860563

PROJECT#: RG
SAMPLES ARRIVED: Oct 23 1986
REPORT COMPLETED: Oct 29 1986
ANALYSED FOR: Cu Ag Au (FA/AAS)

INVOICE#: 860563 NA
TOTAL SAMPLES: 24
SAMPLE TYPE: 24 ROCK
REJECTS: SAVED

SAMPLES FROM: WESLEY RAVEN
COPY SENT TO: Timmins, Ont.

PREPARED FOR: MR. JIM CHAPMAN

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VGC

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

01601- 01619 ✓

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LIMITED
ADDRESS: 404 - 595 Howe Street
: Vancouver, B.C.
: V6C 2T5

DATE: Oct 29 1986
REPORT#: 860569 GA
JOB#: 860569

PROJECT#: RGT
SAMPLES ARRIVED: Oct 24 1986
REPORT COMPLETED: Oct 29 1986
ANALYSED FOR: Cu Ag Au (FA/AAS)

INVOICE#: 860569 NA
TOTAL SAMPLES: 19
SAMPLE TYPE: 19 ROCK
REJECTS: SAVED

SAMPLES FROM: WESLEY RAVEN
COPY SENT TO: Timmins, Ont.

PREPARED FOR: MR. JIM CHAPMAN

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
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VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 860569 GA JOB NUMBER: 860569 **DREQUEST CONSULTANTS LIMITED** PAGE 1 OF 1

SAMPLE #	Cu ppm	Ag ppm	Au ppb
01601	41	.9	nd
01602	129	1.3	140
01603	112	.6	80
01604	94	nd	25
01605	308	.8	20
01606	191	.4	nd
01607	122	nd	nd
01608	50	.2	nd
01609	51	.4	5
01610	120	.2	nd
01611	141	.7	nd
01612	111	.3	nd
01613	39	nd	nd
01614	61	.2	nd
01615	100	.1	nd
01616	119	.3	nd
01617	82	nd	10
01618	85	.1	nd
01619	100	nd	15

DETECTION LIMIT 1 0.1 5
nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

01629 - 01639 ✓
1901 - 2032 ✓

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: **OREQUEST CONSULTANTS LIMITED** DATE: Nov 13 1986
ADDRESS: 404 - 595 Howe Street
: Vancouver, B.C. **REPORT#: 860595 GA**
: V6C 2T5 JOB#: 860595

PROJECT#: RG - TR INVOICE#: 860595 NA
SAMPLES ARRIVED: Oct 31 1986 TOTAL SAMPLES: 153
REPORT COMPLETED: Nov 13 1986 SAMPLE TYPE: 153 ROCK
ANALYSED FOR: Cu Ag Au (FA/AAS) REJECTS: SAVED

SAMPLES FROM: Timmins, Ont.
COPY SENT TO: JIM CHAPMAN

PREPARED FOR: MR. GEORGE CAVEY

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 860595 GA JOB NUMBER: 860595 **OREQUEST CONSULTANTS LIMITED**

SAMPLE #	Cu ppm	Ag ppm	Au ppb
01629	30	.3	nd
01630	39	.5	nd
01631	39	nd	nd
01632	38	.1	nd
01633	26	.5	nd
01634	35	.7	nd
01635	20	.3	10
01636	24	.1	nd
01637	15	nd	nd
01638	20	.1	nd
01639	16	nd	20
01651	65	.6	nd
01652	12	.3	5
01653	66	.5	nd
01654	73	.3	nd
01655	35	.2	nd
01656	10	.5	nd
01657	100	nd	nd
01658	110	.2	10
01659	105	nd	10
01660	125	.3	nd
1901	30	.3	nd
1902	20	.8	nd
1903	60	.1	30
1904	24	.1	nd
1905	30	.2	nd
1906	11	.2	nd
1907	30	.1	5
1908	20	.4	5
1909	23	.1	nd
1910	26	.2	nd
1911	17	.1	nd
1912	21	.1	5
1913	25	.2	nd
1914	16	.2	nd
1915	15	.2	110
1916	27	.2	20
1917	22	.3	80
1918	16	nd	10
DETECTION LIMIT	1	0.1	5

nd = none detected — = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE
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(604) 251-5656

SAMPLE #	Cu ppm	Ag ppm	Au ppb
1919	15	.2	nd
1920	66	.4	nd
1921	61	1.4	nd
1922	25	.1	nd
1923	238	.6	40
1924	50	.1	100
1925	38	.4	45
1926	33	.4	5
1927	5	.3	15
1928	24	.4	nd
1929	5	.1	nd
1930	18	.1	100
1931	15	.3	10
1932	22	.3	65
1933	15	.3	10
1934	55	.4	nd
1935	35	.1	nd
1936	20	.2	50
1937	84	.1	nd
1938	41	.2	40
1939	100	.6	420
1940	89	.1	310
1941	58	.5	nd
1942	25	.2	nd
1943	10	.3	70
1944	95	.8	30
1945	20	.4	55
1946	48	.2	nd
1947	25	.2	nd
1948	47	.1	nd
1949	20	.2	nd
1950	224	.6	nd
1951	74	.2	20
1952	35	nd	10
1953	81	.4	380
1954	30	.2	80
1955	45	.1	nd
1956	1630	.9	240
1957	50	.2	30
DETECTION LIMIT	1	0.1	5

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

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VANCOUVER, B.C. V5L 1L6
(604) 251-5656

SAMPLE #	Cu ppm	Ag ppm	Au ppb
1958	43	.4	5
1959	65	.3	80
1960	87	.3	15
1961	60	.2	nd
1962	65	nd	nd
1963	60	.6	50
1964	40	.4	70
1965	25	.1	330
1966	46	.2	25
1967	22	.2	85
1968	39	.1	40
1969	60	nd	25
1970	40	.6	10
1971	121	nd	110
1972	45	.4	nd
1973	78	.3	20
1974	241	.7	5
1975	270	.3	nd
1976	259	.5	50
1977	155	.4	170
1978	180	.4	35
1979	170	.8	50
1980	174	.1	80
1981	1080	.8	40
1982	207	.4	180
1983	215	.8	40
1984	450	.4	20
1985	252	.6	100
1986	35	.4	180
1987	700	.4	380
1988	225	nd	240
1989	87	.2	70
1990	163	.3	90
1991	140	.2	nd
1992	1050	1.6	380
1993	131	.4	1000
1994	87	nd	35
1995	290	nd	nd
1996	96	.1	nd
DETECTION LIMIT	1	0.1	5

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 860595 GA JOB NUMBER: 860595 **DREQUEST CONSULTANTS LIMITED**

SAMPLE #	Cu ppm	Ag ppm	Au ppb
1997	63	nd	100
1998	66	.2	130
1999	160	.3	20
2000	189	.4	10
2001	125	.3	10
2002	120	.4	nd
2003	200	.4	nd
2004	780	.8	nd
2005	15	.1	nd
2006	30	.4	nd
2007	19	.2	nd
2008	20	.4	nd
2009	25	.3	nd
2010	21	.3	nd
2011	75	.5	nd
2012	12	.1	10
2013	13	.4	10
2014	14	.2	nd
2015	21	.3	10
2016	20	.2	20
2017	345	.5	90
2018	28	.4	nd
2019	40	.1	40
2020	50	.5	70
2021	46	.4	700
2022	75	.4	15
2023	20	nd	100
2024	26	.4	40
2025	15	.4	45
2026	7	nd	50
2027	95	.2	210
2028	50	.2	90
2029	16	nd	20
2030	200	1.0	7500
2031	70	.4	100
2032	165	.1	30

DETECTION LIMIT 1 0.1 5

nd = none detected -- = not analysed is = insufficient sample

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(604) 251-5656

01640 - 01698 ✓

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LIMITED
ADDRESS: 404 - 595 Howe Street
: Vancouver, B.C.
: V6C 2T5

DATE: Nov 14 1986
REPORT#: 860632 GA
JOB#: 860632

PROJECT#: RG - TR
SAMPLES ARRIVED: Nov 12 1986
REPORT COMPLETED: Nov 14 1986
ANALYSED FOR: Cu Ag Au

INVOICE#: 860532 NA
TOTAL SAMPLES: 47
SAMPLE TYPE: 47 ROCK
REJECTS: SAVED

SAMPLES FROM: Timmins, Ont.
COPY SENT TO: MR. JIM CHAPMAN

PREPARED FOR: MR. GEORGE CAVEY

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: Au analyses by fire assay/AAS finish

VANGEOCHEM LAB LIMITED

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(604) 251-5656

REPORT NUMBER: 860632 GA JOB NUMBER: 860632 **OREQUEST CONSULTANTS LIMITED**

SAMPLE #	Cu ppm	Ag ppm	Au ppb
01640	17	nd	nd
01641	7	.2	10
01642	18	.5	10
01643	20	.3	5
01644	5	.2	nd
01645	19	.2	nd
01646	14	.3	nd
01647	36	.3	15
01648	15	.4	5
01661	14	.2	nd
01662	16	.1	30
01663	9	nd	nd
01664	35	.3	nd
01665	24	.2	nd
01666	41	.3	20
01667	37	.2	nd
01668	12	nd	nd
01669	15	.1	50
01670	21	.2	nd
01671	15	nd	5
01672	10	.4	40
01673	41	.4	40
01674	44	.1	nd
01675	62	.4	20
01676	29	.3	80
01677	40	.3	nd
01678	17	.3	20
01679	25	.3	nd
01680	10	.1	nd
01681	187	.7	nd
01682	81	nd	5
01683	15	.2	nd
01684	12	.2	nd
01685	26	.2	5
01686	35	.2	5
01687	14	.3	nd
01688	10	.1	nd
01689	10	.2	nd
01690	10	.3	nd
DETECTION LIMIT	1	0.1	5

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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REPORT NUMBER: 860632 GA JOB NUMBER: 860632 **OREQUEST CONSULTANTS LIMITED**

SAMPLE #	Cu	Ag	Au
	ppm	ppm	ppb
01691	14	.1	nd
01692	26	.1	nd
01693	16	.1	nd
01694	16	.1	nd
01695	24	.2	nd
01696	15	.2	nd
01697	21	.1	nd
01698	35	nd	nd

DETECTION LIMIT 1 0.1 5

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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(604) 251-5656

2033- 2237 ✓

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LIMITED
ADDRESS: 404 - 595 Howe Street
: Vancouver. B.C.
: V6C 2T5

DATE: Nov 18 1986
REPORT#: 860631 GA
JOB#: 860631

PROJECT#: RG-DR
SAMPLES ARRIVED: Nov 12 1986
REPORT COMPLETED: Nov 18 1986
ANALYSED FOR: Cu

INVOICE#: 860631 NA
TOTAL SAMPLES: 205
SAMPLE TYPE: 205 ROCK
REJECTS: SAVED

SAMPLES FROM: Timmins. Ont.
COPY SENT TO: MR. JIM CHAPMAN

PREPARED FOR: MR. GEORGE CAVEY

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

MAIN OFFICE
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NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
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VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 860631 GA JOB NUMBER: 860631 **OREQUEST CONSULTANTS LIMITED**

SAMPLE #	Cu ppm
2033	16
2034	20
2035	19
2036	20
2037	23
2038	58
2039	15
2040	15
2041	19
2042	17
2043	15
2044	20
2045	21
2046	20
2047	11
2048	15
2049	13
2050	13
2051	10
2052	17
2053	24
2054	15
2055	17
2056	25
2057	145
2058	70
2059	20
2060	24
2061	25
2062	15
2063	15
2064	15
2065	15
2066	19
2067	15
2068	14
2069	15
2070	15
2071	11
DETECTION LIMIT	1

nd = none detected — = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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VANCOUVER, B.C. V5L 1L6
(604) 251-5656

SAMPLE #	Cu ppm
2072	9
2073	15
2074	12
2075	15
2076	6
2077	12
2078	20
2079	14
2080	13
2081	14
2082	25
2083	55
2084	70
2085	69
2086	82
2087	40
2088	112
2089	204
2090	332
2091	1120
2092	850
2093	84
2094	1050
2095	310
2096	1330
2097	950
2098	1900
2099	1700
2100	640
2101	309
2102	810
2103	235
2104	167
2105	55
2106	35
2107	120
2108	119
2109	341
2110	288

DETECTION LIMIT 1

nd = none detected — = not analysed is = insufficient sample

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(604) 251-5656

SAMPLE #	Cu ppm
2111	190
2112	120
2113	103
2114	114
2115	116
2116	181
2117	79
2118	127
2119	45
2120	332
2121	335
2122	181
2123	205
2124	109
2125	210
2126	55
2127	164
2128	300
2129	170
2130	1090
2131	610
2132	520
2133	800
2134	1270
2135	210
2136	182
2137	133
2138	37
2139	100
2140	125
2141	165
2142	145
2143	140
2144	372
2145	570
2146	30
2147	46
2148	67
2149	65
DETECTION LIMIT	1

nd = none detected — = not analysed is = insufficient sample

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SAMPLE #	Cu ppm
2150	10
2151	60
2152	45
2153	58
2154	75
2155	53
2156	35
2157	158
2158	990
2159	148
2160	84
2161	22
2162	21
2163	26
2164	15
2165	30
2166	10
2167	10
2168	50
2169	130
2170	26
2171	24
2172	20
2173	20
2174	30
2175	55
2176	11
2177	9
2178	18
2179	17
2180	13
2181	20
2182	10
2183	10
2184	6
2185	5
2186	4
2187	4
2188	15
DETECTION LIMIT	1

nd = none detected — = not analysed is = insufficient sample

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SAMPLE #	Cu ppm
2189	5
2190	10
2191	5
2192	7
2193	10
2194	10
2195	9
2196	10
2197	15
2198	17
2199	16
2200	19
2201	20
2202	19
2203	24
2204	15
2205	18
2206	15
2207	12
2208	14
2209	13
2210	12
2211	20
2212	17
2213	18
2214	16
2215	15
2216	15
2217	14
2218	15
2219	15
2220	12
2221	19
2222	20
2223	20
2224	22
2225	19
2226	15
2227	14
DETECTION LIMIT	1

nd = none detected — = not analysed is = insufficient sample

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REPORT NUMBER: 860631 GA JOB NUMBER: 860631 **OREQUEST CONSULTANTS LIMITED**

SAMPLE #	Cu ppm
2228	15
2229	15
2230	20
2231	18
2232	14
2233	15
2234	15
2235	20
2236	24
2237	25

DETECTION LIMIT 1

nd = none detected — = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE
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NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

01751 - 01900 ✓
02238 - 02350 ✓
09801 - 09822 ✓

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LIMITED
ADDRESS: 404 - 595 Howe Street
: Vancouver. B.C.
: V6C 2T5

DATE: Nov 25 1986
REPORT#: 860655 AA
JOB#: 860655

PROJECT#: RG-DR
SAMPLES ARRIVED: Nov 20 1986
REPORT COMPLETED: Nov 25 1986
ANALYSED FOR: Cu

INVOICE#: 860655 NA
TOTAL SAMPLES: 285
SAMPLE TYPE: 285 DRILL CORE
REJECTS: SAVED

SAMPLES FROM: Timmins. Ont.
COPY SENT TO: MR. JIM CHAPMAN

PREPARED FOR: MR. JIM CHAPMAN

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

MAIN OFFICE
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NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 860655GA JOB NUMBER: 860655 **OREQUEST CONSULTANTS LIMITED**

SAMPLE #	Cu ppm
01751	76
01752	350
01753	295
01754	35
01755	48
01756	181
01757	1350
01758	85
01759	156
01760	25
01761	70
01762	61
01763	96
01764	148
01765	990
01766	70
01767	49
01768	50
01769	90
01770	76
01771	105
01772	51
01773	35
01774	32
01775	193
01776	76
01777	75
01778	275
01779	30
01780	73
01781	45
01782	15
01783	26
01784	24
01785	91
01786	28
01787	51
01788	16
01789	30
DETECTION LIMIT	1

nd = none detected — = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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(604) 986-5211 TELEX: 04-352578

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VANCOUVER, B.C. V5L 1L6
(604) 251-5656

SAMPLE #	Cu ppm
01790	10
01791	23
01792	15
01793	22
01794	20
01795	40
01796	52
01797	15
01798	21
01799	31
01800	45
01801	9
01802	10
01803	5
01804	9
01805	9
01806	5
01807	5
01808	8
01809	9
01810	5
01811	5
01812	4
01813	4
01814	8
01815	5
01816	5
01817	15
01818	6
01819	6
01820	6
01821	5
01822	10
01823	10
01824	9
01825	8
01826	6
01827	7
01828	15
DETECTION LIMIT	1

nd = none detected -- = not analysed is = insufficient sample

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SAMPLE #	Cu ppm
01829	6
01830	8
01831	5
01832	10
01833	11
01834	17
01835	16
01836	15
01837	11
01838	10
01839	7
01840	5
01841	7
01842	10
01843	15
01844	5
01845	8
01846	9
01847	15
01848	12
01849	15
01850	20
01851	15
01852	10
01853	12
01854	20
01855	2
01856	4
01857	3
01858	5
01859	5
01860	4
01861	3
01862	7
01863	5
01864	7
01865	6
01866	4
01867	10
DETECTION LIMIT	1

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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(604) 251-5656

REPORT NUMBER: 860655 AA JOB NUMBER: 860655 **OREQUEST CONSULTANTS LIMITED** PAGE 4 OF 8

SAMPLE #	Cu ppm
01868	6
01869	7
01870	14
01871	11
01872	6
01873	10
01874	25
01875	16
01876	25
01877	20
01878	11
01879	40
01880	11
01881	20
01882	20
01883	10
01884	10
01885	35
01886	84
01887	69
01888	123
01889	85
01890	98
01891	179
01892	246
01893	219
01894	61
01895	132
01896	60
01897	228
01898	650
01899	49
01900	59
02238	20
02239	21
02240	20
02241	15
02242	15
02243	18
DETECTION LIMIT	1

nd = none detected --- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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SAMPLE #	Cu ppm
02244	12
02245	15
02246	20
02247	17
02248	9
02249	11
02250	18
02251	11
02252	10
02253	42
02254	460
02255	150
02256	41
02257	70
02258	310
02259	540
02260	36
02261	372
02262	85
02263	8
02264	70
02265	70
02266	157
02267	189
02268	960
02269	308
02270	325
02271	121
02272	51
02273	205
02274	82
02275	36
02276	900
02277	40
02278	86
02279	300
02280	141
02281	210
02282	800
DETECTION LIMIT	1

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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(604) 251-5656

SAMPLE #	Cu ppm
02283	970
02284	292
02285	96
02286	125
02287	139
02288	41
02289	46
02290	99
02291	87
02292	48
02293	159
02294	244
02295	91
02296	160
02297	89
02298	1010
02299	112
02300	11
02301	16
02302	12
02303	31
02304	7
02305	5
02306	10
02307	10
02308	5
02309	5
02310	9
02311	9
02312	5
02313	8
02314	14
02315	7
02316	9
02317	10
02318	10
02319	35
02320	60
02321	15
DETECTION LIMIT	1

nd = none detected -- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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(604) 251-5656

SAMPLE #	Cu ppm
02322	11
02323	8
02324	5
02325	6
02326	6
02327	10
02328	4
02329	15
02330	10
02331	5
02332	10
02333	4
02334	5
02335	3
02336	5
02337	8
02338	5
02339	5
02340	10
02341	6
02342	10
02343	5
02344	5
02345	4
02346	5
02347	9
02348	6
02349	8
02350	6
09801	80
09802	195
09803	14
09804	15
09805	10
09806	19
09807	14
09808	15
09809	15
09810	19
DETECTION LIMIT	1

nd = none detected — = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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SAMPLE #	Cu ppm
09811	16
09812	20
09813	20
09814	25
09815	49
09816	174
09817	26
09818	14
09819	105
09820	14
09821	10
09822	14

DETECTION LIMIT 1
nd = none detected — = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE
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(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

01623 - 01628 , 1649 - 1650 ✓
01701 - 01750 ✓
09826 - 09839 ✓

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LIMITED
ADDRESS: 404 - 595 Howe Street
: Vancouver, B.C.
: V6C 2T5

DATE: Nov 27 1986
REPORT#: 860657 GA
JOB#: 860657

PROJECT#: RG-TR
SAMPLES ARRIVED: Nov 20 1986
REPORT COMPLETED: Nov 27 1986
ANALYSED FOR: Cu Ag Au (FA/AAS)

INVOICE#: 860657 NA
TOTAL SAMPLES: 72
SAMPLE TYPE: 72 ROCK
REJECTS: SAVED

SAMPLES FROM: Timmins, Ont.
COPY SENT TO: MR. JIM CHAPMAN

PREPARED FOR: MR. JIM CHAPMAN

ANALYSED BY: VGC Staff

SIGNED:

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
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REPORT NUMBER: 860657 GA JOB NUMBER: 860657 DREQUEST CONSULTANTS LIMITED

SAMPLE #	Cu ppm	Ag ppm	Au ppb	
01623	35	.4	nd	
01624	33	nd	nd	
01625	32	.4	nd	
01626	39	.3	nd	
01627	41	.4	260	✓
01628	59	nd	25	
01649	15	.3	nd	
01650	22	.5	5	
01701	11	.2	nd	
01702	10	.1	5	
01703	10	.1	5	
01704	5	.2	nd	
01705	145	.4	15	
01706	119	.2	nd	
01707	139	.4	20	
01708	25	.1	5	
01709	25	nd	nd	
01710	20	.2	nd	
01711	26	.3	nd	
01712	20	.3	nd	
01713	4	.2	15	
01714	17	.2	5	
01715	25	.2	nd	
01716	8	.3	nd	
01717	19	.1	nd	
01718	9	.2	nd	
01719	5	nd	nd	
01720	15	.1	40	
01721	20	.1	10	
01722	17	.1	nd	
01723	30	.1	nd	
01724	15	.4	nd	
01725	13	.1	nd	
01726	10	.4	nd	
01727	13	.1	5	
01728	18	.2	5	
01729	20	.2	15	
01730	11	.2	20	
01731	7	nd	nd	✓
DETECTION LIMIT	1	0.1	5	

nd = none detected --- = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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NORTH VANCOUVER, B.C. V7P 2S3
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE
1630 PANDORA ST.
VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 860657 GA JOB NUMBER: 860657 DREQUEST CONSULTANTS LIMITED

SAMPLE #	Cu ppm	Ag ppm	Au ppb	
01732	11	.1	nd	
01733	15	.1	nd	
01734	5	.2	nd	
01735	10	.3	nd	
01736	10	nd	nd	
01737	11	nd	nd	
01738	490	1.8	20	
01739	51	.6	10	
01740	51	1.0	30	
01741	290	.5	80	
01742	600	1.4	170	✓
01743	164	.5	30	
01744	101	.5	30	
01745	30	.6	5	
01746	20	.4	650	✓
01747	12	1.3	110	
01748	13	.6	115	
01749	295	.7	140	
01750	2140	5.9	5140	✓
09826	1610	1.0	65	
09827	560	.8	40	
09828	670	.6	nd	
09829	39	.2	45	
09830	50	.2	nd	
09831	45	.2	10	
09832	35	.1	15	
09833	24	.1	nd	
09834	60	.4	nd	
09835	51	1.0	240	✓
09836	15	.1	70	
09837	30	.3	70	
09838	13	.4	60	
09839	45	.5	140	✓

DETECTION LIMIT 1 0.1 5
nd = none detected -- = not analysed is = insufficient sample

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ASSAY ANALYTICAL REPORT

CLIENT: **OREQUEST CONSULTANTS LIMITED** DATE: Dec 17 1986
ADDRESS: 404 - 595 Howe Street
: Vancouver. B.C. **REPORT#: 860728AA**
: V6C 2T5 JOB#: 860728

PROJECT#: RG INVOICE#: 860728NA
SAMPLES ARRIVED: Dec 12 1986 TOTAL SAMPLES: 19
REPORT COMPLETED: Dec 17 1986 REJECTS/PULPS: 90 DAYS/1 YR
ANALYSED FOR: Cu Au Au SAMPLE TYPE: 19 DRILL CORES

SAMPLES FROM: OREQUEST CONSULTANTS LIMITED
COPY SENT TO: OREQUEST CONSULTANTS LIMITED

PREPARED FOR: MR. IAN CAMPBELL

ANALYSED BY: David Chiu

SIGNED: _____

Registered Provincial Assayer

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

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REPORT NUMBER: 860728AA JOB NUMBER: 860728 DREQUEST CONSULTANTS LIMITED PAGE 1 OF 1

SAMPLE #	Cu %	Au oz/st	Au oz/st
37456	<.01	<.005	-
37457	<.01	.016	.008
37458	<.01	<.005	<.005
37459	<.01	<.005	--
37460	<.01	<.005	--
37461	<.01	<.005	
37462	<.01	<.005	<.005
37463	<.01	<.005	--
38101	.03	<.005	-
38102	<.01	.034	
38103	<.01	<.005	
38104	<.01	.008	--
38105	<.01	.010	--
38106	<.01	.016	--
38107	<.01	.046	.040
38108	<.01	<.005	-
38109	.01	.010	--
38110	<.01	.008	--
38111	<.01	<.005	-
DETECTION LIMIT	.01	.005	.005

1 Troy oz/short ton = 34.28 ppm 1 ppm = 0.0001% ppm = parts per million < = less than

signed: _____

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(604) 251-5656

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LTD.
ADDRESS: 404 - 595 Howe Street
: Vancouver, B.C.
: V6C 2T5

DATE: Jan 13 1987

REPORT#: 870010 GA
JOB#: 870010

PROJECT#: REGAL/SAVAGE
SAMPLES ARRIVED: Jan 6 1987
REPORT COMPLETED: Jan 13 1987
ANALYSED FOR: Cu Au (FA/AAS)

INVOICE#: 870010 NA
TOTAL SAMPLES: 283
SAMPLE TYPE: 283 DRILL CORE
REJECTS: DISCARDED

SAMPLES FROM: Timmins, Ont.
COPY SENT TO: JIM CHAPMAN

PREPARED FOR: MR. GEORGE CAVEY

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

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(604) 251-5656

REPORT NUMBER: 870010 GA JOB NUMBER: 870010 **OREQUEST CONSULTANTS LTD.**

SAMPLE #	Cu ppm	Au ppb
09791	226	100
09792	76	nd
09793	35	nd
09794	15	nd
09795	27	nd
09796	21	nd
09797	42	nd
09798	20	nd
09799	12	nd
09800	24	nd
09840	15	nd
09841	7	nd
09842	12	80
09843	11	nd
09844	71	nd
09845	87	nd
09846	25	nd
09847	12	nd
09848	36	nd
09849	24	20
09850	22	10
09851	17	40
09852	20	nd
09853	24	nd
09854	40	nd
09855	19	nd
09856	21	nd
09857	27	nd
09858	10	nd
09859	15	nd
09860	11	40
09861	7	nd
09862	7	nd
09863	9	nd
09864	9	35
09865	30	nd
09866	9	240
09867	8	40
09868	33	40
DETECTION LIMIT	1	5

nd = none detected *— = not analysed* *is = insufficient sample*

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REPORT NUMBER: 870010 GA JOB NUMBER: 870010 **DREQUEST CONSULTANTS LTD.**

SAMPLE #	Cu ppm	Au ppb	
09869	10	nd	
09870	16	nd	
09871	15	80	
09872	38	nd	
09873	60	nd	
09874	71	65	
09875	68	nd	
37451	108	nd	
37452	55	nd	
37453	35	nd	
37454	74	nd	
37455	102	nd	
38051	12	nd	
38052	18	50	
38053	80	280	.008
38054	45	205	.006
38055	22	30	
38056	24	75	
38057	7	340	.010
38058	23	30	
38059	14	40	
38060	8	10	
38061	13	20	
38062	7	25	
38063	5	nd	
38064	10	nd	
38065	8	nd	
38066	8	nd	
38067	9	nd	
38068	10	nd	
38069	11	nd	
38070	12	30	
38071	11	25	
38072	25	nd	
38073	16	nd	
38074	13	nd	
38075	21	nd	
38076	13	nd	
38077	10	nd	
DETECTION LIMIT	1	5	

nd = none detected — = not analysed is = insufficient sample

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SAMPLE #	Cu ppm	Au ppb	
38078	14	nd	
38079	7	nd	
38080	12	40	
38081	13	nd	
38082	13	nd	
38083	20	nd	
38084	11	nd	
38085	11	nd	
38086	15	nd	
38087	18	nd	
38088	16	nd	
38089	36	nd	
38090	75	nd	
38091	15	nd	
38092	42	nd	
38093	131	nd	
38094	89	nd	
38095	13	nd	
38096	13	nd	
38097	15	nd	
38098	41	185	
38099	750	310	.009
38100	60	180	
38112	66	nd	
38113	37	nd	
38114	32	nd	
38115	95	445	.013
38116	33	nd	
38117	78	235	.007
38118	26	260	.007
38119	67	85	
38120	96	60	
38121	32	75	
38122	26	340	.010
38123	20	nd	
38124	21	nd	
38125	29	nd	
38126	54	70	
38127	16	nd	
DETECTION LIMIT	1	5	

nd = none detected -- = not analysed is = insufficient sample

RG-86-05

RG-86-7

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REPORT NUMBER: 870010 GA JOB NUMBER: 870010 **OREQUEST CONSULTANTS LTD.**

RG-46-7

RG-46-8

SAMPLE #	Cu ppm	Au ppb
38128	12	nd
38129	57	nd
38130	60	nd
38131	53	nd
38132	50	nd
38133	31	90
38134	52	40
38135	32	35
38136	36	nd
38137	5	nd
38138	6	nd
38139	4	nd
38140	12	nd
38141	28	nd
38142	14	nd
38143	31	80
38144	7	nd
38145	37	nd
38146	37	nd
38147	61	30
38148	53	40
38149	45	nd
38150	30	nd
38151	17	50
38152	35	nd
38153	16	60
38154	5	20
38155	15	nd
38156	21	nd
38157	65	nd
38158	80	nd
38159	50	nd
38160	10	nd
38161	60	nd
38162	100	nd
38163	99	nd
38164	103	nd
38165	86	nd
38166	21	nd
DETECTION LIMIT	1	5

nd = none detected -- = not analysed is = insufficient sample

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SAMPLE #	Cu ppm	Au ppb	
38167	36	nd	
38168	124	nd	
38169	120	nd	
38170	37	nd	
38171	31	nd	
38172	19	nd	
38173	2	nd	
38174	3	nd	
38175	1	nd	
38176	2	nd	
38177	11	270	.004
38178	54	nd	
38179	50	nd	
38180	26	nd	
38181	17	nd	
38182	12	nd	
38183	11	60	
38184	12	nd	
38185	11	nd	
38186	12	nd	
38187	11	nd	
38188	26	nd	
38189	31	nd	
38190	11	nd	
38191	10	nd	
38192	11	nd	
38193	81	nd	
38194	100	nd	
38195	100	nd	
38196	93	nd	
38197	83	nd	
38198	53	nd	
38199	30	nd	
38200	1	nd	
38201	1	nd	
38202	52	nd	
38203	1	nd	
38204	165	nd	
38205	7	80	
DETECTION LIMIT	1	5	

nd = none detected — = not analysed is = insufficient sample

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REPORT NUMBER: 870010 GA JOB NUMBER: 870010 **OREQUEST CONSULTANTS LTD.**

SAMPLE #	Cu ppm	Au ppb
38206	183	nd
38207	5	nd
38208	6	nd
38209	3	nd
38210	14	nd
38211	8	nd
38212	24	nd
38213	29	nd
38214	11	nd
38215	32	nd
38216	45	nd
38217	105	nd
38218	90	nd
38219	93	nd
38220	98	nd
38221	41	nd
38222	38	nd
38223	12	nd
38224	66	30
38225	50	40
38226	73	nd
38227	251	nd
38228	70	nd
38229	59	nd
38230	66	nd
38231	61	nd
38232	71	nd
38233	45	nd
38234	59	nd
38235	56	nd
38236	56	nd
38237	97	nd
38238	66	nd
38239	70	nd
38240	114	nd
38241	109	nd
38242	106	nd
38243	75	nd
38244	71	nd
DETECTION LIMIT	1	5

RG-46-9

nd = none detected — = not analysed is = insufficient sample

VANGEOCHEM LAB LIMITED

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(604) 251-5656

REPORT NUMBER: B70010 GA JOB NUMBER: B70010 **DREQUEST CONSULTANTS LTD.**

R6-86-9

R6-86-6

SAMPLE #	Cu ppm	Au ppb
38245	102	nd
38246	99	nd
38247	73	nd
38248	130	nd
38249	67	nd
38250	80	nd
38251	74	nd
38252	70	nd
38253	81	nd
38254	36	nd
38255	57	nd
38256	49	nd
38257	52	nd
38258	35	nd
38259	41	nd
38260	60	nd
38261	51	nd
38262	40	nd
38263	55	nd
38264	36	nd
38265	54	nd
38266	41	nd
38267	42	nd
38268	26	nd
38269	43	nd
38270	87	nd
38271	44	nd
38272	36	nd
38273	102	nd
38274	48	nd
38275	39	nd
38276	97	nd
38277	83	nd
38278	92	nd
38279	96	nd
38280	103	nd
38281	91	nd
38282	100	nd
38283	80	nd
DETECTION LIMIT	1	5

nd = none detected -- = not analysed is = insufficient sample

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REPORT NUMBER: 870010 GA JOB NUMBER: 870010 **DREQUEST CONSULTANTS LTD.** PAGE 8 OF 8

SAMPLE #	Cu ppm	Au ppb
38284	87	nd
38285	87	nd
38286	100	nd
38287	80	nd
38288	28	nd
38289	23	nd
38290	56	nd
38291	71	nd
38292	95	nd
38293	32	nd

DETECTION LIMIT 1 5

nd = none detected *--- = not analysed* *is = insufficient sample*

APPENDIX C

THIN SECTION REPORT

Harris
EXPLORATION
SERVICES

MINERALOGY AND GEOCHEMISTRY

534 ELLIS STREET, NORTH VANCOUVER, B.C., CANADA V7H 2G6 TELEPHONE (604) 929-5867

Job #87-1

January 26th, 1987

Report for: Jim Chapman,
Orequest Consultants Ltd.,
404-595 Howe Street,
Vancouver, B.C.
V6C 2T5

Samples:

24 core samples from the Regal Petroleum property, Ontario, for petrographic study.

The samples were prepared as conventional thin sections. Cross reference between sample numbers and slide numbers is as follows:

Sample No.	Slide No.
RG-2 35m.	87-004X
87m.	005X
88m.	027X
RG-3 260m.	006X
RG-4 30m.	007X
75m.	008X
135m.	009X
245m.	010X
255m.	011X
RG-5 130m.	012X
RG-6 22.7m.	013X
66.3m.	014X
86.6m.	015X
RG-7 58.2m.	016X
65.0m.	017X
108.0m.	018X
123.5m.	019X
139.0m.	020X
RG-8 15.7m.	021X
162.4m.	022X
RG-9 114m.	023X
144m.	024X
TR-4	025X
TR-13	026X

Summary:

This is a suite of rocks showing a very restricted compositional range, being

composed essentially of plagioclase, quartz, sericite and carbonate in various proportions. Additional or alternate components present in a few of them are chlorite and, in minor to trace amounts, rutile, pyrite, epidote and tourmaline.

Texturally these rocks display gradational characteristics. A few textural 'end-members' can be recognized with some confidence but many are less clearly identifiable as to genetic type.

The majority appear to be of igneous or pyroclastic origin. A few may be dominantly sedimentary, though probably still have tuffaceous affinities.

Sample RG-5 130m. is an intrusive-textured quartz diorite, strongly replaced by carbonate via a network of veinlets, but unsheared.

Sample RG-4 245m. also appears to have originated as a quartz diorite but has been strongly fragmented by shearing. It also differs from the previous sample in containing accessory K-feldspar.

Samples RG-2 35m. and 88m., RG-3 260m., RG-4 30m., 75m. and 135m., RG-7 65m. and RG-9 114m. are all closely similar. They are texturally heterogenous, with abundant individual crystals of plagioclase and lesser quartz set in a felsitic matrix which shows more or less clear evidence of shearing in the form of sinuous sericitic schlieren. The fine felsitic groundmass is believed to be of primary rather than cataclastic origin and these rocks are interpreted as probably being sheared quartz diorite porphyries. An alternative is that they are sheared andesitic to dacitic crystal tuffs.

Samples RG-4 255m. and RG-8 15.7m. also have a somewhat sheared aspect but have much less abundant coarse plagioclase phenocrysts or clasts. They are most likely modified tuffs.

Samples RG-2 87m. and RG-8 162.4m. are rather homogenous, fine-grained, weakly foliated rocks lacking any evidence of shearing. They are probably tuffs. The last of the three is of distinctive composition in that it contains chlorite and no sericite, possibly indicating a more mafic original composition. Sample RG-9 144m. may be of similar type but is particularly enriched in carbonate.

Sample RG-7 108m. shows the best developed pyroclastic features of all the suite. It is unquestionably a mixed lithic crystal tuff.

Samples RG-7 58.2m. and 123.5m. are also identified as tuffs but, unlike the previous sample (which is relatively coarse grained and shows no perceptible layering on the thin section scale), are fine-grained rocks which show a distinct lamination and have only a minor content of plagioclase crystal clasts or quartz eyes.

The three samples from RG-6 (at 22.7m., 66.3m. and 86.6m.) are similar fine-grained, laminated rocks, typically with well-differentiated, micaceous (possibly sedimentary) and feldspathic (tuffaceous?) laminae. The first of them is distinctive in that the felsitic component is very minor and the rock is unique in containing major amounts of biotite. The last of the above samples is essentially devoid of recognizable clasts and may be dominantly sedimentary. The group probably represents a sequence of tuffaceous siltstones. All show strong deformation.

Samples TR-4 and TR-13 are also fine-grained laminated rocks, but undeformed. The first is distinctive in containing no sericite or chlorite; it appears to be a thin-bedded, calcareous, tuffaceous siltstone. The second shows well-developed clastic sedimentary textures and consists of interlaminated fine-grained feldspathic

wacke and calcareous siltstone.

The remaining sample, RG-7 139m., appears to be of a different type to the rest. It is made up essentially of a homogenous, fine-grained, random aggregate of plagioclase of igneous aspect and is possibly an andesitic dyke.

All the rocks of the suite show the effect of mild regional metamorphism, leading to the partial recrystallization of original plagioclase and the development of sericite, chlorite and occasionally epidote.

A proportion of the samples exhibit cataclastic structures suggestive of shearing. A few others show strong small-scale crumpling producing an axial plane cleavage.

The effect of alteration is difficult to assess. Plagioclase, whether as coarser phenocrysts or clasts, or as fine-grained matrix, typically appears essentially fresh except for incipient sericitization.

The abundance of carbonate in most of the rocks may, in part, represent a form of alteration. In some cases the textural relationships (veining, pseudomorphing) are indicative of this; moreover the carbonate introduction appears sometimes to have been accompanied by minor silicification, in the form of associated micro-granular, chert-like quartz.

For the most part, however, the carbonate exhibits an intimately intergrown, inter-laminated relationship which suggests that it may have formed concurrently with the tuffs as a chemical sedimentary addition at the site of deposition. Whatever its origin, it largely predates the metamorphism and recrystallization.

The carbonate in almost all cases shows little or no reactivity to dilute acid and is presumably of dolomitic, or accasionally ankeritic composition. Exceptions are RG-6 22.7m. and 86.6m. and RG-7 123.5m. where it is apparently calcitic.

J.F. Harris Ph.D.

Sample RG-2 35m (Slide 87-004X) SHEARED QUARTZ-FELDSPAR PORPHYRY

Estimated mode

Plagioclase	60
Quartz	30
Sericite	6
Carbonate	2
Pyrite	2

This rock consists of equant, subhedral plagioclase crystals, 0.2 - 1.5mm in size, together with lesser quartz of similar size range, set in a very fine-grained felsitic matrix. The latter has a grain size of 5 - 20 microns and consists of plagioclase and quartz in indeterminate proportions.

In addition to the individual phenocryst-like grains, a fair proportion of quartz is in the form of finer-grained aggregates. These often occur peripheral to quartz phenocrysts and between and around clumps of plagioclase phenocrysts. The quartz typically shows strain polarization.

The rock is traversed by discrete, sinuous, sub-parallel, wispy schlieren of sericite which diverge around the phenocrysts and define a weak, ill-defined, locally micro-lenticular foliation. The plagioclase phenocrysts and felsitic groundmass also show incipient to very weak pervasive sericitization.

Carbonate occurs sparsely as random flecks, intergrown with the granular quartz and associated with the sericite wisps.

Pyrite occurs as randomly disseminated, subhedral, sometimes skeletal grains to 0.5mm in size.

This rock has the aspect of a rather fresh but somewhat sheared igneous (quartz dioritic) intrusive. The shearing does not appear strong enough to have produced the fine felsitic matrix by cataclasis. This is therefore interpreted as a primary component, representing the groundmass in an original porphyritic rock.

Some of the finer-grained quartz may represent peripheral granulation of phenocrysts and some may be of introduced origin (silicification).

The lack of any mafic silicates (or derived alteration products) is notable.

Sample RG-2 87m. (Slide 87-005X)

Estimated mode

Plagioclase	62
Quartz	19
Sericite	10
Chlorite	5
Carbonate	1
Epidote	3
Tourmaline	trace
Rutile)	trace
Opaques)	

This is a weakly foliated, homogenous rock exhibiting the texture of a fine-grained sediment or tuff.

It consists principally of an aggregate of plagioclase and lesser quartz in the size range 0.01 - 0.05mm, with randomly scattered angular clasts around 0.1mm in size. A few bands or lenses are made up of coarser grains to 0.2mm or so.

Fine-grained sericite and chlorite (often intergrown) form oriented tiny flakes throughout. These tend to coalesce as small diffuse wisps, but show no segregation into discrete continuous schlieren or foliae. The rock thus appears essentially unfoliated on the macro scale.

Epidote is the other accessory constituent, as evenly disseminated tiny specks, locally coalescing to small microgranular clusters.

Carbonate occurs as a few sub-concordant or discordant hairline veinlets, sometimes with traces of limonite or with intergrown epidote and/or chlorite. One coarser cross-cutting veinlet of carbonate (0.5mm thick) contains abundant, well-formed prismatic grains of blue-green tourmaline.

This rock has the aspect of an undeformed, fine-grained, metamorphosed sediment or volcaniclastic.

Sample RG-2 88m. (Slide 87-027X) SHEARED QUARTZ-FELDSPAR PORPHYRY

Estimated mode

Plagioclase	64
Quartz	12
Sericite	17
Carbonate	6
Rutile	1

This is a rock of similar type to RG-2 35m., though somewhat more strongly sericitic.

It consists of subhedral phenocrysts of plagioclase and lesser angular grains of quartz to 1.0mm in size, set in a felsitic groundmass. The plagioclase phenocrysts occur as individuals and concentrated in lenticular clumps, often with associated microgranular quartz.

The plagioclase phenocrysts show weak to occasionally moderate pervasive sericitization (as randomly oriented or crystallographically controlled flecks). The felsitic groundmass is rather extensively pervaded by fine-grained sericite as diffuse wisps. Locally these form sinuous through-going schlieren with intergrown fine-grained carbonate. These define a distinct foliation.

Minor carbonate also occurs as random granules and pockets throughout, especially in association with microgranular quartz and phenocryst clusters.

Disseminated specks and clumps of rutile are relatively abundant, often showing a close association with the carbonate/sericite schlieren.

Sample RG-3 260m. (Slide 87-006X) ALTERED PORPHYRY (OR TUFF?)

Estimated mode

Plagioclase	65
Quartz	18
Sericite	2
Carbonate	13
Chlorite	trace
Tourmaline	1
Rutile	trace
Pyrite	1

This is a rock of similar composition and general aspect to the sheared porphyries from RG-2. It differs in being somewhat more heterogenous, having a higher content of carbonate, and in lacking quartz phenocrysts.

Plagioclase phenocrysts are 0.2 - 2.0mm in size and range from euhedral to anhedral in form. The latter type often appear to be the result of marginal assimilation by the felsitic groundmass or by microgranular quartz.

Quartz appears to be almost entirely in the form of microgranular clumps and streaks. These are sometimes diffusely developed within the groundmass, sometimes closely associated with clusters or lenses of plagioclase phenocrysts, sometimes intimately intergrown with carbonate as sub-concordant streaks and lenticular masses,and occasionally of discordant, veniform character.

This rock contains very little sericite. What there is occurs as occasional wispy schlieren in the groundmass and as a very sparse dusting in some of the plagioclase phenocrysts.

Carbonate, by comparison, is abundant; it occurs as dispersed flecks and pockets throughout, locally concentrating as diffuse to compact lenses, sometimes with associated microgranular quartz. Rarely it forms discordant hairline veinlets.

A notable constituent is dark bluish-green tourmaline, as small radiate clusters of very fine-grained hair-like, acicular crystals and occasional more granular clusters. It is closely associated with (and usually included within) carbonate.

Minor pyrite occurs randomly disseminated and as trains of elongate grains associated with some of the carbonate/quartz lenses.

This rock does not appear to be significantly sheared. However, much of the carbonate and quartz have the textural aspect of introduced constituents, indicating that it may be rather extensively altered.

There is a tendency for the porphyry-textured rock to occupy a central zone in the slide and to be flanked by bands (?) in which phenocrysts are sparse and the groundmass shows more extensive carbonate and granular quartz development. An alternative interpretation is that this is a pyroclastic in which a central band rich in crystal clasts is interlayered with finer, more altered tuff.

Sample RG-4 30m. (Slide 87-007X)

Estimated mode

Plagioclase	72
Quartz	20
Sericite	3
Carbonate	5
Rutile	trace
Pyrite	trace

This rock is of very similar type to RG-2 35m., consisting of abundant individual and clumped phenocryst-like grains of plagioclase and lesser quartz in a felsitic matrix.

Sericite occurs as very fine-grained dispersed flecks through the groundmass, only rarely concentrating as discrete wisps or sinuous envelopes to phenocrysts. Carbonate likewise forms random interstitial flecks, especially in association with clusters of phenocrysts. The fabric is only very weakly foliated.

The plagioclase phenocrysts mainly show little or no pervasive sericitization.

Quartz phenocrysts rather commonly show peripheral granulation. Similar microgranular quartz sometimes forms irregular pockets and networks between plagioclase crystals.

The phenocrysts in this rock are noticeably more rounded than in previous samples, and tend to show a weak preferred orientation parallel to the foliation, resulting in a somewhat clastic (greywacke-like) appearance in thin section.

Sample RG-4 75m. (Slide 87-008X)

Estimated mode

Plagioclase	67
Quartz	18
Sericite	11
Carbonate	2
Epidote	2
Chlorite	trace

This is another rock showing similar features to the previous samples of sheared quartz-diorite porphyry. The presence of epidote is, however, a distinctive feature (previously seen only in RG-2 87m., a fine-grained rock of different type).

Phenocrysts (of mildly sericitized plagioclase and lesser quartz) are 0.2 - 2.0mm in size, and range from euhedral to rounded. They occasionally show a preferred elongation parallel to the rather well-defined foliation.

Sericite is relatively abundant, as very fine-grained diffuse impregnations, locally concentrating as parallel, wispy schlieren. Fine-grained epidote is a common associate as specks and small clusters throughout the sericitic zones.

Carbonate is minor, mainly occurring concentrated in a single thin (concordant) zone at one end of the slide.

Quartz occurs, as in the other rocks, as individual phenocrysts, sometimes partially granulated, and as irregualr pockets of microgranular material in the groundmass and interstitial to clumps of plagioclase phenocrysts.

The rock exhibits a tendency for banded alternations of phenocryst-rich material and strongly sericitic material with few phenocrysts, possibly more highly sheared zones in which phenocrysts have been largely broken down by cataclasis and/or alteration. The alternative hpothesis of coarser and finer tuffaceous laminae could also apply.

Sample RG-4 135m. (Slide 87-009X)

Estimated mode

Plagioclase	68
Quartz	15
Sericite	12
Carbonate	2
Epidote	2
Chorite	1
Rutile)	
Leucoxene)	trace

This is another rock of essentially the same type as the majority of previous samples in the suite. The overall size of the phenocrysts is slightly smaller (maximum 1.0mm) and they are often notably angular in shape. This is especially true of the quartz, though the plagioclase also shows poor development of crystal form. Random orientation of the phenocrysts (with only minimal tendency for elongation parallel to the weak foliation) is another feature which adds to the rather heterogenous, gritty textural aspect.

Sericite, in very fine-grained form, is rather extensively developed throughout the groundmass, concentrating as short parallel wisps between the phenocrysts. The plagioclase phenocrysts also show rather consistent weak pervasive sericitization (in random orientation).

Carbonate is minor, as small pockets interstitial to (and partially replacing?) plagioclase in some sericite-poor zones of small phenocrysts.

Fine-grained epidote and traces of sphene and leucoxene occur as small flecks, trains and clusters associated with sericite wisps.

Scattered small pockets of chlorite are seen, often apparently replacing plagioclase phenocrysts and/or associated with carbonate.

Sample RG-4 245m. (Slide 87-010X) SHEARED QUARTZ DIORITE

Estimated mode

Plagioclase	60
Quartz	12
K-feldspar	5
Carbonate	12
Sericite	10
Rutile	trace
Pyrite	1

This rock is distinct from all previous samples of the suite in containing accessory K-feldspar, and in exhibiting a texture clearly indicative of cataclasis of an original medium-grained, non-porphyritic, quartz dioritic intrusive.

It consists of remnant patches and lensoid augen up to 5mm in size, made up of strained, partially recrystallized, polygranular aggregates of plagioclase with intergrown accessory quartz and microcline, set in a strongly sheared, sericitized matrix. The latter apparently represents a more strongly granulated, disaggregated form of the same rock seen as the more coherent remnants.

The sheared form consists of felsitic material intimately intergrown with very fine-grained sericite. The latter locally concentrates as strong, through-going schlieren which define a distinct foliation. These sericitic shears sometimes separate fractured portions of such remnants.

Carbonate is also rather abundant, as irregular patches and randomly disseminated grains. It is concentrated in the less sericitized areas of granulated feldspars, and in streaky quartzose segregations. It also appears to form replacements of some of the less granulated kernels of intrusive. It possibly predates the main shearing and sericitization.

Minor disseminated fine-grained pyrite and rutile are partly random in their distribution and partly form short trains paralleling the sericitic shears.

Sample RG-4 255m. (Slide 87-011X)

Estimated mode

Plagioclase	38
Quartz	24
Carbonate	25
Sericite	12
Rutile	trace
Pyrite	1

This sample represents another variant of the sheared quartzo-feldspathic igneous lithotype making up the bulk of the suite.

Remnant phenocrysts are essentially absent, and the rock consists largely of felsitic material (possibly representing a finely granulated form of a coarser original rock) together with abundant carboante, quartz and sericite which have the aspect of alteration products (since more or less recrystallized).

The fabric is quite strongly oriented, with a foliation defined by sinuous, sub-parallel schlieren of sericite (sometimes with trains of fine-grained rutile). These separate streaky bands and lenses which consist of felsitic plagioclase with finely dispersed sericite and disseminated carbonate. Locally small rather ill-defined plagioclase phenocrysts, to 0.5mm in size, are recognizable in this material.

Carbonate also concentrates as extensive zones of en-echelon lenses with abundant intergrown granular quartz. This quartz appears distinct from the occasional, individual, more or less granulated augen or phenocrysts.

The quartz/carbonate zones locally exhibit small-scale kinks and micro-structural disturbances.

Disseminated pyrite occurs as rather coarse grains, strongly associated with the lenses and anastomosing networks of carbonate and granular quartz, which may be partly of introduced origin.

Sample RG-5 130m. (Slide 87-012X) ALTERED QUARTZ DIORITE

Estimated mode

Plagioclase	50
Quartz	20
Carbonate	27
Sericite	3
Rutile	trace

This sample is unique in the suite in being a non-foliated rock, strongly altered but exhibiting no evidence of shearing.

It clearly originated as a medium-grained quartz diorite consisting dominantly of a granular aggregate of subhedral plagioclase of grain size 0.3 - 5.0mm. Accessory quartz, intergrown with the plagioclase in interstitial and sometimes graphic-textured relationship, is clearly of primary magmatic origin.

The plagioclase shows a rather even, weak to moderate, pervasive dusting of sericite and fine-grained carbonate. The major alteration, however, is carbonate in the form of a coarse network of irregular veinlets, intergranular fillings and coarse replacement patches. Locally the carbonate includes considerable intergrown microgranular quartz which appears to represent an associated introduced phase of silicification.

Fine-grained rutile, as irregular disseminated flecks, is a common (though trace-level) constituent of the carbonate alteration. Occasionally this is in the form of small angular clumps which may represent pseudomorphs of original mafic accessories.

Sample RG-6 22.7m. (Slide 87-013X) ALTERED LAMINATED MAFIC TUFF?

Estimated mode

Biotite	34
Chlorite	8
Felsite	8
Carbonate	30
Sericite	20
Tourmaline	trace
Apatite	trace
Sphene) Rutile)	trace

This slide is made up of a folded, thinly laminated sequence and shows a green and a white lithotype in conformable contact.

The green portion is made up essentially of intimately intergrown, very fine-grained biotite and sericite, with lesser chlorite. The fabric is dominantly a felted one, locally displaying partial orientation. A fair degree of internal micro-deformation may be present.

Some sub-parallel lensy/laminar segregation of biotite-rich vs sericite-rich composition is seen, and chlorite also tends to concentrate as localized wisps.

A cryptocrystalline felsitic material is the other component and can be distinguished throughout as diffuse remnants - possibly representing an original matrix now almost totally obscured by the growth of biotite and sericite. Locally the felsitic phase forms small, better-defined, lensoid patches in which vestiges of plagioclase phenocrysts or clasts can sometimes be seen.

Scattered individual grains of apatite occur within the micaceous aggregate, as well as traces of dissemianted fine-grained rutile and sphene.

The white portion of the slide is composed dominantly of carbonate as ragged, relatively coarse-grained clumps and streaks (possibly disrupted laminae). Irregular patches and lenses of the biotite/sericite/chlorite assemblage and, occasionally, of felsitic plagioclase occur within the dominant carbonate.

Disseminated tiny grains of tourmaline are seen within the biotite-rich rock at the contact with the mixed carbonate/argillite sequence.

This rock may be an altered/metamorphosed, fine-grained, calcareous, mafic tuff.

Sample RG-6 66.3m. (Slide 87-014X)

Estimated mode

Felsite) Plagioclase)	52
Quartz	8
Carbonate	27
Sericite	10
Chlorite	3
Tourmaline	trace
Rutile	trace
Pyrite	trace

This is a fine-grained laminated rock showing strong deformation. It consists essentially of alternating bands composed dominantly of felsitic plagioclase and of sericite and chlorite.

The micaceous bands are similar to silty argillites and contain more or less intergrown, minutely interlayered, fine-grained quartzo-feldspathic material. They show intense close-spaced crenulation, with development of axial plane cleavage.

The felsitic bands contain tiny plagioclase crystals and clumps of micro-granular quartz, as well as varying amounts of intimately interlayered sericitic material. A few bands contain coarser plagioclase crystals (clasts?) and quartz augen up to 1.0mm in size. The coarser grains show partial destruction and assimilation by recrystallization.

Carbonate is an abundant constituent of the rock. It occurs as thin semi-continuous bands and trains of disseminated grains in the felsitic laminae. These show a sinuous deformation pattern and apparently represent concordant primary calcareous zones. Carbonate also occurs in interstitial mode between clumps of plagioclase crystals in the coarser quartzo-feldspathic laminae. A third form is as extensive irregular patches of granular mosaic which apparently represent more substantial interbeds which have suffered complex disruption and remobilization.

Traces of tourmaline and contorted films of rutile are seen in some of the argillaceous (sericitic) bands.

This rock appears to be a metamorphosed, laminated, calcareous, argillaceous tuff.

Sample RG-6 86.6m. (Slide 87-015X)

Estimated mode

Felsite	20
Quartz	7
Sericite	26
Chlorite	14
Carbonate	32
Rutile)	1
Leucoxene)	
Tourmaline	trace

This is another rock of similar general type to the preceding two samples from RG-6.

It consists of alternating thin laminae (0.2 - 2.0mm in thickness) made up of various proportions of intimately intergrown carbonate, sericite/chlorite and felsitic plagioclase and/or fine-grained quartz.

The grain size throughout is in the range 0.01 - 0.1mm, and discrete plagioclase clasts or quartz fragments are very rare.

As in the previous sample traces of tourmaline are seen in some of the argillaceous laminae.

The rock shows close-spaced crumpling throughout, with the development of a prounounced axial plane cleavage (emphasized in the micaceous zones by strong concentrations of micron-sized rutile).

Of the three related rocks from RG-6 this one shows the least obvious tuffaceous affinities. It would appear to be essentially a laminated, calcareous siltstone/argillite.

Sample RG-7 58.2m. (Slide 87-016X)

Estimated mode

Felsite	26
Plagioclase	4
Quartz	14
Carbonate	44
Sericite	12
Rutile)	trace
Leucoxene)	
Pyrite	trace

This sample shows a somewhat lensy, laminated structure on the scale 0.5 - 2.0mm.

It is of similar composition to the preceding samples (from RG-6) but is undeformed. It consists of alternating, somewhat interfingering laminae made up of varying proportions of felsitic plagioclase and fine-grained quartz, carbonate and sericite. These constituents are typically intimately intergrown and the laminae show less clear-cut differentiation than in the RG-6 rocks.

The more quartzo-feldspathic bands often show scattered quartz eyes (angular to rounded grains up to 1.0mm in size) and plagioclase clasts, sometimes as well-defined lensoid clumps and sometimes partially assimilated into the recrystallized groundmass. These features clearly attest to the igneous or pyroclastic affinities of the rock.

Fine-grained carbonate is disseminated throughout and concentrates as trains of elongate grains and as more or less distinct laminae. Sericite occurs in similar mode but is less abundant. Wisps of micron-sized rutile occur within the occasional, thin, concordant, sericite-rich schlieren.

This rock does not appear to show evidence of the intense shearing which would have been required to produce it cataclastically from an igneous progenitor. It is more likely a somewhat metamorphosed/recrystallized thin-bedded, calcareous tuff.

Sample RG-7 65.0m. (Slide 87-017X)

Estimated mode

Felsite	35
Plagioclase crystals	28
Quartz	8
Sericite	16
Carbonate	12
Rutile	1

This rock appears to be of similar type to the samples from RG-2 classified as sheared porphyrites. It is, however, somewhat finer grained and has a lower ratio of phenocrysts (or clasts) to felsite. An alternative origin for these rocks is shearing of rather coarse crystal tuffs.

It consists of scattered, individual, equant/subhedral grains of mildly sericitized plagioclase and angular grains of quartz, and linear trains and lenses of such grains, set in a predominant felsitic matrix.

The quartz clasts tend to be somewhat coarser than the plagioclase, occasionally reaching 2.0mm in size.

The felsitic matrix contains intimately intergrown, well-oriented, very fine-grained sericite, concentrating as parallel wispy schlieren. These sometimes outline coarse flattened lenticles of felsite which appear to be stretched fragments.

Carbonate occurs as a fine-grained disseminated component, partly segregated as small elongate lenses and also in slightly coarser granular form interstitial to clumps of plagioclase crystals.

The parallel elongation of sericite schlieren, trains of plagioclase clasts and carbonate wisps bestows a rather well-defined foliation.

Sample RG-7 108.0m. (Slide 87-018X) LITHIC CRYSTAL TUFF

Estimated mode

Felsite)	20
Lithic fragments)	
Plagioclase crystals	40
Quartz	10
Sericite	5
Chlorite	10
Carbonate	15
Rutile	trace

Of all the rocks of the suite, this shows the most abundant and undeniable pyroclastic features.

It is an aggregate of randomly oriented, angular to sub-rounded plagioclase crystal clasts, 0.1 - 1.0mm in size, with lesser angular quartz grains to 2.0mm. These are set in a matrix of smaller crystals and felsitic plagioclase, with intimately intergrown carbonate, chlorite and minor sericite. The carbonate forms irregular, patchy concentrations as well as a few discordant veinlets.

The rock also contains obvious lithic fragments, up to 5mm in size, which are commonly strongly flattened or elongated. Some of these are felsitic, some porphyritic, and some shaly (micaceous). The parallelism of these lenticular lithic clasts constitutes almost the only perceptible planar structure in the rock.

Sample RG-7 123.5m. (Slide 87-019X)

Estimated mode

Felsite	20
Plagioclase	3
Quartz	3
Carbonate	50
Chlorite	16
Sericite	8
Rutile	trace
Pyrite	trace

This rock is a finely laminated, highly calcareous rock which is probably a fine-grained silty tuff.

It exhibits lamination on the scale 0.5 - 2.0mm, and a strongly oriented fabric.

The laminae are composed of the usual constituents: felsitic plagioclase, chlorite, sericite and carbonate in various proportions. They range from essentially monomineralic to gradational mixtures.

Carbonate is particularly abundant, as strongly flattened, elongate grains, commonly coalescing to form discrete laminae. Sericite and chlorite also form occasional thin concentrated layers.

Crystal clasts (plagioclase and quartz) are sparse and small (generally up to 0.2mm or, rarely, 0.5mm). They occur randomly disseminated.

Traces of fine-grained rutile occur in the less carbonate-rich bands. There are also rare small randomly disseminated clusters of pyrite.

The rock shows a strong slightly sinuous foliation representing original layering.

Sample RG-7 139.0m. (Slide 87-020X)

Estimated mode

Plagioclase	80
Quartz	8
Sericite	6
Chlorite	4
Carbonate	2
Rutile	trace

This rock is texturally distinct from all others of the suite.

It consists essentially of a fine-grained aggregate of subhedral to anhedral plagioclase of grain size 0.01 - 0.3mm, with occasional euhedral grains to 1.0mm. The fabric is randomly oriented, locally mesh-like, and looks igneous. It could be classified as sub-porphyritic with the finest grains occurring interstially to the coarser ones but without a true groundmass.

The plagioclase shows a weak pervasive dusting of sericite. Sericite and chlorite also occur in interstitial mode and as an irregular network of somewhat diffuse hair-line veinlets.

Quartz occurs as minor interstitial pockets and, occasionally, as irregular veinlike bodies.

Carbonate is rare, occurring mainly as flecks associated with quartzose pockets.

The rock shows partial recrystallization, evidenced by blurring of original crystal outlines, and by local patches of textural coarsening. Also the sericite in the veinlet network shows a consistent orientation suggesting that the rock bears an overprint of dynamic metamorphism.

Its texture is consistent with origin as a feldspathic (andesitic) dyke.

Sample RG-8 15.7m. (Slide 87-021X)

Estimated mode

Plagioclase) Felsite)	42
Quartz	12
Sericite	30
Carbonate	16
Rutile	trace
Tourmaline	trace

This is another fine-grained, rather diffusely laminated rock.

It consists principally of an intimate intergrowth of sericite and felsitic material with accessory carbonate. The sericite is very fine-grained and occurs abundantly throughout as well oriented minute flakes, frequently concentrating as more or less coherent lensy laminae.

The felsite matrix is generally of grain size 0.01 - 0.05mm and appears somewhat recrystallized. It shows a tendency for grain flattening or elongation, emphasising the well-foliated fabric defined by the abundant sericite. Recognizable plagioclase crystals (clasts or phenocrysts) 0.1 - 0.2mm in size and equant in shape, are relatively common and tend to occur in lines.

Quartz clasts tend to be considerably coarser in size (to 2.0mm) and are rather abundant. They are angular to sub-rounded in shape and show random orientation with respect to the foliation.

Carbonate occurs rather evenly distributed as small wisps and lines of disseminated irregular grains, as well as coarser patches associated with concentrations of plagioclase and quartz clasts.

Rutile forms strings of small granules associated with the more sericitic laminae. Traces of tourmaline were seen as occasional lines of tiny prisms, elongated parallel to the foliation.

The foliation is distinctly sinuous and anastomosing, and there is local small-scale crumpling.

Sample RG-8 162.4m. (Slide 87-022X)

Estimated mode

Felsite	40
Chlorite	26
Carbonate	32
Rutile	2

This is a rock of distinctive texture and mineralogy compared to the rest of the suite. It contains no sericite and displays no lamination or banding.

It consists of an evenly fine-grained felsitic aggregate of grain size 0.01 - 0.1mm, showing strong grain flattening. Chlorite, of similar grain size, occurs as an intergranular phase of well-oriented individual flakes, commonly coalescing as diffuse streaks and networks.

Carbonate is a major constituent, as disseminated grains and small clumps, commonly clustering to form en-echelon swarms and small lenses. It also shows strong parallel grain elongation and much of it is considerably coarser (up to 0.5mm) than the other components.

Rutile, and traces of opaques (oxides or sulfides), occurs as rather abundant disseminated irregular granules. These are closely associated with the chlorite but lack the strong orientation exhibited by the other constituents.

No quartz eyes or coarser plagioclase crystals are present.

The strongly oriented grain fabric appears to be an effect of recrystallization. The rather irregular, streaky/lensy concentrations of the major components may be a relic of pre-metamorphic deformational or fragmental structures.

The original character of this rock is indeterminate, but its mineralogy is consistent with that of an altered, metamorphosed mafic tuff.

Sample RG-9 114m. (Slide 87-023X)

Estimated mode

Felsite	34
Plagioclase crystals	20
Quartz	8
Sericite	14
Chlorite	12
Carbonate	12
Rutile	trace

This is a similar type of rock to RG-7 65m. except that it contains chlorite and the felsitic matrix looks a little coarser and more recrystallized.

It consists of a matrix of felsite of somewhat variable grain size, with intimately intergrown chlorite and sericite. These concentrate as close-spaced, wispy schlieren, bestowing a sinuous foliation which shows occasional local crunpling.

Carbonate exhibits a similar mode but is more restricted in its occurrence, being concentrated mainly in a few discrete lenses or laminae.

Plagioclase crystals and lesser quartz grains, in the size range 0.1 - 1.0mm, are rather abundant. They occur as scattered individuals and small lensoid clusters. They commonly show marginal granulation/recrystallization and partial assimilation by the matrix.

The texture overall is lensy. The rock is foliated but shows no well-defined layered compositional or grain size variations. In particular it lacks the intercalated, strongly argillaceous (micaceous) bands seen in some of the other, otherwise similar, samples.

Sample RG-9 144m. (Slide 87-024X)

Estimated mode

Felsite	40
Quartz	8
Carbonate	34
Sericite	10
Chlorite	7
Rutile	1
Pyrite	trace

This rock exhibits textural details which set it apart from others of the suite, although it is clearly of similar general type.

It consists basically of a rather even, very fine-grained felsitic aggregate of grain size 0.01 - 0.03mm, with intimately intergrown sericite and chlorite of similar grain size. The latter constituents are very evenly distributed and show little or no tendency to concentrate as discrete wisps or schlieren. Fine-grained rutile occurs as disseminated granules.

The rock contains none of the coarser plagioclase crystals or quartz eyes seen in many of the other samples.

Carbonate is a major component. It occurs in distinctive manner as lines and lenticular clusters of equant, sub-prismatic grains, 0.1 - 0.5mm in size, which look very like pseudomorphs of original plagioclase crystals. It also forms a few thin coherent vein-like bodies or laminae; these are concordant with the lines of pseudomorph-like, individual carbonate grains mentioned above, and locally merge with them. In this form the carbonate often has intergrown streaks and patches of microgranular quartz and rare grains of pyrite.

These features suggest the possibility that the carbonate in this rock is mainly of introduced (alteration) origin and that the associated quartz represents an episode of silicification. It may, therefore, represent an altered version of the tuff lithotype which dominates the suite.

This rock exhibits only a weak foliation, defined by the linear arrangement of carbonate concentrations and some crudely banded variations in the abundance of intergrown sericite and chlorite in the felsite. It is notable that the individual flakes of micaceous minerals show a strong parallelism (somewhat disturbed by local minor crumpling) but this is oblique to the weak mineralogical banding, not parallel to it as in the majority of samples.

Sample TR-4 (Slide 87-025X)

Estimated mode

Felsite) Plagioclase)	36
Quartz	16
Carbonate	42
Limonite	5
Rutile) Leucoxene)	1

This sample represents still another variant of the fine-grained felsitic, probably tuffaceous lithotype which dominates the suite.

It is unique in totally lacking any sericite or chlorite. Carbonate, by comparison, is extremely abundant.

It is a very fine-grained rock showing a strong, slightly sinuous, but essentially undisturbed laminar structure paralleling a very well-oriented grain fabric.

The felsitic matrix contains scattered small individual plagioclase crystals to 0.2mm in size, and rare composite augen of coarser plagioclase with intergrown carbonate. Thin, lensy variations in felsite grain size are common.

Quartz is relatively abundant, often segregating as microgranular laminae and lenses, and also forming scattered polygranular augen.

Carbonate is intimately intergrown throughout, as rather elongate grains, commonly coalescing to semi-continuous streaks and networks, and also forming some well-defined laminae, often with intergrown microgranular quartz. A proportion of the carbonate is of distinctive form, being extremely fine-grained and almost sub-opaque in appearance, partially as a result of intergrown flecks and cryptocrystalline inclusions of rutile and leucoxene. This form of carbonate forms swarms of parallel en-echelon wisps and more throughgoing schlieren which strongly reinforce the well-foliated character of the rock. These features are reminiscent of the wispy concentrations of sericite seen in some of the samples, and could possibly be pseudomorphic replacements thereof.

Minor carbonate is in the form of discordant veinlets, which cross-cut and also merge with the dominant laminar/concordant form.

One side of the slide shows strong limonitic impregnation, apparently developed largely by weathering of carbonate (presumably, therefore, a ferruginous variety). Rare elongate clumps of disseminated pyrite are also present but these do not appear to be the origin of the limonite.

This rock is apparently a calcareous thin-bedded tuff or tuffaceous sediment.

Sample TR-13 (Slide 87-026X)

Estimated mode

Plagioclase) Felsite)	62
Quartz	15
Carbonate	15
Sericite	8
Rutile	trace

This rock is of distinctive appearance in thin section and clearly consists of undisturbed, thinly laminated alternations (on the scale of 2 - 10mm) of fine-grained greywacke and calcareous siltstone.

The greywacke beds consist of abundant sub-rounded clasts, 0.1 - 0.3mm in size, of incipiently sericitized plagioclase and minor quartz, set in a felsitic-textured quartzo-feldspathic, silty matrix of grain size 5 - 30 microns. This matrix contains rather sparse wisps of very fine-grained sericite which wrap around the somewhat parallel-elongated clasts and define a weak, sinuous foliation. Carbonate is rather evenly disseminated through the matrix, in interstitial relation to the clasts.

The siltstone beds are of similar composition but lack the coarser clasts and consequently have a relatively higher content of sericite and carbonate and more even parallelism of fabric compared with the wacke.

This rock lacks the scattered coarse augen and wispy/lensy fabric seen in most of the rocks of the suite and thought to be indicative of tuffaceous character. It is a homogenous, well-sorted rock of obvious sedimentary origin, though the high content of plagioclase suggests close affinities with, or derivation from, felsic volcanic or tuffaceous material.

APPENDIX D

WHOLE ROCK ANALYSES

CERTIFICATE OF ANALYSIS

TO: OREQUEST CONSULTANTS
ATTN: G. CAVEY
595 HOWE STREET, SUITE 404
VANCOUVER, BRITISH COLUMBIA
V6C 2T5

CUSTOMER NO. 1374

DATE SUBMITTED
19-NOV-86

REPORT 30291

REF. FILE 25862-S3

43 S.CORES PROJ. REGAL SWAZIE

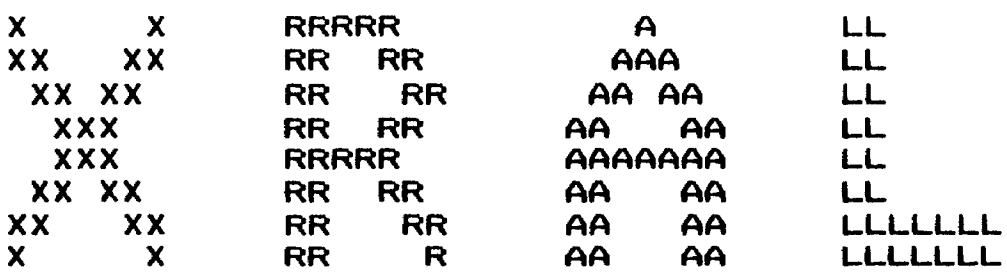
WERE ANALYSED AS FOLLOWS:

	METHOD	DETECTION LIMIT
WRMAJ %	WR	0.010
WRMIN PPM	WR	10.000

X-RAY ASSAY LABORATORIES LIMITED

DATE 04-DEC-86

CERTIFIED BY .....



XRF - WHOLE ROCK ANALYSIS

OREQUEST CONSULTANTS
Attn: G. CAVEY
595 HOWE STREET, SUITE 404
VANCOUVER, BRITISH COLUMBIA
V6C 2T5

CUSTOMER No. 1374

DATE SUBMITTED
19-NOV-86

REPORT 30291 REF. FILE 25862 04-DEC-86

XRF W. R. A. SUMS INCLUDE ALL ELEMENTS DETERMINED.
FOR SUMMATION ELEMENTS ARE CALCULATED AS OXIDES.

X-RAY ASSAY LABORATORIES 04-DEC-86 REPORT 30291 REFERENCE FILE 25862 PAGE 1

	SAMPLE	SIO2	AL203	CAO	MGO	NA20	K20	FE203	MNO	TIO2	P205	CR203	LOI	SUM
2-88	RG-1 H CAT	67.2	15.1	2.50	0.96	5.29	2.19	2.13	0.03	0.32	0.10	0.01	3.47	99.5
2-87	RG-2 GRMYL	62.5	17.4	2.46	2.12	6.07	2.01	3.01	0.05	0.33	0.13	0.01	2.93	99.2
2-65	RG-3 GY BL CAT	62.0	14.8	5.99	1.08	10.6	0.41	2.89	0.06	0.41	0.27	0.01	1.00	100.1
2-57	RG-4 GY CAT py	67.2	15.4	2.44	1.20	6.31	1.61	2.78	0.03	0.31	0.11	0.08	2.85	100.5
2-75	RG-5 GN CAT	62.0	17.9	2.93	1.69	5.83	2.38	3.70	0.05	0.35	0.15	0.01	2.85	100.1
2-35	RG-6 brCAT/CQD	67.0	13.8	2.89	0.55	6.44	1.33	3.12	0.04	0.34	0.11	0.01	4.00	99.8
2-27	RG-7se CAT	64.3	15.7	3.23	1.07	6.00	2.02	2.40	0.04	0.35	0.13	0.01	4.00	99.4
286	RG-8 GN CAT	66.2	15.6	2.17	0.91	3.49	3.37	2.62	0.03	0.34	0.09	0.01	3.85	98.8
1-284	RG-9 H CAT	63.3	13.9	5.19	0.94	3.54	2.71	2.45	0.06	0.30	0.07	0.01	6.39	99.1
-282	RG-10 pink CAT	61.9	17.6	3.36	0.86	4.31	3.62	2.36	0.04	0.38	0.09	0.01	4.47	99.2
1-276	RG-11 QD	57.1	12.4	5.75	4.50	3.82	0.54	7.06	0.12	0.64	0.34	0.03	6.47	99.0
-280	RG-12 QD	55.2	13.7	6.37	3.95	5.18	0.57	5.99	0.12	0.64	0.33	0.02	7.77	100.0
1-267	RG-13 QD	56.7	15.8	4.59	3.65	4.84	1.35	5.62	0.10	0.60	0.42	0.02	5.16	99.1
R-4	RG-14 ch A bl	47.2	12.8	6.67	2.48	2.89	0.05	13.0	0.25	0.69	0.14	0.02	13.8	100.1
R-13	RG-15 CAT	66.6	12.6	3.95	1.54	6.45	0.67	2.13	0.10	0.28	0.09	0.01	5.85	100.4
4-15	RG-16 CAT R/G	67.0	15.7	2.67	0.94	6.39	1.47	2.18	0.05	0.33	0.10	0.01	2.16	99.2
-30	RG-17 CAT sil R	64.3	14.7	3.48	1.43	7.04	1.00	2.56	0.06	0.29	0.10	0.01	5.31	100.5
4-45	RG-18 CAT R	67.1	15.8	3.25	0.62	6.65	1.53	1.34	0.04	0.32	0.10	0.01	2.31	99.3
4-60	RG-19 CAT R/G	65.5	15.4	4.38	1.13	5.73	1.65	2.20	0.07	0.28	0.09	0.01	3.31	100.0
-75	RG-20 CAT R/G	66.4	16.6	2.19	1.00	5.73	2.37	2.09	0.04	0.31	0.10	0.01	2.00	99.1
4-90	RG-21 CAT R/GY	68.5	15.7	2.63	0.83	6.16	1.71	2.03	0.04	0.31	0.09	0.02	1.85	100.1
-105	RG-22 CAT R/G	67.6	15.2	2.56	0.94	6.25	1.60	2.00	0.04	0.32	0.10	0.01	2.47	99.3
4-120	RG-23 CAT R/G	67.9	15.3	2.80	0.80	5.74	1.96	2.20	0.04	0.33	0.10	0.01	2.31	99.7
4-135	RG-24 CAT GY/B	68.0	15.4	2.08	1.38	6.37	1.11	2.16	0.04	0.36	0.12	0.01	1.54	98.8
-150	RG-25 CAT pnkR	66.9	15.5	2.50	0.84	5.31	2.69	2.16	0.03	0.30	0.10	0.01	3.08	99.6
4-165	RG-26 CQD/QD	57.8	14.7	3.96	3.66	4.86	2.39	5.97	0.09	0.65	0.32	0.02	4.47	99.1
4-180	RG-27 CQD	52.0	14.2	5.68	4.89	4.30	3.79	6.76	0.13	0.71	0.40	0.03	5.77	99.1

	SAMPLE	SIO2	AL203	CAO	MGO	NA20	K20	FE203	MNO	TIO2	P205	CR203	LOI	SUM
6 - 7	RG-28 CAT	62.2	15.2	5.16	0.78	5.73	1.72	2.60	0.08	0.36	0.08	0.01	5.00	99.1
4 - 245	RG-32 CQD/CAT	55.1	13.9	4.78	3.69	4.72	2.80	5.10	0.11	0.60	0.31	0.02	7.93	99.3
4 - 250	RG-33 CAT/CQD	53.1	13.6	5.82	3.82	6.40	0.86	5.80	0.11	0.60	0.32	0.02	8.39	99.1
4 - 255	RG-34 CAT R/BR	64.2	14.8	2.79	1.85	4.33	2.97	3.47	0.05	0.43	0.19	0.01	4.47	99.7
4 - 260	RG-35 CAT R/G	59.6	14.7	4.98	1.63	4.47	2.91	3.50	0.06	0.44	0.19	0.01	6.39	99.1
4 - 265	RG-36 CAT R/G	61.5	13.7	4.93	2.15	4.60	2.09	3.81	0.06	0.45	0.18	0.01	6.16	99.8
4 - 270	RG-37 CAT R	61.4	14.0	4.64	2.43	4.91	2.17	3.66	0.07	0.44	0.18	0.01	5.23	99.3
2 - 155	RG-39 QD	58.5	14.4	4.34	3.61	4.38	3.37	5.23	0.09	0.58	0.28	0.02	4.08	99.2
2 - 165	RG-40 QD	58.0	14.2	4.88	3.93	3.39	4.08	5.99	0.10	0.63	0.31	0.02	2.85	98.7
2 - 175	RG-41 QD	58.3	14.7	4.66	3.87	4.11	3.63	5.89	0.11	0.62	0.30	0.02	2.85	99.4
2 - 185	RG-42 CQD/QD	58.0	15.2	3.44	3.95	5.08	3.16	6.16	0.09	0.69	0.33	0.02	3.70	100.1
3 - 245	RG-43 QD	54.4	14.1	5.97	4.13	4.51	2.72	6.27	0.12	0.67	0.36	0.02	5.93	99.5
3 - 250	RG-44 CAT BL/GY	67.2	15.2	2.44	0.82	5.32	2.66	2.43	0.04	0.30	0.08	0.01	2.93	99.6
3 - 255	RG-45 CAT GY/G	68.4	14.7	2.51	0.66	5.02	2.76	1.94	0.03	0.31	0.08	0.01	2.85	99.4
3 - 260	RG-46 CAT G	60.2	11.5	5.68	2.96	4.31	1.76	4.26	0.10	0.41	0.17	0.03	7.39	99.0
3 - 265	RG-47 CCS	59.3	13.5	5.78	3.79	5.65	0.84	4.01	0.08	0.45	0.19	0.03	5.70	99.5

SAMPLE	RB	SR	Y	ZR	NB	BA
RG-1	100	1060	<10	70	20	820
RG-2	70	960	<10	110	10	810
RG-3	10	3540	30	90	30	860
RG-4	80	940	10	90	10	690
RG-5	90	1490	10	120	20	890
RG-6	60	570	<10	100	10	490
RG-7	70	720	<10	100	10	640
RG-8	150	300	<10	110	10	530
RG-9	120	1040	10	60	<10	660
RG-10	180	870	<10	110	20	740
RG-11	50	1010	10	160	10	420
RG-12	40	1080	20	120	10	320
RG-13	60	1250	10	20	20	560
RG-14	10	70	20	90	10	100
RG-15	40	680	10	80	20	490
RG-16	60	1010	<10	100	10	670
RG-17	50	1180	<10	70	20	340
RG-18	80	1020	<10	100	10	650
RG-19	60	900	<10	90	10	750
RG-20	100	920	<10	90	<10	870
RG-21	70	1210	20	90	10	740
RG-22	60	840	<10	100	10	660
RG-23	90	1100	<10	100	<10	650
RG-24	50	1120	10	110	<10	420
RG-25	130	710	20	90	10	690
RG-26	110	910	20	210	10	740
RG-27	210	1660	30	190	10	1300

SAMPLE	RB	SR	Y	ZR	NB	BA
RG-28	80	640	<10	80	10	370
RG-32	90	1110	10	150	10	940
RG-33	30	930	<10	140	20	700
RG-34	150	460	10	90	10	740
RG-35	140	460	<10	100	10	880
RG-36	90	520	<10	90	<10	680
RG-37	90	510	10	100	10	660
RG-39	160	1130	20	160	10	1400
RG-40	170	1300	20	170	<10	1240
RG-41	160	1280	20	180	20	1120
RG-42	160	830	20	200	20	930
RG-43	130	920	30	170	<10	1120
RG-44	100	590	<10	80	10	670
RG-45	120	560	<10	110	10	580
RG-46	70	600	20	80	10	940
RG-47	30	610	20	100	<10	560

CERTIFICATE OF ANALYSIS

TO: OREQUEST CONSULTANTS
ATTN: G. CAVEY
595 HOWE STREET, SUITE 404
VANCOUVER, BRITISH COLUMBIA
V6C 2T5

CUSTOMER NO. 1374

DATE SUBMITTED
23-DEC-86

REPORT 30710

REF. FILE 26289-N1

44 SPLIT CORE

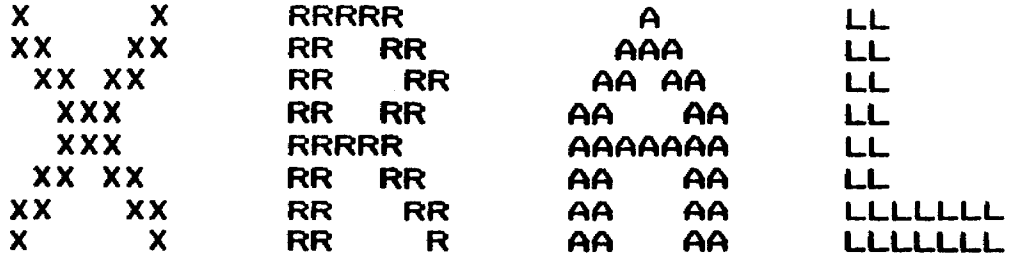
WERE ANALYSED AS FOLLOWS:

	METHOD	DETECTION LIMIT
WRMAJ %	WR	0.010
WRMIN PPM	WR	10.000

X-RAY ASSAY LABORATORIES LIMITED

DATE 19-JAN-87

CERTIFIED BY



XRF - WHOLE ROCK ANALYSIS

OREQUEST CONSULTANTS
Attn: G. CAVEY
595 HOWE STREET, SUITE 404
VANCOUVER, BRITISH COLUMBIA
V6C 2T5

CUSTOMER No. 1374

DATE SUBMITTED
23-DEC-86

REPORT 30710 REF. FILE 26289 19-JAN-87

XRF W. R. A. SUMS INCLUDE ALL ELEMENTS DETERMINED.
FOR SUMMATION ELEMENTS ARE CALCULATED AS OXIDES.

X-RAY ASSAY LABORATORIES 19-JAN-87 REPORT 30710 REFERENCE FILE 26289 PAGE 1

SAMPLE	SIO2	AL203	CAO	MGO	NA20	K20	FE203	MNO	TIO2	P205	CR203	LOI	SUM
5-70	65.0	15.6	3.93	1.02	5.29	2.03	2.62	0.05	0.34	0.13	0.01	3.77	100.0
5-80	65.3	16.3	2.79	1.12	5.94	2.06	2.84	0.04	0.39	0.13	0.01	2.93	100.1
5-90	67.3	15.6	2.31	1.09	6.87	1.16	2.70	0.04	0.35	0.12	0.01	2.54	100.3
5-100	66.0	14.3	3.27	1.05	4.92	2.28	3.00	0.04	0.46	0.13	0.01	4.54	100.2
5-130	55.8	14.7	4.17	3.01	4.13	4.29	5.14	0.09	0.58	0.30	0.02	6.93	99.4
5-140	56.8	16.5	3.75	3.14	4.09	4.28	6.02	0.08	0.68	0.35	0.01	4.54	100.5
5-150	56.3	14.4	6.87	2.33	4.25	2.67	5.52	0.08	0.60	0.31	0.01	6.62	100.2
5-160	53.0	17.8	5.50	2.52	4.38	3.49	5.59	0.07	0.76	0.43	0.01	6.54	100.3
5-170	58.2	14.6	6.01	2.02	4.76	2.27	4.72	0.09	0.52	0.28	0.01	6.31	100.0
5-180	58.0	17.9	3.53	3.06	6.18	1.75	5.80	0.10	0.79	0.21	0.03	3.00	100.6
5-190	64.6	14.6	3.70	1.66	5.49	2.15	3.45	0.07	0.44	0.19	0.01	3.62	100.2
5-200	65.3	13.1	4.96	2.61	5.10	1.14	3.46	0.08	0.42	0.16	0.01	3.70	100.2
6-25	44.6	8.21	6.64	17.8	1.51	1.36	9.27	0.16	0.51	0.19	0.21	9.23	99.8
6-35	44.4	8.26	6.90	17.5	1.72	0.11	9.50	0.16	0.54	0.22	0.21	9.62	99.2
6-45	64.6	14.9	3.90	1.73	3.77	2.21	3.69	0.07	0.38	0.08	0.01	4.47	99.9
6-55	52.7	15.8	9.70	1.89	3.24	2.13	4.78	0.14	0.83	0.08	0.03	8.39	99.8
6-65	58.5	15.6	6.47	2.16	0.84	3.26	4.45	0.09	0.70	0.08	0.03	7.54	99.8
6-85	67.8	15.8	2.69	1.15	3.37	2.34	2.73	0.04	0.34	0.09	<0.01	3.85	100.3
6-95	55.7	15.3	7.15	1.67	3.42	1.26	5.75	0.11	0.60	0.08	0.02	8.62	99.8
7-65	67.8	14.6	2.80	0.93	6.16	1.40	2.08	0.04	0.26	0.07	0.01	4.16	100.5
7-70	67.5	15.5	2.31	0.80	7.16	1.14	1.71	0.03	0.27	0.08	0.01	3.39	100.1
7-75	37.5	14.5	12.4	4.41	3.22	2.39	7.25	0.29	0.40	0.12	<0.01	17.5	100.2
7-80	60.2	14.7	6.26	1.56	4.44	1.88	2.70	0.08	0.34	0.10	<0.01	7.39	99.8
7-85	64.6	15.6	4.01	1.21	4.55	1.57	2.15	0.04	0.33	0.08	<0.01	5.85	100.1
7-90	66.6	15.9	3.67	0.95	4.44	1.61	1.85	0.03	0.33	0.09	0.01	4.70	100.3
7-95	69.5	16.7	2.02	0.74	4.04	2.11	1.05	0.04	0.43	0.10	0.01	3.54	100.4
7-100	67.8	15.0	4.44	0.59	4.33	1.65	1.28	0.03	0.32	0.08	0.01	4.62	100.3

SAMPLE	SIO2	AL203	CAO	MGO	NA20	K20	FE203	MNO	TIO2	P205	CR203	LOI	SUM
7-105	57.7	13.5	8.24	2.23	3.71	0.85	5.41	0.12	0.40	0.07	0.01	8.08	100.4
7-110	56.8	16.0	4.50	3.55	4.76	0.83	6.47	0.13	0.97	0.09	0.02	6.08	100.3
7-115	54.8	15.4	6.47	4.54	4.12	0.15	7.35	0.16	1.05	0.09	0.02	6.39	100.6
7-120	48.8	14.2	9.19	5.07	2.62	0.33	9.03	0.22	0.97	0.08	0.01	8.93	99.5
7-125	52.4	14.4	7.89	4.23	3.73	0.48	7.55	0.18	0.74	0.07	0.01	8.00	99.7
7-130	44.7	13.8	9.36	7.03	1.42	0.08	12.4	0.33	0.94	0.08	0.01	10.0	100.2
7-135A	67.8	16.2	1.52	1.53	7.82	0.61	2.29	0.05	0.33	0.09	0.01	1.93	100.3
7-135B	68.7	16.0	1.67	1.33	6.93	1.03	1.99	0.04	0.31	0.09	0.01	1.93	100.1
8-60	63.0	14.7	4.46	2.22	3.60	1.52	4.51	0.07	0.58	0.34	0.02	4.70	99.9
8-65	59.9	14.7	6.15	1.74	4.07	1.58	4.06	0.09	0.48	0.18	<0.01	6.93	100.1
8-70	67.3	17.2	1.79	0.88	4.34	2.27	2.00	0.03	0.39	0.12	<0.01	3.93	100.5
8-75	65.0	15.8	4.36	0.90	4.04	2.23	2.24	0.04	0.36	0.09	0.01	5.08	100.3
8-80	59.4	20.6	2.26	0.94	9.19	1.31	2.10	0.04	0.33	0.08	<0.01	4.00	100.5
8-90	65.3	17.0	3.90	0.48	4.95	2.03	1.68	0.04	0.34	0.11	0.01	4.31	100.3
8-95	65.2	15.1	4.85	1.28	3.48	1.94	2.63	0.05	0.33	0.08	0.01	5.08	100.1
8-100	51.3	14.9	10.6	2.45	3.44	1.29	5.34	0.15	0.84	0.08	0.02	9.47	100.0
8-105	53.7	16.3	8.40	2.37	3.80	1.58	5.04	0.12	0.84	0.08	0.02	7.62	100.0

SAMPLE	RB	SR	Y	ZR	NB	BA
5-70	90	990	20	100	10	650
5-80	80	800	<10	100	20	730
5-90	50	1060	20	110	20	550
5-100	110	930	<10	110	10	620
5-130	140	820	30	170	10	1290
5-140	190	480	20	230	20	1020
5-150	100	660	20	180	20	910
5-160	140	460	20	280	10	1280
5-170	90	960	20	140	10	970
5-180	70	1090	10	80	10	570
5-190	110	620	20	150	10	710
5-200	30	560	10	70	10	390
6-25	80	400	<10	30	10	80
6-35	20	460	<10	30	10	70
6-45	70	260	<10	80	20	320
6-55	80	320	20	40	10	320
6-65	120	180	10	50	10	420
6-85	120	440	<10	120	10	360
6-95	70	460	<10	70	20	260
7-65	90	750	<10	70	10	540
7-70	60	870	<10	70	10	380
7-75	90	630	10	80	20	680
7-80	60	580	<10	90	10	550
7-85	60	560	<10	110	20	400
7-90	60	540	<10	90	10	330
7-95	80	580	10	120	20	490
7-100	50	480	<10	90	10	350

SAMPLE	RB	SR	Y	ZR	NB	BA
7-105	50	210	<10	70	30	170
7-110	20	160	<10	60	10	250
7-115	10	120	30	40	10	90
7-120	30	120	30	40	10	90
7-125	20	90	<10	60	20	240
7-130	20	130	10	40	20	50
7-135A	20	230	10	90	10	290
7-135B	60	310	<10	90	<10	510
8-60	70	790	10	120	20	940
8-65	60	1030	<10	80	10	900
8-70	90	800	<10	100	20	960
8-75	90	500	<10	100	10	440
8-80	60	1050	<10	100	10	500
8-90	80	680	<10	80	10	600
8-95	60	470	<10	100	10	360
8-100	40	350	20	30	20	300
8-105	60	310	10	40	10	300

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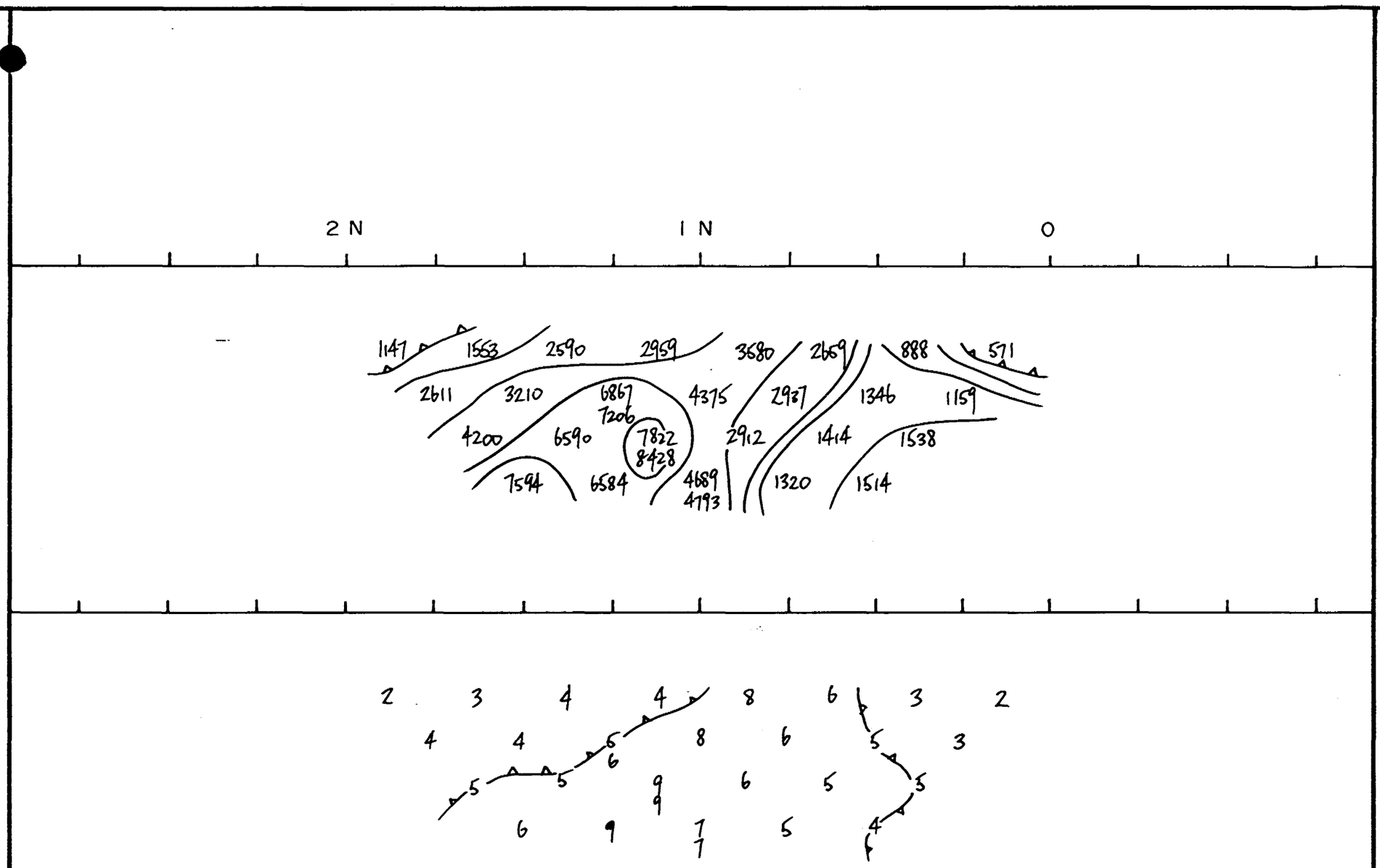
APPENDIX E

IP SURVEY PSEUDOSECTIONS



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

IP SURVEY

LINE 4+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST

8 N

7 N

6 N

1 N

1013 792 1587 896 824 800 583 702 534 894 703 844 2655

851 1315 1717 572 563 489 974 779 1352 1068 1024 696 1286

1528 990 983 925 290 613 1079 1718 1620 1649 1200 980

1000 440 464 510 349 657 2245 2143 2133 1658 1512

5417 3570 836

5454 2377 2380 2865 2172 2397 2382 102

DDH
RG-86-6

A

B

?

-50°

2 2 2 9 18 17 13 7 3 2 13 9 3

2 1 10 21 19 26 13 9 3 (18) 14 (14) 8

0 11 21 (25) 32 11 (8) (15) 13 (14) 15

16 18 (22) 31 26 13 (14) (10) (11) (13)

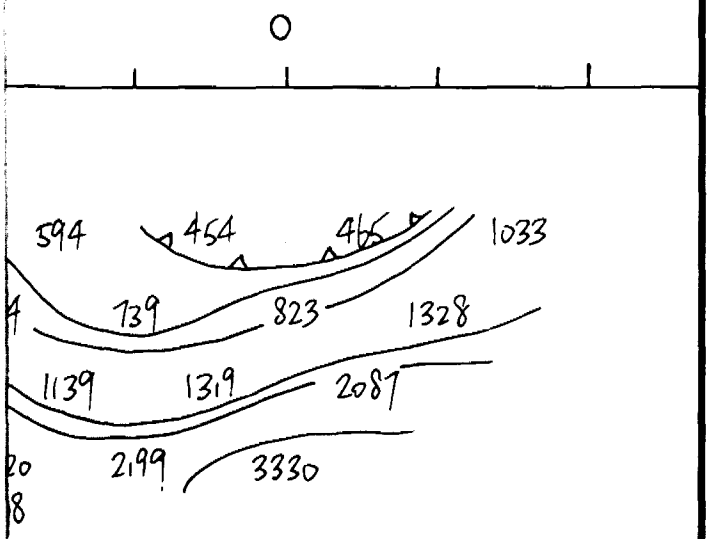
5 5 4

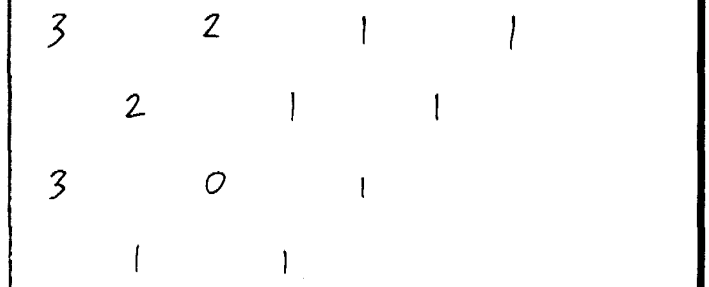
6 6 6 4

7 5 5

6 4 4

169.5 m





Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole — Dipole

a = 25 m

FIGURE

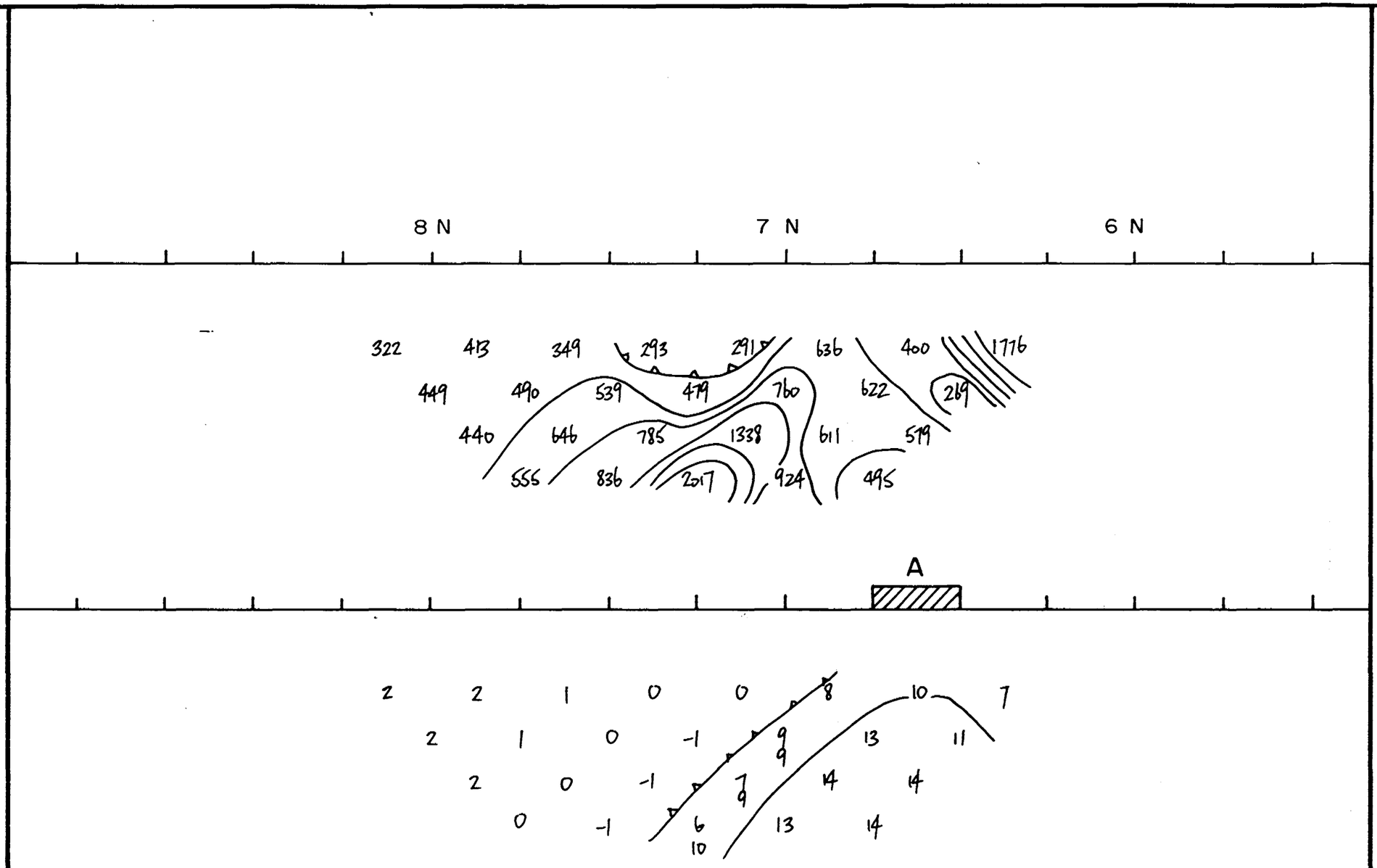
IP SURVEY

LINE 5+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

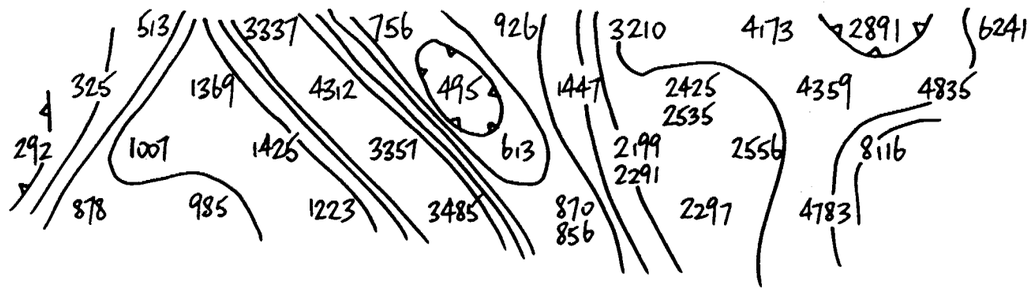
IP SURVEY

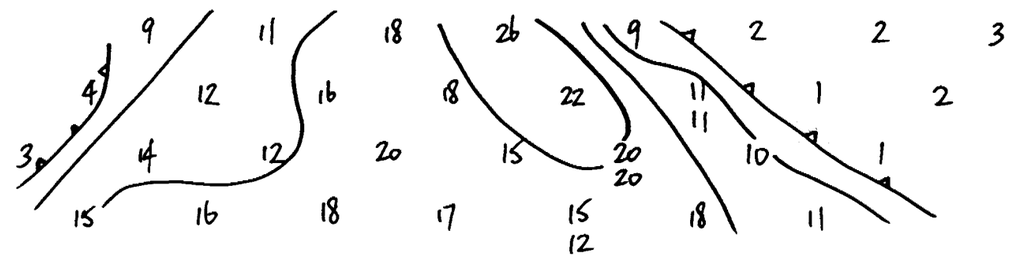
LINE 6+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST





Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

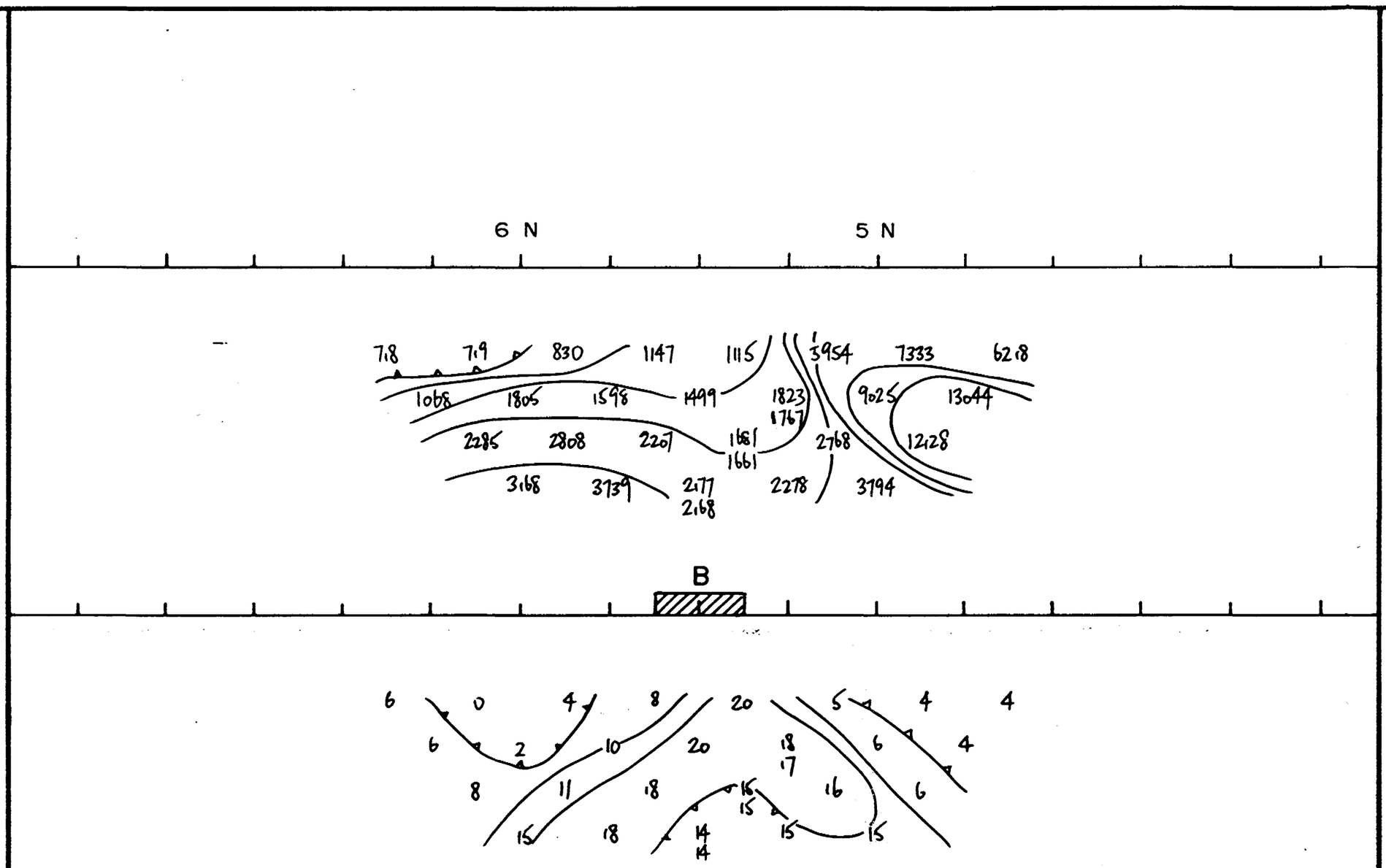
IP SURVEY

LINE 7+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

IP SURVEY

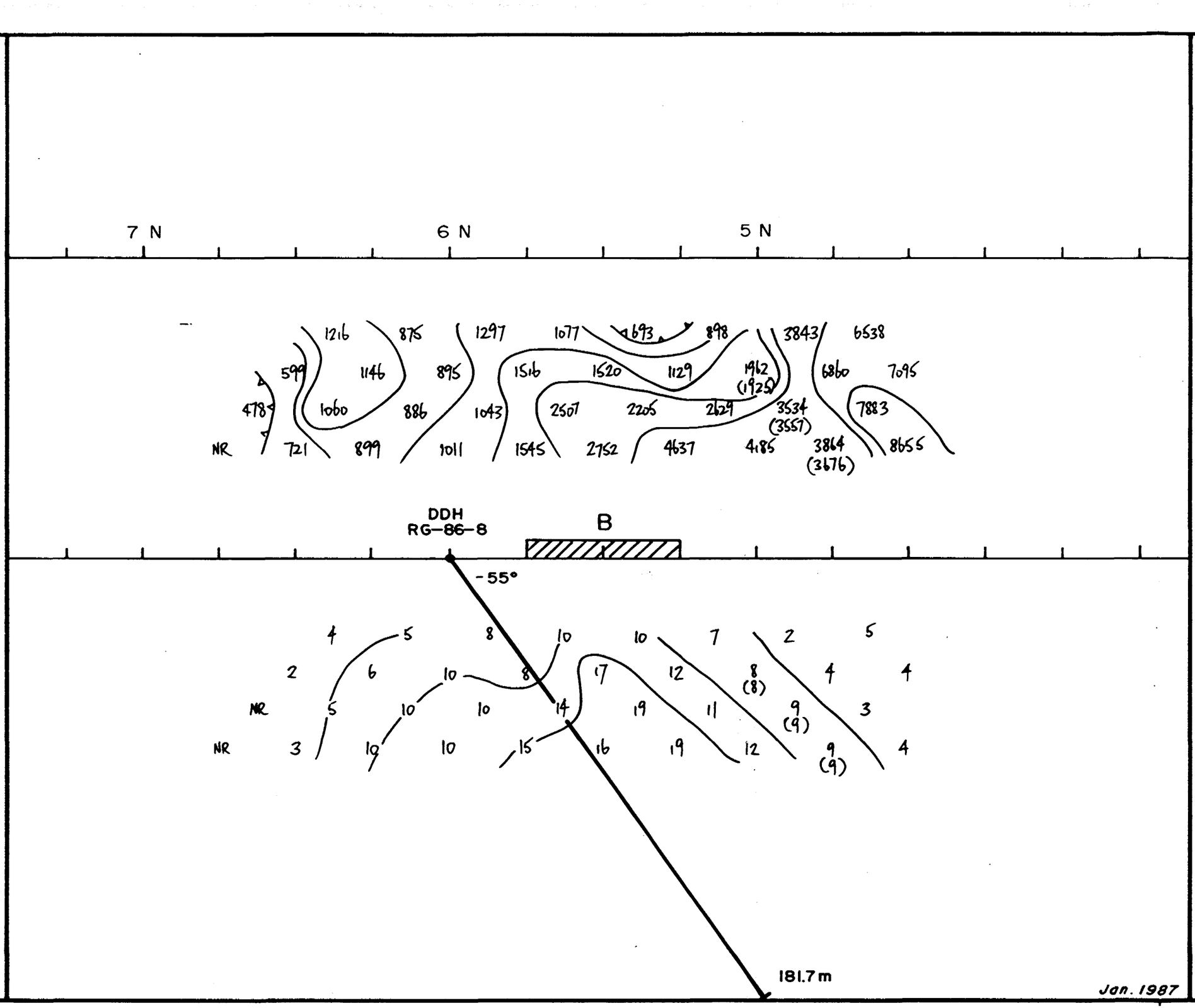
LINE 8+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST

Jan. 1987



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

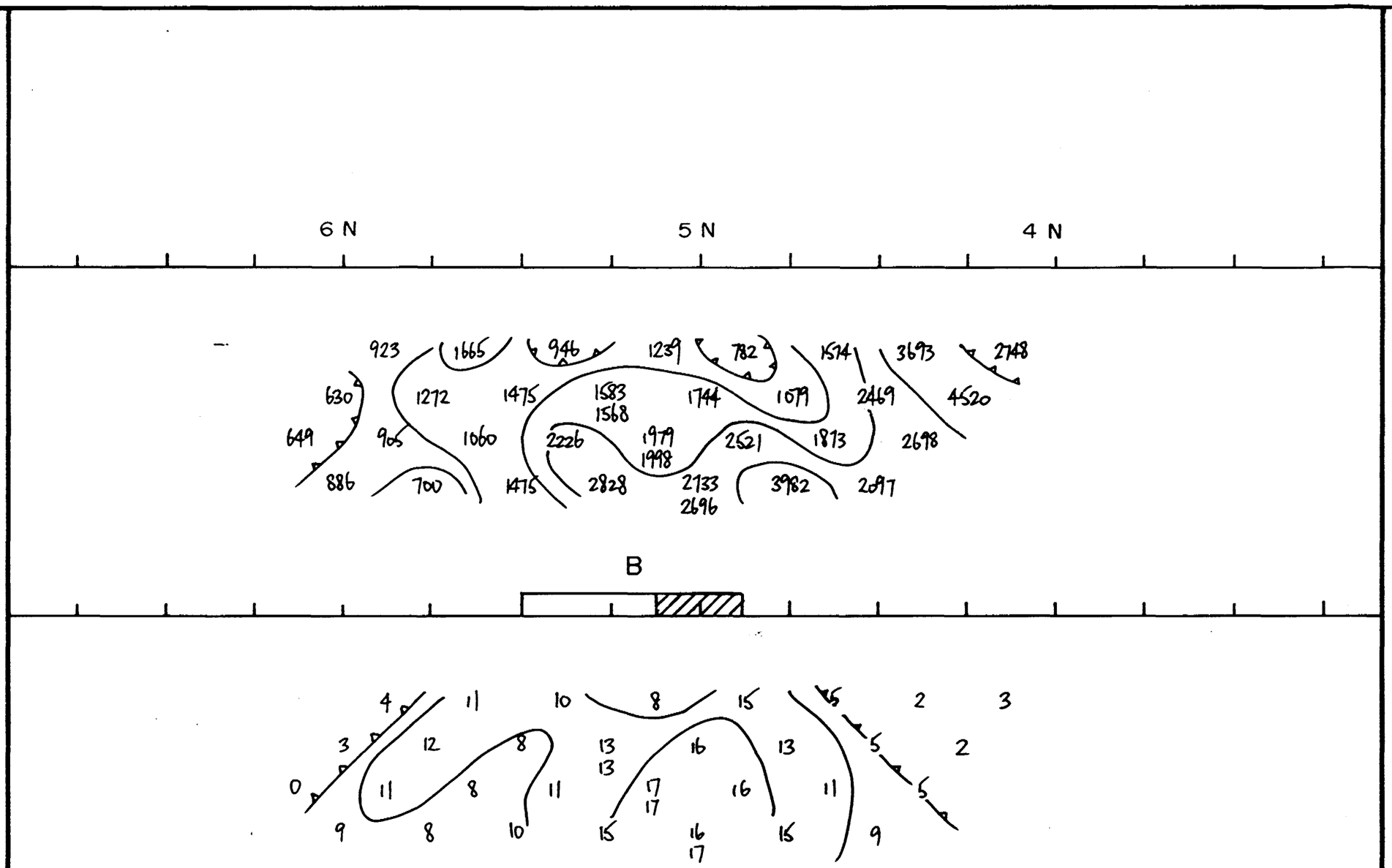
IP SURVEY

LINE 9+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

IP SURVEY

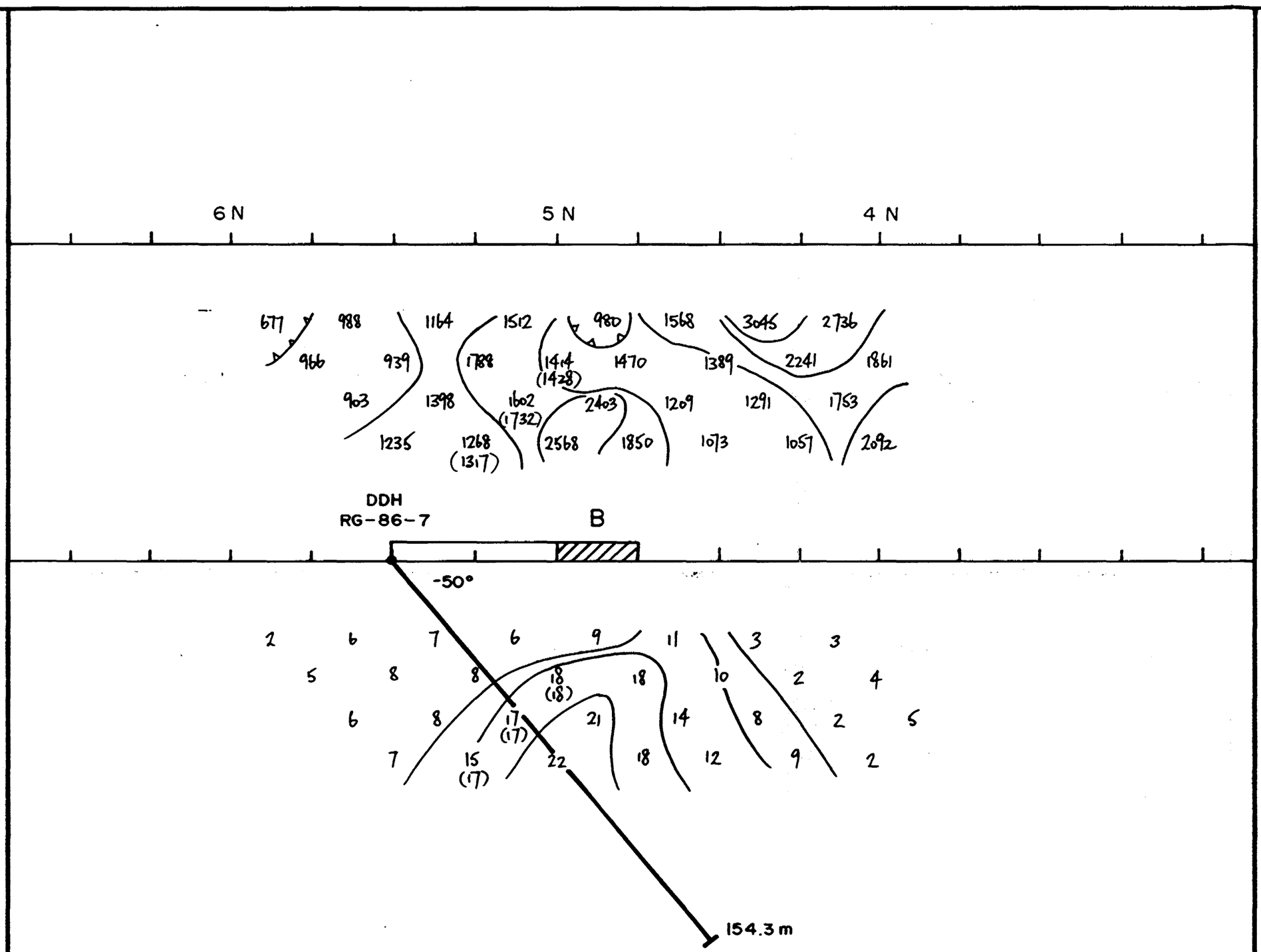
LINE 10+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST

Jan. 1987



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

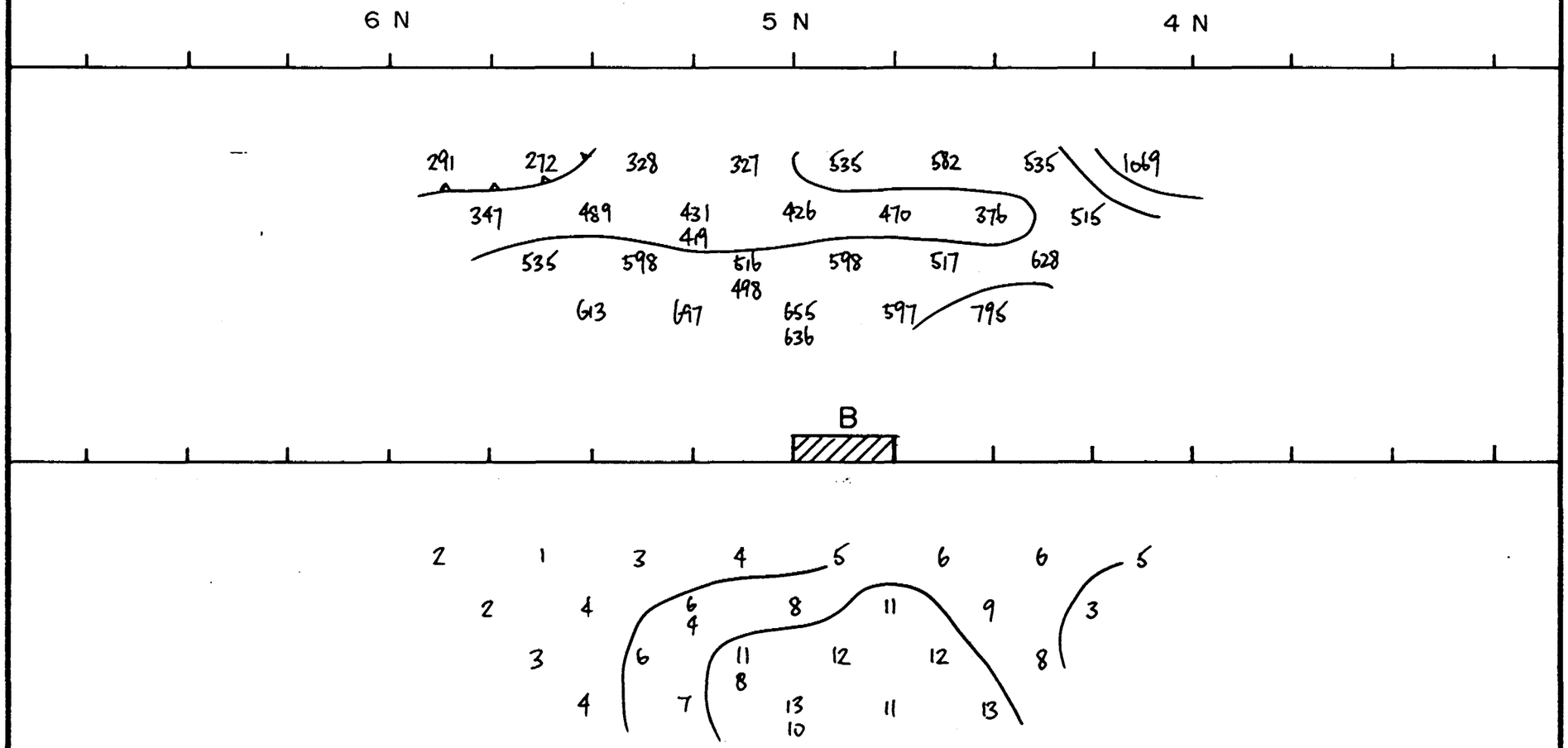
FIGURE

IP SURVEY
LINE 11+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

Jan. 1987

FIGURE

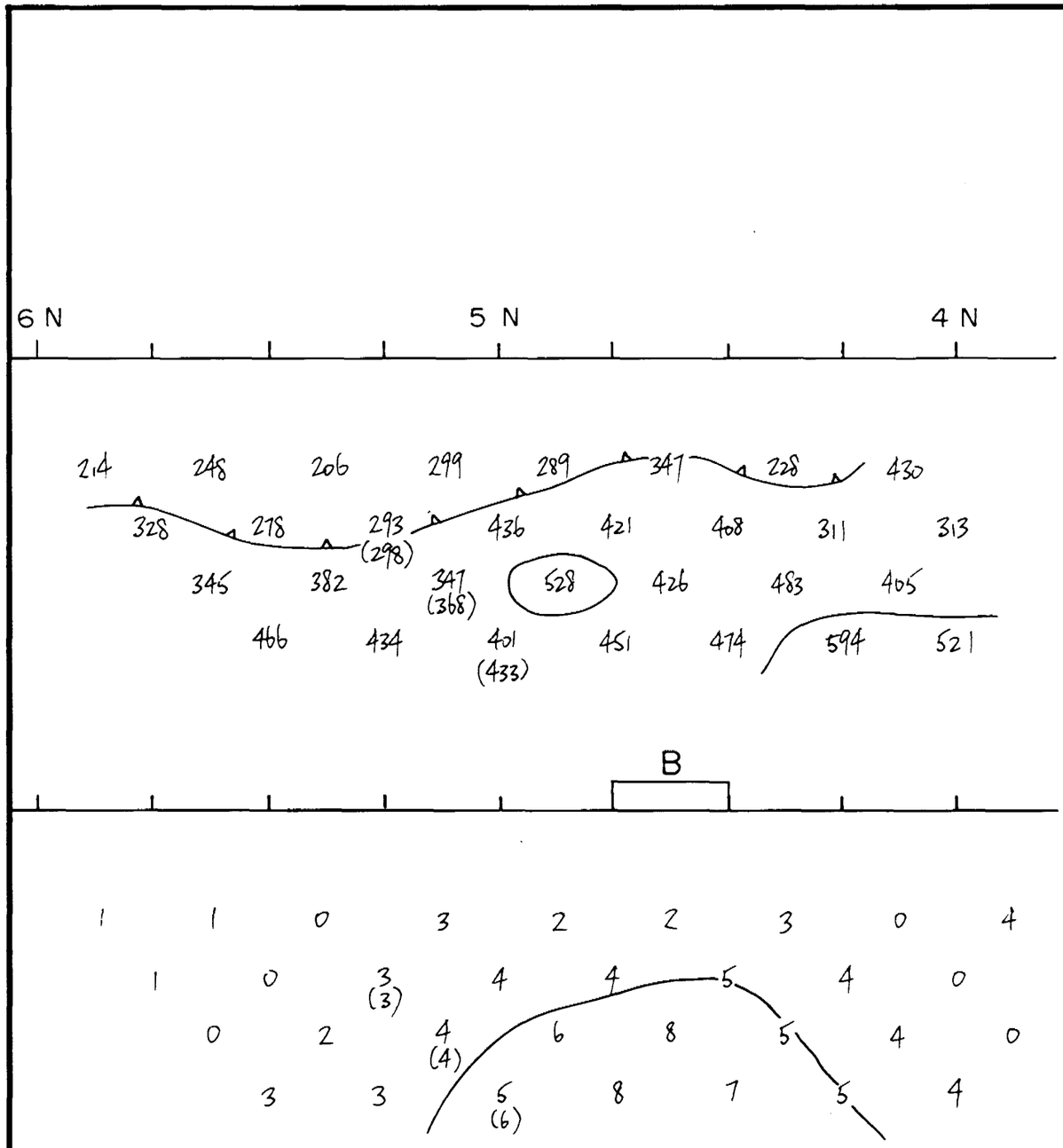
IP SURVEY

LINE 12+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST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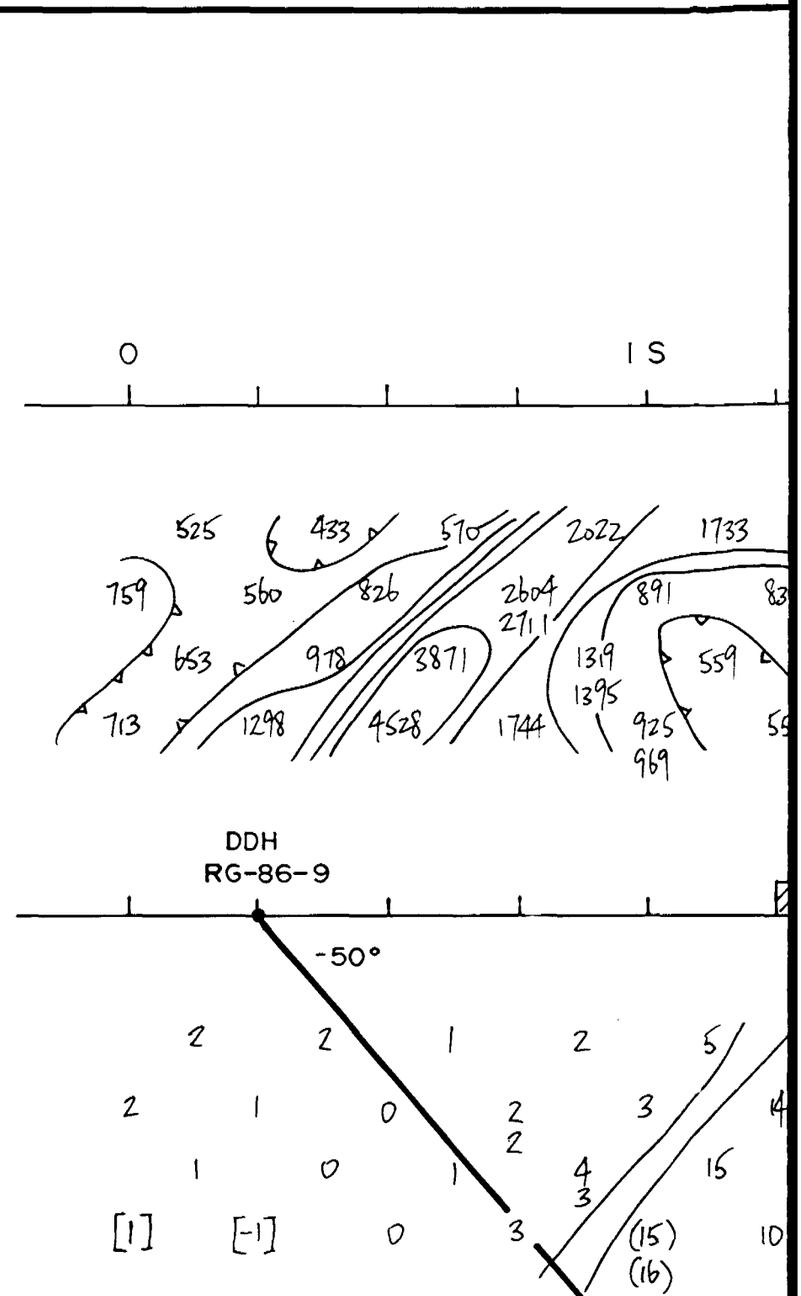
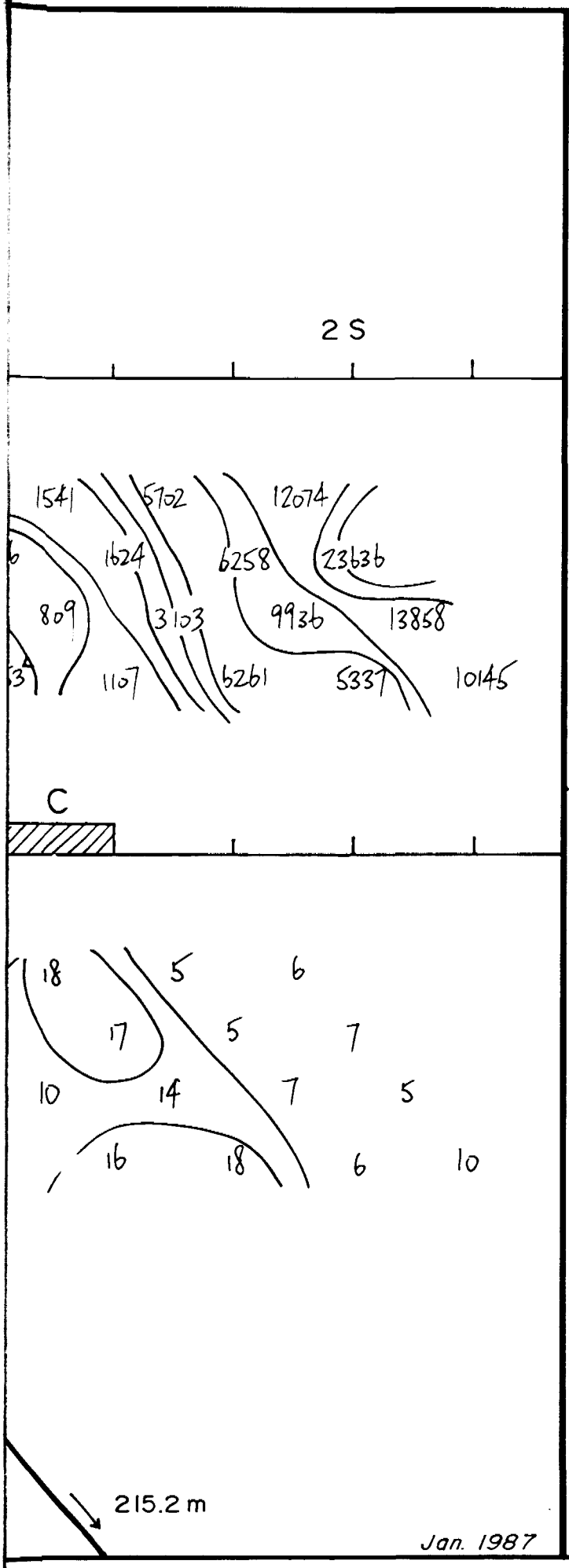
5 N
4 N
214 248 206 299 289 347 228 430
328 278 293 436 421 408 311 313
(298)
345 382 347 528 426 483 405
(368)
466 434 401 451 474 594 521
(433)
B
1 1 0 3 2 2 3 0 4
1 0 3 4 4 5 4 0
(3)
0 2 4 6 8 5 4 0
(4)
3 3 5 8 7 5 4
(6)


0
1 S
525 433 570 2022 1733
759 560 826 2604 891
2711
653 978 3871 1319 559
1395
713 1298 4528 1744 925
969
DDH
RG-86-9
-50°
2 2 1 2 5
2 1 0 2 3
2
1 0 1 4 15
3
[1] [-1] 0 3
(15)
(16)
10



LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole — Dipole

a = 25 m

FIGURE

IP SURVEY

LINE 13+00E

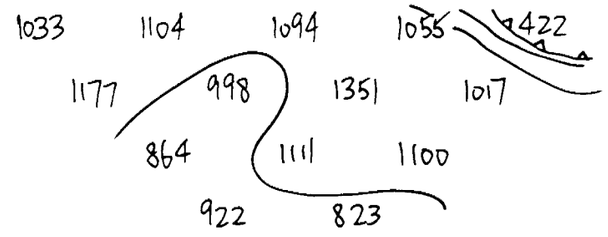
REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST

5 N

4 N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1177
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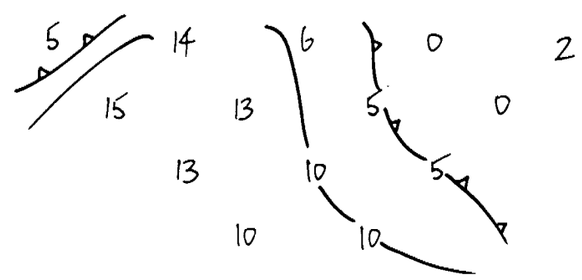
1351
1017
864
1111
1100
922
823

B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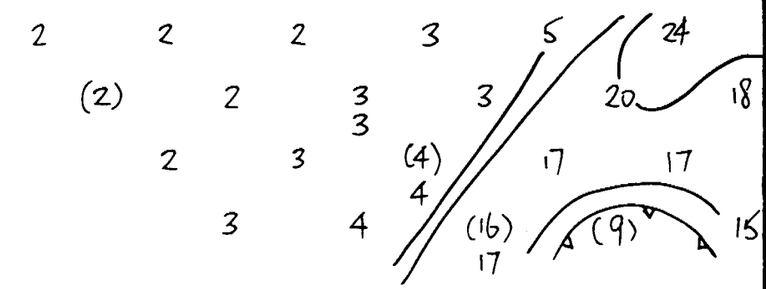
14
6
0
2
15
13
5
0
13
10
5
10
10

0

1 S


547
1060
1706
3465
8658
844
1037
2836
1060
3666
1268
5372
2465
3966
715
1333
2845
5574
861
696

C


2
2
2
3
5
24
(2)
2
3
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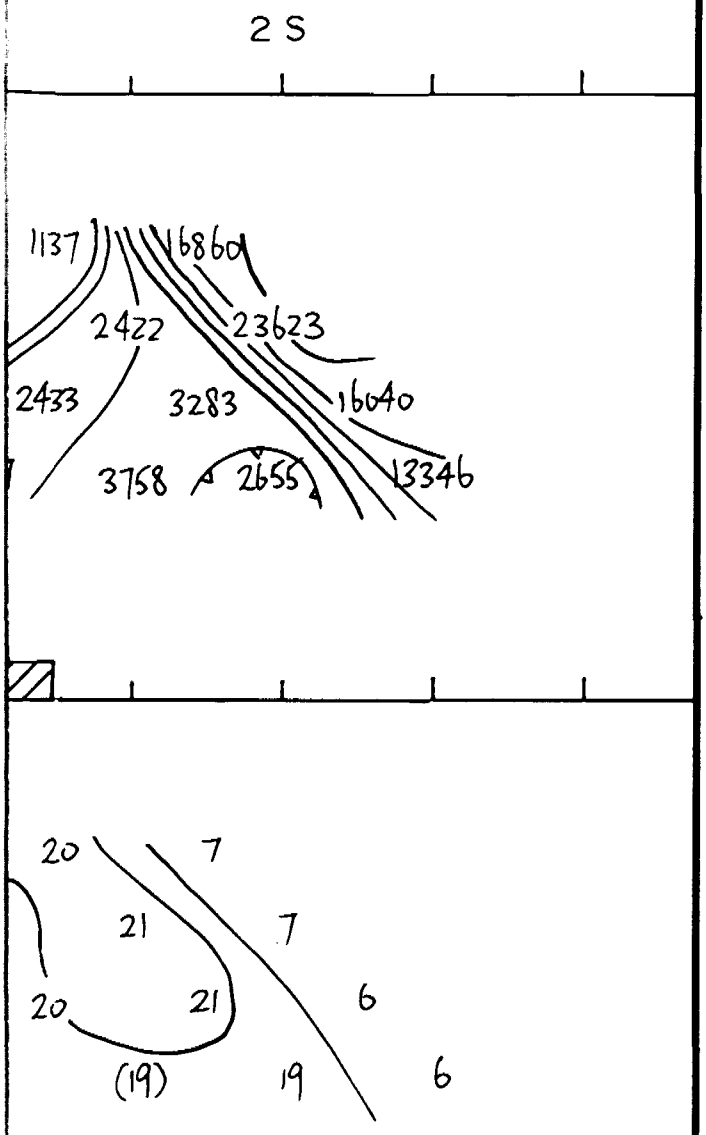
20
18
2
3
(4)
4
17
17
3
4
(16)
17
(9)
15



LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole — Dipole

a = 25 m

FIGURE

IP SURVEY

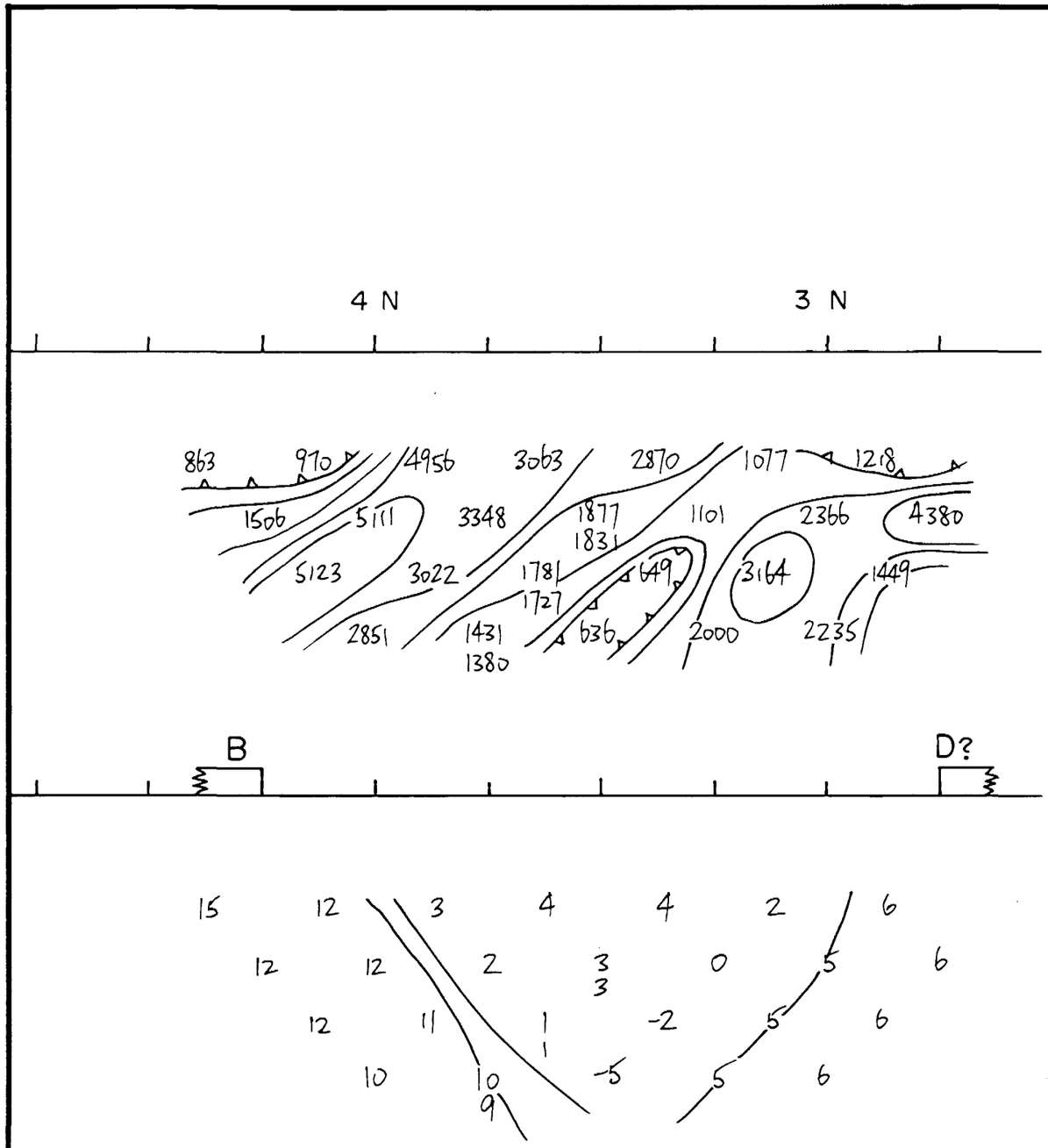
LINE 14+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

Jan. 1987

OREQUEST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3 N
863
970
4956
3063
2870
1077
1218
1506
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3348
1877
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2366
4380
5123
3022
1781
1727
649
3164
1449
2851
1431
1380
636
2000
2235
B
D?
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12
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4
4
2
6
12
12
2
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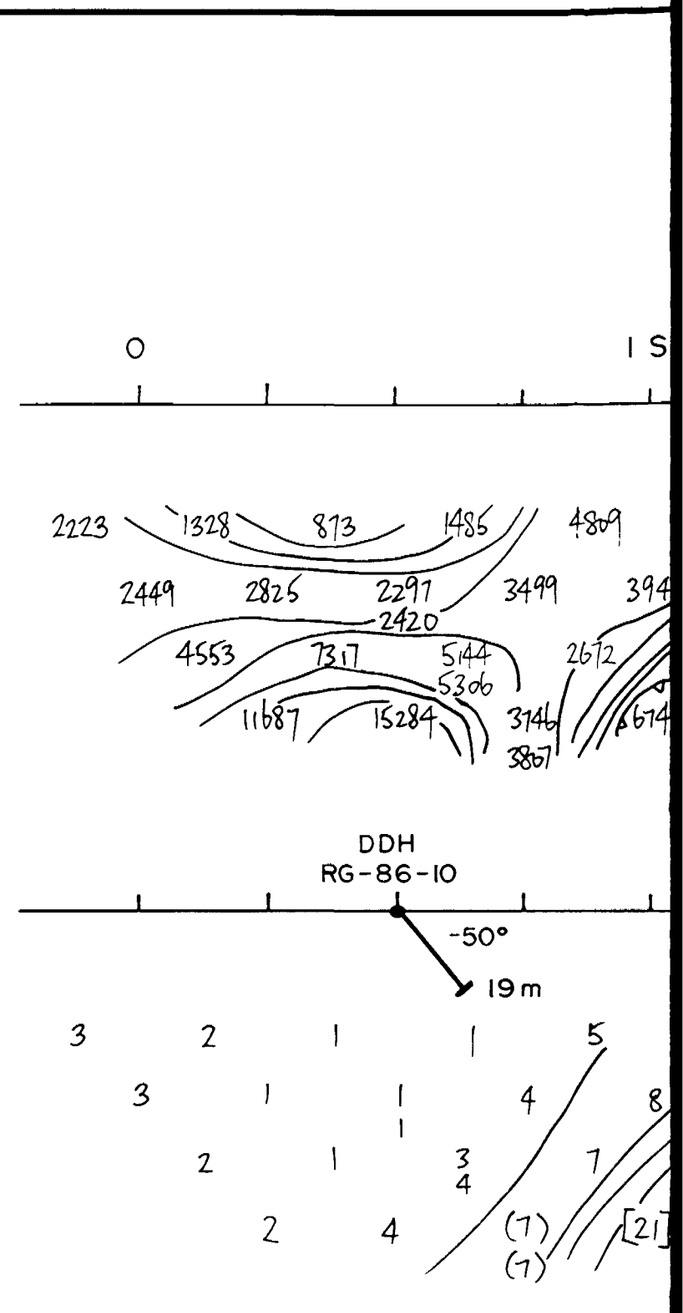
-2
5
6
10
10
9
-5
5
6


0
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5144
5306
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11687
15284
3746
3867
DDH
RG-86-10
-50°
19 m
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1
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1
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3
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7
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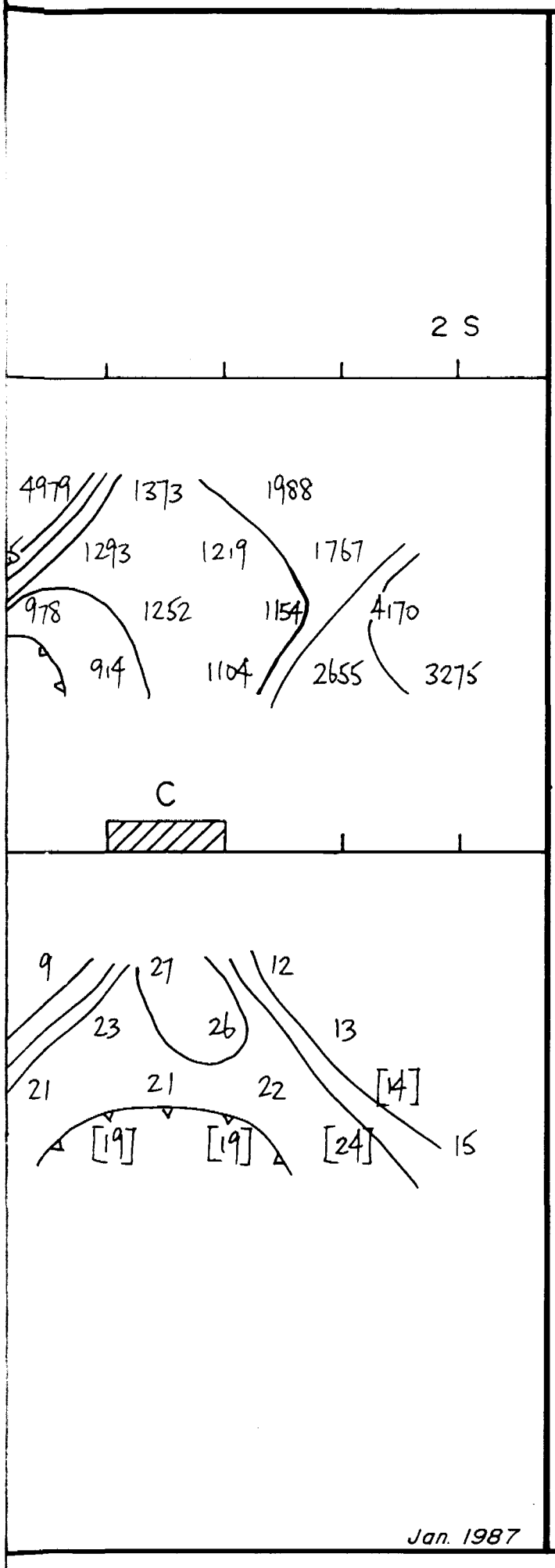
(7)
(7)
[21]



LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole — Dipole

a = 25 m

FIGURE

IP SURVEY

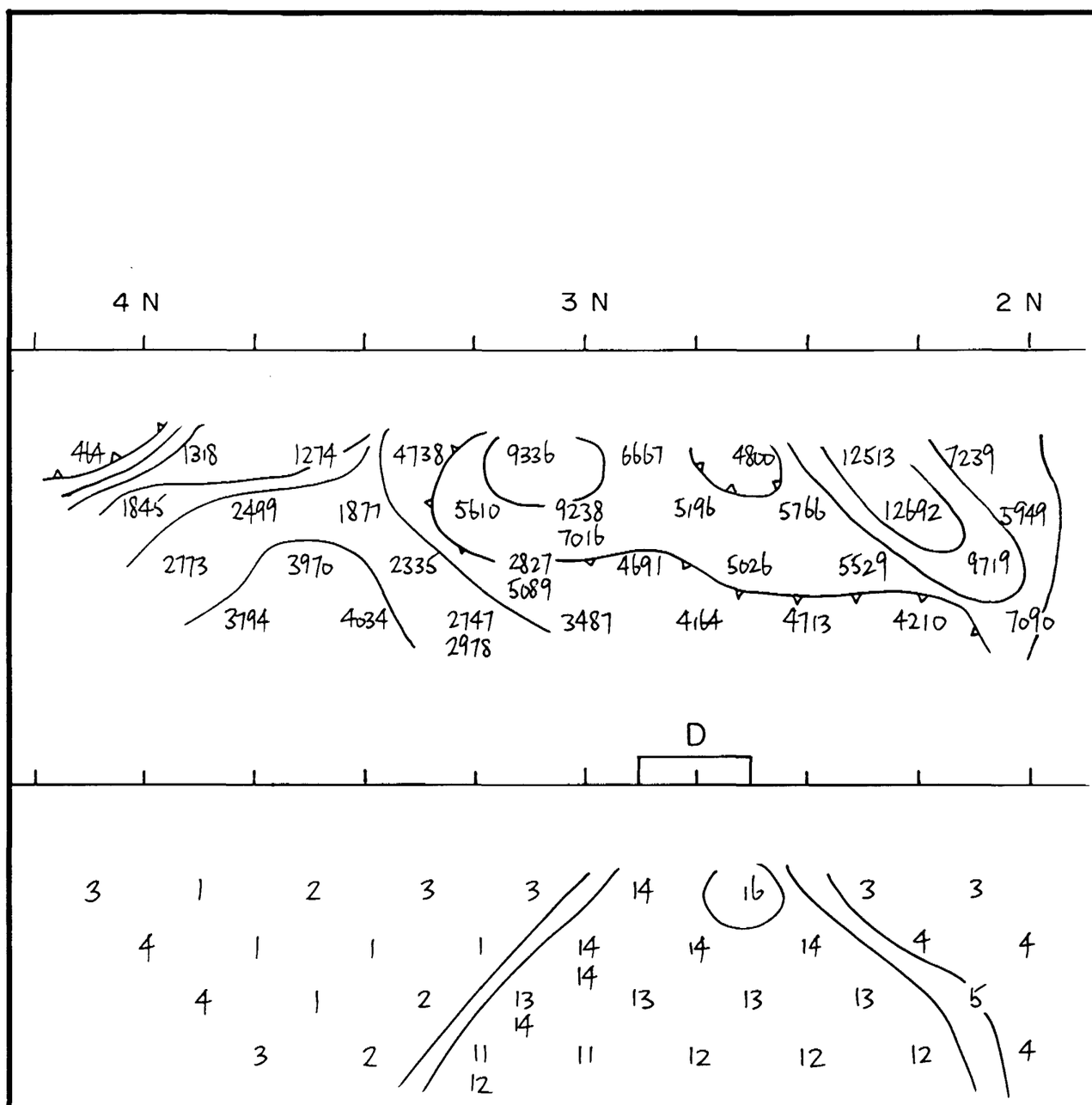
LINE 15+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST

Jan. 1987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3 N
2 N
D
414
1318
1274
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9336
6667
4800
12513
7239
1845
2499
1877
5610
9238
7016
5196
5766
12692
5949
2773
3970
2335
2827
5089
4691
5026
5529
9719
3794
4034
2747
2978
3487
4164
4713
4210
7090
3
1
2
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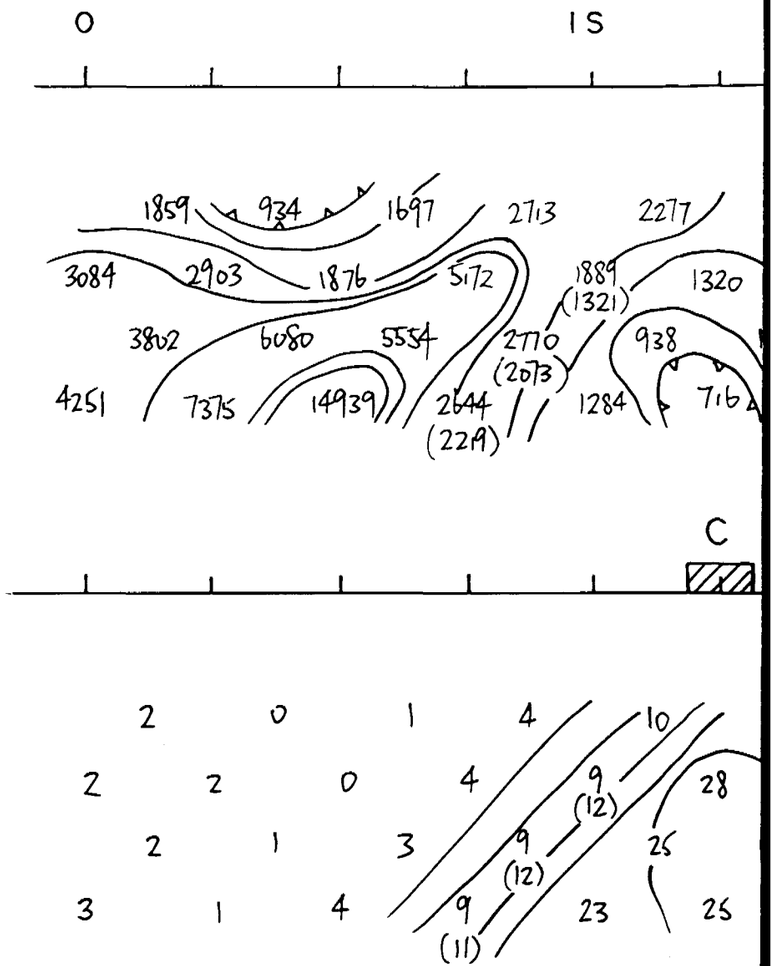
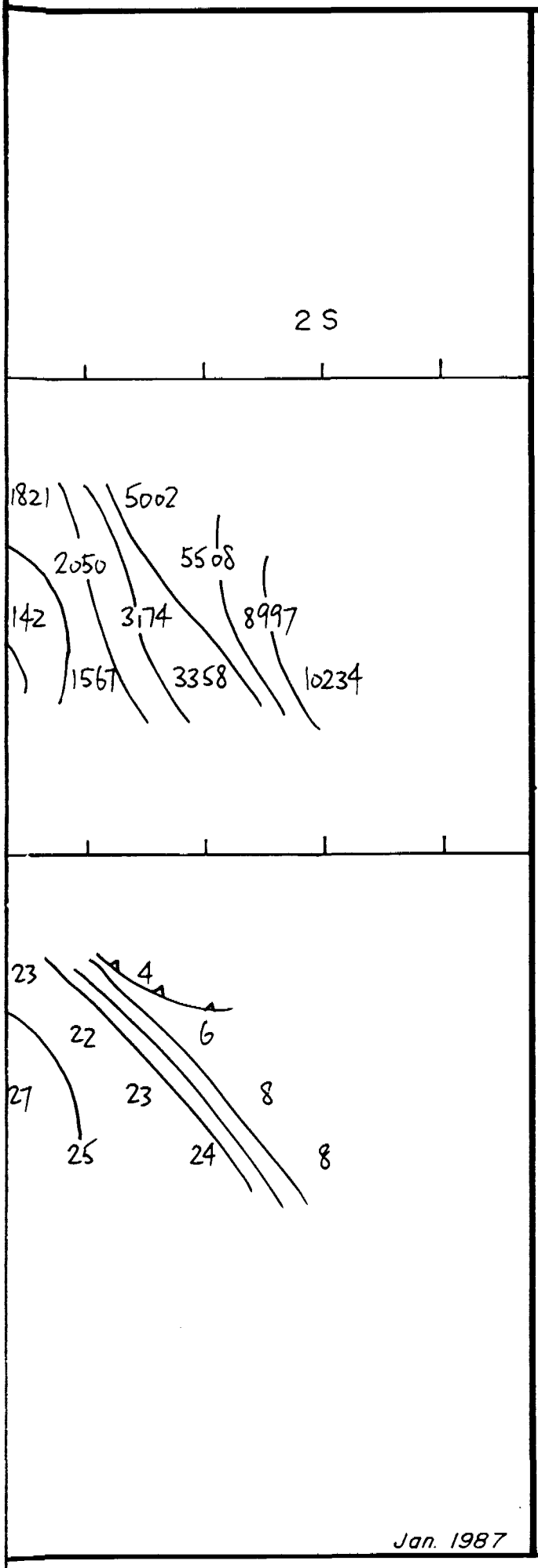

0
1S
C
1859
934
1697
2713
2277
3084
2903
1876
5172
1889
(1321)
1320
3802
6080
5554
2770
(2073)
938
4251
7375
14939
2644
(229)
1284
716
2
0
1
4
10
2
2
0
4
9
(12)
28
2
1
3
9
(12)
25
3
1
4
9
(11)
23
25



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole — Dipole

a = 25 m

FIGURE

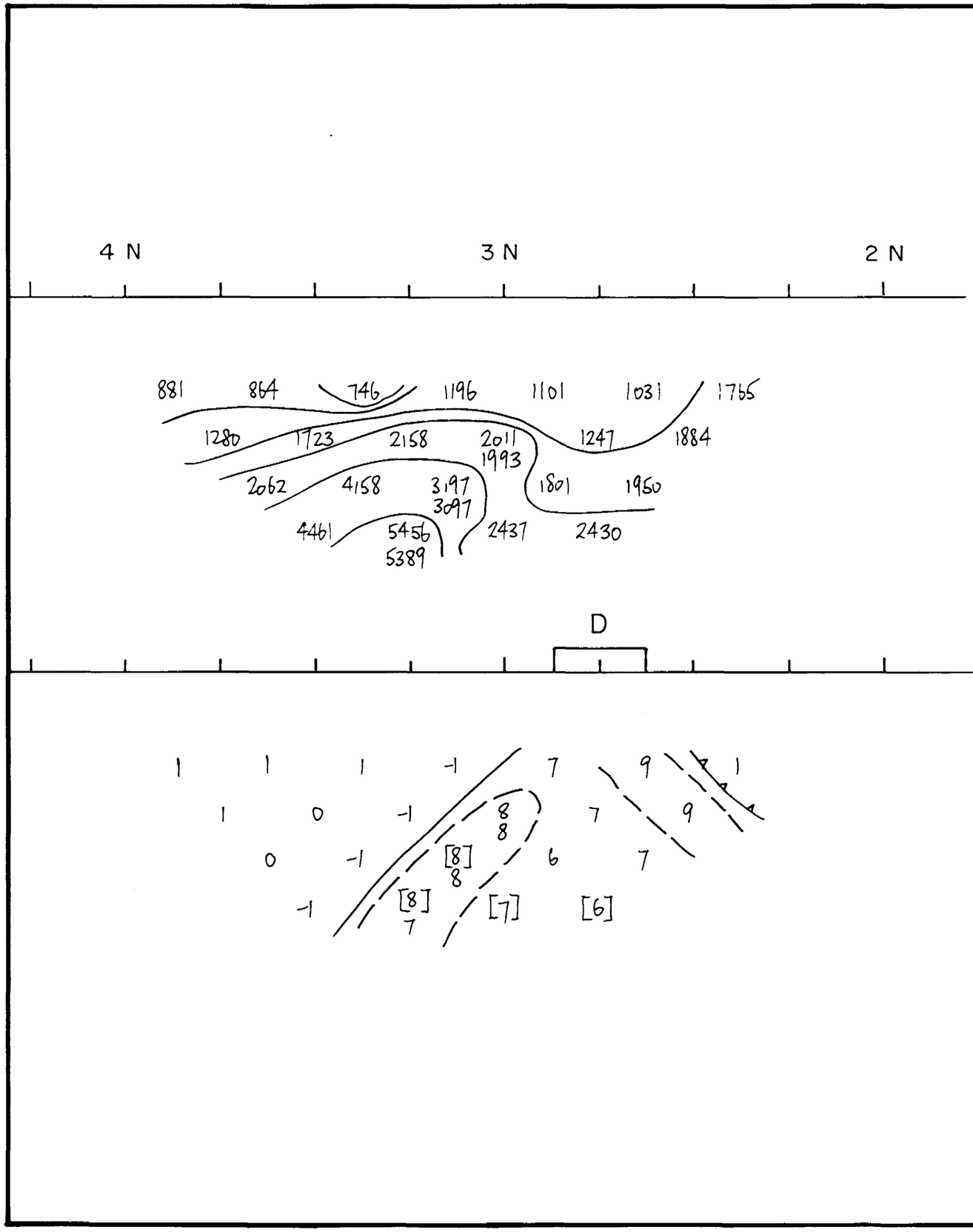
IP SURVEY

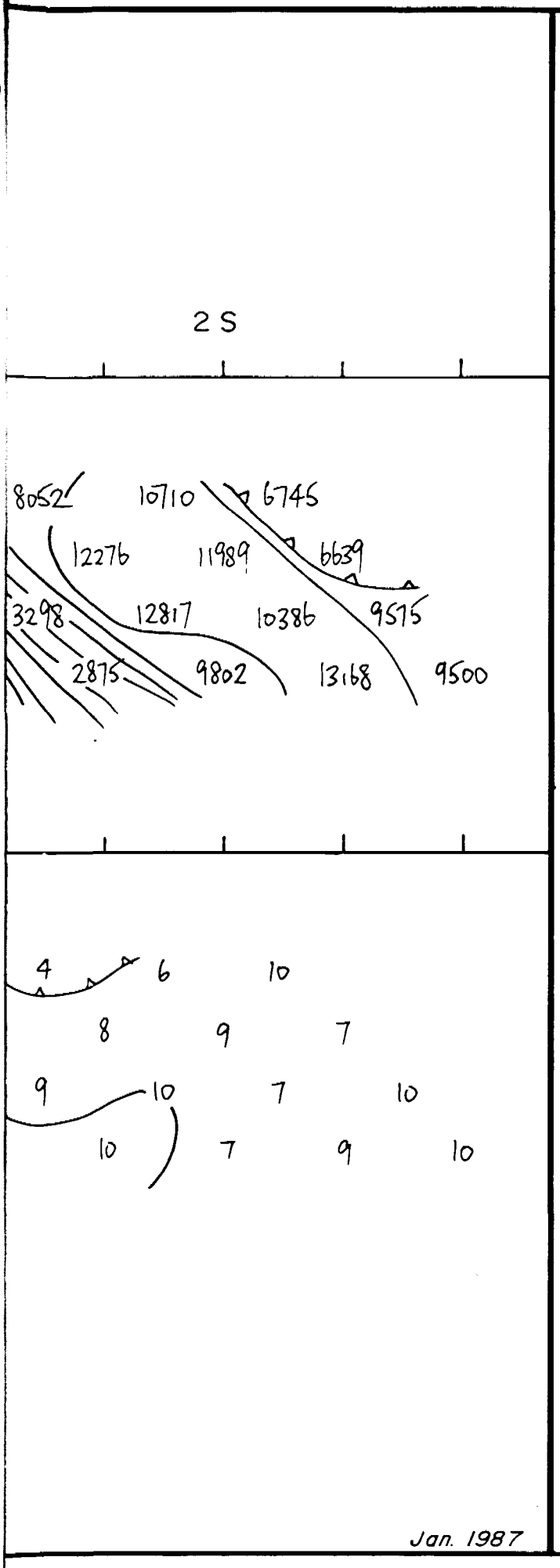
LINE 16+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST


4 N
3 N
2 N
881 864 746 1196 1101 1031 1765
1280 1723 2158 2011 1993 1247 1884
2062 4158 3197 3097 1801 1950
4461 5456 5389 2437 2430
D
1 1 1 -1 7 9 1
1 0 -1 8 8 7 9
0 -1 [8] 8 6 7
-1 [8] 7 [7] [6]
0
1 S
1602 1003 2004 693 5402
2566 2582 3827 648 645 385 3054
3180 3298 8823 967 599 607 302
5906 4279 10532 720 1023 648 625 447
C
2 2 3 3 9
2 2 3 6 6 17 8
3 3 4 7 14 16 [12]
4 3 4 [7] [14] 17 [17] [13]



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole — Dipole

a = 25 m

FIGURE

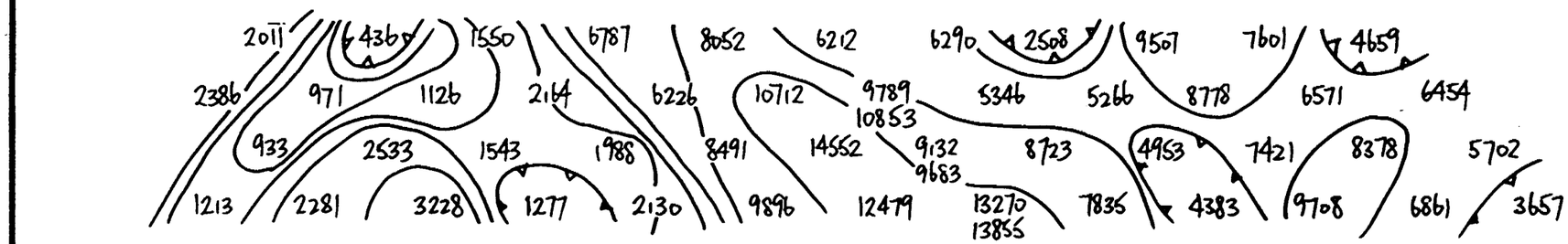
IP SURVEY

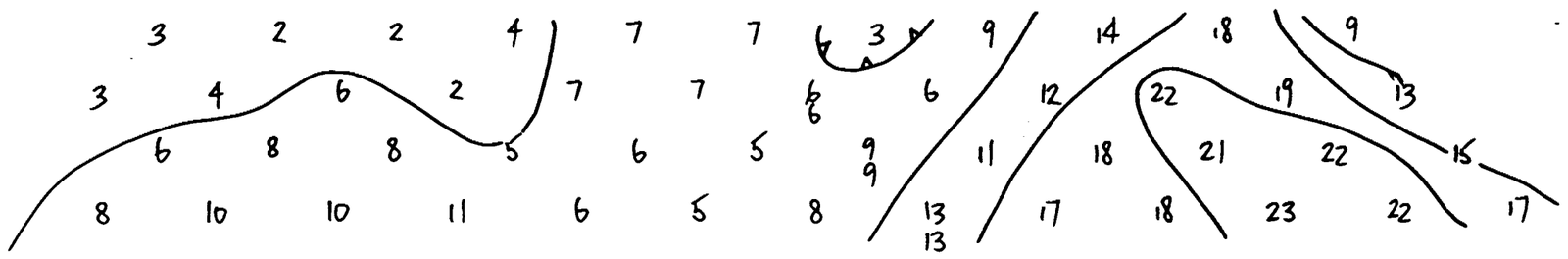
LINE 17 +00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST





Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

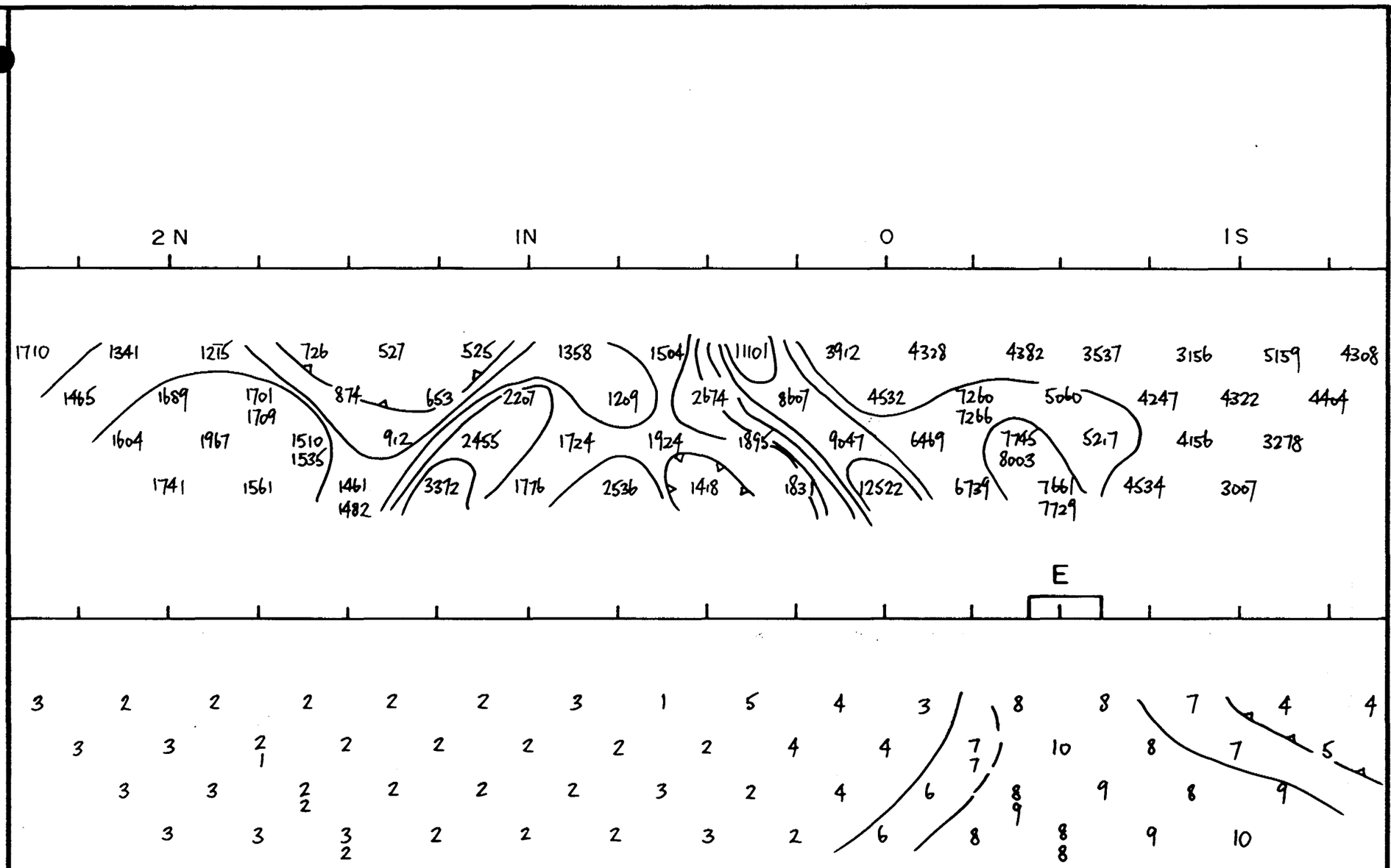
IP SURVEY

LINE 18+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

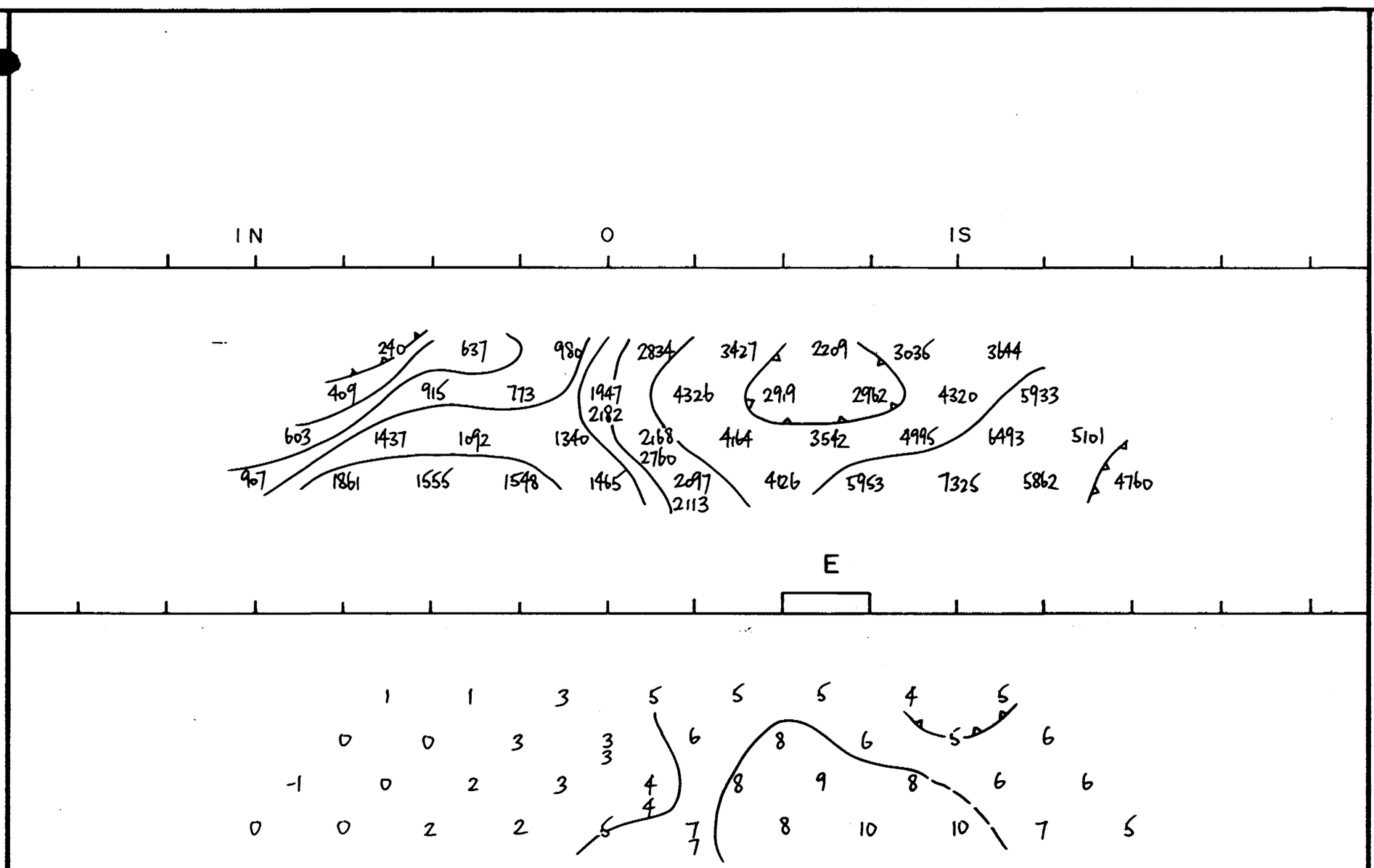
IP SURVEY

LINE 21+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

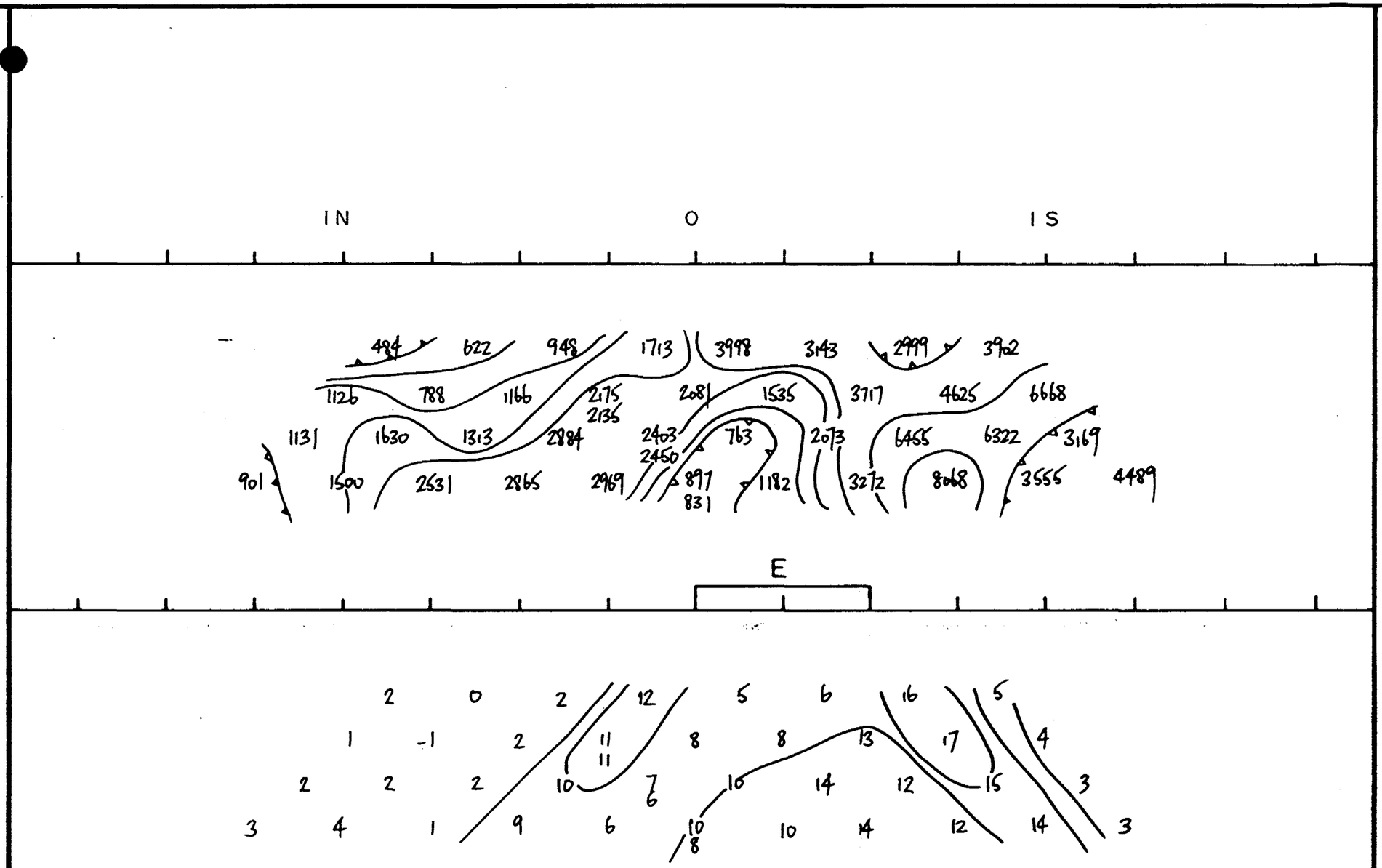
IP SURVEY

LINE 23+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

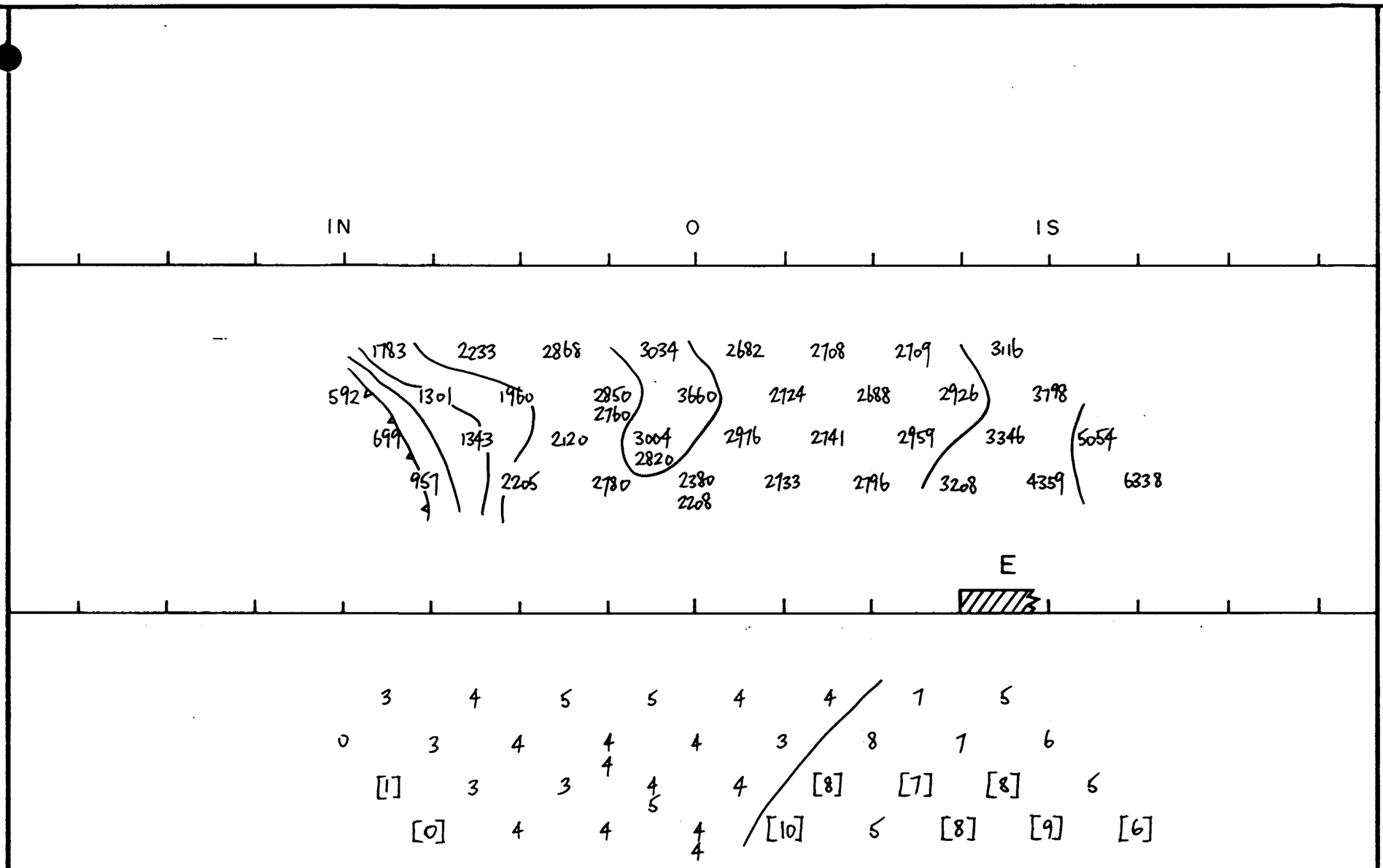
IP SURVEY

LINE 25+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

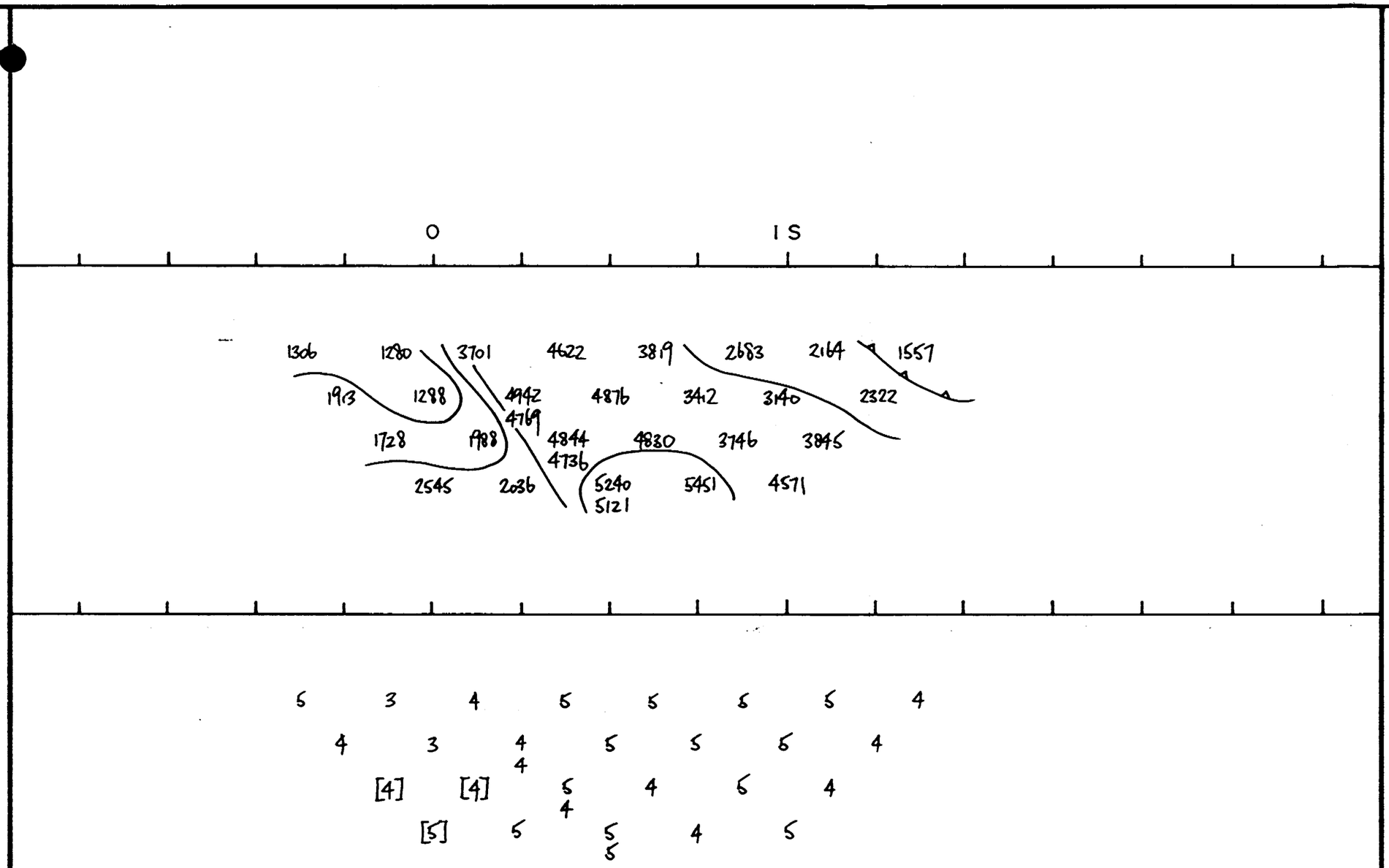
IP SURVEY

LINE 27+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

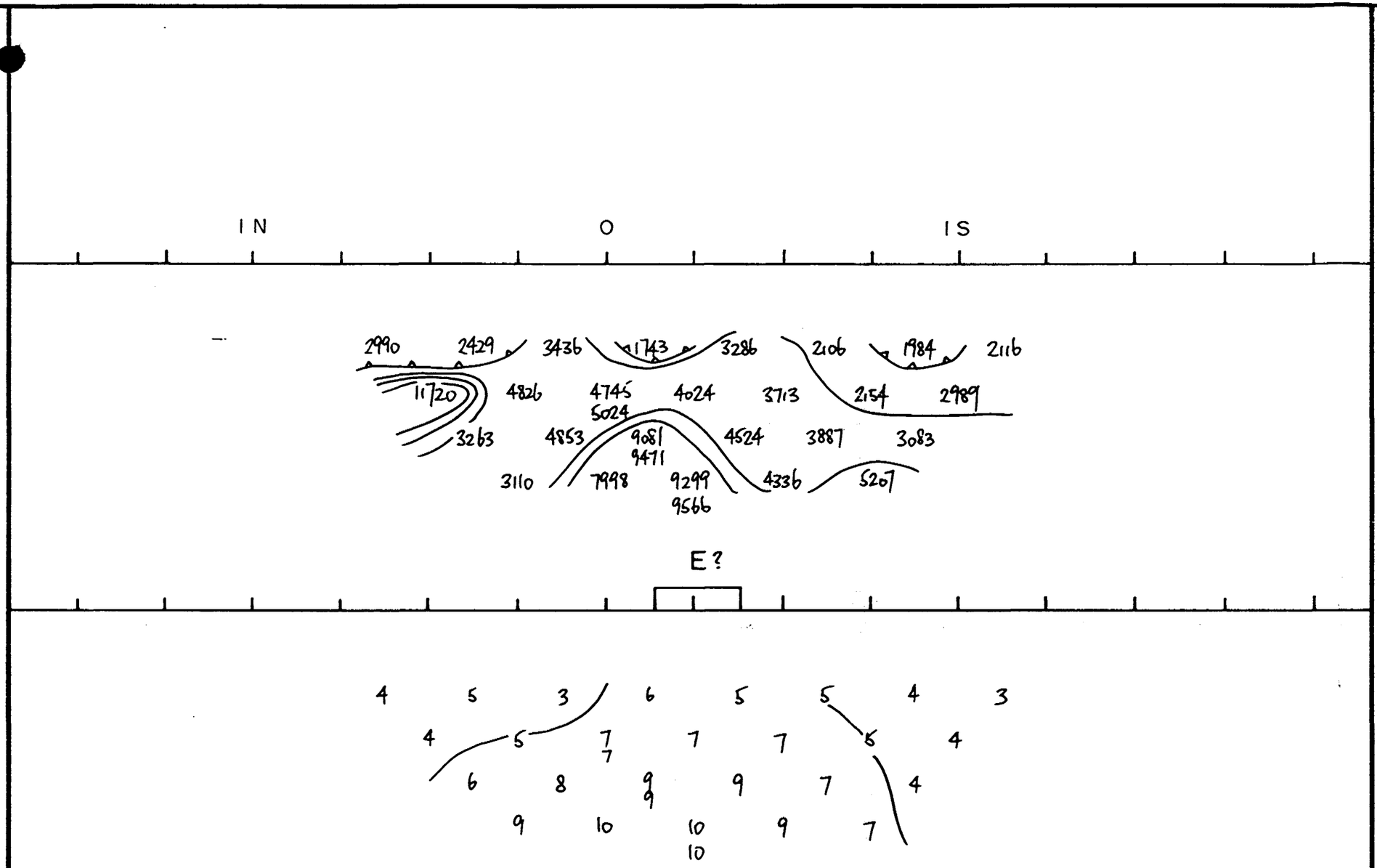
IP SURVEY

LINE 29+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

Jan. 1987

FIGURE

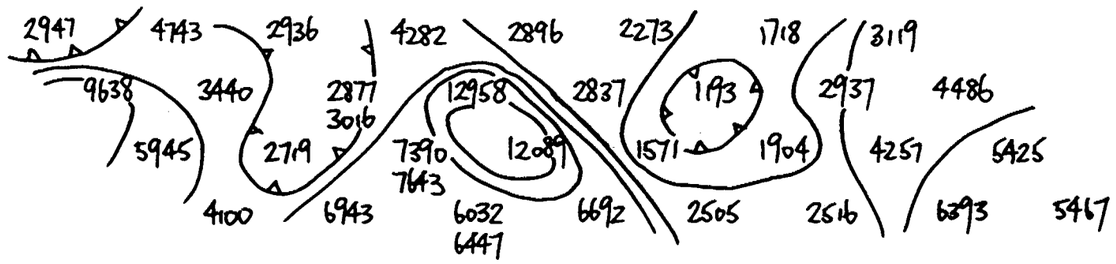
IP SURVEY

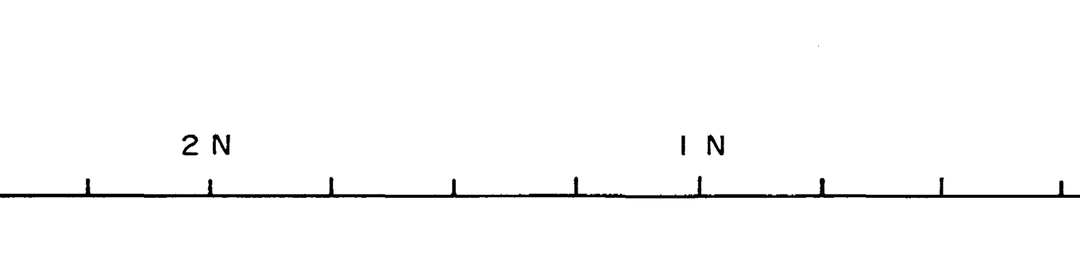
LINE 31+00E

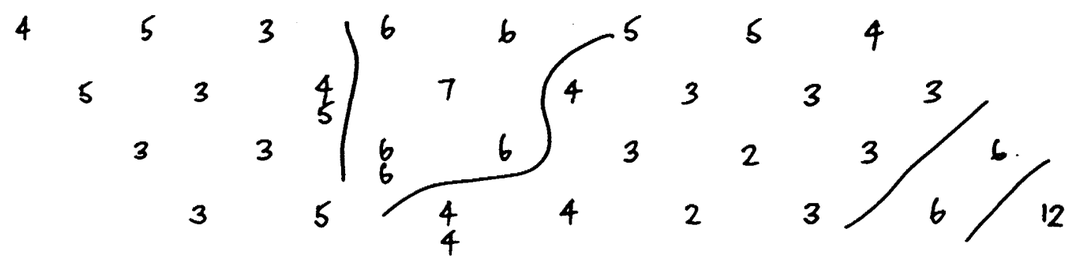
REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST







Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

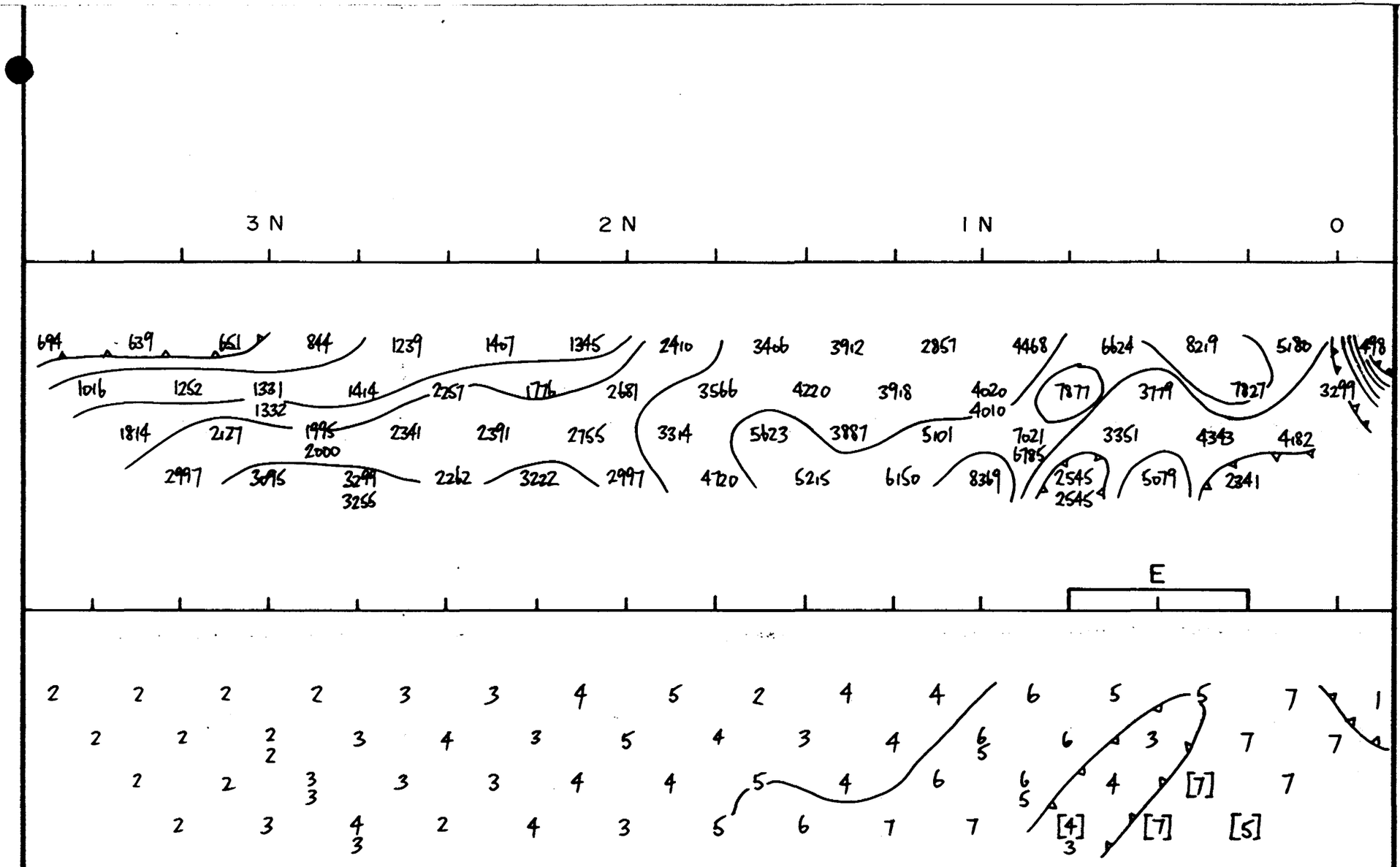
IP SURVEY

LINE 33+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

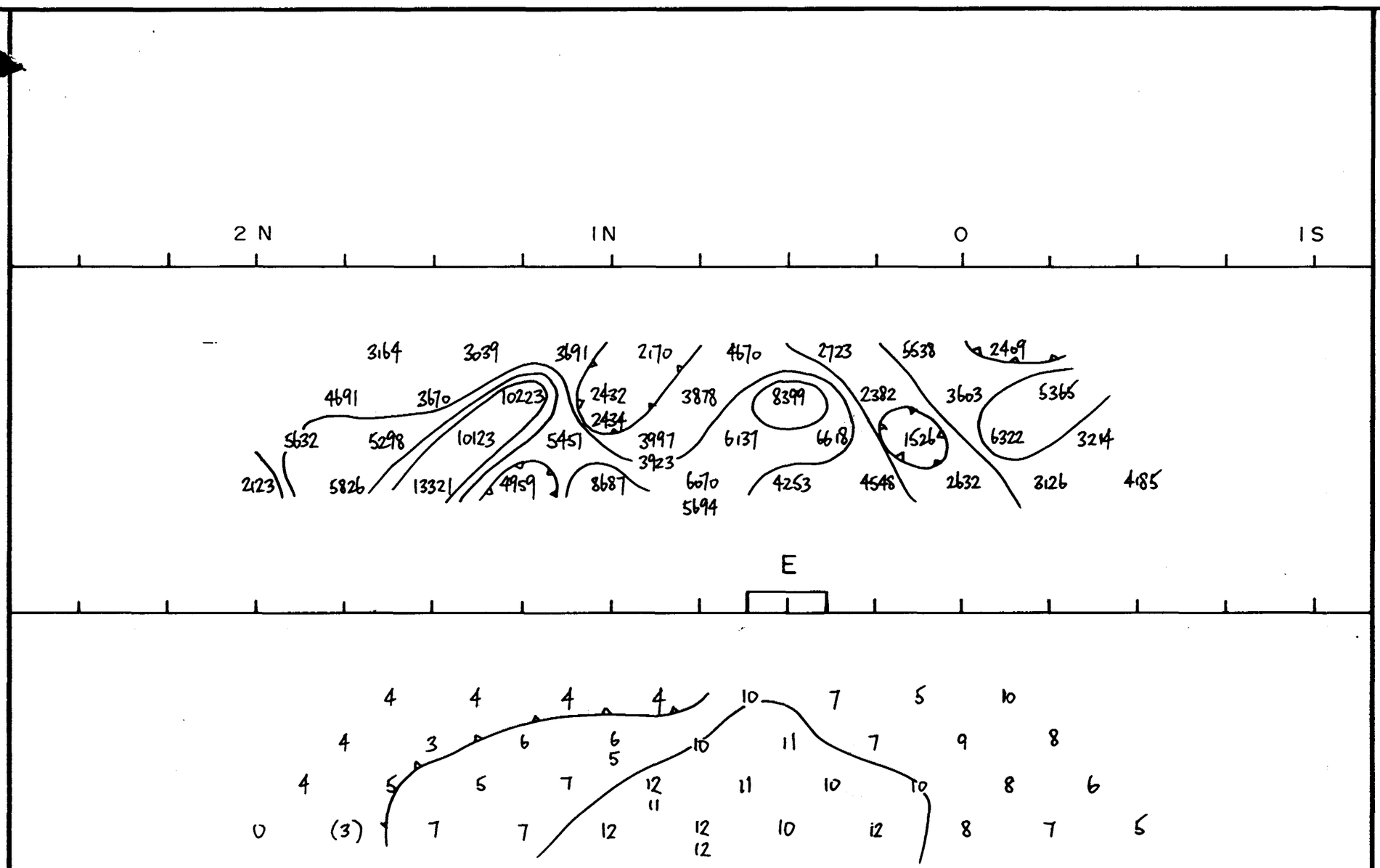
IP SURVEY

LINE 35+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST



Jan. 1987

LEGEND

INSTRUMENTS

Tx : EDA IP-1

Rx : Phoenix IPT-1

ELECTRODE ARRAY

Dipole – Dipole

a = 25 m

FIGURE

IP SURVEY

LINE 37+00E

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MIN. DIV.

OREQUEST

May 13, 1987

Your File Nos.30/87,45/87,46/87
Our File: 2.9860

Mining Recorder
Ministry of Northern Development and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Data for Assaying submitted under Section 77(19)
of the Mining Act R.S.O. 1980 on Mining Claims
P 709030, et al, in Halcrow and Tooms Townships

The above-mentioned submission has been reassessed and the enclosed statement of assessment work credits for Assaying have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

Gary L. Weatherson, Manager
Mining Lands Section
Mineral Development and Lands Branch
Mines and Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

SH/mc
cc: Regal Petroleum Ltd
Suite 1550
609 Granville Street
Vancouver, B.C.
V7Y 1C6

Resident Geologist
Timmins, Ontario

Encl.

George Cavey
Suite 404
595 Howe Street
Vancouver, B.C.
V6C 2T5

Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

Ministry of
Northern Development
and Mines

Ontario

Technical Assessment
Work Credits

File
2.9860

Date
May 13,1987

Mining Recorder's Report of Work No.
30/87,45/87,46/87

Recorded Holder
REGAL PETROLEUM LTD

Township or Area
HALCROW AND TOOMS TOWNSHIPS

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic _____ days	$21,926.06 SPENT ON ASSAYING SAMPLES TAKEN FROM MINING CLAIMS:
Magnetometer _____ days	P 709030-41-42-43-45-56-63 752003
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	1461.74 DAYS CREDIT ALLOWED WHICH MAY BE GROUPED IN ACCORDANCE WITH SECTION 76(6) OF THE MINING ACT. R.S.O. 1980.
Man days ☐ Airborne ☐	
Special provision ☐ Ground ☐	
☐ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

46/87
2.9860
Mining Act

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s)	Township or Area
Analysis W·87·06·46	Halcrow, Tooms

Claim Holder(s): Regal Petroleum Ltd.
Prospector's Licence No.: T1309

Address: #1550 - 609 Granville St., Vanc., B.C. V7Y 1C6

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
	09 Day | 09 Mo. | 86 Yr. — 20 Day | 12 Mo. | 86 Yr.	

Name and Address of Author (of Geo-Technical report): OreQuest Consultants Ltd., #404 - 595 Howe St., Vanc., B.C.

Credits Requested per Each Claim in Columns at right

		Days per Claim
Special Provisions For first survey: Enter 40 days. (This includes line cutting) For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	709063	40
	758314	43
	758313	43

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

PORCUPINE MINING DIVISION
RECEIVED
FEB 27 1987

RECORDED
FEB 27 1987

RECEIVED
MAR 10 1987
MINING LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed: Whole Rock Analyses (Sect. 77-19)

Performed on Claim(s): 778873, 758313, 758314, 709043
752003, 709030, 709063

Calculation of Expenditure Days Credits

Total Expenditures				Total Days Credits
$ 1,892.25	÷	15	=	126

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work: 3

For Office Use Only		
Total Days Cr. Recorded: 126	Date Recorded: Feb. 27/87	Mining Recorder
	Date Approved as Recorded	Branch Director

Date	Recorded Holder or Agent (Signature)
Feb. 18/87	

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: J. Chapman, 580 W. 17th Ave., Vanc., B.C. V5Z 1T5

	Date Certified	Certified by (Signature)
	Feb. 18/87	

1362 (81 9)

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

45/87
2.9860
Mining Act

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s)	Township or Area
Microscopic Study W.87.06.45	Halcrow, Tooms

Claim Holder(s): Regal Petroleum Ltd. — Prospector's Licence No.: T1309

Address: #1550 - 609 Granville St., Vancouver, B.C. V7Y 1C6

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
	05 01 87 (Day Mo. Yr.) 26 01 87 (Day Mo. Yr.)	

Name and Address of Author (of Geo-Technical report): Jeff Harris, Harris Explorations, 534 Ellis St., N. Vanc., B.C. V7H 2G6

Credits Requested per Each Claim in Columns at right

		Days per Claim
Special Provisions: For first survey: Enter 40 days. (This includes line cutting) For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical	
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days: Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits: Note: Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	
	Magnetometer	
	Radiometric	

PORCUPINE MINING DIVISION RECEIVED FEB 27 1987

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	708964	40
	752005	40
	752004	~~10.5~~ (not allowed - maximum reached)

RECORDED FEB 27 1987

RECEIVED FEB 27 1987 MINING LANDS SECTION

Total number of mining claims covered by this report of work: 3

Expenditures (excludes power stripping)

Type of Work Performed: Thin Section Study (Sect. 77-19)

Performed on Claim(s): 758313, 758314, 709043 778873

752003, 709030, 709063

Calculation of Expenditure Days Credits

Total Expenditures			Total Days Credits
$ 1,358.00	÷ 15	=	90.5

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
80	Feb. 27/87	ACTING MINING RECORDER
	Date Approved as Recorded	Branch Director
	Per Revised Statement	

Date	Recorded Holder or Agent (Signature)
Feb. 18/87	J. Chapman

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: J. Chapman, 580 W. 17th Ave., Vanc., B.C. V5Z 1T5

Date Certified	Certified by (Signature)
Feb. 18/87	J. Chapman

Ministry of Northern Development and Mines

Ontario

Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

30/87

Mining Act 2.9860

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s): Expenditures W.87.06.30

Township or Area: Halcrow, Tooms

Claim Holder(s): Regal Petroleum Ltd.

Prospector's Licence No.: T1309

Address: #1550 - 609 Granville St., Vancouver, B.C. V7Y 1C6

Survey Company: OreQuest Consultants Ltd.

Date of Survey (from & to): 09 09 86 (Day, Mo., Yr.) – 20 12 86 (Day, Mo., Yr.)

Total Miles of line Cut:

Name and Address of Author (of Geo-Technical report): George Cavey, #404 - 595 Howe St., Vancouver, B.C. V6Y 2T5

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	
Man Days		**Days per Claim**
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	
Airborne Credits		**Days per Claim**
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

RECEIVED
MAR 10 1987
MINING LAND SECTION
PORCUPINE MINING DIVISION

RECEIVED
FEB 27 1987

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	709063	20
	709064	20
	709065	20
	709066	6.7
	709055	38.3
	758310	60
	758311	60
	758312	60
	758313	17
	758314	17
	758315	60
	758317	10
	758318	40
	758319	10

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	708974	60
	708975	60
	708976	60
	709030	20
	709043	60
	709045	60
	752003	20
	752004	60
	779873	60
	779841	50
	783631	60
	708956	20
	752007	8
	709031	60
	709042	60
	752005	20
	752006	20
	752008	8
	708955	20
	708964	20

RECORDED
FEB 27 1987

Total number of mining claims covered by this report of work: 34

Expenditures (excludes power stripping)

Type of Work Performed: Assay Costs Sect. (77-19)

Performed on Claim(s): 758313, 758314, 709043, 752003, 709063, 709030, 709056, 709045

Calculation of Expenditure Days Credits

Total Expenditures			=	Total Days Credits
$ 18,675.81	÷	15	=	1,245

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Date: Feb. 18/87

Recorded Holder or Agent (Signature):

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
1245	Feb. 27/87	
	Date Approved as Recorded	Branch Director
	Vic Arnold	MINING RECORDER

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: George Cavey, #404, 595 Howe St., Vancouver, B.C. V6C 2T5

Date Certified: Feb. 18/87

Certified by (Signature):

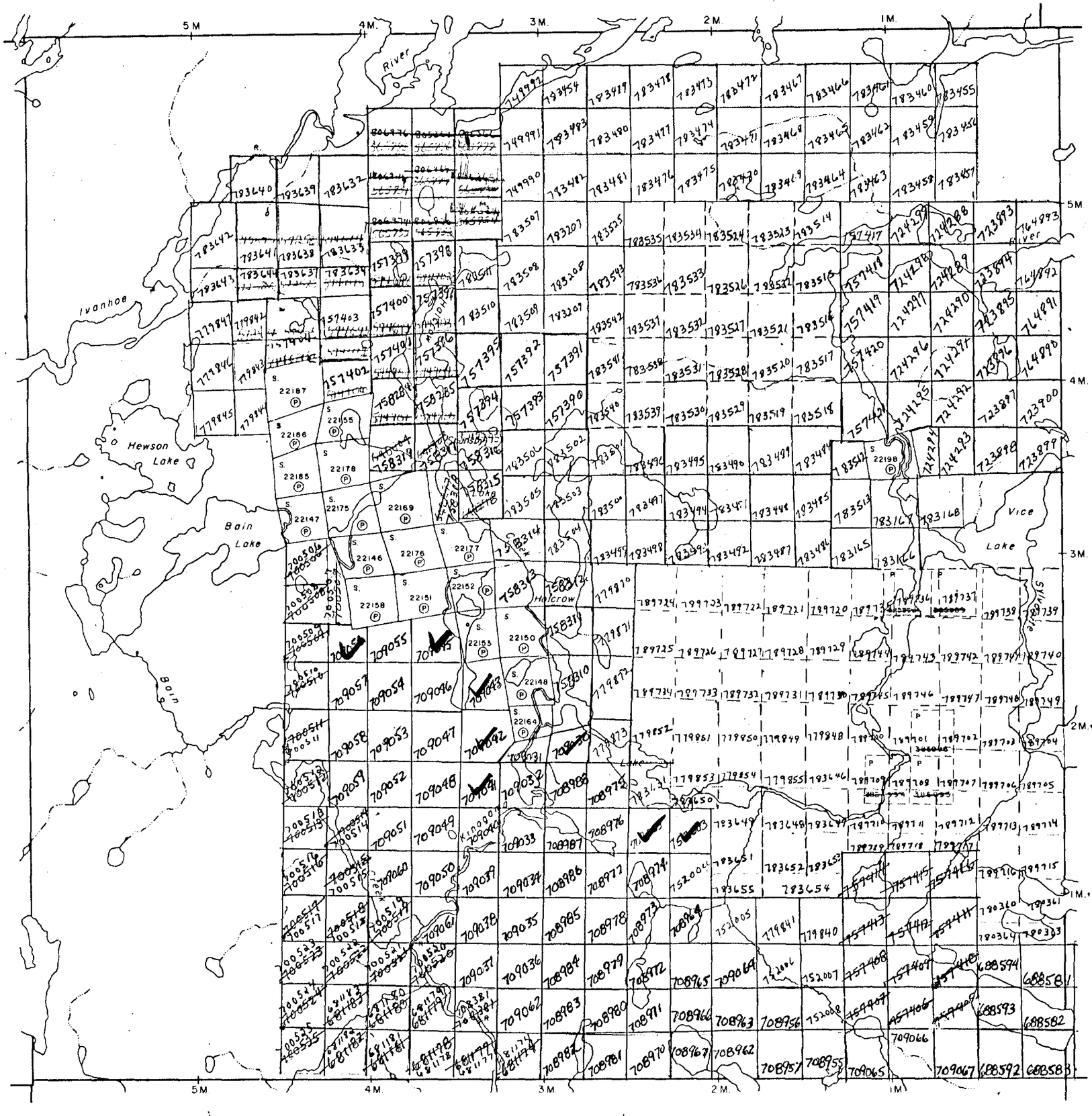
1362 (85/12)

Crockett Twp. - M.740

Lackner Twp. - M.975

Denyes Twp. - M.758

Tooms Twp. - M.1159



THE TOWNSHIP
OF

HALCROW

DISTRICT OF
SUDBURY

PORCUPINE
MINING DIVISION

SCALE: 1-INCH 40 CHAINS.

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.

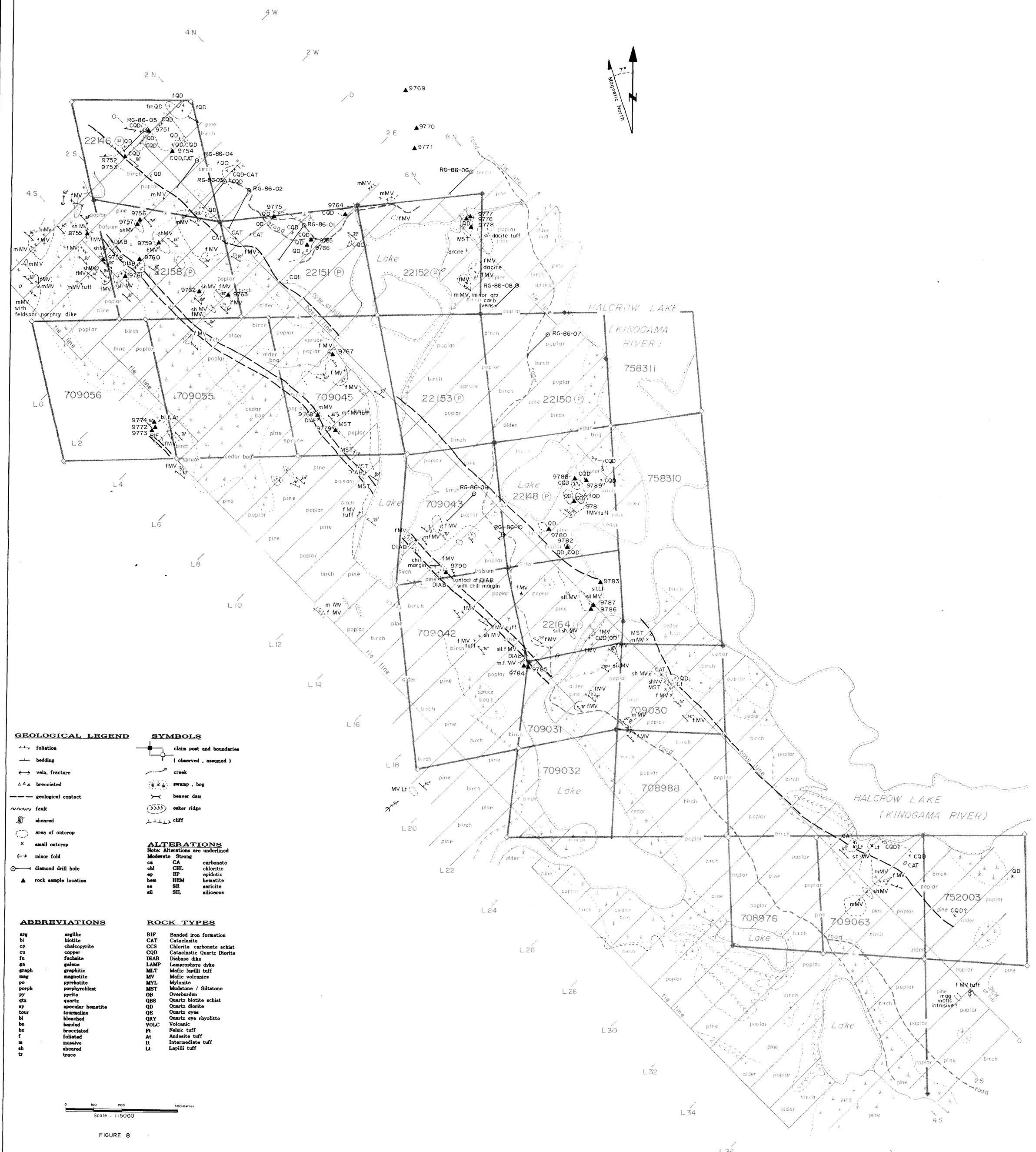
NOTES

400' Surface Rights Reservation around all lakes and rivers.

Received May 8/80

PLAN NO. M.906

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



GEOLOGICAL LEGEND

- foliation
- bedding
- vein, fracture
- breccia
- geological contact
- fault
- sheared
- area of outcrop
- small outcrop
- minor fold
- diamond drill hole
- rock sample location

SYMBOLS

- claim post and boundaries (observed , assumed)
- creek
- swamp , bog
- beaver dam
- esker ridge
- cliff

ALTERATIONS

Note: Alterations are underlined

Moderate	Strong	
ca	CA	carbonate
chl	CHL	chloritic
ep	EP	epidotic
hem	HEM	hematite
se	SE	sericite
sil	SIL	siliceous

ABBREVIATIONS

arg	argillic
bi	biotite
cp	chalcopyrite
cu	copper
fu	fuchsite
ga	galena
graph	graphitic
mag	magnetite
po	pyrrhotite
porpb	porphyroblast
py	pyrite
qtz	quartz
sp	specular hematite
tour	tourmaline
bl	bleached
bn	banded
bx	brecciated
f	foliated
m	massive
sh	sheared
tr	trace

ROCK TYPES

BIF	Banded iron formation
CAT	Cataclasite
CCS	Chlorite carbonate schist
CQD	Cataclastic Quartz Diorite
DIAB	Diabase dike
LAMP	Lamprophyre dyke
MLT	Mafic lapilli tuff
MV	Mafic volcanics
MYL	Mylonite
MST	Mudstone / Siltstone
OB	Overburden
QBS	Quartz biotite schist
QD	Quartz diorite
QE	Quartz eyes
QRY	Quartz eye rhyolitte
VOLC	Volcanic
Ft	Felsic tuff
At	Andesite tuff
It	Intermediate tuff
Lt	Lapilli tuff

0 100 200 400 metres
Scale - 1:5000

FIGURE 8

GEOLOGY

REGAL PETROLEUM LTD.

SWAYZE AREA, PORCUPINE MINING DIVISION, ONTARIO

OREQUEST

JAN. 1987