An Assessment Report Detailing Physical Work, Geophysical Survey and Diamond Drilling in 1979 on the BET 1, CAT 1 & 2 Mineral Claims

Located at

56° 03' North Latitude; 125° 22' West Longitude

in the Omineca Mining Division (94C/3)

by

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W.R. Clark

April 1, 1980.

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1. SUMMARY CONCLUSIONS:

During the period July 24 to October 8, 1979, 7 I-Ex diameter drill holes were cored to an aggregate depth of 214m in the upper and lower trench areas of the CAT claims.

Geophysical surveys located the priminent magnetic linear in the southern cliams area. The magnetic anomaly was excavated by Trench #3 and drill test by diamond drill holes CDH 79-6 and 7.

The magnetic linear is explained by a magnetic-pyrrhotite rich, biotite hornfelsed volcanic rock which apparently marks the contact zone between monzo-diorite intrusion to the west and Takla volcanics to the east. The hornfels is intimately intruded by k-feldspar veinlets and narrow granite dykes. It contains an average of 6%, fine-grained disseminated, occasionally massive, pyrite-pyrrhotite-chalcopyrite which returned low-level assays for copper and gold.

Holes CDH 79-1 and 2 tested the southwestern and southeastern contact area of the syenite porphyry, located in the upper trench. The syenite porphyry contains up to 6% pyrite with lesser chalcopyrite and returned low-level grades in copper and gold. The contact volcanics adjacent to the porphyry are weakly altered to chlorite and epidote and are enriched in pyrite.

Holes CDH 79-3 and 4 confirm the continuity at a depth of 9.5m of the "No. 1" magnetite vein. Persistence of copper-gold surface assays on this vein are indicated at depth.

Hole 79-5 did not intersect the "B-5" vein.

The potential of a porphyry copper-gold in the valleys surrounding CAT Hill, particularly west and south of Trench #3, is untested. Induced polarization surveys are recommended for the southern CAT claims area to indicate sulphide rich zones.

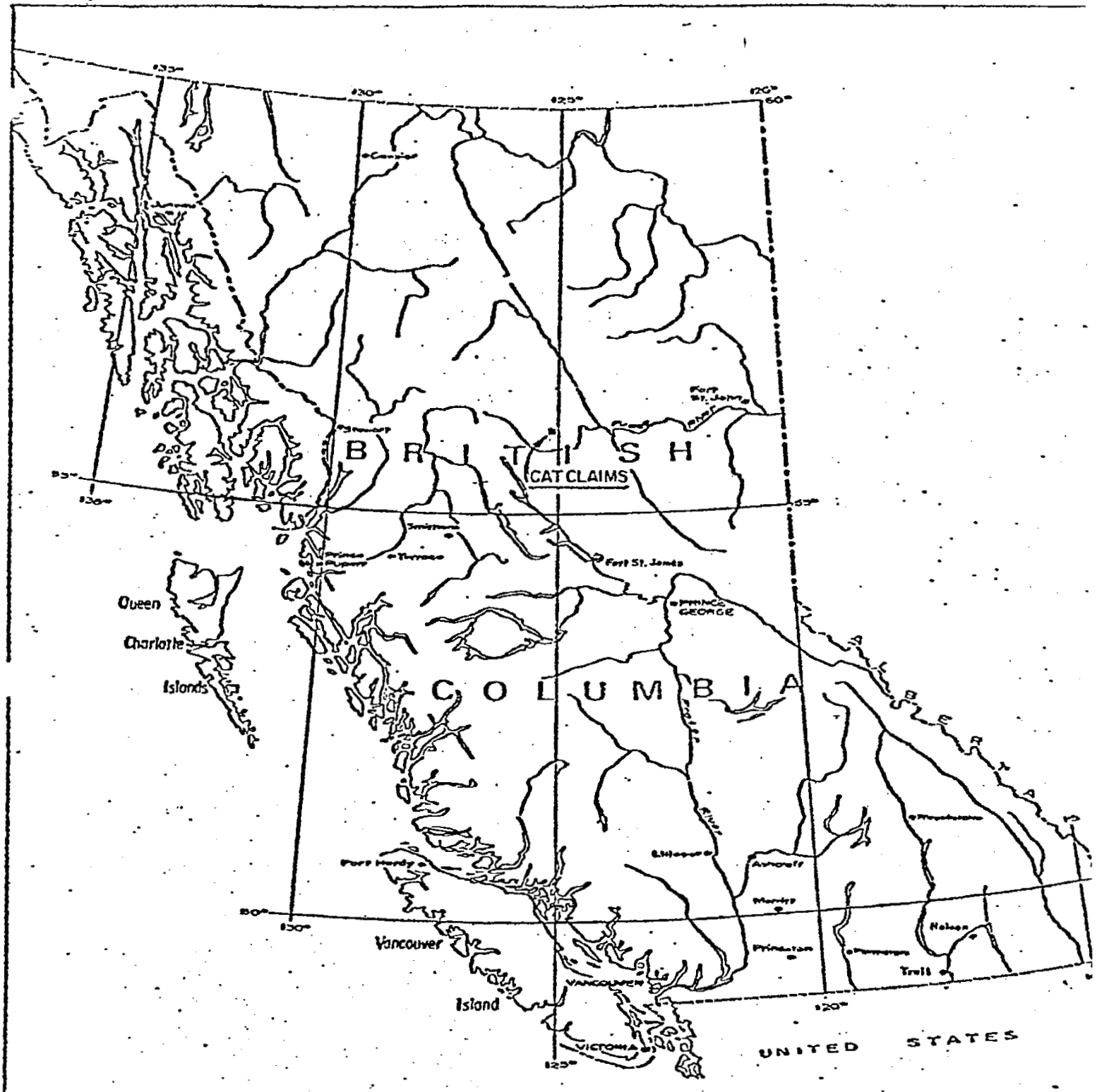
2. INTRODUCTION:

During the period July 24 to October 8, 1979 - 4 men established 10.72 km of topofil-compass grid in the southern claims area and conducted ground magnetic and E.M.-16 surveys. A 1.58 km long tote trail was constructed in the south of CAT claim 2, to access magnetic anomalies located in areas of overburden cover. Three 30m x 10m trenches were excavated by bulldozer over these anomalies, in search of bedrock. Seven I-Ex diamater diamond drill holes were completed on the property, to an aggregate depth of 214m.

i) Economic Interest, Objective and Approach:

Previous interest in the CAT claims was confined to the sulphide copper (gold) potential of the syenite porphyry mass exposed in trenches near 100N, 93E. The 1979 program was designed to test: 1) the southern contact area of the syenite porphyry for disseminated copper and fracture-fill, magnetite-copper-gold, 2) the continuity of structure and grade, at depth, of the "No. 1 Vein", containing magnetite-Au-Ag-Cu values and 3) to expose and drill test the source lithology of a prominent ground and aeromagnetic anomaly trending northwest through the south of the claims. The magnetic anomaly was suspected to reflect magnetite concentrations possibly containing Au-Ag-Cu values, such as indicated in the "No. 1" vein.

Drill holes CDH 79-1 and CDH 79-2 tested the south contact area of the syenite porphyry near 96N, 93E; subadjacent to magnetite-copper veins. Drill holes CDH 79-3 and CDH 79-4 were drilled to test the depth and grade continuity of the "No. 1 Vein". Hole CDH 79-5 tested the depth and grade continuity of the "B-5", magnetite-Ag-Au-Cu vein.



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CAT CLAIMS REGIONAL LOCATION MAP

SCALE As Shown		NTS 94 C/3	FIG. 1
DWG NO. 80-78	DATE April 1980	PROJ. 505	
To accompany report: BPVR 79-35			

The prominent linear magnetic anomaly in the southern claims area was relocated by geophysical survey and trenched in three locations to expose a source lithology. A highly magnetic metavolcanic source was located in trench #3. The metabasalt contained visible magnetite, chalcopyrite, pyrite and trace gold as disseminations in highly fractured and altered zones. Holes CDH 79-6 and CDH 79-7 tested the economic potential of Au-Cu mineralization in the Trench 3 zone.

ii) Location and Access:

The CAT claims are located in the Omineca Mining Division, 150 km northwest of Mackenzie and 9.5 km west-southwest of Usilika Lake, B.C.

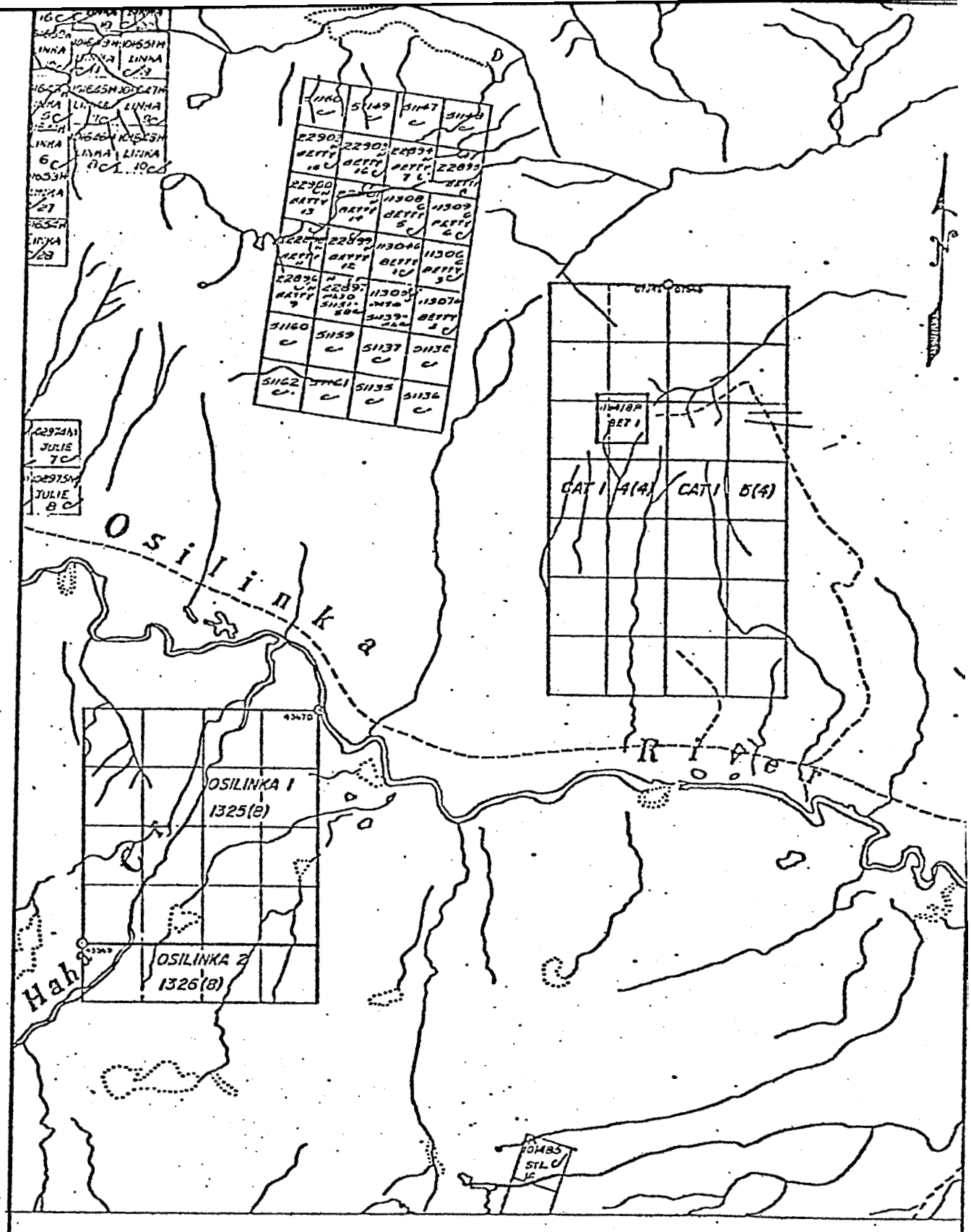
Access to the claims is by a 12.3 km long, 4 wheel drive quality road, which trends westerly, 5.3 km from the Osilinka River Bridge, then north 7 km to the upper drill camp. The upper 4 km of this road is passable only in dry weather and is subject to rock fall.

The Osilinka Bridge is located 6 km south of Uslika Lake on the Omineca road, which connects Fort St. James with Moose Valley near Sustut Peak.

iii) Claims Ownership, Claims Status, Application of Assessment Work:

The CAT Group of Mineral claims comprises CAT claim 1 and CAT claim 2, each containing 14 units and BET claim 1 containing 1 unit.

The CAT 1 and 2 claims are wholly owned by BP Minerals Limited of Vancouver, B.C. The BET 1 claim is owned by Mr. A. Gerun of Nelson and held under option agreement by BP Minerals Limited.



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CAT-BET CLAIMS LOCATION MAP

SCALE 1:50,000		NTS 94 C/3	FIG. 2
DWG NO. 80-79	DATE April 1980	PROJ. 505	
To accompany report: BPVR 79-35			

The following information is pertinent to the status of these claims:

Claim	No. Units	Record No.	Anniversary Date	Expiry Date	Assessment Credit 1979	New Expiry Date
CAT 1	14	4	April	1983	7 yrs.	1990
CAT 2	14	5	April	1983	7 yrs.	1990
BET 1	1	119418	November	1982	7 yrs.	1989

This report covers 1979 assessment work in the amount of $41,717.00, which is applied to the claims group as in the table above.

iv) General Geology: (See Figure 3)

The CAT Group of mineral claims encompass a conical mountain and contiguous ground to the south, covering the north flank of the Osilinka River Valley. The claims are underlain by magnetic and basaltic pyroclastics, intercalated volcanic clastics and augite porphyry flows. These units are intruded by syenite porphyry near the centre of the claims.

The southwestern area of the claims is recessive weathering. The area contains sparse and erratic outcrop of fine to medium-grained hornblende diorite and light pink, medium-grained, equigranular granite, along a crudely defined, northwesterly trend. Dykes of granite (?) were noted in diorite near the southeastern boundary of the claims. It is hypothesized that the diorite represents an edge phase of a granite to granodiorite mass (?) underlying the southwestern area of the claims. Late stage intrusion of the granite would be controlled by zones of

weakness in the volcanics and contact diorite.

A prominent west trending magnetic high located in the south of the claims is thought to mark the intrusive - volcanic contact.

A major northeast striking fault transects the CAT claims. The fault zone is marked by a mjor creek channel trending northeast from the upper drill camp on CAT mountain. Scattered outcrop of pyroclastics seen on the southeast wall of the fault are highly fractured and contain erratic but occasionally high concentrations of pyrite.

Less prominent faults and shear zones, in and west of the upper trench area, strike north and northwest. These faults are healed by magnetite-quartz $\pm$ calcite $\pm$ pyrite $\pm$ specular hematite veins containing copper-silver and gold values. Copper minerals include native copper, cuprite, chalcopyrite, tetrahedrite, bornite, chrysocolla, azurite and malachite. Silver values are thought to be associated with tetrahedrite. Gold occurs as macroscopic blebs in massive magnetite-limonite boxwork and less commonly in quartz gangue. The "No. 1" and "No. 2" magnetite veins are located on a ridge 200m northwest of the upper trench area. The veins are upto 0.6m wide.

3. SUMMARY OF WORK:

i) Physical Work: (See Figure 3)

During the latter part of July and in early August 1979, 10.72 km of topofil-compass grid was established over the southern claims area in the Osilinka River Valley. The linear magnetic high was located on this grid by geophysical survey. Three areas of trenching were located over magnetic highs in locales which appeared to have a relatively thin mantling of overburden. A trail was flagged along the magnetic high connecting the proposed trenches with the Osilinka River 4 wheel drive road.

During the first week of August, 1979 a D-8 bulldozer was contracted from Neilson Equipment Rentals Ltd., of Fort St. James, B.C. The bulldozer opened up the Osilinka River road from the Omineca Road 7 km west to the start of the trail to the trench areas. The lower 3 km of the CAT claims 4 wheel drive access road was bladed smooth at this time.

A 3.5m wide tote trail was constructed from the Osilinka River road north and west to Trench #3, located at line 61N, 99+50E. The timber felled along the trenches and tote trail was slashed and/or buried.

Trench 1 is located at line 52N, 109+50E and trends northwest for 76.2m. The trench is 3.5m deep and 12.2m wide and uncovered rounded cobbles and boulders of moderately magnetic hornblended diorite and minor gabbro in a sandy matrix. The trench did not reach bedrock and the area has been recontoured and water bars have been errected.

Trench 2 is centered at line 60N, 102E and trends northwest for 39.6m. The trench is 3.7m deep and 18m wide at its widest points. Bedrock was not uncovered below the medium to coarse grained sands encountered in the area. The trench was recontoured and water bars were errected.

Trench 3 is located 61m northwest of Trench 2. The trench runs due north for 61m, is 15m wide and 3m deep. The area was selected on the basis of high magnetic response and the proximity of angular float of a pyroxene-magnetite rich, fine to medium-grained rock, containing minor disseminated chalcopyrite and pyrite. Outcrop of light pink, fine to medium-grained, hornblende-bearing monzonite occurs nearby on the west bank of a swamp at line 63N, 94E. The monzonite is well jointed and contains chalcopyrite $\pm$ pyrite $\pm$ epidote on a few fractures.

Trench 3 uncovered hornfelsed volcanic bedrock cut by numerous narrow k-feldspar $\pm$ quartz veins and pink granite dykes. Disseminated net-like concentrations of fine-grained pyrite-pyrrhotite-chalcopyrite are often found in association with veins and dykes.

ii) Diamond Drilling:

A total of 214m of I-Ex diameter coring was completed by Drilcor Industries of Richmond, B.C., in 7 Winkie diamond drill holes on the property. Holes CDH 79-1 to CDH 79-5 were drilled in the upper trench area and holes CDH 79-6 and 7 were drilled in Trench #3, in the south of the claims area. The drill program was hampered by fractured ground which slowed drilling progress and contributed to poor recovery, particularly in mineralized zones. Diamond drill holes

CDH 79-4, 5 and 6 had to be abandoned due to poor ground conditions.

iii) Geophysical Surveys:

Ground magnetic and E.M.-16 surveys were completed over 10.72 km of topofil grid in the south of the claims area. The magnetic survey was conducted to define a northwest trending linear magnetic high located in previous airborne and ground magnetic surveys.

The magnetic survey successfully located the main anomaly as well as a 5600 gamma magnetic high on line 48.5N, 88E.

The E.M.-16 survey was completed over the magnetic anomaly to detect changes in conductivity which would reflect changes in rock type, structure and massive sulphide mineralization. The survey indicates the presence of a conductive mantling overburden over most of the area. The main magnetic anomalies show as somewhat more conductive zones, suggesting a change in conductivity due to variation in lithologies.

4. GEOPHYSICAL REPORT: (See Figures 5-7).

i) Instrument Specifications:

a) Magnetometer: The magnetometer used to complete the CAT claims survey, was a direct reading, McPhar M700, flux-gate magnetometer serial number 6931. This instrument measures variations in the vertical component of the earth's magnetic field to a resolution of $\pm$ 10 gammas, on the most sensitive scale. The magnetometer has a graduated meter-dial readout with a 5 scale selection from 100 to 100,000 gammas. Levelling of the unit is by a "bulls-eye" bubble located below the readout meter. The McPhar 700 weighs approximately 5 kg and has dimensions of 22 x 10 x 26 cm. The instrument was rented from Phoenix Geophysics, 885 Dunsmuir Street, Vancouver, B.C.

b) V.L.F. E.M.-16 Unit: The receiver unit in the E.M.-16 method measures the "in phase" and "quad phase" (out phase) components of vertical magnetic field, as a percentage of horizontal primary field. The instrument has a sensitivity of $\pm$ 150% on the in phase and $\pm$ 40% on the quad phase readout, to a resolution of $\pm$ 1%. Operational frequency is in the 15-25 kHz V.L.F. radio band and station selection is accomplished with plug in crystals. Signal output is an audible tone and in phase - quad phase components are determined by selective nullings of the tone. The in phase readout is from a mechanical inclinometer while quad phase is read from a graduated dial. The unit has a weight of 1.6 kg and dimensions of 42 x 14 x 9 cm.

The E.M.-16 unit is manufactured and leased by Geonics Limited, 1745 Meyerside Drive, Unit 8, Mississauga, Ontario, Canada, L5T 1C5.

ii) Survey Specifications and Methodology:

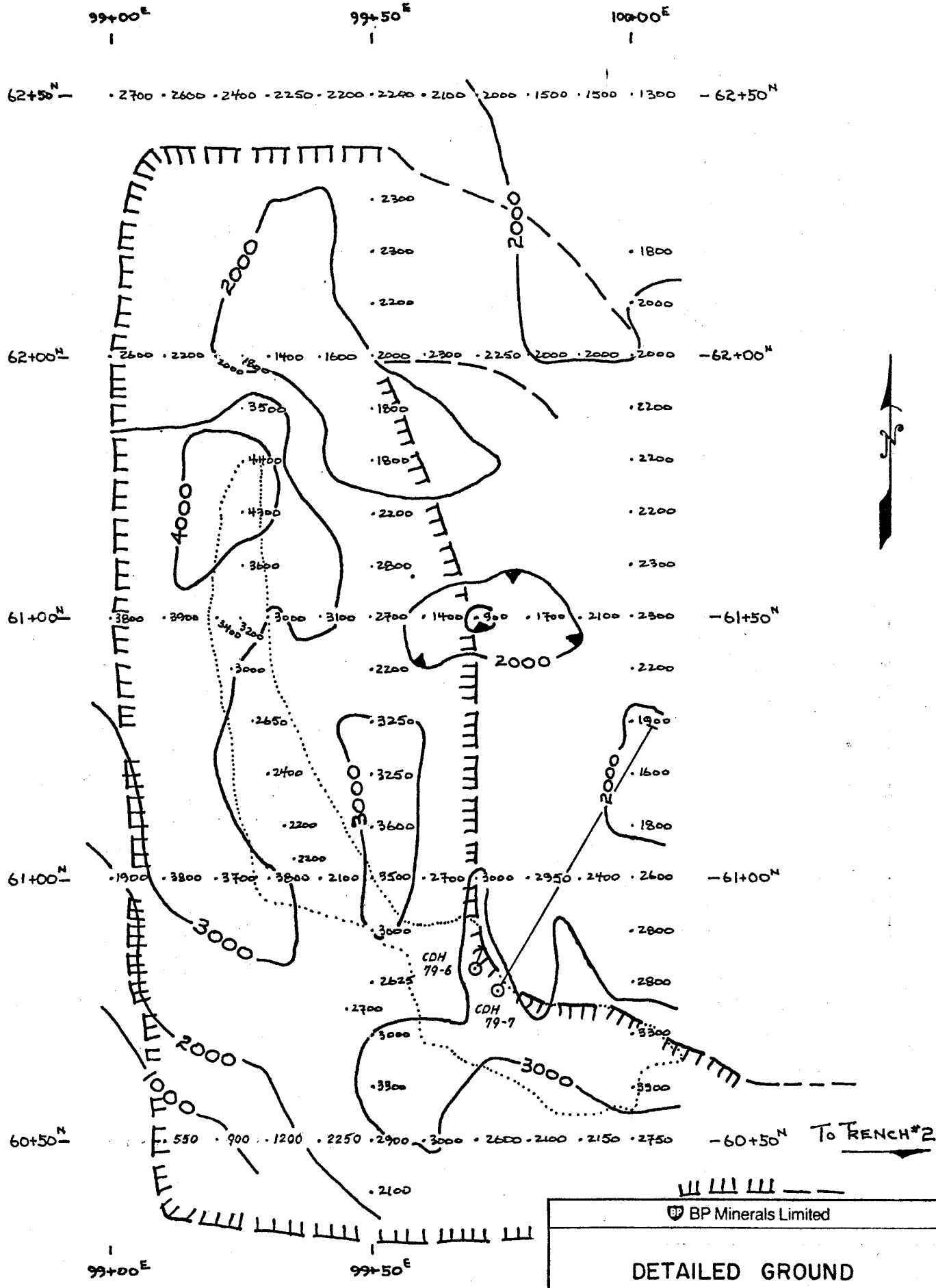
The ground magnetometer and E.M.-16 surveys were carried out on 10.72 km of compass-topofil grid. The lines trend east-west and are space 61m apart. The station interval is 30.5m except 15.2m in certain areas of magnetic anomaly.

a) Ground Magnetometer Survey: A base station was established at the intersection of line 100E with the Osilinka River road. After a brief orientation survey, the base was assigned an arbitrary value of 0 gammas. The instrument was "rezeroed" each day at the base station before beginning traverses. Survey traverses were conducted in loop configurations and check readings were made at previously established, temporary base stations at approximately 3 hour intervals. Corrections for diurnal variations of the earth's magnetic field were made to the data knowing the check readings on tying-in temporary base stations. Diurnal variations were found to be on the order of 0-5 gammas each 3 hour interval.

Measurements were made at each station with the operator and magnetometer facing north and the instrument levelled.

b) E.M.-16 Survey: The receiver was tuned to the V.L.F. transmitter located in Seattle, Washington - station NLK at 121^{o} 55' West Longitude, 48^{o} 12' North Latitude which broadcasts at 18.6 k Hz with radiated power of 300 kilowatts.

The choice of Seattle as the transmitter station was dictated by the local strike of geological structure, which subparellels the direction to the transmitter from the CAT claims. The object of this exercise is to have the magnetic field from the station, (at right



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DETAILED GROUND MAGNETICS - TRENCH 3

SCALE 1:305 1cm = 3.05m (10')		NTS 94 C/3	FIG. 7
DWG No 80-84	DATE April 1980	PROJ 505	
To accompany report: BPVR 79-35			

angles to the direction of the station) at approximately right angles to the main strike of the ore bodies or geological structure of the survey area.

All readings were made with operator facing east along the east-west survey lines. To take a reading at each survey station, the operator first assured that the receiver was tuned to station NLK, faced east on the lines and adjusted the volume control for comfortable listening. To take the in-phase readings, the instrument was swung back and forth in the vertical plane to a position of minimum sound intensity. At this position, the quadrature dial was adjusted to further minimize or "null" the sound. When minimum signal strength was achieved on both adjustments, the inclinometer (in phase) and quadrature (out of phase) readings were recorded.

The instrument is calibrated so that, when approaching the conductor, the inclinometer angles are positive, in the in-phase component.

iii) Geophysical Theory:

a) Magnetometer Survey: The magnetism of all rocks is controlled by their content of ferromagnetic materials, that is, substances possessing a relatively high susceptibility and capable of acquiring permanent magnetization. Intrusions often have associated hydrothermal alteration zones in which ferromagnetic minerals, predominantly magnitite, maybe redistributed in such a way that the altered zone is characterized by a distinctive magnetic signature. Variations in magnetic contrast may also be due to changes in lithologies,

magnetic skarns, structure, ore, etc. Highly sheared or fractured zones (faults) generally have a high porosity for groundwater movement, resulting in leaching of ferromagnetic minerals and therefore, a "low", generally linear, magnetic signature.

b) E.M.-16 Survey: The V.L.F. E.M.-16 is a passive method of measuring secondary fields generated by conducting bodies in the ground, when subjected to a primary electromagnetic (E.M.) signal. In the E.M.-16 system, the primary E.M. signal is generated by powerful military transmitters (shore to submarine), broadcasting in the 15 to 25 kHz radio band, from fixed locations on the earth.

The E.M.-16 field unit is a receiver which picks up the vertical magnetic component of the transmitted E.M. signal. The magnetic signal component carries the bulk of signal energy beneath the ground surface and is distorted by attenuation (weakening of signal strength $= \alpha = .29\sqrt{\sigma n}$ epers/metre) and phase shift ($\emptyset = -.29\sqrt{\sigma n}$ radians/metre). The conductivity of a rock medium is equal to 10^{-3} mho/metre in relatively nonconductive rock. Attenuation cannot be overcome and is a limiting factor in the use of the V.L.F. method in conductive country rock or overburden. Secondary fields, generated by buried conductors are further attenuated in their vertical passage to the receiver.

Transmitter stations have vertical antennae, thus antennae current is vertical, creating a concentric, horizontal magnetic field around them. This field travelling through the ground, will encounter conductive areas which generate and radiate secondary fields.

A vertically and a horizontally oriented receiver coil are built into the E.M.-16 receiver. Signal input from the vertical (signal) coil is minimized by tiliting the instrument; the angle of tilt is calibrated in percentage. Remaining signal from the vertical coil is balanced by a measured percentage of signal from the horizontal (reference) coil (after a 90^{o} phase shift) which is parallel to the primary field.

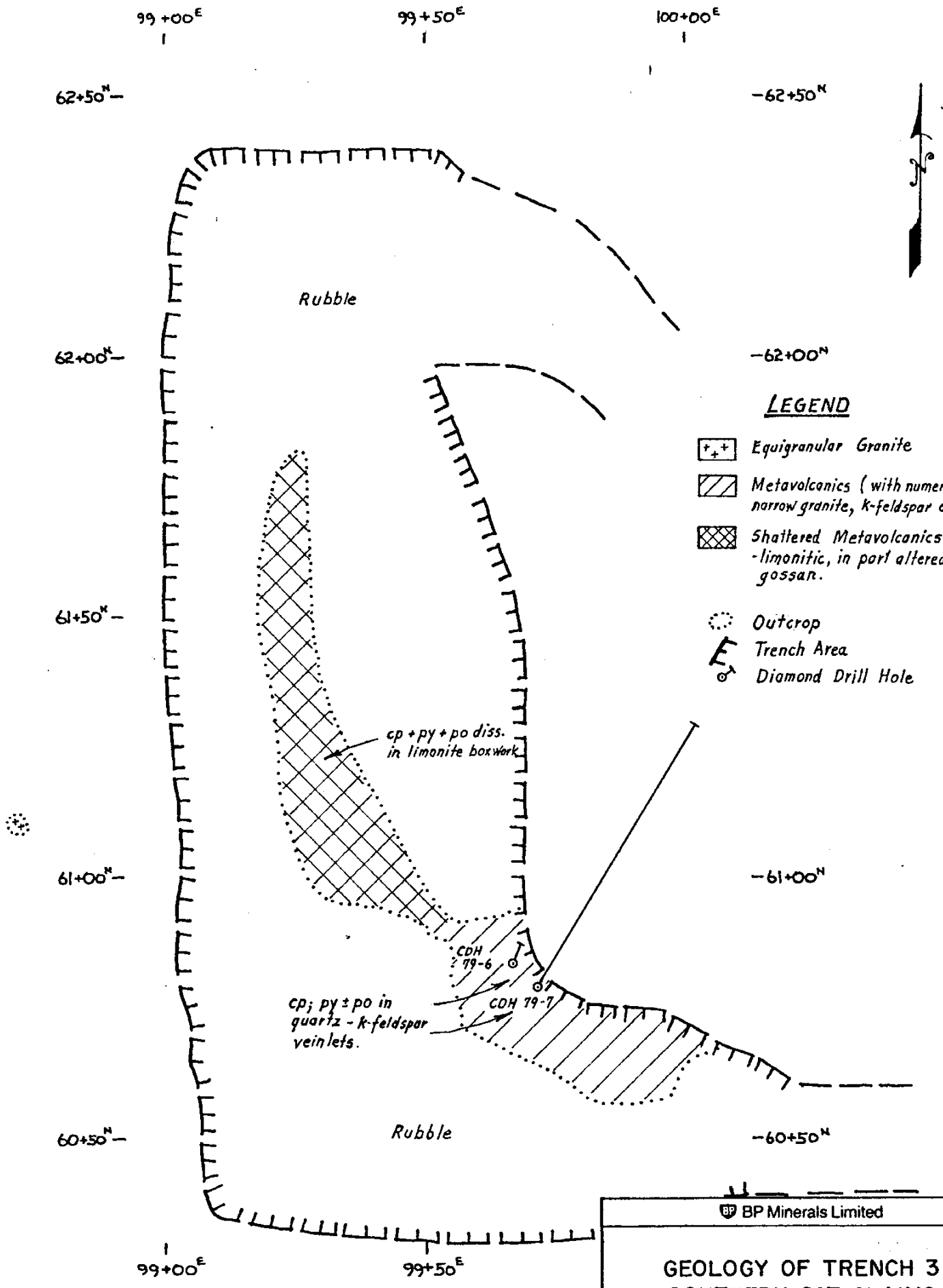
Where secondary signals are small compared to the primary horizontal field, the angle of tilt of the instrument is an accurate measurement of the vertical real-component. The compensating 90^{o} shifted signal from the horizontal coil, is a measure of the quadrature vertical signal.

A more complete explanation of the E.M. theory is outlined in the following reference paper: Patterson, N.R. and Ronka, V.; 1971: Five Years of Surveying with the V.L.F. E.M. Method; Geoexplanation v.9, pp. 7-26.

iv) *Interpretation:*

The magnetic survey data is presented in Figure 6 and 7. A linear northwest trending zone is clearly outlined by the 1000 gamma contour line between line 50N, 112E and line 69N, 92E. A small, irregular, 5600 gamma magnetic high is located on line 48-5N, 88E. North-northwest trending, 1000-1250 gamma magnetic highs are located on lines 41N and 44N at 109E and on line 36N at 97E and 85E.

The above magnetic highs occur within an elliptical zone outlined by the 500 gamma contour which encloses a central magnetic low con-



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GEOLOGY OF TRENCH 3 SOUTHERN CAT CLAIMS

SCALE 1:305 1cm = 3.05m(10')		NTS 94C/3	FIG. 8
DWG No 80-85	DATE April 1980	PROJ. 505	
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taining values less than 500 gamma.

Trenching and diamond drilling near line 60+50N, 99+50E indicate that the linear magnetic high, trending northwest through the southern claims area, is reflecting a magnetite-pyrrhotite rich, altered contact zone between monzonite-granite instrusion and basalt. The central, elliptical, magnetic low is thought to overlie a monzonite intrusion, exposed in sparce outcrop on line 63N at 94E.

The smaller magnetic highs indicate magnetite concentrations which may occur along north trending strucure or in rafts of metavolcanic within monzonite intrusion.

The E.M.-16 data is dominated by the effect of conductive overburden as indicated where quadrature values mimic the trend of in-phase data. The zone of positive quadrature and negative in-phase data east of line 100E and south of line 63N closely approximates the 800 gamma magnetic envelope and indicates a relatively non conductive zone immediately west of the intrusive-volcanic contact.

5. DIAMOND DRILLING REPORT:

i) Drilling Equipment: The 1979 drilling program utilized a Winkie Diamond Drill, recovering I-Ex diameter core. The drill, equipment, camp, driller and helper were contracted from Drilcor Industries Ltd., of Richmond, B.C.

The drill was mobilized to the upper trench area by pickup truck. Drill moves from CDH 79-2 to CDH 79-3 and of camp and drill from CDH 79-5 to CDH 79-6 were by Bell 206 helicopter operating out of Takla Landing.

As the rock was commonly too fractured to hold a rock bolt, the drill was stabilized on each hole by weighting the drill skids with four 45 gallon barrels containing water.

Drilling progress was commonly slow in fractured ground due to very short runs. In highly fractured zones healed by magnetite-quartz veins, core recovery was very poor. The program did not run mud in fractured zones and no provision was made for sludge recovery.

Several targets suitable for short hole drill testing were not attempted due to fractured bedrock or overburden conditions.

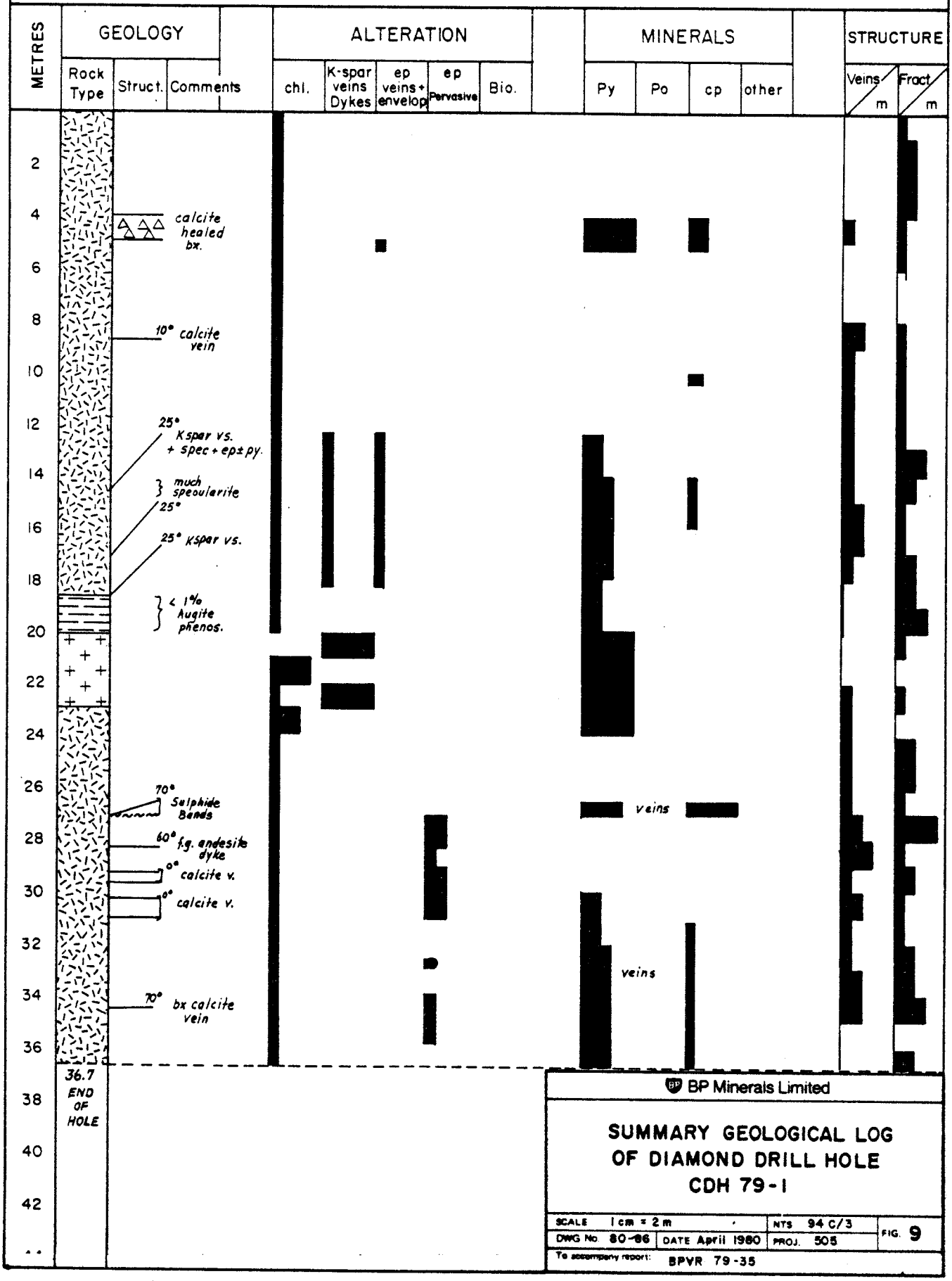
ii) Geology of Diamond Drill Holes CDH 79-1 to CDH 79-7:

a) CDH 79-1: (See Figure 9) This hole was located near 94+90N, 91+60E at 1676.8m elevation above sea-level (e.a.s.l.),

PROPERTY: CAT YEAR: 1979 HOLE: 1

GRID LOCATION: 94+90N, 91+60E ATTITUDE: VERTICAL

CORE SIZE: I-EX TOTAL DEPTH: 36.7 m ELEVATION: 1676.8 m



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SUMMARY GEOLOGICAL LOG OF DIAMOND DRILL HOLE CDH 79-1

SCALE 1 cm = 2 m		NTS 94 C/3	FIG. 9
DWG No. 80-86	DATE April 1980	PROJ. 505	
To accompany report: BPVR 79-35			

LEGEND FOR CAT DRILL HOLE CROSS - SECTIONS

GEOLOGY - ROCK TYPE

- FINE GRAINED ANDEBASALTIC FLOW OR DYKE
- AUGITE PORPHYRY
- AUGITE - FELDSPAR PORPHYRY, AGGLOMERATIC ?
- VOLCANICLASTIC - SANDSTONE, TURBIDITE
- SYENITE PORPHY DYKE
- HORNFELSED VOLCANICLASTIC

GEOLOGY - STRUCTURE

- SHEAR ZONES
- FRACTURES
- FLOW BRECCIA
- PORPHYRY

ALTERATIONS

	CHLORITE ALT. OF MAFICS	KSPAR VEINS AND DYKES	EPIDOTE VEINS AND ENVELOPES	EPIDOTE PERVASIVE
BLANK	NIL	Tr. 1/metre	NIL	NIL
	WEAK	minor veins + dykes 1-2	0 - 2 %	WEAK
		3-4/metre	2 - 5 %	
	MODERATE	5 - 6/metre	5 - 10%	MODERATE
		7 - 8/metre	10 - 25%	
	INTENSE	Intense flooding or dyke	25%	INTENSE

ALTERATIONS

	BIOTITE PERVASIVE	MINERALS % Py, Po, cp/METRE	STRUCTURE VEINS/METRE FRACTURES/METRE
BLANK	NIL	NIL	0 - 5
	WEAK	Tr.	6 - 10
		Tr. - 1/2%	11 - 15
	MODERATE	1/2 - 1 %	16 - 20
		1 - 2.5%	21 - 25
	INTENSE	2.5 - 5 %	26 - 30

DWG. NO. 80 - 91

at the southern edge of CAT mountain. The hole is 7.6m vertically above and 15.2m due north of DDH-1 drilled by Croydon Mines. CDH 79-1 is sited 21.3m east of a quartz-calcite-magnetite vein containing copper and silver and 18.2m west of the syenite porphyry-augite porphyry contact.

The hole was drilled vertically and cored 36.7m of dark green, magnetic, and basaltic augite porphyry. The porphyry contains an intercalated fine-grained and basaltic flow from 18.6 to 20.1m. A syenite porphyry dyke intrudes the fine-grained flow band and augite porphyry between 20.1 and 23m. The dyke has intensively chloritized augite porphyry for 1m on the lower contact.

A narrow, fine-grained, andesite dyke cuts augite porphyry at 60^{o} to the core axis (t.c.a.) near 28.3m depth. A breccia zone in augite porphyry from 4m to 5m is healed with calcite and probably records slumping along a flow top.

The volocanic rocks are commonly moderately to intensively fractured below 13m depth in the hole. The syenite porphyry dyke is only weakly fractured. Calcite veins occur on angles of 0^{o} throughout the volcanic section but are most common in the intervals 8m to 18m and 22m to 35m. Narrow k-feldspar veins occur at 25^{o} t.c.a. in the interval 12.4m to 18.3m in augite porphyry and from 20.1m to 21m and 22m to 23m in the syenite dyke. The k-feldspar veins contain minor amounts of specularite and, epidote and have bleached the augite porphyry to an orange-yellow-green colouration in 1cm wide alteration envelopes. The veins are the cause of intense chlorite alteration in the syenite dyke.

The augite porphyry is weakly chloritized throughout the hole. Epidote alteration of the porphyry occurs in 1cm alteration envelopes to the k-feldspar veinlets and as a weak to moderately pervasive alteration in the intervals 25.1m to 31m and 33.9m to 35.8m.

Disseminated fine-grained pyrite occurs in the breccia zone at 4m in amounts in excess of 5% with 1/4% chalcopyrite. The augite porphyry contains 1/2% to 1% disseminated pyrite in the interval 12.5m to 20.1m and 30m to 36.7m. The syenite dyke and lower contact zone contains in excess of 5% disseminated pyrite.

A zone of 5% banded pyrite at 70^{o} t.c.a. contains 5% disseminated chalcopyrite in the interval 26.6m to 27.1m. Trace fine-grained chalcopyrite occurs with pyrite in veinlets and as disseminations from 31m to the end of the hole.

b) CDH 79-2: (See Figure 10) This diamond drill hole is located at 96+20N, 97+90E east-southeast of the upper trench area, near the southeastern contact zone of syenite porphyry and augite prophyry. The hole collared in augite porphyry at an approximate elevation of 1699.7m and drilled 64.0m of andebasaltic augite prophyry flows with minor feldspar lath porphyry.

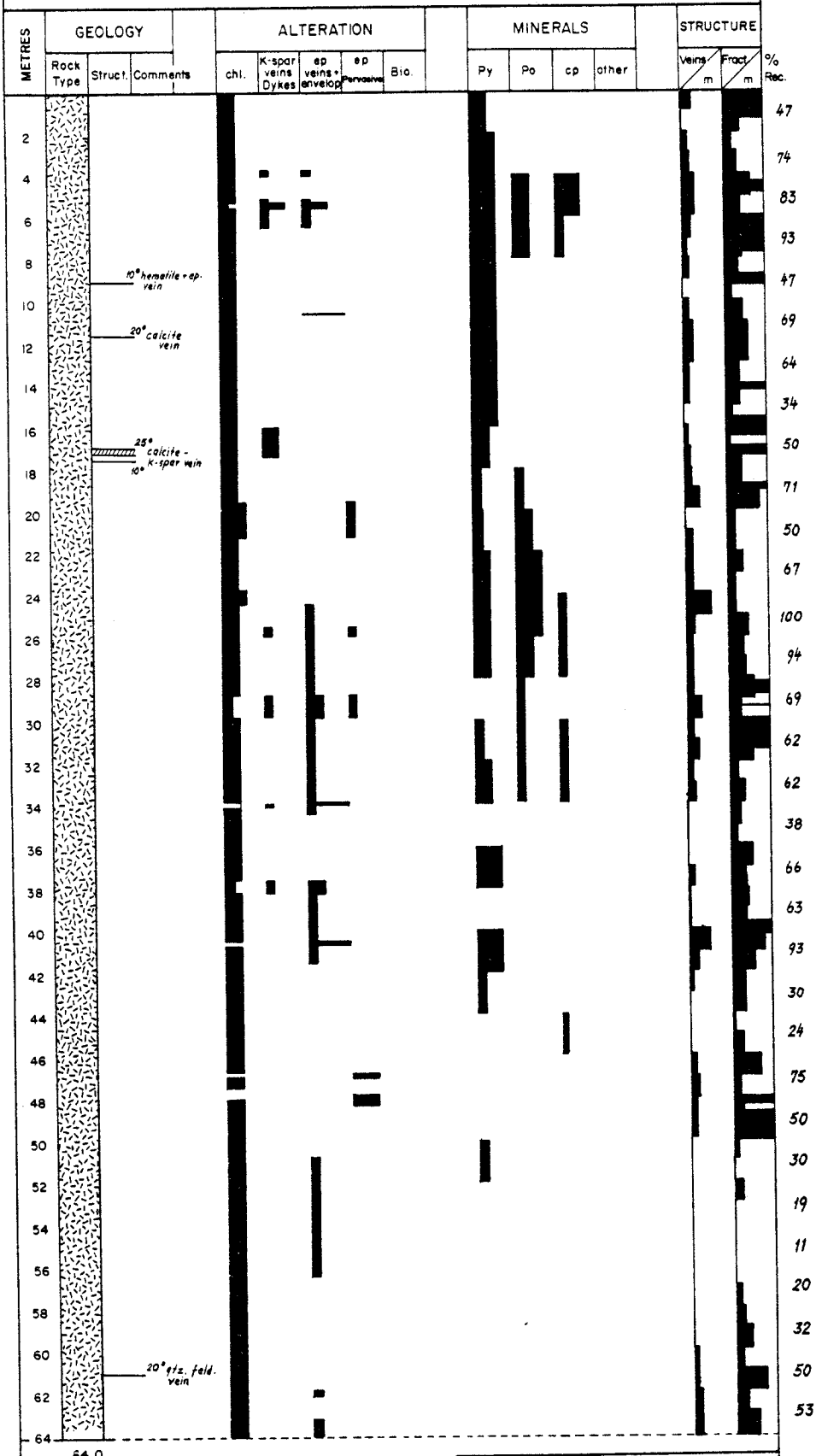
The porphyry is moderately fractured with numerous intervals of intense fracturing above 50m and is weakly fractured thereafter. Calcite veins occur throughout the section on core angles of from $20\text{-}25^{o}$ t.c.a.

The section is pervasively moderately chloritized throughout.

PROPERTY: CAT YEAR: 1979 HOLE: 2

GRID LOCATION: 96+20N, 97+90E ATTITUDE: VERTICAL

CORE SIZE: I - EX TOTAL DEPTH: 64.0 m ELEVATION: 1699.7 m



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SUMMARY GEOLOGICAL LOG OF DIAMOND DRILL HOLE CDH 79-2

SCALE 1 cm = 2 m NTS 94 C/3 FIG 10

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To assessment report BPVR 79-35

LEGEND FOR CAT DRILL HOLE CROSS - SECTIONS

GEOLOGY - ROCK TYPE


FINE GRAINED ANDEBASALTIC FLOW OR DYKE


AUGITE PORPHYRY


AUGITE - FELDSPAR PORPHYRY, AGGLOMERATIC ?


VOLCANICLASTIC - SANDSTONE, TURBIDITE


SYENITE PORPHY DYKE


HORNFELSED VOLCANICLASTIC

GEOLOGY - STRUCTURE


SHEAR ZONES


FRACTURES


FLOW BRECCIA


PORPHYRY

ALTERATIONS

	CHLORITE ALT. OF MAFICS	KSPAR VEINS AND DYKES	EPIDOTE VEINS AND ENVELOPES	EPIDOTE PERVASIVE
BLANK	NIL	Tr. 1/metre	NIL	NIL
	WEAK	minor veins + dykes 1-2	0 - 2%	WEAK
		3-4/metre	2 - 5%	
	MODERATE	5 - 6/metre	5 - 10%	MODERATE
		7 - 8/metre	10 - 25%	
	INTENSE	Intense flooding or dyke	25%	INTENSE

ALTERATIONS

	BIOTITE PERVASIVE	MINERALS % Py, Po, cp/METRE	STRUCTURE VEINS/METRE FRACTURES/METRE
BLANK	NIL	NIL	0 - 5
	WEAK	Tr.	6 - 10
		Tr. - 1/2%	11 - 15
	MODERATE	1/2 - 1 %	16 - 20
		1 - 2.5%	21 - 25
	INTENSE	2.5 - 5 %	26 - 30

DWG. NO. 80 - 91

Concentrations of k-feldspar veins and dykes $\pm$ epidote $\pm$ quartz $\pm$ po, py, cp occur over narrow intervals above 39m. Epidote veinlets and fracture envelopes commonly occur with k-feldspar veinlets but are most prevalent in the intervals 24.5m to 34.5m, 37.6m to 43.6m and 50.8m to 56.4m. Weakly pervasively disseminated quantities of epidote are noted at 20m to 21.2m, 25.7m, 28.8 to 29.8m with moderate quantities at 46.9m and 48m.

Disseminated fine-grained pyrite occurs in rock matrix, fracture and alteration envelopes in amounts up to 1% above 28m, thereafter concentrations are erratic in narrow zones. Pyrite is not present below 52m depth. Disseminated pyrrhotite + trace chalcopyrite $\pm$ pyrite occurs in alteration envelopes and rock matrix in the intervals 4m to 8m and 18m to 34m. Disseminated and fine-grained blebby chalcopyrite in concentrations of up to 1% occurs with pyrite and pyrrhotite in the interval 4m to 8m. Trace amounts of chalcopyrite are noted from 24m to 28m, 30m to 34m and 44m to 46m.

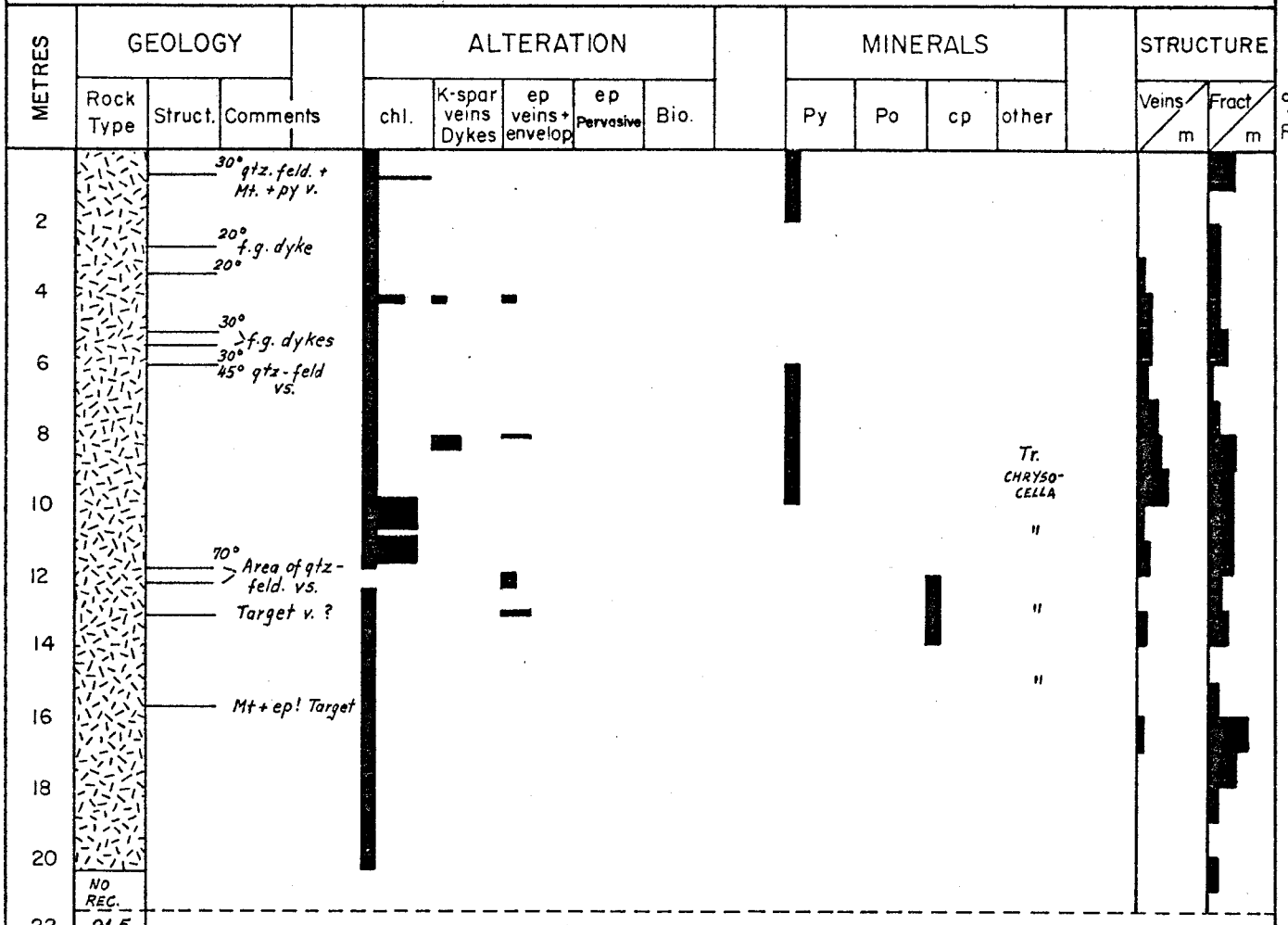
c) CDH 79-3: (See Figure 4, 11) Diamond drill holes CDH 79-3 and 4 were designed to test the Au-Ag-Cu grade continuity at depth of the "No. 1" vein. The hole is located 9.45m northeast of the vein at 103+65N, 86+40E and at elevation 1753m. The hole is angled toward the vein at - 49^{o} on a bearing of azimuth 252^{o}. The vein at surface apparently dips northeast at 77^{o}.

Hole CDH 79-3 cored 21.5m of weakly chloritized, weak to moderately fractured, andebasaltic augite porphyry. Core recovery was poor throughout the section, less than 30% from 12m to 16m and less than 13% from 18m to 20.5. There was no core recovered from

PROPERTY: CAT YEAR: 1979 HOLE: 3

GRID LOCATION: 103+65 N, 86+40 E ATTITUDE: Az.252°/49° S.W.

CORE SIZE: I-EX TOTAL DEPTH: 21.5 m ELEVATION: 1753 m



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SUMMARY GEOLOGICAL LOG OF DIAMOND DRILL HOLE CDH 79-3

SCALE 1 cm = 2 m		NTS 94C/3	FIG. 11
DWG No 80-88	DATE April 1980	PROJ. 505	
To accompany report: BPVR 79-35			

LEGEND FOR CAT DRILL HOLE CROSS - SECTIONS

GEOLOGY - ROCK TYPE

- FINE GRAINED ANDEBASALTIC FLOW OR DYKE
- AUGITE PORPHYRY
- AUGITE - FELDSPAR PORPHYRY, AGGLOMERATIC ?
- VOLCANICLASTIC - SANDSTONE, TURBIDITE
- SYENITE PORPHY DYKE
- HORNFELSED VOLCANICLASTIC

GEOLOGY - STRUCTURE

- SHEAR ZONES
- FRACTURES
- FLOW BRECCIA
- PORPHYRY

ALTERATIONS

	CHLORITE ALT. OF MAFICS	KSPAR VEINS AND DYKES	EPIDOTE VEINS AND ENVELOPES	EPIDOTE PERVASIVE
BLANK	NIL	Tr. 1/metre	NIL	NIL
	WEAK	minor veins + dykes 1-2	0 - 2 %	WEAK
		3-4/metre	2 - 5 %	
	MODERATE	5-6/metre	5 - 10%	MODERATE
		7-8/metre	10 - 25%	
	INTENSE	Intense flooding or dyke	25%	INTENSE

ALTERATIONS

	BIOTITE PERVASIVE	MINERALS % Py, Po, cp / METRE	STRUCTURE VEINS / METRE FRACTURES / METRE
BLANK	NIL	NIL	0 - 5
	WEAK	Tr.	6 - 10
		Tr. - 1/2%	11 - 15
	MODERATE	1/2 - 1 %	16 - 20
		1 - 2.5%	21 - 25
	INTENSE	2.5 - 5 %	26 - 30

DWG. NO. 80-91

20.5m to 21.5m at which point, the hole was abandoned. Fracturing is suspected to be intense in areas of poor recovery.

The augite porphyry is cut at 20^{o} and 30^{o} to the core axis by 4 fine-grained, dark green volcanic dykes in the upper 6m of the hole. Quartz-feldspar veins $\pm$ magnetite $\pm$ pyrite are found singly on angles of 20^{o} and 45^{o} t.c.a. throughout the section and concentrated in a narrow zone trending 70^{o} t.c.a. at 12m.

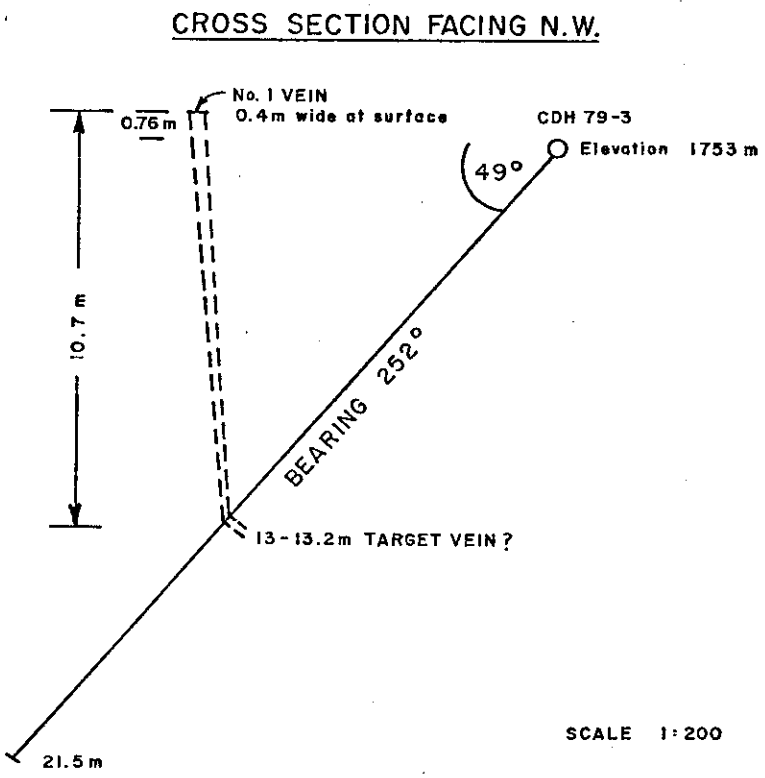
Narrow k-feldspar veins with epidote $\pm$ pyrite in alteration envelopes occur at 4.2m and 8.0m to 8.5m. Epidote veins $\pm$ magnetite $\pm$ chrysocolla are noted at 11.9m to 12.4m; 13m-13.2m and at 15.8m. Strongly chloritized augite porphyry was intersected from 9.8m to 11.6m.

Trace quantities of disseminated, fine-grained pyrite are noted in rock matrix and veins from 0-2m and 6m-10m. Trace chalcopyrite occurs with epidote in veinlets from 12 to 14m. Trace amounts of chrysocolla are found in hairline fractures $\pm$ epidote from 8.4m to 16m.

The "No. 1" vein strikes approximately 315^{o} and dips 77^{o} northeast. The vein is composed of magnetitie-quartz with limonite boxwork and contains blebby visible, gold, chalcopyrite, tetrahedrite (?), and cuprite. The walls of the vein are strongly chloritized, grading outward into epidote veinlets containing chrysocolla and peripheral propylitically altered augite porphyry.

The exact intersection of the "No. 1" vein in hole 3 is not known due to cave and poor core recovery. Its position is tentatively placed at 13.0-13.2m. The presence of chrysocalla, intense

chloritization and epidote veinlets above this interval probably indicates the eastern hanging wall of the vein. Pebbles of magnetite at 13.0 probably mark the vein itself. A pebble of magnetite plus epidote at 15.8m is thought to be core from the vein above. A cross-section of the vein and hole follows:



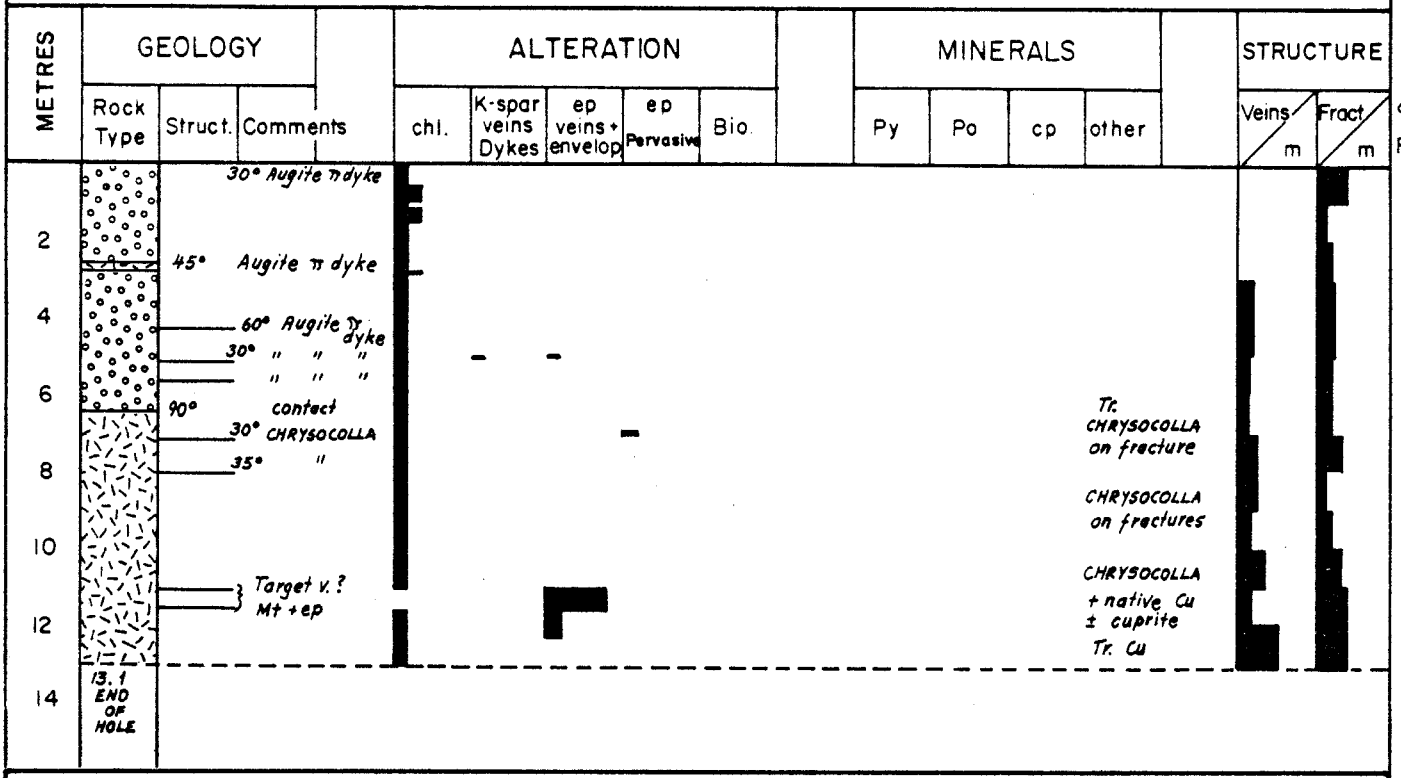
d) CDH 79-4: (See Figure 4, 12) This hole was located 4.88m southwest of the "No. 1" vein. It was hoped that the new setup would improve core recovery penetrating footwall of the vein thus achieving a better estimate of the vein depth, width and grade.

The upper 6.5m of hole CDH 79-4 cored fine to medium-grained volcanic sandstone and turbidite cut by several narrow augite porphyry dykes at 30^0, 45^0 and 60^0 t.c.a. The turbide is in sharp (90^0 t.c.a.) contact with aguite porphyry flows at 6.5m which comprise the total section down to hole end at 13.1m.

PROPERTY: CAT YEAR: 1979 HOLE: 4

GRID LOCATION: 103+60N, 86+28 E ATTITUDE: Az. 50°/51° N.E.

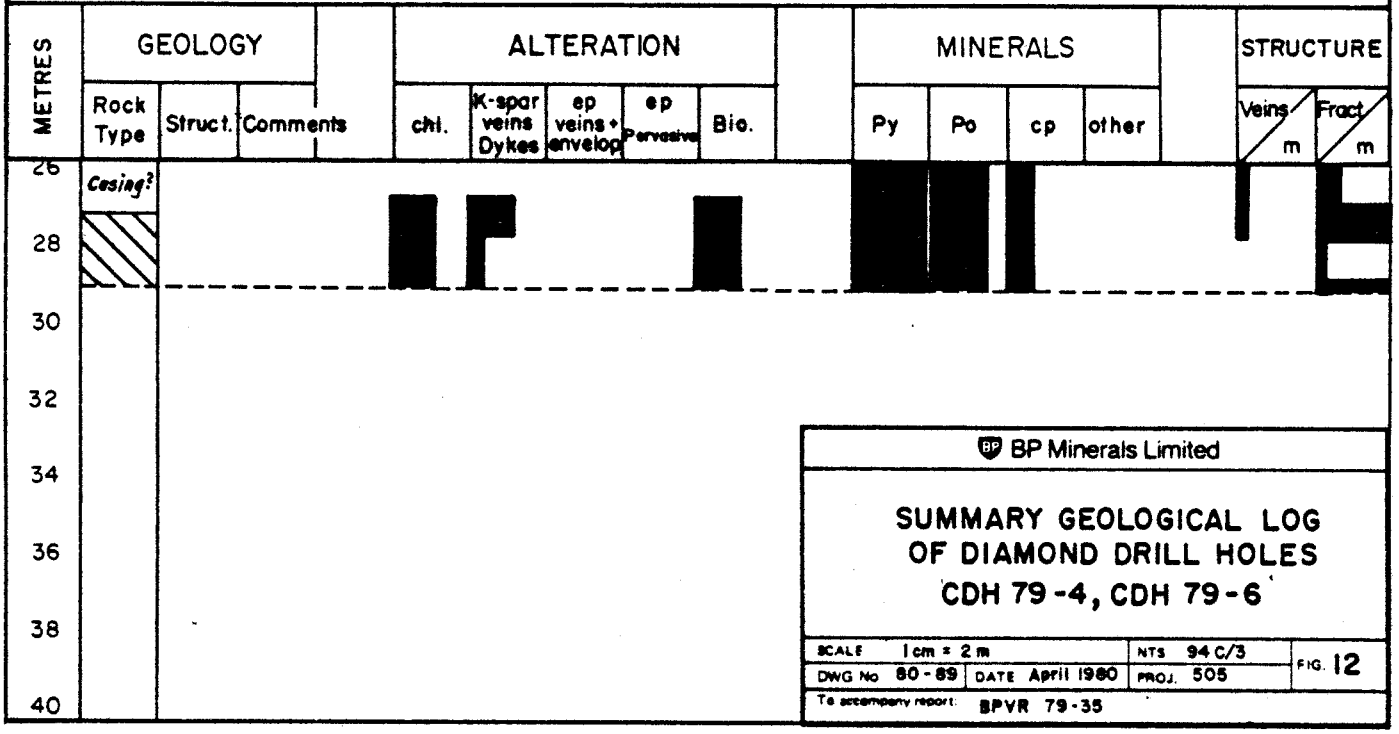
CORE SIZE: I-EX TOTAL DEPTH: 13.1 m ELEVATION: 1754.1m



PROPERTY: CAT YEAR: 1979 HOLE: 6

GRID LOCATION: 60+83N, 99+70 E ATTITUDE: Az. 22°/ 70° N NE

CORE SIZE: I-EX TOTAL DEPTH: 3.4 m ELEVATION: Not known



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SUMMARY GEOLOGICAL LOG OF DIAMOND DRILL HOLES CDH 79-4, CDH 79-6

SCALE 1 cm = 2 m		NTS 94 C/3	FIG. 12
DWG No 80-89	DATE April 1980	PROJ. 505	
To accompany report: BPVR 79-35			

LEGEND FOR CAT DRILL HOLE CROSS - SECTIONS

GEOLOGY - ROCK TYPE


FINE GRAINED ANDEBASALTIC FLOW OR DYKE


AUGITE PORPHYRY


AUGITE - FELDSPAR PORPHYRY, AGGLOMERATIC ?


VOLCANICLASTIC - SANDSTONE, TURBIDITE


SYENITE PORPHY DYKE


HORNFELSED VOLCANICLASTIC

GEOLOGY - STRUCTURE


SHEAR ZONES


FRACTURES


FLOW BRECCIA


PORPHYRY

ALTERATIONS

	CHLORITE ALT. OF MAFICS	KSPAR VEINS AND DYKES	EPIDOTE VEINS AND ENVELOPES	EPIDOTE PERVASIVE
BLANK	NIL	Tr. 1/metre	NIL	NIL
	WEAK	minor veins + dykes 1-2	0 - 2 %	WEAK
		3-4/metre	2 - 5 %	
	MODERATE	5 - 6/metre	5 - 10%	MODERATE
		7 - 8/metre	10 - 25%	
	INTENSE	Intense flooding or dyke	25%	INTENSE

ALTERATIONS	BIOTITE PERVASIVE	MINERALS % Py, Po, cp/METRE	STRUCTURE VEINS/METRE FRACTURES/METRE
BLANK	NIL	NIL	0 - 5
	WEAK	Tr.	6 - 10
		Tr. - 1/2%	11 - 15
	MODERATE	1/2 - 1 %	16 - 20
		1 - 2.5%	21 - 25
	INTENSE	2.5 - 5 %	26 - 30

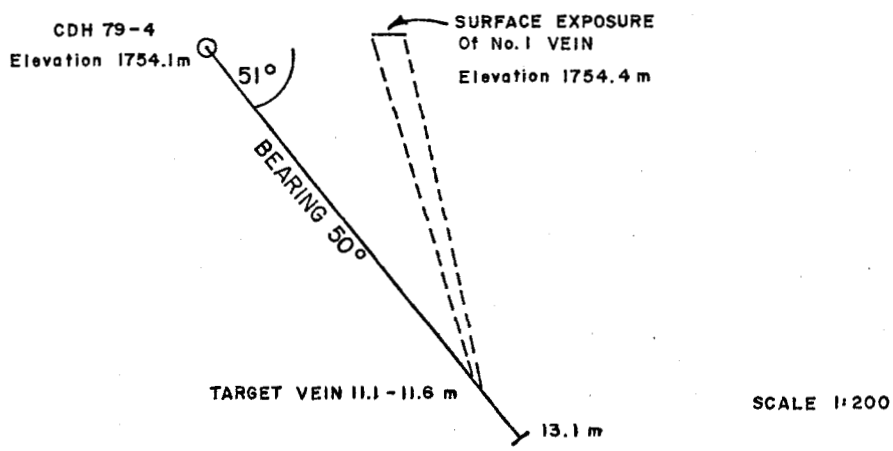
DWG. NO. 80 - 91

The volcanics are weakly chloritized throughout and cut by k-feldspar veins containing epidote at 5.1m. Epidote fracture fill and envelopes to magnetite net-like veins occurs from 11.1m - 11.6m.

Chrysocolla was found on a few fractures trending 20^{o} and 35^{o} t.c.a. from 7.2m to 12.3m. Chrysocolla, native copper and minor cuprite are found with epidote on numerous fractures from 10.4m-11.0m and 11.6m- 12.3m. These cupriferous veins are thought to mark the "No. 1" vein footwall and hanging wall.

Fragments of the target magnetite-quartz-epidote vein were found in a zone of poor recovery from 11.1m to 11.6m. A cross section showing the vein and drill hole, follows:

CROSS - SECTION FACING N.W.

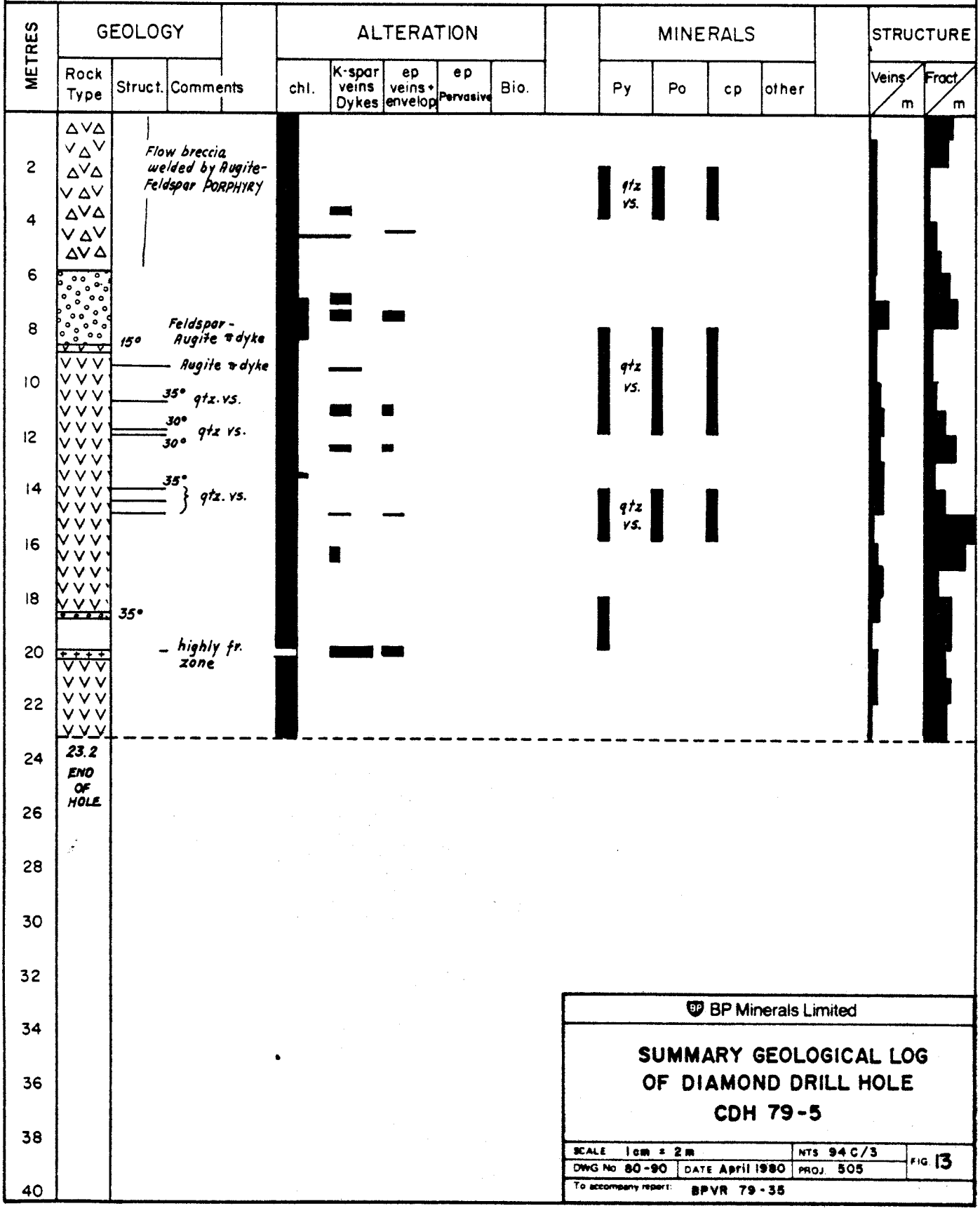


e) CDH 79-5: (See Figure 4, 13) The drill hole was sited 9.76m northeast of the "B-5" vein located west of the upper trench area at 100+60N, 87+60E, elevation 1676.8m. The purpose of the hole was to test Au, Ag, Cu grade continuity with depth. The "B-5" magnetite vein follows a highly fractured zone (in flow breccia) which trends azimuth 18^{o} and dips 70^{o} to 85^{o} west. The hole was drilled on a bearing of azimuth 235^{o}, declined 50^{o} southwest.

PROPERTY: CAT YEAR: 1979 HOLE: 5

GRID LOCATION: 100+60N, 87+60E ATTITUDE: Az. 235°/50° S.W.

CORE SIZE: I - EX TOTAL DEPTH: 23.2 m ELEVATION: 1676.8 m



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SUMMARY GEOLOGICAL LOG OF DIAMOND DRILL HOLE CDH 79-5

SCALE 1 cm = 2 m		NTS 94 C/3	FIG. 13
DWG No 80-90	DATE April 1980	PROJ. 505	
To accompany report: BPVR 79-35			

LEGEND FOR CAT DRILL HOLE CROSS - SECTIONS

GEOLOGY - ROCK TYPE


FINE GRAINED ANDEBASALTIC FLOW OR DYKE


AUGITE PORPHYRY


AUGITE - FELDSPAR PORPHYRY, AGGLOMERATIC ?


VOLCANICLASTIC - SANDSTONE, TURBIDITE


SYENITE PORPHY DYKE


HORNFELSED VOLCANICLASTIC

GEOLOGY - STRUCTURE


SHEAR ZONES


FRACTURES


FLOW BRECCIA


PORPHYRY

ALTERATIONS

	CHLORITE ALT. OF MAFICS	KSPAR VEINS AND DYKES	EPIDOTE VEINS AND ENVELOPES	EPIDOTE PERVASIVE
BLANK	NIL	Tr. 1/metre	NIL	NIL
	WEAK	minor veins + dykes 1-2	0 - 2 %	WEAK
		3-4/metre	2 - 5 %	
	MODERATE	5-6/metre	5-10%	MODERATE
		7-8/metre	10-25%	
	INTENSE	Intense flooding or dyke	25%	INTENSE

ALTERATIONS	BIOTITE PERVASIVE	MINERALS % Py, Po, cp/METRE	STRUCTURE VEINS/METRE FRACTURES/METRE
BLANK	NIL	NIL	0 - 5
	WEAK	Tr.	6 - 10
		Tr. - 1/2%	11 - 15
	MODERATE	1/2 - 1 %	16 - 20
		1 - 2.5%	21 - 25
	INTENSE	2.5 - 5 %	26 - 30

DWG. NO. 80-91

Hole CDH 79-5 cored 23.2m of andebasaltic volcanics comprised of an upper 5.8m thickness of flow breccia welded by augite-feldspar porphyry, underlain by turbidite from 5.8m to 8.8m which is in turn underlain by a basal thickness of massive augite-feldspar porphyry. The contact between turbidite and augite-feldspar porphyry is obscured by an 0.4m wide feldspar-augite porphyry dyke. Syenite dykes upto 0.4m wide cut augite-feldspar porphyry at 18.8m and 20m on angles of 35^{o} t.c.a. The lower dyke occurs in a highly fractured zone containing epidote veinlets and epidote fracture envelopes.

The whole section is pervasively moderately chloritized. Narrow zones of k-feldspar veining with accompanying minor amounts of epidote, occur between 3.8m and 20.3m. Quartz veins carrying trace amounts of pyrite, pyrrhotite and chalcopyrite are common in the intervals 8m-12m and 14m-15m at angles of 30^{o} and 35^{o} t.c.a.

The target vein is not directly indicated in the core but may have been intersected in sections of poor core recovery at 20.2m to 20.8m in the area of syenite dyking, or at 22.9m to 23.2m. The hole was abandoned at 23.2m due to conditions of cave in broken ground.

f) CDH 79-6 and 7: (See Figures 3,8,12,14) The holes were drilled in Trench #3 located in the southwestern corner of CAT claim #2 at 60+83N, 99+70E (CDH 79-6) and 60+82N, 99+73E.

Hole CDH 79-6 was abandoned at 3.4m, in highly fractured biotite hornfels, due to poor ground conditions.

Hole CDH 79-6 was drilled 0.91m southeast of hole 6 and cored 52.1m of biotite hornfels on a bearing of azimuth 30^{o}, declined 70^{o} N.E. The hole was sited in Trench #3 in a zone of relatively competent metalvolcanics, cut by numerous k-feldspar veinlets, quartz veins and granite dykes. A few veinlets of chalcopyrite-Pyrrhotite-pyrite $\pm$ sphalerite $+$ trace visible gold, were found in the hornfels volcanic bedrock. A zone of shattered metavolcanics bounds the drill hole sites on the west, toward outcrop of monzonite intrusive. To avoid poor ground conditions the hole was angled away from the contact zone.

Throughout the cored section, metavolcanic is moderately altered to chlorite and biotite. The unit is cut at angles of 35^{o} to 45^{o} t.c.a, by numerous, at times close spaced k-feldspar veinlets, granite dykes and floodings with rather diffuse k-feldspar-epidote $\pm$ quartz $\pm$ biotite $\pm$ sulphide alteration envelopes. In an examination of split core, epidote and coarse-grained (primary ?) biotite $\pm$ hornblende are found in and about the granite dykes.

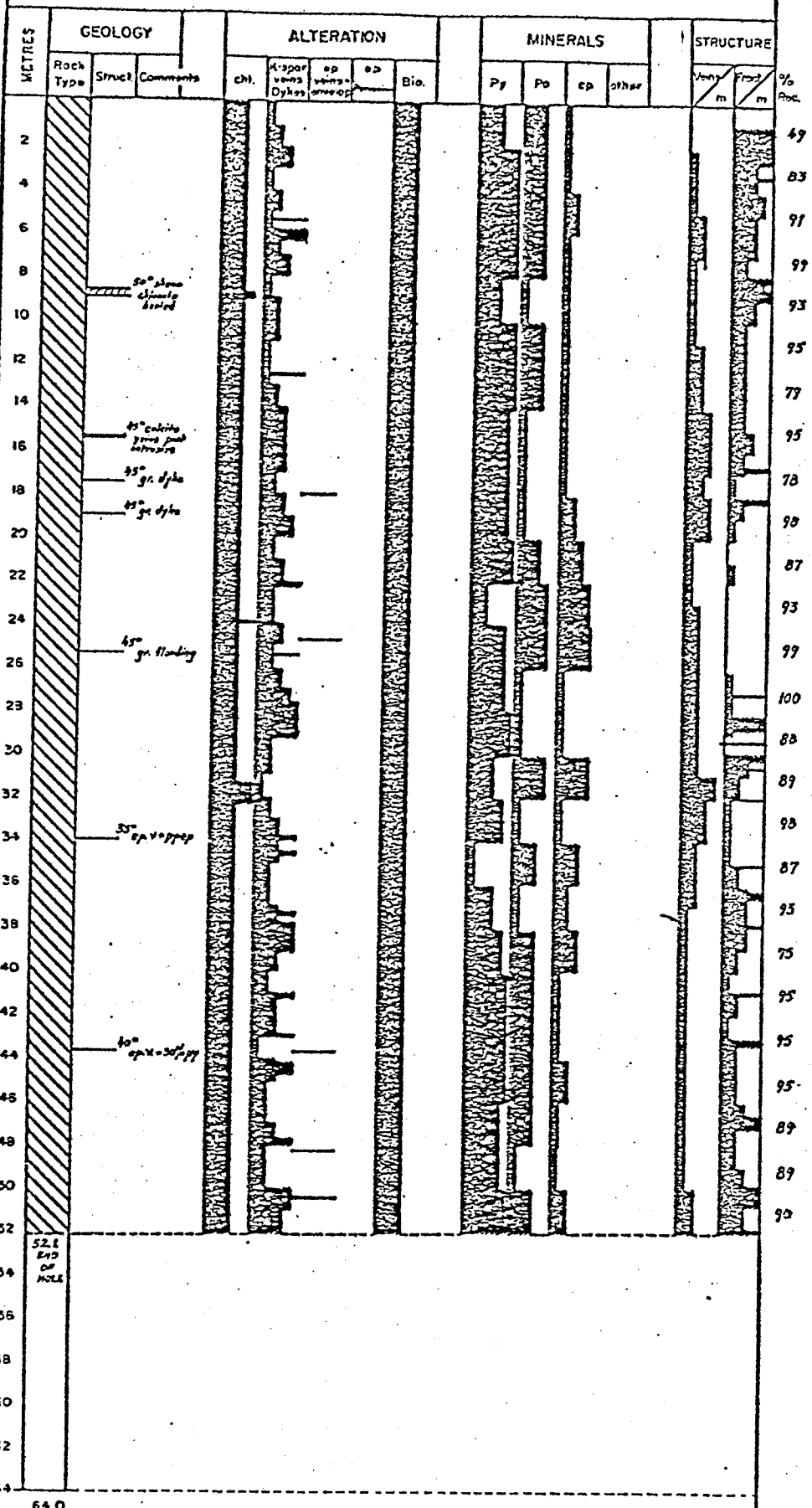
The biotite hornfels is very magnetic and weakly to moderately fractured and veined except over numerous, narrow, intensely fractured zones occurring throughout the section.

Fine-grained, blebbly and crystalline pyrite, chalcopyrite and pyrrhotite are found admixed throughout the hole as disseminations in matrix, veinlets and fractures. The aggregate total of sulphides in the hole would average 6% - 8%. Pyrite and pyrrhotite predominate in the upper 20m of the hole with trace accessory chalcopyrite. Chalcopyrite and pyrrhotite have sympathetically

YEAR: 1979 HOLE: 7

GRID LOCATION: 60+82N, 99+72E ATTITUDE: Az. 30°/70° NE

CORE SIZE: I-EX TOTAL DEPTH: 52.1m ELEVATION: not known



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SUMMARY GEOLOGICAL LOG
OF DIAMOND DRILL HOLES
CDH 79-7

14

LEGEND FOR CAT DRILL HOLE CROSS - SECTIONS

GEOLOGY - ROCK TYPE


FINE GRAINED ANDEBASALTIC FLOW OR DYKE


AUGITE PORPHYRY


AUGITE - FELDSPAR PORPHYRY, AGGLOMERATIC ?


VOLCANICLASTIC - SANDSTONE, TURBIDITE


SYENITE PORPHY DYKE


HORNFELSED VOLCANICLASTIC

GEOLOGY - STRUCTURE

SHEAR ZONES

FRACTURES

FLOW BRECCIA

PORPHYRY

ALTERATIONS

	CHLORITE ALT. OF MAFICS	KSPAR VEINS AND DYKES	EPIDOTE VEINS AND ENVELOPES	EPIDOTE PERVASIVE
BLANK	NIL	Tr. 1/metre	NIL	NIL
	WEAK	minor veins + dykes 1-2	0 - 2 %	WEAK
		3-4/metre	2 - 5 %	
	MODERATE	5 - 6/metre	5 - 10 %	MODERATE
		7 - 8/metre	10 - 25 %	
	INTENSE	Intense flooding or dyke	25 %	INTENSE

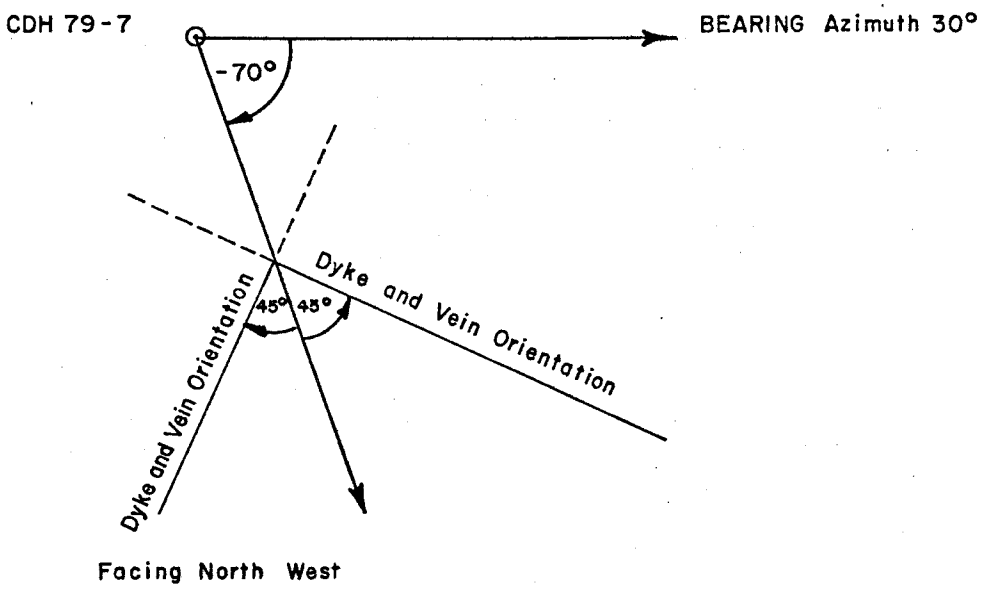
ALTERATIONS	BIOTITE PERVASIVE	MINERALS % Py, Po, cp/METRE	STRUCTURE VEINS/METRE FRACTURES/METRE
BLANK	NIL	NIL	0 - 5
	WEAK	Tr.	6 - 10
		Tr. - 1/2 %	11 - 15
	MODERATE	1/2 - 1 %	16 - 20
		1 - 2.5 %	21 - 25
	INTENSE	2.5 - 5 %	26 - 30

DWG. NO. 80-91

variable concentrations from 1 to 2% in the interval 20m to 38m. From 38m to the end of the hole, pyrite ($\pm$ pyrrhotite + trace chalcopyrite) is the dominant sulphide.

Assuming the granite dykes and k-feldspar veins occur in fracture systems that are directly related to the source intrusions, such an intrusion would lie either laterally, to the northeast, or at depth to the southwest based on the following geometry:

DIAGRAMETRIC CROSS SECTION OF STRUCTURE IN CDH 79-7



Since we know monzonite outcrops northwest of the hole it is assumed the source intrusion of dykes and veinlets in hole CDH 79-7 is located (in a belt?) west of Trench #3.

iii) Discussion of Results:

The widespread occurrence of disseminated and vein concentrations of magnetite and specularite and of fracture fill

tourmaline, in the upper trench area, indicate a hypothermal environment of deposition. The abundance of magnetite, specularite, native copper and cuprite in gold bearing veins and a relative paucity of iron and copper sulphides suggest iron-copper-silver-gold rich, sulphur-poor solutions circulated in the upper conduit system of the volcanic pile. Holes CDH 79-3, 4, 5, drilled on magnetite veins encountered only minor sulphides. Holes 1 and 2 drilled in the vicinity of the syenite porphyry exposed in the upper trenches contained concentrations of up to 5% disseminated pyrite with lesser pyrrhotite and copper. The sulphides are associated with intervals of k-feldspar and epidote fracture-fill veining and with syenite dykes. The higher concentrations of sulphides indicate the proximity of sulphur bearing intrusions (exposed in nearby bedrock).

The high sulphide concentrations cored in holes CDH 79-6, 7, reflects the pervasive biotite, and chlorite alteration, k-feldspar veining, granite dykes and floodings; all testify to the close proximity of an intrusive source rock. The nearby outcrop of monzonites cut by wide spaced fractures containing pyrite, chalcopyrite and minor epidote, found on line 61N, 94E is a possible source rock. The granite dykes in hole 7 may be small scale, quartz-k-feldspar rich contact phenomena of the monzonite or an indication of a separate granitic source; as yet undefined in the area.

Certainly, the magnetite-pyrrhotite rich biotite hornfels exposed in Trench #3 and drilled in CDH 79-6 and 7 adequately explains the linear magnetic high which crosscuts the southern claims area. The question of multiple intrusion; for example, a monzo-diorite edge

phase to an as yet undefined, granitic mass, remains.

As regards the assay data of core from the drilling program, a quick look at the results in Appendix 3 supports the following notes:-

a) In hole 1 the calcite healed breccia at 4m contains minor silver and gold values associated with chalcopyrite and pyrite. The area of k-feldspar veining from 15m - 18m contains little economic sulphide. The syenite dyke contains much copper as chalcopyrite and higher than background (60 ppb) gold values in the interval from 21m to 24m. The interval 27m - 30m contains 420 ppm copper indicating the presence of chalcopyrite in the section, which probably occurs in veins and bands at 27m.

b) Hole 2 contains little in the way of economic precious or base metal content.

c) Hole 3 definitely intersected the "No. 1" vein in the 11m - 13m area or more particularly in the 11.8m to 12.4m interval since copper (9500 ppm) and gold (120-220 ppb) values are very anomalous in these zones. The drill samples were analyzed by geochemical assay and results should be taken as a crude indication only of true available values. The difficulty of poor recovery in the zone of interest also limits the validity of the analyses.

d) Hole 4 also intersected the "No. 1" vein in the sample interval 11.1m - 12m with a possible extension from 12m to 13.1m as evidenced by anomalous copper (1030 - 3100 ppm) and gold

(1200 - 6200 ppb) values. The same qualifiers applied to hole 3 results, due to poor core recovery and the limits of analytical method, apply here.

e) The results from hole 5 indicate the "B-5" vein was not intersected and either pinches out or dips less steeply to the south-west.

f) The results of chip samples across the "B-5" vein (sample 47-153) and the "No. 1" vein (sample 47-154) indicate highly anomalous values in copper and gold. These reults appear to approximate the values obtained during detailed sampling by Croydon Mines.

g) A chip sample of massive sulphide occurring in Trench #3 metavolcanic rock, returned anomalous values in copper (10,000 ppm), silver (5 ppm) and gold (1,060 ppb). The result is perhaps significant in that it implies the gold (and silver?) is bound with chalcopyrite, pyrrhotie and pyrite in a sulphide rather than with an oxide (magnetite) phase. Again, the results are biased by sampling and analytical method and should be regarded as an indication only.

h) Analyses of core from CDH 79-6 and 7 confirm in a general way the sympathetic nature of copper and gold values. Anomalous results were obtained for copper and gold in hole 6 from 1m to 3.4m (720 ppm, 110 ppb) and in hole 7 from 3m - 6m (440 ppm, 80 ppb), 15m - 18m (260 ppm, 50 ppb), 21m - 24m (374 ppm, 410 ppb) and from 48m to 52.1m (270 ppm, 50 ppb).

The level of copper-gold values is uneconomic in the area tested. Core recovery was generally good in the intervals analyzed

but some allowance must be made for analytical method in assessing the tenor of gold values.

6. CONCLUSIONS:

The CAT claims host hypothermal occurrences of copper, silver and gold mineralization. Copper-gold $\pm$ silver mineralization exhibits sympathetic variation in two areas of investigation. In the upper trench area copper-gold $\pm$ silver occur predominantly in an oxide phase in magnitite, quartz, tourmaline, specularite veins. Drilling in holes CDH 79-3 and 4 confirm the persistence of the "No. 1" copper-gold-silver vein to a vertical depth of 9.5m. Grade continuity of vein surface assays at depth are suggested but are not confirmed by the drilling program, due to poor core recovery and geochemical analytical technique.

In the lower trench area copper-gold mineralization occurs with pyrite and pyrrhotite in a sulphide phase. Drilling in Trench #3 indicates the presence of 1 - 6% disseminated chalcopyrite, pyrite and pyrrhotite in magnetite rich, biotite hornfelsed volcanics intimately intruded by k-feldspar veinlets and granite dykes. The prevalent sulphide phase indicates proximity to: a) monzonite intrusion located nearby to the west in outcrop or b) granitic intrusion located at depth to the southwest.

The prominent, northwest linear, magnetic anomaly in the southern claims area is caused by magnetite-pyrrhotite rich biotite hornfels in apparent contact with monzonite intrusion.

Drilling in the upper trench area in 1977 and 1979 indicates that CAT Hill is underlain by weak to moderately propylitically altered, andebasaltic flows and volcanic clastics. Moderate potassic and chloritic alteration of augite porphyry is noted in contact areas of syenite porphyry.

It is most likely that hypothermal minealization on the CAT claims find a source in a granitic mass lying southwest of the Trench #3 area, which has a monzo-diorite contact phase with the local Takla volcanics.

The copper-gold mineralization at the CAT claims may indicate the presence of an as yet undefined "porphyry" source. Structural considerations in CDH 79-7 suggest that such a source rock may lie west and south of the Trench #3 area.

7. RECOMMENDATIONS:

The economic potential of the copper-gold magnetite veins is limited to a very small recovery operation and is not of interest to BP. It is recommended that the BET 1 option be allowed to lapse.

The economic potential of the sulphidized contact zone has been drill tested, over a small area, with low grades of copper and gold in selected core assays.

Further trenching and drill testing of the contact zone will be expensive due to conditions of heavy timber and variable but commonly deep fluvial overburden. It is recommended that further work in the zone be restricted to geophysical techniques such as Induced Polarization.

The "porphyry" copper-gold potential of the valley areas surrounding CAT Hill remains untested. An I.P. survey is recommended for the valley areas, particularly the area west and south of Trench #3.

APPENDIX 1

STATEMENT OF COSTS

STATEMENT OF COSTS FOR CAT-BET CLAIMS

			Subtotals
1) LABOUR:			
M. Bradley (Proj. Geol.):	July 27-31; Aug. 3,6-19,22,24,29; Sept. 1-30; Oct. 1-5,9,10; Nov. 26-30; Dec. 4,5	71 days @ $110/day	$ 7,810.00
B. Clark (Geol.):	July 24; Aug. 27,28,31; Sept. 1-3,5,7,9-11,13,15,8-26 28-30; Oct. 1-11	41 days @ $95/day	3,895.00
J. Lemay (Asst.):	July 24,26-31; Aug. 1-13,15-23,28-30	32 days @ $55/day	1,760.00
N. McGarry (Asst.):	July 24,26-31; Aug. 1-13	20 days @ $55/day	1,100.00
S. Hoffman (Geochemist):	Aug. 22	1 day @ $132/day	132.00
2) FOOD AND ACCOMODATION:			
M. Bradley	55 man days		
B. Clark	36 " "		
J. Lemay	30 " "		
N. McGarry	15 " "		
S. Hoffman	1 " "		
	137 man days x $15/man day		2,055.00
3) CONTRACTORS:			
a) Bulldozer:- (Nielson Equipment Rentals Ltd.)			
D8H - 1973 Caterpillar: $65.00/hour plus 10 gallons/hour fuel @ 1.30/gallon			
Mobilization - Demobiliazation:	14 hours		
Construction of Tote-Trail:	15 hours		
Trenching:	22 hours		
	51 hours @ $65.00/hour		3,315.00
	51 hours x 10 gal/hour x 1.30/gallon		663.00

		Subtotals
b) Slashing:- (Nielson Equipment Rentals Ltd.)		
Straight Time 40 man hour x 8.00		$ 320.00
Overtime 5 man hour x 12.00		60.00
4% Holiday Pay		15.20
Cost plus 25%		98.80
Asst. for Slasher 19 hours - 3.00/hour		57.00
Power Saw Rental $2.00/hour x 45 hours		90.00
c) Drafting:- (L. Glaser)		
20 hours x 9.00/hour		180.00
d) Drilling:- (Drilcor Industries Ltd.)		
i) Coring 444.5 feet @ $17.25/foot		7,668.00
258.0 feet @ $16.75/foot		4,322.00
ii) Standby Time: 5.5 hour @ $35.00/hour		193.00
iii) Moving Time: 90.0 hour @ $25.00/hour + 15%		2,588.00
iv) Waterline: over 1,000' at $200 plus $0.25/foot over 1,139'		485.00
v) Core Boxes: 34 @ $6.65 + 4% sales tax		235.00
4) RADIO TELEPHONE: (B.C. Telephone Co.)		
July: $34.16; Aug: $219.98; Sept: $226.45; October: $45.57		526.00
5) TRAVEL AND TRANSPORTATION:		
a) Fixed Wing Aircraft:	$862.00	
b) Taxi and Bus:	119.00	
c) Truck Rental (Red Hawk Rentals Ltd.) 1979 GMC 4 wheel drive 3/4 ton pickup: $675.00/mo. + 4% sales tax + $60.00/mo. insurance. Aug. 1 - Oct. 9/79.	1,755.00	
d) Meals (during Mobilization and Demobilization)	320.00	
e) Accomodation (during Mobilization and Demobilization)	284.00	
f) Gasoline	765.00	
g) Freight (Mobilization-Demobilization and Supply)	1,234.00	
Subtotal:	$5,339.00	
Claim 20%		1,068.00

		Subtotals
6)	HELICOPTER: (Northern Mountain Helicopters)	
	5.5 hours @ $330.00/hour plus fuel = 2,060.00	
	Claim 50%	$1,030.00
7)	MATERIALS & SUPPLIES:	
	Topofil string, flagging, cedar lathes, lumber and miscellaneous office supplies	228.00
	Propane fuel	32.00
8)	RENTALS:	
	Magnetometer (Phoenix Geophysics) July 22 - Sept. 19 ($11.00/day)	679.00
	E.M.16 (Geonics Limited) July 20 - Sept. 27 ($93.00/week)	850.00
9)	ANALYTICAL SERVICES:	
	a) Geochemical Assay (Rossbacher Laboratory Ltd.)	
	32 Geochem. Assay for Cu/Ag @ $1.50/sample; Au @ $2.50/sample; rock preparation @ $1.00/sample	160.00
	1 Geochem. Assay for Sn	2.00
10)	REPRODUCTION:	
	Maps and Report Text	100.00
	Grand Total:	$41,717.00

APPENDIX 2

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Michael D. Bradley of #1007-1111 West Hastings Street, in Vancouver, in the Province of British Columbia, Do Hereby State:

1. That I am a graduate of the University of British Columbia, Vancouver, B.C., where I obtained a B.Sc. degree in Physics-Geology in 1973.

2. That I obtained an M.Sc. degree in 1975 from Scripps Institute of Oceanography, La Jolla, California.

3. That I am a member in good standing of The Canadian Institute of Mining and Metallurgy and the Prospectors and Developers Association.

4. That I have been active in mineral exploration since 1968.

5. That I have practiced my profession continuously as a staff geologist for BP Minerals Limited, since 1975

April 13, 1979
Vancouver, B.C.

Michael D. Bradley
BP Geologist

List of Qualifications - W.R. Clark

BSc 1976	The University of British Columbia (Geology)
1977/1978	Unclassified studies in Earth Science at the University of British Columbia
Since 1974	Actively involved in mineral exploration
	Member of the Northwest Mining Association

April 13, 1980
Vancouver, B.C.

APPENDIX 3

ASSAY DATA OF SELECTED DIAMOND DRILL CORE FROM HOLES CDH 79-1 to CDH 79-7 AND OF SELECTED OUTCROP

			TRACE ELEMENTS (PPM)		
Sample No.	Hole No.	Interval	Cu (ppm)	Ag (ppm)	Au (ppm)
47-9072	CDH 79-1	3-6m	440	1.0	70
47-9076	" "	15-18	40	0.6	10
47-9078	" "	21-24	1530	0.8	60
47-9080	" "	27-30	420	0.4	20
47-9084	CDH 79-2	3-6	226	0.6	10
47-9088	" "	15-18	30	0.4	10
47-9092	" "	27-30	108	0.6	10
47-9096	" "	39-42	140	0.4	10
47-9100	" "	51-54	10	0.6	10
47-9107	CDH 79-3	9-11.8m	610	0.4	220
47-9108	" "	11.8-15.0	2830	0.4	60
47-9109	" "	15.0-18.0	896	0.4	10
47-9113	CDH 79-4	6-9.0m	298	0.4	60
47-9114	" "	9-13.1	920	0.4	10
47-9118	CDH 79-5	9-12m	108	1.2	20
47-9121	" "	18-21	276	0.4	10
47-9122	" "	21-23.2	290	0.4	10
47-9123	CDH 79-3	11.8-12.4m	9500	0.4	120
47-9124	CDH 79-4	11.1-12.0m	3100	1.4	6200
47-9125	CDH 79-4	12-13.1	1030	0.4	1200
47-9126	CDH 79-6	1-3.4m	720	0.6	110
47-9128	CDH 79-7	3-6m	440	0.6	80
47-9132	" "	15-18	260	0.6	50
47-9133	" "	18-21	190	0.6	10
47-9134	" "	21-24	374	0.4	410
47-9137	" "	30-33	86	0.6	10
47-9139	" "	36-39	316	0.6	20
47-9143	" "	48-52.1	270	0.6	50

Sample No.	Description	Cu	Mo	Ni	Ag	W	F	Au(PPB)
	TRENCH #3:							
47-150	Limonite Fracture Zone.	540	2	40	0.2	0	470	10
47-151	Metavolcanic	80	1	36	0.2	0	510	10
47-152	Gossan in Fracture Zone.	2260	1	44	1.2	0	350	400
47-153	Magnetic vein at CDH 79-5	1040			0.6			330
47-154	Magnetic vein at CDH 79-3,4	2126			3.8			41000
47-155	Metavolc. + FF Tourmaline near CDH 79-5	700			0.8			50
47-156	Massive py-po-cp in metavolc Trench 3	10000			5.0			1060

APPENDIX 5

MAPS

Figure: 1. CAT CLAIMS Regional Location Map.

2. CAT-BET CLAIMS Location Map (1:50,000)

3. Geology Map of the CAT CLAIMS showing Trenches, Roads and Diamond Drill Holes (1:12,000)

4. 1979 Diamond Drill Hole Location Map Trench Area, Northern CAT CLAIMS (1:1,200)

5. Southern CAT CLAIMS - Ground E.M.-16 Survey (1:2,400)

6. Southern CAT CLAIMS - Ground Magnetic Survey (1:2,400)

7. Detailed Ground Magnetics - Trench 3 (1:305)

8. Geology of Trench 3 (1:305)

9. Summary Geological Log - CDH 79-1

10. " " " - CDH 79-2

11. " " " - CDH 79-3

12. " " " - CDH 79-4;6

13. " " " - CDH 79-5

14. " " " - CDH 79-7

APPENDIX 4

DETAILED GEOLOGICAL LOGS
FOR DIAMOND DRILL HOLES
CDH 79-1 to CDH 79-7

DRILL LOG

Logged by Bill Clark.

SHEET NO. 2 2

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT PROPERTY				

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 4

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
8 m		2 m	89	8.1 m chrysocolla on fracture 35° 8.4 m 1 cm shear 70° minor chrysocolla + epidote		Sulphide nil.	40° 70° 50°	12	9	
					8.9 - 9.0 m weak diss. epidote alterations. Associated with some rusty fractures.	Tr. Cu as chrysocolla	30° 60°			
				9.9 m - 12.3 m chrysocolla often seen on fractures.			70°	8	11	
			(8)	9.8 - 10.0 m Intensely fractured.			40°			
10 m		2 m	62	10.4 - 12.3 m more limonite on fractures. 10.4 - 11.0 m minor native Cu ± cuprite 10.6 - 12.0 m Intensely fractured 11.1 - 11.6 m area of target vein poor recovery material from vein walls with magnetite and epidote are present.		Sulphide nil.	50°	14	14	
					11.1 - 12.3 m some epidote in veins and fractures.	Cu as crysicolla + native Cu ± cuprite?	50° 70° 15°			
12 m			(2)	11.6 - 12.3 m some epidote in fractures + minor native Cu on fractures ± cuprite.			70° 25°	9	16	
		1.1m	89	12.2 - 12.3 m Intensely fractured		Sulphide nil.	15°			
							45°	18	16	
				12.9 m chrysocolla on fracture.		Tr. cu as chrysocolla + native Cu ± cuprite..	25° 60°			
			(3)				45°			
13.1 m END OF HOLE										

DRILL LOG

Logged by Bill Clark.

SHEET NO. 1 2

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT PROPERTY				

DATE STARTED	DATE COMPLETED	SURVEYS						HOLE SIZE	TOTAL DEPTH	HOLE NO.
		Strike of Hole	Azimuth	50°		Plunge	51°	N.E.	I-EX.	13.1 m	D.D.H. 4

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
0 m										
0 m	6.5 m	2 m	85	Large turbidite? coarse grained sandstone with up to 3 cm fragments of augite porphyry grading down to a fine grained sandstone composed of volcanic materials. Generally a dark grey to black colour. Sediments are cut by numerous, up to 15 cm wide, augite porphyry dykes. Veins are ≤1 mm wide and made mostly of quartz ±feldspar ±pink feldspar. Moderately fractured. Weak limonite on fractures. Rock is magnetic.	weak pervasive chlorite alteration. Best alteration in sed. near dykes. .6 - .9 m moderate chlorite alteration. 1.0 - 1.5 m moderate chlorite alteration.	Sulphide nil.	30° 80° 70° 75° 50° 55° 50°	3	16 10	
			(9)	0 - .1 m dyke 30° augite porphyry. 15 - 1.1 m dykes ~ 80% of rock contacts 35° to 70°.						
2 m										
		2 m	97	0 - 3.2 m coarse grained		Sulphide nil.	20° 10° 40° 10° 65°	4	12	
				2.6 - 2.8 m dyke 45°	2.8 - 2.9 m moderate chlorite alteration.					
			(7)	3.2 - 4.0 m medium grained			40° 30° 60°	9	13	
4 m										
		2 m	85	4.0 - 4.3 m coarse grained 4.3 m 4 cm wide augite porphyry dyke 60° 4.3 - 6.0 m medium + fine grained 5.2 m 2 cm augite porphyry dyke ~ 30° 5.3 - 5.6 m intensely fractured	5.1 - 5.2 m weak orange alteration of matrix caused by pink quartz Feldspar veins. Alteration is probable. epidote + pink feldspar.	Sulphide nil.	10° 30° 40° 10° 10°	9	13	
			(7)	5.7 m 2 cm Augite porphyry dyke			20°	8	12	
6 m										
		2 m	96	6.0 - 6.5 m fine grained lower contact is not seen but appears to be ~ 90°.		Sulphide nil.	30° 60°	8	11	
6.5 m	13.1 m			Black to dark grey augite porphyry. Phenos ≤ .5 cm in diameter and comprise ~ 3.5% of rock. Moderate intensely fractured. Veins ≤ 2 mm wide visually quartz and feldspar ± pink, a few veins of chrysocolla ± milk quartz and/or feldspar. Rock is magnetic. Minor limonite on fractures.	Generally weak - Pervasive chlorite alteration.	Tr. cu as chrysocolla	70° 65° 60° 80° 35°	11	14	
			(8)	7.2 m chrysocolla on Fracture 20°						
8 m										

1999

FORM NO. 75-1

DRILL LOG Logged by Bill Clark.

SHEET NO. 3 3

LOCATION	CAT CLAIMS	CO-ORDINATES	NORTH	EAST	ELEVATION

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 3

	DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
16 m			2 m	66	16.8 - 16.9 m Intensely fractured. 17.2 - 20.4 m Intensely fractured.		Sulphides nil	10° 75° 65° 25° 20° 50° 50°	7 5	20 16	
				(1)							
18 m			2 m	13			Sulphides nil	80°	3	8	
				(1)					0	0	
20 m			1.5m	10	20.4 - 21.5 m no core recovery		Sulphides nil	85° 85°	4	9	
21.5 m								No core	0	0	
	END OF HOLE										

DRILL LOG Logged by Bill Clark.

SHEET NO. 2 | 3

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT PROPERTY.				

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 3

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
8 m		2 m	77	8.0 - 8.4 m Intensely fractured 8.1 - 9.5 m all veins have pink-red feldspar 8.2 - 8.4 m fine grained black dyke? 8.2 m chrysocolla seen on a fracture 8.7 - 8.9 m core re-drilled (dropped core)	8.1 - 8.2 weak bleaching + minor epidote associated with quartz-red feldspar veins. 9.8 - 10.7 m moderate Intense chlorite alteration	∠∠1% pyrite in veins Tr. copper as chrysocolla.	60° 40° 35° 35° 70°	14 16	16 14	
1.0 m			(3)	9.9 - 10.9 m Intensely fractured.						
	0 m	20.4 m 2 m	57	11.3 m minor chrysocolla on fractures 11.9 - 12.4 m quartz veins + pink feldspar veins. Rock is rusty, same chrysocolla fractures, possible edge of target vein. No recovery of veins or other wallrock. First quartz vein .5 cm 70°.	10.9 - 11.7 m moderate to intense chlorite alteration. 11.9 - 12.4 m minor epidote.	Py nil Tr. cu as chrysocolla	10° 50° 40° 70° 60° 20°	6 10	14 15	
12 m			(0)	12.0 - 13.6 m Intensely fractured						
		2 m	30	13.0 - 13.2 m chrysocolla on fractures, could be part of target vein. Some epidote in small veins with the copper.		Py nil Tr. cu as chrysocolla + minor cp in quartz vein 12.1 m	50° 40° 40° 25° 40°	5 8	11 13	
14 m			(0)							
		2 m	29	14.0 m chryocolla on one fracture 14.9 m chrysocolla on one fracture 20° 15.0 - 16.4 m intensely fractured 15.8 m some chunks of epidote with magnetite. Core from vein?		Sulphides nil Tr. cu as chrysocolla	60° 50° 80°	4 3	5 9	
16 m			(1)							

FORM NO. 75-1

DRILL LOG Logged by BYF Stark

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	SHEET NO.	
CAT PROPERTY					1	3

DATE STARTED	DATE COMPLETED	SURVEYS							HOLE SIZE	TOTAL DEPTH	HOLE NO.
September 1979	September 1979	Strike of Hole	Azimuth	252°		Plunge	49°	W	I-EX	21.5 m	D.D.H. 3

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
0 m	20.4 m	2 m	68 (3)	Dark grey to black augite porphyry volcanic flow? rock. Augite phenos ≤ 5 cm in diameter. Comprise ~35% of Rock. Fractures moderate to intense. Rock is very magnetic, more in altered sections. Most veins are ~ 1 mm wide and composed of quartz ± Feldspar which can be pink or red. There are some minor calcite veins. Minor limonite + black manganese stains on fractures throughout the hole. .8 m: 1 cm quartz-feldspar-magnetite-pyrite vein 30°, with 3 cm chlorite altered envelope.	Generally a weak chlorite alteration of both phenos and matrix.	<< 1% pyrite in a vein.	85° 60° 15° 70° 80° 40°	4 3	14 5	
2 m		2 m	62 (5)	2.8 m 6 cm fine grained dyke? looks much like matrix of porphyry, could be vol derived sediment at a flow contact. 20° 3.5 m 2 cm fine grained black dyke? 20°		Sulphides Nil	65° 50° 50° 70° 40° 45° 50°	5 7	9 8	
4 m		2 m	108 (11)	5.2 - 5.3 m dark grey green fine-grained dyke? 30° moderate chlorite alteration. 5.5 - 5.6 m dark grey-green, fine-grained dyke? contacts not seen.	4.1 - 4.3 m Moderate chlorite alteration with minor epidote around red feldspar-quartz veins.	Sulphides Nil	20° 35° 25° 80° 30° 40° 15° 70°	10 10	9 13	
6 m		2 m	68 (6)	6.1 m 3 cm zone containing small quartz-red feldspar veins with 1 mm to 5 mm breccia fragments of host rock. 45°		<< 1% pyrite in vein	55° 50° 60° 60° 80° 55° 40°	 9 13	 6 9	

7999

P FORM NO. 75-1

DRILL LOG Logged by Bill Clark.

SHEET NO. 7 / 7

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT CLAIMS				

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 2

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
60 m		2 m	50	61.0 m - 62.0 m Intensely fractured 61.0 m 1 cm qtz-feldspar? light green vein 20° 61.9 - 62.1 m light green veins with epidote alteration + minor qtz + calc.		Sulphides nil	80° 25° 70° 25° 80° 80° 70°	6 8	10 23	
62 m		2 m	53	(1) 63.0 - 64.0 m Intensely fractured. 63.3 - 63.8 m weak epidote alteration associated with light green veins.		Sulphides nil	60° 80° 40° 25°	9 8	13 18	
64 m	END OF HOLE			(1)						

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	4	6
DATE STARTED	DATE COMPLETED	SURVEYS			HOLE SIZE / TOTAL DEPTH	HOLE NO. D.D.H. 7

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Gr. Flooding per m
26 m		2 m	104	27.0 - 27.2 m Intensely fractured 27.5 - 29.3 m High in granite flooding		2% Py Tr. % Po Tr. % cp	50° 55° 50° 30° 15°	12 13	8 16	6 7
28 m		2 m	88	28.1 - 28.8 m Intensely fractured 29.2 - 29.4 m Intensely fractured		4% Py Tr. % Po Tr. % cp	40° 50° 50° 60° 50°	14 11	19 19	6 4
30 m		2 m	89	30.5 - 30.6 m Intensely fractured 31.2 m 3 cm Breccia 1 mm frag. calcite healed 50°	31.3 - 32.3 bleached chlorite rich zone shearing 40° with calcite healed fractured	1% Py 1 1/2% Po 1 1/2% cp	50° 30° 60° 50° 40°	15 25	17 14	4 1
32 m		2 m	98	33.8 - 34.1 m Granite Flooding		2% Py Tr. % Po Tr. % cp	50° 50° 35° 45° 65°	20 17	8 9	3 5
34 m		2 m	87	34.0 m 2 cm epidote veins with some py + cp 35° 34.5 - 34.7 m Granite Flooding 34.9 - 35.1 m Intensely fractured		Tr. % Py 1% Po 1 % cp	50° 60° 5° 65° 60°	13 11	9 14	5 4
36 m			(3)							

DRILL LOG

Logged by Bill Clark.

SHEET NO. 3 6

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO. D.D.H. 7

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Gr. Flood per m
16 m		2 m	78	16.2 m .5 cm quartz - calcite vein banded 30° 16.6 - 16.8 m Intensely fractured		2% Py Tr. % Po Tr. % cp	60° 70° 80° 35° 80° 50°			
			(4)	17.4 m 1.5 cm Granite Dyke 45°	17.9 - 18.0 m High					
18 m		2 m	98	18.0 - 18.3 m Intensely Fractured	in epidote, associated with quartz veins + granite	15% Py Tr. % Po 1/4% cp	45° 30° 45° 50° 60° 55°	16	13	5
			(7)	18.1 and 19.2 m 1.5 cm granite dyke 45°				18	10	7
20 m		2 m	87			3% Py 1% Po 1% cp	40° 50° 45° 45°	10	5	4
22 m			(7)					8	6	6
		2 m	93	22.1 - 22.3 m Granite Flooding 40°		1/2% Py 2% Po 1 1/2% cp	60° 35° 50° 60° 50° 50°	7	11	4
24 m			(6)	23.9 - 24.0 m Intense chlorite alteration minor				11	10	4
		2 m	99	shearing 10° healed with calcite		1 1/2% Py 1 1/2% Po 1 1/2% cp	60° 10° 60° 50° 40°	14	13	5
			(10)	25.4 m 5 cm Granite Flooding 45°	24.7 - 24.8 m zone of epidote alteration 70°			12	8	4
26 m										

DRILL LOG

Logged by Bill Clark.

SHEET NO. 2 / 6

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 7

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Gr. Flood per m
6 m		2 m	99	5.8 - 6.4 m Granite Flooding 6.4 - 6.8 m Granite Flooding		3% Py 1% Po Tr. % cp	15° 60° 35° 50°	14	17	4
			(7)	7.7 - 8.1 m Intensely fractured			50°	10	13	
8 m		2 m	93	8.4 - 9.1 m Intensely fractured		1% Py Tr. % Po Tr. % cp	50° 10° 60° 70°	10	23	2
			(2)				10°	7	18	4
10 m		2 m	95			3% Py 1% Po Tr. % cp	25° 35° 40°	9	15	4
			(6)				50°	11	15	2
12 m		2 m	79	12.4 - 12.6 m Granite Flooding subvertical		3% Py 1% Po Tr. % cp	25° 55° 40°	12	11	2
			(4)				50°	12	14	3
14 m		2 m	95	14.0 m calcite fractures and veins are post intrusive		2% Py Tr. % Po Tr. % cp	10° 40° 45° 60° 50°	17	13	5
16 m			(4)				50°	17	16	6

DRILL LOG

Logged by Bill Clark.

SHEET NO. 1 / 6

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT	Trench 3.	60 + 78	99 + 74	Not known.

DATE STARTED	DATE COMPLETED	SURVEYS							HOLE SIZE	TOTAL DEPTH	HOLE NO.
	October 1, 1979	Strike of Hole	N	30°	E	Plunge	70°		I-EX	52.1 m	D.D.H. 7

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Gr. Flooding m
0 m										
.8 m	52.1 m	2 m	49	Meta Volcanics or Volcanic derived sediments? Dark grey green rock with secondary biotite and chlorite in matrix appears to be hornfelsed from many small dykes (~0.5 cm) and or floodings (up to 10 cm) of a pink to red medium grained granite. Host rock seems to have blebs in places (originally phenos?) of corroded looking quartz or feldspar 4 mm in diameter which may represent some volcanic dykes in sediments. Rock is moderately fractured except where recovery is poor. A few quartz veins (~0.5 cm wide) are present. Many fracturs have calcite and there are a few sulphide fracture fills. Sulphides are up to 6% in the forms of py-po-cp and are found mostly in net like disseminations and a a few fracture fillings. Rock magnetic from fine-grained magnetite + Po, granite less magnetic.	Chlorite alteration and biotite in matrix due to hornfelsing and possible hydro-thermal alteration. Minor epidote often found with quartz veins and granite flooding. Biotite in and near granite is coarser grained.	1% Py 1% Po Tr. % Cp	70° 10° 50°	1 4	5 18	1 3
			(0)	0 - .8m casing no core?						
2 m										
		2 m	83	.9 - 2.7 m Intensely fractured 3.3 - 6.5 m Intensely fractured.		4% Py 1% Po Tr % Cp	30° 59°	6	16	5
			(2)				80°	10	18	2
4 m										
		2 m	91	1999		3% Py	30° 10° 35° 65°	8	25	4
			(1)				45°	11	19	2
6 m										

DRILL LOG Logged by Bill Clark.

SHEET NO. 3 of 3

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT PROPERTY				

DATE STARTED	DATE COMPLETED	SURVEYS						HOLE SIZE	TOTAL DEPTH	HOLE NO.
		Strike of Hole	Azimuth	235°		Plunge	50°	SW.		D.D.H. 5

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
18 m		2 m	63	18.6 - 18.8 m Augite porphyry dyke 35° 18.9 m one bleb of py near a pink vein 19.0 - 19.7 m Intensely fractured		Minor py seen	30° 60° 20°	9	17	
			(2)		19.9 - 20.2 m epidote + pink alteration on edge of orange syenite dyke.		50° 60°	8	18	
20 m										
		2 m	62	20.2 - 20.3 m Gravel fragments of orange altered syenite dyke. Drill gauge. 20.2 - 20.8 m Intensely fractured.		Sulphide nil	30° 70°	7	16	
			(1)				45° 30° 70°	6	18	
22 m										
		1.2m	33	22.9 - 23.2 m Intensely fractured poor recovery looks like core. Red altered syenite + lath feldspar porphyry.		Sulphide nil	40° 30°	6	16	
			(0)							
23.2m END OF HOLE				Target vein not seen because of poor recovery? or not hit?						

DRILL LOG Logged by

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	2	3

DATE STARTED	DATE COMPLETED	SURVEYS Strike of Hole	Azimuth	235°		Plunge	50°	SW.	HOLE SIZE	TOTAL DEPTH	HOLE NO. D.D.H. 5

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
8 m										
		2 m	90	8.1 m minor py-cp-po in 1 mm wide quartz veins 8.6 - 23.2 m mostly flow breccia? welded together by lath rich feldspar - augite porphyry with some augite porphyry dykes. 8.6 - 8.9 m Feldspar - Augite porphyry dyke 15° 8.9 - 9.0 m Fine grained volcanic derived sandstone.	7.0 - 8.5 m moderate chlorite alteration.	Minor py-cp-po in quartz veins.	60° 80° 50° 40°	8	9	
10 m			(6)	9.4 - 9.5 m Augite porphyry dyke 70°.	9.6 - 9.7 m: many pink quartz - feldspar veins.		30°	7	9	
		2 m	92	10.7 m: 2 mm wide quartz vein with minor py-po-cp 35° 11.0 - 11.2 m: Intensely fractured.	10.9 - 11.3 m many pink quartz-feldspar veins at 15° with some epidote and pink flooding.	Minor py-cp-po in quartz veins.	60° 60° 70° 60° 25°	10	13	
12 m			(7)	11.8 and 12.0 m: 2 mm wide quartz veins with minor py-cp-po 30°			50° 40°	11	16	
		2 m	62	12.0 - 12.5 m Intensely fractured	12.4 - 12.6 m Pink quartz-feldspar veins 20° with some epidote and pink flooding. 13.5 - 13.6 m moderate chlorite alteration.	Sulphide nil	40° 25° 70° 50°	12	20	
14 m			(3)				40°	7	10	
		2 m	90	14.0 m: 2 mm wide quartz vein with minor py + po 14.5 m: 1 mm wide quartz veins with cp 35° 14.9 m: 1 mm wide quartz veins with py 35° 15.4 - 16.8 m Intensely fractured.	14.9 - 15.0 m epidote alteration associated with pink flooding.	Minor py-cp-po in quartz veins	35° 70° 40° 25° 45°	9	16	
16 m			(3)				35° 30°	12	29	
		2 m	46		16.2 - 16.8 m some laths going pink. A one cm pink vein seen ~ 20°.	Sulphide nil	35° 10° 30°	10	25	
18 m			(1)				15°	5	13	

LOCATION	CAT PROPERTY	CO-ORDINATES	NORTH	EAST	ELEVATION	1	3
DATE STARTED	DATE COMPLETED	SURVEYS Strike of Hole	Azimuth 235°	Plunge 50° SW.	HOLE SIZE: I-EX	TOTAL DEPTH: 23.2 m	HOLE NO. D.D.H. 5

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
0 m	23.2m	2 m	60 (2)	A mess of dark grey green to black agglomeratic looking rock - welded together by 1 mm Feldspar lath rich rock with some augite phenos. Mixed with fine grained volcanic derived sandstone and small augite porphyry dykes. All rocks magnetic. 0 - 5.9 m flow breccia? welded together by lath rich Feldspar augite porphyry. 0 - 1.0 m Intensely fractured.	Weak to moderate pervasive chlorite alteration. Most veins ≤2 mm quartz ± pink Feldspar. Rock moderate to intensely fractured.	Sulphides nil.	60° 45° 35° 80° 65°	5 7	19 17	
2 m		2 m	80 (6)	3.3 m 2 - 1 mm wide quartz veins containing po-py-cp	3.6 - 3.8 m some laths altered pink by small pink quartz-feldspar veins.	Minor po-py-cp in veins	70° 35° 40° 20° 55° 30° 70°	6 7	7 7	
4 m		2 m	72 (5)	5.9 - 8.6 m Fine grained volcanic derived sandstone.	4.4 m 4 cm diss. epidote + minor chrysocolla. 4.6 m 5 cm wide. Intensely chlorite altered zone 40° related to some pink feldspar.	Sulphides nil.	60° 60° 55° 50° 20° 50°	8 8	12 13	
6 m		2 m	73 (3)	6.2 - 7.4 m Intensely fractured.	6.8 - 7.1 m some laths altered pink by small quartz-feldspar veins. 7.4 - 7.7 m some epidote + a pink flooding of matrix by pink quartz-feldspar veins.	Sulphides nil.	85° 15° 70° 40° 60° 45° 30° 30°	6 14	17 21	
8 m				7999						

DRILL LOG

Logged by Bill Clark.

SHEET NO. 1 / 1

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT PROPERTY		60+83	99+70	Not Known.

DATE STARTED	DATE COMPLETED	SURVEYS							HOLE SIZE	TOTAL DEPTH	HOLE NO.
		Strike of Hole	N	22°	E	Plunge	70°		I-EX	3.4 m	D.D.H. 6

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Gr. Flood Perm.
0 m										
No core?		1 m	50 (1)	Meta volcanic? Dark grey green rock with secondary biotite and chlorite in matrix appears to be hornfelsed from many small dykes or floodings of a pink medium grained granite. Host rock seems to have many blebs. (originally phenos?) of quartz or feldspar ≤ 4 mm in diameter. Rock is moderately fractured except where recovery is poor. A few small quartz veins present. Fractures often have calcite. Sulphide is up to 8% in the forms of py-po-cp and is found mostly in a net-like diss. with some in fracture. Rock is very magnetic from fine-grained magnetite and Po	Chlorite alteration and biotite in matrix due to horn-felsing and possible hydro-thermal alteration. Epidote often associated with granite flooding.	Diss in nets and in small fractures ~2% Po ~5% Py ~1/2% Cp	10° 70° 70°	8	11	5
2 m										
		1.4m	30 (1)	1 - 2 m Intensely fractured. At 3.0 m 30 cm of core material 3.0 - 3.4 m Intensely fractured.		Diss in nets and in small fractures. ~2% Po ~4% Py ~1/2% Cp	80° 60° 45°	4 2	7 5	1 1
3.4m										
END OF HOLE										

-1999

DRILL LOG Logged by Bill Clark.

SHEET NO. 6 7

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT CLAIMS				

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 2

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
48 m		2 m	50	48.0 - 48.3 m Intensely fractured (gravel)		Sulphides nil	40°	7	12	
							30°			
							60°			
			(2)	48.8 - 50.1 m Intensely fractured			10°	7	23	
				48.7 - 64.0 m minor hematite on fractures is becoming noticeable.			70°			
50 m										
		2 m	30			Trace py		2	7	
					50.8 - 56.4 minor epidote ± hematite flooding of matrix.		70°			
							30°			
52 m			(2)				60°	3	5	
		2 m	19	52.0 - 60.0 m Intensely fractured		Sulphides nil		4	11	
							70°			
								1	2	
			(0)				70°			
54 m										
		2 m	11			Sulphides nil	70°			
								2	4	
							20°			
			(0)					2	5	
56 m										
		2 m	20			Sulphides nil		1	5	
							10°			
								4	8	
			(0)				70°			
58 m										
		2 m	32			Sulphides nil	10°			
								2	11	
							45°			
							15°			
							30°			
								4	15	
			(0)							

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	SHEET NO.	
CAT CLAIMS					5	7

DATE STARTED	DATE COMPLETED	SURVEYS						HOLE SIZE	TOTAL DEPTH	HOLE NO.
										D.D.H. 2

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
38 m										
		2 m	63		38.2 - 41.5 m weak epidote + feldspar alteration or flooding of matrix	Sulphide nil	80° 55° 25° 50° 35° 70° 40°	5 4	16 15	
			(2)	39.7 - 40.2 m Intensely fractured.						
40 m										
		2 m	93	40.7 - 46.9 m Intensely fractured.	40.5 - 40.7 m Intense epidote Flooding with minor hematite + py ~ 45°.	<1% py mostly diss.	45° 75° 60° 60° 35° 30°	17 11	25 19	
			(3)							
42 m										
		2 m	30			<<1% py diss	80° 25° 80° 30°	6 4	13 14	
			(0)							
44 m										
		2 m	24			Trace cp. seen	30° 35° 15°	3 4	6 13	
			(0)							
46 m										
		2 m	75		46.8 - 46.9 m moderate pervasive epidote alteration of matrix. 47.8 - 48.3 m moderate pervasive epidote + feldspar alteration of matrix	Sulphides nil	40° 50° 15° 10° 60° 85°	8 10	22 10	
			(2)			and lath-like crystals.				
48 m										

DRILL LOG

Logged by Bill Clark.

SHEET NO. 4 7

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 2

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
28 m		2 m	69	28.3 - 28.8 m Intensely fractured	28.8 - 29.8 m weak - moderate epidote alteration of matrix with many epidote + red k-spar? Fracture fillings ~ 15°.	<< 1% po diss.	80° 60° 60° 10°	10	21	
30 m			(1)	29.3 - 29.4 Intensely fractured			80° 60°	14	13	
		2 m	62	30.0 - 30.9 m Intensely fractured		<<1% diss po + py + cp	45° 10° 25° 30° 55°	9	18	
32 m			(2)	31.1 - 31.4 m Intensely fractured			50° 65°	13	20	
		2 m	62	32.7 - 36.4 m Intensely fractured	33.9 - 34.1 m Flood-	< 1% py + cp + po mostly diss some in veins	70° 50° 75° 20° 70°	7 10	11 15	
34 m		2 m	38		ing of epidote ± red k-spar.	Sulphides nil	50° 75° 75°	5	13	
			(1)				35°	4	11	
36 m		2 m	66	37.6 - 38.2 m	37.6 - 38.2 m epidote flooding from fractures 10°, with calcite + red K-spar?	< 1% py in epidote veins	35° 30° 50° 50° 75° 25° 80°	5 8	8 15	

LOCATION	CAT CLAIMS	CO-ORDINATES	NORTH	EAST	ELEVATION	3	7
DATE STARTED	DATE COMPLETED	SURVEYS			HOLE SIZE / TOTAL DEPTH	HOLE NO. D.D.H.	2

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
		2 m	71			<< 1% py + po in veins + diss.	35° 65° 40° 20° 50°	10 14		
			(2)	19.8 - 20.4 m Intensely fractured (gravel)				14	23	
		2 m	50		20.0 - 21.3 m moderate chlorite alteration + minor epidote? + Feldspar?	< 1% po ± py diss	80° 15° 60° 15° 40°	4 10	11 11	
			(2)							
		2 m	67		23.8 - 24.4 m weak shearing calcite - qtz. veins 55°. Chlorite alteration moderate weak epidote + hematite. Flooding.	~ 1% po ± py mostly in fracture fillings some diss.	55° 50° 20° 50° 10° 40°	10 9	15 11	
			(2)							
		2 m	102	24.4 - 28.4 m matrix black higher in magnetite	24.5 - 34.5 weak alteration of augite phenos + flooding to epidote + feldspar 25.6 - 26 m alteration of augite phenos to epidote + minor pink feldspar.	~ 1% po ± cp ± py mostly with epidote in veins some diss.	50° 20° 40° 35° 60° 75°	21 11	9 17	
			(8)							
		2 m	94			< 1% po ± cp ± py mostly diss.	70° 15° 60° 35° 75° 20°	9 8	15 16	
			(5)							

18 m
20 m
22 m
24 m
26 m
28 m

LOCATION	CAT CLAIMS	CO-ORDINATES							HOLE SIZE	TOTAL DEPTH	HOLE NO. D.D.H. 2		
DATE STARTED		DATE COMPLETED		SURVEYS									

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
6 m		2 m	93	6.1 - 6.7 m Intensely fractured		∠1% py mostly diss. some in veins.	60°	11	27	
						≪1% po diss.	20°			
						≪1% cp in veins with epidote	70°			
							50°			
				7.3 - 7.8 m Intensely fractured			70°			
							35°	7	14	
			(2)				50°			
8 m										
		2 m	47	9.0 m 1 cm red, hematite-rich vein with epidote ~10°		∠1% py diss + veins	60°	9	13	
				8.8 m - 9.3 m Intensely fractured				4	8	
10 m			(3)							
		2 m	69	10.1 - 10.6 m lathlike crystals show up well, possibly some kind of alteration	10.6 m 3 cm Intense epidote alteration of matrix.	∠1% py in veins + diss.	70°	8	16	
							60°			
							55°			
							65°			
				11.6 m 1 cm calcite vein ~20°			60°			
							70°	11	18	
12 m			(0)							
		2 m	64			∠1% py in veins + diss.	50°	11	18	
							50°			
							70°			
							65°			
							60°			
							60°	8	13	
14 m			(0)				10°			
		2 m	34	14.0 - 14.3 Intensely fractured		∠1% py diss		6	13	
							10°			
							50°			
				15.6 - 16.5 m Intensely fractured			70°			
16 m			(2)				15°	4	7	
		2 m	50	16.1 - 17.4 m many small calcite veins with minor hematite pink k-spar?		≪1% py diss	10°	6	8	
				16.9 - 17.2 m large calcite vein with pink k-spar? no envelope 25°			75°			
							60°	8	15	
				17.0 - 17.4 m Intensely fractured			20°			
18 m			(1)	17.5 - 17.8 m 2 cm calcite vein 10°						

DRILL LOG

Logged by Bill Clark.

SHEET NO. 1 7

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT PROPERTY				

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
		Vertical Hole	I-EX	64.0 m	D.D.H. 2

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
0 m										
0 m	64 m	2 m	47	Dark grey green - black augite porphyry flow rock? augite phenos are ≤ 5 mm in diameter and comprise ~ 35% of rock. Grain size of phenos vary greatly and there are quick textural changes to rock. Often rock looks tuffaceous. There are some 1 mm size lath like crystals that may be feldspar. Rock is moderate to intensely fractured. Most veins and fracture fillings are calcite. Rich with some epidote and hematite in the larger ones, there are also a few small quartz veins. Fracturing is moderate to intense. Rock is strongly magnetic.	Generally weak to moderate chlorite alteration of augite phenos and matrix. Some epidote alteration ± hematite with some of the larger calcite veins.	<< 1% diss py very fine grained.	40° 15° 45° 70° 40° 75° 50°	11 4	16 15	
			(0)							
2 m										
		2 m	74	0 - 1.4 m Intensely fractured. 0 - 22.4 m very minor limonite seen on fractures.		~ 1% diss py very fine grained	45° 10° 60° 70° 50° 40° 50°	8 10	10 14	
			(4)		3.8 - 4 m minor epidote + pink material in fracture fillings.					
4 m										
		2 m	83	4.4 - 4.9 m Intensely fractured			20°			
				7999	5.2 - 6.5 epidote in fractures + veins with pink mineral K-feldspar? + minor flooding of matrix with epidote, pyrite present with epidote. 5.3 - 5.6 veins + flooding are intense 10°	< 1% py veins + diss << 1% po diss + veins < 1% cp in veins with epidote.	15° 60° 60° 55° 50° 25°	13 14	22 15	
6 m			(3)							

DRILL LOG Logged by Bill Clark.

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	SHEET NO.	
CAT CLAIMS					5	5

DATE STARTED	DATE COMPLETED	SURVEYS				HOLE SIZE	TOTAL DEPTH	HOLE NO.
								D.D.H. 1

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
34 m		2 m	43	34.0 - 34.2 m brecciated flow contact? 34.4 - 36.7 m Intensely fractured 34.5 m 3 cm Brecciated calcite vein 70°	33.9 - 35.8 m weak bleaching . A lot of hematite in the matrix, and impregnated with calcite. Strongest near calcite veins.	1% Py fine grained diss.	30° 70° 50° 45° 25° 10°	13 3	18 4	
		(2)								
36 m										
36.7 m		.7 m	50				60° 35°	2	12	
End of Hole		(0)								

Note: From examining split core chlorite alteration is stronger than that described in log.

: Massive sulphide (py + cp) vein is found as cave below the 2 meter section 26 - 28.

FORM NO. 75-1

LOCATION	CAT CLAIMS	CO-ORDINATES	NORTH						HOLE SIZE	TOTAL DEPTH	HOLE NO. D.D.H. 1		
DATE STARTED		DATE COMPLETED	SURVEYS										

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
26 m										
		2 m (5)	66	26.5 m 2 cm band of pyrite with some chalcopyrite 70° rock is sheared top contact 40° 27.0 m 1 cm wide piece of a pyrite band, cave? 27.1 m 1 cm wide piece of a chalcopyrite band, cave? 27.0 - 27.5 m Intensely fractured. 27.1 - 27.4 m healed with calcite veins, some clay fault or from drilling? 27.4 - 27.8 m Flow contact fine grained Phenos. 27.7 - 27.8 m Possibly a fine grained dyke - can't tell because of alteration.	27.1 - 31.0 m weak pervasive chlorite alteration overlain by a light green brown bleaching of augite phenos and to a lesser extent matrix. This colour appears to be due to epidote, hematite and a pervasive impregnation of calcite. Bleached Rock is weakly magnetic. 28.3 - 29.1 m weakly bleached.	~ 2% Py + 3% cp in large veins	50° 40° 10° 25° 50° 40°	8 15	7 21	
28 m										
		2 m (5)	76	28.3 m 4 cm fine grained dark green dyke? 60° 29.3 - 29.7 m 2 cm subvertical calcite vein-vug.		Sulphide nil.	80° 65° 70° 15° 10° 60°	16 8	10 12	
30 m										
0 m	18.7 m	2 m (7)	80	30.3 - 31.0 m 2 cm calcite vein subvertical, vug texture. with some epidote and hematite. 31.0 - 36.7 m ~1% py diss in fracture fill + very minor cp.	31.0 - 36.7 m weak pervasive chlorite alteration.	← 1% py fine grained diss.	25° 60° 85° 35° 70° 70° 80°	14 9	10 10	
32 m										
		2 m (6)	79		32.6 - 32.9 m weak bleaching hematite in matrix some minor pyrite	1% py fine grained diss in small veins tr. ep. diss.	45° 50° 20° 35° 20° 50° 80° 30° 30°	8 14	13 13	
34 m										

FORM NO. 75-1

DRILL LOG Logged by BTT CLIENT SHEET NO.

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION		SHEET NO.
CAT CLAIMS						3 of 5

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 1

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
18 m										
18.7 m	20.1 m	2 m (0)	34	Fine grained contact ~ 1% Augite phenos. Bottom of flow contact? or dyke contact? A few small calcite veins. Magnetic but not as strong as regular porphyry.	18.7 - 20.1 m Fairly fresh, weak chlorite alteration of matrix.	<1% very fine grained diss. Pyrite.	70° 30° 75° 30° 75° 70° 20°	5 4	13 19	
20 m										
20.1 m	23.0 m	2 m (0)	15	Altered syenite porphyry? Rusty red rock containing 1 mm phenos of K-spar? and 1 mm phenos of black altered hornblend? Rock is ~ 50% phenos. Weakly magnetic. 21 - 22 m Dyke? Alteration? 10°-medium green, soft, (Talc - chl. sericite)? altered rock containing 25% diss pyrite + minor chalcopyrite. Rock is not magnetic.	Altered syenite? Rusty red colour - hematite. Flooding of feldspar phenos + ground mass. 21 - 22 m Syenite? altered to talc-chl-sericite? + pyrite.	~ 5% py Tr. ep.	35° 50° 65°	3 5	8 5	
22 m										
23.0 m	36.7 m	2 m (2)	30	Dark green to black augite porphyry, phenos 4 mm in diameter. Most of unit is moderately fractured with some intense Fracturing. Rock is generally very magnetic, most veins are calcite and 1 mm wide. Some fine grained Phenocryst poor section suggest Flood contacts. Phenos generally ~ 35 - 40% of rock.	23.0 - 23.9 m sheared 60° chlorite altered, all phenos destroyed, ~ 10% pyrite with very minor cp and ep aligned with shear direction.	~ 5% py Tr. ep.	35° 30° 60°	8 6	8 5	
24 m										
		2 m (3)	73	23.9 - 24.8 m 5 - 25% augite phenos. Flow contact? There appear to be 3 cm fragments present. 25.9 - 27.1 m Flow contact? Quick changes in % of augite phenos.	23.9 - 27.1 m weak Pervasive chlorite alteration.	Sulphide nil.	65° 40° 40° 80° 55° 60° 40° 5°	7 9	13 11	
26 m										

FORM NO. 75-1

DRILL LOG Logged by: D.H.

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	SHEET NO.	
CAT CLAIMS					2	5

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 1

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Graph Log
8 m		2 m (5)	83	8.8 m 1 cm calcite vein 10° 9.8 - 10.9 m Intensely fractured		Sulphide nil.	70° 70° 10° 40° 40° 50°	11 9	13 11	
10 m		2 m (3)	62			<< 1% cp on fracture	10° 30° 20° 75° 60° 75° 25°	9 7	12 11	
12 m		2 m (9)	96		12.3 - 18.3 m Red - orange veins about every half meter with specularite ± epidote ± py. Veins cut core at 25°.	<< 1% pyrite with orange red veins.	70° 40° 70° 60° 40° 40° 50°	9 10	12 16	
14 m		2 m (7)	84	14.3 - 14.7 m high in specularite + minor pyrite - no red-orange veins.		~ 1% Pyrite with specularite and orange-red veins and << 1% cp.	50° 40° 40° 65° 30° 40° 20°	9 12	14 9	
16 m		2 m (7)	86	18.0 - 23.0 m Intensely fractured		~ 1% Pyrite with specularite and orange-red veins	55° 70° 80° 25° 25° 60° 40°	12 9	9 11	
18 m										

FORM NO. 75-1

DRILL LOG

Logged by Bill Clark.

SHEET NO. 1 5

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
CAT CLAIMS				

DATE STARTED	DATE COMPLETED	Vertical Hole SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
			1-EX	36.7 m	D.D.H. 1

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/m	STRUCTURE F/m	Gra L.
0 m	18.7 m	2 m (0)	36	Dark green to black augite porphyry, phenos ~ 4 mm in diameter - most of unit is moderately fractured with some intensely fractured portions. Rock is very magnetic and probably has large quantities of fine grained magnetite - most veins are ~ 1 mm in diameter and composed of calcite, there are a few orange - red veins which tend to be a little limy and have some epidote + specular hematite. Very weak limonite on fractures. Phenos generally 35 - 40% of rock. 0 - 1 m Intensely fractured.	Rock is fairly fresh, probably some minor chl. alteration. There are some orange-red veins associated with specular hematite and secondary epidote. Some weak epidote alteration of augite phenos in places.	Sulphide nil.	10° 60° 60° 30° 30°	1 2	8 11	
2 m		2 m (4)	64	3.2 - 7.8 m Intensely fractured		Sulphide nil.	30° 50° 50° 25° 50° 30°	3 3	12 11	
4 m		2 m (1)	23	4.0 - 5.0 m calcite healed breccia fragments 3 cm to 1 mm in diameter they are bleached a medium green and probably originally Augite-Porphyry. Breccia contains 7% diss. sulphide mostly pyrite with minor chalcopyrite. Contacts not seen. Top contact mineralized. 5.0 - 5.4 m Bottom contact is mineralized with 5% diss py, has minor epidote, lots of fine grained speculavite and calcite veins and minor cp.		~ 5% diss. pyrite ≪ 1% diss. chalcopyrite	30°	6 3	7 6	
6 m		2 m (2)	28	7999		Sulphide nil.	25° 25° 35°	3 3	4 5	
8 m										

BP FORM NO. 75-1

DRILL LOG

LOCATION CAT.	CO-ORDINATES	NORTH	EAST	ELEVATION			6	6
DATE STARTED	DATE COMPLETED	SURVEYS				HOLE SIZE	TOTAL DEPTH	HOLE NO. D.D.H. 7

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Ft	STRUCTURE F/Ft	Gr. Flood per m
46m		2m	89	46.5 - 47.2m Intensely fractured. 47.7 - 48.1m Granite flooding.		2% Py 1% Po Tr. % Cp.	70° 40° 10° 50° 70° 50°	10	16	4
			(7)				50°	8	13	6
48m		2m	89	48.3 3cm epidote vein with minor Py + magnetite + calcite. 49.1m 1cm quartz-calcite-chlorite sheared vein 40° 49.7 - 50.8m Intensely fractured.		2% Py Tr. % Po Tr. % Cp	40° 40° 60° 50° 55°	10	14	3
			(2)	49.9 - 50.6m High in granite flooding.			70°	10	16	4
50m										
50m		2.1m	90	50.5 - 50.6m 3cm epidote-Py-magnetite-calcite veins 20° 51.7 - 52.0m Intensely fractured.		3% Py 1% Po 1/2 % Cp.	15° 40° 15° 70° 40° 45°	12	18	9
			(2)				30°	14	17	7
52m	52.1 End of Hole.									

P FORM NO. 75-1

BP

DRILL LOG

Logged by Bill Clark.

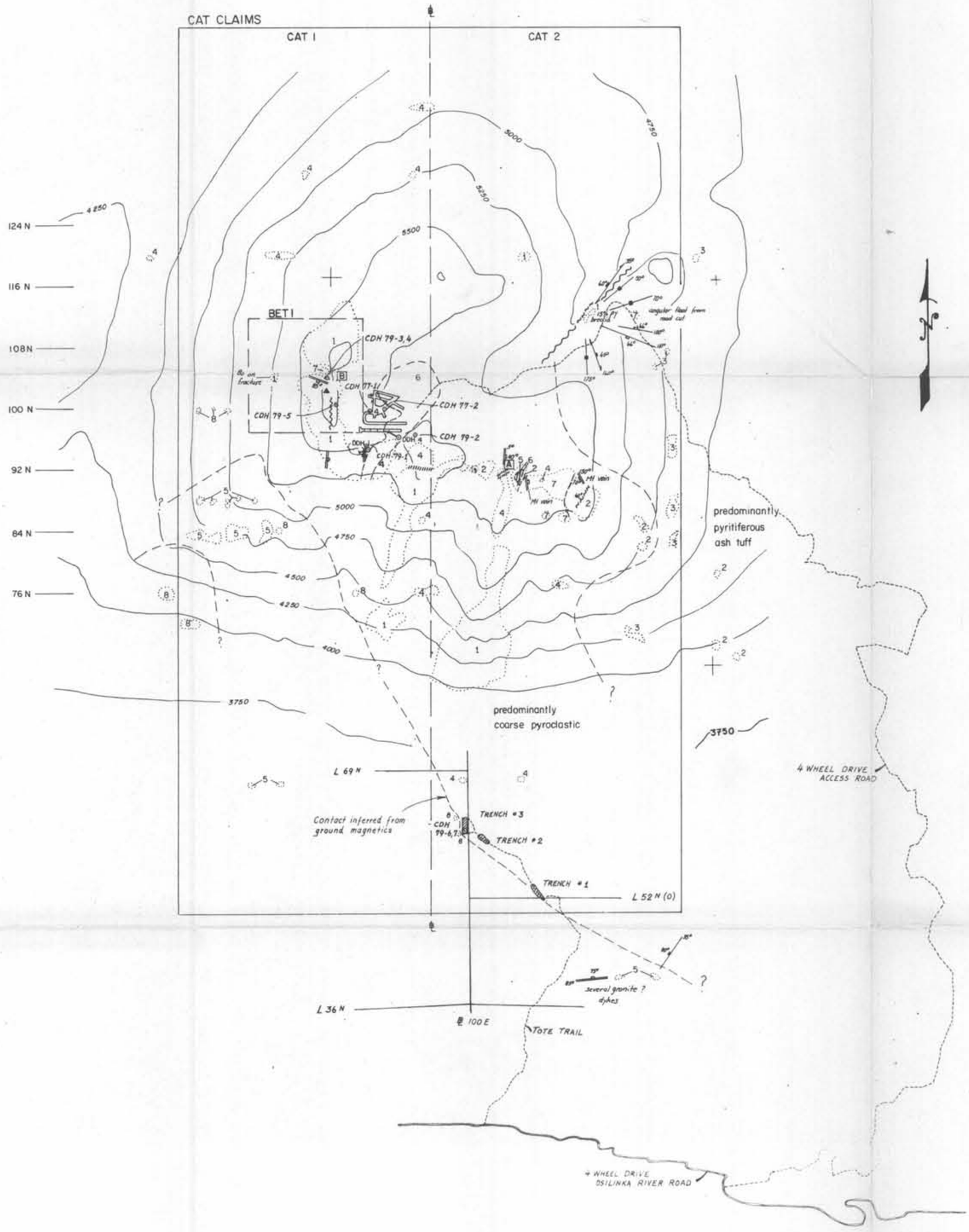
SHEET NO. 5 6

LOCATION	CAT	CO-ORDINATES	NORTH	EAST	ELEVATION

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
					D.D.H. 7

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Ft	STRUCTURE F/Ft	Gr. Flood per m
		2m	95	36.2 - 36.6m Intensley fractured.		1/2% Py Tr. % Po 1/4% Cp	50° 60° 10° 55° 70°	13	16	3
			(5)	37.3 - 37.5m Granite flooding. 37.7 - 39.0m Intensely fractured. 37.7 - 39.2m High in granite flooding.			65°	9	16	5
30m										
		2m	75	38.5m 1.5cm Epidote-calcite-magnetic-py-quartz-chlorite (on edges).		2% Py 1% Po 1% Cp	10° 50° 60° 80° 45°	7	17	3
40m							50°	9	11	6
		2m	95	40.8 - 41.0m Intensley fractured. 41.0 - 41.3m Granite flooding.		3% Py 1% Po Tr. % Cp	70° 35° 60° 10° 25° 70°	10	10	3
			(7)				50°	9	12	5
42m										
		2m	95	42.9 - 43.0m Granite flooding. 43.0 - 43.4m Intensley fractured.		3% Py 1% Po Tr. % Cp.	35° 80° 40° 50° 40° 10°	8	6	5
			(7)	43.7m 5cm Zone with 30% py + epidote 40°			30°	8	11	2
44m										
		2m	95	44.2 - 44.8m High in granite flooding.		3% Py 1% Po 1/4% Cp	15° 60° 45° 70° 45° 60°	8	13	5
			(7)				45°	9	12	3

BP FORM NO. 75-1



LEGEND

INTRUSIVE ROCKS
Jurassic or Older (Hogem?)

8	Fine grained granite, minor quartz monzonite
7	Syenite porphyry - minor alteration
6	Syenite pophyry - mod.-strongly metasomatized
5	Hornblende diorite - altered in west

VOLCANIC ROCKS
Upper Triassic (Takla)

4	Augite andebasalt porphyry
3	Andesitic ash tuff
2	Andesitic lapilli tuff and minor breccia
1	Andebasaltic agglomerate

SYMBOLS

- Fault
- Joint strike and dip
- Strike of vertical joint
- Tension fracture strike and dip, vertical
- Vein or dyke
- Shear zone showing dip
- Outcrop area
- Contact observed, inferred, gradational
- Diamond drill hole
- Geodetic survey monument
- x 81-2M — Bedrock sample number
- Mt - Magnetite, py - Pyrite

NOTES: [A] Sp He as fracture fill and knots and vugs in narrow shear zone also Ma, cp, bo-cc (minor) in quartz-calcite veins/numerous in area.

[B] Au with minor cp in 1' wide Mt-quartz vein. Grades up to 16 oz Au/ton.

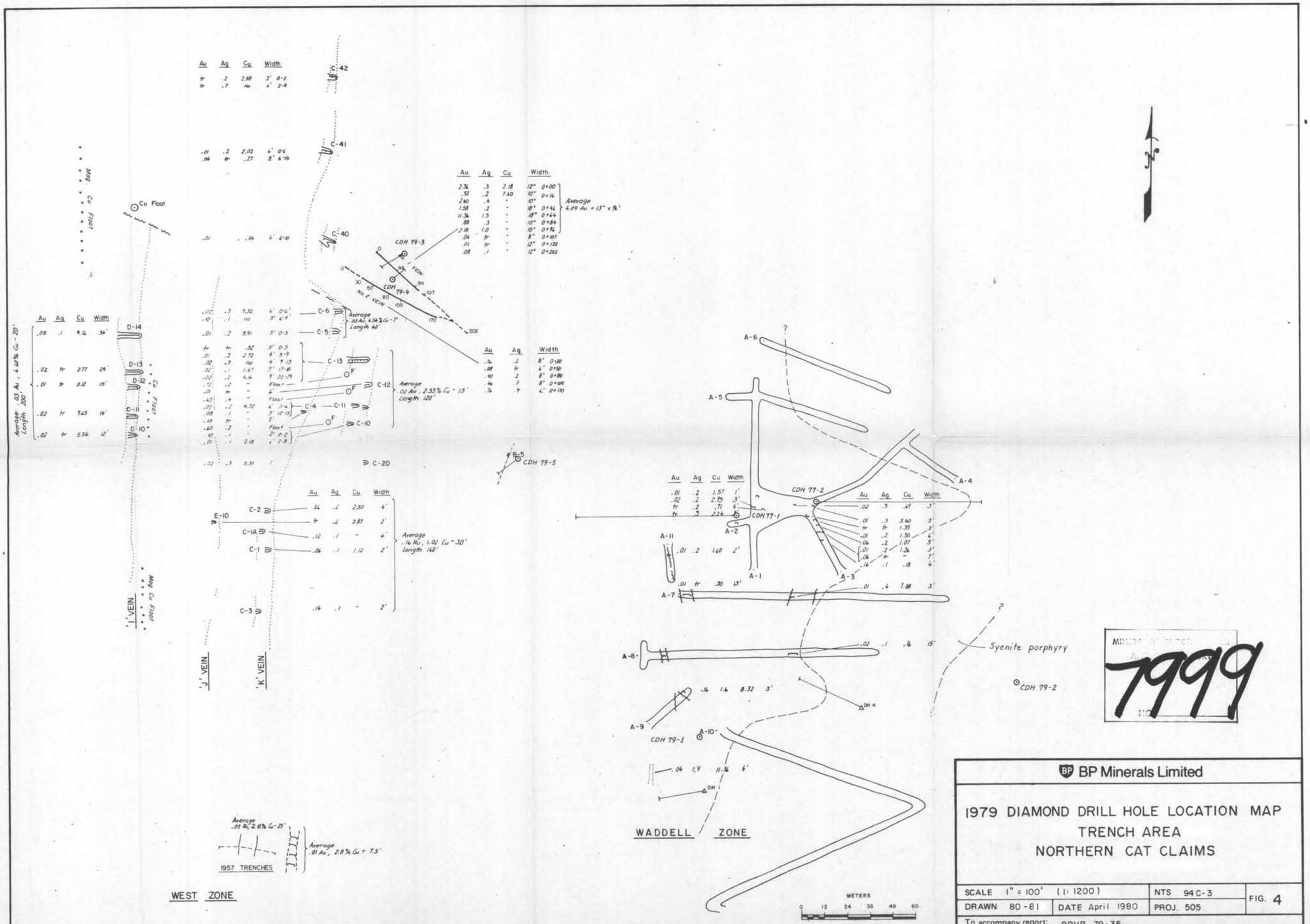
SCALE

0 500 1000 METERS
0 1000 2000 3000 4000 FEET

BP Minerals Limited

GEOLOGY MAP OF THE CAT CLAIMS SHOWING TRENCHES, ROADS & DIAMOND DRILL HOLES

SCALE 1:12000	(1"=1000')	NTS 94 C 3	FIG 3
DWG No. 80-80	DATE April 1980	PROJ. 505	
To accompany report: BPVR 79-35			



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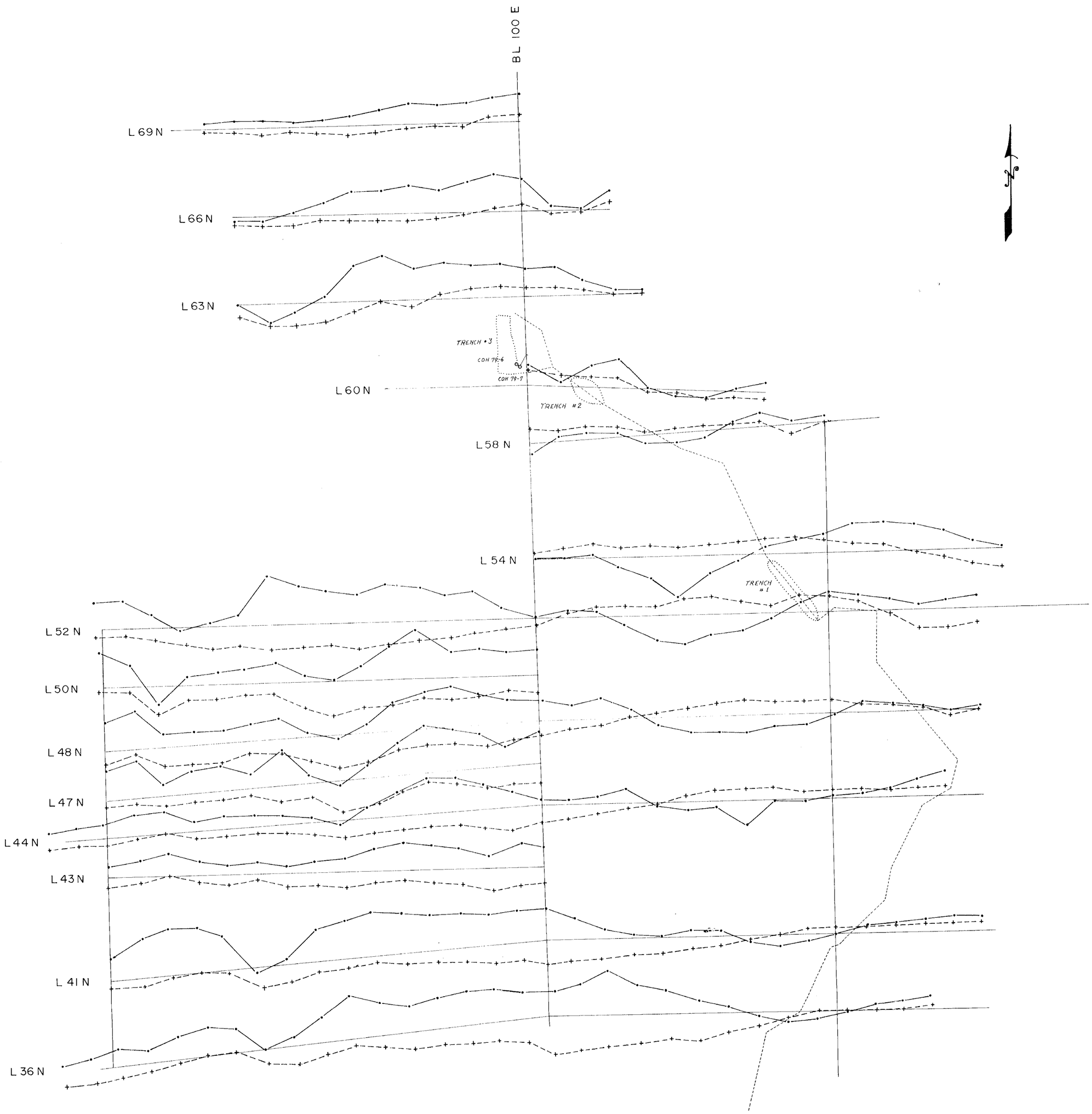
1979 DIAMOND DRILL HOLE LOCATION MAP TRENCH AREA NORTHERN CAT CLAIMS

SCALE 1" = 100' (1: 1200)		NTS 94 C-3	FIG. 4
DRAWN 80-81	DATE April 1980	PROJ. 505	
To accompany report: BPVR 79-35			



LEGEND

% IN PHASE - 1cm = 10%

% OUT OF PHASE (Quadrature) - 1cm = 10%

POSITIVE AXIS DIRECTED TO NORTH

NOTE: ALL READINGS TAKEN WITH OPERATOR FACING EAST
RECEIVER TUNED TO TRANSMITTER NLK (Seattle, Washington; 18.6 kHz)

Tote Trail

Trench

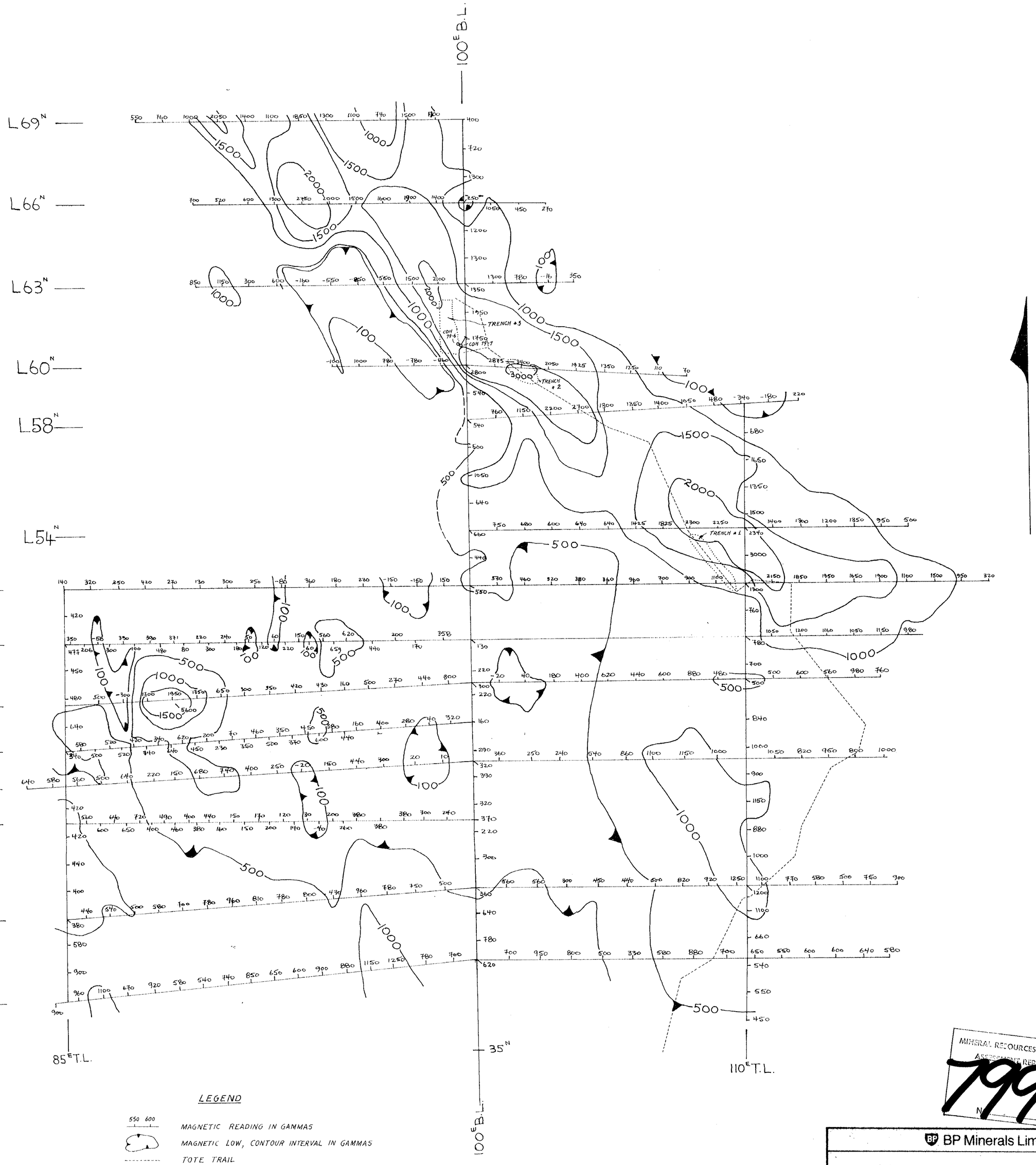
Diamond Drill Site

METRES
0 24 48 72 96 120

BP Minerals Limited

SOUTHERN CAT CLAIMS
GROUND E.M.-16 SURVEY

SCALE 1:2400		NTS 94 C 3	FIG. 5
DWG No 80 - 82	DATE April 1980	PROJ. 505	
To accompany report: BPVR 79-35			



LEGEND

- 550 600 — MAGNETIC READING IN GAMMAS
- MAGNETIC LOW, CONTOUR INTERVAL IN GAMMAS
- TOTE TRAIL
- AREA OF TRENCHING
- DIAMOND DRILL HOLE SITE

METERS
0 24 48 72 96 120

BP Minerals Limited

SOUTHERN CAT CLAIMS
GROUND MAGNETIC SURVEY

SCALE 1: 2400		NTS 94 C 3	FIG. 6
DWG No. 80 - 83	DATE April 1980	PROJ. 505	
To accompany reports: BPVR 79 -35			