REPORT OF THE 1979
DIAMOND DRILLING PROGRAM
ON THE BIRD MINERAL CLAIMS
No's 4, 6, 8, 10, 12, 14, 15-40, 41 (Fr), 42-44

Owned by BP MINERALS LIMITED

Situated in the WREDE RANGE AREA

of the Omineca Mining Division, B.C.

Located 12 miles NNW of Johanson Lake, B.C.

NTS 94D/9 at 126°22'N Longitude, 56°45'W Latitude

by M.D. Bradley
W.R. Clark

Sept. 5, 1979

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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

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

August 28, 1979
Vancouver, B.C.

Michael D. Bradley
BP Geologist

SUMMARY

During the period July 25 to August 5, 1979, a total of 101.4 metres coring was completed in 4 diamond drill holes on Bird Claims 21 and 24. The objective of the program was to test the nature and north-south extent of a copper-molybdenum mineralized quartz stockwork, exposed along Stockwork Creek. The east-west extent of this mineralized zone was tested by 2 diamond drill holes in 1976. Diamond drilling was undertaken by Drilcor Industries Limited utilizing a Winkie drill.

Each of the diamond drillholes transected fine grained andesitic tuff extensively intruded by quartz-feldspar granodiorite porphyry dykes. The tuff and porphyry are highly fractured and sheared and exhibit strong propylitic alteration. A 22 m section of tuff (?) in hole 4 is strongly silicified. Porphyry dyke contacts are commonly sheared. Structures are commonly oriented on azimuth 135^{o} to 156^{o}, dipping steeply north-east. Shearing in Stockwork Creek is post intrusion.

Fine-grained pyrite cubes are found in quartz $\pm$ epidote veinlets and as disseminations, in quantities from 2% to 6%, throughout diamond drill holes 1 and 4. Holes 2 and 3 contain trace disseminated pyrite.

Trace chalcopyrite and malachite are noted in quartz-pyrite veinlets $\pm$ magnetite $\pm$ MoS_2 $\pm$ calcite, in the upper 32 metres of hole 1. Quartz veinlets containing fine-grained blebs and "smears" of MoS_2 $\pm$ fine grained pyrite are present, in quantities of 1 to 3 veins per metre, in intermittent sections of hole 1 and hole 4.

INTRODUCTION

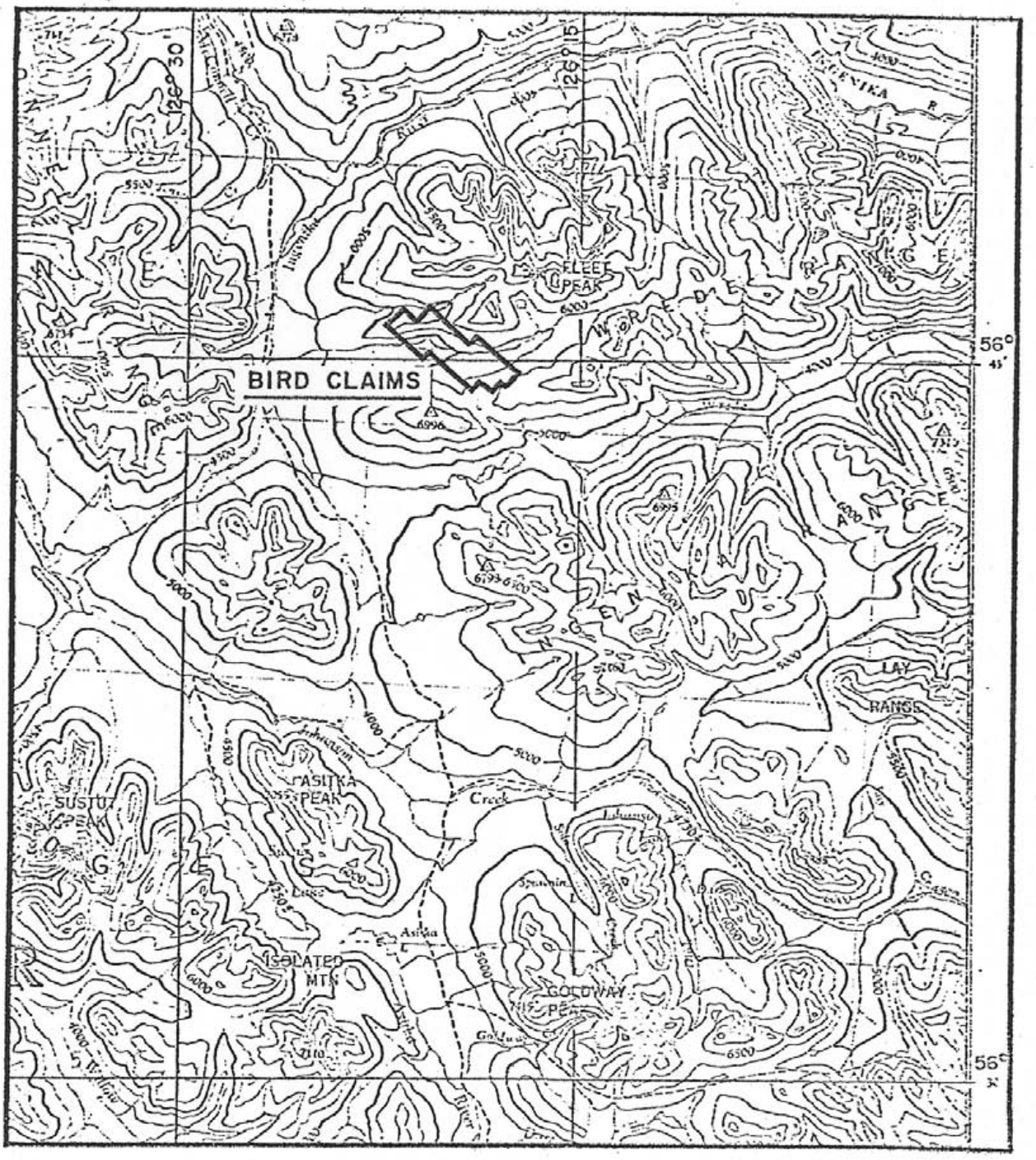
From July 25 to August 5, 1979, a Winkie Diamond Drill, on contract from Drilcor Industries Limited of Richmond, B.C., drilled a total of 101.4 metres in 4 I-Ex diameter holes, on Bird Claims 21 and 24. The drill was mobilized to Johanson Lake by truck, then by helicopter to the property. All drill moves and supply were accomplished by helicopter. Drilcor supplied camp, drill, equipment, a driller and helper on 10-hour shift and room and board for a BP geologist.

The holes were drilled along Stockwork Creek to test the nature and north-south extent of a copper-molybdenum quartz stockwork located on Line 132N 193E. Core recovery was poor in drill holes 2, 3 and 4 due to highly fractured rock. Core was logged on the claims, split for assay and relogging off property and is now stored in Vancouver. Stockwork Creek was geologically mapped at a scale of 1:3,000 between lines 124N and 140N. Cut lines 124N, 132N, 140N and base line 100E were reflagged for control purposes.

This report summarizes the results of diamond drilling and detailed geological mapping.

LOCATION AND ACCESS

The Bird claims are situated in the Omineca Mining Division, 21 kilometres northwest of Johanson Lake and 6 kilometres southwest of Fleet Peak in the Wrede Range Mountains.



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LOCATION MAP
BIRD CLAIMS
OMINECA MINING DIVISION, B.C.

SCALE 1 Inch = 4 Miles		NTS 94D	FIG. 1
	DATE Sept. 1979	PROJ. 505	
To accompany report:			

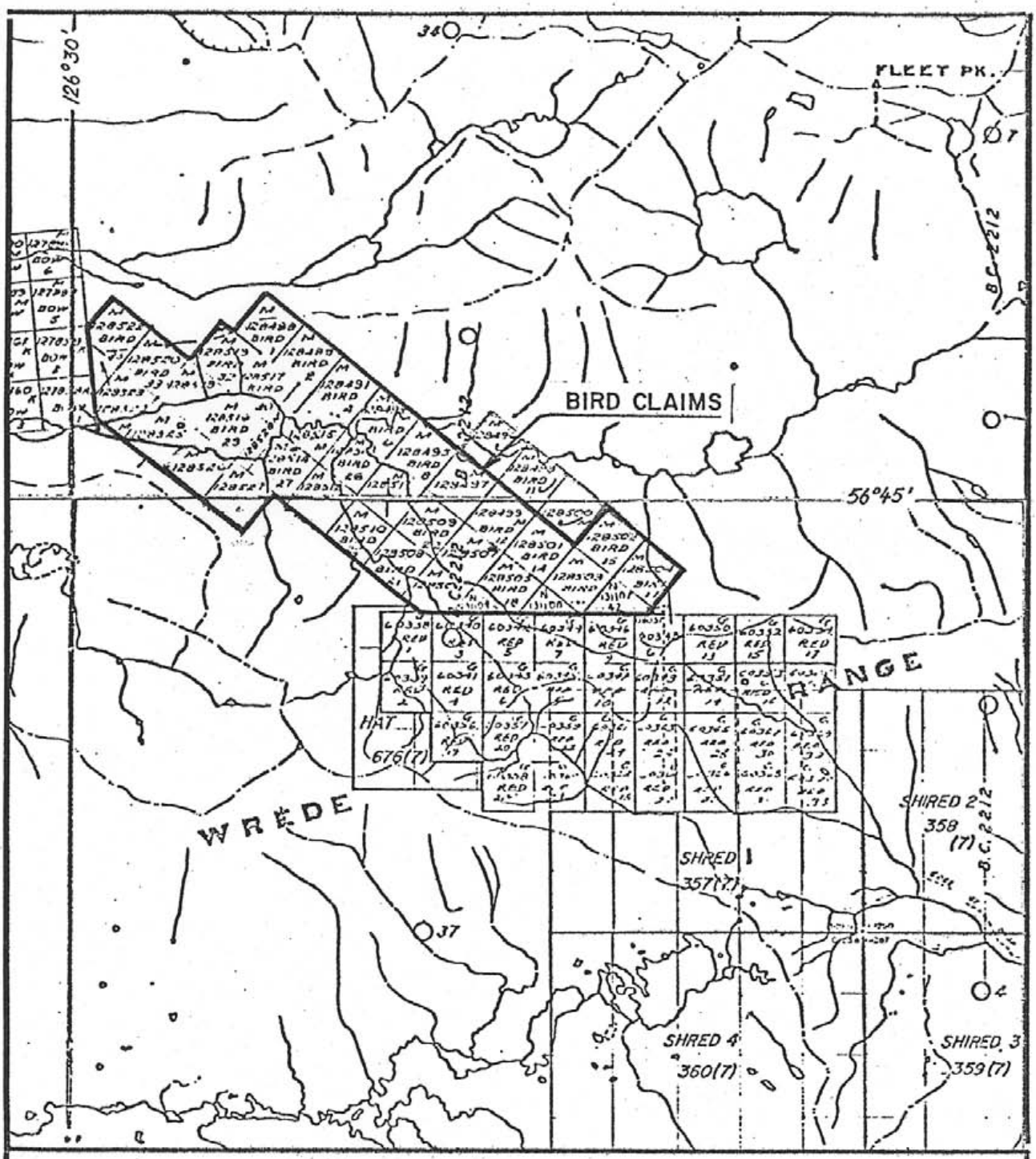
Access to the property is by helicopter. Johanson Lake lies on the Omineca Road which extends from Fort St. James to Moose Valley near Sustut Peak.

CLAIMS OWNERSHIP

The Bird Group comprises 35 mineral claims; 35 full size claims - Bird 4, 6, 8, 10, 12, 14, 15 to 40, 42 to 44 and one fraction - Bird 41 FR. All Bird claims are wholly owned by BP Minerals Limited. All work completed on these claims was paid for by BP Minerals Limited.

TOPOGRAPHY AND VEGETATION

The Bird claims cover a 0.5 kilometre wide, east-west trending, U-shaped valley and segments of boundary ridges in the northwest and southeast of the claims area. The valley floor adjacent to Fleet Creek, at elevation 1494 metres, is overburden covered and gently rolling. Fleet Creek is the major drainage for this valley and meanders westward into Pendant Lake, thence into the Ingenika River. Fleet Creek Valley rises steeply, along its northern and southern sides to rugged ridge lines, with an elevation of 2040 metres. An area south of Bird 42 to 44 is rolling and markedly recessive.



MILES
0 .5 1 1.5 2
0 500 1000 2000 3000
METRES

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BIRD CLAIMS
ORIENTATION - STATUS MAP

SCALE 1 : 50,000		NTS 94 D-9	FIG. 2
	DATE Sept. 1979	PROJ. 505	
To accompany report:			

A mantling overburden in excess of 2 metres thick, conceals bedrock over most of the southern 75% of the Bird claims. Bedrock is exposed along Stockwork Creek, its left fork, along Tough Creek and in a few scattered outcrop.

The tree line is at 1620 metres. Vegetation above the tree line consists of grass, mosses and lichens. Scrub spruce predominates at lower elevations with alder and grass common in open boggy areas.

HISTORY

Cominco staked the Red Group in the 1930's to secure a copper prospect in quartz diorite porphyry, immediately south of Bird claims 42 to 44. Geological mapping, geochemical sampling, geophysical surveys, and diamond drilling programs were conducted on the Red Group from 1968 to 1973. Last known work on the claims was completed in 1977.

The Bird claims were staked by BP Minerals in September 1973 to hold ground contiguous to the Red Claims, having anomalous copper-molybdenum response in soils and stream sediment samples. Geological mapping, geochemical sampling, ground magnetometer and I.P.-resistivity surveys, diamond drilling and overburden drilling programs were completed in the years 1974, 1976, 1977.

GENERAL GEOLOGY

The Bird claims are underlain by volcanic and volcaniclastic rocks of the Upper Triassic Takla Group intruded, along a northwest trend, by dykes of quartz-feldspar granodiorite porphyry. Other intrusions include a poorly exposed gabbro dyke (?) southwest of Stockwork Creek and biotite granodiorite pluton, of Cretaceous age, in the east of the claims area and the Red claims Jura-Cretaceous diorite stock, with associated quartz diorite porphyry and microdiorite border phase.

Takla Group andesitic tuffs are commonly massive and moderately to strongly fractured. Near the contact with the granodiorite porphyry on the Bird claims and diorite-quartz diorite porphyry of the Red Claims, the volcanics are strongly fractured, altered to propylite and impregnated with pyrite and silica. In the southwest of the Bird claims, thinnly bedded, highly contorted tuffs and turbidites commonly strike northwest and dip 20^{o} southwest.

The gabbro dyke (?) and granodiorite pluton are commonly weakly to moderately fractured and jointed and weakly altered to chlorite. The quartz-feldspar granodiorite porphyry and quartz diorite porphyry (Red claims) are moderately fractured, healed with quartz-pyrite $\pm$ calcite $\pm$ epidote veins and exhibit moderate to strong propylitic alteration.

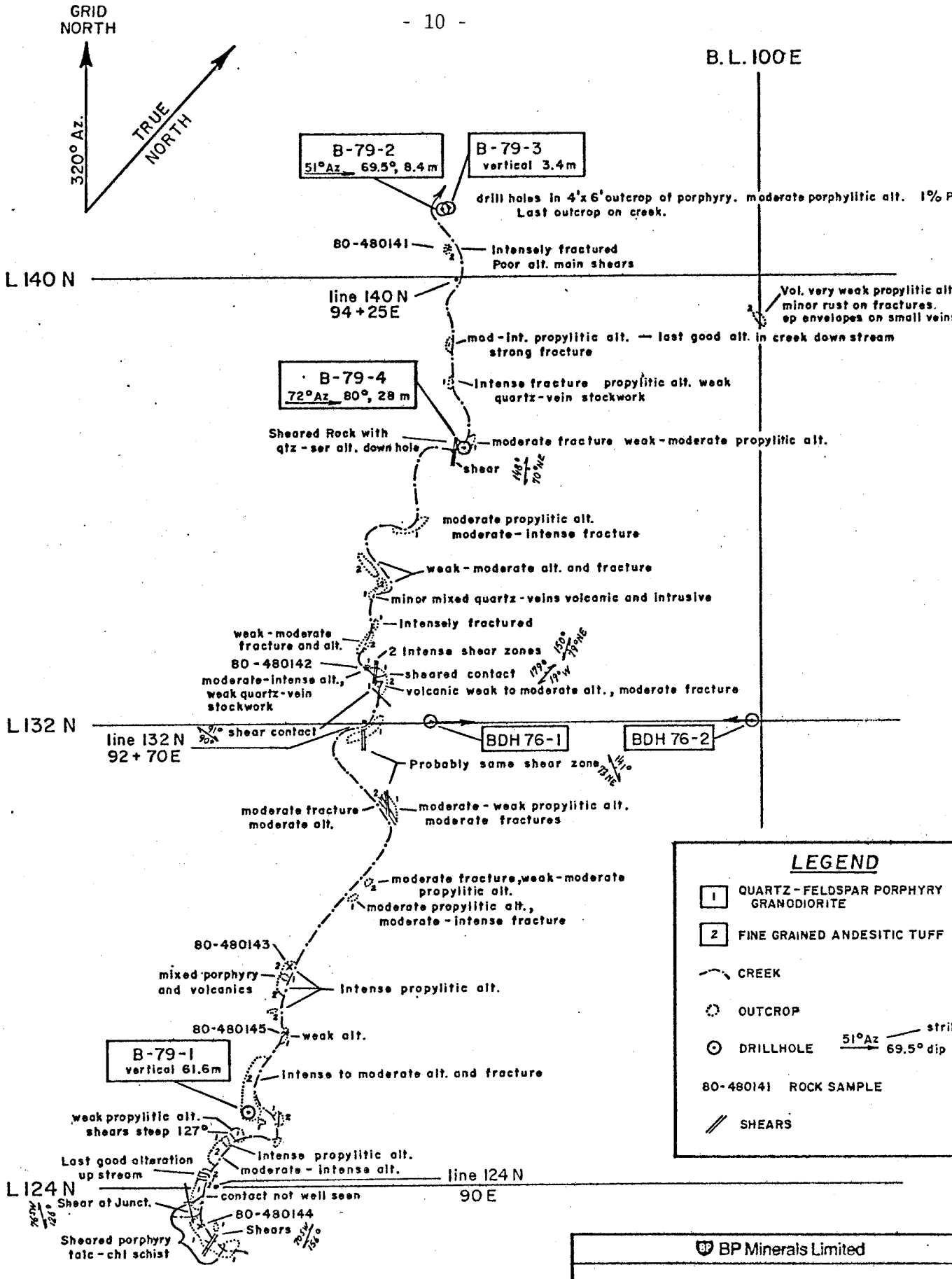
Sulphide mineralization occurs in quartz veins and less commonly as fracture fill and disseminations.

The prominent regional structural trend, outlined by Stockwork and Tough Creeks is northwesterly. Fractures and shears exposed in outcrop along Stockwork Creek, sub-parallel this trend and dip 70^{o} to the northeast. Further to the south on the Red claims faults, shears, fractures and veins commonly strike north, northeast and west-northwest.

DESCRIPTION OF GEOLOGICAL UNITS

The following description of units is based on detailed examination of 1979 diamond drillcore and of bedrock exposed along Stockwork Creek.

1) Andesitic Tuff: The tuff is a dark green, fine grained, massive, moderately fractured rock which contains small quantities of disseminated pyrrhotite blebs in weakly altered outcrop. The tuff matrix is pervasively, weakly to moderately altered to chlorite, in outcrop separate from hydrothermally altered zones. Tuffaceous fragments, commonly less than 1 mm in diameter, and rarely 2 mm diameter, comprise approximately 30% of the rock. In propylitic alteration zones the fragments are altered to epidote or chlorite. Along Stockwork Creek the tuff is



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DETAILED GEOLOGY STOCKWORK CREEK BIRD CLAIMS

SCALE 1:3,000		NTS 94 D	FIG. 3
	DATE Sept. 1979	PROJ. 505	

To accompany report

commonly moderately to intensely fractured and sheared on azimuth 135° to 156°, with dips 70° northeast. In this area it is common for quartz-pyrite veinlets to have epidote envelopes from 1 to 2 mm in width.

2) Quartz-Feldspar Granodiorite Porphyry: The porphyry is exposed for at least 530 metres along Stockwork Creek, where it extensively intrudes andesitic tuffs. In less altered zones the porphyry is medium green in colour, with weak to moderate chlorite alteration of the ground mass. It commonly contains 50% phenocrysts up to 2mm in diameter composed of approximately 10% quartz and 90% feldspar and may resemble a crystal tuff. The unit is typically moderately to intensely fractured. In zones of strong propylitic alteration the porphyry is light green in colour and many feldspar phenocrysts are altered to epidote. Quartz-pyrite veins in this unit commonly have epidote envelopes, although these are not as prominent as in the tuff. Weak quartz stockworks are developed in porphyry at 133N and 138N in Stockwork Creek. The stockworks contain less than 2% pyrite and trace quantities of fine-grained chalcopyrite or malachite.

3) "Bleached", Quartz-Sericite (?) Altered Rock: This unit was intersected from 5 to 28 metres in BDH 79-4 and is not represented in outcrop. The unit is so

intensely altered that it is now unidentifiable. It has a white to light gray-green colouration with fine-grained, white or gray-green mottling. The unit was originally intensely propylitically altered but most chlorite and much epidote has been "bleached out" by the second alteration event. Remnants of epidote envelopes around quartz-pyrite veins and of altered feldspar phenocrysts are visible in the unit. The rock is hard but appears to have been severely faulted. Core recovery was very poor in this unit and much clay was expressed in the water returned uphole.

SUMMARY OF DIAMOND DRILL HOLE GEOLOGY

1) BDH 79-1

Grid Location: 125+95N / 90+60E

Attitude: Vertical Depth: 61.6 m

Average Core Recovery: 84%

Core Size: I-EX, Elevation 1554.9 m

RATE OF PROGRESS: 15.4 metres/shift

GEOLOGY: The hole was collared in altered andesitic tuff which is intruded by altered quartz feldspar granodiorite porphyry, downhole. Both units are moderately to intensely fractured. The average number of

FIGURE 4

LEGEND FOR BIRD DRILL HOLE CROSS - SECTIONS

ROCK TYPES

FINE GRAINED ANDESITIC TUFF

QUARTZ - FELDSPAR GRANODIORITE PORPHYRY

ALTERATION SO INTENSE THAT TUFF AND PORHYRY AND CANNOT BE TOLD APART

STRUCTURE

SHEAR ZONES

PROMINENT FRACTURE SET

	VEINS/METER FRACTURES/METER	% DISSEMINATED PY/METER % PY IN VEINS / METER	VEINS MoS_2 /METER
BLANK	0 - 5	0 - 1	0
	6 - 10	1 - 2	1
	11 - 15	2 - 3	2
	16 - 20	3 - 4	3
	21 - 25	4 - 5	4
	26 - 30	5 - 6	5

ALTERATIONS

	CHL (chlorite)	EP (epidote)	SiO_2 (Bleaching)
BLANK	NIL	NIL	NIL
	weak alt. of mafics	weak alt. of feld. to ep + 1mm envelopes	weak bleaching of chl. + mafics
	weak - moderate	weak-moderate	weak - moderate
	moderate alt. of mafics	moderate alt. of feld. to ep + 1mm envelopes	moderate bleaching almost no chl. or mafics, some loss of ep
	moderate - intense	moderate to intense	moderate to intense
	intense alt. of mafics	intense alt. of feld to ep + 2mm envelopes	intense bleaching, no chlor mafics left, ep almost totally gone.

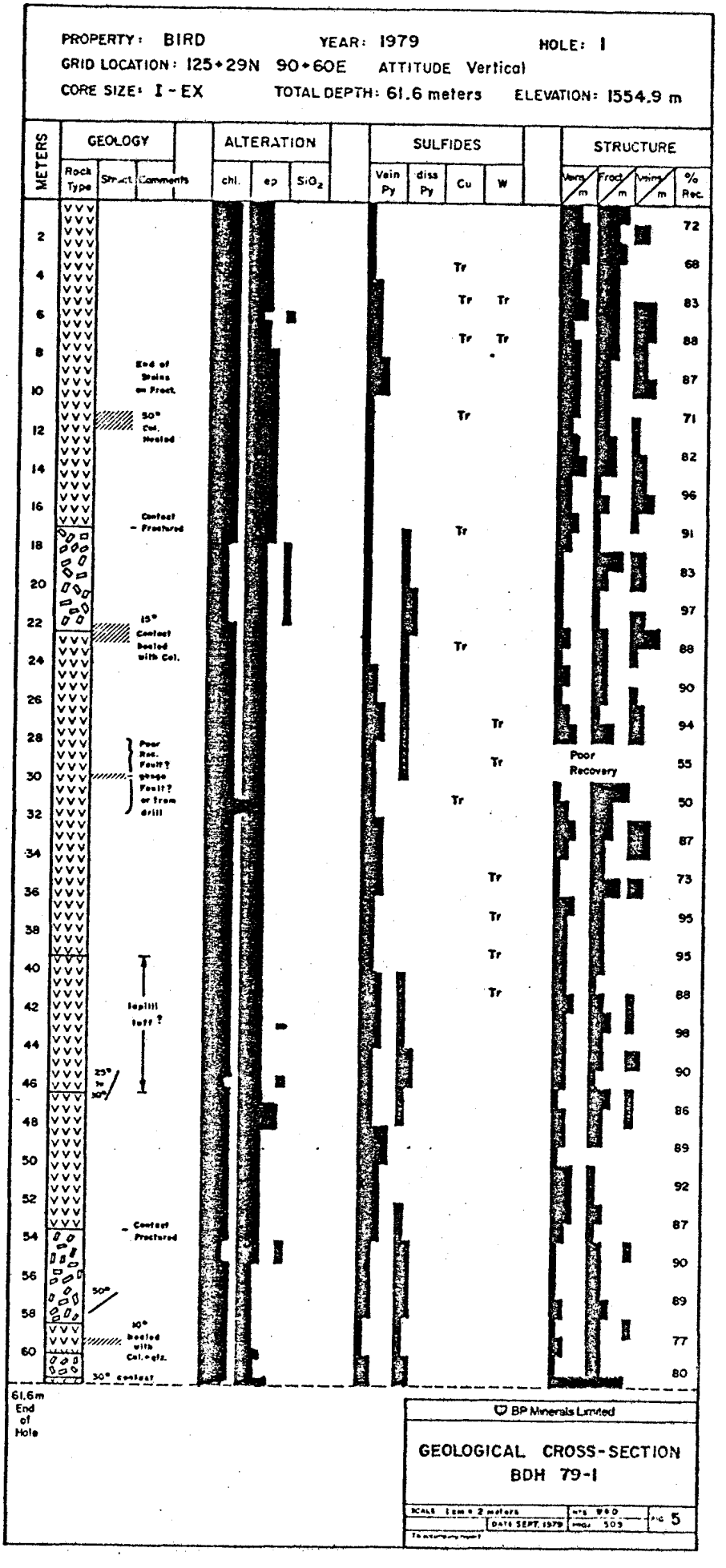
NOTES:

% Pyrite in veins – % of pyrite averaged over 2m of rock - mode of occurrence - veins.
– predominantly quartz-pyrite fracture fill veinlets ± epidote ± epidote envelopes

Veins MoS_2/meter – smears and blebs in quartz fracture fill veinlets ± pyrite.

Trace Cu – chalcopyrite or malachite in quartz - pyrite fracture fill veinlets ± magnetite ± calcite ± MoS_2

Trace W – disseminated fine grained scheelite in quartz - pyrite veinlets ± epidote envelopes


PROPERTY: BIRD
YEAR: 1979
HOLE: I
GRID LOCATION: 125+29N 90+60E
ATTITUDE Vertical
CORE SIZE: I - EX
TOTAL DEPTH: 61.6 meters
ELEVATION: 1554.9 m
METERS
GEOLOGY
Rock Type
Struct.
Comments
ALTERATION
chl.
ep
SiO2
SULFIDES
Vein Py
diss Py
Cu
W
STRUCTURE
Vein/m
Fract/m
Veins/m
% Rec.
End of Stains on Fract.
50° Cal. Healed
Contact - Fractured
15° Contact healed with Cal.
Poor Rec. Fault? gouge Fault? or from drill
lapilli tuff ?
25° to 30°
Contact Fractured
50°
10° healed with Cal.+qtz.
30° contact
Poor Recovery
61.6m End of Hole
BP Minerals Limited
GEOLOGICAL CROSS-SECTION
BDH 79-1
SCALE 1cm = 2 meters
DATE SEPT. 1979
FIG 5

quartz-pyrite veins in the tuff is approximately 16 veins/metre; however, veining is apparently more intense in the upper 18 metres of the hole. Veining is less pronounced in the porphyry and would average 10 veins/metre. Fracture density is highly variable throughout the hole but would average perhaps 16 fractures/metre for both units, with a suggestion of more intense fracturing in the upper 20 metres of the hole.

A fault is indicated by clay "gouge" at 30 metres in the tuff unit.

Propylitic alteration is moderate to intense throughout the hole, in tuff and porphyry. Weakly silicified sections are noted at 6m, 20m, 43m, 46m, 55m and may be linked with the presence of disseminated pyrite in these zones.

Contacts between the porphyry and tuff are fractured and sheared by post intrusion structure, but are apparently sharply gradational.

Pyrite is present in quartz veinlets ($\pm$ epidote, $\pm$ epidote envelopes as fine-grained crystals) throughout the hole but apparently is more prevalent below 24 metres (averaging 4%), than above (averaging 2%). As vein density appears to decrease below 18 metres the implication is that fewer quartz veins contain

more pyrite with depth. Sections of disseminated pyrite coincide with silicified zones and/or porphyry intrusion suggesting an hydrothermal source for the sulphides.

MoS_2 is present as "blebs" and "smears" in an average of 2.5 quartz veinlets/metre above 36 metres but appears to decrease downhole, coinciding with a general decrease in quartz-pyrite veinlets.

Copper, as chalcopyrite and malachite, occurs in trace quantities as fine grained disseminations in quartz-pyrite veinlets above 42 m. The decrease of copper content downhole coincides with a decrease in quartz-pyrite veinlet density. The hole was terminated at 61.6 metres.

2) BDH 79-2

Grid Location: 141+23N / 94+47E

Attitude: Azimuth 51°, dip 69.5 Depth: 8.4 metres

Average Core Recovery: 43%

Core Size: I-EX, Elevation 1509.14 m

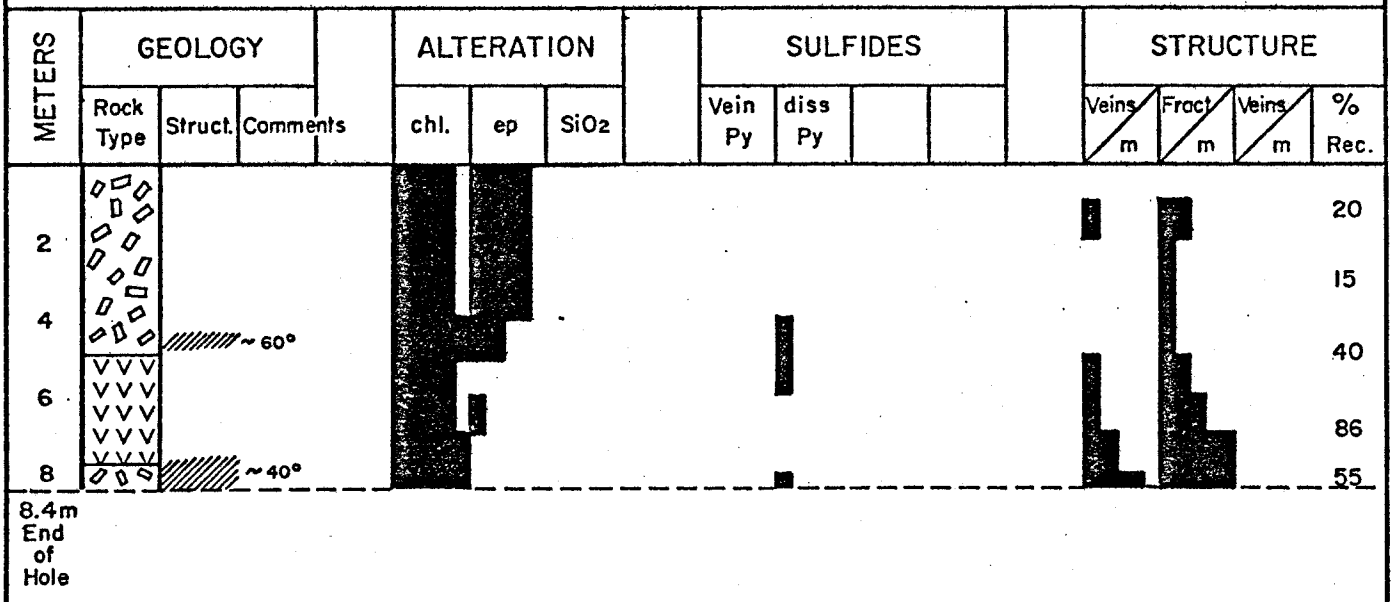
RATE OF PROGRESS: 8 metres/shift

GEOLOGY: The hole was collared in moderately fractured granodiorite porphyry which is moderately to intensely altered to chlorite and epidote. A short section of intensely chloritized tuff was transected from 4.9 m to 7.8 m. The hole was abandoned in caved ground,

PROPERTY: BIRD YEAR: 1979 HOLE: 2

GRID LOCATION: 141+23N 94+47E ATTITUDE: Bearing 51° plunge 69.5°

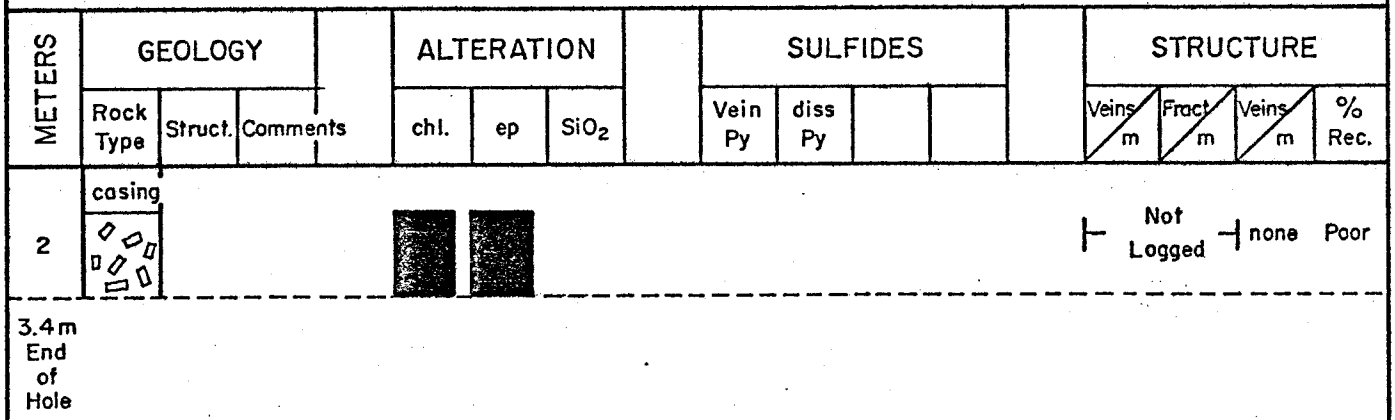
CORE SIZE: I - EX TOTAL DEPTH: 8.4 meters ELEVATION: 1509.14 m



PROPERTY: BIRD YEAR: 1979 HOLE: 3

GRID LOCATION: 141+25N 94+53E ATTITUDE: Vertical

CORE SIZE: I - EX TOTAL DEPTH: 3.4 meters ELEVATION: 1509.14 m



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GEOLOGICAL CROSS-SECTION
BDH 79-2, BDH 79-3

SCALE 1cm = 2meters		NTS 94 D	FIG. 6
	DATE SEPT. 1979	PROJ. 505	

To accompany report

in granodiorite porphyry, at 8.4 metres. Core recovery in the tuff section was 86%, markedly better than in the porphyry.

Fracture and quartz-pyrite veinlet density definitely increases downhole. Fractures in the tuff are healed by quartz-calcite ± pyrite±magnetite ± hematite.

Contacts between tuff and porphyry are sheared at 40^{o} and 60^{o} to the core axis.

Pyrite is present as fine-grained disseminations in quantities less than 1% and in trace amounts in quartz ± calcite veinlets. A section from 4m to 6m and at 8m, covering the tuff-porphyry contacts, contains 2% disseminated pyrite.

The core was not assayed.

3) BDH 79-3

Grid Location: 141+25N / 95+53E

Attitude: Vertical Depth: 3.4 metres

Average Core Recovery: 15%

Core Size: I-EX Elevation: 1509.14 m

RATE OF PROGRESS: 3.4 metres/shift

GEOLOGY: The hole was collared in highly fractured granodiorite porphyry outcrop on Stockwork Creek. It was located 2 metres northeast of BDH 79-2 to overcome the

difficult ground conditions that terminated hole 2. Hole 3 was abandoned at 3.4 metres due to cave and poor core recovery.

The porphyry is intensely fractured and exhibits propylitic alteration. Pyrite content is less than 1%. No core was assayed.

4) BDH 79-4

Grid Location: 137+90N / 94+35E

Attitude: Azimuth 72°, dip 80° Depth: 28 metres

Average Core Recovery: 19%

Core Size: I-EX Elevation: 1513.72 m

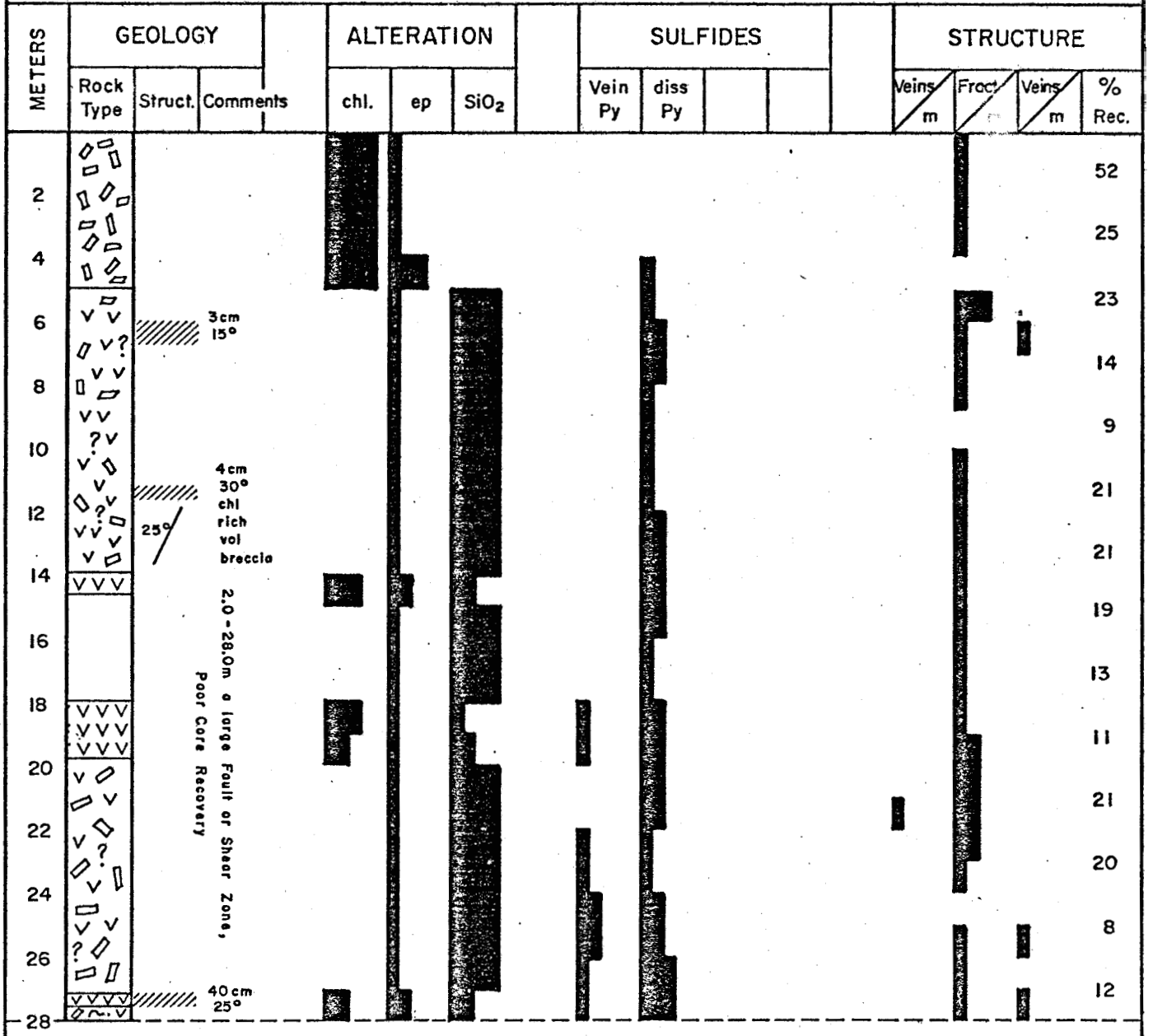
RATE OF PROGRESS: 7 metres/shift

GEOLOGY: The hole was collared in moderately fractured and weakly propylitically altered quartz-feldspar granodiorite prophyry. Intensely altered and fractured rock was transected, from 5.1m to 28m, which contains narrow sections identifiable as propylite. Core recovery in this altered section averaged 16%. Primary alteration appears to have been propylitic with a secondary overprint of intense silicification which has "bleached out" most chlorite and much original epidote. The rock is too altered to determine its original composition but the presence of less altered volcanics in the sequence suggests that andesitic tuff comprises the bulk of the original rock type.

PROPERTY: BIRD YEAR: 1979 HOLE: 4

GRID LOCATION: 137+90N 94+35E ATTITUDE: Bearing 72° Plunge 80°

CORE SIZE: I - EX TOTAL DEPTH: 28.0 meters ELEVATION: 1513.72m



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GEOLOGICAL CROSS-SECTION BDH 79-4

SCALE 1cm = 2 meters		NTS 94 D	FIG. 7
	DATE SEPT. 1979	PROJ. 505	

To accompany report:

MoS_2) extends in outcrop along Stockwork Creek from 124N, 90E to 139+40N, 94+25E. Outcrop upstream of 124N and downstream of 139+40N are weakly altered and contain trace quartz-pyrite veinlets. Shearing and fracturing is pervasive in all outcrop.

2) The quartz-feldspar granodiorite porphyry dykes and intruded tuff are propylitically altered in similar degree. They are equally fractured and healed by quartz-pyrite veinlets. Porphyry-tuff contacts are fractured and sheared by post-intrusion, post-mineralization faults, in part healed by calcite.

3) The porphyry and tuff are both cut by quartz-pyrite veinlets containing copper and molybdenum sulphides. In hole BDH 79-1 economic minerals appear to be concentrated above 42m.

4) Copper and molybdenum are noted only in quartz-pyrite veinlets - they apparently do not occur with disseminated hydrothermal pyrite.

5) Intense quartz-sericite (?) alteration in BDH 79-4 and weak silicification in BDH 79-1 apparently postdates propylitic alteration of the tuff and intrusive porphyry.

Disseminated, fine-grained, crystalline pyrite is present throughout the section. The porphyry contains less than 1% pyrite but quantities appear to increase gradually toward the bottom of the hole - the bottom 2m contains 6% disseminated pyrite. Pyrite in quartz veinlets occurs in the bottom 10 metres of the hole.

MoS_2 is noted in quartz-pyrite veinlets at 6.5m, 25.5m and 27.5m.

RESULTS

Drill holes BDH 79-1 and BDH 79-4 yielded useful information as to the nature and extent of the granodiorite porphyry and the copper-molybdenum mineralized stockwork. Core recovery in holes BDH 79-2 and BDH 79-3 was too limited to provide useful information. The following results are stated:

1) The mineralized quartz stockwork is weakly developed in outcrop at 138+30N, 94+25E, 133N, 92+60E and very weakly developed at 132N, 92+70E. While quartz-pyrite veinlets $\pm$ MoS_2 $\pm$ chalcopyrite are numerous healing fractures in BDH 79-1; no quartz stockwork was encountered in any of the 1979 holes. The zone of moderate to intense propylitic alteration and quartz-pyrite veining ($\pm$ epidote $\pm$ trace chalcopyrite $\pm$ trace

There is a tenuous suggestion that disseminated (rather than vein) pyrite in the section is associated with silicification. The porphyry contains disseminated pyrite; however, and may be present in the intensively altered section of hole 4.

6) The quartz-feldspar granodiorite porphyry does not appear to have been a mineralized intrusion. At most it contributed a small amount of sulphur to the tuffs.

7) Assay results are inserted in Appendix 4.

APPENDICES SECTION

INCLUDES APPENDICES 1 to 7

DRILL LOG

SHEET NO.

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION

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

2 meter interval

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Ft	STRUCTURE F/Ft	Graph Log
				Drill Log Explanation for Bird Claims Under lithology, Rock Type is described for a unit length e.g. 2.7 m to 8.3 m Anything unusual is described; e.g. particular items or competence of the rock, often angles at which structures cut core are given	Alteration is given for each rock type e.g. 2.7 m to 8.3 m and for changes within the rock type e.g. 3.8 to 4.2 m	% Py and mode of economic mineralization estimates of MoS_2 and Cu	Angles at which fractures cut core	Veins per meter	Fractures per meter	Veins MoS_2 per meter
		2m 10	50	Core Recovery and length; this is taken over # of pieces of core over 8 cm in length						
				common abbreviations (not always used) pyrite - Py molybdenite - Mo epidote - ep quartz - qtz magnetite - Mag calcite - cal						

BP FORM NO. 75-1

APPENDIX 1

WRITTEN GEOLOGICAL LOG

for DIAMOND DRILL HOLE BDH 79-1

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	SHEET NO.
Bird Claims	125+29N 90+60E			1554.88m (5100')	1 / 7

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
July 26, 1979	July, 29, 1979	Vertical hole	1 EX	61.6m	D.D.H. 1

	DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	V/B	F/M	[illegible]
0m	0m	5.85m	2m	72	-Dark Green Andesitic TUFF Fragments about 30% and Generally <1mm in diameter often altered to epidote. Many Quartz Pyrite veins (~1mm) with small (<1mm) epidote envelopes. Rock is generally well Fractured. 1.3m - 2mm qtz-py-Mo vein 15° cuts and is cut by qtz-py-ep veins 1.75m - .5cm qtz-py vein 35° no epidote envelope 1.9m - .5cm qtz-py-Mo Vein 20°	-Propylitic - Matrix is Dark green From chlorite alteration, Fragments are commonly altered to epidote or chlorite. Small epidote envelopes (1mm) on Fractures and Quartz-pyrite veins are common. Many Fractures and veins have limonite and Black Manganese stains.	2% Pyrite in Quartz Veins none diss. Minor Mo seen in Quartz - Pyrite - Molybdenite Veins. estimates .01% MoS2 Cu nil	10° 35° 60° [illegible] 45°	16 22	22 17	Q 2
2m			2m	68	2.75m - Rock Badly Broken up 2.6-3.8m Rock Badly Broken up 3.7m - Minor Malachite on Fracture		2% Pyrite in Quartz Veins none diss. estimates MoS2 nil Cu nil Minor Malachite on Fracture.	25° 45° 30° 35° 10° 40°	24 16	23 18	0 0
4m			2m	83	4.4m - 4cm Rock is 30% epidote mostly envelopes 5.4m - .6cm qtz-py-Mo - Magnetite vein 35° cuts small qtz-py-ep veins 5.7m - .5cm qtz-py-Mo Vein 45° cuts a 1cm epidote zone. - also minor scheelite in 1mm qtz-py vein with epidote envelope 5.75m - Minor Malachite on Fracture	4.9-8.8 Limonite + Black Manganese staining on Fractures and veins is very Minor.	3% Pyrite in Veins not diss. estimates .02% MoS2 .01% Cu Minor W seen in qtz-py vein Minor Mo seen in qtz-py-Mo Veins Minor Malachite seen on Fractures	50° 35° 50° 50° 15° 35°	20 21	18 20	0 3
	5.85m	6.3m			-Dark Green Andesitic TUFF Fragments about 35% and about 1.5mm in diameter, often altered to epidote; Rock well Fractured.	Propylitic - slightly siliceous, Matrix is Dark Green From chlorite alteration, some					
6m	6.3m	17.0m	2m	88	Apparent change in Fragments may be due to [illegible] siliceous alteration. 5.9 to 6.0m Badly Broken Rock 6.1 and 6.2m minor Malachite on Fractures -Dark Green Andesitic TUFF Fragments about 30% and Generally <1mm in diameter often altered to epidote. Many Quartz-Pyrite veins (~1mm) with small (<1mm) epidote envelopes. Rock is generally well Fractured. 6.8-7.0m Rock Badly Broken up 7.0m - 4cm qtz-Mo-py vein 70° 7.1m - ep-qtz-py-cal vein 70° 7.1m - scheelite in 1mm qtz vein with epidote envelope. 7.75m - 1cm ep vein 45°	Fragments altered to epidote, epidote envelopes not as strong as previously. Propylitic - Matrix is Dark green From chlorite alteration, Fragments are commonly altered to epidote and sometimes chlorite. Small (1mm) envelopes are Found on Fractures and small 1mm	2.5% Pyrite in Veins not diss. Minor W seen in qtz vein estimates .02% MoS2 .01% Cu Minor Malachite seen on Fracture Minor Mo seen in qtz-py-Mo Veins	85° 40° 30° 70° 80° 40° 35° 15°	13 17	18 16	3 [illegible]
8m			2m	87	8.5 - 3cm qtz-py-chl-ep-mag-cal vein 30° 8.5-8.8m Rock Badly Broken up 8.7m - 2cm Fragment of a qtz-ep-py-mag vein 9.1m - 2cm ep vein 55° 9.4m - 2cm ep vein 20° Rock ~~Fairly~~ Broken up. 9.4-10.0m minor cal on Fractures 9.9m Rock Badly Broken up.	Quartz - Pyrite Veins. 7.7-17.0m epidote envelopes are larger about 2mm 8.8 and 8 Limonite + Black Manganese stains on Fractures and Veins	4% pyrite in Veins not diss estimates .02% MoS2 Cu nil Minor Mo seen in qtz-py-Molybdenite Veins.	10° 60° 20° 45° 40° 65° 10°	20 18	14 15	2 3
10m											

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DRILL LOG

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	SHEET NO.
					2 / 7

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

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Ft	STRUCTURE F/Ft	Grade Lo
		2 m / 10	71	10.6 m - .3cm qtz-py-mag-cp Vein, 50° 11.0-11.9m - Rock is Badly Broken up Chl + cal on fractures probably a shear zone most fractures ∠ 50°		2% py in Veins, no diss estimates .01% to Nil MoS_2 .01% Cu Minor Cu seen in qtz-py-mag-cp Vein minor Mo seen qtz-py-Mo Vein	10°, 40°, 50°, 75°, 10°, 55°, 70°, 80°	17 / 13	13	0 / 1
12m		2 m / 9	81	12.7m - .5 to 2cm cal-qtz-py Vein 60° 12.7-13.2m - Badly Broken up Rock 12.7-17.0m qtz-py veins with epidote envelopes often have very minor calcite.		2% py in Veins, not diss estimates .01% MoS_2 Cu Nil Mo seen in qtz-py-Mo Veins	70°, 30°, 60°, 30°, 10°, 50°, 30°, 25°	18 / 21	17 / 16	1 / 2
14m		2 m / 12	96	14.3m - 4cm Zone of 50% epidote 15.0-15.3m Rock shattered and healed with qtz-py-cal.?-cp veins		2% py in Veins, not diss estimates .02% MoS_2 Cu Nil Mo seen in qtz-py-Mo Veins	20°, 25°, 10°, 25°, 65°, 10°, 25°	14 / 15	10 / 11	2 / 3
16m	17.0m	2 m / 9	91	Granodiorite? medium grained Feldspar Porphyritic Rock (Phenos ∠ 2mm diameter) Contacts more porphyritic, centre of Dyke more equigranular. qtz-py Veins have minor cal. Rock well fractured. 17.0-17.7m Rock Porphyritic 17.0-17.2 Badly Broken up. 17.7-22.0m More equigranular	Intense Propylitic with Minor Argillic and Phyllic alterations 17.0-17.7m Intense Propylitic alteration, 17.7-22.0m Propylitic with	3% Py in Veins + diss in Dyke, in Qtz Veins in Tuff.. estimates .01% MoS_2 .02% Cu cp seen in a qtz-py-cp Vein Mo seen in qtz-py-Mo Vein	40°, 75°, 50°, 40°, 30°, 80°, 30°	18 / 12	8 / 7	1 / 0
18m		2 m / 1	88	19.1-19.5m Rock is Badly Broken up	Some foliated quartz-sericite (chlorite) and small (∠ 2cm) quartz-sericite envelopes around quartz-pyrite veins	4% Py in veins and diss, minor Mo in veins (qtz-py) estimates .02% MoS_2 Cu Nil Mo seen in qtz-py-Mo Veins	30°, 15°, 25°, 20°, 60°, 15°, 15°	10 / 8	21 / 14	2 / 2

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DRILL LOG

SHEET NO. 3 7

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
	,	: ..	I EX		D.D.H. 2

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Fl	STRUCTURE F/Fl	Grade Lo
		2m (19)	97	20.4-20.8 m Rock impregnated with calcite. 22.0-22.5m more porphyritic, fractures healed with calcite	22.0-22.5m Propylitic alteration	5% Py mostly diss some in qtz-py-calcite veins ± epidote Mo in qtz-py-Mo veins cut by qtz-py-cal veins top. estimates .01% MoS_2 Cu nil	95° 30° 50° 65° 80° 45° 35°	8 10	10 7	C C
22m	22.5m 39.3m	2m (12)	88	22.5m contact sheared healed with calcite veins 15° Dark Green Andesitic TUFF Fragments about 25% and less than 1mm in diameter. Rock is generally well Fractured many small (1mm) qtz-py veins with 2mm epidote envelopes 22.5-23.2m calcite veins heal Rock near sheared contact. 22.9-23.1 m 2cm qtz-cal-py-cp-Mo vein 55°	with minor qtz-ser. on qtz-py veins. Propylitic alteration - matrix Dark green to tan chlorite. Fragments often altered to chlorite or epidote. Fractures and qtz-py veins often have 2mm epidote envelopes. Also veins or zones of	5% Py dies. and in veins Cu as cp in a large qtz-cal-py-cp-Mo vein Mo in Mo-py and qtz-cal-py-cp-Mo veins estimates .03% MoS_2 .03% Cu	60° 20° 15° 30° 60° 65° 60° 45° 30°	14 9	12 11	4 1
24m		2m (18)	90		epidote 4" to 3cm wide.	4% Py mostly in veins some diss. Mo in qtz-py-Mo vein estimates Mo nil Cu nil	45° 20° 40° 35° 10° 75° 20°	11 10	14 13	0 1
26m		2m (16)	94	26.7-26.8m 2mm qtz-py-chl vein parallels core 27.8m-1.5cm qtz-py-cp vein no envelope - also 1mm qtz-py vein with cp envelope containing minor white scheelite 28.0-31.9m Rock is Badly Broken up		5% Py mostly in veins Some diss Mo in qtz-py-Mo veins W in qtz-py vein estimates .01% MoS_2 Cu nil	60° 40° 10° 40° 50° 15° 30° 75° 20°	12 19	10 19	2 2
28m		2m (4)	55	29.2m White scheelite in qtz-py vein with an epidote envelope 29.9-30.7m Intensively Broken up into gravel size fragments + sand 29.9-30.1m gouge due to Drill ~~or fault~~		4% py mostly in veins Some diss Minor W in qtz-py vein estimates Mo nil Cu nil	10° 20° 80° 70° 65° 40°			C C

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DRILL LOG

SHEET NO. 4 7

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION

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

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Fr	STRUCTURE F/Fr	Grad Lo
		2m	50	31.3m .5cm py-mag-qtz-cp vein no envelope 70°	31.3-31.8 more Intense chlorite Alteration.	3% py in veins Cu in qtz-cp vein estimates Mo nil .01% Cu	30° 80° 70° 90° 50°	8 13	26 18	0 0
32m		2m	87	32.1-32.3m Rock Badly Broken up 32.7m 3cm Zone of epidote 15° 33.1m 1cm zone of epidote 30°		4% py in Veins Mo in qtz-py-Mo veins .02% MoS_2 Cu Nil	20° 20° 85° 35° 55° 70° 20°	16 15	18 14	3 3
34m		2m	73	34.9-35.7m Rock Badly Broken up 35.5m hemitite on a Fracture 15° 34.1 and 35.2 m white scheelite in 1mm qtz-py veins with cp envelope 34.5 and 0.6m White scheelite in 1mm qtz-py ± Mo? veins		4% py in Veins Mo in qtz-py-Mo veins W in qtz-py ± Mo veins estimates .01% WO_3 .01% MoS_2 Cu Nil	40° 60° 30° 20° 80° 90° 60°	8 10	13 22	0 2
36m		1.5m	75	36.5m white scheelite in 1mm qtz-py ± Mo? vein 37.3m 3cm epidote vein or zone 60°		5% py in Veins W in qtz-py ± Mo? vein estimates Mo nil Cu Nil	80° 20° 60° 65° 85° 70° 85°	17 14	12 14	0 0
38m	39.3m	1.3m	95	38.5m .2cm qtz-py-hemitite vein 15° 39.2m 1mm pink calcite vein 20° 39.2 and .3m white scheelite in qtz-py-cp vein Dark Green Andesitic TUFF almost a Lapilli TUFF about 40% Fragments 1mm in diameter or Less. Many Small (1mm) qtz-py and cal veins Occ. Common. Rock is well Fractured.	Propylitic - chlorite altered Matrix, fragments are altered 7%	3% py in Veins W in qtz-py-cp veins estimates Mo Nil Cu Nil	60° 70° 80° 50° 20° 70° 65° 90°	15 13	15 14	0 0

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DRILL LOG

SHEET NO. 5 7

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION

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

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Ft	STRUCTURE F/Ft	Graph Log
		2m	33	41.0m white scheelite in qtz-py-Mo vein 41.7m 1mm qtz vein with 1mm qtz-ser envelope. 85°	cont. From page 4 Some minor areas of weak qtz-ser alteration.	5% py mostly in veins Some diss. Mo in qtz-py-Mo vein W in qtz-py-Mo vein estimates Mo. nil Cu. nil	75° 70° 25° 60° 20° 60° 90° 80°	11	9	0
42m		2m	68	42.3 m 1cm qtz-cal-pink Felt? - py vein 10° 42.3-42.4m Badly Broken up Rock. 43.8m 3cm qtz-cal-ep-py vein or zone 20°	42.7-42.9 chlorite being Bleached out (qtz-ser?)	5% py mostly in veins Some diss. Mo in qtz-py-Mo vein estimates Mo Nil Cu Nil	70° 35° 60° 20° 50° 70° 20° 70°	11	16	1
-14m		2m	70	44.7m 2cm ep-qtz-py vein? 20° 44.7-45.1 m Badly Broken up Rock	45.4-46.1 chlorite is being Bleached out (qtz-ser?)	6% Py in veins and diss. Mo in qtz-py-Mo veins estimates .01% MoS_2 Cu nil	60° 65° 25° 20° 30° 30°	15	14	2
46m	46.4	2.2m	36	46.0-46.4 Rock Badly Broken up. Dark Green Andesitic TuFF 30% Fragments < 1mm in diameter. Many qtz-py veins < 1mm. Rock is moderately Fractured 46.5m 5cm epidote-qtz vein 25° + minor hematite. 47.0m 2cm epidote zone 30° 47.0-48.2m Rock is about 25% epidote.	Propylitic - Matrix dark green From chlorite. Fragments usually altered To epidote or chlorite. Some large epidote veins or Zones.	4% py Mostly in Veins some diss. Mo in qtz-py-Mo veins estimates .01% MoS_2 Cu Nil	25° 25° 70° 85° 50° 5° 30°	10	17	1
48m		2m	90	48.9-49.0m epidote poor envelopes around 3 small qtz veins 35° 49.3-49.4m epidote zone ~90° ✓1 49.9m 3cm epidote vein? 35°		5% py Mostly in veins very little diss. estimates Mo 1.1 Cu 1.1	50° 20° 90° 40° 55° 30°	14 10	12 4	0 0
50m										

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DRILL LOG

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	SHEET NO: 6 7
DATE STARTED	DATE COMPLETED	SURVEYS		HOLE SIZE: 1 EX	TOTAL DEPTH:	HOLE NO. D.D.H. 1

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Fr	STRUCTURE F/Fr	Gran Lo
		2m	97	50.4m 3mm qtz-cal-py vein 25°		4% py in veins estimates Mo Nil Cu Nil	75° 65° 80° 40° 15° 25° 90°	18 20	10 8	0 0
52m		2m	97	52.9-53.3m Rock is Badly Broken up		5% py mostly in veins some diss.	35° 90° 30° 80°	16	15	0
32 -	58.5	2m		Medium Grey Green Feldspar porphyry Dyke? (could be lapilli TUFF) about 25% phenoes. Rock is well Fractured. has many small (1mm) pyrite veins. 53.9m 3cm epidote zone 70°	53.5-54.1m Propylitic - Matrix dark green From chlorite. some Phenos altered	estimates Mo Nil Cu Nil	55° 15° 30°	13	9	0
54m		2m	90	54.1-55.3 could be a dyke 20° it is rich in small cal veins see alteration. 54.8-54.9 Badly Broken up Rock	To epidote + small epidote envalopes on some py veins. 54.1-55.3m Propylitic alteration as above with some Bleaching of chlorite & weak qtz-ser° alteration. 55.3-58.5m propylitic alteration - matrix dark green with chlorite, low in epidote only a Few	6% py diss and in veins. Mo in a calcite shear estimates .01% Mo Sz : Cu Nil	60° 50° 55° 40° 50° 50°	9 7	11 11	1 0
56m		2m	89	56.1-56.2 Badly Broken up Rock 57.0 1cm qtz vein 30° 57.4 3cm qtz-py-ep vein 40°	envalopes and Fragments or Phenos of Epidote.	6% py diss and in veins. estimates Mo Nil Cu Nil	45° 70° 65° 50° 55° 45° 55°	9 14	13 16	0 0
	58.5	60.0		Dark Green Andesitic TUFF? sheared and healed with calcite. original Texture does not come through well. well Fractured Rock. 59.2-59.6m mosy sheared section. 10° healed with calcite + quartz	Propylitic - Rock is well chloritized, minor epidote shows Through as envalopes and Tiny Fracs. Plagioclase in places mostly From 59.8 to 60.0m	4% Py in Veins and diss. Mo in qtz-py-Mo vein estimates Mo Nil	70° 60° 80° 45° 20° 50°	8 14	11 15	1 0

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APPENDIX 2

WRITTEN GEOLOGICAL LOG

for DIAMOND DRILL HOLE BDH 79-2

DRILL LOG

LOGGED BY: W.R. CLARK

SHEET NO. 1 / 1

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION
Bird Claims	141423N 94447E			~4940'

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
July 30, 1979	July 31, 1979	Bearing 51° Dip 45°	1 EX	8.4m	D.D.H. 2

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Ft	STRUCTURE F/Ft	STRUCTURE Grad Lo
0m	4.4m	2m	20	Quart-Feldspar Granodiorite Porphyry, Phenos up To .5cm in diameter. Rock is Intensely Fractured with poor core recovery. A Few 2mm qtz veins But with very little pyrite. 0-2.4m minor kaolinite Manganese stains in fractures and in veins.	0-4.4m Good Propylitic alteration, ground Mass has gone To chlorite and many Feldspar phenos altered To epidote. A few small fractures with 1mm epidote envelopes.	<1% Py in veins and disc. estimates Mo Nil Cu Nil	60° 40° 55°	2 6	5 14	0 0
2m		2m	5			1% Py mostly diss some in veins. estimates Mo Nil Cu Nil	10° 5°	3 2	8 8	0 0
4m	4.9m	2m	40	4.9m 2cm qtz ± cal. ± py vein at contact. Dark Green F.g. Tuffaceous? Andesite? <1% 1mm Feldspar phenos or Fragments, Fractures healed by small ~1mm calcite ± pyrite veins. Rock is well Fractured	4.4-4.9m Propylitic alteration overlain by sericitic ground with dark green chlorite look with diss py and calcite. 4.9-7.8m Dark green chlorite altered groundmass or Matrix	2% Py mostly diss some in veins estimates Mo Nil Cu Nil	65° 60° 40° 20°	4 10	9 14	0 0
6m	7.5m	2m	36	6.6m a qtz-cal-mag vein 10° 7.0m a 4mm qtz-cal-Hematite vein 30° Quartz-Feldspar Granodiorite Porphyry. Phenos up To .5cm in diameter.	6.6-7.0m minor epidote alteration of Matrix and Feldspar Fragments. 7.8-8.4m Propylitic alteration overlain by chloritic alteration	1-2% Py in veins and disc. estimates Mo Nil Cu Nil	30° 50° 60° 30° 60° 50° 40° 40°	6 11	16 26	0 0
8m		4m	55	Rock is Intensely Fractured with Poor core Recovery.	a dark green chloritic look with diss py and calcite	2% Py Mostly diss and some in veins. estimates Mo Nil Cu Nil	40° 25°	5	10	0

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APPENDIX 3

WRITTEN GEOLOGICAL LOG

for DIAMOND DRILL HOLE BDH 79-4

DRILL LOG

LOGGED BY: W. R. CLARK

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	SHEET NO.
Bird claims	137+90N 94+35E			1513.72m (4965')	1 of 3

DATE STARTED	DATE COMPLETED	SURVEYS	HOLE SIZE	TOTAL DEPTH	HOLE NO.
Aug. 1, 1979	Aug. 5, 1979	Bearing 72° Dip 20°	1 - EX	23.0m	D.D.H. 4

Depth	From	To	Core Length	%Rec	LITHOLOGY	ALTERATION	MINERALIZATION	F	V/Ft	F/Ft	Gr/Lc
0m	0m	5.1m	2m	52	Quartz Feldspar Porphyry [illegible]. Phenos up to [illegible] cm in diameter. Rock well fractured. Very few veins.	0-4.6m Weak [illegible] alteration, [illegible] dark green with chlorite, feldspar phenos partially altered to [illegible] chlorite-epidote envelopes on fractures and veins	[illegible] % Py mostly diss. estimates Mo Nil Cu Nil	75° 70° 50° 60° 45° [illegible]	3 / 3	8 / 10	[illegible]
2m			2m	25	2-2.3m Badly broken up rock. 3.5-[illegible]m [illegible] fractured [illegible] (fault?, shear zone?) [illegible] [illegible] water. 3.8m 2cm qtz-cal-chl vein ∠5°		<1% Py diss and vein. estimates Mo Nil Cu Nil	40° 5°	[illegible] / 3	7 / 7	[illegible]
4m	5.1m	13.9	2m	23	Light green almost white in [illegible] Volcanic or Intrusive, Both are probably present, but I favor Volcanic tuff. Very few [illegible] qtz-py veins	[illegible] Intense [illegible] alteration [illegible]. 5.1-13.9m [illegible] altered than [illegible] bleached, by [illegible] alteration.	2% Py [illegible] diss. estimates Mo Nil Cu Nil	30° 40°	2 / 5	4 / 17	[illegible]
6m			2m	14	6.7m 3cm of [illegible] altered [illegible] sheared [illegible] zone? 15°		2-3% Py mostly diss. Mo in qtz-py [illegible] vein Mo almost washed away. estimates .01% MoS₂ Cu Nil	[illegible] 20°	3 / 2	8 / 6	1 / 6
8m			2m	7			4% [illegible] estimates Mo Nil Cu Nil		3 / 1	7 / 3	[illegible]

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LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION	

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/Ft	STRUCTURE F/Ft
10m–12m			2m	21	11.3m 4cm chlorite rich Volcanic Breccia [illegible] in a shear zone? 30° 11.5–13.9m altered Tuff?		2% Py mostly dies. estimates Mo Nil Cu Nil	30° 10° 10° 25°	2 3	6 9
12m–14m	13.9m	14.6m	2m	21	Medium to light green Tuffaceous Volcanic	13.9–14.6m Good Propylitic alteration Moderately Bleached by quartz-sericite alteration.	3% Py mostly dies Mo in qtz-py-Mo veins ~1mm wide estimates 0.02% MoS2 Cu Nil	25° 20° 15°	3 3	6 10
14m–16m	14.6m.	18.0m	2m	14	light green, Intensely altered Tuffaceous or Volcanics, a few Qz veins ± py ~1mm wide.	14.6–18.0m Propylitically altered Intensely Bleached by qtz-sericite alteration	3% Py mostly dies. estimates Mo Nil Cu Nil	35° 15° 15°	2 5	3 10
16m–18m	18.0m	19.7	2m	13	Medium to dark green Fine grained Andesite or Andesitic Tuff,	18.0–19.7m Moderate	2% Py mostly dies estimates Mo Nil Cu Nil	30°	3 2	7 9
18m–20m	19.7m	22.7m	2m	11	some <1mm Py veins. Light green Intensely altered Tuffaceous or Volcanics [illegible]. A few qtz py veins [illegible] py ± Mo veins 1mm wide	Propylitic alteration weakly Bleached. 19.7–22.7m Good Propylitic alteration [illegible]	3-4% Py mostly in veins [illegible] dies. estimates Mo Nil Cu Nil	15°	2 11	11

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DRILL LOG

SHEET NO. 3 3

LOCATION	CO-ORDINATES	NORTH	EAST	ELEVATION

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

DEPTH From	DEPTH To	CORE Length	CORE %Rec	LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE F	STRUCTURE V/Ft	STRUCTURE F/Ft
20m		2m	21	20.5m 1cm qtz vein 40°	Bleached by quartz - Sericite alteration.	2% Py mostly diss.		5	13
						estimates Mo Tr Cu Tr		6	15
22m		2m	20			3% py diss. and in veins	25°	5	15
						estimates Mo Cu	45°	4	9
24m		2m	8			4% Py diss and in veins		2	5
						Mo in a qtz-py vein	70°		
						estimates .02% Mo 2% Cu Tr	5°	2	6
26m		2m	12			5% py mostly in veins some diss.		3	9
	27.2m	27.6m		Sheared 25° Medium green Tuff Lapilli Volcanics with 1mm Py veins.	27.2-27.6m Intense Propylitic alteration				
	27.6m	28.0m		Light green almost white Intensive Volcanic Tuff	27.6-28.0m Intense [illegible]	estimates .02% Mo Tr		3	9
28m					Alteration Propylitic Alteration still shows through.				

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APPENDIX 4

ASSAY RESULTS

for BDH 79-1 and BDH 79-4

GEOCHEMICAL LABORATORY REPORT

9293-1

CONTRACTOR: Rosstrekker

DATE August 30/79

REPORT NO. _____

PAGE 1 OF 2

BP Minerals Limited

BASE METALS

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YEAR	79	PROJECT NO.	505	A

SAMPLE		I.D. SAMPLE	CARD	Mo	Cu	Pb	Zn	Ni	U	Ag	Sn	W	F	Au	REMARKS or pH
8	4	479001	2	16	320	Bird Drill Hole 79-1		0 - 3 m							
8	4	479002	2	80	520			3 - 6		0.6	5	0	310	10	
8	4	479003	2	22	620			6 - 9		0.4	5	0	380	10	
8	4	479004	2	40	440			9 - 12							
8	4	479005	2	36	600			12 - 15							
8	4	479006	2	56	1220			15 - 18							
8	4	479007	2	110	760			18 - 21			5	0	395		
8	4	479008	2	260	1800			21 - 24							
8	4	479009	2	46	940			24 - 27							
8	4	479010	2	10	700			27 - 30							
8	4	479011	2	32	900			30 - 33							
8	4	479012	2	6	780			33 - 36				20			
8	4	479013	2	6	560			36 - 39				15			
8	4	479014	2	3	520			39 - 42			5	0	350		
8	4	479015	2	9	820			42 - 45				0			
8	4	479016	2	10	760			45 - 48							
8	4	479017	2	2	800			48 - 51							
8	4	479018	2	1	280			51 - 54		0.2	8	0	350	10	
8	4	479019	2	2	350			54 - 57		0.2		5		10	
8	4	479020	2	2	286			57 - 60							

DWG. NO. 79-42

ALL VALUES ARE REPORTED IN PARTS PER MILLION UNLESS SPECIFIED OTHERWISE. ALL VALUES ARE BELIEVED TO BE CORRECT TO THE BEST KNOWLEDGE OF THE ANALYST BASED ON THE METHOD AND INSTRUMENTS USED.

7505

11-d

GEOCHEMICAL LABORATORY REPORT

9293-2

CONTRACTOR: Rosstracker

DATE August 30, 1979

REPORT NO. _____

PAGE 2 OF 2

BP Minerals Limited

BASE METALS

42 -

YEAR	PROJECT NO.
79	505A

SAMPLE	I.D. SAMPLE	CARD	Mo	Cu	Pb	Zn	Ni	U	Ag	Sn	W	F	Au	REMARKS or pH
84	479021	2	4	260	Bird Drill Hole 79-1		60 - 61.6 m end							
84	479026	2	2	30			0 - 3 m				0	415		
84	479027	2	10	480	Bird Drill Hole 79-4		3 - 6			5	0	400		
84	479028	2	30	1060			6 - 9		0.2	5			10	
84	479029	2	16	900			9 - 12		0.2				10	
84	479030	2	6	880			12 - 15			8	0	400		
84	479031	2	22	1160			15 - 18			8	0	360		
84	479032	2	12	840			18 - 21		0.2	8	0	440	10	
84	479033	2	10	300			21 - 24		0.2	5	0	440	10	
84	479034	2	20	210			24 - 27							
84	479035	2	12	580			27 - 28							
		2												
		2												
		2												
		2												
		2												
		2												
		2												
		2												
		2												

7505

DWG. NO. 79-42

ALL VALUES ARE REPORTED IN PARTS PER MILLION UNLESS SPECIFIED OTHERWISE. ALL VALUES ARE BELIEVED TO BE CORRECT TO THE BEST KNOWLEDGE OF THE ANALYST BASED ON THE METHOD AND INSTRUMENTS USED.

APPENDIX 5

STATEMENT OF COSTS

FOR ASSESSMENT CREDIT

STATEMENT OF COSTS

BIRD PROPERTY, OMINECA M.D.

1. LABOUR - Drill Core Logging, Mapping and Supervision	
M.D. Bradley - project geologist	
10 days @ $110/day (July 23-25, 29; Aug. 2, 5; Sept. 6-9)	$1,100.00
W.R. Clark - property geologist	
18 days @ $95/day (July 23-31; Aug. 1-5, 24, 26, 30; Sept. 6)	$1,710.00
J. Lemay - technician	
7 days @ $55/day	$ 385.00
	$3,195.00
2. DIAMOND DRILLING	
Direct cost - 101.37 metres	
332.5 feet @ $17.25/foot	$5,735.62
Indirect cost -	
labour 10½ @ $28.75/hour	$ 301.87
fuel 45 gallons @ $1.00/gallon	$ 45.00
coreboxes 12 @ $6.65/corebox	$ 79.80
	$6,162.29
3. FOOD AND ACCOMMODATION	
M.D. Bradley 10 days @ $15	$ 150.00
J. Lemay 7 days @ $15	$ 105.00
W.R. Clark 6 days @ $15	$ 90.00
12 days @ $10	$ 120.00
	$ 465.00

4. HELICOPTER MOBILIZATION AND SUPPLY	
Northern Mountain Helicopter 206B Jet Ranger	
8.1 hours @ $330/hr + fuel x 50%	
Invoices (5203, 5056, 5048) $3073	$1,536.50
5. TRUCK RENTAL	
3/4-four wheel drive - 7 days	$ 188.00
6. REPORT PREPARATION	
Drafting and reproduction	$ 250.00
7. GEOCHEMICAL ANALYSIS (Rossbacher Laboratory)	
31 core samples assayed for Mo/Cu and selected samples for Sn, W, F, Au	$ 210.50
TOTAL	$12,007.29

APPENDIX 6

RECEIPTS IN SUPPORT
OF STATEMENT OF COSTS

Drilcor Industries Ltd.
18 - 12871 Bathgate Way
Richmond, British Columbia
Canada V6V 1Y5

Telephone (604) 273-1878
Telex 04-357519

August 6, 1979.

In Account With:

Attn: C. Bates

BP Minerals,
405 - 1199 W..Pender Street,
Vancouver, BC.
V6E 2R1

Period July 15-31, 1979. Property: BIRD.

Footage:	Hole 79-1	202'	
	Hole 79-2	27½'	
	Hole 79-3	10'	
		239.5' @ $17.25	4,131.30
Waiting time - geologist spotting holes July 25 - 2½ hrs. @ $35.00/hr.			87.50
Moving time in excess of 4 hours -			
Charged at $25.00 + 15%			
Hole 79-2	July 29	2½ hrs.	
Hole 79-3	July 30	2 hrs.	
Hole 79-3	July 31	2 hrs.	
		6½ hrs. @ $28.75	186.88
Geologist's accommodation July 26-31 - 6 days @ $10.00/day			60.00
Core Boxes Used: 11 boxes @ 6.65/box			73.15
Sales tax on core boxes - 4%			2.93
Total payable on receipt . . .			$4,541.84

BP Minerals Limited

RECEIVED
1979
Vancouver, B.C.

APPROVED FOR PAYMENT
CHARGE 80047-448- #4,541.84
DATE AUG 14 1979 INITS

Project 505

Drilcor Industries Ltd.

18 - 12871 Bathgate Way
Richmond, British Columbia
Canada V6V 1Y5

Telephone (604) 273-1878
Telex 04-357519

August 22, 1979.

In account with:

Attn: C. Bates

BP Minerals,
405 - 1199 W. Pender Street,
Vancouver, B.C.
V6E 2R1

BP Minerals Limited
RECEIVED
AUG 23 1979
Vancouver, B.C.

Period August 1-15, 1979.

Footage:	Bird	79-3	10-11'	1'	93'	st. $1604.25 BIRD
		79-4	0-92'	92'		
	Shred	79-1	0-30'	30'		
		79-2	0-14'	14'		
		79-3	0-28.5'	28½'		
		79-4	0-119'	119'		
		79-5	0-77'	77'		
				361½' @ $17.25		$6,235.88

Moving time in excess of 4 hours charged at $25.00/hr. + 15%

Hole Bird 79-4	Aug. 1	1 hr.	4 hr.	$ 115.00 BIRD
	Aug. 2	3 hrs.		
Move to Shred	Aug. 5	10 hrs.		
Shred 79-1	Aug. 6	7 hrs.		
79-4	Aug. 9	3 hrs.		
79-5	Aug. 13	9	Credit to follow 3 hrs.	
		33 hrs. @ $28.75		948.75

Geologist's accommodation Aug. 1-15 BIRD - 4 DAYS ($40.00)
15 days @ $10.00 150.00

Core boxes used - 40 @ 6.65/box 266.00

Sales tax on core boxes - 4% 10.64

Total payable on receipt $7,611.27

Property
SHRED - 80047.448 - $ 5834.77
BIRD - 80047.448 - $1776.50
$ 7,611.27

APPROVED FOR PAYMENT
CHARGE 80047-448 - $7,611.27
DATE SEP 7 1979 INITLS GKL

Rossbacher Laboratory

GEOCHEMICAL ANALYSTS & ASSAYERS

2225 S. SPRINGER AVE.,
BURNABY, B.C.
CANADA
TELEPHONE: 299-6910
AREA CODE: 604

B.P. MINERALS LTD.

405-1199 W. Pender St.

Vancouver, B.C.

Project 505A - Bird Claims

DATE Sept 13, 1979

INVOICE NO. 9217

CERTIFICATE NO. 9293

ITEM	DESCRIPTION		SUB-TOTAL	TOTAL
8	Geochem analysis for 3 elements	@ $ 2.00	$ 16.00	
23	2 elements	1.75	40.25	
11	Sn	2.00	22.00	
15	W	2.00	30.00	
11	F	3.25	35.75	
8	Au	2.50	20.00	
31	Assay prep	1.50	46.50	
				$ 210.50

RECEIVED
SEP 14 1979
BP MINERALS LIMITED
VANCOUVER, B.C.

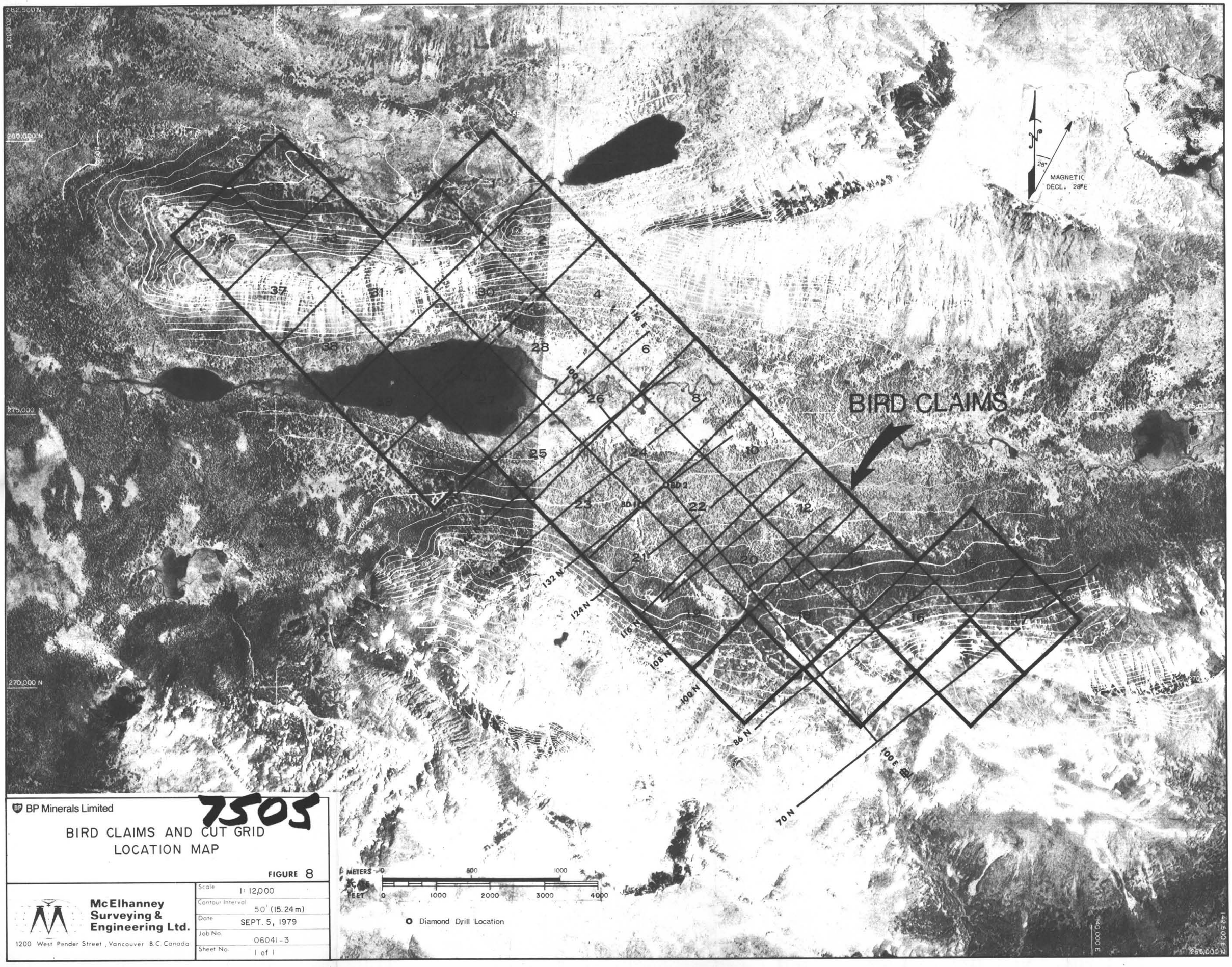
TERMS – NET 30 DAYS

APPENDIX 7

APPORTIONMENT OF ASSESSMENT WORK

APPORTIONMENT OF ASSESSMENT WORK

Total value of work applied to the Bird Claims	$12,000.
Apply 2 years work to	
Bird 42, 43, 44	$1,200.
Bird 19, 20, 21, 22, 23, 24, 25, 26	3,200.
Apply 3 years work to	
Bird 4, 6, 8, 10, 12, 14, 16, 18, 27, 28	6,000.
Apply 4 years work to	
Bird 15, 17	1,600.
	$12,000.



BP Minerals Limited

7505

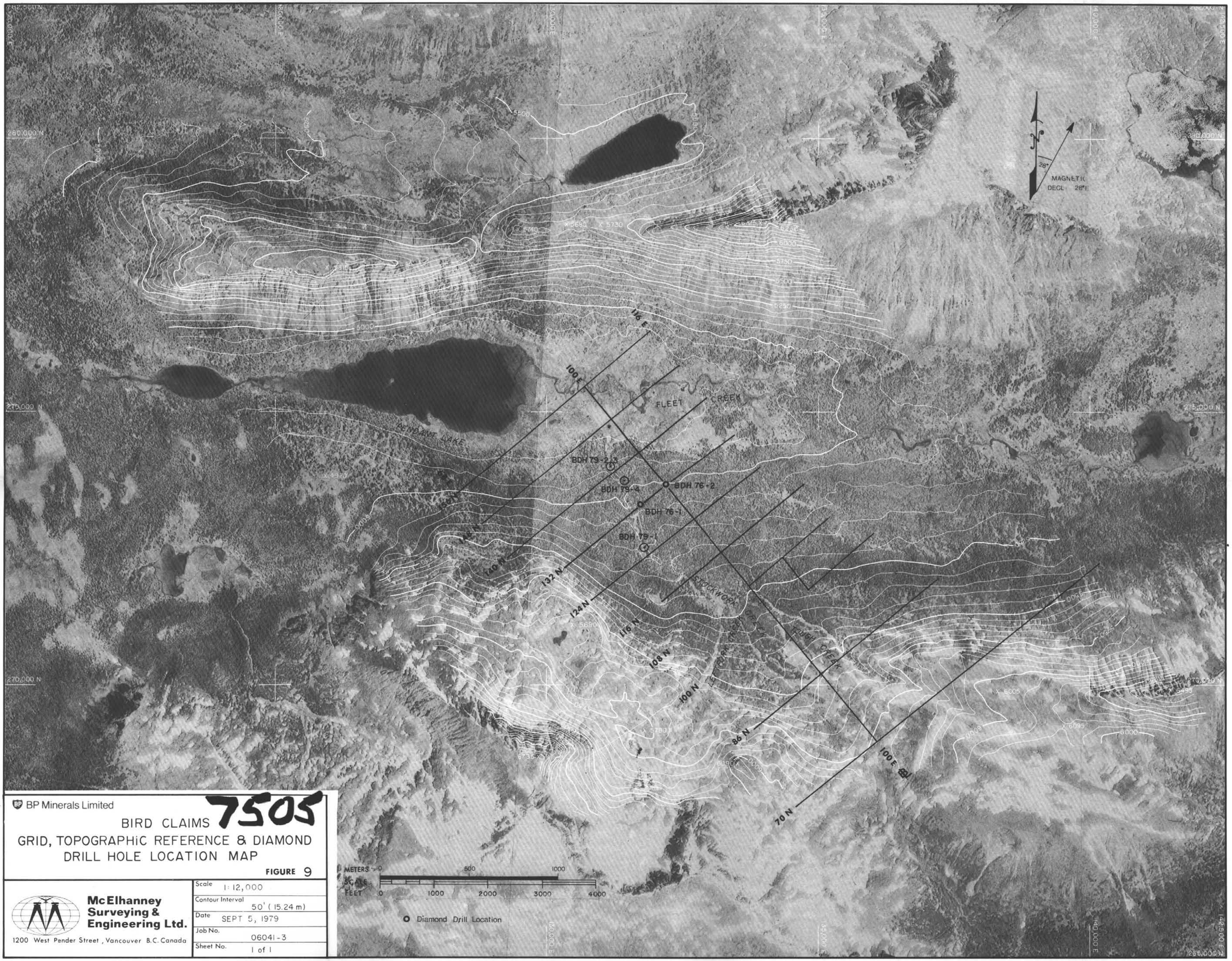
BIRD CLAIMS AND CUT GRID LOCATION MAP

FIGURE 8

McElhanney Surveying & Engineering Ltd.

1200 West Pender Street, Vancouver B.C. Canada

Scale	1: 12,000
Contour Interval	50' (15.24 m)
Date	SEPT. 5, 1979
Job No.	06041-3
Sheet No.	1 of 1



BP Minerals Limited

BIRD CLAIMS 7505

GRID, TOPOGRAPHIC REFERENCE & DIAMOND DRILL HOLE LOCATION MAP

FIGURE 9

McElhanney Surveying & Engineering Ltd.

1200 West Pender Street, Vancouver B.C. Canada

Scale	1:12,000
Contour Interval	50' (15.24 m)
Date	SEPT 5, 1979
Job No.	06041-3
Sheet No.	1 of 1