

81-#1032

AN ASSESSMENT REPORT DETAILING THE #9800
1981 DIAMOND DRILLING AND MAPPING
PROGRAM ON THE PRIATE AND SHASS CLAIMS
SHASS MOUNTAIN MOLYBDENUM PROPERTY

LOCATED IN OMINECA MINING DIVISION, NTS 93K7,
FORT FRASER AREA

54°21'N Lat., 124°55'W Long.

M.D. Smith (Geologist, BP Minerals Limited)
D. Allen (Consulting Geologist, A & M Exploration Ltd.)

November 15, 1981

9800

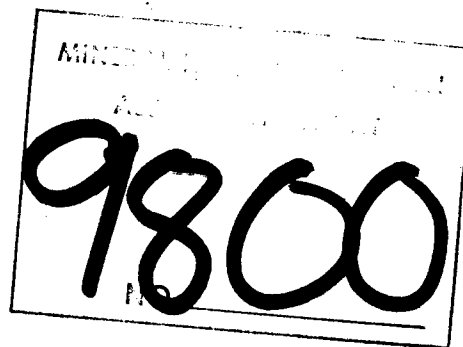
Assessment Report - 1981 Diamond Drilling and Geological Mapping Program

Shass Mountain Molybdenum Property - Pirate and Shass Claims

Located in Omineca Mining Division, NTS 93K7,

Fort Fraser Area, at $54^{\circ}21'N$ Latitude, $124^{\circ}55'W$ Longitude

November 15, 1981



M.D. Smith, Geologist, BP Minerals Limited
D. Allen, Consulting Geologist, A&M Explorations Ltd.
BPVR 81-11

This Assessment Report Details the 1981 Diamond Drilling and Mapping Program on Pirate and Shass Claim Groups, Shass Mountain, Omineca Mining Division, NTS 93K/7 at 54°21'N latitude, 124°55'W longitude.

The Pirate 1 and 2 Claims are owned by Charles Kowall and are held under option agreement by BP Minerals Limited. The Shass Claim Groups are owned by BP Minerals Limited.

M.D. Smith (Geologist, BP Minerals Limited)

November 15, 1981.

TABLE OF CONTENTS

	Page
1. Summary	1
2. Introduction	2
3. Location and Access	2
4. Claim Status and Ownership	4
5. History of the Property	6
6. Regional Geology	7
7. Property Geology	10
8. Diamond Drilling Report:	17
i) Summary of Operations	17
ii) Geology and Summary log S-81-01	18
iii) Geology and Summary log S-81-02	21
iv) Geology and Summary log S-81-03	23
v) Drill core Assay Results	27
9. Conclusions	29
10. Recommendations	30
11. Application for Assessment Credits	30a

LIST OF FIGURES

		Page
Figure 1	Claim Location Map 1:250,000	3
Figure 2	Shass & Pirate Claim Group - Property Map 1:50,000	5
Figure 3	Regional Geology - Fraser Lake Area	8
Figure 5	Property Geology - Shass & Pirate Claims	(in pocket)
Figure 6	Geological Cross - Section DDH's 81-01 to 81-03	(in pocket)
Figure 7	Assay Cross Section	(in pocket)

LIST OF APPENDICES

		Page
Appendix 1	Statement of Qualifications	31
Appendix 2	Statement of Costs	33
Appendix 3	Tabulation of Assay Data for DDH 81-01 to 81-03	in pocket
Appendix 4a	Geological logs for Drill Hole S-81-01	in pocket
4b	Geological logs for Drill Hole S-81-02	in pocket
4c	Geological logs for Drill Hole S-81-03	in pocket

Summary

During the period of June 17 to July 9, 1981, a total of 615 meters of diamond drilling in three holes was completed on the Pirate and Shass claim groups. The drill testing, of a previously established bedrock chip drilling anomaly was carried out to better define MoS₂ grade and width of mineralization.

The Pirate claim group is held under option, and the Shass claims are owned by BP Minerals Limited. The 1981 diamond drilling and mapping program was funded by BP Minerals.

The three drill holes were located on one drill section, 375 meters in length, located on a 1974 overburden drill section. All three holes intersected submarginal to marginally economic intervals of molybdenite mineralization (see Assay Cross-Section).

Sufficient encouragement from the 1981 drilling justifies further drilling in hopes of increased grade at depth or along the strike of the previously established anomalous trend.

Introduction

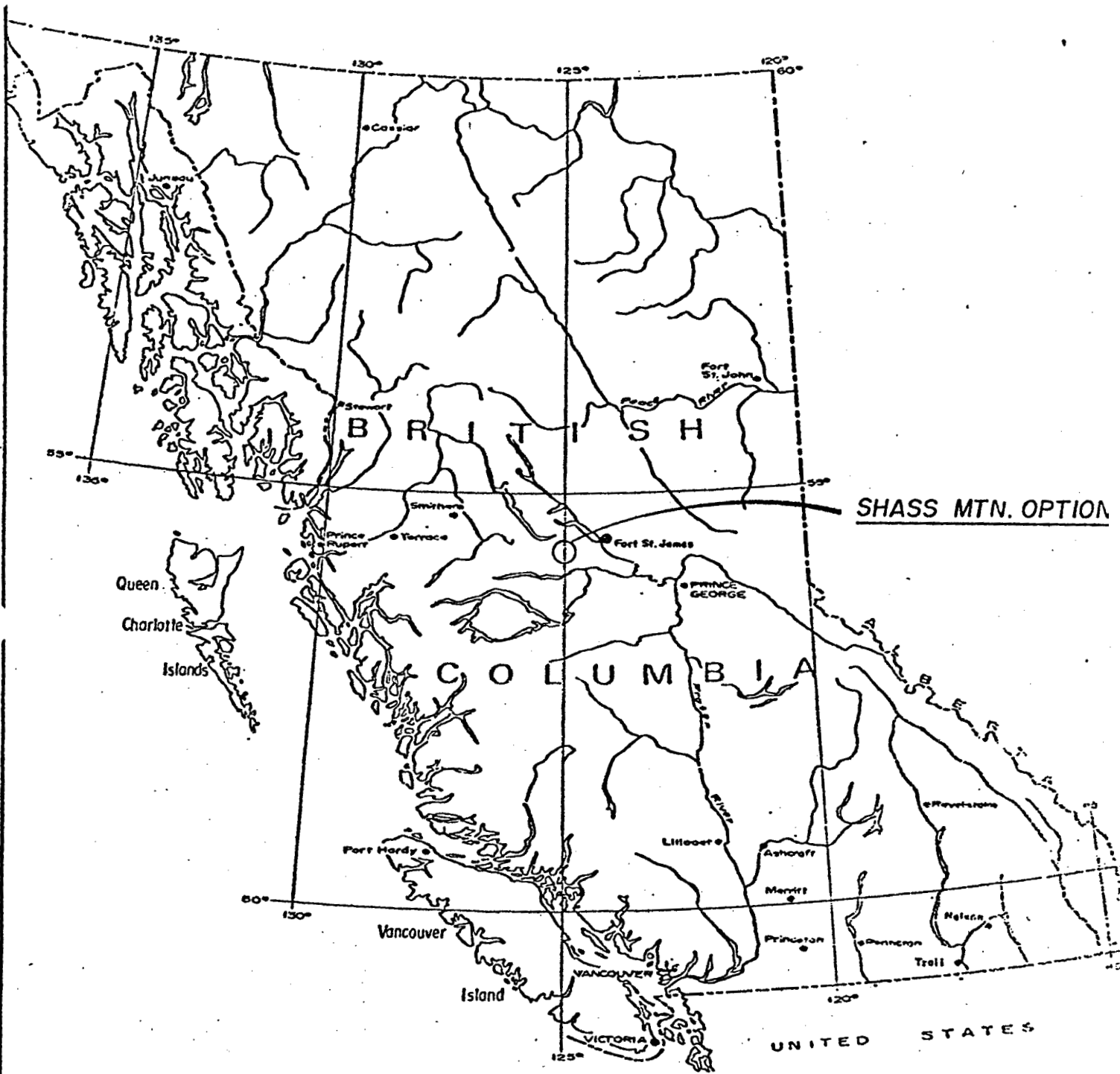
The 1981 diamond drilling program on the Shass Mountain prospect was carried out from June 18 to July 8, 1981. A total of 615 meters of NQ and BQ core drilling was completed in three holes. This report is in support of applied assessment credits of \$100,000.00. The drilling was contracted to Wright Drilling Ltd. of Kamloops, B.C. Access road upgrading was contracted to Nechako Excavating Ltd. of Vanderhoof, B.C.

Total cost of the drilling program to August 28, 1981 was approximately \$100,000. Drilling a fence of three holes across strike to the trend of MoS₂ values (defined by the 1974 shallow percussion drilling) was sited to locate economic mineralization in the quartz monzonite intrusive.

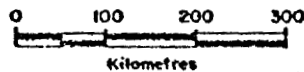
The core was logged, split and bagged near the drill site and is stored near the 1981 camp site. Selected portions of all three holes are stored in Vancouver.


Location and Access (see Figure 1)

The Shass Mountain property is located about 25 miles north-northeast of Endako, B.C. at latitude 54°21'N and longitude 124°55'W. The property can be accessed via the Wifley Provincial Park entrance road located about 2 km west of Fort Fraser on Highway 16. This forest access



SHASS MTN. OPTION



 BP Minerals Limited		
<h2 style="margin: 0;">SHASS MTN. OPTION LOCATION MAP</h2>		
SCALE	NTS 93 K	FIG. 1
DWG No. 80-206	DATE SEPT. 1980	PROJ. 528
To accompany report: BPVR 81-11		

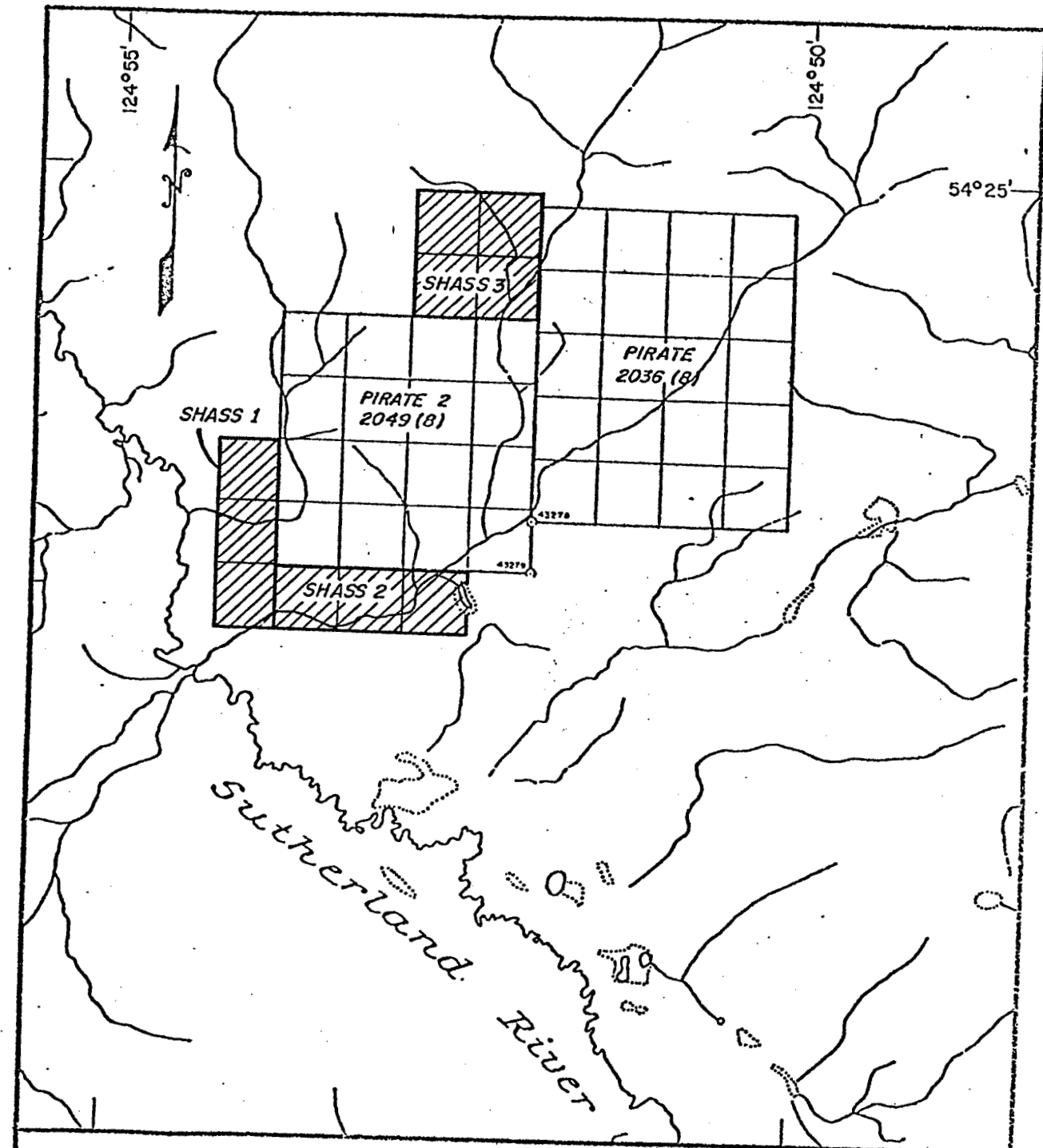
road trends north, through an Indian Reserve, and connects to the Sutherland Valley forestry haul road, which is followed to Mile Post 323, about 45 km north of Highway 16. From this point, marked by a gravel pit, a drill road trends north nine miles to the drill sites. The drill road is not maintained and has several mudholes at creek crossings, a 4-wheel drive vehicle is required.



Claim Status and Ownership

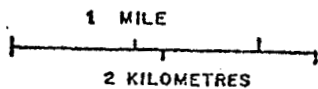
The Pirate claims are owned by Charles Kowall and are held by BP Minerals Limited under an option agreement. The contiguous Shass 1 - 3 Claim Groups are owned by BP Minerals Limited.

The Pirate Claims consist(s) of 36 contiguous units in two claim blocks while the adjoining Shass Claims consist of 10 units in three claim blocks. The Claim Groups are:

<u>Claim Group</u>	<u>Units</u>	<u>Record No.</u>	<u>Anniversary</u>
Pirate	20	2036(8)	August 31, 1981
Pirate No. 2	16	2049(8)	" "
Shass 1	3	4012	June 23, 1981
Shass 2	3	4013	" "
Shass 3	4	4014	" "



-  100% BP OWNED
-  OPTION FROM C. KOWALL



BP Minerals Limited

SHASS MTN. CLAIMS PORPHYRY MOLYBDENUM PROSPECT CLAIM MAP

B.C.

SCALE AS SHOWN	NTS 93 K/7W	FIG. 2
528 - 81 - 10	DATE 1991	
To accompany report: BPVR 81-11		

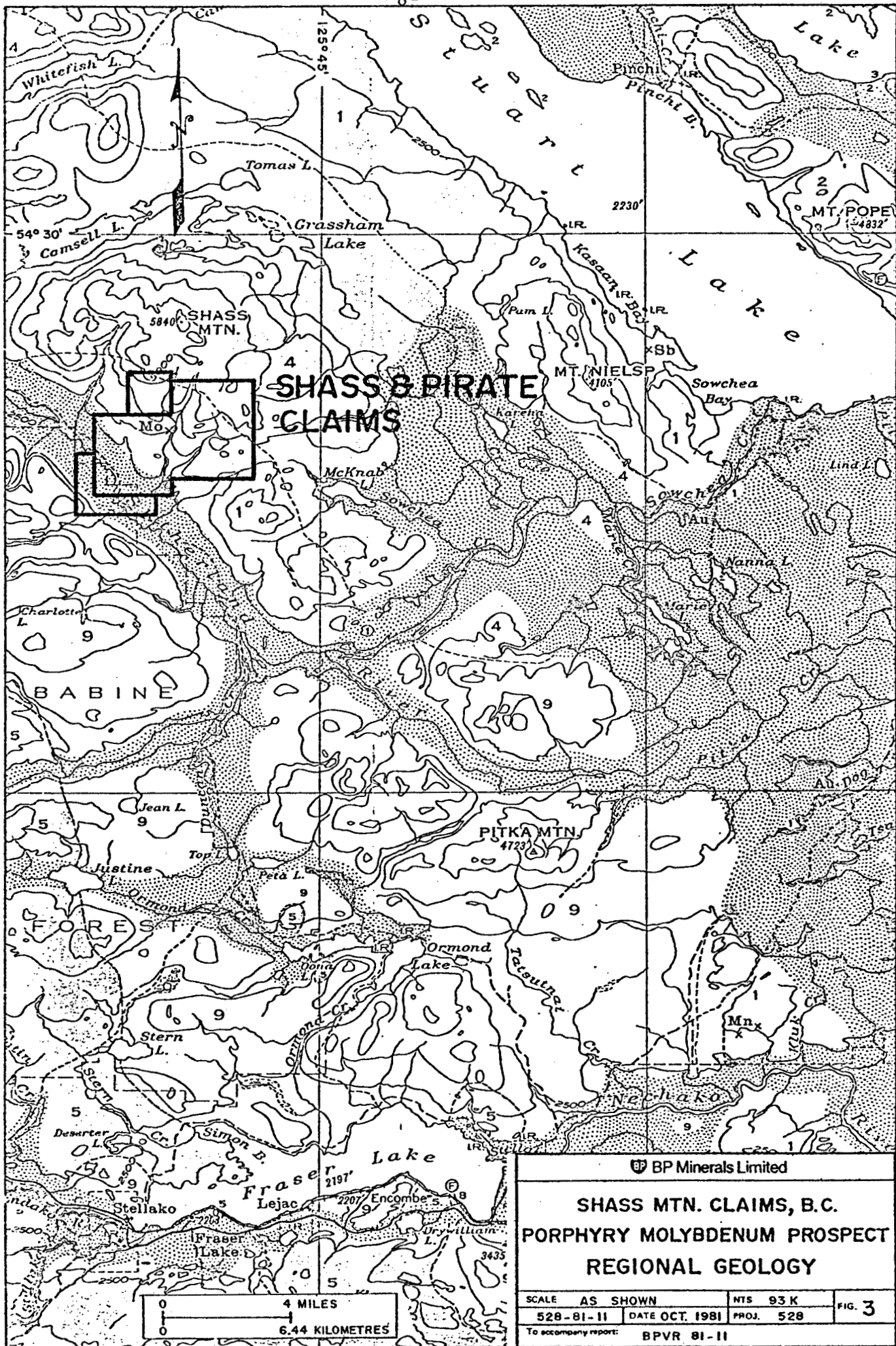
History of the Property

- 1946 - Occurrence of MoS₂ on Shass Mountain noted by J.E. Armstrong during regional mapping.
- 1968 - AMAX staked the property (46 claims) and did preliminary geological and geochemical surveys.
- 1969 - AMAX did detailed geological mapping, 27 miles of ground magnetometer and VLF-EM survey run, and 2500 feet of overburden trenching done. Staked 10 additional claims on the property.
- 1970 - AMAX continued detailed property mapping, geochemical soil sampling (587 samples) same access road construction and continued the trenching program (1960 feet).
- 1973 - AMAX conducted six line-miles of time domain IP survey over the most favourable geochemical anomalies.
- 1974 - AMAX drilled 26 percussion holes for a total of 6670 feet.
- 1979 - All AMAX claims allowed to lapse, restaked by Charles Kowall as Pirate 1 and 2 Claim groups, a total of 36 units.
- 1981 - BP Minerals Limited optioned the property, staked an additional 10 units and drilled three holes for a total of 615 meters.

Regional Geology

The Shass and Pirate Claim groups lie within the Cache Creek Group, a northwest trending belt of paleozoic sediments. Extending over a 15 mile length with 3 mile width, the Cache Creek Group is intruded in the more northerly portions by granodiorites and gabbros of the Topley Intrusions. These rocks are overlain by Tertiary basalts towards the west and south.

The central part of the belt is intruded by younger satellitic intrusions thought to be related to the Topley Intrusions. The intrusive rocks vary in composition from acid porphyry to gabbro and are considered to be late Cretaceous to early Tertiary in age.



SHASS & PIRATE CLAIMS

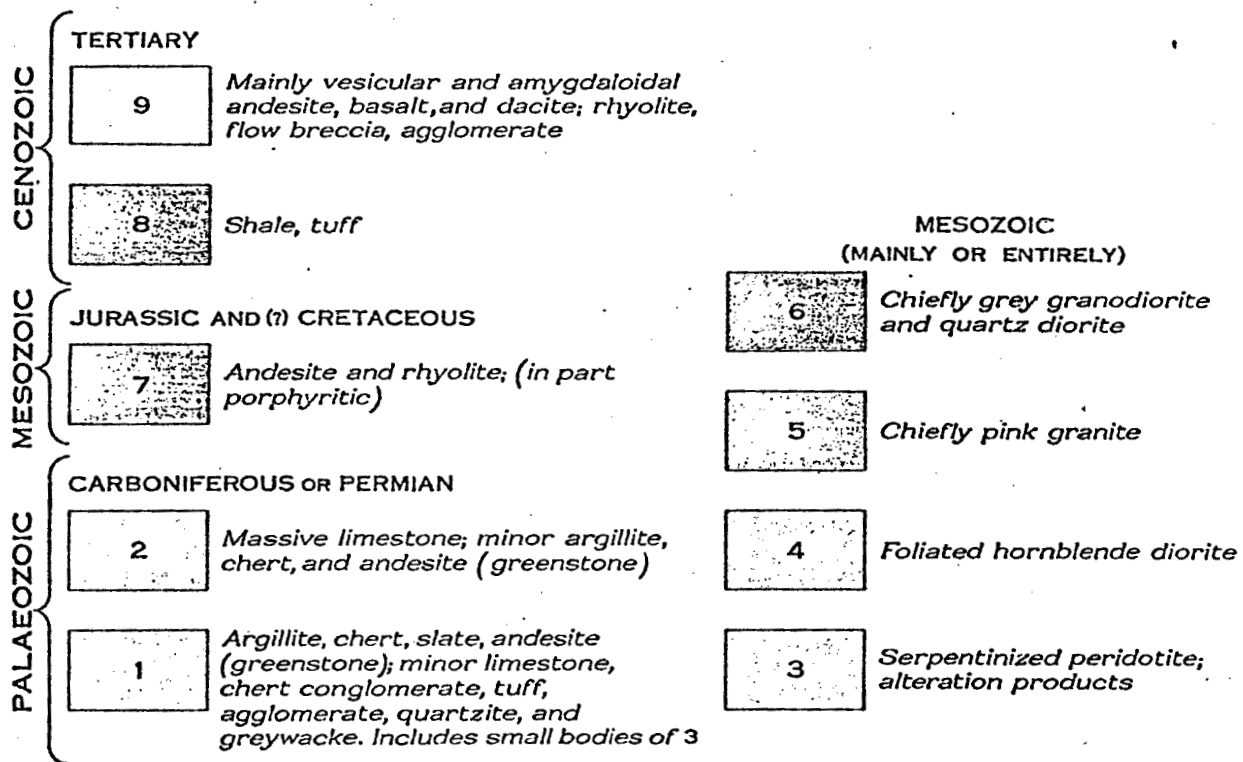
BP Minerals Limited

**SHASS MTN. CLAIMS, B.C.
PORPHYRY MOLYBDENUM PROSPECT
REGIONAL GEOLOGY**

SCALE AS SHOWN	NTS 93 K	FIG. 3
528-81-11	DATE OCT. 1981	
To accompany report: BPVR 81-11		PROJ. 528

0 4 MILES
0 6.44 KILOMETRES

LEGEND



MESOZOIC
(MAINLY OR ENTIRELY)

- Heavily drift-covered area.....
- Fossil locality.....
- Mineral occurrence.....

- Provincial highway.....
- Road well travelled.....
- Road not well travelled.....
- Trail.....
- Post Office.....
- Geodetic Triangulation Station.....
- Land District boundary.....
- Forest Reserve boundary.....
- Indian Reserve boundary.....
- Lake and stream (position approximate).....
- Marsh.....
- Contours (interval 500 feet).....
- Contours (position approximate).....
- Height in feet above Mean sea-level..... 4832'

Geology by J. G. Gray, 1936, 1937.
Descriptive notes by J. E. Armstrong.

Base-map from surveys and topography by the Topographical Survey, 1935, and from information supplied by Federal Government Departments and the British Columbia Department of Lands. Cartography by the Drafting and Reproducing Division, 1941.

MINERAL OCCURRENCES

- Mercury..... Hg
- Antimony..... Sb
- Manganese.... Mn
- Molybdenum... Mo
- Magnesite..... M
- Placer gold.... Au

PROPERTY GEOLOGY: (refer to Figure 5)

Much of the property is underlain by sedimentary rocks of the Cache Creek group. Intrusive into these rocks is a prominent serpentinite dyke, two separate and distinct plugs of quartz monzonite and a series of dykes related to the plugs. Molybdenite is associated with one of the plugs, the Shass quartz monzonite. Tertiary volcanic and sedimentary rocks outcrop in creek gullies on the southwest claims. Alluvium and glacial drift covers about 95% of the bedrock and is up to 20 metres thick.

A brief description of the various units follows.

Cache Creek Group (Unit 1) - the Cache Creek is divided into two sub-groups. Unit 1a consists mainly of argillite, phyllite, phyllitic siltstone, argillaceous quartzite and minor amounts of greenstone. Locally they are schistose or gneissic. Within 200 meters of the contact of the Shass quartz monzonite, they have a pronounced purplish brown color apparently due to secondary biotite development (Unit 1ah). Unit 1b consists of greenstone, metadiabase and hornblende gneiss. This unit lies to the northeast of the Shass property and comprises most of the south slope of Shass Mountain. The Cache Creek trend is north to northwest, dipping moderately to steeply to the east.

Serpentinite (Unit 2) - an irregular dyke of serpentinite, apparently concordant with the Cache Creek rocks,

outcrops in places in the east and west forks of Kid Creek. The dyke trends north-northwest except to the north where it swings sharply to the west. The aeromagnetic map suggests that it is coextensive with a large body of serpentinite 5 km northwest of the property. The serpentinite is dark green to black in color, weathering to brown. Locally it is altered to talc.

Hornblende-biotite quartz monzonite (Unit 3) - a plug of hornblende-biotite quartz monzonite outcrops on the southeast corner of the map area. The rock is brownish-grey in color, medium grained, inequigranular and consists of 38% plagioclase, 25% quartz, 20% K-feldspar, 15% grains of ragged biotite and 2% hornblende. The plagioclase occurs as sub-hedral grains ranging in size from 2 to 7 mm in an equigranular groundmass averaging 2 mm. No molybdenite, sulfides or other alteration minerals have been observed associated with the unit.

Shass biotite quartz monzonite (Unit 4) - the Shass quartz monzonite is a northeast-trending elongate plug at least 1200 meters long and 600 meters wide. The rock is a light bluish grey in color with a coarse grained inequigranular to porphyritic texture. The rock consists of 35% subhedral to euhedral plagioclase ranging in size from 2 mm in the groundmass to 8 mm phenocrysts. Quartz, comprising about 30% of the rock occurs as subhedral grains up to 5 mm in diameter. K-feldspar, comprising 25% of the rock, occurs as anhedral

grains 2 mm or less in the groundmass interstitial to the larger grains of quartz and plagioclase. Purplish-brown euhedral books of biotite up to 3 mm in diameter comprise about 10% of the rock. Disseminated pyrite is invariably present in amounts of 2 to 15%. In exposures in the west fork of Kid Creek, numerous fragments of hornfelsic siltstone are present, ranging in size from 2 to 10 cm.

Hornblende diorite (Unit 5) - occurs in the middle part of DDH 81-1 and outcrops on the north side of the Shass quartz monzonite. The rock is medium to coarse grained, inequigranular and greenish grey in color. The rock contains an interlocking network of 50 to 60% hornblende grains with interstitial white feldspar, minor amounts of quartz and up to 10% disseminated pyrite and/or pyrrhotite. Locally, up to 10% purplish brown secondary? biotite is present.

Biotite quartz diorite (Unit 5b) - has been observed only in the upper part of DDH 81-1. The rock is fine to medium grained, equigranular and contains about 25% biotite and 2 - 3% disseminated sphene in a grey quartzofeldspathic groundmass.

Porphyritic quartz monzonite (Unit 6) - various dykes and sills of porphyritic quartz monzonite and grandodiorite occur scattered throughout the claim area. They intrude the Cache Creek sediments and the Shass quartz monzonite and probably represent phases of both quartz monzonite stocks.

Muscovite-biotite quartz monzonite (Unit 7) - a dyke of muscovite-biotite quartz monzonite occurs on the eastern part of the claim group. The rock is coarse grained equigranular with the grain size averaging 2 - 3 mm. Weakly foliated ragged grains of biotite and lesser amounts of muscovite comprise about 7% of the rock. Subhedral grains of plagioclase make up about 35% while interlocking grains of quartz, 33%, and anhedral K-feldspar, 25%, make up the remainder.

Aplite (Unit 8a) - a number of fine grained leucocratic and weakly porphyritic rocks have been included under the term aplite. Flat lying pegmatite dykes (Unit 8b) up to 2 meters wide occur in the east branch of Kid Creek and near the junctions of the east and west branches. Some of the small felsite dykes intersected in DDH 80-1 contains pegmatitic and graphic granite cores.

Diabase (Unit 9) - diabase occurs in several localities, the most prominent of which is a dyke up to 10 meters wide north of the Shass quartz monzonite stock. The rock is medium grained and dark green in color.

Endako group volcanic rocks (Unit 10) - outcropping in Kid Creek and the creek to the north is apparently the base of the Endako group. The rocks are purple to brown in color and consist of agglomerate, basalt and tuff. On the south side of the Sutherland River they are predominately vesicular basalts.

Structure

The most obvious structural feature is a circular lineament about 1800 meters in diameter, visible on air photos. The lineament does not appear to be the result of any single phenomenon such as doming. It is not centred on the Shass quartz monzonite and may be a result of erosional expression of the serpentinite and contacts of the quartz monzonite and Endako volcanic rocks.

In addition, strong northeast and northwest structures are visible on air photos, drainage maps and aeromagnetic maps. The regional trend is northwest, but the long axes of the quartz monzonites lies in a northeast direction suggesting that faulting or fissuring may have controlled their emplacement.

The Shass quartz monzonite in the western end of the most southerly trench was found to be strongly sheared. The amount of displacement on the shear zone is unknown. The rock in the zone is extremely crumbled, hence the attitude of the zone has not been determined with accuracy. Individual shears and quartz veinlets generally trend northeast.

The change in stratigraphy (presence of Unit 1b vs 1a) of the Cache Creek group to the northwest and the change in trend of the serpentinite dyke also suggest a possible northeast-trending structural break parallel to the west fork of Kid Creek.

A plot of poles to faults, fractures and quartz veinlets exposed in trenches indicates two main trends at $014/82^{\circ}W$ and $075^{\circ}/85^{\circ}N$. Assuming that they are a conjugate set, a stress orientation of $N 44^{\circ} E$ is indicated. Such a stress field is perpendicular to the regional trend and parallel to the long axis of the Shass quartz monzonite suggesting that regional stress was the main control in the deformation of the Cache Creek rocks, emplacement of the quartz monzonite along northeast tension zones and subsequent development of fractures in the quartz monzonite.

A quart-molybdenite stockwork occurs in the Shass quartz monzonite intrusion and its adjacent wall-rock. Up to 30 quartz veins per metre are present. They range in size from 1 mm to 3 cm. Some complexity in quartz veining is present. Quartz-molybdenite veins have been observed to cut quartz and quartz-pyrite veins and vice versa. A pegmatite dyke at 63 m in DDH 81-1 contains quartz-MoS₂ veins cut the more abundant quartz veins that typically contain molybdenite disseminated along the margin.

Mineralization

The most abundant sulfides are pyrite and pyrrhotite which occur in variable proportions. They occur in quartz veins and as disseminations in all rock types. Pyrite also commonly occurs as thin fracture coatings. Molybdenite occurs mainly as fine disseminated flakes along and near the

margin of quartz veinlets and less often as streaks or disseminations within quartz veins. Chalcopyrite occurs in trace to minor amounts in a few quartz and quartz-molybdenite veins. Minor amounts of scheelite occur in narrow (0.1 mm) quartz and quartz-pyrrhotite veinlets.

Alteration

Alteration accompanying mineralization, except for abundant quartz veining and disseminated pyrite, is not strong. Locally, sericitization and argillization are intense where quartz veining and faulting are intense. Weak pervasive sericite haloes occur adjacent to some quartz MoS₂ veins. Silicification locally is evident especially in the northeast nose of the Shass quartz monzonite stock where molybdenite occurs disseminated in a quartz-rich rock with indistinct quartz veins.

Geochemistry

Geochemical sampling (by AMAX) revealed scattered positive to low anomalous Mo values over a large area. Molybdenum anomalies have been obtained as far as 9 km from the Shass quartz monzonite on the far side of the ridge northeast of the claim group and boulders of Shass quartz monzonite have been observed as far as 3 km to the northeast. The geochemical anomalies are tentatively explained by glacial dispersion.

DIAMOND DRILLING REPORT:

i) Summary of Operations

Several sections of the forest access road between the logging road and the drill sites had to be repaired, so a John Deere bulldozer was contracted from Nechako Excavating in Fort Fraser on June 1 and 2, 1981

Camp construction and fuel haulage began about June 6th and continued to June 14th, interrupted by truck breakdowns and very wet weather.

The drill and drill crew of Wright Drilling Ltd. mobilized from Salmo, B.C. on June 15th and were on the first drill site by June 17th. Drilling of hole S-81-01 started June 18th and ended June 27th. The hole ended at 243.8 meters in badly fractured ground. Approximately 40% of the man hours on this hole were spent on hole stabilization, mechanical repairs and down time related to lack of spares or proper drilling string. Hole S-81-02 started June 28th and was drilled without major time-loss, and was stopped at 121.2 meters on July 3rd. Hole S-81-03 started on July 4th and ended at 249.6 meters on July 9th.

Demobilization of the drill rig and crew started July 9th and was complete by July 10th. The BP crew remained on site to finish core logging and splitting and camp demobilization. The camp was vacated on July 13, 1981.

All core was stored on site with lids nailed on all boxes, all boxes being identified by metal tags. Selected core samples were brought to the Vancouver office of BP Minerals. The split core samples were shipped to Rossbacher Laboratories in Vancouver for analysis, and save samples are stored at the lab.

ii) Geological Description of Diamond Drill Hole S-81-01

Diamond drill hole S-81-01 was drilled at the site of percussion drill hole S-74-12 at elevation 1827 meters. The hole was drilled vertically to a depth of 243.8 meters.

The upper 77 meters of the hole intersected fine to medium grained biotite quartz diorite (Unit 5b). This unit was not encountered in surface mapping and may be an early dyke? phase of the Shass intrusive complex. Pyrite and pyrrhotite are abundant (3 to 10%) as disseminations in quartz diorite and quartz veinlets and as fracture coatings. Molybdenite occurs as disseminations in quartz veinlets and lesser amounts as fracture coatings up to 1 mm thick. Quartz veinlets range in abundance from 1 to 14 per meter (average 9 per meter).

The interval 77 to 106 meters is brown to purple hornfelsic argillite and phyllite. Relict bedding and/or foliation lie at 10 to 20^o to the core axis. Intensity of hornfels development appears to weaken with depth. In the upper part of the section the rock is locally intensely

feldspathized and silicified over a core length of up to 1 meter. Quartz \pm MoS₂ vein abundance ranges from 8 to 25 per meter (average 13 per meter). Pyrite (up to 5%) occurs mainly on fractures and in quartz veinlets.

The interval 106 to 186 meters is medium to coarse grained hornblende diorite (Unit 5a). Purplish brown secondary biotite, an alteration product of hornblende is locally abundant. Bleaching, sericitization and argillization is minor but locally intense. Quartz \pm MoS₂ vein abundance ranges from 3 to 11 per meter (average 7.5 per meter). Numerous felsite, aplite and biotite quartz monzonite dykes occur in the interval 137 to 158 meters at 8 to 40° to core axis.

The remainder of the hole is in Shass quartz monzonite (Unit 4). Pyrite with minor pyrrhotite occurs disseminated in the quartz monzonite, in quartz veinlets and as disseminations and coatings on fracture planes. Molybdenite occurs mainly in 0.5 to 1 mm quartz veinlets. The quartz monzonite is locally intensely argillized and sericitized over short intervals up to 3 meters. Minor amounts of sericite occur as fracture coatings and as alteration halos along some quartz veinlets and fractures. Quartz vein abundance ranges from 1 to 12 per meter (average 8 per meter).

A summary log is as follows.

INTERVAL	MAIN LITHOLOGY	SECONDARY FEATURES
0-20.4 20.4-77.0	Overburden Biotite quartz diorite.	Brown biotite developed at expense of primary black biotite. Local bleaching and silicification. 1 to 14 qtz + py + MoS ₂ veinlets/m. 3 to 7% py and po. Quartz monzonite dykes 71.1-73.5, 74.5-75.9 m. Fault 71.3-71.7
77.0-106.0	Biotite hornfels	Purplish cast due to secondary fine grained biotite. Minor local bleaching, feldspathization and silicification. Up to 23 qtz + py + MoS ₂ veinlets/m. 2 to 5% py and po. Quartz monzonite dyke 81.3-83.8 Fault 82.0-82.5
06.0-137.1	Hornblende quartz diorite	Purplish brown secondary biotite locally abundant. Minor but locally intense bleaching, sericitization, and argillization 3 to 11 qtz + py + MoS ₂ veinlets/ Quartz monzonite dykes 106.9-107.3, 108.2-109.9, 110-113.4, 130.9-131.5. Faults 119.1-119.3, 134.6-135.2
137.1-158.2	Hornblende quartz diorite with numerous felsite, aplite, quartz monzonite dikes.	Local argillization bleaching, silicification, sericitization. 2 to 12 qtz + py + MoS ₂ veinlets/m. 2 to 3% py dissem. and on fractures. Faults 137.2-137.9, 142.2-142.4, 150.7-151.2.
158.2-188.2	Hornblende quartz diorite	Minor purplish brown biotite developed in zones up to 5 cm wide mainly adjacent to fractures and quartz veinlets. Minor sericite adjacent to a few quartz veins. Up to 6% py and po - dissem and on fractures and in quartz veinlets 3 to 13 qtz + py + MoS ₂ veinlets/m. Faults 172.7-180.3, 181.8-182.0.

INTERVAL	MAIN LITHOLOGY	SECONDARY FEATURES
188.2-243.8	Biotite quartz monzonite	Short intervals of intense argillization and sericitization. Minor amounts of sericite occur adjacent to some qtz veinlets and as thin fracture coatings. 3 to 4% pyrite - disseminated and as fracture coatings. Faults 209.7-210.1, 233.0-233.8, 243.6-243.8.
	243.8 End of hole.	

iii) Geological Description of Diamond Drill Hole S-81-02

DDH S-81-02 was drilled at the site of percussion drill hole S-74-9 at elevation 1799 meters. The hole was drilled vertically to a depth of 121.2 meters.

The entire hole was drilled in Shass quartz monzonite (Unit 4), an inequigranular to subporphyritic rock containing about 15% biotite. The rock is fresh except for intervals (core lengths of 0.1 to 8 meters) of moderate to intense argillization and sericitization of biotite and feldspars. Sericitized haloes up to 5 cm wide occur disseminated in the quartz monzonite and quartz veinlets. Molybdenite occurs in 0.5 to 1.5 cm wide quartz veinlets and rarely as disseminations in sericitized quartz monzonite. Some of the higher grade intervals are a result of quartz-molybdenite veinlets lying along the core axis. In the interval 72-121 meters a network of microfractures contain thin coatings of pyrite. Quartz veinlet abundance ranges from 2 to 27 per meter (average 11 per meter). Quartz MoS_2 veinlet abundance averages 5 per meter.

A. summary log is as follows.

INTERVAL	MAIN LITHOLOGY	SECONDARY FEATURES
0-6.8 m	Overburden	
6.8-121.2	Biotite quartz monzonite	Intensely argillized and moderately sericitized over short intervals. Sericite also weakly developed adjacent to some qtz and qtz-MoS ₂ veinlets. Up to 25 qtz + py + MoS ₂ veinlets/m. 2 to 4% po and py dissem, on scattered fractures and in qtz veinlets. Numerous py (+ chlorite) - coated fractures: 72-121.

iv) Geological Description of Diamond Drill Hole S-81-03:

Hole S81-03 was drilled at the site of percussion hole S74-11, with an approximate elevation of 1860 meters ASL. Intersecting bedrock at 33m, the hole was vertically to a depth of 249.6 m.

The hole was drilled predominantly in hornfels, which appears to be intruded by three biotite quartz monzonite sills or dykes (unit 4). The hornfels is a brown or purplish brown hornfelsic argillite or phyllite mapped regionally as part of the Cache Creek group. Relict bedding lies at an average 25° to core axis ranging from 50° at the top of the hole to 20° at the bottom. The degree of hornfelsing appears to remain constant the depth of the hole, as does chlorite and sericitic alteration, which is most intense immediately adjacent to fractures. Similarly, feldspathization and silicification are confined to discrete intervals near quartz monzonite contacts or within fracture zones. Hornfelsed argillite occurs in the intervals 4.9 - 7.8 m, 17.4 - 29.6m, 56.4 - 113.0 m, and 123.5 - 234.4 m. Pyrite disseminations in the rock matrix, or as blebs or lenses along quartz vein margins, or as coatings along fractures. Molybdenite occurs as finely disseminated grains evidenced by gun metal blue grey sheen, or as thin coatings along quartz veinlet margins. Quartz veining within the hornfels ranges from 1 to 25 per meter with an average of 13 per meter.

From 62.0 - 249 m, there are 1 to 6 meter intervals of rhythmic layered texture due to dull grey silica bands (5mm - 5 cm averaging 1 cm wide) interlayered with brown hornfelsed argillite. The silica layers are parallel to relict bedding, and show no evidence of being intruded into the hornfels.

The biotite quartz monzonite sills or dykes (unit 4) make up the remainder of the hole, from 3.3 - 4.9, 7.8 - 17.4, 29.6 - 56.4, 113.0 - 123.5 and 234.4 - 249.6 meters (end of hole). It is possible that the main body of quartz monzonite intrusive was reached at 234.4 meters. The quartz monzonite is porphyritic in part, and usually brecciated near the contacts with hornfels. It is more highly fractured than the hornfels, with an average fracture density of greater than 20 per meter. Quartz veining varies more widely, but generally averages about 3 per meters. Mineralization in pyrite, pyrrhotite and molybdenite occur in the same manner as in the hornfels, but there are only an average of 2 quartz MoS_2 veinlets per meter.

SUMMARY LOG - DDH S-81-03

INTERVAL	MAIN LITHOLOGY	SECONDARY FEATURES
0 - 3.3	Overburden	
3.3 - 4.9	Biotite feldspar porphyry dike	Occ. white feldspar phenocrysts.
4.9 - 7.8	Hornfels	Purplish cast due to secondary fine grained biotite, rock is brecciated in part due to extensive qtz veining.
7.8 - 17.4	Biotite qtz.-monzonite	Chlorite coating on some fracture surfaces. Average 3 qtz veinlets/m. Estimated 5% Po + Py. Unaltered qtz latite dike 11.3 - 13.5 m.
17.4 - 29.6	Hornfels	Chlorite and calcite fracture fillings, also Py very finely disseminated MoS ₂ along fracture margins. Hornfels is brecciated in part, with fragments of qtz monzonite at 20.5 and 21.7.
29.6 - 56.4	Qtz Monzonite (in part porphyritic)	Alteration moderate, mainly sericite and chlorite fracture fillings. Minor Po + Py 3%. Local feldspathization in and near qtz filled fractures.
56.4 - 113.0	Hornfels	Purplish brown color due to secondary biotite with chlorite rich zones parallel to relict bedding. Numerous thin (.5 cm) calcite veinlets at 90° to bedding. Relict bedding at 71°.

INTERVAL	MAIN LITHOLOGY	SECONDARY FEATURES
56.4 - 113.0 (cont)	Hornfels	Quartz veinlets both parallel and crosscutting relict bedding, average abundance is 15 per metre. Molybdenite occurs as disseminations or as qtz-MoS ₂ veinlets, averaging 4 per metre
113.0 - 123.5	Biotite qtz-monzonite	Relatively unaltered, local bleaching adjacent to calcite veinlets, minor chloritization and sericitization marginal to fracture zones. Decrease in fracturing, qtz veining and qtz-MoS ₂ veinlet abundance. Porphyritic texture at sill margins.
123.5 - 234.4	Hornfels	Purplish brown color due to secondary biotite. Intervals (1-3m) of rhythmic layering due to grey silica rich band as before. Minor chloritic and sericite alteration zones marginal to fractures. Mineralization and Po, Py, as before.
234.4 - 249.6	Biotite qtz-monzonite	Pervasive chlorite alteration 232-242 m, then decreasing to bottom of hole. Unit contains fragments of hornfels from 239-240m. Intensive fracturing but only minor qtz veining. Minor visible MoS ₂ .
249.6	END HOLE	

DRILL CORE ASSAY RESULTS:

The results of geochemical analysis of split core sample from drill holes S-81-01 to S-81-03 are presented in Appendix 3 (in pocket). Mo. (geochem), total MoS₂, Cu, Pb, Zn, Ag, Sn were determined by atomic absorption, F was by specific ion meter, and W was determined by colorimetric methods. Total MoS₂ was determined for each 3 meters sample split, other elements every fifth sample.

Molybdenum values are erratic in distribution on the whole, with narrow intervals of higher value corresponding to fracture density and abundance of quartz veining (see geological logs).

Hole S-81-01

Best MoS₂ grades are found in hole S-81-01, in the intervals as follows:

20 - 104 m - 0.86% MoS₂

47 - 86 m - 0.114% MoS₂

There is no positive correlation with increased fluorine or tungsten in these relatively enriched intervals, which occur in quartz diorite.

Hole S-81-02

Best MoS₂ interval is as follows:

15-84 m - 0.07% MoS₂

Again, there is not positive correlation with fluorine or tungsten, or other trace elements. The whole of hole S-81-02 is in quartz monzonite.

Hole S-81-03

Best MoS₂ values are as follows:

155-225 m + 0.047% MoS₂

225-250 m - 0.101% MoS₂

These intervals occur mainly in hornfelsed argillite, and again there is no positive correlation of fluorine or tungsten with grade, but there is a gradual increase in fluorine with increasing depth.

Values of copper, lead, zinc, silver and tin vary in an erratic fashion, with no apparent correlation with intervals of increased molybdenum.

Conclusions

Molybdenum occurs over an area of at least 1500 meters by 600 meters, as evidenced by the AMAX percussion drilling in 1974 and the 1981 diamond drill program.

Best grades in the percussion drilling program were located in the northeast nose of the quartz monzonite/quartz diorite intrusive, where drill holes have intersected a number of close-spaced quartz- MoS₂ veins.

Some question remains as to whether an Endako type model (plutonic model) or phallic model (centred on a cylindrical? pluton) applies. An understanding of which model applies might aid in further exploration. Evidence for the Endako model are: widespread uniformly low grade mineralization, weak alteration, and strong structural control. Evidence for the cylindrical model is the well developed biotite hornfels zone and the disseminated molybdenite in the northeast nose of the stock (apex of a tilted cylinder?). Evidence seems strongest for the Endako type model.

In spite of the lack of economic mineralization in one fence of three holes over a 350 meter width, it must be kept in mind that only one end of the permissive quartz monzonite/quartz diorite intrusive has been drilled, and only to 250 meter depths. If an Endako model applies, Shass quartz monzonite might exist at depth to the northeast and southwest.

Recommendations

Induced polarization surveys at fairly wide intervals across the trend of the intrusive stock might define the permissive area, since the sulfide content of the stock in general is greater than the enclosing wallrock. Also, since there appears to be a rough correlation between pyrrhotite and increased MoS_2 grade, a magnetic gradiometer survey at detailed line spacings may define the contacts of the more favourable quartz diorite or quartz monzonite.

Following the above geophysical surveys, hole S-81-03 should be deepened to test for the possibility of increased grades with depth, as suggested by increased fluorine. Depending on the results of this hole, further step out or fill in drilling could be done along the trend of the quartz monzonite intrusion.

APPLICATION FOR ASSESSMENT CREDIT

The Pirate claim group comprises 2 groups totaling 36 units; the Shass claims consist of 3 groups totaling 10 units. Assessment credit for 1981 is applied as follows: -

<u>CLAIM</u>	<u>UNITS</u>	<u>APPLIED CREDIT YEARS</u>	<u>ASSESSMENT CREDIT DOLLAR VALUE</u>	<u>NEW ANNIVERSARY DATE</u>
PIRATE	20	10	\$36,000.00	August 31, 1991
PIRATE 2	16	10	38,800.00	August 31, 1991
SHASS 1	3	11	5,100.00	June 23, 1992
SHASS 2	3	11	5,100.00	June 23, 1992
SHASS 3	4	11	6,800.00	June 23, 1992
			<u>\$91,800.00</u>	
Value of work applied to the PAC Account			<u>22,014.00</u>	
Total Assessment Credit			<u><u>\$113,814.00</u></u>	

APPENDIX 1

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Michael Smith of 3rd floor, 900 West Pender Street in Vancouver in the Province of British Columbia, Do Hereby State:

1. That I am a graduate of Brock University, St. Catharines, Ontario, where I obtained a B.Sc. (Hons.) degree in Geology in 1975.
2. That I am a fellow of the Geological Association of Canada, and the Prospectors and Developers Association.
3. That I have been active in mineral exploration since 1961.
4. That I have practised my profession continuously as a geologist since 1975.



Vancouver, B.C.

Michael D. Smith
BP Geologist
BP Minerals Limited

APPENDIX 2

STATEMENT OF COSTS

STATEMENT OF COSTS - 1981 DRILL PROGRAM

1. CONTRACTORS

A. Drilling (Wright Drilling) (Supporting invoice attached to this report)

(i) Footage & Casing Hole 81-01	\$ 913.33
Hole 81-02	271.50
Hole 81-03	181.00
	<hr/>
	\$1365.83

(ii) Coring Hole 81-01	15,728.04
Hole 81-02	8,210.88
Hole 81-03	13,834.40

(iii) Labour

Mobilization Kamloops -Fort Fraser (includes truck rental)	3,549.89
Camp & Initial Set-up	1,772.00
Drill Moves	2,059.75
Demobilization (includes equipment rentals)	4,333.80

(iv) Contractor Equipment Rental

4 X 4 Truck	1,892.04
Bulldozer	992.00

(v) Materials Consumed or lost during drilling 4,299.91

Total Footage 58,038.54

B. ROAD IMPROVEMENT (Nechako Excavating) 1,950.00

2. LABOUR

M. Smith - \$200/day X 44 days	8,800.00
A. Fyfe - \$73/day X 33 days	2,409.00
J. Dekker - \$98/day X 6 days	588.00
G. McLachlan - \$81/day X 26 days	2,106.00
B. Stevens - \$65/day X 10 days	650.00

3. Geotechnical Consulting - A & M Explorations Ltd. 8,977.91

4. Rental vehicles 3,599.51

5. Travel Expenses

Wright Drilling	246.55
BP Minerals	2,549.19

5 (a) Transport - Air/Ground	\$ 2,201.14
6. Field Accommodation, Food, etc.	2,799.64
7. Materials & Supplies, Maps	422.70
Gas for BP Rental truck	601.35
Phone calls	615.00
Camp Supplies	172.00
Contractors and camp use	1,660.77
Photomosaies	1,860.00
8. Drill Core Analysis - Rosbacher Labs	1,689.70
9. <u>Report Preparation</u>	
Drafting	567.88
Reproductions - airphotos, blueprints, etc	526.79
Typing 40 hours X \$9/hour	<u>360.00</u>
	45,775.83
 TOTAL ASSESSMENT CREDIT CLAIMED -	 \$103,814.37 =====

INVOICE

WRIGHT DRILLING LTD.
 SITE 22-5 RR#1
 CHASE, B.C.
 V0E1M0

RECEIVED

INVOICE NO. 280

JUL 14 1981

SHIPPED TO

B P MINERALS LIMITED
 Vancouver, B.C.

SOLD TO

B.P. CANADA
 1111 - WEST HASTINGS ST.
 VANCOUVER, B.C.

CHASE MTN.

DATE	ORDER NO.	SALESMAN	TERMS	SHIPPED VIA	PPD.	COLL.
13/07/81			15 DAYS			
QUANTITY	DESCRIPTION				PRICE	AMOUNT
	DIAMOND DRILLING JULY 1-11/81					\$26,733.55
				5304	18,744.35	
				80079-5305	7,989.20	
					\$26,733.55	
APPROVED FOR PAYMENT						
CHARGE						
DATE JUL 30 1981						
INTLS CHARGE						
PAST DUE INVOICES SUBJECT TO 2% INTEREST PER MONTH.						\$26,733.55

BREAKDOWN INVOICE # 280

JULY 1-10/81

DRILLING HOLE SH 81-02

CORING 127' - 398' - 271' @ \$17.45'

\$4728.95

MUD & HOLE STABILIZATION

LABOR 6 HRS @ \$17.50 - \$105.00

EQUIP 3 HRS @ 1.50 - 4.50

5 BAGS QUIK TROL @ \$10.39 51.95

PLUS 15% OF \$51.95 7.79

RECEIVED

JUL 14 1981

B P MINERALS LIMITED
Vancouver, B.C.

\$169.24

SUPPLIES LEFT IN HOLE # SH 81-02

4 - 5' N.W CASING @ \$74.83 - \$299.32

1 - 2' N.W CASING @ 37.16 - 37.16

1 NW CASING SHOE @ 259.70 - 259.70

PLUS 15% 35.17

\$631.95

MOVING TO HOLE # SH 81-03

LABOR 41 HRS @ \$16.00 - \$656.00

EQUIP 15 HRS @ 12.50 - 187.50

\$843.50

DRILLING HOLE # SH 81-03

CASING 0 - 10' - 10' @ 18.10 - \$181.00

CORING N.A 10' - 427' - 417' @ \$17.45 - \$7276.65

B.A 427 - 500' 73' @ 16.20 - \$1182.60

500 - 819 319' @ 16.85 - 5375.15

\$14,015.40

REDUCING TO B.O. HOLE #SH 81-03

LABOR	14 HRS @ \$17.50	\$245.00	
DRILL	7 HRS @ 16.00	112.00	
PUMP	7 HRS @ 1.75	12.25	
MIXER	7 HRS @ 1.50	10.50	
TRUCK	7 HRS @ 6.00	42.00	
CASING	427' @ .80	341.60	\$763.35

HOLE STABILIZATION & MUD COST

LABOR	6 HRS @ 17.50	105.00	
MIXER	3 HRS @ 1.50	4.50	
1 PAIL ALCOMER		156.42	
1 PAIL KUTWELL		25.07	
PLUS 15%		27.22	\$318.21

REAMING CASING

LABOR	2 HRS @ \$17.50	35.00	
DRILL	1 HR @ 16.00	16.00	
PUMP	1 HR @ 1.75	1.75	
MIXER	1 HR @ 1.50	1.50	
TRUCK	1 HR @ 6.00	6.00	\$60.25

SUPPLIES LEFT IN HOLE SH 81-03

2 - 5' N.W CASING @ 14.83	149.66	
1 - 2' N.W CASING @ 37.16	37.16	
1 - N.W CASING SHOE	259.70	
PLUS 15%	66.98	\$513.50

II

DRILL RODS DAMAGED HOLE #5H81-03

4-10' N.A. RODS @ \$112.41 \$449.64

PLUS 15% 67.45

\$517.09

MUD MIXER COST

17 HRS @ \$1.50

25.50

TRUCK COST

39.5 HRS @ \$6.00

237.00

COST FOR SPARE 4X4 33.3% OF \$550.00

183.15

TRACTOR COST 28.5 HRS @ \$16.00

456.00

ACID TEST AT 819'

60.25

MOVE OUT TO LOADING AREA

LABOR 54 HRS @ \$16.00

864.00

EQUIP 18 HRS @ 12.50

225.00

\$1089.00

DEMobilIZATION

4 TON TRUCK 456 MILES @ 2.25

\$1026.00

3/4 TON 4X4 456 MILES @ 1.50

684.00

LABOR 9 HRS @ 16.00

144.00

\$1854.00

COOK 5 DAYS @ \$55.00

\$275.00

275.00

\$26,733.55

INVOICE

WRIGHT DRILLING LTD.
 SITE 22-5 R221
 CHASE, B.C.
 VOE 1A0

INVOICE NO. 281

SOLD TO

SHIPPED TO

B. P. CANADA
 1111 - WEST HASTINGS ST.
 VANCOUVER, B.C.

SHASS MTN.

DATE 3/1/81	ORDER NO.	SALESMAN	TERMS 15 DAYS	SHIPPED VIA	PPD.	COLL.
----------------	-----------	----------	------------------	-------------	------	-------

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	DIAMOND DRILLING JUNE 15-30		\$30,211.79
RECEIVED			
APPROVED FOR PAYMENT 5305 13,503.63 JUL 7 1981			
CHARGE 80079 5304-16,708.16			
DATE JUL 30 1981 INTLS <i>CPA</i> \$30,211.79			
PAST DUE INVOICES SUBJECT TO -			
2% INTEREST PER MONTH.			
			\$30,211.79

L-38

MOBILIZATION - SHOP TO UNLOADING AREA
 4 TON TRUCK 456 MILES @ \$2.25 - \$1026.00 ✓
 ROAD TRANSPORT \$23764 1464.35 ✓
 3/4 TON 4X4 456 MILES @ \$1.50 684.00 ✓
 LABOR - 2 MEN 16 HRS @ 16.00 256.00 ✓
 ROOMS + MEALS 119.54 ?

\$3549.89

MOVING IN + SETTING UP ON HOLE # 5H 81-01

92 MAN HRS @ \$16.00 - \$1472.00
 24 MACH HRS @ \$12.50 300.00

\$1772.00

DRILLING HOLE # 5H 91-01

CASING 0-24 - 24' @ \$18.10 \$434.40 ✓
 REAMING CASING
 LABOR 13 MAN HRS @ \$17.50 - \$227.50
 DRILL 8.5 HRS @ 16.00 - 136.00
 PUMP 8.5 HRS @ 1.75 14.88
 MUD MIXER 8.5 HRS @ 1.50 12.75
 TRUCK 8.5 HRS @ 6.00 51.00
 CASING COST 46' @ .80 36.80

DIAMOND COST WHEN CUTOUT IS RECEIVED

\$478.93 ✓

CORING - N.A

24' - 493'	-	469'	@ \$17.45'	\$8184.00	D
B.R. 493' - 500'	-	7'	@ 16.20	113.40	D
500' - 800'	-	300'	@ 16.85	5,055.00	D

REDUCING COST

LABOR	17 MAN HRS @ \$17.50	-	\$297.50	
DRILL	8.5 HRS @ 16.00	-	136.00	
PUMP	8.5 HRS @ 1.75	-	14.88	
MIXER	8.5 HRS @ 1.50	-	12.75	
TRUCK	8.5 HRS @ 6.00	-	51.00	
CASING	493' @ .80		394.40	\$906.53

CEMENTING & HOLE CLEANING

LABOR	30 HRS @ \$17.50	\$525.00	
LABOR	8 HRS @ 16.00 (WAITING TIME)	128.00	
EQUIP	4 HRS @ 12.50 (")	50.00	
DRILL	15 HRS @ 16.00	240.00	
PUMP	15 HRS @ 1.75	26.25	
MIXER	15 HRS @ 1.50	22.50	
TRUCK	15 HRS @ 6.00	90.00	
5 PAILS CAL-SEAL @ \$36.21		181.05	
PLUS 15% OF \$181.05		27.16	
- DIAMOND COST 199' @ .90		179.10	\$1469.06

MUD, MUD MIXING + HOLE STABILIZATION

LABOR	24 HRS @ \$17.50	\$420.00	
MUD MIXER	32 HRS @ \$1.50	48.00	
QUICK TROL	19 BAGS @ \$10.39	197.41	
QUICK CEL	6 BAGS @ 10.39	62.34	
	PLUS 15% OF \$259.73	38.96	\$766.71

N.W. CASING LEFT IN HOLE # SH 81-01

14 - 5' N.W CASING @ \$74.83	\$1047.62	
1 N.W CASING SHOE	259.70	1307.32
PLUS 15%		196.10

SUPPLIES USED

1 PAIL ALCOMER LIQUID MUD	\$156.42	
3 PAILS KUTWELL OIL @ \$25.07	75.21	
3 - N.B. DRILL RODS @ \$112.41	337.23	
60' WIRELINE CABLE @ \$1.00	60.00	\$628.86
PLUS 15%		94.33

LAY WIRE

MOVING + SETTING UP ON HOLE # SH 81-02

LABOR 60 HRS. @ \$16.00	\$960.00	
EQUIP 20.5 HRS @ \$12.50	256.25	1216.25

DRILLING HOLE # 3H 81-02

CASING 0 - 15' - 15' @ \$18.10 = \$271.50

REAMING

LABOR 7 MAN HRS @ \$17.50 \$122.50

DRILL 3.5 HRS @ 16.00 56.00

PUMPS 3.5 HRS @ 1.75' 6.13

MIXER 3.5 HRS @ 1.50 5.25

TRUCK 3.5 HRS @ 6.00 21.00

CASING COST 7' @ .80 5.60

CORING 15' - 127' - 112' @ \$17.43 1954.40

\$2442.38

TRACTOR COST

? 33.5 HRS @ \$16.00

\$536.00

TRUCK 51 HRS @ \$6.00

306.00

? TRIPS TO PR GEO. FOR CASING 500 MI @ \$1.50

750.00

AIR FREIGHT FOR CASING

INV # 0902 F + 0906 F

\$222.15

PLUS 15%

33.32

\$255.47

COST FOR ADVANCE TRIP - R. WRIGHT

TRUCK RENTAL - \$415.89

CAS 141.65

ROOMS + MEALS 104.90 ✓

\$662.44

TOTAL

\$30,211.79



STATEMENT

FORM L16 (REV.74)

VANDERHOOF CO-OP ASSOCIATION
BOX 560
VANDERHOOF, B.C.
V6J 3A0

TOTAL BALANCE
\$2,684.47

B P MINERALS
1007 1111 W HASTINGS
VANCOUVER B C

TRANSACTIONS PROCESSED TO
25 JUL 1981

CUSTOMER ACCOUNT NO.
91356 6 27862

REGULAR 2,684.47
\$2,684.47

MINIMUM PAYMENT NOW DUE

WHEN MAILING REMITTANCE, PLEASE ENCLOSE THIS PORTION.

DATE DAY: MTH.	INVOICE NO.	DEPARTMENT	REVGLV	BUDGET	REGULAR	TOTAL
	BAL.	FORWARD			1984.05	1984.05
29	130737	LUMBR06			23.28	2007.33
29	131421	LUMBR06			82.11	2089.44
29	306527	G-BAR06			20.00	2109.44
30	306540	G-BAR06			21.00	2130.44
02	204706	FOOD 16			110.97	2241.41
04	203096	G-BAR06			30.00	2271.41
04	203098	G-BAR06			27.69	2299.10
04	204445	FOOD 16			334.80	2633.90
05	131749	LUMBR06			1.59	2635.49
06	203103	G-BAR06			9.30	2644.79
INT	\$1984.05 X 024.0%				39.68	2684.47

RECEIVED
AUG 14 1981
B P MINERALS LIMITED
Vancouver, B.C.

\$1,984.05 THE AMOUNT NOW PAST DUE. PLEASE GIVE THIS ACCOUNT YOUR IMMEDIATE ATTENTION. IF PAYMENT HAS BEEN MADE SINCE THE ABOVE DATE, PLEASE ACCEPT OUR THANKS.

IN ORDER FOR US TO PROVIDE BETTER SERVICE ALWAYS PRESENT YOUR CO-OP SERVICE CARD WHEN MAKING A PURCHASE

APPROVED FOR PAYMENT

NEW BALANCE

CHARGE 80071 - 4624 \$106.68
4602 \$107.97 2654.47 2684.47

MINIMUM PAYMENT NOW DUE

DATE AUG 26 1981 INTLS 5320 \$135.97
\$700.42 2684.47 2684.47

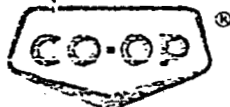
SEE REVERSE FOR SAMPLE INTEREST CALCULATIONS

WHEN MAKING PAYMENT IN PERSON, PLEASE BRING ENTIRE STATEMENT.

VANDERHOOF COOP



L-52



STATEMENT

FORM L16 (REV.74)

VANDERHOOF CO-OP ASSOCIATION
BOX 560
VANDERHOOF, B.C.
V0J 3A0

TOTAL BALANCE
\$2,684.47

B P MINERALS
1007 1111 W HASTINGS
VANCOUVER B C

TRANSACTIONS PROCESSED TO
25 JUL 1981

CUSTOMER ACCOUNT NO.
91356 6 27862

REGULAR 2,684.47
\$2,684.47



WHEN MAILING REMITTANCE, PLEASE ENCLOSE THIS PORTION.

DATE DAY/MTH	INVOICE NO.	DEPARTMENT	REVGLV	BUDGET	REGULAR	TOTAL
	SAL. FORWARD				1984.05	1984.05
29	130737	LUMBR06			23.28	2007.33
29	131421	LUMBR06			82.11	2089.44
2906	306327	G-BAR06			28.00	2109.44
3006	306542	G-BAR06			21.00	2130.44
0207	204706	FOOD 06			110.97	2241.41
0407	203096	G-BAR06			38.00	2271.41
0407	203098	G-BAR06			27.69	2299.10
0407	204445	FOOD 06			334.80	2633.90
0507	131749	LUMBR06			1.59	2635.49
0607	203103	G-BAR06			9.30	2644.79
INT	\$1984.05X024.0%				39.68	2684.47

RECEIVED
AUG 14 1981
B P MINERALS LIMITED
Vancouver, B.C.

\$1,984.05 THE AMOUNT NOW PAST DUE. PLEASE GIVE THIS ACCOUNT YOUR IMMEDIATE ATTENTION. IF PAYMENT HAS BEEN MADE SINCE THE ABOVE DATE, PLEASE ACCEPT OUR THANKS.

IN ORDER FOR US TO PROVIDE BETTER SERVICE ALWAYS PRESENT YOUR CO-OP SERVICE CARD WHEN MAKING A PURCHASE

APPROVED FOR PAYMENT

NEW BALANCE	CHARGE 80077 - 4624	2054.47	2684.47
MINIMUM PAYMENT NOW DUE	DATE AUG 26 1981 INTLS	5320	2684.47

VANDERHOOF COOP SEE REVERSE FOR SAMPLE INTEREST CALCULATIONS WHEN MAKING PAYMENT IN PERSON, PLEASE BRING ENTIRE STATEMENT.

SIMPSON OIL DISTRIBUTORS LTD.

Box 817

Burns Lake, B.C. V0J 1E0

Phone 692-3412

NAME B. P. MINERALS

ADDRESS 1007-1111 W HASTINGS ST.

VANCOUVER, B.C. V6E 3N5

Net 30 Days - 3% Interest Charges - Minimum Interest 50c.

THIS ACCOUNT IS DUE AND PAYABLE BY THE 10TH OF THE MONTH

684291

DATE		DEBIT	CREDIT	BALANCE
6-8 81	684-291	265.80		265.20 ¹
6-18 81	684-357 <i>should be copy</i>	363.22		629.02 ²
6-18 81	684-358	41.72		670.74 ³
6-26 81	684-415	246.02		916.74 ⁴
7-2 81	684-454	350.18		1266.92 ⁵
7-7 81	684-491	184.08		1451.02 ⁶
7-13 81	684-530		138.00	1313.02 ⁷
7-15 81	684-556		46.00	1267.02 ⁸
				9
				10
				11
				12
				13
				14
				15
				16
				17
				18
				19
				20
				21
				22
				23
				24
				25
				26

RECEIVED
JUL 20 1981

APPROVED FOR PAYMENT
CHARGE 80079-4602-#1267.02
DATE JUL 30 1981 INTLS

*over B.C
305*

GALLONS

on Oil Distributors Ltd.
Box 817
Burns Lake, B.C. V0J 1E0
692-3412

VENDORS GAS HANDLING LICENCE NO.

COPIES	EXEMPTION TAX	DATE
		June 8/81

*Minerals
1111 W Hastings St*

QUANTITY	TOTAL UNIT PRICE	TAX RATE INCLUDED IN PRICE	AMOUNT
615	320		196.80

1. 1979 THE VEDICED IS 5455 REB

PROV. / MUNIC SALES TAX	DRUM(S) (DEPOSIT CHARGE)	TOTAL
	69.00	265.80

GOOD CONDITION PAYMENT RECEIVED

TRUCK SALESMAN *56*

REBY ASSIGN THIS INVOICE TO: **Shell Canada Limited**

DATE _____ 19__



ALPINE
HELICOPTERS LTD.

P.O. BOX 698, KELOWNA, BRITISH COLUMBIA V1Y 7P4

RECEIVED

JUL 28 1981

B P MINERALS LIMITED
Vancouver, B.C.

B.P. MINERALS LTD.,
SUITE 1007,
1111 WEST HASTINGS ST.,
VANCOUVER, B.C.

INVOICE NO.: K 81-723

DATE: JUNE 30, 1981

CONTRACT NO.: K-800

WORK ORDER NO.:

TO: CHARGE FOR HIRE OF BELL 206B HELICOPTER
IN THE HOUSTON AREA

JUNE 18, 1981, FLIGHT REPORT NO. 6945	4.0 Hrs.
4 Hrs. @ \$425.00 per hr.	\$1,700.00
440 litres fuel @ .46¢ l.	202.40
	<u>\$1,902.40</u>

TOTAL THIS INVOICE \$1,902.40

APPROVED FOR PAYMENT ^{SLA 83} 80079-4426-\$ 951.20
 CHARGE 80088-4426-\$ 951.20
 DATE JUL 27 1981 INTLS ^{Asst. to} TABLA

For back of sec 80088.

NECHAKO EXCAVATING LTD.



Box 1067
VANDERHOOF, B.C. V0J 3A0
Tel: 567-2313



INVOICE
3885

RECEIVED

JUL 20 1981

Date July 51

FOR B. P. Minerals

B P MINERALS LIMITED
Vancouver, B.C.

L-37

JOB LOCATION				P.O. No.	
<u>Shaw Mts</u>					
				TERMS	
DATE	HOURS	WORK DESCRIPTION	PRICE	PER	AMOUNT
	<u>6</u>	<u>lowbed</u>			<u>\$ 360.00</u>
	<u>17</u>	<u>rat</u>			<u>765.00</u>
		<u>APPROVED FOR PAYMENT</u>			
		<u>80079-3612-\$1125.00</u>			
		<u>CHARGE</u>			
		<u>DATE JUL 21 1981 INTLS</u>			
			<u>Total</u>		<u>\$1125.00</u>



NECHAKO EXCAVATING LTD.

Box 1067
VANDERHOOF, B.C. V0J 3A0.
Tel: 567-2313



INVOICE

3823

RECEIVED

Date June 19 81

FOR B. P. Minerals

JUN 19 1981

Suite 1007
1111 West Hastings St
Vancouver, B.C.
V6E-3N5

B.P. MINERALS LIMITED
VANCOUVER, B.C.

JOB LOCATION			P.O. No.		
			TERMS		
DATE	HOURS	WORK DESCRIPTION	PRICE	PER	AMOUNT
June 1	3 1/2	lowbed			\$ 210 00
	9	cat			405 00
June 2	3 1/2	lowbed #60 per hr.			210 00
APPROVED FOR PAYMENT					
CHARGE	80079-3612-#825.00				
DATE	JUL 3 1981	INTLS. <i>Chapman</i>			
Total					\$ 825 00 ✓

Scot Office Supplies Vanderhoof

7-6-81

INVOICE



REDHAWK RENTALS LTD.

3710 East First Avenue, Burnaby, B.C. V5C 3V9

291-9468

BP MINERALS LIMITED
1007, 1111 W. HASTINGS ST.
VANCOUVER, B. C.
V6E 3N5

CONTRACT NO. 990	VEHICLE NO. 303	YOUR P.O. GULAJEC	DATE JULY 31/81
------------------	-----------------	-------------------	-----------------

RENTAL OF 1979 GMC 4 WHEEL DRIVE 3/4 TON PICKUP WITH WINCH UNDER CONTRACT FROM APRIL 30, 1981:

RENTAL FEE JULY 1 - 31 PER CONTRACT	\$ 800.00
SALES TAX 6%	48.00
INSURANCE FEE JULY 1 - 31 PER CONTRACT	<u>30.00</u>
TOTAL	\$ 878.00 ✓

NOTE: DEPOSIT WILL APPLY ON FINAL INVOICE OF CONTRACT

APPROVED FOR PAYMENT

CHARGE 80079-2210-\$ 878.00

DATE JUL 30 1981 INTLS. *C. [Signature]*

RECEIVED

JUL 30 1981

B P MINERALS LIMITED
Vancouver, B.C.

"Nobody Knows 4 Wheel Drive Better Than REDHAWK"

INVOICE



REDHAWK RENTALS LTD.

3710 East First Avenue, Burnaby, B.C. V5C 3V9

BP MINERALS LIMITED
1007, 1111 W. Hastings St.
Vancouver, B.C.
V6E 3N5

291-9468

CONTRACT NO. 990

VEHICLE NO. 303

YOUR P.O. Gulajec

DATE June 30/81

Rental of 1979 GMC 4 Wheel Drive 3/4 Ton Pickup with winch under contract from April 30, 1981:

Rental Fee: June 1 - 30 per contract	\$ 800.00
Sales Tax 6%	48.00
Insurance Fee: June 1 - 30 per contract	<u>30.00</u>
Total	\$ 878.00 ✓

Note: Deposit will apply on final invoice of contract

less / Mut

80087-2210- \$ 300.00

APPROVED FOR PAYMENT

CHARGE 80079-2210- \$ 578.00

DATE JUL 3 1981 INTLS. 878.00

"Nobody Knows 4 Wheel Drive Better Than REDHAWK"

L-32

been advised "NOT" to obtain extra insurance coverage on vehicle

[Signature]

RECEIVED 134509 AUG 6 1981 INVOICE NUMBER

als

McLEAN MOTOR CO. LTD. UNOPERATED COMPANY

P.P. MINERALS LIMITED AGENCY CITY CODE 4500

THE ATTACHED VEHICLE INSPECTION REPORT DATED THE SAME DATE AS THIS RENTAL AGREEMENT BECOMES A PART OF THIS RENTAL AGREEMENT.

MILES/KM IN	19270	DATE IN	July 13	TIME IN	
MILES/KM OUT	18194	DATE OUT	July 11	TIME OUT	
MILES/KM RUN	1076	TOTAL DAYS	2	TOTAL HOURS	
MILES/KM ALLOWED				UNIT NO.	
EXTRA MILES/KM					160/09
MONTHS @		MONTH			
WEEKS @		WEEK			
DAYS @		DAY			96.00
MILES/KM @		MILES/KM			193.68
OTHER (TAXABLE ONLY)					
SUB TOTAL				445	289.68
6% S.S. TAX				324	17.58
DAMAGE (ESTIMATE ATTACHED)	MECHANICAL	447.0			
	BODY	447.A			
	TIRES	447.B			
PLUS FUEL				448	96.50
INITIALS	P.A.I. INSURANCE	/DAY	446		
	CARGO INSURANCE	/DAY	446		
COLLISION DAMAGE LIABILITY WAIVER			8.00 DAY	446	16.00
TOTAL	CASH	20001	220		
	CHARGE	412130			359.56
TOTAL DEPOSIT					359.56
REFUND RECEIVED DATE				AUG 2 1981	INTLS

(LESSEE)

PLACEMENT VEHICLE

BOW MAC

LIABILITY

LESSEE AGREES TO PAY FOR ALL LOSS OR DAMAGE TO THE VEHICLE LIMITED TO \$1000 PER ACCIDENT. IF THE VEHICLE IS OPERATED OR RENTED FOR ANY OTHER PURPOSE THAN THAT SPECIFIED IN THIS RENTAL AGREEMENT, THE LESSEE SHALL BE RESPONSIBLE FOR ALL SUCH DAMAGE TO THE VEHICLE. IF THE VEHICLE IS OPERATED IN VIOLATION OF ANY LAW OR THIS RENTAL AGREEMENT, THE LESSEE SHALL BE RESPONSIBLE FOR ALL SUCH DAMAGE TO THE VEHICLE. WRECKER OR TOWING

SEE SIGNATURE

- Failure of the Lessee to return the vehicle within the specified time shall constitute an unauthorized taking, use and operation of the vehicle and any costs and expenses incurred by the Owner for seizure and return of the vehicle to the Owner's premises shall be recovered from the Lessee.
- Lessee hereby indemnifies Owner against any fines or penalties assessed against Owner as a result of violation by Lessee of this agreement as to traffic and/or parking violations.
- Lessee agrees to be responsible for all damage to the vehicle while in his possession caused by negligent operation of the vehicle.

I.E. OPERATING VEHICLE WITH LACK OF WATER - OIL - ANTIFREEZE - LUBRICANTS ETC.

- Lessee agrees to report all accidents and vehicle failures to the Owner immediately on occurrence.
- Lessee agrees that the vehicle herein described must not be used, operated or driven, nor does Owner give its consent, expressed or implied, to the vehicle being used, operated or driven by any other person than the Lessee or such other driver(s) as herein specifically named.
- Lessee responsible for all windshield damage.
- Lessee to be the only authorized driver unless second driver's signature is recorded below.

WE HEREBY AGREE TO BE BOUND AND TO COMPLY WITH ALL OF THE ABOVE TERMS AND CONDITIONS WHICH INCLUDE THE TERMS AND CONDITIONS ON THE "REVERSE SIDE" HEREOF.

LESSEE'S SIGNATURE	DEPOSIT PAID				
<i>[Signature]</i>	DATE	INITIAL	AMOUNT	CASH	C.C.
DRIVER'S SIGNATURE					
<i>[Signature]</i>					
DRIVER'S LICENSE NO.	EXPIRY DATE	PROVINCE			
3921-54	1986	B.C.			
BUSINESS PHONE	LESSEE'S PHONE	SIGNATURE OF AUTHORIZED AGENT	BALANCE OWING		
		<i>[Signature]</i>			

RENT-A-TRUCK from BOW MAC 134509 CANADA WIDE LOCATIONS

- | | | | | | | | |
|------------------|---------------|------------|---------------|-------------|----------------|--------------|--------------|
| BRITISH COLUMBIA | FORT ST. JOHN | PR. GEORGE | VERNON | YUKON | ALBERTA | LETHBRIDGE | SASKATCHEWAN |
| ABBOTSFORD | KAMLOOPS | QUESNEL | VICTORIA | DAWSON CITY | CALGARY | LLOYDMINSTER | REGINA |
| CRANBROOK | KELOWNA | REVELSTOKE | VANCOUVER | MAYO | EDMONTON | MEDICINE HAT | SASKATOON |
| DAWSON CREEK | NANAIMO | SMITHERS | WILLIAMS LAKE | WHITEHORSE | FT. McMURRAY | RED DEER | ONTARIO |
| CORT NELSON | NELSON | TEPACE | WHITE ROCK | | GRANDE PRAIRIE | MANITOBA | THUNDER BAY |
- REMIT TO: 730 MALKIN AVENUE VANCOUVER, B.C. V6A 2K2

TRUCK RENTAL LTD.

HEAD OFFICE - PRINCE GEORGE, B.C.

RENTAL CONTRACT BETWEEN CANUCK TRUCK RENTAL LTD. (OWNER)

AGENT IMPRINT

CANUCK TRUCK RENTAL LTD.

NO. B.P. EXPLORATION CANADA LTD.

BOX 1299 PRINCE GEORGE B.C. V2V 4V4

1007-1111 West Hasting Str.

CANUCK TRUCK RENTAL LTD.

CITY Vancouver, B.C. V6E 3N5

P O BOX 1299

193 GEORGE ST

PRINCE GEORGE B C

553-3675

PURCHASE ORDER NO. 48089UNIT NO. 532 YR 80 MAKE Genie TYPE 3/4 TON 4x4KM IN 20366 DATE IN June-10-81 TIME INLICENSE NO. 27-09 GF CANOPY NO. — WINCH NO. YESKM OUT 16031 DATE OUT MAY 30-81 TIME OUTPEPL UNIT NO. — LICENSE NO. — DATE —KM DRIVEN 3535 DAYS UTILIZED 11(2)=9VEHICLE WILL BE USED IN PROVINCE/STATE OF: B.C. WT LIMIT GVW — LBS KGLESS KM INCLUDED — MINIMUM TERM OR CHARGE, IF APPLICABLEVEHICLE TO BE RETURNED TO — TIME 5 MONTH 6 YR 81 INTERCITY CHARGE —KM CHARGED 3535 @ .14 470 494.90LATE RETURN FEE — 1/HR DAY — DELIVERY FEE — CHARGE —MONTHS @ 2 5-1CHECK IN DAMAGES — CHARGE —WEEKS @ 1/15.00 46 165.00

ADDITIONAL TERMS AND CONDITIONS

2 DAYS @ 33 66.00SUB-TOTAL 125.90

TIME CANOPY RATE 46 1 0

WINCH 90.00 46 1 0 35.00

LATE RETURN

SUB-TOTAL 760.906 % TAX 3 2 4 0 45.65

LATE RETURN/DELIVERY

CHECK IN DAMAGES 1 3 3 457.60LIMITED LIABILITY 8 0 8 0 46.00

OTHER

@ 156 1 4 3 39.00TOTAL CHARGES 1349.15

LESS: ROAD EXPENSE

LESS: DEPOSIT

IF CHARGE, CUST ACCOUNT NO. CASH OR CARD. 2 2 2 0 1349.15

CHARGE 2 2 0 0

CASH REFUND RECEIVED BY

SIGNATURE

CHARGE CARD INFORMATION

APPROVED FOR PAYMENT

CHARGE 80079-2210DATE JUL 6 1981 INTLS OKAGENT'S SIGNATURE IN Rolling STATION IN RL

AGENT'S SIGNATURE OUT

40402

Credit For 2 days due to breakdown
BOK.

Schultze Body Shop \$457.60

Invoice for repairs to Tie Rod END to Follow

RECEIVED

JUN 15 1981

BP MINERALS LIMITED VANCOUVER B.C.

I HAVE READ THE TERMS AND CONDITIONS ON BOTH SIDES OF THIS RENTAL AGREEMENT AND AGREE THERETO.

X SIGNATURE Alistair G. FyfeDRIVERS NAME ALISTAIR G FYFE AGEHOME ADDRESS 5537 MARINE DR.LOCAL ADDRESS WEST VANCOUVER B.C.LICENSE NO. 2763914 PROVINCE B.C. EXPIRY 1984

SOCIAL INSURANCE NO., CREDIT CARD NAME & NO., BANK, ETC.

OTHER IDENTIFICATION



exploration ltd.

**GEOLOGY · GEOPHYSICS
MINING ENGINEERING**

4570 HOSKINS ROAD, NORTH VANCOUVER, B. C.
TELEPHONE (604) 985-7921 V7K 2R1

Invoice # 81-108-105

July 6, 1981

BP Canada
Suite 1007
1111 West Hastings Street
Vancouver, B.C.
V6E 3N5

RECEIVED
JUL 6 1981
B P MINERALS LIMITED
Vancouver, B.C.

Dear Sir:

Re: Shass Mountain - Project 528

Salaries

Donald G. Allen	
16 days June 15-30 @ \$350/day	\$5,600.00
Dave Cuvelier	
4 days June 27-30 @ \$66.34/day	<u>265.36</u>
Total	\$5,865.36

Thank you.

Donald G. Allen

A & M Exploration Ltd.

APPROVED FOR PAYMENT
CHARGE 80079-2006-4 \$5,865.36
DATE JUL 6 1981 INTLS *ap/ats*

\$5,865.36



exploration ltd.

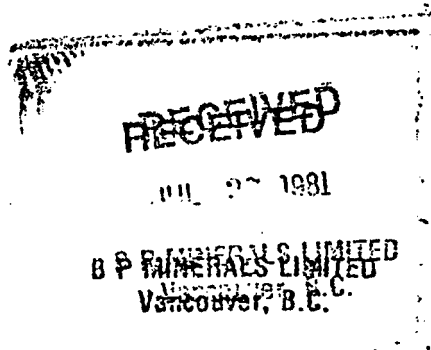
GEOLOGICAL GEOPHYSICS
MINING ENGINEERING

4570 HOSKINS ROAD, NORTH VANCOUVER, B. C.
TELEPHONE (604) 985-7921 V7K 2R1

Invoice # 106

July 20, 1981

BP Canada
Suite 1007
1111 West Hastings Street
Vancouver, B.C.
V6E 3N5



Dear Mr. Gulajec:

Re: Shass Mountain - Project 528

D. Cuvelier

Wages	July 1 - 4	4 days @ \$66.34	\$ 265.36
Airfare	June 26		96.10
Taxis	June 26		33.00
Meal	June 26		3.55

D. Allen

Wages	July 1 - 5	5 days @ \$350.	1,750.00
Airfare	July 5		96.10
Meals	July 4		9.80
Gasoline for Redhawk rental	July 4		15.86
Taxi	July 5		26.00
Telephone: re Jr. assistant	June 25, 26		12.15

J. Cuvelier

Wages	July 5 - 17	13 days @ \$51.97	675.61
Hotel and Meals	July 13 - 15		<u>129.02</u>

Total \$3,112.55 ✓

APPROVED FOR PAYMENT 1006 - 8 3,112.55

CHARGE Exp 79
DATE JUL 27 1981 INTLS 01/23

Donald G. Allen
Donald S. Allen
A & M Exploration Ltd.

Rossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

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

BP MINERALS LTD.

1007-1111 West Hastings Street

VANCOUVER, B.C.

Project # 528, Shass Mnt.

DATE Aug. 5, 1981

INVOICE NO. 1331

CERTIFICATE NO. as marked.

ITEM	DESCRIPTION	SUB-TOTAL	TOTAL
5	Geochem. analysis for 9 elements @ \$ 4.00	\$ 20.00	
7	5 elements	22.40	
36	4 elements	108.00	
23	1 element	36.80	
41	tin	102.50	
37	tungsten	83.25	
41	fluorine	133.25	
1	gold	3.00	
5	Rock sample prep	7.50	
204	Assays for total Molybdenum	1,173.00	
			\$ 1,689.70

APPROVED FOR PAYMENT
CHARGE 80079-5329 RECEIVED
DATE AUG 24 1981 INTLS 1689.70
B P MINERALS LIMITED
Vancouver, B.C.

TERMS - NET 30 DAYS

L-49

INVOICE

PACIFIC SURVEY CORPORATION

1409 WEST PENDER STREET, VANCOUVER, B.C., CANADA V6G 2S4 TELEPHONE: 683-6501 TELEX: 04-507805



B.P. Minerals Ltd.
1007-1111 West Hastings St.
Vancouver, B.C. V6E 3N5
Attn: Mr. M.D. Bradley

RECEIVED

SEP 4 1981

B P MINERALS LIMITED
Vancouver, B.C.

INVOICE No. 847
DATE Aug. 28, 1981
YOUR ORDER No.
JOB No. 81-82
PACKING SLIP No.
SHIPPED VIA

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
	For 1:10,000 mapping from existing photography in the Shass Mtn, B.C. area		\$ 1,860.00 *****
<p>APPROVED FOR PAYMENT CHARGE <u>80079-5310</u> - \$1860.00 DATE <u>SEP 22 1981</u> INTLS <i>[Signature]</i></p>			

TERMS: NET CASH. INTEREST AT THE RATE OF 1 1/2% PER MONTH (18% PER ANNUM) CHARGED AFTER 30 DAYS.

APPENDIX 3

TABULATION OF ASSAY DATA FOR DIAMOND DRILL
HOLES S-81-01 to S-81-03

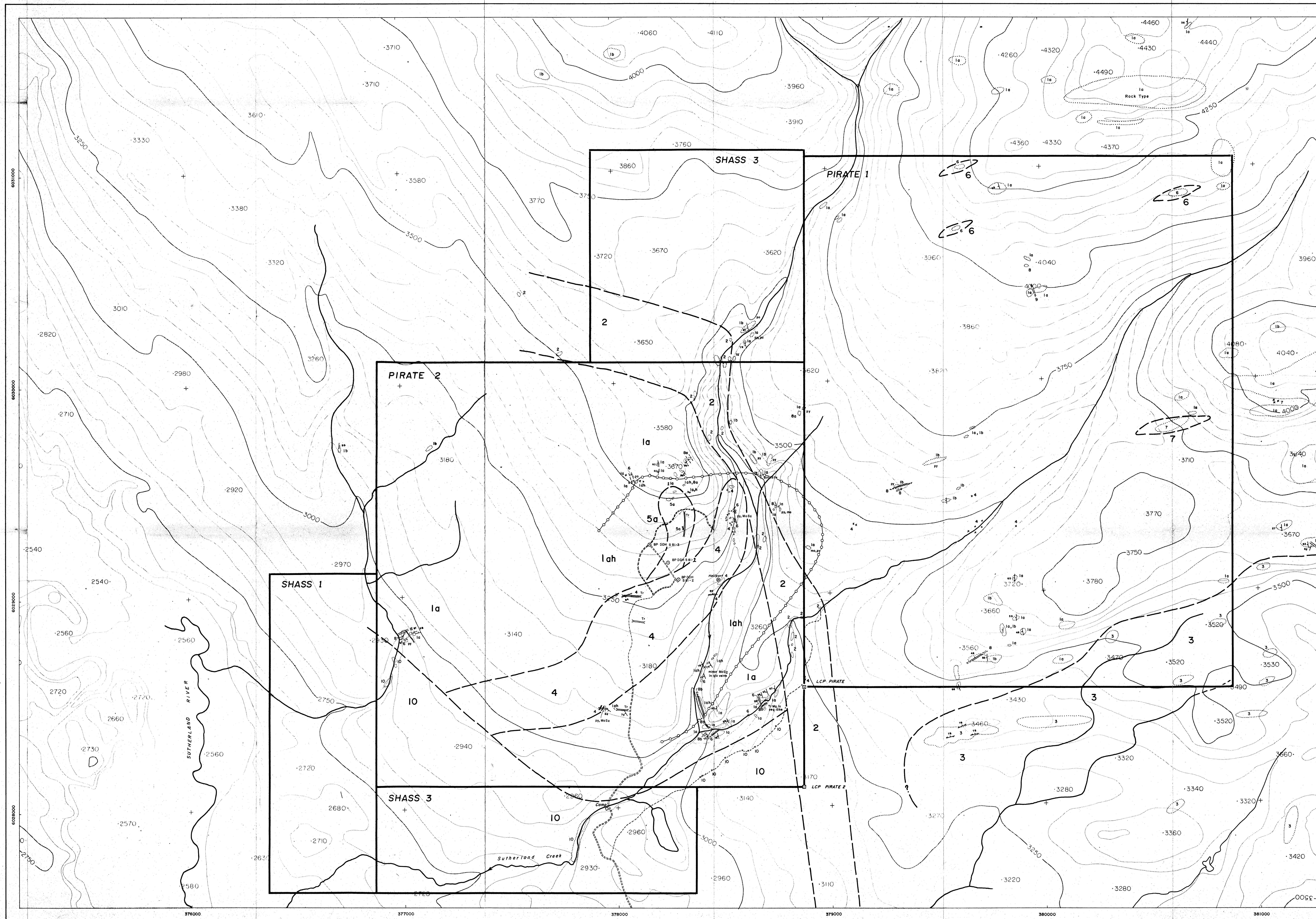
APPENDIX 4

GEOLOGICAL LOGS FOR DIAMOND DRILL HOLES

S-81-01 - pocket 4a

S-81-02 - pocket 4b

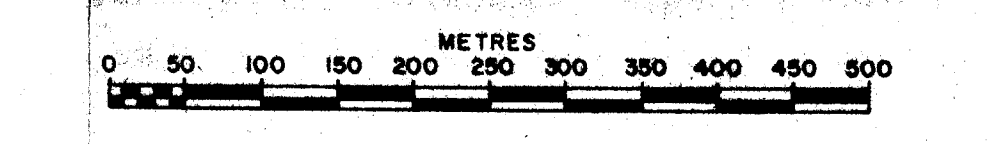
S-81-03 - pocket 4c



LEGEND

- TERTIARY**
- 10 ENDAMO GROUP VOLCANIC ROCKS - vesicular basalt, agglomerate, tuff
 - 9 Diabase
- LATE JURASSIC**
- 8 Sa Aplite, Sb Pegmatite
 - 7 Muscovite - biotite quartz monzonite
 - 6 Porphyritic quartz monzonite, feldspar porphyry
 - 5a Biotite hornblende diorite, quartz diorite, 5b biotite quartz diorite
 - 4 Shass biotite quartz monzonite
 - 3 Hornblende biotite quartz monzonite
- PENNSYLVANIAN + PERMIAN**
- 2 Serpentine
- CACHE CREEK GROUP - Ia Argillite, phyllite, phyllitic siltstone minor quartzite and greenstone; Iah hornfelsic equivalents; Ib Greenstone, metabasite hornfelsic gneiss.**

- GEOLOGICAL SYMBOLS**
- BEDDING - altitude and dip
 - DIKE
 - OUTCROP
 - ⊗ FLOAT
 - ⊕ HELIPORT
 - TRENCH
 - BOUNDARY HORNFELS ZONE
 - FAULT
 - == ROAD



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9800

BP Minerals Limited

**SHASS MOUNTAIN-MOLYBDENUM PROSPECT
OMINECA MINING DIVISION, B.C.
GEOLOGICAL PLAN OF
SHASS AND PIRATE CLAIMS**

SCALE 1:5,000 NTS 83 N/77
528-BI-6 DATE SEPT. 1981 PROJ. 528 FIG. 5

To accompany report: BPVR 81-11

LOCATION		SHASS MOUNTAIN (Proj. 528)		CO-ORDINATES		NORTH (UTM)		EAST (UTM)		ELEVATION		HOLE NO.	
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.		D.D.H. 81-03	
July 4, 1981		July 8, 1981				NQ/BQ		250.0m					
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE			Vls
From (m)	To (m)	Length	%Rec							F	V/M	F/M	MOS2
0	3.3	3.3		Overburden. Note - all angles are reported from core parallel									
3.3	6.0	2.7	90	3.3-4.9 - Biotite feldspar porphyry dike - dark purplish grey, with occasional white feldspar phenocrysts 4.95 - Contact between dike and hornfels at 37° 4.9-6.0 - Hornfels, brecciated in part due to extensive qtz. veining. - breccia fragments at 5.5 & 6.0, fragmental texture to 7.2				-Py as irregular coating on fracture surfaces -Po very finely disseminated in rock matrix		43°			
6.0	8.0	2.0	100	6.0-7.8 - Hornfels, relict bedding at 48° 7.8 - Contact between Hornfels & biotite qtz. monzonite trending 33° 7.8-8.0 - Biotite qtz. monzonite		-purple brown hornfelsing -some fracture surfaces are coated with chlorite -bleached halo (4mm wide) adjacent to microfractures		-minor qtz MoS2 veining -Py & Po as above		11/3 30			
8.0	10.0	2.0	100	8.0-8.3 - Biotite qtz. monzonite 8.3 - Contact between bio-qtz. monzonite & hornfels at 22° 8.3-9.9 - Hornfels, brecc. in part; 9.2 -9.4 - qtz. monzonite fragment. 9.9 - Contact between hornfels & qtz. monzonite, approx. 20° 9.9-10.0 - Qtz. monzonite		As above		As above		15/2 6 0.01 4/2 30			
10.0	12.0	2.0	100	10.0-11.3-Biotite qtz. monzonite. 11.3 -Contact; py & chlorite coated, trends 20° 11.3-12.0-Qtz latite dike; fine grained. brownish grey, scattered fspr phenocrysts, subhedral 7mm -abundant diss. Po,Py -Qtz veins at 32°, 50°		As above -chlorite on fracture surfaces, also calcite		-abundant diss. Po, Py		18/1 300.01 1/1 11			
										5/2 18 0.01			

LOCATION SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		SHEET NO.	
				6029300		378170		1860.0 metres		2/25	
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.	
July 4, 1981		July 8, 1981				NQ/BQ		250.0m.		D.D.H. 81-03	
DEPTH		CORE		LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE			MoS ₂	
From (M)	To (M)	Length	%Rec				F	V/M	F/M		MoS ₂
12.0	14.0	2.0	100	12.0-13.5 - Qtz latite as above 13.5 - Contact at 35° 13.5-14.0 - Qtz monzonite	- novisible alteration of dike material	- finely dissem. Po, Py ≤ 5%		3/1	10		
						-disseminated & fracture coating Py & Po ≤ 5%		2/10	10		0005
14.0	16.0	2.0	100	14.0-16.0 - Qtz monzonite, equigranular, med - coarse grained 5% sulfides, 20% biotite - Qtz. veins at 55° and 62° 15.2-15.6 - Chlorite coated slip planes at 20°, 29°	- 15.5m - chlorite on fracture surfaces	- fracture coatings & disseminations of Py, Po.		2/1	8		
								1/1	>30		0005
16.0	18.0	2.0	100	16.0-17.4 - Qtz. monzonite as above. Contains variety of fragments. - mostly chlorite rich-poss. latite 16.8-17.0 - Fault zone with chlorite rich rubble or gouge. 17.4-17.7 - Purplish brown hornfels - relict bedding at 30° 17.7-18.0 - Qtz. monzonite dike/fragment	- chlorite on fracture surfaces - qtz veins parallel to relict and crosscut bedding at 30°	- several qtz. MoS ₂ veinlets ≥ .5 cm with trace MoS ₂		2/1	>30		
								3			0.01
18.0	20.0	2.0	95	18.0-18.5 - Hornfels as above, relict bedding at 54°, some sub parallel qtz veining 18.5-18.6 - Qtz. monzonite dike/fragment. 18.6-20.0 - Hornfels, as above	- occ. chlorite qtz rich lenses in relict beds	- Qtz MoS ₂ veins at 50°, 52°		12/4	23		
								9/3	12		0.01
20.0	22.0	2.0	90	Hornfels; brecciated in part, frags of qtz monzonite and qtz latite at 21.7 and 20.5 20.0-20.6 - brecciated texture 21.6-22.0 - relict bedding at 19° 21.2-22.0 - brecciated interval with qtz monzonite & latite fragments	- chlorite, Py & calcite on fracture surfaces	- Py on fracture surfaces - MoS ₂ very finely disseminated grains not visible without lens		12/2	>30		
								10/2	>30		0.01

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.			
DATE STARTED		DATE COMPLETED		SURVEYS		6029300		378170		1860.0 metres		3/25			
July 4, 1981		July 8, 1981								HOLE SIZE		TOTAL DEPTH			
										NQ/BQ		250.0m			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE		Groph	
From (M)	To (M)	Length	%Rec									F	V/Ft	F/Ft	Log
22.0	24.0	2.0	100	22.0-23.0 - Hornfels; brecciated texture, contains qtz monzonite fragments 23.0-24.0 - Hornfels, non brecciated, relict bedding at 52° 23.5-23.8 - Chloritic rubble in slip planes at 55°				- chlorite on fracture planes		- very little MoS ₂ - Py on fracture surfaces			1	>30	
24.0	26.0	2.0	102	24.0-26.0 - Hornfels as above - relict bedding at 54° 24.6- - 7 cm qtz monzonite sill/frag? Qtz veins at 19°, 78°, 26°				As above		24.5 - 2 cm qtz vein with MoS coatings - Py as coatings & seams ≤ 5mm - minor calcite on fractures			$\frac{11}{2}$	>30	
26.0	28.0	2.0	102	26.0-28.0 - Hornfels, finely bedded at 57° Qtz veins at 55°, 32°, 78°				As above		26.8 - Qtz-py-MoS ⁽²⁾ up to 2 cm wide with minor MoS ₂ on vein margins			$\frac{11}{1}$	4	<001
28.0	30.0	2.0	105	28.0-29.6 - Hornfels; finely bedded, at 57° 29.6 - Sharp contact at 47° 29.6 - porphyritic qtz monzonite Qtz veins at 50°, 28°, 41°, 21°				As above		As above - very fine disseminated MoS ₂ on vein margins			$\frac{12}{2}$	8	
30.0	32.0	2.0	100	30.0-32 - Qtz monzonite; porphyritic, 10-15% biotite in flakes and books ≤ 5mm. White feldspar phenocrysts to 1 cm. Grey qtz eyes ≤ .5cm Qtz veining at 42°, 32°, 66°				- sericite occurs as fracture filling at 10° - chlorite, Py also found along surfaces.		- 3% disseminated Py, Po			10°	7	
													8/1	5	<001
													4/1	9	Q01

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
						6029300		378170		1860.0 metres		4/25	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH	
July 4, 1981		July 8, 1981								NQ/BQ		250.0m	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Vis MOS ₂	
From (M)	To (M)	Length	%Rec							F	VM	FM	MOS ₂
32.0	34.0	2.0	100	32.0-34.0 - Biotite qtz monzonite, porphyritic 32.4-33.1 - Hornfels Inclusion, Sill ² contacts at 22°, 30° - Fragment of qtz. monzonite located within hornfels. unit 33.- 34.0 - Qtz monzonite Qtz veins at 56°, 70°, 67°, 34°		- calcite and Py on fracture surfaces ... 33.7-34.0 - sericite altn.		- No visible MOS ₂ - Py & Po on fracture surfaces 32.7 - thin qtz vein <2mm dotted with blebs of <u>scheelite</u> & Py			5/0	6	
34.0	36.0	2.0	100	34.0-36.0 - Qtz. monzonite, intensely sericitized with calcite on fracture surfaces, veinlets ≤ 1 cm. 34.3 - Several slip planes coated with chloritic gouge		34.0-35.6 - light emerald green grey cast due to <u>pervasive</u> sericite and local bleaching of biotite and feldspars, - minor calcite vein filling.		- No visible MoS ₂ in qtz veins			4/0	17	
36.0	38.0	2.0	107	36.0-38.0 - Qtz monzonite with local sericitization adjacent to fractures. Qtz. veins at 22°, 40°, 42°		- local isolated intervals of sericitization		- Po & Py disseminated & within qtz veinlets - No visible MoS ₂			3/0	9	
38.0	40.0	2.0	95	38.0-40.0 - Porphyritic biotite qtz. monzonite as above. - fresh, unaltered appearance. - minor qtz veining 38.6-38.8 - Slickensides (Po,Py,calcite coated) at 13°		No visible altn.		-No or very little MoS ₂ -sulfides as above.			1/0	12	
40.0	42.0	2.0	100	40.0-42.0 - Porphyritic qtz monzonite		-several isolated intervals of sericitization <.1m -scattered fractures with chlorite, calcite on fracture surface		- No MoS ₂ visible			5/1	5	
												4	TR

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.					
						6029300		378170		1860.0 metres		5/25					
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH					
July 4, 1981		July 8, 1981								NQ/BQ		250.0m		HOLE NO. D.D.H. 81-03			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE		VIS			
From (M)	To (M)	Length	%Rec									F	V/M	FM	MoS ₂		
42.0	44.0	2.0	100	42.0-44.0 - Porphyritic biotite qtz. monzonite Qtz veins at 69°, 22°				43.1 - minor argillization along fracture surface		- TR MoS ₂			1	7	4	TR	
44.0	46.0	2.0	95	44.0-46.0 - As above Qtz veins at 63°, 50°, 71°				45.0-46-minor sericite & feldspathization along fractures		- minor diss. MoS ₂ , no visible veinlet			5/1	6	9/1	12	TR
46.0	48.0	2.0	95	As above 47.6-47.8 - Dark grey feldspar porphyry - poss. inclusion Qtz veins at 47°, 42°				- minor calcite on fracture surfaces		- minor MoS ₂ in 2 qtz veins ≤.5cm vein width.			4/12	12	3/1	>30	Q01
48.0	50.0	2	100	As above Qtz veins at 75°, 24°, 5°				- minor calcite & chlorite on fracture surfaces - local feldspathization in & near several qtz filled fractures		- minor MoS ₂ disseminated in 2 qtz veins			2/2	16	6/1	12	Q01
50.0	52.0	2.0	100	50.0-52.0 - Porphyritic biotite qtz monzonite Fractures - 10°, 60° - most predominant sets				50.2-50.7-local sericization near fracture planes, also chlorite, minor calcite on most fracture planes		- very minor dissem. MoS ₂ near margins of qtz veinlets - rosettes and blebs of Py on slip planes			5/2	18	5/2	16	Q01

LOCATION SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM	EAST UTM	ELEVATION	HOLE NO.			
				6029300	378170	1860.0 metres	6/25			
DATE STARTED	DATE COMPLETED	SURVEYS				HOLE SIZE	TOTAL DEPTH	HOLE NO.		
July 4, 1981	July 8, 1981					NQ/BQ	250.0m	D.D.H. 81-03		
DEPTH		CORE		LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE			vis MoS ₂
From(M)	To(M)	Length	%Rec				F	V/M	F/M	
52.0	54.0	2.0	110	52.0-54.0 - Porphyritic biotite qtz monzonite	-local feldspathization & sericitization adjacent to qtz filled fracture fillings	- ≤5% Py as rosettes or blebs, mainly on fracture planes. - very minor MoS ₂ diss. in <1mm-2mm qtz veins		1/1	18	
54.0	56.0	2.0	90	54.0-56.0 - As above, but very broken up due to sericite alteration & ~2mm wide calcite veinlets at 19° 54.0-55.2 - core very fractured - more intensely sericitized	-sericite alternation, most intense from 55.2-56.0 -chlorite on fault or fracture surfaces	- Py on fracture surfaces, but somewhat depleted (<4%) from 55-56 - No visible MoS ₂ , probably due to lack of qtz veining		1/0	>30	
56.0	58.0	2.0		56.0-56.4 - Qtz monzonite 56.4 - Contact, sharp very well defined at 40° 56.4-58.0 - Hornfels, thinly bedded, purplish brown color, with chlorite rich zones parallel to relict bedding. Calcite veinlets parallel or at 90° to bedding. Relict bedding at 21°. Fractures at 27°.	- intensely feldspathized zone 56.8-57.0 - up to 2 cm wide chlorite zones parallel to relict bedding - 57.3 - Qtz monzonite fragment - angular, 15 cm across	- Py filling 1 mm-2mm wide fractures trending 27° - MoS ₂ occurs at vein margins as blebs or lensed		<u>10</u> 1	>30	
58.0	60.0	2.0		58.0-60.0 - Hornfels, as above, with extensive calcite veining at all angles, and from 1 mm to 1 cm in width. Quartz veins at 85°, 35°	- chlorite altn. on fracture surfaces with py- $\frac{1}{2}$ mm thick film on many fracture surfaces	58.2-58.5-Qtz moly veinlets 59.0-59.2-Qtz moly veinlets Py as vein filling with calcite & coating fracture surfaces		<u>11</u> 4	20	
60.0	62.0	2.0	110	60.0-62.0 - Hornfels; as above; less calcite veining. Qtz veins at 24°, 67°, 45°	As above - little sericitization	- MoS ₂ as vein fillings or as thin smears within vein but along vein margins		<u>15</u> 11	15	
								<u>11</u> 9	18	005

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		7/25	
DATE STARTED		DATE COMPLETED		SURVEYS		6029300		378170		1860.0 metres		HOLE NO.	
July 4, 1981		July 8, 1981								HOLE SIZE		TOTAL DEPTH	
										NQ/BQ		250.0m	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Vis MoS ₂	
From (M)	To (M)	Length	%Rec							F	V/M	F/M	%
62.0	64.0	2.0	100	62.0-64.0 - Hornfels, finely bedded, purple brown color, very fine grained, with py & minor calcite or fracture surfaces - dk grey qtz veins parallel to relict bedding, usually 5mm-1cm wide. Qtz veins at 16°, 63°		- chlorite occurs as a thin film on fracture faces *silicification; alternating hornfels and grey qtz bands		- this MoS ₂ coatings on qtz veinlet margins - py on fracture surfaces as rosettes & thin <1mm sheets			$\frac{22}{2}$		>25
											$\frac{11}{3}$		>25
													001
64.0	66.0	2.0	110	As above, relict bedding at 21° - Calcite veinlets from <1mm to 5mm, usually at low angle to core axis (10-30°) & crosscutting relict bedding. Qtz veins range in width from 1mm to 1.5cm, average .5cm		As above		- qtz MoS ₂ veinlets have fine dustings to thin coatings of MoS ₂ on vein margins			$\frac{12}{5}$		>30
											$\frac{13}{5}$		30
													003
66.0	68.0	2.0	100	66.0-67.8 - Qtz latite dike, dk greenish grey color, fine grained, porphyritic with euhedral to rounded white feldspar phenocrysts; 50% elongate & trending 30° to core axis 67.8 - Sharp, well defined contact at 32° 67.8-68.0 - Hornfels, as above		As above		- minor Py (<2%) in dike material			0/0		>30
											4/0		>30
													TR
68.0	70.0	2.0	100	68-70 - Hornfels, as above Qtz veins at 32°, 65°		As above 68.2-68.5 - Cream colored Feldspar alter adjacent to 1 cm wide qtz moly Py vein		- Py in films (<1mm) & rosettes on fracture surfaces			$\frac{17}{5}$		>40
											$\frac{17}{4}$		>40
													Q02
70.0	72.0	2.0	100	70.0-72.0 - Hornfels 70.0-71.3 - as above 71.3-72.0 - "Bleached" hornfels aphanitic, relict bedding still evident, buff color, numerous qtz veins & fractures		71.3-72.0 - Intensely bleached; cream color, numerous fractures & qtz veins		As above			$\frac{14}{6}$		>40
											$\frac{16}{5}$		>40
													Q03

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
						6029300		378170		1860.0 metres		8/25	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE	TOTAL DEPTH	D.D.H. 81-03	
July 4, 1981		July 8, 1981								NQ/BQ	250.0m		
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Vis	
From (M)	To (M)	Length	%Rec							F	V/M	F/M	MOS ₂
72.0	74.0	2.0	100	72-74 - Hornfels, highly altered due to feldspathization. Color appears bleached, from purple brown to a creamy buff color, relict bedding still evident over most of interval 72.0-72.2 - 'Breccia' zone; little relict bedding due fragmentation due to qtz - calcite veinlets & matrix - interval well fractured		- intense silicification? - intense feldspathization? - intense chloritization giving an olive greenish cast to parts of the interval		- qtz moly veinlets with minor MoS ₂ along vein margins - Py as above		$\frac{11}{7}$	>30		
										$\frac{10}{4}$	>30		0.03
74.0	76.0	2.0	105	74.0-74.9 - Hornfels, altered as above. 74.9-76.0 - Hornfels, relatively no bleaching as per above - purple brown color, fine grnd, relict bedding at 30°. Alternating hornfels & silica rich layers		- calcite filled fracture and veinlett fillings -silicified - alternations of silica rich layers with hornfels layers		As above		$\frac{14}{6}$	>30		
										$\frac{9}{3}$	>30		Q02
76.0	78.0	2.0	100	76.0-78.0 - Hornfels, as above 77.3-77.4 - Fault/fractured zone - core ground		As above		As above		$\frac{6}{3}$	10		
										$\frac{9}{4}$	10		Q02
78.0	80.0	2.0	100	78.0-80 - Hornfels, as above, no bleached zones		As above		As above		$\frac{10}{5}$	>15		
										$\frac{9}{7}$	>15		Q03
80.0	82.0	2.0	100	80.0-82.0 - Hornfels, as above		As above		As above		$\frac{10}{6}$	>20		
										$\frac{13}{8}$	>20		Q03

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM	EAST UTM	ELEVATION		HOLE NO.			
						6029300	378170	1860.0 metres		9/25			
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.			
July 4, 1981		July 8, 1981				NQ/BQ		250.0m		D.D.H. 81-03			
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE			
From (M)	To (M)	Length	%Rec							F	V/M	F/M	Vis MoS ₂
82.0	84.0	2.0	100	82.0-83.5 - Hornfels, purplish brown color, fine grnd, with relict bedding at 20°; qtz veining from 82.2-82.4 83.5-84.0 - Hornfels - altered - bleached to creamy buff color		83.5-84.0 - Bleaching due to feldspathization reflect bedding - poorly visible		-MoS ₂ as veinlet fillings or along vein margins -Py & Po diss in matrix & Ry as fracture coatings			$\frac{16}{6}$	>30	
											$\frac{8}{3}$	>30	0.2
84.0	86.0	2.0	100	84.0-84.5 - Hornfels, altered, as above. Contact at 47° 84.5-86.0 - Hornfels, unbleached, with silica rich zones parallel to relict bedding		- as above 84.3-84.5 - Sericite altn. - no visible altn. from 84.5 - 86.0		As above			$\frac{16}{9}$	25	
											$\frac{15}{6}$	30	0.04
86.0	88.0	2.0	100	As above		As above, visible alteration		87.0-87.2 - concentration of qtz MoS ₂ veinlets			$\frac{10}{3}$	>30	
											$\frac{10}{6}$	>30	0.03
88.0	90.0	2.0	100	88.0-89.3 - Hornfels, as above 89.3-89.5 - Hornfels, bleached; due feldspathization/silicification 89.5-90.0 - Hornfels, unbleached		As above		As above			$\frac{11}{2}$	>20	
											$\frac{27}{8}$	>20	0.02
90.0	92.0	2.0	100	90.0-92 - Hornfels		As above		As above			$\frac{12}{8}$	20	
											$\frac{21}{10}$	20	0.03

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		10/25			
DATE STARTED		DATE COMPLETED		SURVEYS		6029300		378170		1860.0 metres		HOLE NO.			
July 4, 1981		July 8, 1981								HOLE SIZE		TOTAL DEPTH			
										NQ/BQ		250.0m			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE		VIS	
From (M)	To (M)	Length	%Rec									F	V/M	F/M	MOS ₂
92.0	94.0	2.0	100	92.0-94.0 - Hornfels - purplish brown color, aphanitic, relict bedding at 16°. Several veinlets of calcite fill fractures (1mm-4mm wide). Qtz veins at 20°, 45°, 50°				92.1-92.3 - Moderately bleached zone - silicified?		- MoS ₂ as fracture fillings or along margins of quartz MoS ₂ veinlets			$\frac{20}{10}$	30	
												$\frac{17}{7}$	30	004	
94.0	96.0	2.0	95	94.0-96.0 - Hornfels, as above 94.8-95.2 - Bleached zone - with calcite and qtz veining, 95.6- As above, bleach zone 5 cm wide either side of calcite veinlet				- several zones of silica & feldspar altn described at left		As above			$\frac{15}{4}$		
												$\frac{14}{3}$		Q01	
96.0	98.0	2.0	110	96.0-98.0 - Hornfels, as above 96.3-97.0 - Bleached zone, with 2 mm calcite veinlets 97.5-97.9 - Qtz. vein, with dessem. MoS ₂				96.3-97 - Bleached zone with several calcite veinlets within zone		As above			$\frac{14}{4}$	>30	
												$\frac{14}{5}$	>30	Q02	
98.0	100.0	2.0	100	98.0-99.5 - Hornfels, as above 99.5 - Contact between hornfels & qtz monzonite-sharp, at 45° 99.5-100.0-Biotite qtz monzonite (Sill) - subporphyritic, coarse-med grained				99.2 - 5 cm bleached zone flanking to other side adjacent to calcite veinlet		-No qtz MoS ₂ veins in qtz monzonite sill			$\frac{22}{2}$	7 30	
												$\frac{4}{0}$	>30	Q01	
100.0	102.0	2.0		100.0-102.0 - Hornfels, as above				100.5 - 5 cm bleached zone adjacent to calcite veinlet		As above			$\frac{11}{4}$	25	
												$\frac{20}{6}$	25	002	

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
						6029300		378170		1860.0 metres		D.D.H. 81-03	
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.		D.D.H. 81-03	
July 4, 1981		July 8, 1981				NO/BO		250.0m					
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Vis	
From (M)	To (M)	Length	%Rec							F	V/M	F/M	%
102.0	104.0	2.0		102.0-104.0 - Hornfels, purple brown color with inter-layered grey silica layers 5-5cm thick, averaging 1 cm thick - relict bedding at 10° Qtz veins at 60°, 66°, 20°		- chlorite occurs as films on fracture surfaces 103.9-104-Bleached zone with 3 calcite veinlets 2mm thick		- Py as rosettes & thin films on fracture surfaces - MoS ₂ as vein fillings or margins - Po appears as very fine dessem in rock, rock is weakly to mod. magnetic			<u>14</u> 10		>40
104.0	106.0	2.0	100	104.0-106.0 - Hornfels, as above 104.6-105.0 - Qtz monzonite sill, contacts not parallel, trend 18°		104.9 - bleached, sericitized zone 5cm wide adjacent to calcite veinlet		As above			<u>16</u> 9		>80
106.0	108.0	2.0	100	106.0-108.0 - Hornfels, as above 106.2-106.5 - Silica rich layer // to relict bedding - grey color		As above		As above			<u>21</u> 11		>30
108.0	110.0	2.0	100	108.0-110.0 - Hornfels, as above		108.5-108.6 - Bleached zone due to 3-2 mm calcite veinlets. 109.8-110.0 - Chloritized zone		As above			<u>16</u> 9		>20
110.0	112.0	2.0		110.0-112.0 - Hornfels, as above		As above		As above			<u>20</u> 9		>20
											<u>19</u> 5		
											<u>18</u> 7		0.03

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
						6029300		378170		1860.0 metres		12/25	
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.			
July 4, 1981		July 8, 1981				NQ/BQ		250.0m		D.D.H. 81-03			
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		vis MOS ²	
From (M)	To (M)	Length	%Rec							F	V/M	F/M	
112.0	114.0	2.0	100	112.0-113.0 - Transition zone - gradational contact between Hornfels unit above and qtz monzonite sill below. 112.0-112.3 - hornfels frags in igneous matrix.		113.2-113.5 - Mod. kaolinization of feldspars, bleaching, 4 calcite veinlets -minor chlorite		- Py as dissem. & lmm films on fractures, Po diss.			$\frac{4}{1}$	12	
				113.0-114.0 - Biotite qtz monzonite, kaolinized & bleached locally - coarse grained - Sill							$\frac{5}{2}$	18	Q05
114.0	116.0	2.0	100	114.0-116.0 - Biotite qtz monzonite, porphyritic		-relatively fresh, unaltered -little chlorite on fractures		- disseminated Po & Py - Py on fracture surfaces as films or rosettes			$\frac{4}{1}$	10	
											$\frac{1}{0}$	11	TR
116.0	118.0	2.0	100	116.0-118.0 - As above		As above		As above			$\frac{2}{0}$	5	
											$\frac{1}{1}$	7	TR
118.0	120.0	2.0	100	118.0-120.0 - As above		119.4-5 cm sericitized zone with blebs of Py		As above			$\frac{0}{0}$	5	
											$\frac{0}{1}$	3	TR
120.0	122.0	2.0		120.0-122.0 - Biotite qtz monzonite		121.0-121.1 - locally feldspathized		As above			$\frac{2}{0}$	5	
											$\frac{1}{0}$	4	TR



DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		13/25			
						6029300		378170		1860.0 metres					
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.	
July 4, 1981		July 8, 1981								NQ/BQ		250.0m		D.D.H. 81-03	
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			Vis MoS ₂
From (M)	To (M)	Length	%Rec									F	V/M	F/M	
122.0	124.0	2.0	100	122-123.5 - Biotite qtz monzonite, porphyritic to sub-porphyritic 123.5 - Contact with Hornfels, sharp, bleached, several qtz/calcite veinlets 123.5-124.0 - Hornfels, purple brown color, inter layered with grey silica rich sills 1 to 2 cm wide				122.4-122.7 - feldspathization & mod. sericitization, 3 calcite veinlets. 123.2-123.3-Intense feldspathization.		123.4-123.5 - 1-3 mm MoS ₂ veinlets 123.3-123.7-Concentration of MoS ₂ on qtz vein margins			$\frac{0}{0}$		0.15
124.0	126.0	2.0	100	124.0-126.0 - Hornfels, as above				125.5 - minor chlorite altn.		As above			$\frac{9}{3}$	10	
													$\frac{8}{4}$	10	0.02
126.0	128.0	2.0	100	126-128 - Hornfels - as above				127.3-127.4-Chloritic altn rock is soft, very altered with chlorite on fractures		As above			$\frac{13}{5}$	25	
													$\frac{13}{2}$	20	0.01
128.0	130.0	2.0	100	128-130 - Hornfels, as above				As above		As above			$\frac{14}{4}$	20	
				- Relict bedding at 19°									$\frac{13}{4}$	20	0.02
130.0	132.0	2.0	100	130-132 - Hornfels, as above				As above		As above			$\frac{13}{2}$	25	
													$\frac{19}{4}$	25	0.02

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		SHEET NO.			
DATE STARTED		DATE COMPLETED		SURVEYS		6029300		378170		1860.0 metres		14/25			
July 4, 1981		July 8, 1981								HOLE SIZE		HOLE NO.			
										NQ/BQ		D.D.H. 81-03			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE		Vis MoS ₂ %	
From (M)	To (M)	Length	%Rec									F	V/M		F/M
132.0	134.0	2.0		132.0-134.0 - Hornfels, purple brown color, relict bedding at 20° - Silica inter banded material much decreased from above.				- minor calcite veinlets		- Po dissem. in matrix - Py as films & blebs on fracture surfaces			$\frac{7}{1}$	15	
													$\frac{7}{2}$	15	0.01
134.0	136.0	2.0	100	134.0-134.6 - Biotite qtz monzonite sill, cut by calcite & qtz veinlets & qtz MoS ₂ veinlets 134.6 - Very irregular contact, gradational on both margins 134.6-136.0 - Hornfels, as above				- sill is partially bleached, intruded by calcite veinlets		- qtz MoS ₂ veinlets concentrated in qtz monzonite sill			$\frac{10}{5}$		
													$\frac{12}{2}$		0.01
136.0	138.0	2.0	100	136-138 - Hornfels				- no visible secondary alteration		- little MoS ₂ , visible			$\frac{16}{1}$	> 20	
													$\frac{4}{0}$	> 20	TR
138.0	140.0	2.0	100	138-140 - Hornfels, as above, almost no grey silica rich layers				As above		- dissem, MoS ₂ on margins of qtz veins - Po & Py (≤5%) - dissem.			$\frac{9}{2}$	15	
													$\frac{10}{5}$	15	Q02
140.0	142.0	2.0	100	140-142 - Hornfels, as above				140.8-141.0 - Silica rich layers, some sericite alteration.		- As above			$\frac{13}{3}$	20	
													$\frac{7}{4}$	20	Q02

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
						6029300		378170		1860.0 metres		15/25	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH	
July 4, 1981		July 8, 1981								NQ/BQ		250.0m	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		VIS	
From (M)	To (M)	Length	%Rec							F	V/M	FM	MoS ₂
142.0	144.0	2.0	100	142.0-142.8 - Hornfels, purple brown color, relict bedding at 23° 142.8-144.0 - Calcite rich bleached zone with interval of brecciation from 143.0 to 143.3		142.8-144.0 - Bleached zone due calcite veining		-Minor MoS ₂ on qtz vein margins			$\frac{9}{4}$		20
											$\frac{10}{1}$		20 TR
144.0	146.0			144.0-146.0 - Hornfels as above, bleached in part by calcite veins. - minor displacement of qtz veins along relict bedding planes on the order of 5 mm movement		144.2-144.6 } 145.7-146.0 } Bleached zone due 3 cm wide calcite vein		- minor qtz MoS ₂ veining with MoS ₂ diss. on vein margins			$\frac{10}{3}$		>30
											$\frac{10}{3}$		>30 Q02
146.0	148.0	2.0	100	146-148 - Hornfels, as above - much slippage along relict bedding planes		146.0-146.9-Bleached zone due calcite veinlets 147.5-147.6-As above		As above			$\frac{8}{4}$		>50
											$\frac{6}{4}$		>50 Q02
148.0	150.0	2.0	100	148-150 - Hornfels, as above, with one bleached zone		148.3-148.9-Bleached zone 149.2 - 5 cm wide silica rich layers		As above			$\frac{10}{5}$		>45
											$\frac{14}{5}$		>45 Q03
150.0	152.0	2.0	100	150-152 - Hornfels, as above		150.4-150.8-Bleached zone due calcite veinlets		As above			$\frac{17}{5}$		>40
											$\frac{12}{4}$		>40 Q02

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
DATE STARTED		DATE COMPLETED		SURVEYS		6029300		378170		1860.0 metres		16/25	
July 4, 1981		July 8, 1981								HOLE SIZE		TOTAL DEPTH	
										NQ/BQ		250.0m	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Vi MoS ₂	
From (M)	To (M)	Length	%Rec							F	VM	FM	MoS ₂
152.0	154.0	2.0	100	152-154 - Hornfels, purple brown color, 6 silica rich layers from .5 to 2 cm wide. Relict bedding at 20°		153.5-154.0-Bleached zone with numerous calcite veinlets		-MoS ₂ , occurs as dissem. blebs within qtz veinlets or concentrated along vein margins			$\frac{17}{5}$	>40	
											$\frac{11}{4}$	>40	002
154.0	156.0	2.0	100	154-156 - Hornfels, as above, 155.3-155.8-Sheared zone, due to chlorite on fracture surfaces		- chlorite on fracture surfaces		As above			$\frac{5}{4}$	>30	
											$\frac{8}{5}$	>30	002
156.0	158.0	2.0	100	156-158 - Hornfels, as above		157.7 - Bleached zone 5 cm wide with 1 calcite veinlet - chlorite rich interval		156-157 - Unusually thick MoS ₂ vein fillings (to 2 mm)			$\frac{12}{7}$	>20	
											$\frac{15}{5}$		004
158.0	160.0	2.0	90	158.0-160 - Hornfels, as above		- chlorite on fracture surfaces 158.6-158.8 - calcite veinlets at 5°		As above			$\frac{9}{5}$	>20	
				Qtz vein - 5 mm wide at 5° to core axis							$\frac{17}{2}$	>20	001
160.0	162.0	2.0	100	160.0-162.0 - Hornfels, as above, color becoming darker brown - fewer silica rich layers (3 in interval)		-161, 161.3, 161.5-sills or zones of alteration, green grey in color, relict bedding not evident -chloritization		-161.5-thin veinlet (2mm) of MoS ₂ in fracture which is kaolinitized & chloritized			$\frac{11}{4}$	>20	
											$\frac{10}{3}$	>20	002

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH ^{UTM}		EAST ^{UTM}		ELEVATION		SHEET NO.			
DATE STARTED		DATE COMPLETED		SURVEYS		6029300		378170		1860.0 metres		17/25			
July 4, 1981		July 8, 1981								HOLE SIZE		HOLE NO.			
										NQ/BQ		D.D.H. 81-03			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			
From (M)	To (M)	Length	%Rec									F	V/M	FM	Vis % MoS ₂
162.0	164.0	2.0	1	162-164 - Hornfels - dark brown color, relict bedding at 16°				- minor chloritic alteration on fracture surfaces		-MoS ₂ , as margins to Qtz MoS ₂ veinlets -Py and Po as before			$\frac{19}{6}$	>20	
													$\frac{10}{3}$	>20	Q02
164.0	166.0	2.0	100	164-166 - Hornfels, as above				155.8-155.9 - Bleached zones due calcite veinlets		As above			$\frac{6}{4}$	20	
				Qtz veins at 33°, 45°, 50°, 90°									$\frac{13}{4}$	20	Q02
166.0	168.0	2.0	105	166-168 - Hornfels, as above				167.7-167.9-Bleached zone with 2cm calcite vein		As above			$\frac{13}{2}$	>70	
													$\frac{19}{2}$	>70	Q01
168.0	170.0	2.0	100	168-170 - Hornfels, as above - 3 cm Qtz veins at 168.4				168.6-168.8-chloritized zone		As above			$\frac{6}{4}$	>20	
				- Relict bedding at 23°									$\frac{11}{1}$	>20	Q01
170.0	172.0	2.0	100	170-172 - Hornfels, as above				171.0-171.6-Bleached & chloritized zone		As above			$\frac{11}{1}$		
													$\frac{9}{2}$		TR

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		SHEET NO.	
						6029300		378170		1860.0 metres		18/25	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE	TOTAL DEPTH	HOLE NO.	
July 4, 1981		July 8, 1981								NQ/BQ	250.0m	D.D.H. 81-03	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		VIS	
From (M)	To (M)	Length	%Rec							F	V/M	FM	8
172.0	174.0	2.0	100	Hornfels, very dark brown to brownish black color, 3 silica rich layers // to relict bedding (av. 1 cm wide) - relict bedding at 20° - qtz veins at 42°, 65°, 83°, 9° - 1 only		- 4 hair line calcite veinlets		-MoS ₂ as blebs or clots along veinlet margins or dissem near veinlet margins -Po dissem thru matrix -Py as fracture films, diss.			$\frac{21}{3}$		28
											$\frac{7}{2}$	30	Q01
174.0	176.0	2.0	100	Hornfels, as above		-minor chloritic alteration at larger veinlet margins & on fracture suraces		- As above			$\frac{10}{2}$		20
											$\frac{10}{2}$		20 Q01
176.0	178.0	2.0	100	Hornfels, as above		As above		As above			$\frac{16}{2}$		20
				176.1 - 10 cm wide qtz vein, no visible MoS ₂							$\frac{14}{4}$		20 Q01
178.0	180.0	2.0	100	Hornfels, as above, 178.1, 178.9, 179.6 - silica rich layers, averaging 4 cm wide		-chlorite rich altered zones within silica rich layers - 178.0		As above			$\frac{13}{4}$		20
											$\frac{12}{3}$		20 Q02
180.0	182.0	2.0	100	Hornfels, as above, no bedding subparallel silica rich layers subparallel to bedding		180.3-180.5-Bleached zone due to calcite veinlets. 181.4 - as above -13 hairline calcite veinlets/fracture fillings		As above			$\frac{19}{4}$		20
											$\frac{17}{2}$		20 Q02



DRILL LOG

SHEET NO.

LOCATION SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.					
				6029300		378170		1860.0 metres		19/25					
DATE STARTED		DATE COMPLETED		SURVEYS				HOLE SIZE		TOTAL DEPTH		HOLE NO.			
July 4, 1981		July 8, 1981						NQ/BQ		250.0m		D.D.H.			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			
From (M)	To (M)	Length	% Rec									F	V/m	F/m	Vis MoS ₂
182.0	184.0	2.0	100	Hornfels, purplish brown color with creamy buff colored bleached zones due to calcite veinlets - relict bedding at 22°				-minor chloritic alteration on fracture surfaces		-Po finely dissem. in rock matrix -Py as films on fracture surfaces & dissem. or as clots in or near qtz veinlets		8/7	20		
												17/6	20	0.03	
184.0	186.0	2.0	100	Hornfels, as above, faulted, kaolinized & chloritized near fracture zones 184.3 - faulted? chlorite rich gouge zone (184.3-185.1)				184.3-185.1-faulted altered zone, rich in chlorite, feldspars altered to clays, light to olive green color		As above		9/4	25		
												8/4	25	0.02	
186.0	188.0	2.0	95	Hornfels, as above 187.1-187.5 - Qtz vein - no visible MoS ₂				186.0, 186.7, 187.0 - Bleached zone with calcite veinlets		As above		12/5	50		
												10/4	50	0.02	
188.0	190.0	2.0	100	Hornfels, as above				188.3, 188.4-chloritized zone approx. 2cm wide		As above		10/3	40		
												7/4	40	0.02	
190.0	192.0	2.0	90	Hornfels, as above 190-1-190.5 - qtz vein at 5° 190.7 } 191.3 } silica layers 191.4 } 191.4 - 192.0 - rock is highly fractured				As above		As above		13/1	50		
												11/2	50	0.01	



DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		20/25			
						6029300		378170		1860.0 metres					
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.	
July 4, 1981		July 8, 1981								NQ/BQ		250.0m		D.D.H. 81-03	
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			VIS MOS ²
From (M)	To (M)	Length	%Rec									F	V/M	F/M	
192.0	194.0	2.0	95	Hornfels, purple brown color, aphanitic, altered by chlorite rich zones or chlorite concentrated or fracture planes. Relict bedding at 22°-20°.				192.5-193.0-chloritic alteration, rock is crumbly due to chloritic alteration.		-Po dissem throughout the rock as very fine grains, not visible -Py occurs on fracture surfaces & vein margins as films or blebs - rock is weakly magnetic		<u>10</u> 2	30		
194.0	196.0	2.0	95	Hornfels - as above 194.5-194.7 - intruded, faulted? zone				194.5-7-Kaolinized, chlorite calcite, rich zone		As above		<u>14</u> 3	30		
												<u>11</u> 3	30	Q01	
196.0	198.0	2.0	100	Hornfels, as above - 5 silica rich layers, 1-2.5 cm wide				As above		As above		<u>11</u> 2	30		
												<u>10</u> 1	30	Q01	
198.0	200.0	2.0	100	Hornfels, as above 198.0 - 198.3 - qtz veinlets (5mm) at 5°				199.1-200 - Chlorite rich fracture surfaces, bleached due chlorite & calcium content		As above		<u>15</u> 1	50		
												<u>5</u> 0	50	TR	
200.0	202.0	2.0	90	Hornfels, intruded by a 20cm wide qtz monzonite sill at 200.6.				200.5-200.6 - chlorite rich zone		As above		<u>5</u> 1			
												<u>16</u> 1		TR	



DRILL LOG

SHEET NO.

LOCATION SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM	EAST UTM	ELEVATION						
				6029300	378170	1860.0 metres	21/25					
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE	TOTAL DEPTH	HOLE NO.				
July 4, 1981		July 8, 1981				NQ/BQ	250.0m	D.D.H. 81-03				
DEPTH		CORE		LITHOLOGY		ALTERATION	MINERALIZATION	STRUCTURE		Vis MoS ₂		
From (M)	To (M)	Length	%Rec					F	V/M	FM	%	
202.0	204.0	2.0	100	Hornfels, purplish brown with grey green altn. zones 203.4-203.6 - silica rich interlayers, some chloritic altn.		202.0-202.7 - chloritic alteration zone	- minor MoS ₂ or margins of qtz veinlets - minor Py as fracture films - dissem. Po - weakly magnetic		$\frac{11}{1}$		730	
204.0	206.0	2.0	100	As above, intense qtz veining parallel to core axis		204.9-205.1-chlorite enrichment	As above		$\frac{25}{0}$		750	
206.0	208.0	2.0	100	As above, with qtz veinlets parallel to relict bedding or core parallel. - 4 silica rich layers parallel to bedding		As above	As above		$\frac{25}{0}$		750	
208.0	210.0	2.0	100	As above - 4 silica rich layers // to bedding		208.5- 208.8 - Calcite veinlet 2 cm wide	As above		$\frac{13}{4}$		750	001
208.0	210.0	2.0	100	As above - 4 silica rich layers // to bedding		208.5- 208.8 - Calcite veinlet 2 cm wide	As above		$\frac{15}{3}$	20		
210.0	212.0	2.0	100	As above - 2 silica inter layers		As above	As above		$\frac{20}{3}$	20	001	
210.0	212.0	2.0	100	As above - 2 silica inter layers		As above	As above		$\frac{21}{2}$			
									$\frac{20}{4}$		001	

DRILL LOG

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.				
						6029300		378170		1860.0		22/25				
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.						
July 4, 1981		July 8, 1981				NQ/BQ		250.0m		D.D.H. 81-03						
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE				
From (M)	To (M)	Length	%Rec									F	V/M	F/M	vis MoS ₂	
212.0	214.0	2.0	100	Hornfels - as before - relict bedding at 28° - 2 silica rich inter layers				- thin films of dark green to black chlorite occur on fractures		-MoS ₂ , as blebs or dissem dustings or vein margins -Po dissem through rock -Py on fracture surfaces			14 2			001
214.0	216.0	2.0	100	Hornfels, as before				As before		As before			23 3	50		
													22 5	50	002	
216.0	218.0	2.0	100	Hornfels, as above - 2 silica inter layers (1-4 cm wide)				As above		As above			23 2			
													18 2		001	
218.0	220.0	2.0	100	Hornfels, as above - silica rich layer from 219.1-220.				219.0-219.1 } chloritic 219.4-220.1 } alternation					32 0	50		
								219.2-calcite fracture filling					8 1	50	TR	
220.0	222.0	2.0	100	Hornfels, as above - 3 silica interlayers - Relict bedding at 23°				As above 221.7-Kaolinized. bleached zone 2cm calcite veinlet		As above			3 0			
													7 3		001	

LOCATION		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
SHASS MOUNTAIN				6029300		378170		1860.0 metres		23/25	
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.	
July 4, 1981		July 8, 1981				NQ/BQ		250.0m		D.D.H. 81-03	
DEPTH (M)		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE	
From (M)	To (M)	Length	%Rec							F	V/M
222.0	224.0	2.0	95	Hornfels, highly altered - Kaolinized & bleached, 2 calcite veinlets		223.7 - 5cm chlorite rich zone intense hairline fracturing		minor Po diss - non visible, rock is weakly magnetic Py occurs as films on fracture planes.		$\frac{13}{1}$	70
										$\frac{7}{2}$	>70
										$\frac{6}{1}$	>70
224.0	226.0	2.0	100	Hornfels, as above, whole interval weakly altered		224.0-224.2-Bleached zone		As above		$\frac{9}{3}$	>70
										$\frac{2}{1}$	20
226.0	228.0	2.0	95	Hornfels, as above, with a qtz vein parallel to core axis to 227.9 226-226.5 - qtz vein, barren 227.8-227.9 - qtz vein, MoS ₂ on vein margins		As above		As above		$\frac{1}{2}$	20
										$\frac{8}{0}$	20
228.0	230.0	2.0	100	Hornfels, as above. Increase in biotite to give a grey black color		229.6-230 - calcite veinlet // to core axis		As above		$\frac{3}{0}$	20
										$\frac{1}{1}$	
230.0	232.0	2.0		Hornfels, highly altered, close to qtz monzonite contact 230.7-231.2 - qtz vein, no MoS ₂ on margins. Vein trending 5°.		As above.		-MoS ₂ , as vein margin material from 231.8-232.		$\frac{1}{0}$	Q04

BP

DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		24/25			
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH			
July 4, 1981		July 8, 1981								NQ/BQ		250.0m			
DEPTH (M)		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE		Vis MOS ₂	
From (M)	To (M)	Length	% Rec									F	V/M		F/M
232.0	234.0	2.0	90	Hornfels, olive green grey in color, due increase in chlorite content, more igneous texture, med. grained				- chloritic altn. pervasive		- minor disseminated Py - minor Po - weakly magnetic			$\frac{7}{1}$	50	
													$\frac{9}{1}$	50	< Q01
234.0	236.0	2.0	90	234.0-234.4 - Hornfels, as above 234.4 - Contact - gradational, ±10cm 234.4-236.0 - Biotite Qtz monzonite; olive green grey color, med. grained, occ. < 3 cm biotite clots.				As above		As above			$\frac{6}{2}$	40	
													$\frac{14}{4}$	40	Q02
236.0	238.0	2.0	90	236 - 238 - Qtz monzonite, minor biotite, not porphyritic, still transition zone rock; olive green grey color, abundant chlorite - disseminated and on fracture surfaces - occasional small (1cm) frags. of hornfels.				As above		occasional blébs of pyrite			$\frac{5}{0}$	20	
													$\frac{1}{0}$	20	TR
238.0	240.0	2.0	100	238-240 - Qtz monzonite as above, approximately 40% hornfels fragments mainly from 239 - 240 - Qtz vein from 238.1-238.3				As above		pyrite on fractures			$\frac{3}{3}$	20	
													$\frac{4}{2}$	20	Q01
240.0	242.0	2.0	100	240 - 242 - Qtz monzonite, as above. More biotite, up to 10%, rock is altered, silicified & feldspathized, texture not porphyritic				- pervasive chlorite		-py as diss. blébs -MoS ₂ in blébs along vein margins			$\frac{5}{2}$	20	
													$\frac{6}{1}$	20	Q01



DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		SHEET NO.			
						6029300		378170		1860.0 metres		25/25			
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH			
		July 8, 1981								NQ-427 FT.		819'			
										RQ-427-819		819'			
DEPTH (M)		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			
From (M)	To (M)	Length	%Rec									F	V/M	FM	MOSS
242.0	244.0	2.0	100	Biotite qtz monzonite; porphyritic, whole interval is weakly chloritized and feldspathized				- chloritization of fracture surfaces - minor kaolinization adjacent to fractures		- occ. dissem. MoS, also occurs at qtz vein margins - minor Py as clots or blebs - very weakly & sporadically magnetic-minor Po			$\frac{2}{1}$	10	
244.0	246.0	2.0	95	244-246 - Biotite qtz monzonite, as above 244.9-245.1 - Fracture/fault zone. Chlorite rich, minor calcite 245.5 - 246.0 - Fault zone, kaolinized in part. As above.				As above.		As above			$\frac{8}{0}$	30	
													$\frac{2}{1}$	50	TR
246.0	248.0	2.0	90	Biotite qtz. monzonite, as above				- interval intensely chloritized on fracture planes, causing further fracturing of core		As above			$\frac{5}{0}$	60	
													$\frac{4}{3}$	60	QO1
248.0	249.6 (819')	1.6	100	Biotite qtz monzonite				As above		- Py occurs on fractures as a thin film & as diss blebs - Po as above			$\frac{0}{0}$	50	
													$\frac{0}{0}$	50	TR
249.6				End of hole 12' of NQ casing at collar left in hole Logged - Michael Smith											

DRILL LOG

SHEET NO.

PROJECT 528		LOCATION SHASS MOUNTAIN, B.C.		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.			
				6029075		378450.		1799 metres				1/12			
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH			
June 28, 1981		July 3, 1981										121.2m			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			
From (M)	To (M)	Length	%Rec									F	V/M	F/M	Vis MOS ₂
0	6.8			OVERBURDEN											
6.8	10	2.6		Biotite quartz monzonite-inequigranular texture, grey in color; contains 15% biotite ranging from tiny (0.1mm) ragged, grains to 2-3mm euhedral books in grey granular matrix of quartz and feldspar. (grain size 0.1-2mm) 9-10 Local foliation of fine biotite (primary flow banding?) @ 28°. Qtz-MoS ₂ veins @ 25°, 31°.				Qtz monzonite is fresh except for minor feldspathization and sericitization adjacent to a few quartz veinlets.		-3% pyrrhotite, disseminated on scattered fractures and lining few Qtz veinlets. Minor MoS ₂ disseminated along margins of Qtz veins-hair line width to 0.5cm. Limonite on fractures to 17mm.		4	(3)	10	
10	12	2.05	102	As above Qtz and Qtz-MoS ₂ veinlets @ 35°, 62°, 30°				As above		As above		4	(1)	17	
12	14	2.0	100	Above phase has chilled margin contact @ 33° @ 12.6m with a lighter grey, subporphyritic biotite quartz monzonite with more abundant quartz veins.				As above		As above. 12.1 3cm Qtz vein lined with 0.2 mm po. @ 46°. 13.6 - 14.1 1.5cm Qtz-MoS ₂ vein parallel core axis cut by Qtz py veins trending 48°, 60°, 22°.		7/1		4	
14	16	1.9	95	Grey subporphyritic biotite quartz monzonite. Qtz-MoS ₂ veins @ 75°, 24°, 69°, 0°.				As above		As above Py disseminated along with Po.		18/3		6	
												12/6		5	.02

DRILL LOG

SHEET NO.

PROJECT 528 LOCATION SHASS MOUNTAIN, B.C.		CO-ORDINATES		NORTH UTM	EAST UTM	ELEVATION	HOLE NO.				
				6029075	378450	1799 metres	2 / 12				
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE	TOTAL DEPTH	HOLE NO.			
June 28, 1981		July 3, 1981				NQ/BQ	121.2m	D.D.H.S-81-2			
DEPTH (m)		CORE		LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE				
From(M)	To (M)	Length	%Rec				F	V/M	F/M	MOS ₂	
16	18	2.1	105	Subporphyritic biotite quartz monzonite 12-15% dissem flakes and books of biotite in grey granular groundmass quartz and feldspar. Grain size 0.1-5mm. Qtz-MoS ₂ veins @ 54°, 80°, 0°.	Secondary purple-brown biotite along fractures and in groundmass in zones of more abundant Qtz veins. Primary biotite locally obliterated in these sections.	4% dissem po and Py. MoS ₂ on hairline width to 1.5cm wide Qtz-veins. Minor dissem MoS ₂ in Qtz monzonite groundmass where Qtz veins are abundant.	16/8	7	8/6	6	.02
18	20	2.0	100	As above Qtz and Qtz-MoS ₂ veins @ 62°, 58°, 47°.	As above	As above	8/3	7	7/4	2	.02
20	22	1.9	95	As above Qtz-MoS ₂ veins @ 63°, 45°, 48°	As above 5cm sericitized halo adjacent to 6cm Qtz-MoS ₂ vein @ 22m Sericite also on scattered fractures with calcite. Thin layer of clay-rich gouge on	As above	7/4	4	12/6	8	.04
22	24	2.0	100	As above Qtz-MoS ₂ veins @ 68°, 65°, 25°, 39°.	many fract. Intensely argillized & sericitized 22, 22.1, 22.5-22.6, 22.9-23.5. Sericite on fractures with calcite and finely dissem adjacent to some Qtz veins.	As above	16/3	9	13/9	11	.04
24	26	2.05	102	As above Scattered Qtz and feldspar phenocrysts up to 1cm in diameter. Qtz-MoS ₂ veins @ 64°, 67°, 28°	Intensely sericitized 24.4-24.6.	As above	9/3	18	6/4	20	.03

DRILL LOG

SHEET NO.

PROJECT 528 LOCATION SHASS MOUNTAIN, B.C.		CO-ORDINATES		NORTH UTM	EAST UTM	ELEVATION	HOLE NO.				
				6029075	378450	1799 metres	3/12				
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE	TOTAL DEPTH	HOLE NO. D.D.H. S-81-2			
June 28, 1981		July 3, 1981				NQ/BQ	121.2m				
DEPTH		CORE		LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE				
From (M)	To (M)	Length	%Rec				F	V/M	F/M	Vis MoS ₂	
26	28	2.0	100	Grey subporphyritic biotite quartz monzonite. 15% biotite as flakes and books up to 5mm in inequigranular groundmass of quartz and feldspar. Rare phenocrysts up to 1cm.	Weak sericite & local biotite adjacent to some Qtz veins. Minor white feldspathization adjacent to fractures and Qtz veins. Thin layer of sericite, calcite and clay rich gouge on many fractures to 28m.	3% disseminated po and py. Po & py also on scattered fract. and in Qtz veins. MoS ₂ dissem and along margins of 0.2-10mm Qtz veins. Minor Qtz locally dissem in Qtz monzonite		10/3	27		
28	30	1.95	97	As above 28.2-28.5 Biotite rich zone @ 52° containing 2% dissem sphene. Qtz-MoS ₂ veins @ 74°, 79°, 38°.	29.6-30.3 Feldspars intensely argillized.	As above		8/4	5		
								11/76	6	.0	
30	32	2.0	100	As above Qtz and Qtz-MoS ₂ veins @ 67°, 77°, 75°, 76°.	30.3-32 Fresh Qtz monzonite 31.9 lcm feldspathized zone along fracture.	As above		18/77	7		
								8/2	4	.0	
32	34	2.0	100	As above Qtz & Qtz-MoS ₂ veins @ 35°, 31°, 75°.	Fresh Qtz monzonite calcite on fractures with clay-rich gouge	As above		8/3	9		
								12/512		.0	
34	36	2.0	100	As above	35.2-35.5 Feldspars intensely argillized. 35.7-36 weak pervasive sericite. A number of calcite-wated fractures with clay-rich gouge	As above		8/5	13		
								5/4	15	.02	

DRILL LOG

SHEET NO.

LOCATION		PROJECT 528 SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
						6029075		378450		1799 metres		4/12	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH	
June 28, 1981		July 3, 1981								NQ/BQ		121.2m	
DEPTH (M)		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE ^{MoS₂}			
From (M)	To (M)	Length	% Rec							F	V/M	F/M	%
36	38	2.1	105	Grey subporphyritic biotite quartz monzonite. locally altered. Abundant crowded euhedral to subhedral feldspar grains and quartz grains 0.2-10mm. Core strongly broken up 36.6-37.0. Qtz-MoS ₂ veins @ 0°, 75°, 120°, 170°.		Local intense argillization of feldspar & biotite and weak pervasive sericite. 37.8-38.0 clots reddish brown secondary biotite. 37-38 Limonite on fract.		MoS ₂ mainly disseminated along quartz vein margins. 37.8-38 disseminated MoS ₂ in Qtz monzonite. 2% disseminated py & po. Py also in fract & in Qtz veins.		12/8			30
38	40	2.0	100	As above Qtz-MoS ₂ & Qtz veins @ 51°, 25°, 37°.		38-38.4 weak pervasive sericite. scattered fractures coated with calcite where sericite is pervasive, feldspars are converted to f.g. green masses & biotite, to grey sericite? pseudomorphs.		Scattered flakes MoS ₂ disseminated in Qtz monzonite.		10/6			9
40	42	2.0	100	As above. 40-58 Local moderate sericitization and moderate to intense argillization. Qtz-MoS ₂ and Qtz veins @ 72°, 48°, 37°.		41.3-42.2 Moderate pervasive sericitization of feldspar and biotite. Fractures coated with thin layer sericite, calcite and clay-rich gouge.		Py & Po (3%), MoS ₂ as above.		5/4			9
42	44	2.0	100	As above 42.3 Nylonitized quartz-py-calcite vein - 7cm wide @ 64°.		40-42.4 moderate sericitization and argillization of feldspars & biotite. Pervasive sericite & bleached biotite developed adjacent to a few Qtz veins.		As above 42.3-44.0 2-3 Qtz-MoS ₂ veins running down core axis-veins locally contain 1 mm white feldspar grains along margin.		12/10			18
44	46	1.95	97	As above Qtz-MoS ₂ veins @ 53°, 65°, 48°, 76°, 42°, 0°.		44.7-45.1, 45.5-45.6 feldspars intensely argillized. 44.3 lcm Qtz-po-MoS ₂ vein @ 31° lined with 0.5 mm white feldspar. Pervasive sericite haloes up to 4cm wide adjacent to some Qtz-MoS ₂ vein		Py, po MoS ₂ as above tr cpy. in one or two veins.		16/6			7
										12/9			9 .05

DRILL LOG

SHEET NO.

PROJECT 528 SHASS MOUNTAIN, B.C.		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO. D.O.H. S-81-2			
LOCATION				6029075		378450		1799 metres					
DATE STARTED		DATE COMPLETED		SURVEYS				HOLE SIZE		TOTAL DEPTH			
June 28, 1981		July 3, 1981						NO/BO				121.2m	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		VIS MO	
From (M)	To (M)	Length	% Rec							F	V/M		F/M
46	48	2.0	100	Subporphyritic biotite quartz monzonite containing abundant crowded subhedral to euhedral plagioclan grains 0.1 to 6mm (rarely up to 10mm) and rounded quartz grains up to 6mm Biotite (12-15%) occurs as disseminated flakes and books in fresh qtz monzonite-where altered biotite has a grey leached appearance. Qtz-MoS ₂ veins @ 0°, 6°, 47°, 42°.		Locally feldspars are intensely argillized or are moderately sericitized Calcite fractures & in veinlets up to 1cm wide.		Qtz-MoS ₂ veins parallel to core axis, 2% Py, Po, disseminated and in Qtz-MoS ₂ veins. Minor amounts Py on fractures 46.1 7cm barren qtz vein @ 48° cuts off MoS ₂ -qtz vein @ 6° but		9/8	5		
48	50	2.0	100	As above. Qtz-MoS ₂ veins @ 50°, 60°, 67°, 81°, 16°.		Locally moderately argillized and sericitized 0.5 cm feldspathized holo along a few fractures @ 12°.		is cut off by 0.3cm Qtz-MoS ₂ vein @ 60°. Py, Po, MoS ₂ as above. Po seems to be absent in altered sections.		12/3	5	.00	
50	52	2.0	100	As above 50.4-50.6 Brownish-grey feldspar porphyry 51.0-51.5 dikes @ 17°, containing scattered feldspar phenocrysts 0.5-5mm in diameter in f.g. brownish grey groundmass 50.1 Slip plane coated with Py @ 68°. 50.4 Slip plane coated with black gouge @ 46 degrees.		Feldspars in qtz monzonite intensely argillized and locally sericitized.		As above Qtz-MoS ₂ veins @ 52°, 57°, 45°, 0°.		68/15	8	22	.00
52	54	2.0	100	As above		Intensely argillized.		As above		20/11	16	.00	
54	56	2.0	100	As above Qtz - MoS ₂ veins @ 64°, 11°, 0°, 11°		Intensely argillized weak local sericite		As above 54.4-54.7 Irregular uuggy pyrite-qtz-calcite veinlets		25/7	6	.00	
										23/5	6	.00	
										15/6	9	.13	
										16/11	7	.13	

DRILL LOG

SHEET NO.

PROJECT 528 LOCATION SHASS MOUNTAIN, B.C.		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.					
				6029075		378450		1799 metres		6/12					
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.					
June 28, 1981		July 3, 1981								D.D.H. S-81-2					
DEPTH (M)		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			
From (M)	To (M)	Length	%Rec									F	VM	F/M	Vis MOE %
56	58	1.95	97	Subporphyritic quartz monzonite as described above-altered. Qtz and Qtz-MoS ₂ veins @ 76°, 15°, 50°, 79°.				Feldspars and biotite completely argillized Some weak local sericitization and silicification.		Qtz- & Qtz-MoS ₂ veins up to 1.5 cm wide.			16/13	8	
58	60	1.9	95	As above - locally altered 60.0 Irregular vuggy calcite - zeolite veinlet Qtz and Qtz veins @ 54°, 48°, 8°, 46°.				Less altered than above Intensely argillized. 58-58.4, 59.4-59.6 Moderately sericitized up to 5 cm from a few Qtz veins. 59.3 Fracture coated with chlorite and pyrite.		3% disseminated and Py & Po (Po mainly in fresh Qtz monzonite). Py also on fractures and in Qtz veins			12/4	9	
60	62	1.9	95	As above - locally altered Qtz and Qtz-MoS ₂ veins @ 50°, 44°, 21°.				Local weak/nodular argillization and sericitization Chlorite & Pyrite coated fracture parallel to core axis.		Py, Po, MoS ₂ as above.			13/9	16	
62	64	2.0	100	As above - locally altered Qtz and Qtz-MoS ₂ veins @ 39°, 52°, 52°.				As above		As above			15/6	30	
64	66	2.0	100	As above Qtz and Qtz-MoS ₂ veins @ 51°, 22°.				Local weak pervasive sericite. Scattered fractures coated with chlorite, pyrite and calcite.		As above			8/4	8	
													7/5	7	.0

DRILL LOG

SHEET NO.

PROJECT 528 SHASS MOUNTAIN, B.C.		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.			
LOCATION				6029075		378450		1799 metres		7/19			
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.			
June 28, 1981		July 3, 1981								D.D.H. S-81-2			
DEPTH(M)		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE			
From (M)	To (M)	Length	% Rec							F	V/M	F/M	V1
66	68	2.1	105	Subporphyritic biotite quartz monzonite-as described above. Qtz - MoS ₂ veins @ 22°, 48°, 23°.		66-66.4 Intensely argillized. Local weak sericitization up to 5cm from a few Qtz veins. Fractures coated with chlorite, clay-rich gouge and minor pyrite.		Py (2-3%) disseminated, on fractures and in Qtz veins up to 1cm wide.			6/5	12	
											9/3	730	.0
68	70	1.9	95	As above - locally altered. Qtz and Qtz-MoS ₂ veins @ 62°, 40°.		68.0-68.2 Intensely argillized. Moderate sericite developed adjacent to a few quartz veins up to 5cm from vein.		As above			9/5	30	
											8/5	14	.01
70	72	1.95	97	As above Qtz & Qtz-MoS ₂ veins @ 62°, 40°.		Sericite as above. Chlorite, clay-rich gouge and pyrite coating a number of fractures.		As above			12/10	25	
											9/3	30	.0
72	74	2.1	105	As above Numerous microfractures trending down core axis. Fractures are irregular, up to several centimeters long, many are coated with a thin film of pyrite. One euhedral phenocryst of white orthoclase 2cm long @ 73.7° Qtz-MoS ₂ and Qtz veins @ 82°, 11°, 35°.		73.5-73.8 Moderately sericitized adjacent to 2cm Qtz-MoS ₂ -calcite zone @ 64°. Some biotite leached to light brown color.		As above Abundant pyrite coating microfractures.			7/3	7	
											16/8	9	.0
74	76	2.0	100	As above Numerous microfractures down to 76.8 Qtz and Qtz-MoS ₂ veins @ 76°, 28°, 28°, 70°.		75.9-76.2 Sericitized adjacent to 2.5cm Qtz MoS ₂ vein @ 76°.		As above			15/8	1	
											16/5	6	.0

DRILL LOG

SHEET NO.

PROJECT 528 LOCATION SHASS MOUNTAIN, B.C.				CO-ORDINATES		NORTH UTM 6029075		EAST UTM 378450		ELEVATION 1799 metres		8/12					
DATE STARTED June 28, 1981		DATE COMPLETED July 3, 1981		SURVEYS						HOLE SIZE	TOTAL DEPTH	HOLE NO. D.D.H. S-81-2					
DEPTH (M)		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE F V/M F/M					
From (M)	To (M)	Length	% Rec									F	V/M	F/M	MoS ₂		
76	78	1.9	95	Subporphyritic biotite quartz monzonite - as described above Rare scattered feldspar phenocrysts up to 1.5. Scattered zones of microfracturing - some fractures coated with pyrite. Qtz-MoS ₂ and Qtz veins @ 18°, 74°, 47°.				Weak sericitization developed adjacent to a few Qtz and Qtz-MoS ₂ veins. A few fractures coated with dark green chlorite. Thin coating of clay rich gouge and minor zeolite.		3-4% dissem Py & minor Po. Py also on fractures and in Qtz-MoS ₂ veins. Qtz-MoS ₂ veins up to 2.5cm wide. MoS ₂ usually along margins although a few veins contain fine disseminations and streaks of.		13/9	730				
78	80	2.0	100	As above 78.7 Carbonate rich mylonite @ 57°. 78.7-79.7 2.5cm Qtz-MoS ₂ -Py vein running down core axis. 79.7 Slip plane with 0.5cm fault gouge @ 40°.				Intense argillization assoc with Qtz-MoS ₂ vein parallel to core axis. Some irregular cross cutting calcite veinlets up to 1cm wide.		MoS ₂ As above		57/40	9/4	730		30.1	
80	82	2.0	100	As above Well developed network of microfractures with thin pyrite coatings. Local trend @ 20-25°. Qtz and Qtz-MoS ₂ veins @ 25°, 28°, 62°, 55°.				Weak pervasive sericite adjacent to a few Qtz veins. Chlorite on fractures and local sericite gives rock a greenish grey cast.		As above Fine pyrite crystals along chlorite-coated fractures.		13/8	15		8/7	7	.0
82	84	2.2	110	As above Pyrite (and chlorite?) coated microfractures abundant, dominant trend @ 25°. Qtz and Qtz-MoS ₂ veins at 33°, 56°, 15°.				As above		As above		10/9	15		11/10	6	.0
84	86	2.0	100	As above Microfractures as above, locally abundant @ 30-35°.				As above		As above		7/5	730		8/2	730	.0

DRILL LOG

SHEET NO.

LOCATION		PROJECT 528 SHASS MOUNTAIN, B.C.		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
						6029075		378450		1799 metres		9/18	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH	
June 28, 1981		July 3, 1981											
DEPTH (M)		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Vis. MoS ₂	
From (M)	To (M)	Length	% Rec							F	V/M	F/M	
86	88	2.0	100	Subporphyritic biotite quartz monzonite. 15% biotite in flakes and euhedral books up to 5mm in grey inequigranular quartzofeldspathic groundmass 0.2-5mm. Rare to minor white feldspar phenocrysts 1-1.5cm long. Qtz-MoS ₂ veins @ 53°, 72°, 0°, 63°.		Weak/moderate pervasive sericite developed adjacent to several Qtz and Qtz-MoS ₂ veins. Chlorite on many fractures + calcite + tiny pyrite crystals.		3-4% pyrite, disseminated and on fractures. Minor pyrite in Qtz and Qtz-MoS ₂ veins. Disseminated Pb. Qtz-MoS ₂ veins 0.5-5mm wide.			13/11	26	
88	90	2.0	100	As above 88.2-82.7 Abundant microfractures coated with thin film of pyrite as above (80-86). Trend @ 41°. Qtz-MoS ₂ & Qtz veins @ 61°, 63°, 66°, 82°.		Minor pervasive sericite @ 91m. 88.3 purple biotite and sericite along fracture. 89.5 Fracture with halo of white feldspathization.		As above			12/75	19	
90	92	2.2	110	As above 90.7-91 Abundant microfractures as above. Qtz-MoS ₂ veins @ 62°, 51°, 58°.		91.0 10cm sericitized zone. 91.7-91.9 Clots of fine grained sericite and purple biotite up to 1cm in diameter in silicified? zone.		As above			8/1	15	
92	94	1.95	97	As above Qtz & Qtz-MoS ₂ veins @ 20°, 9°, 53°, 7°.		Several fractures @ 10° with up to 0.5cm wide halo of white feldspathization. Fresh Qtz monzonite.		As above Qtz-MoS ₂ veins up to 1.2cm wide.			7/7	4	
94	96	2.0	100	As above		Fresh Qtz monzonite A few fractures with narrow white feldspathic halo		As above			7/4	30	
											10/75	10	.02

DRILL LOG

SHEET NO.

PROJECT 528		NORTH UTM		EAST UTM		ELEVATION		LOCATION SHASS MOUNTAIN, B.C.		CO-ORDINATES		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.	
		6029075		378450		1799 metres										D.D.H.S-81-2		10/1	
DATE STARTED		DATE COMPLETED		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		VIS							
June 28, 1981		July 3, 1981								F		V/M		FM					
DEPTH (M)		CORE																	
From(M)	To (M)	Length	%Rec																
96	98	2.0	100	Subporphyritic biotite quartz monzonite-as described above. Rare white feldspar phenocrysts up to 2cm and quartz eyes up to 1 cm. Zones and networks of microfractures. 97.2-97.3 Chloritic fault zone with MoS ₂ slickensides in rubble Qtz and Qtz-MoS ₂ veins @ 0°, 70°, 76°.		Scattered fine grained clots of secondary purple brown biotite.		4% pyrite, disseminated and as fracture coatings. Minor Py in Qtz and Qtz-MoS ₂ veins. 97.2 MoS ₂ coated slip plane in 10 cm fault zone.		8/4		30							
98	100	2.0	100	As above Well developed microfractures trend 17-29°. Qtz-MoS ₂ veins @ 40°.		As above 99.0-99.2, 99.7-100.1- Fine grained clots of secondary purple-brown biotite up to 2cm long.		As above Disseminated MoS ₂ in zones of secondary biotite.		8/4		11							
100	102	2.0	100	As above Core strongly broken up. Numerous fractures coated with clay-rich gouge. Qtz-MoS ₂ veins @ 52°.		Scattered fine grained clots light brown biotite. 101.9-102.1 Intensely argillized and sericitized adjacent to 2 cm broken up Qtz veins.		As above Minor local disseminated MoS ₂ vein quartz-MoS ₂ veins.		9/6		30							
102	104	2.0	100	As above Locally abundant microfractures coated with pyrite Qtz-MoS ₂ and Qtz veins @ 0°, 63°, 46°.		Minor feldspathization adjacent to a few fractures.		As above		11/8		30							
104	106	1.9	95	As above Microfractures abundant - trending @ 33°		As above		As above 105.3 11cm Qtz-vein with minor MoS ₂ along margin @ 47°. 105.8 MoS ₂ coated slip plane @ 50-70°.		7/0		3							

DRILL LOG

SHEET NO.

PROJECT 528		NORTH UTM		EAST UTM		ELEVATION		LOCATION SHASS MOUNTAIN, B.C.		CO-ORDINATES		HOLE NO.	
		6029075		378450		1799 metres						11/12	
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.			
June 28, 1981		July 3, 1981								D.D.H.S-81-2			
DEPTH (M)		CORE		LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE						
From (M)	To (M)	Length	%Rec				F	VM	F/M	VM			
106	108	2.0	110	Subporphyritic biotite Qtz monzonite; light greenish grey in color, med-grained, mottled surface texture due to feldspar alteration. Occasional white feldspar phenocrysts to 1cm, numerous subhedral to rounded Qtz eyes. -interval is moderately fractured, both microfractures filled with chlorite and Py and fracture zones with ground core, MoS ₂ on slickensides at 106.4 to 106.6m.	scattered light brown books of biotite. 106.6 to 106.9-Argillized and sericitized adjacent to fault zone. Fracture zones at 106.5, 107.9.	0-4% Py in interval, disseminated and on fracture surface as coating. Minor Py on fract in Qtz veins. MoS ₂ at 106.5 & 107.6 as fracture coating or irregular blebs along margins of Qtz vein.		5		18			
108	110	2.0		As above. interval is highly fractured, rock is very brittle & crumbled due to feldspar weathering, color change to a mottled creamy green grey due to increase in sericite. Microfractures much less abundant, trend = 30° to core axis, coated w Py, chlorite. Qtz, Qtz-MoS ₂ veins at 108.7, 108.5, veins trend 65°, 60°.	increased biotite content often weathered out, leaving vugs increased chlorite content near fault zones.	As above 3 discernable Qtz-MoS ₂ veins, in fault rubble or along Qtz vein margins; veins; 5cm wide at 108.7, 108.3, 108.5m.		3/1		15			
110	112	2.0	100	As above Interval less altered, more competent, no fault zones. Color back to dull creamy grey. Qtz veining at 55°. Microfracturing moderately abundant, trending 30°.	rock is less altered than above, little argillized or sericitized.	MoS ₂ coating vein margin & disseminated in veinlets occur at 111.4, 111.7. Py coatings on several fracture surfaces.		8/0		20			
112	114	2.0	100	As above Microfractures abundant from 113.5-114.0. Fractures core at 113.5, no fault gouge.	Biotite & Py enriched zone 112.6-112.8	As above MoS ₂ veining in microfractures at 10-30°, little Qtz, in fracture network at 113.9-114.		7/3		4			
114	116	2.0	110	As above, with occasional disseminated books light brown biotite. Microfracturing moderately abundant in interval. Qtz veining at 50°, 60°.	Occasional fine grained books dark brown biotite.	Minor Py on fracture surfaces. MoS ₂ in fine Qtz veinlets 2mm wide at 114.0, 115.0, 115.3.		9/2					
									11/2		.0		

DRILL LOG

SHEET NO.

LOCATION SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM	EAST UTM	ELEVATION							
				6029200	378300	1827 metres	Y23						
DATE STARTED		DATE COMPLETED					HOLE SIZE	TOTAL DEPTH	HOLE NO.				
June 19, 1981		June 27, 1981					N Q	S 81-1					
DEPTH		CORE		LITHOLOGY			ALTERATION		MINERALIZATION		STRUCTURE		VIS MoS ₂
From	To	Length	%Rec								F	V/M	
0	20.4			Overburden Note - all angles are reported from core parallel									
20.4	22	0.4	25	20.4-21.0 Rusty quartz and hornfels pebbles MoS ₂ & pyrite in qtz - poor recovery									>30
22	24	1.6	80	21.2-29.5 <u>Grey biotite qtz diorite</u> -abundant finely dissem biotite with pyrrhotite in grey silicious groundmass Mottled texture due to variable amounts of biotite. 22.7-23.2 Bleached zone assoc. with several fault planes lined with calcite and fault gauge @ 5-20°.			21.2-22 pink calcite & dissem sphene? appear to be assoc with irreg qtz vein. Abundant biotite in groundmass that appears to be siliceous or quartz feld spathic	21.2-22 Irreg qtz vein with MoS ₂ and py dissem in calcite-rich zone and in scattered qtz veins. Dissem pyrrhotite(2-3%)	5 20	1	>30		
24 1	26	1.5	75	Siliceous <u>biotite qtz diorite</u> -abundant finely dissem biotite and po. Quartz veins range in width from lmm-1cm, have diffuse boundaries over-1mm. 25.5 Two calcite veins 0.5&1cm wide with fault @ 20°. MoS ₂ + pyrite dissem within 2cm of fault. Qtz veins @ 20°, 35°, 45°, 73°.			Abundant biotite(0.3mm) in grey siliceous groundmass. Calcite scattered veinlets, chlorite on fractures with pyrite + calcite.	MoS ₂ occurs mainly along qtz vein margins and as a few seams up to 1mm thick. Py occurs as fine dissem (13%). Pyrite (5-10%) occurs as fracture coatings and local dissem.	20°	5	>30		
26	28	2.2	110	Siliceous <u>biotite qtz diorite</u> -as above 26.6-26.8 Texture appears to be somewhat granitic. Qtz veins @ 62°, 70°, 72°.			As above. Chlorite & pyrite coated fractures trend @ 10°.	As above. Po occurs in some qtz-MoS ₂ veins. Py is dissem., 8-10%		13	>30		
										10	>300.1		

DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO.	
						6029200		378300		1827 metres		2/23	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH	
June 19, 1981		June 27, 1981										D.D.H.'s 81-1	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE			
From (M)	To (M)	Length	%Rec							F	V/M	F/M	M/S ²
28	30	2.0	100	28-29.5 Grey siliceous <u>biotite qtz diorite</u> 29-29.5 Relict beds? f.g.purple hornfels. @ 10°. 29-29.9 Fault at 0-15° Core strongly broken up 29.5-31.9 <u>Biotite quartz monzonite</u> Contacts gradational		Abundant biotite in grey siliceous groundmass of hornfels.		MoS ₂ mainly dissem along qtz vein margins. Minor dissem po. Pyrite <u>mainly</u> on fractures + chlorite. - <5%		0-15	11	>30	
30	32	2.2	110	Biotite <u>quartz monzonite</u> to 31.9 30-31 Core strongly broken up and gougy slickensides @ 0-15°. Qtz monzonite is med grained (1mm), equigranular, grey in colour. Contains approx. 20% biotite and approx. 2% dissem. po.		Calcite on scattered fractures.		MoS ₂ occurs dissem along qtz vein margins approx. 2% dissem po. Pyrite on fractures & diss + chlorite and in some qtz-MoS ₂ veins Py=10%		0-15	1	>30	.08
32	34	2.2	110	Grey siliceous <u>biotite qtz diorite</u> 32.3-32.4 gougy qtz monzonite? 32.4-32.5 bleached zone adjacent to calcite-calcedony? veinlet @ a 90°. 33.5-33.8 Fault gouge 33 Texture appears to be granitic- possibly a biotite-rich qtz diorite.		Biotite occurs finely dissem to clots up to 1mm in diameter in grey siliceous groundmass.		MoS ₂ as above. - 2% dissem Po. Py 5-8% on fract + chlorite and in some qtz MoS ₂ veinlets. 32.7 8cm qtz-MoS ₂ -py vein @ 57°. Other qtz-MoS ₂ veins @ 17°, 77°.		6	9	>30	.10
34	36	1.8	90	33- Grey <u>biotite rich qtz diorite</u> -fine grained with 0.2-0.5mm clots biotite interwoven with white to grey feldspar. 35.9 1cm irregular vuggy calcite vein.		Chlorite on scattered Fractures with pyrite		MoS ₂ as above. - 4% py and po. Py on fractures in qtz MoS ₂ veins + dissem. Po dissem. Pyrite crystals on some open fractures.		9	16		
36	38	2.1	105	As above - grainsize is variable - possibly indicating presence of some dioritized sedimentary fragments. Scattered calcite veinlets up to 0.5 cm wide. 38.0 Slip plane @ 37°.		As above Biotite locally has a brownish color.		As above Qtz-MoS ₂ veins @ 7°, 50°, 72°, 58°. Py in fractures & dissem; 8%		12	>30	.08	
										13	8		
										37	6	11	.08

DRILL LOG

SHEET NO.

LOCATION SHASS MOUNTAIN		CO-ORDINATES		NORTH UTM		EAST UTM		ELEVATION		HOLE NO. D.D.H.81-01		
				6029200		378300		1827 metres				
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO. D.D.H.81-01		
June 19, 1981		June 27, 1981										
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		
From (M)	To (M)	Length	% Rec							F	V	M
38	40	2.0	100	Grey biotite qtz diorite-as above. 37.9-38.9 possibly a dioritized fragment? 39.0-39.3 Slip planes @ 0-48°, 77-90° with the coatings of fault gouge and calcite.		Scattered diffuse fractures with thin bleached haloes. Brown biotite developed adjacent to a few fractures and qtz veins in contrast to black bio in qtz diorite		MoS ₂ occurs mainly on margins which range in width from 1-5mm. Pyrite occurs dissem on fractures and in qtz veins, Po.-Tr 5-8% sulfides.		9	12	
40	42	2.0	100	Grey biotite qtz diorite-grain size 0.2-1.0mm Abundant biotite in grey feldspathic groundmass. Qtz-MoS ₂ veins @ 63°, 27°, 23°.		As above		As above Local dissem po. Combined sulfides 3-5%		10	9	
42	44	2.0	100	Grey biotite qtz diorite-as above. 43.2-44.2 Possibly a dioritized fragment. 42.0 lcm carb-qtz vein lined with MoS ₂ adjacent to slip plane @ 72°. 42.4-42.6 Fault zone @ 18°. 42.9 Vuggy calcite veinlets @ 15° up to 1.5cm wide Qtz-MoS ₂ veins @ 42°, 57°, 18°.		As above		As above Py-3-5%		10	30	35
44	46	2.0	100	As above. Qtz-MoS ₂ veins @ 18°, 85°, 70°, 34°. 45.8-45.9 Crumbled qtz diorite		Brown biotite developed in zones of more intense qtz veining.		As above Py-3-6%		7	8	
46	48	1.8	90	As above 46.6-48.2 Qtz-MoS ₂ veins @ 15°.		As above		As above 46.6-48.2 Rubbly qtz-MoS ₂ veins up to 5cm wide @ 15° 47.5-48.0 Fine grained clots of MoS ₂ lining qtz vein		3	30	
										1	30	40

DRILL LOG

SHEET NO.

LOCATION		CO-ORDINATES		NORTH UTM	EAST UTM	ELEVATION	DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE	TOTAL DEPTH	HOLE NO.
SHASS MOUNTAIN				6029200	378300	1827 metres									4/23
June 19, 1981		June 27, 1981												O.D.H.S 81-01	
DEPTH		CORE		LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE			Vis MoS ₂ %					
From(M)	To (M)	Length	%Rec				F	V/M	F/M						
48	50	1.3	65	Bleached & faulted <u>quartz diorite</u> 48.2-48.7 Fault gouge @ 29°. 49.8 Silckensides @ 12°.	Intense bleaching	48.0-48.2 Qtz-MoS ₂ -py vein @ 47°. 48.9 3.5cm Qtz vein lined with MoS ₂ @ 20°. Irreg. finely dissem py < 3%	29°			>30					
							12°	4		>30	.15				
50	52	1.8	90	Bleached & faulted <u>quartz diorite</u> Qtz diorite locally crumbled	Bleaching 50.4-51.4 Greenish cast due to finely disseminated sericite.	50.4-51 0-3cm Qtz vein with po and MoS ₂ @ 10°. 51.1 Qtz-py vein with abund MoS ₂ dissem in 0.5cm halo @ 20° & lined with fault gouge Py averages 3%			5	>30					
							20°		12	>30	.50				
52	54	1.9	95	Biotite quartz diorite - containing 25% fine grained biotite interstitial to quartz and feldspar. White subhedral feldspar grains 0.1-1mm stand out against darker grey groundmass. Qtz-MoS ₂ veins @ 42°, 90°, 63°, 36°.	Weakly bleached (and sericitized?) adjacent to larger Qtz veinlets Local brown biotite. 52.2 fracture @ 47° lined with 2mm of brown biotite. Scattered chlorite coated fractures.	52.5-52.7 1.5cm Qtz-MoS ₂ -py vein @ 15° with fine py crystals in vugs. 53.7 2cm Qtz vein lined with MoS ₂ @ 56°. Py = 5%			13	13					
									11	25	.17				
54	56	2.3	115	Biotite quartz diorite - weakly to moderately bleached.	Brown biotite locally developed at expense of primary biotite. Weak to moderate bleaching gives a rock a greenish grey color as a result of sericitization of biotite.	3% finely disseminated py. Minor py, on fractas and in Qtz-MoS ₂ veins. 54.2 1cm Qtz-py vein @ 50° Py=3-5%			14	18					
									10	>30	.15				
56	58	2.0	100	Biotite quartz diorite - weakly to moderately bleached. Qtz-MoS ₂ veins @ 69°, 43°, 22°, 46°, 60°.	As above	As above Py= 5% 57.8 1mm Qtz-scheelite veinlet.			14	15					
									12	>30	.13				

DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		HOLE NO.			
										1827 metres		D.D.H. 81-1			
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH			
June 19, 1981		June 27, 1981													
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			
From	To	Length	%Rec									F	V/Fi	F/Fi	Lcg
58	60	2.0	100	Biotite quartz diorite - locally weakly bleached. contains up to 25% biotite in grey quartzofeldspathic groundmass. Grain size 0.2-1mm. Locally disseminated white feldspar grains. 59.6 1cm calcite vein @ 56° with 5cm bleached halo. 58.2 1cm Qtz-py vein @ 82°. Qtz MoS ₂ veins @ 74°, 85°		Weak local bleaching (sericitization of biotite) Scattered fractures coated with chlorit. & pyrite. Purple biotite developed adjacent to some pyrite coated fractures.		4% pyrite - finely dissem coating fractures and minor amounts in Qtz-MoS ₂ veins. Minor dissem po. Qtz & Qtz-MoS ₂ veins 1mm-1cm wide.		4	16	9	8	.04	
60	62	1.85	92	As above		Purple-brown biotite locally abundant. Minor fine sericite adjacent to some Qtz veins. Scattered 1-2mm light cream coloured banded Qtz veins & Qtz coated fractures.		As above. po locally is more abundant. po & py = 5-7%		9	12	4	15	.02	
62	64	1.9	95	As above - brown grey in color. Original biotite appears to have been altered to purplish-brown biotite. 63.2-63.7 Light green felsite dike-permatitic along one margin, contacts @ 27° & 10°. Graphic texture in pegmatite cut by Qtz-MoS ₂ veins @ 17° & 58°, but dike cuts the Qtz diorite.		Purple-brown biotite developed at expense of primary black biotite. A few lat cream colored Qtz? &/or zeolite veinlets-banded.		As above; 6 Qtz-MoS ₂ veinlets at various orientations; MoS ₂ on vein margins veins usually 1mm to 1cm wide. Py & Po - 5%		11	18	8	30	.06	
64	66	2.0	100	Qtz-MoS ₂ vein @ 63.9 64.0-64.5 Probably edge of same felsite dike running down core axis. 64.5-66 Brownish grey biotite quartz diorite - as above locally bleached. 65.6 Slip plane @ 37° coated with thin layer of gouge cont pyrite & Qtz. Qtz-MoS ₂ veins @ 35°, 45°, 63°.		As above Local bleaching. Scattered fractures coated with chlorite and py.		As above Several Qtz-MoS veins up to 3cm wide. po&py = 3%		10	13	7	4	.12	
66	68	1.9	95	Grey biotite quartz diorite 67.5 2cm pyrite bearing pegmatitic dikelet @ 50° Qtz-MoS ₂ veinlets @ 28°, 41°.		Local bleaching developed adjacent to slip planes and two pegmatitic dikelets; Brown biotite adjacent to several fractures.		Py as above, = 5%		6	8	5	9	.07	

DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH	EAST	ELEVATION		1827 metres		6/2			
DATE STARTED		DATE COMPLETED		SURVEYS				HOLE SIZE	TOTAL DEPTH	HOLE NO.					
June 19, 1981		June 27, 1981								D.D.H. 81-1					
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			
From	To	Length	%Rec									F	V/F1	F/F1	Lcy
68	70	2.0	100	Grey to brownish grey <u>biotite quartz diorite</u> Locally bleached with biotite converted to brown secondary biotite. 68.9 Slip plane coated with 1cm calcite @ 42° with adjacent 5cm bleached halo. Qtz-MoS ₂ veins @ 75°, 36°, 63°, 37°, 26°.				68.5-70 Local pervasive silicification along with fine dissem brown biotite. Scattered fractures coated with chlorite, pyrite + calcite.		Fine dissem pyrite and minor po. Pyrite also on fractures and in some qtz-MoS ₂ veinlets. Po & Py = 4%			9	11	
70	72	2.1	105	70-71.1 <u>Qtz diorite</u> 71.1 gradational contact at high angle to core axis 71.1-72 creamy grey colored <u>quartz monzonite</u> 70.2 Slip plane adjacent to 2 cm qtz calcite vein @ 46° 71.3-71.7 Crushed & intensely bleached qtz monzonite.				Locally bleached adjacent to fault and several qtz veins. Feldspar appears to be weakly argillized.		As above. 70-70.4 Po & Po-4-6% 71.4-71 Po & Py < 3%			6	13	
72	74	2.1	105	71.1-73.5 Quartz monzonite - fine to med grained with fine dissem biotite - 5%, creamy grey in color, aplitic texture. Qtz MoS ₂ vein trends 0°, other qtz-py + MoS ₂ veins @ 51°, 36°, 22°, 52°. 73.3 0-1-3cm qtz-pink zeolite vein @ 36°.				73.3-73.5 Brown biotite developed in contact area and locally in qtz diorite. Several qtz-zeolite veinlets @ 36-47°.		Fine dissem pyrite. Well developed qtz & qtz-py + MoS ₂ stock work in qtz monzonite Po + Po = 2%			40	9	
74	76	2.0	100	74.5-75.9 Quartz monzonite med grained equigranular with fine dissem py & tr biotite 74.7-74.8 Qtz vein, minor py @ 40° 75.6, 75.7 Gouge coated slip planes @ 30 + 32°. Qtz-MoS ₂ veins @ 19°, 61°, 34°.				Cream coloured argillized feldspar contact areas silicified with dissem secondary brown biotite. Several banded qtz-zeolite veinlets up to 1cm wide.		As above Numerous fine qtz-pyrite veinlets in qtz monz. Po & Py = 2%		30	7	19	
76	78	1.95	97	75.9-77.0 Grey fine grained <u>silicified biotite quartz diorite</u> . 77.0 contact @ 31° parallel to relief bedding 77-0-78 purplish brown <u>hornfels</u> 77.3 Gouge coated slip plane @ 41° adjacent to 1cm qtz vein. Qtz-MoS ₂ veins @ 48°, 53°, 43°, 48°, 12°				Silified qtz diorite. Local silicification and feldspathization in hornfels		fine dissem py & po in qtz diorite. Py on fract and in scattered qtz veins. 76.7 3cm qtz vein with 1mm margin rich in MoS ₂		41	12	18	
												32	12	16	.03
												9	>30	.28	



DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		7/23				
DATE STARTED		DATE COMPLETED		SURVEYS						1827 metres	HOLE NO.					
June 19, 1981		June 27, 1981									D.D.H. 81-1					
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE		Graph		
From	To	Length	%Rec									F	V/Ft	F/Ft	Log	
78	80	2.1	105	<p><u>Biotite hornfels</u> - purplish brown to cream colored. Relict bedding @ 20° although locally conorted. Fine grained and laminated.</p> <p>79.2 slip plan @ 40° adjacent to 1 cm qtz - calcite vein. Scattered cream colored late qtz-zeolite? veinlets.</p> <p>Qtz & qtz-MoS₂ veins @ 42°, 20°, 15°, 42°</p>				<p>Intensely feldspathized 79-80 & adjacent to qtz veins.</p> <p>79-80 local silicification. Scattered fractures coated with chlorite & pyrite 1-2 mm</p>		<p>0.1-2cm qtz ± py ± MoS₂ veins. Py mainly on fractures and in qtz veins</p>		16	12	20	30	Q04
80	82	2.0	100	<p>80-81.3 Purplish brown <u>biotite hornfels</u></p> <p>81-81.1 Fault gouge</p> <p>81.3 Contact @ ~ 23°</p> <p>81.3-83.8 with fine grained <u>qtz monzonite/qtz diorite</u> scattered qtz-zeolite? veinlets</p> <p>Ot + qtz-MoS₂ veins @ 60°, 26°, 52°</p>				<p>Locally silicified with qtz rich laminae. Qtz monz silicified near contact. Feldspars and biotite argillized.</p>		<p>Irregular qtz and qtz - MoS₂ veins up to 5cm Py as above</p>		12	76	10	30	Q06
82	84	2.0	100	<p>81.95-82.5 - Crushed & faulted <u>qtz diorite</u> @ 76°</p> <p>81.3-83.8 - Fine grained <u>quartz diorite/qtz monzonite</u></p> <p>83.8 Contact @ ~ 20°</p> <p>83.2 Slip plane @ 35°</p> <p>Scattered qtz-zeolite veinlets</p>				<p>Quartz diorite locally argillized esp. near fault and feldspathized</p>		<p>Py dissem, on fractures & in qtz MoS₂ veins - Trace Po in relatively unaltered qtz diorite</p>		8	35	11	12	Q05
84	86	1.9	95	<p>83.8 - <u>Biotite hornfels</u>. Foliation @ 18°</p> <p>Fine grained, brownish grey to purplish brown color</p> <p>86.0 - 1 cm calcite vein lined with pyrite + MoS₂ along slip plan @ 19°</p> <p>Qtz MoS₂ @ 0°, 20°, 25°</p>				<p>Locally intensely feldspathized. Weak halo of fine qtz and sericite adjacent to qtz vein @ 55.4. Local minor disseminated sericite in feldspathic sections.</p>		<p>Qtz-MoS₂ veins up to 3cm wide. 84.4-3 cm qtz vein with minor py, lined with MoS₂ & cut by thin py seams.</p> <p>85.4 1 cm qtz vein lined with 1-2mm MoS₂ + py</p>		15	19	13	30	Q20
86	88	2.1	105	<p><u>Biotite Hornfels</u> Foliation @ 15°</p> <p>87.3-87.8 2-4cm fault gouge @ 0-10° containing sericite, calcite, minor chlorite</p>				<p>Weakly bleached & sericitized adjacent to some fractures and veins.</p>		<p>Py mainly occurs as fracture coatings and in qtz & qtz - MoS₂ veinlets</p>		13	15	30	Q17	

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		HOLE NO.			
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE	TOTAL DEPTH	D.D.H. 81-1			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE		Graph Log	
From	To	Length	%Rec									F	V/Ft	F/Ft	
88	90	2.0	100	Brownish grey <u>biotite hornfels</u> - fine grained, foliation @ 10-15°, with purple cast. Scattered fine fractures coated with cream colored zeolite? Qtz & qtz - MoS ₂ veins @ 35°, 44°, 8°, 52°, 48°				Local bleaching (silicification & sericitization) developed mainly adjacent to some fractures and qtz veins.		0.1-2cm qtz and qtz-MoS ₂ veins. Py mainly on fractures and in qtz MoS ₂ veinlets.			6	18	
												15	19		Q06
90	92	2.0	100	As above- vague foliation @ 10° Qtz -MoS ₂ veins @ 44°, 30°, 65°, 25°, 63°				As above		As above			12	26	
												17	12		Q05
92	94	1.9	95	As above - foliation @ 18° 92.4 Slip planes @ 36°, 45° coated with calcite, chlorite, qtz. Qtz - MoS ₂ veins @ 59°, 26°, 19°, 76°				Local bleaching (probably feldspathization & sericitization) in zones up to 15cm wide. Purple cast appears to be changing to darker brown		As above			10	16	
												15	11		Q05
94	96	2.1	105	As above, - foliation @ 12-20° 94.2 1.5cm diorite dikelet parallel to foliation				Local weak greenish sericitization along bedding planes and adjacent to some fractures.		As above Tr scheelite in 0.2mm qtz-py stringer @ 94.2			16	10	
												18	>30		Q05
96	98	2.1	105	Brownish grey <u>biotite hornfels</u> - darker grey than above Qtz MoS ₂ veins @ 35°, 25°, 56°, 0°, 22°				Weak sericite adjacent to a few fractures. Minor chlorite as fracture coatings.		As above 96.6 0.4 cm qtz-py-MoS ₂ cpy veinlet @ 0°			23	>30	
												21	8		Q09

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		HOLE NO.	
DATE STARTED		DATE COMPLETED		SURVEYS						1827 metres		9/23	
June 19, 1981		June 28, 1981								HOLE SIZE		TOTAL DEPTH	
												HOLE NO. D.D.H. 81-1	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Graph Log	
From	To	Length	%Rec							F	V/Fi	F/Fi	Log
98	100	2.0	100	Brownish-grey <u>biotite hornfels</u> Vague foliation or relict bedding @ 13° Qtz & qtz - MoS ₂ veinlets @ 80°, 22°, 31°, 40°		Weak greenish-grey sericitization along certain beds and in zones up to 15cm wider & adjacent to some fractures.		0.1-2cm qtz and qtz - MoS ₂ veinlets. Py on fractures and in quartz veinlets. 99.0, Tr scheelite in 0.2 mm qtz veinlet 99.6 0.5 mm qtz-py seam with scattered grains.scheelite			14	6	Q05
100	102	2.0	900	Grey <u>biotite hornfels</u> with slight brownish cast and greenish grey streaks. Well indurated. Relict bedding @ 23° Qtz & qtz MoS ₂ veinlets @ 36°, 85°, 52°, 25°, 72°, 42°		As above		As above 100.5 Tr scheelite in 0.2 mm qtz-py stringer 101.2, 101.7, 101.8 scheelite in thin py-qtz seams.			21	5	Q10
102	104	1.9	95	As above 102.4 2 cm graphic granite dikelet with qtz - MoS ₂ core at 38° cut by 8cm qtz - MoS ₂ -py vein @ 73° Qtz & qtz MoS ₂ veinlets @ 30°, 35°, 32°, 87°		As above		As above 102.3 Tr scheelite in 2 mm qtz-py veins. 103.1 Scheelite in qtz-py coated fracture			18	10	Q04
104	106	2.0	100	As above - vague relict bedding? @ 10°. 104 slip plane coated with gouge adjacent to qtz veinlet @ 54° 106 Fault contact @ 30° with sheared qtz diorite. Qtz & qtz MoS ₂ veinlets @ 30°, 38°, 43°, 85°, 20°, 80°		As above		As above 104.3 Two 1mm qtz-py-scheelite veinlets. 105.2 Several fractures coated with py & scheelite where they cut across limy band in ho-		30	13	22	Q04
106	108	1.9	95	106-106.5 Crushed and sheared <u>qtz diorite</u> @ 30°-40° 106.5-106.9 Dark greenish grey <u>qtz diorite</u> with abundant biotite 106.9-107.3 Grey to greenish grey <u>qtz monzonite</u> contacts @ 38° & 20° - appears to cut qts diorite. 107.3-107.7 Qtz diorite as above 107.7 -108.0 Felsite dike; Contact @ 31°		Qtz diorite-chloritized calcite in fault zone. 1-2mm halo with fine sericite adjacent to some qtz veins		rnfels. 105.3 2mm qtz-py-scheelite veinlet As above			8	>30	Q04
											7	>30	Q04

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		HOLE NO.			
										1827 metres		10/23			
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH			
June 19, 1981		June 27, 1981										D.D.H. 81-1			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE		Graph Log	
From	To	Length	%Rec									F	V/FI		F/FI
108	110	1.95	97	107.7-108.1 - <u>Felsite</u> - possibly a contact phase of qtz monzonite below. 108.1-109.2 - Fault gouge 108.2-109.9 - <u>Grey biotite qtz monzonite</u> - 7% biotite 0.1-1.5mm with 0.5-2mm qtz & feldspar Fracture cleavage @ 26° 108.6 - Slip plane @ 21° coated with polished pyrite 108.7-108.8 - <u>Crushed qtz monzonite</u>				Qtz monzonite bleached near contact. Weak sericite adjacent to a few qtz veins.		MoS ₂ in 0.1-1cm qtz veinlets. Pyrite dissem, on fractures and in qtz veinlets			7	>30	
110	112	2.0	100	109.9-110.2 - Narrow felsite dike @ 210° <u>Grey biotite quartz monzonite</u> - fracture cleavage planes @ 25°, some coated with pyrite ~ 5% dissem purplish brown biotite. 111.9 - Slip plane @ 7° with thin coating gouge, pyrite and chlorite. Qtz veins @ 27°, 30°				Local bleaching and/or sericite adjacent to some qtz veins. A few clots up to 5 cm of purplish brown biotite (inclusions?)		Py as above MoS ₂ mainly in 0.5-1mm quartz veinlets			10	>30	
112	114	2.0	100	110.2-113.4 <u>Biotite quartz monzonite</u> as above 113.4 fault contact with biotite qtz diorite @ 020° 113.4-114 <u>Biotite-rich quartz diorite</u> ~ 60% biotite with 1mm grains qtz and white feldspar				Purplish brown secondary? biotite dissem in qtz monz and developed adjacent to fractures in qtz diorite		Py & MoS ₂ as above			8	26	
114	116	2.2	110	<u>Biotite-hornblende quartz diorite</u> ~ 60% mat. is fine-grained with 1mm grains quartz & white feldspar 2-3% euhedral 0.5mm grains of sphene. 114.9 1 cm calcite vein along slip plane @ 62° 115.5-116.0 Fault @ 0° Qtz & qtz MoS ₂ veins up to 1cm @ 82°, 28°, 32°, 26°				Patches purplish brown secondary biotite dev. adjacent to fractures & in zones of more abundant qtz veins. Bleached near faults & slip planes		Abundant py. dissem., and on fractures. Minor dissem Po. Py ± MoS ₂ in 0.1-1cm qtz veins. 115.4 Minor scheelite in 2 irreg. qtz & py veinlets			8	7	
116	118	1.9	95	As above 116.6-116.7 Fault gouge @ 45° 116.7-118.4 Intensely bleached qtz diorite 117.4-117.4 Quartz vein with py along margin @ 35° 117.45 Slip plane @ 32°				As above 117.0-117.2 Vuggy calcite ± qtz/zeolite veins @ 45° 116.7-118.4 intensely argillized		Py & MoS ₂ as above 116.2, 116.7 Tr dissem? scheelite			45	6	>30
													6	>30	004

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		1827 metres		11/23	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.	
June 19, 1981		June 27, 1981												D.D.H. 81-1	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Groph Log			
From	To	Length	%Rec							F	V/Ft	F/Ft			
118	120	1.8	90	Grey biotite - hornblende quartz diorite- medium grained equigranular with 50% biotite & hornblende 118.1 4cm banded qtz-zeolite vein @ 85°, scattered cream colored zeolite? coatings on fract. 2-3% dissem sphene in qtz diorite 119.1-119.3 Fault zone containing several qtz veins @ 23° 119.9-5 cm qtz monzonite dikelet @ 40°		Argillized to 118.4. Much of the biotite & hornblende converted to purple biotite mainly in streaks or along fractures. Minor chlorite on slip planes.		3-4% dissem. py & minor po. Py also in qtz-MoS ₂ veinlets & in scattered banded qtz-MoS ₂ veins. Qtz-MoS ₂ veins @ 40°, 85°, 68°		23°	6	7	100%	003	
120	122	2.0	100	As above. - scattered with feldspar grains which stand out from dark matrix 120.3 slip plane @ 43° 120.6 slip plane @ 32° Qtz & qtz-MoS ₂ veins @ 50°, 17°, 50°		Biotite as above		As above 122.0 Scheelite in 0.2 qtz-py veinlet		43° 32°	4	13		002	
122	124	2.0	100	As above 123.3, 123.7, 123.9 Narrow gouge zones 34-45°		Biotite as above 123.3-124.7 Intensely feldspathized & argillized - related to several faults & qtz-MoS ₂ veins		As above. 122.2 1.5cm qtz-MoS ₂ vein @ 26° 122.4 4.5cm " " " @ 73° 123.5 6m " " " @ 76° (Banded veins)		23°	9	12		012	
124	126	2.0	100	As above 124.3 Chlorite coated slip plane @ 70° 124.35 Chlorite coated slip plans @ 51° 124.4 - 125.0 2-3cm fault parallel to core axis Qtz & qtz-MoS ₂ veins @ 55°, 50°, 59°, 85°*		As above		As above 126.1 -.21mm qtz-py-scheelite veinlet		20° 57°	7	30		004	
126	128	2.0	100	As above 128.5 slip plane @ 54° Qtz & qt-MoS ₂ veins @ 65°, 18°, 47°, 29°		As above		As above		54°	8	4		005	



DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		HOLE NO.			
										1827 metres		12/2			
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.	
June 19, 1981		June 27, 1981													
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			Graph Log
From	To	Length	%Rec									F	V/Ft	F/Ft	
128	130	2.0	100	Biotite-hornblende quartz diorite-med.grained (1-2mm) 50% hornblende, local brown biotite with grey feldspar & qtz.-equigranular Scattered gouge coated fractures, also narrow fracture coatings and veinlets up to 1cm of cream colored zeolite? 129.5-129.9 Qtz monzonite? similar to 110-113				Irregular purplish brown biotite, mainly adjacent to fractures at qtz veins		128-128.4 Irregular 1-2mm MoS ₂ , rich seam with py Py dissem, coating fractures and in a few qtz veins			6	11	Q09
130	132	2.0	100	As above 130.9-131.4 <u>Porphyritic qtz monzonite dike</u> Contacts: 130.9 @ 32° along qtz MoS ₂ , vein lined with gouge; 131.4 @ 30° 131.5-132.0 <u>Qtz diorite</u> - intensely feldspathized & locally crushed Qtz & qtz-MoS ₂ , veins @ 67°, 70°, 30°, 76°				As above 131.5-132.0 Intense feldspathization & crushing		As above 130.3 Tr scheelite 130.9 3mm barren qtz vein @ 15° cut MoS ₂ -rich vein along contact and both rock types 130.3-2cm banded qtz-MoS ₂ , veins cut irreg. qtz vein			13	15	
132	134	2.0	105	As above to 132.6 132.6-134.3 <u>Aplite</u> - texture varies from aphanitic near upper contact (@ 18°) to aplitic and locally graphic. 133.1 7cm qtz rich zone with a few flakes MoS ₂ , and clots py.				Purple biotite as above in qtz diorite. Minor sericite on a few fractures in aplite. 130.4, 130.6 pink zeolite & qtz veinlets up to 1cm wide @ 32&64°		with MoS ₂ , along margin. Py & MoS ₂ , as above in qtz diorite. Minor py, po, MoS ₂ , qtz veins in aplite			6	11	Q03
134	136	2.0	100	Aplite contact 134.3 @ 40° 134.3-134.6 <u>Feldspathized quartz diorite</u> 134.6-135.2 <u>Fault gouge</u> @ 50° 135.2-135.3 <u>Aplite</u> 135.3-135.4 <u>Fault gouge</u> 135.4-136 <u>Hornblende quartz diorite</u>				134.3-134.6 feldspathized & argillized qtz diorite. Several Vuggy calcite veinlets up to 0.5cm in qtz diorite.		As above for aplite & qtz diorite. Some qtz-MoS ₂ , chips in gouge.			6	30	
136	138	2.0	100	136-137 <u>Sheared & crushed hornblende quartz diorite</u> 137.1-3cm white qtz-calcite-zeolite? vein adjacent to 2.5cm in qtz-MoS ₂ , vein @ 22° 137.2-137.9 <u>Fault gouge</u> and crushed felsite Slickenside at 13° Qtz-MoS ₂ -py veins @ 57°, 31°, 0°, 62°				Argillized & biotitized qtz diorite Pink zeolite? veins up to 3 cm wide in and near fault zone		Qtz-MoS ₂ , -py veins up to 3cm			9	30	Q09
													6	30	

*Banded qtz.-MoS₂ veins.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		1827 metres		13/23	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.	
June 19, 1981		June 27, 1981												D.D.H.81-1	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Graph Log			
From	To	Length	%Rec							F	V/FI	F/FI	Log		
138	140	2.0	100	137.9-138.4 <u>Felsite</u> -mottled grey, aphanitic with minor dissem. py & biotite. One streak with graphic textures. Contact @ 138.4 @ 21° 138.4 Crushed and sheared <u>hornblende quartz diorite</u> 139.2-140 <u>Felsite</u> - as above 139.5 Slip plane coated with chlorite, calcite & gouge @ 23° 140 contact @ 16° - felsite apparently cuts qtz monzonite.		Qtz. diorite argillized & biotized. Weak fine sericite in ~1cm halo along a few qtz veins		Weak MoS ₂ & py in qtz veins. Minor py dissem. and on fractures			5	30	21		
140	142	2.0	100	140.0-140.95 <u>Biotite qtz monzonite</u> - contains subhedral biotite books up to 2mm in fine to med. grained quartz feldspathic groundmass. Contact 149.95 @ 42° 140.95-141.4 <u>Altered qtz diorite</u> with 4cm felsite dike @ 40° 141.4-141.6 <u>Pegmatite</u> with argillized parthite 141.6-141.7 <u>Hornfels?</u> biotitized & sericitized 141.7-141.9 <u>Felsite</u> with local graphic textures @ ~35°		Biotitized & sericitized hornfels? and/or qtz diorite		As above			2	28	16		
142	144	2.0	100	142-143.7 Intensely feldspathized and argillized <u>quartz diorite</u> 142.2-142.4 <u>Mylonite</u> zone with quartz, calcite and pyrite seams @ 47° 143.7-143.8 <u>Mylonite</u> @ 70° contact with greenish grey felsite		Feldspathized & argillized qtz diorite. Weak pervasive sericite in felsite		As above			7	28	47		
144	146	2.0	100	143.8-144.6 Greenish grey sericitized <u>felsite</u> with local fine grained graphic textures. Contact @ 144.6 @ 18° with biotite qtz monzonite 144.6-145.2 <u>biotite quartz monzonite</u> - as above. 145.2-145.4 <u>Felsite</u> @ 19° as above 145.4-145.45 <u>biotite quartz monzonite</u> 145.45-145.9 <u>felsite</u> -as above		As above Biotite qtz monzonite silicified & argillized near contacts		As above Qtz & Qtx MoS ₂ veins @ 52°, 63°			9	30	7		
146	143	2.0	100	145.9-146.1 <u>Biotite qtz monzonite</u> & relict biotitized qtz diorite 146.1-146.2 <u>felsite</u> 146.2-146.4 <u>crushed qtz. diorite</u> 146.4-148.1 <u>biotite quartz monzonite</u> - as above 147.2 5cm <u>felsite dike</u> @ 32° adjacent to 10cm fault gouge @ 58°		Relict qtz diorite is biotitized & argillized. Weak pervasive sericite adjacent to some qtz veins.		As above				30	58		
												30	006		

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		1827 metres		14/23	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.	
June 19, 1981		June 27, 1981												D.D.H. 81-1	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Graph			
From	To	Length	%Rec							F	V/Ft	F/Ft	Log		
148	150	2.0	100	148-148.1 <u>Biotite qtz monzonite</u> 148.1-148.9 <u>Felsite</u> Fault gouge 148.6-148.7, 148.8-148.9 148.9-150 <u>Biotite quartz monzonite</u> 14.-149.3 <u>qtz. diorite inclusion</u> Qtz and qtz-MoS ₂ veins @ 57°, 19°		A few calcite & sericite coated fractures. Weak pervasive sericite adjacent to a few qtz veins.		-2% dissem py in qtz monzonite. MoS ₂ & py in qtz veins up to 2cm wide Abund qtz-MoS ₂ vein fragments in fault gouge. Py on fractures			10	>30			
150	152	1.9	95	150-150.3 <u>Biotite quartz monzonite</u> 150.3-150.6 <u>Argillized qtz diorite</u> 150.6-150.7 <u>Grey felsite</u> 150.7-151.2 <u>Fault gouge</u> @ 10° along calcite and qtz-MoS ₂ vein 151.2-151.8 <u>Dark grey quartz monzonite</u> 151.8-152.2 <u>Quartz diorite</u>		Brown biotite developed in qtz diorite		As above			6	>30			
152	154	2.1	105	152-152.4 <u>Biotite qtz monzonite</u> 152.4-152.5 <u>Quartz diorite</u> 152.5-153.2 <u>felsite dike</u> , altitude 8° 153.2-156.1 <u>Biotite quartz monzonite</u> -as above. Contains-7% subhedral biotite books 0.1-2mm & 4% f.g. pyrite in grey quartz feldspathic groundmass. Local subhedral plagioclase grains up to 7mm, porphyritic texture. Qtz veins @ 43°, 63°, 46°		As above		- 4% py mainly dissem. (minor Po). Minor py on fractures ± chlorite and in qtz veins			9	>30			
154	156	2.0	100	Fresh porphyritic <u>biotite quartz monzonite</u> as above. 154.5-1-5.2 <u>felsite</u> along edge of core.				As above			7	19			
156	158	2.0	100	156.1-156.5 <u>Narrow felsite dike</u> @ 10° 156.5-158,2 <u>Fine grained biotite quartz monzonite</u> - chilled phase of above? 156.8-157.1 <u>Irregular qtz diorite inclusion</u> Qtz veins @ 26°, 48°, 50°				As above			3	7	001		
											10	10			
											10	18	003		

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		1827 metres		15/23	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.	
June 19, 1981		June 27, 1981												D.D.H. 81-1	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Graph Log			
From	To	Length	%Rec							F	V/Ft	F/Ft	Log		
158	160	2.0	100	158.3-Med. grained (0.2-1mm) biotite hornblende qtz diorite. Contains 60% interlocking grains biotite & hornblende with interstitial grey quartz & white feldspar grains. Similar in texture to phase at 114, 118 etc. except for being finer grained and containing less sphene. Qtz & qtz-MoS ₂ veins @ 51°, 22°, 58°, 58°, 6°		Minor purplish brown biotite adjacent to a few qtz veins. Tr/weak sericite adjacent to a few qtz veins.		Py dissem (2%), on scattered fractures & along qtz vein margins ± MoS ₂ . Qtz. MoS ₂ veins 0.2-2cm in width			10	730			
											9	7	Q06		
160	162	2.0	100	<u>Biotite-hornblende-qtz diorite as above</u> 161.4 5cm fault gouge 161.5 slip plane @ 72° with 2cm qtz zeolite vein. Qtz & qtz MoS ₂ veins @ 55°, 59°, 20°, 27° 161.5-162.5 Med. grained biotite quartz monzonite dike		As above		As above			10	3			
											6	30	Q05		
162	164	2.1	105	Contact @ 162.5 @ 45°; 162.5-162.6 Aplite dike with pegmatitic core. <u>Biotite hornblende-qtz diorite as above</u> 162.9- 3cm qtz monzonite dikelet @ 13° with 0.7cm qtz vein-let along contact Qtz & qtz MoS ₂ veins @ 63°, 32°, 21° 163.8-164.1 3 aplite dikes @.30°-57°		As above		As above			8	8			
											4	6	Q04		
164	166	2.0	100	<u>Biotite hornblende quartz diorite - as above</u> 164.6 2cm vuggy dolomite- calcite- pyrite- zeolite vein @ 75°, parallel to 1cm qtz-MoS ₂ vein		As above		Py & po up to 5%.. 165.7 Fracture coated with qtz, po, cpy & sch-eelite.			8	5			
											11	3	Q12		
116	168	2.0	100	<u>Biotite hornblende quartz diorite - as above</u> 176.2 1.5cm biotite,qtz, monzonite dikelet @ 8° 167.7-167.9 Fault gouge, qtz vein, calcite vein @ 22° Qtz & qtz MoS ₂ veins @ 49°, 23°, 50°		As above		As above 166.5 Fracture coated with qtz, po, scheelite			11	5			
											9	10	Q04		

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		HOLE NO.	
										1827 metres		16/23	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH	
June 19, 1981		June 27, 1981										HOLE NO. 81-1	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Groph Log	
From	To	Length	%Rec							F	V/Ft	F/Ft	Log
168	170	2.0	100	Med. grained biotite hornblende quartz diorite - interlocking network 60% hornblende and biotite with interstitial grey qtz and white feldspar 1% dissem sphene. 169.0-170.2 Med. grained biotite qtz monzonite dikes @ 18° 169.5-169.7 qtz diorite inclusion. Qtz & qtz-MoS ₂ veins @ 63°, 24°, 20°, 50°		Local minor purplish brown biotite developed in zones up to 5cm wide adjacent to fractures or qtz veins.		5% dissem. py & po. Py also on fractures and as minor amounts in qtz and qtz-MoS ₂ veins.			7	7	
170	172	2.0	100	170.2 contact @ 51° 170.2 Biotite hornblende qtz diorite as above 170.25 Slip plane @ 39°, normal movement Qtz & qtz-MoS ₂ @ 21°, 48°, 82°, 23°		As above		As above			8	10	
172	174	2.0	100	Biotite Hornblende qtz diorite - as above 172.7 - 180.3 Fault zone @ 25-50° Calcite coated fractures in and around fault zone		As above		As above			3	30	
174	176	2.0	100	As above 174.7-174.9 caving and/or fault gouge Qtz and qtz-MoS ₂ veins @ 26°, 45°, 56°		As above - local moderate purple brown biotite development		As above. 174.1, 174.4 2, 2.5cm qtz veins @ 58° containing py & unknown cream to light green argillized feldspar mineral. 175.7 Scheelite on fracture			8	30	
176	178	2.2	110	As above Qtz and qtz MoS ₂ veins @ 25, 60, 64°		As above		As above 176.7, 196.8 Tr dissem? scheelite			3	8	
											4	9	003

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		HOLE NO.			
DATE STARTED		DATE COMPLETED		SURVEYS						1827 metres		17/23			
June 19, 1981		June 27, 1981								HOLE SIZE		TOTAL DEPTH			
												D.D.H. 81-1			
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			Groph Log
From	To	Length	%Rec									F	V/FI	F/FI	
178	180	1.95	97	Greenish grey biotite hornblende quartz diorite ~ 60% hornblende, minor biotite with interstitial grey quartz & white feldspar. 1-2% disseminated sphene. Med grained, equigranular. 179.0-179.6 Greenish grey & brownish grey hornfels inclusion. Qtz & qtz-MoS ₂ veins @ 54°, 55°, 30°				Local weak/mod purplish brown secondary biotite developed in zones up to 5cm wide, mainly adjacent to fractures or qtz veins. 171.5 fractured & argillized over 10cm		5-6% py, minor po, disseminated, on fractures & in qtz veins. Qtz & qtz-MoS ₂ veins up to 3 cm wide.			6	11	
180	182	1.8	90	Biotite hornblende qtz diorite - as above 179.8-181.4 3cm qtz monzonite dikelet parallel to core axis 181.8-182.0 Fault gouge - with 1cm calcite veins @ 70° Qtz & qtz - MoS ₂ veins @ 51°, 75°				Weak sericitization? adjacent to scattered fractures		As above			9	5	
													9	30	
182	184	2.0	100	Biotite hornblende qtz diorite - as above 182.1 182.3 greenish grey hornfels inclusion				As above		As above 183-184 7 irreg. MoS ₂ rich seams up to 1mm wide @ 40°-50°			4	16	
													12	22	
184	186	2.1	105	Biotite hornblende qtz diorite - as above 184.8-184.9 Irregular 3cm qtz monzonite dikelet Qtz diorite becomes coarser grained (1-3mm)				As above		As above			13	13	
													6	8	
186	188	2.0	100	Biotite hornblende qtz diorite - as above, coarser grained Qtz & qtz MoS ₂ veins @ 20°, 30°, 55°, 40°, 20°				As above		As above 187.8 Scheelite on qtz-py coated fracture				7	
														11	

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		SHEET NO.	
DATE STARTED		DATE COMPLETED		SURVEYS						1827 metres		18/23	
June 19, 1981		June 27, 1981								HOLE SIZE		TOTAL DEPTH	
												HOLE NO. D.D.H. 81-1	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE			Graph
From	To	Length	%Rec							F	V/Ft	F/Ft	Log
188	190	2.0	100	As above to 188.2 contact @ 188.2 @ 30° 188.2 - <u>Porphyritic biotite qtz monzonite</u> . Grey in color 10-15% euhedral to subhedral biotite books 0.5-5mm in diameter; grey feldspar phenocrysts - up to 4mm in fg grey qtz-feldspathic groundmass.		Qtz monz appears fresh except for qtz veins & siliceous appearance of groundmass. Chlorite on fractures with calcite & minor py. Fine greenish sericite coating a few fractures with py.		Qtz & qtz MoS ₂ veins up to 2cm wide. MoS ₂ mainly in 1-2mm. Minor py on fractures and in qtz veins - 3% dissem py & po. 189.5 cheelite on qtz py coated fracture			9	8	30
190	192	2.0	100	Porphyritic biotite qtz monzonite as above Qtz and qtz-MoS ₂ veins @ 50, 72°, 47°, 47°, 17°, 69°		As above		As above			13	14	003
192	194	2.0	100	As above 192-192.7 Older textural variant? or possibly weakly fractured section 193-194 A few 1-3cm aplite dikelets @ 30-40°		As above		As above			6	11	003
194	196	2.0	100	Porphyritic biotite qtz monzonite as above 194.8 2cm biotite qtz monzonite dikelet @ 37° 195.3-195.7 Sheared & broken up @ 32° Qtz & qtz - MoS ₂ veins at 38°, 37°		As above 194.5 Several fractures with feldspathized holes up to 3mm wide. 194.8-195.4 Intensely sericitized		As above			8	10	007
196	198	2.1	105	As above 191.2 Two subparallel aplite dikelets, 1cm wide @ 13°. A few fractures & slip planes coated with thin layer of chlorite and gouge @ 35° Qtz - MoS ₂ seams @ 30°, 42°, 66°		As above Local sericitization		As above 197.3 dissem MoS ₂ over 1cm in locally sericitized and fractured zone over 10cm			7	30	004

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		1827 metres		19/23	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.	
June 19, 1981		June 27, 1981												D.D.H. 81-1	
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			Graph
From	To	Length	%Rec									F	V/FI	F/FI	Log
198	200	2.0	100	<p><u>Biotite Quartz monzonite porphyry</u> - grey in color with 10-15% subhedral biotite books up to 3mm. Quartz occurs as rounded grains up to 3mm, white to grey feldspar grains up to 10mm occur in f.g. grey siliceous appearing groundmass.</p> <p>Qtz-MoS₂ veinlets @ 45°, 44°, 22°, 73°, 45°</p>				<p>Weak sericite. sericite occurs as thin coatings on fractures & finely dissem. adjacent to some qtz veins & fract. Scattered fract. & slip planes coated with chlorite & thin layer</p>		<p>MOS₂ mainly in 0.5-1mm qtz veinlets, but also occurs lining qtz veins up to 1-2cm wide. Py with minor Po occurs dissem in qtz monz as disseminations & coatings on fracture planes. 198.5-1.5cm</p>			11	23	
200	202	1.9	95	<p>As above</p> <p>Qtz & qtz-MoS₂ veinlets @ 17°, 73°, 30°, 11°</p>				<p>gouge. Tr purplish biotite along rare fract.</p> <p>As above Local feldspathization along with sericite adjacent to some fractures.</p>		<p>q.v. cuts 1mm qtz MoS₂ vein.</p> <p>As above</p>			8	7	
202	204	1.95	97	<p>As above - locally altered</p> <p>Qtz and qtz MoS₂ veins @ 19°, 28°, 26°, 45°</p>				<p>As above. 203-211 patches of intense sericitization and argillization related to more intense fracturing, quartz veins up to 4cm wide.</p>		<p>As above. Scattered flakes MoS₂ in zones of more intense alteration</p>			8	4	
204	206	2.2	110	<p>As above, locally altered in zones up to 0.6m wide.</p> <p>Qtz and qtz-MoS₂ veins @ 15°, 52°, 32°</p>				<p>As above</p>		<p>As above</p>			12	30	
206	208	1.9	95	<p>As above - locally intensely altered</p> <p>Qtz and qtz-MoS₂ veins @ 28°, 35°</p>				<p>As above</p>		<p>As above</p>			10	8	
													3	16	002

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		20/23	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH	
June 19, 1981		June 27, 1981										HOLE NO. D.D.H. 81-1	
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE		Graph Log	
From	To	Length	%Rec							F	V/Ft	F/Ft	Log
208	210	2.0	100	Argillized and sericitized <u>porphyritic quartz monzonite</u> . 209.7-210.1 Fault zone - rock is extremely broken up Slickensides @ 45° Qtz and qtz-MoS ₂ veins @ 29°, 73°, 15°, 30°, 45°		Intensely argillized & locally sericitized sericite also as thin coatings on fractures. Biotite obliterated & feldspars partly to completely altered.		MoS ₂ mainly in 0.5-3mm qtz veinlets. 3% py diss-em. in qtz monz and along fractures, minor MoS ₂ amounts in qtz-MoS ₂ veins Tr dissem po.		15	10	9	>30 Q02
210	212	2.0	100	As above to 211 211 - <u>porphyritic biotite quartz monzonite</u> . With 10-15% biotite books up to 3mm, qtz eyes up to 3mm white to grey feldspar phenocrysts (subhedral to euhedral) up to 1-10mm (average 4mm).		As above to 211		As above		11	>30	7	7 Q02
212	214	2.0	100	<u>Porphyritic biotite quartz monzonite</u> - as above Qtz & qtz-MoS ₂ veins @ 40°, 32°, 8°, 46°		Minor sericitization adjacent to a few qtz veins. Thin layer of sericite commonly on fractures		As above		10	9	12	5 Q03
214	216	1.8	90	As above Qtz & qtz-MoS ₂ veins @ 52°, 62°, 47°		As above		As above		8	12	6	13 Q04
216	213	2.2	110	As above- locally argillized and sericitized 216.6 Gouge coated slip plane @ .44° 217.6 Slip plane @ 0-40°		215.9-217, 217.4-217.5 sericitized and argillized		As above		8	12	6	13 Q03



DRILL LOG

SHEET NO.

LOCATION		SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		1827 metres		21/23	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.	
June 19, 1981		June 27, 1981												D.D.H. 81-1	
DEPTH		CORE		LITHOLOGY				ALTERATION		MINERALIZATION		STRUCTURE			Graph
From	To	Length	%Rec									F	V/Ft	F/Ft	Log
218	220	2.0	100	Porphyritic biotite quartz monzonite - 10-15% dissem books of biotite 0.5-3mm in diameter with abundant plagioclase & scattered orthoclase & qtz phenocrysts. 0.5-7mm in diameter in grey finegrained groundmass. Qtz & qtz-MoS ₂ veins @ 35°, 36°, 34°, 20°, 52°				Sericite coating fractures & locally pervasive adjacent to fractures. 219.4-220.1 Intensely argillized chlorite on scattered fractures with py & calcite		Py dissem & on scattered fractures. MoS ₂ mainly on 0.5-3mm qtz veins & py. Other qtz veins up to 3mm wide. Minor dissem po. 218.8 Minor dissem scheelite & MoS ₂ .			9	8	
220	222	1.9	95	As above Qtz & qtz -MoS ₂ veins @ 50°, 56°, 57°				Weak sericite as above		As above			5	12	
222	224	1.9	95	As above Qtz & qtz-MoS ₂ veins @ 73°, 22°, 57°				Weak sericite as above		As above			9	14	
224	226	1.95	97	As above Qtz & qtz-MoS ₂ veins @ 66°, 28°, 38°, 25°				weak sericite as above. 225-226.2 local feldspathization & argillization near a few fract. Also local pervasive silicification.		As above			12	12	
226	228	2.0	100	As above 226.3 slip plane @ 56° Qtz & qtz -MoS ₂ veins @ 36°, 51°, 30°				As above		As above			8	9	
													6	12	Q04

LOCATION SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		HOLE NO.			
								1827 metres		22/23			
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.			
June 19, 1981		June 27, 1981								D.D.H. 81-1			
DEPTH		CORE		LITHOLOGY		ALTERATION		MINERALIZATION		STRUCTURE			
From	To	Length	%Rec							F	V/F1		
228	230	2.0	100	<p>Porphyritic biotite qtz monzonite - as described above</p> <p>Qtz - MoS₂ veins @ 27°, 70°</p>		<p>Weak sericitization & feldspathization adjacent to fractures & qtz veins.</p> <p>229.6-230 Moderately argillized near 8cm qtz veins @ 229.9 calcite & minor sericitite on fract.</p>		<p>MoS₂ in 0.2-2cm qtz veins.</p> <p>3-4% py, dissem & on fractures.</p> <p>Minor py in qtz-MoS₂ veins.</p>			5	6	
										6		9	Q05
230	232	1.9	95	As above - locally altered		<p>Weak/mod local sericitization, feldspathization, argillization & silicification</p>		As above			8	18	
										3		17	Q03
232	234	1.5	75	<p>As above - broken up, faulted and argillized.</p> <p>233.0-233.8 Fault zone @ ~30°</p>		Intensely argillized		<p>As above</p> <p>233.0 1.5cm qtz MoS₂ vein along fault edge.</p>			5	30	
												30	Q03
234	236	0.6	30	As above - sericitized porphyritic qtz monzonite. Poor recovery - strongly broken up		Moderately sericitized						30	
												30	
236	238	1.85	93	<p>Porphyritic biotite qtz monzonite.</p> <p>236-237 Core strongly broken up</p> <p>Other qtz - MoS₂ veins @ 6°, 47°</p>		Moderately sericitized		<p>As above</p> <p>237.6 3cm qtz-MoS₂ vein @ 62° cut by 2.5cm barren qtz vein @ 25°</p>			1	30	
											5	30	Q05

LOCATION SHASS MOUNTAIN		CO-ORDINATES		NORTH		EAST		ELEVATION		23/23	
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH		HOLE NO.	
June 19, 1981		June 27, 1981								D.D.H. 81-1	
DEPTH		CORE		LITHOLOGY	ALTERATION	MINERALIZATION	STRUCTURE			Graph Log	
From	To	Length	%Rec				F	V/Ft	F/Ft		
238	240	1.35	67	Altered and broken up porphyritic biotite qtz monzonite.	Moderately argillized & sericitized. Local silicification.	MoS ₂ and py as above.		5	730		Q03
240	242	1.0	50	As above	As above	As above		8	730		Q03
242	243.8	1.2		As above 243.6-243.75 Fault gouge	As above	As above		5	730		Q03
				243.8 End of hole.							

FIGURE 5

PROPERTY GEOLOGY - SHASS AND PIRATE CLAIMS
SCALE 1:5,000

FIGURE 6

GEOLOGICAL CROSS-SECTION-LOOKING NE

DDH S-81-01 to DDH S-81-03

SCALE 1:1,000

ASSAY DATA SHEET

SHEET NO.

Project 528 LOCATION SHASS MOUNTAIN		CO-ORDINATES				NORTH				EAST				ELEVATION				1/8									
DATE STARTED		DATE COMPLETED				SURVEYS								HOLE SIZE		TOTAL DEPTH		HOLE NO.									
June 18, 1981		June 27, 1981												BQ / NQ		243.8m		D.D.HS-81-01									
(meters) FROM		(meters) TO				CORE LENGTH				% CORE RECOVERED				SAMPLE NUMBER				TOTAL MOS ₂ %		ASSAY RESULTS (ppm)							
2 0 .0		2 4 .0				4 .0 m								3 7 5 1		.120											
2 4 .0		2 7 .0				3 .0 m								3 7 5 2		.136											
2 7 .0		3 0 .0				3 .0 m								3 7 5 3		.078											
3 0 .0		3 3 .0												3 7 5 4		.048											
3 3 .0		3 6 .0												3 7 5 5		* .039											
3 6 .0		3 9 .0												3 7 5 6		.028											
3 9 .0		4 2 .0												3 7 5 7		.030											
4 2 .0		4 5 .0												3 7 5 8		.050											
4 5 .0		4 8 .0												3 7 5 8		.021											
4 8 .0		5 1 .0												3 7 6 0		.310											

MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
 NO. **9800**

ASSAY DATA SHEET

SHEET NO.

SHASS MOUNTAIN LOCATION Project 528								CO-ORDINATES				NORTH			EAST			ELEVATION			2/8			
DATE STARTED				DATE COMPLETED				SURVEYS				HOLE SIZE			TOTAL DEPTH			HOLE NO. D.D.H. S-81-01						
(meters) FROM 7 8			(meters) TO 14			CORE LENGTH 20 21		% CORE RECOVERED 26 27		SAMPLE NUMBER 36			TOTAL MOS2 %	ASSAY RESULTS (ppm)										
												39 Mo	Cu43	Pb	Zn 46	Ag	Sn 53	F	W 58					
5	1	.0	5	4	.0	3.0			3	7	6	1	.144	490										
5	4	.0	5	7	.0	3.0			3	7	6	2	.058	210										
5	7	.0	6	0	.0	3.0			3	7	6	3	.044	150										
6	0	.0	6	3	.0	3.0			3	7	6	4	.026	90										
6	3	.0	6	6	.0	3.0			3	7	6	5	* .136	500	320	6	70	0.2	2	540	2			
6	6	.0	6	9	.0	3.0			3	7	6	6	.028	82										
6	9	.0	7	2	.0	3.0			3	7	6	7	.054	190										
7	2	.0	7	5	.0	3.0			3	7	6	8	.084	310										
7	5	.0	7	8	.0	3.0			3	7	6	9	.210	850										
7	8	.0	8	1	.0	3.0			3	7	6	0	* .048	200	340	6	134	0.2	2	960	10			

ASSAY DATA SHEET

SHEET NO.

SHASS MOUNTAIN LOCATION Project 528										CO-ORDINATES										NORTH					EAST					ELEVATION					3/8																								
DATE STARTED					DATE COMPLETED					SURVEYS															HOLE NO. D.D.H.S-81-01																																		
(meters) FROM			(meters) TO			CORE LENGTH			% CORE RECOVERED			SAMPLE NUMBER			TOTAL MOS ₂ %		ASSAY RESULTS (ppm)																																										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39 Mo	40	41 Cu43	42	43 Pb	44	45	46 Zn 48	47	48 Ag	49	50	51 Sn 53	52	53 F	54	55	56 W 58				
		8	1	.0			8	4	.0			3	.0																																														
		8	4	.0			8	7	.0			3	.0																																														
		8	7	.0			9	0	.0			3	.0																																														
		9	0	.0			9	3	.0			3	.0																																														
		9	3	.0			9	6	.0			3	.0																																														
		9	6	.0			9	9	.0			3	.0																																														
		9	9	.0			1	0	2 .0			3	.0																																														
		1	0	2 .0			1	0	5 .0			3	.0																																														
		1	0	5 .0			1	0	8 .0			3	.0																																														
		1	0	8 .0			1	1	1 .0			3	.0																																														

ASSAY DATA SHEET

SHEET NO.

SHASS MOUNTAIN Project 528		CO-ORDINATES		NORTH	EAST	ELEVATION		HOLE NO.										
DATE STARTED		DATE COMPLETED		SURVEYS		HOLE SIZE		TOTAL DEPTH										
(meters) FROM		(meters) TO		CORE LENGTH		% CORE RECOVERED		SAMPLE NUMBER		TOTAL MOS2 %	ASSAY RESULTS (ppm)							
1	7	8	14	20	21	26	27	38			39 Mo	Cu43	Pb	Zn 48	Ag	Sn 53	F	W 59
	1	1	1.0					3 7 8 1		.037								
	1	1	4.0					3 7 8 2		.074								
	1	1	7.0					3 7 8 3		.024								
	1	2	0.0					3 7 8 4		.058								
	1	2	3.0					3 7 8 5		.090	440	236	22	110	0.8	1	1150	10
	1	2	6.0					3 7 8 6		.256								
	1	2	9.0					3 7 8 7		.154								
	1	3	2.0					3 7 8 8		.042								
	1	3	5.0					3 7 8 9		.162								
	1	3	8.0					3 7 9 0		.005	32	180	2	54	0.4	1	560	10

4/8

D.D.H. S-81-01

ASSAY DATA SHEET

SHEET NO.

SHASS MOUNTAIN LOCATION Project 528				CO-ORDINATES				NORTH				EAST				ELEVATION				HOLE NO. D.D.H. S-81-01								
DATE STARTED				DATE COMPLETED				SURVEYS				HOLE SIZE				TOTAL DEPTH												
(meters) FROM		(meters) TO		CORE LENGTH		% CORE RECOVERED		SAMPLE NUMBER				TOTAL MOS2 %		ASSAY RESULTS (ppm)														
1	7	8	14	20	21	26	27	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
	1	4	1	.	0																							
	1	4	4	.	0																							
	1	4	7	.	0																							
	1	5	0	.	0																							
	1	5	3	.	0																							
	1	5	6	.	0																							
	1	5	9	.	0																							
	1	6	2	.	0																							
	1	6	5	.	0																							
	1	6	8	.	0																							
	1	6	8	.	0																							

5 / 8

SHASS MOUNTAIN LOCATION Project 528		CO-ORDINATES				NORTH		EAST		ELEVATION		SHEET NO. 7/8	
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH	
												HOLE NO. D.D.H.S-81-01	
(meters) FROM 7 8		(meters) TO 14		CORE LENGTH 20 21		% CORE RECOVERED 26 27		SAMPLE NUMBER 38		TOTAL MOS2 %		ASSAY RESULTS (ppm)	
												39 Mo Cu43 Pb Zn 40 Ag Sn 53 F W 59	
2 0 1 .0		2 0 4 .0		3.0				3 8 1 1		.025			
2 0 4 .0		2 0 7 .0		3.0				3 8 1 2		.033			
2 0 7 .0		2 1 0 .0		3.0				3 8 1 3		.021			
2 1 0 .0		2 1 3 .0		3.0				3 8 1 4		.019			
2 1 3 .0		2 1 6 .0		3.0				3 8 1 5		.051		266 204 4 38 0.4 1 400 5	
2 1 6 .0		2 1 9 .0		3.0				3 8 1 6		.042			
2 1 9 .0		2 2 2 .0		3.0				3 8 1 7		.027			
2 2 2 .0		2 2 5 .0		3.0				3 8 1 8		.030			
2 2 5 .0		2 2 8 .0		3.0				3 8 1 9		.050			
2 2 8 .0		2 3 1 .0		3.0				3 8 2 0		.031		154 160 2 36 0.4 1 420 2	

ASSAY DATA SHEET

SHEET NO.

LOCATION		CO-ORDINATES				NORTH		EAST		ELEVATION		HOLE NO. D.D.H.S-81-02			
						DATE STARTED		DATE COMPLETED		SURVEYS				HOLE SIZE	
FROM(meters)	TO(meters)	CORE LENGTH		% CORE RECOVERED		SAMPLE NUMBER		TOTAL MOS2 %	ASSAY RESULTS (ppm)						
1	8	20	21	26	27	38	39	Mo	Cu43	Pb	Zn 49	Ag	Sn 53	F	W 58
36.0	39.0	3.0				3835	.054								
39.0	42.0	3.0				3836	.014								
42.0	45.0	3.0				3837	.040								
45.0	48.0	3.0				3838	.084								
48.0	51.0	3.0				3839	.060	120	8	52	0.2	2	440	10	
51.0	54.0	3.0				3840	.035								
54.0	57.0	3.0				3841	.151								
57.0	60.0	3.0				3842	.058								
60.0	63.0	3.0				3843	.036								
63.0	66.0	3.0				3844	.020	112	6	56	0.2	1	560	10	

2/4

ASSAY DATA SHEET

SHEET NO.

LOCATION		CO-ORDINATES				NORTH		EAST		ELEVATION		HOLE NO. D.D.H. S-81-02			
						HOLE SIZE		TOTAL DEPTH							
DATE STARTED		DATE COMPLETED		SURVEYS											
FROM (meters)	TO (meters)	CORE LENGTH	% CORE RECOVERED	SAMPLE NUMBER				TOTAL MOS2 %	ASSAY RESULTS (ppm)						
7 8	14	20	26	21	27	38		39 Mo	Cu 43	Pb	Zn 49	Ag	Sn 53	F	W 59
66.0	69.0	3.0				3 8 4 5	.015								
69.0	72.0	3.0				3 8 4 6	.019								
72.0	75.0	3.0				3 8 4 7	.119								
75.0	78.0	3.0				3 8 4 8	.042								
78.0	81.0	3.0				3 8 4 9	.123	106	4		46	0.2	1	420	10
81.0	84.0	3.0				3 8 5 0	.118								
84.0	87.0	3.0				3 8 5 1	.022								
87.0	90.0	3.0				3 8 5 2	.038								
90.0	93.0	3.0				3 8 5 3	.030								
93.0	96.0	3.0				3 8 5 4	.019	114	4		58	0.2	2	500	20

3 / 4



ASSAY DATA SHEET

SHEET NO.

LOCATION		CO-ORDINATES				NORTH			EAST			ELEVATION			HOLE NO. D.D.H. S-81-02									
						DATE STARTED			DATE COMPLETED			SURVEYS					HOLE SIZE		TOTAL DEPTH					
FROM (meters)	TO (meters)	CORE LENGTH		% CORE RECOVERED		SAMPLE NUMBER			TOTAL MOS ₂ %	ASSAY RESULTS (ppm)														
7	8	20	21	26	27	28	29	30	31	32	33	34	35	36	37	38	39 Mo	Cu 43	Pb	Zn 48	Ag	Sn 53	F	W 58
96.0	99.0	3.0				3855			.033															
99.0	102.0	3.0				3856			.093															
102.0	105.0	3.0				3857			.061															
105.0	108.0	3.0				3858			.038															
108.0	111.0	3.0				3859			.024															
111.0	114.0	3.0				3860			.035	164	134	16	92	0.2	1	660	15							
114.0	117.0	3.0				3861			.043															
117.0	120.0	3.0				3862			.037															
120.0	123.0	3.0				3863			.010															
		END OF HOLE 81-02																						

4 / 11

BP

ASSAY DATA SHEET

SHEET NO.

Project 528 LOCATION SHASS MOUNTAIN, B.C.		CO-ORDINATES				NORTH		EAST		ELEVATION		SHEET NO.							
DATE STARTED		DATE COMPLETED		SURVEYS				HOLE SIZE		TOTAL DEPTH		HOLE NO.							
July 4, 1981		July 8, 1981						NQ/BQ		250.0m		D.D.H. 81-03							
FROM (meters)		TO (meters)		CORE LENGTH		% CORE RECOVERED		SAMPLE NUMBER		TOTAL MOS ₂ %		ASSAY RESULTS (ppm)							
												39 Mo	Cu 43	Pb	Zn 48	Ag	Sn 53	F	W 58
4.3		8.0		3.4				3 8 6 4		.007									
8.0		11.0		3.0				3 8 6 5		.007		34	148	8	106	0.2	2	900	10
11.0		14.0		3.0				3 8 6 6		.010									
14.0		17.0		3.0				3 8 6 7		.009									
17.0		20.0		3.0				3 8 6 8		.010									
20.0		23.0		3.0				3 8 6 9		.013									
23.0		26.0		3.0				3 8 7 0		.009		43	128	8	166	0.2	1	990	30
26.0		29.0		3.0				3 8 7 1		.013									
29.0		32.0		3.0				3 8 7 2		.004									
32.0		35.0		3.0				3 8 7 3		.001									

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

NO.

9800



ASSAY DATA SHEET

SHEET NO.

LOCATION		CO-ORDINATES				NORTH		EAST		ELEVATION		HOLE NO. D.D.H. 81-03								
						DATE STARTED		DATE COMPLETED		SURVEYS				HOLE SIZE		TOTAL DEPTH				
1	FROM (meters) ₇	8	TO (meters) ₁₄	14	14	20	21	26	27	38	TOTAL MOS ₂ %	ASSAY RESULTS (ppm)								
												³⁹ Mo	Cu ₄₃	Pb	Zn ₄₈	Ag	Sn ₅₃	F	W ₅₉	
	3 5.0		3 8.0			3.0				3 8 7 4	.001									
	3 8.0		4 1.0			3.0				3 8 7 5	.002	12	84	8	74	0.2	1	480	1	
	4 1.0		4 4.0			3.0				3 8 7 6	.001									
	4 4.0		4 7.0			3.0				3 8 7 7	.001									
	4 7.0		5 0.0			3.0				3 8 7 8	.001									
	5 0.0		5 3.0			3.0				3 8 7 9	.002									
	5 3.0		5 6.0			3.0				3 8 8 0	.001	6	110	8	76	0.2	1	490	1	
	5 6.0		5 9.0			3.0				3 8 8 1	.059									
	5 9.0		6 2.0			3.0				3 8 8 2	.022									
	6 2.0		6 5.0			3.0				3 8 8 3	.009									



ASSAY DATA SHEET

SHEET NO.

LOCATION		CO-ORDINATES				NORTH		EAST		ELEVATION		SHEET NO. 3/9															
DATE STARTED		DATE COMPLETED		SURVEYS				HOLE SIZE		TOTAL DEPTH		HOLE NO. D.D.H.81-03															
FROM (meters) ₈		TO (meters) ₁₄		CORE LENGTH _{20 21}		% CORE RECOVERED _{26 27}		SAMPLE NUMBER ₃₈		TOTAL MOS ₂ %		ASSAY RESULTS (ppm)															
												39 Mo		Cu ₄₃		Pb		Zn ₄₈		Ag		Sn ₅₃		F		W ₅₉	
6 5.0		6 8.0		3.0				3 8 8 4		.009																	
6 8.0		7 1.0		3.0				3 8 8 5		.018		84		174		8		168		0.2		1		920		30	
7 1.0		7 4.0		3.0				3 8 8 6		.011																	
7 4.0		7 7.0		3.0				3 8 8 7		.016																	
7 7.0		8 0.0		3.0				3 8 8 8		.035																	
8 0.0		8 3.0		3.0				3 8 8 9		.043																	
8 3.0		8 6.0		3.0				3 8 9 0		.046		204		226		4		140		0.4		3		900		25	
8 6.0		8 9.0		3.0				3 8 9 1		.046																	
8 9.0		9 2.0		3.0				3 8 9 2		.050																	
9 2.0		9 5.0		3.0				3 8 9 3		.030																	

BP

ASSAY DATA SHEET

SHEET NO.

LOCATION		CO-ORDINATES				NORTH		EAST		ELEVATION		SHEET NO.						
DATE STARTED		DATE COMPLETED		SURVEYS						HOLE SIZE		TOTAL DEPTH						
												HOLE NO.						
												D.D.H.81-03						
FROM (meters)		TO (meters)		CORE LENGTH		% CORE RECOVERED		SAMPLE NUMBER		TOTAL MOS ₂ %		ASSAY RESULTS (ppm)						
7	8	14	14	20	21	26	27	38	38	39	Mo	Cu ₄₃	Pb	Zn ₄₉	Ag	Sn ₅₃	F	W ₅₈
9	5.0	9	8.0	3.0				3 8 9 4	.046									
9	8.0	1 0	1.0	3.0				3 8 9 5	.013	55	150	6	160	0.2	1	990	10	
1 0	1.0	1 0	4.0	3.0				3 8 9 6	.046									
1 0	4.0	1 0	7.0	3.0				3 8 9 7	.072									
1 0	7.0	1 1	0.0	3.0				3 8 9 8	.017									
1 1	0.0	1 1	3.0	3.0				3 8 9 9	.016									
1 1	3.0	1 1	6.0	3.0				3 9 0 0	.004	18	182	6	76	0.2	1	610	5	
1 1	6.0	1 1	9.0	3.0				3 9 0 1	.009									
1 1	9.0	1 2	2.0	3.0				3 9 0 2	.004									
1 2	2.0	1 2	5.0	3.0				3 9 0 3	.074									

39

ASSAY DATA SHEET

SHEET NO.

LOCATION				CO-ORDINATES				NORTH				EAST				ELEVATION				SHEET NO.																							
DATE STARTED				DATE COMPLETED				SURVEYS				HOLE SIZE				TOTAL DEPTH				HOLE NO.																							
FROM (meters)				TO (meters)				CORE LENGTH				% CORE RECOVERED				SAMPLE NUMBER				TOTAL MOS ₂ %		ASSAY RESULTS (ppm)																					
																						<small>39 Mo</small> <small>Cu43</small> <small>Pb</small> <small>Zn 49</small> <small>Ag</small> <small>Sn 53</small> <small>F</small> <small>W 58</small>																					
1	2	5	.0	1	2	8	.0	3	0			3	9	0	4																												
1	2	8	.0	1	3	1	.0	3	0			3	9	0	5					235	160	2	156	0.2																			
																				251	176	4	202	0.2	1			820				10											
1	3	1	.0	1	3	4	.0	3	0			3	9	0	6																												
1	3	4	.0	1	3	7	.0	3	0			3	9	0	7																												
1	3	7	.0	1	4	0	.0	3	0			3	9	0	8																												
1	4	0	.0	1	4	3	.0	3	0			3	9	0	9																												
1	4	3	.0	1	4	6	.0	3	0			3	9	1	0					.85	152	2	150	0.2	1			810				2											
1	4	6	.0	1	4	9	.0	3	0			3	9	1	1																												
1	4	9	.0	1	5	2	.0	3	0			3	9	1	2																												
1	5	2	.0	1	5	5	.0	3	0			3	9	1	3																												

5/9

D.D.H.81-03

37

ASSAY DATA SHEET

SHEET NO.

LOCATION				CO-ORDINATES				NORTH			EAST			ELEVATION			HOLE NO.																						
DATE STARTED				DATE COMPLETED				SURVEYS						HOLE SIZE		TOTAL DEPTH		HOLE NO.																					
FROM (meters)				TO (meters)				CORE LENGTH		% CORE RECOVERED		SAMPLE NUMBER			TOTAL MOS2 %		ASSAY RESULTS (ppm)																						
1	7	8		14	20	21		26	27			38				39	Mo	Cu	Pb	Zn	Ag	Sn	F	W	58														
	1	5	5.0		1	5	8.0			3.0																													
	1	5	8.0		1	6	1.0			3.0																													
	1	6	1.0		1	6	4.0			3.0																													
	1	6	4.0		1	6	7.0			3.0																													
	1	6	7.0		1	7	0.0			3.0																													
	1	7	0.0		1	7	3.0			3.0																													
	1	7	3.0		1	7	6.0			3.0																													
	1	7	6.0		1	7	9.0			3.0																													
	1	7	9.0		1	8	2.0			3.0																													
	1	8	2.0		1	8	5.0			3.0																													

6/9

D.D.H. 81-03

ASSAY DATA SHEET

SHEET NO.

LOCATION		CO-ORDINATES				NORTH	EAST	ELEVATION		HOLE NO. D.D.H. 81-03						
DATE STARTED		DATE COMPLETED		SURVEYS					HOLE SIZE	TOTAL DEPTH						
FROM (meters) 7 8	TO (meters) 14	CORE LENGTH 20 21		% CORE RECOVERED 26 27		SAMPLE NUMBER 38		TOTAL MOS ₂ %	ASSAY RESULTS (ppm)							
									39 Mo	Cu ₄₃	Pb	Zn ₄₉	Ag	Sn ₅₃	F	W ₅₈
1 8 5.0	1 8 8.0	3.0				3 9 2 4		.046								
1 8 8.0	1 9 1.0	3.0				3 9 2 5		.023	104	188	4	128 0.2		4	900	5
1 9 1.0	1 9 4.0	3.0				3 9 2 6		.019								
1 9 4.0	1 9 7.0	3.0				3 9 2 7		.016								
1 9 7.0	2 0 0.0	3.0				3 9 2 8		.057								
2 0 0.0	2 0 3.0	3.0				3 9 2 9		.028								
2 0 3.0	2 0 6.0	3.0				3 9 3 0		.016	71	194	4	156 0.2		2	990	45
2 0 6.0	2 0 9.0	3.0				3 9 3 1		.011								
2 0 9.0	2 1 2.0	3.0				3 9 3 2		.037								
2 1 2.0	2 1 5.0	3.0				3 9 3 3		.021								

7/9

BP

ASSAY DATA SHEET

SHEET NO.

LOCATION				CO-ORDINATES				NORTH				EAST				ELEVATION				8/9															
								DATE STARTED				DATE COMPLETED				SURVEYS						HOLE SIZE				TOTAL DEPTH									
FROM (meters)				TO (meters)				CORE LENGTH				% CORE RECOVERED				SAMPLE NUMBER				TOTAL MOS ₂ %				ASSAY RESULTS (ppm)											
																								39 Mo	Cu 43	Pb	Zn 48	Ag	Sn 53	F	W 58				
2 1 5.0				2 1 8.0				3.0								3 9 3 4				.029															
2 1 8.0				2 2 1.0				3.0								3 9 3 5				.020				112	192	6	122	0.2	1	1050	20				
2 2 1.0				2 2 4.0				3.0								3 9 3 6				.038															
2 2 4.0				2 2 7.0				3.0								3 9 3 7				.181															
2 2 7.0				2 3 0.0				3.0								3 9 3 8				.052															
2 3 0.0				2 3 3.0				3.0								3 9 3 9				.350															
2 3 3.0				2 3 6.0				3.0								3 9 4 0				.040				182	500	6	110	0.6	1	1500	135				
2 3 6.0				2 3 9.0				3.0								3 9 4 1				.050															
2 3 9.0				2 4 2.0				3.0								3 9 4 2				.052															
2 4 2.0				2 4 5.0				3.0								3 9 4 3				.053															

ASSAY DATA SHEET - DIKE MATERIAL SELECTED CORE SAMPLES-DDH's 81-01,02,03

SHEET NO.

LOCATION				CO-ORDINATES				NORTH				EAST				ELEVATION				HOLE NO.											
SHASS MOUNTAIN Project 528																				D.D.H. 81-01											
DATE STARTED				DATE COMPLETED				SURVEYS				HOLE SIZE				TOTAL DEPTH															
FROM				TO				CORE LENGTH				% CORE RECOVERED				SAMPLE NUMBER				TOTAL MOS2											
39 Mo				Cu43				Pb				Zn 40				Ag				Sn 53				F				W 50			
1	0	7	.0	1	1	0	.0	3	0	m	8	1	-	0	1	3	9	4	5	.008	4	7	212	10	46	0.2	1	640	1		
1	3	2	.0	1	3	5	.0	3	0	m	8	1	-	0	1	3	9	4	6	.048		160	6	46	0.4	1	1150	10			
1	4	1	.0	1	4	4	.0	3	0	m	8	1	-	0	1	3	9	4	7	.118		192	4	52	0.2	2	900	20			
1	4	7	.0	1	4	9	.0	2	0	m	8	1	-	0	1	3	9	4	8	.002		64	2	30	0.2	2	400	1			
1	5	0	.0	1	5	5	.0	5	0	m	8	1	-	0	1	3	9	4	9	.054		160	2	40	0.6	1	620	20			
1	5	6	.0	1	6	4	.0	8	0	m	8	1	-	0	1	3	9	5	0	.048	231	230	4	50	0.2	1	1100	20			
5	0	.4		5	1	.5		1	1	m	8	1	-	0	2	3	9	5	1	.068		134	4	42	0.4	1	620	2			
		3.3				4.9		1	6	m	8	1	-	0	3	3	9	5	2	.002		68	2	64	0.2	2	700	2			
6	6	.0		6	7	.8		1	8	m	8	1	-	0	3	3	9	5	3	.001		22	2	54	0.2	2	540	1			
1	3	7.2		1	4	0	.0	2	8	m	8	1	-	0	1	3	9	5	4	.011		114	2	34	0.2	1	540	15			

MINERAL RESOURCE PROJECT
 ASSESSMENT REPORT
 NO. 9800

NW

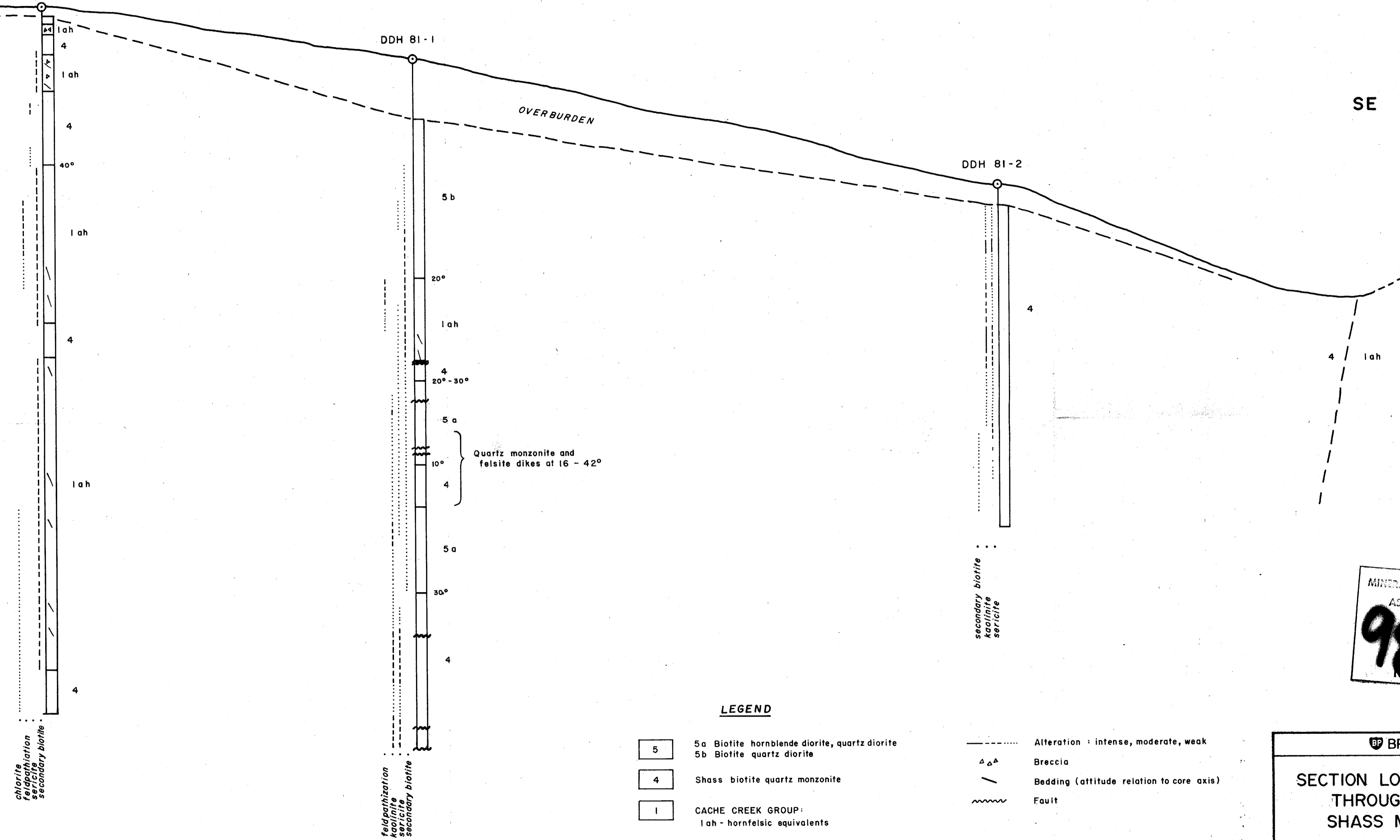
SE

DDH 81-3

DDH 81-1

DDH 81-2

OVERBURDEN



chlorite
feldspathification
sericite
secondary biotite

feldspathification
kaolinite
secondary biotite

secondary biotite
kaolinite
sericite

LEGEND

- 5 5a Biotite hornblende diorite, quartz diorite
5b Biotite quartz diorite
- 4 Shass biotite quartz monzonite
- 1 CACHE CREEK GROUP:
lah - hornfelsic equivalents

- Alteration : intense, moderate, weak
- △△△ Breccia
- / Bedding (attitude relation to core axis)
- ~~~~~ Fault

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9800

BP Minerals Limited

**SECTION LOOKING NORTHEAST
THROUGH DDH'S 81-1,2,3
SHASS MOUNTAIN, B.C.**

SCALE 1 : 1,000	NTS 93 K/7	FIG. 6
528-81-8	DATE SEPT. 1981	PROJ. 528
To accompany report: BPVR 81-11		

