CYPRUS ANVIL MINING CORPORATION

DIAMOND DRILL CORE LOG

Hole Number: 80-B-01

Fabric Orientation Diagram:

Project: Pelmac

Location: BNOB Claims

Claim: BNOB 7

Terr. Plane Co-ords.: 61° 35' N Latitude N

132° 32' W Longitude E

Grid Co-ords.: B.L. 40 W/16 S

Inclination: -60° in direction 160°

All symmetry determinations looking

_____ with _____ dipping

Elevation: 4200 feet

_____ with dip azimuth _____.

Total Depth: 848 feet (258.5 m)

Purpose: Test for barite horizon

Logged by: L.C. Pigage, J.K. Mortensen

Date(s) Logged: Aug. 16 - Sept. 1, 1980

Drilling Contractor: Arctic

Core:

Size	From	To
_____	_____	_____
BQ	0 ft.	848 ft.
_____	_____	_____

Collar Cased and Capped: _____

Started: Aug. 16, 1980 Completed: Aug. 23, 1980

LITHOLOGIC LOG

DDH 80-B-01

	Meters	
	0 - 11.1	Triconed in overburden.
1.	11.1 - 28.2	Pale to medium grey-green, non-calcareous, moderately pyritic felsic tuffs and lapilli tuffs. Pervasively altered (to varying degrees) to chlorite-muscovite ± clay assemblages. Lapilli fragments are subangular, to 4 cm in diameter. Pyrite is present throughout the rock, both disseminated in the lapilli fragments and as disseminations, nodules, and discrete fine-grained layers to 1 cm thick. Pyrite nodules locally have a narrow quartz shadow surrounding them. Core from 11.1 to 15.2 meters is broken and weathered; mud seams are present from 13.2 - 15.3. Structural measurements: 16.3 m - S1 at 20° to core axis 21.4 m - S_1 at 25° 25.6 - 28.0 m - S_1 parallel to axis
2.	28.2 - 33.6	Fine-grained variably epidotized (+ chloritized) pyritic felsic tuff. Pale to medium grey where unaltered. Locally shows a streaked or mottled light and medium grey appearance. Pyrite occurs as fine-grained disseminations and as very irregular crosscutting stringers. Minor interbeds of pale green metatuff as above are present. Locally extensive quartz veining S_1 poorly developed except in pale green metatuff bands. Structural measurements: 31.1 m - S_1 at 40° to core axis
3.	33.6 - 36.6	Pale to medium green pyritic felsic metatuff. Lapilli size fragments are absent, otherwise the unit is similar to Unit 1. Pyrite occurs both as fine-grained disseminations and as bands (parallel to S_1) to 2 cm thick. Locally abundent quartz-carbonate (or quartz-altered feldspar) veining. Structural measurements: 33.7 - F_2 fold nose - no measurement possible 34.3 - S_1 at 40° to core axis 34.9 - S_2 at 64° to core axis
4.	36.6 - 39.0	Metatuff as in Unit 3 but with higher pyrite content. Pyrite content is 15 - 20% throughout, both as diffuse bands and nodules. Structural measurements: 37.0 m - S_1 at 64°

	Meters	
5.	39.0 - 51.8	Pale green to grey green, non-calcareous, slightly pyritic highly altered (to chloritic-muscovite phyllite) felsic tuff with fine grained lapilli tuff interbands. Pyrite present throughout the matrix, and is locally present within tuff fragments as well. Some of the fragments are either slightly dolomitic or contain fine-grained carbonate as an alteration. Quartz-calcite veining is locally abundent. Structural measurements: 39.3 m - S_0/S_1 at 57^o to core axis 45.0 m - S_1 at 52^o to core axis 48.2 m - S_0/S_1 at 53^o to core axis 51.4 m - S_0/S_1 at 50^o to core axis
6.	51.8 - 53.8	Highly altered tuff as above with abundent distinctive pyritic bands to 5 cm thick. Pyrite content in these bands is 50% to 60%. Fine grained tuff predominates with only minor coarse-tuff interbands. The altered tuff is slightly more yellowish-green then the previous unit. Structural measurement: 53.7 m - S_1/S_0 at 45^o
7.	53.8 - 55.7	Altered tuff as above (similar yellowish-green colour) but with narrower and less abundent pyrite bands. Some pyrite bands appear to be disrupted.
8.	55.7 - 61.9	Pale to medium grey, thinly laminated, non-calcareous moderately to highly pyritic felsic tuff with minor fine-grained lapilli tuff becoming increasingly abundent towards the bottom of the section. Pyrite occurs both in pervasive disseminations and as discrete bands. Structural measurements: 56.2 m - S_0/S_1 at 56^o to core axis 60.4 m - S_0/S_1 at 62^o to core axis
9.	61.9 - 65.2	Medium grey moderately pyritic felsic lapilli tuff. Pyrite occurs in the matrix and as fine disseminations in some clasts, as well as in stringers.
0.	65.2 - 70.6	Pyritic lapilli tuff as above. Medium brownish grey (brown color due to fine-grained biotite in the matrix). Pyrite occurs predominently as disseminations in the matrix but is also present in trace amounts in lapilli fragments. Most fragments are unaltered, but in some the feldspars are extensively sericitized. The matrix is distinctly grainy in appearance. Structural measurement: 66.7 m - S_0/S_1 at 25^o
1.	70.6 - 73.9	Lapilli tuff as above. Medium grey, with a very fine grained matrix. Clasts have very diffuse, indictinct borders.

	Meters	
12.	73.9 - 81.8	Lapilli tuff similar to Unit 10. Contains both very sharp, well-defined clasts and the more diffuse ones as in Unit 11. Fragments are poorly sorted. Structural measurement: 74.0 m - S_o at 41°
13.	81.8 - 101.4	Medium to dark grey and grey brown lapilli tuff. Tuff fragments are pale to medium grey. Matrix is slightly biotitic. Pyrite occurs as fine cubes throughout the matrix. Fragments are all slightly flattened. Structural measurements: 81.9 m - flattening of fragments (S_1?) at 62° 84.4 m - flattening of fragments (S ?) at 47° 85.1 - 90.0 m core badly broken 92.6 m - flattening of fragments (S_1?) at 37° 94.6 m - " " " (S_1?) at 35° 96.5 m - " " " (S_1?) at 36° 99.9 m - S_o/S_1 at 30°
14.	101.4 - 125.1	Pale to medium grey, slightly to moderately pyritic felsic lapilli tuff. Abundant quartz-carbonate veining from 109.7 to 112.3 m. Pyrite occurs primarily as disseminations throughout the groundmass, and less commonly as irregular stringers and deformed diffuse bands to 2 cm thick. Clasts are angular to subangular and are badly flattened in the plane of foliation. Structural measurement: 103.1 m - S_o/S_1 at 53° to core axis 107.4 m - S_o/S_1 parallel flattening of clasts at 58° 113.2 m - flattening of clasts (S_1?) at 54° 116.5 m - " " " " at 52° 120.4 m - " " " " at 52° 123.5 m - S_o/S_1 at 55°
15.	125.1 - 128.1	Felsic lapilli tuff as above with increased pyrite content (15 - 50%). Pyrite occurs as diffuse locally disrupted bands to 2 cm thick.
16.	128.1 - 144.1	Slightly pyritic fine-grained lapilli tuff. Unit is pale grey from 128.1 to 128.6, medium to dark green (variably chloritic) 128.6 to 141.4 and medium grey 141.4 to 144.1. Clast size is generally less than 0.5 cm, but fragments of felsic fine-grained volcanic to 3.0 cm diameter are present in the interval 136.0 to 138.0. Pyrite occurs disseminated in the matrix, as disrupted discrete bands and disseminated in clasts. Structural measurement: 129.5 m - S_o/S_1 at 61° to core axis 141.3 m - S_1 at 60° 144.0 m - S_1 at 40

	Meters	
7.	144.1 - 146.1	Highly sheared pyritic felsic lapilli tuff. Mud seam from 144.6 to 145.1. Clasts are pyritic. Structural measurement: 145.7 m - S_1 parallel flattening of clasts at 52°
8.	146.1 - 152.4	Very highly pyritic fine-grained medium grey tuff or volcanic. Abundant quartz veining locally with drusy vugs-lined with quartz crystals. Pyrite comprises 30 to 70% of the unit, consisting of fine to medium grained stringers and broad diffuse bands and irregular zones. Single bleb of chalcopyrite occurs with a quartz vein at 152.1 m. Structural measurement: 152.7 m - S_1 at 65°
9.	152.4 - 159.4	Pyritic fine-grained medium grey volcanic. Very extensive quartz + chlorite and pyrite stringers. Chlorite occurs as discrete books and blebs to 0.8 cm diameter within the quartz stringers. Massive, unfoliated.
20.	159.4 - 161.6	Pale grey green to yellowish grey fine-grained felsic lapilli tuff. Moderately pyritic throughout. Clasts are fine to medium grained and contain relatively abundant free quartz. Rare black phyllite clasts (highly flattened). Structural measurement: 160.9 m - S_1 at 65°
1.	161.6 - 169.6	Highly pyritic (20 to 40% pyrite throughout) felsic lapilli tuff. Pyrite occurs as fine disseminations, stringers and diffuse bands. Locally slightly chloritic. Structural measurement: 164.8 m - S_1 at 65° 168.9 m - S_1 at 46°
2.	169.6 - 185.7	Highly pyritic, fine-grained, medium grey tuffs. Occasionally contains very thin black phyllite bands. Locally contains chlorite to give it a greenish tint. Intervals with white angular fragments; otherwise not obviously fragmental Pyrite occurs as disseminated tiny grains in diffuse zones. Quartz-carbonate veins. Overall pyrite content ranges from 5 - 20%. Pyrite both in matrix and as clasts. Structural measurement: Core axis angle: 172.7 m - S_1/S_0 at 35° 181.0 m - S_1 at 60° 184.4 m - S_1 at 53°
3.	185.7 - 187.6	Grey, fine-grained felsic tuff or metavolcanic. Both pyrite and chlorite occurs as thin irregular stringers. Core broken. Carbonate veins present. Unit has a waxy translucent appearance when wet.

	Meters	
24.	187.6 - 190.8	Grey to greenish grey tuffs interbanded with black phyllite. Tuffs are locally highly pyritic with fine-grained disseminate pyrite. Black phyllites typically have disseminated, fine-grained pyrite-quartz streaks about 2 mm in length. Quartz-carbonate veining common in both rock types. Individual units are 10 cm to 1.5 m in length. Structural measurement: 190.8 m - S_0 at 57^o 189.6 m - S_1 at 62^o
25.	190.8 - 203.3	Grey to greenish grey tuffs with minor black phyllite interbands. Black phyllite units become thicker near bottom of interval. Tuffs contain minor scattered white fragments; in some cases these are rectangular and look like zoned feldspar crystals. Fragments now altered to carbonate + clays. Pyrite in tuffs fine-grained or irregular nodules. Fine-grained pyrite disseminated in thin pyrite laminae. Irregular quartz-carbonate veining in both units. Interval affected by post - S_1 deformation. Core locally broken with minor gouge. Structural measurement: 195.9 m - S_1 at 47^o S_1 essentially parallel core axis with numerous folds (post-S_1) 197.7 - 200.6 m 202.6 m - S_1/S_0 at 30^o
26.	203.3 - 213.4	Black, noncalcareous phyllite with thin grey siltstone interbands. Siltstones are laminated with thin black laminae. Siltstones also contain fine-grained, disseminated pyrite and are slightly calcareous. Locally phyllite contains part-S_1 crenulation cleavage. Structural measurement: 204.5 m - S_1/S_0 at 51^o S_2 dips 30^o away from S_1 S_1/S_0 205.2 m at 51^o S_1/S_0 " at 54^o 207.0 m - S_1 at 69^o S_2 208.4 m - 213.4 m - broken core and gouge
27.	213.4 - 219.1	Fine-grained grey to greenish grey felsic tuff. Locally can see small clasts. Abundant quartz-calcite veins. Pyrite occurs in minor amounts disseminated as small grains and as massive fine-grained bands. At 214.8 m quartz-calcite vein includes scattered pyrite and galena. Structural measurement: Core axis angle: S_1 90^o 214.5 m S_2 58^o " m S_1 64^o 215.3 m S_2 61^o " From 218.3 - 218.9 m S_1 is parallel core axis

	Meters	
28.	219.1 - 224.9	Noncalcareous black phyllite with numerous thin interbands of noncalcareous grey siltstone. Siltstones contain minor disseminated, fine-grained pyrite. Siltstone bands range up to 1 cm in thickness. Structural measurement: Core axis angle: 220.7 m - S_1/S_o at 80^o 222.2 m - S_1/S_o at 80^o S_2 " 65^o 223.6 m - S_1/S_2 at 35^o " 61^o
29.	224.9 - 227.0	Fine-grained green-grey tuff. Noncalcareous. Scattered small angular clasts of ferroan calcite, blue white material, pyrite. Locally contains quartz-ferroan calcite veins.
30.	227.0 - 234.5	Black phyllite with numerous grey siltstone interbands. Same as Unit 28. Contains locally quartz-carbonate veins. Graded bedding in siltstone indicates stratigraphic tops UP DDH. Structural measurement: Thin zone of gouge and bressia at 228.6 m Core axis angle: 230.3 m - S_1 at 58^o " S_2 " 68^o " S_o " 90^o 233.5 m - S_1/S_o 84^o S_2 64^o 234.1 m - S_1/S_o at 80^o
31.	234.5 - 235.6	Fine grained grey-green tuff. Like Unit 29. Abundant carbonate-quartz veins.
32.	235.6 - 239.7	Black phyllite with abundant grey siltstone interbands. Same as Unit 28. Disseminated pyrite occurs in only a few of the siltstone bands. Structural measurement: Core axis angle: 236.2 m - S_1/S_o at 87^o " S_2 at 60^o 238.7 m - S_1/S_o at 10^o " S_2 at 60^o 239.6 m - S_1/S_o at 80^o " S_2 at 53^o
33.	239.7 - 240.2	Grey-green tuff. Same as Unit 29. 239.4 - 240.2 m consists of quartz-carbonate vein.
34.	240.2 - 258.5	Black, noncalcareous phyllite with diffuse grey siltstone bands. Siltstones are not as common as in previous phyllite units. Pyrite is not present. Minor quartz $\pm$ carbonate veins. Core is broken.

Meters

240.2 - 258.5 (cont.)	Structural measurement:
	241.5 m - S_1/S_o at 54^o
	244.3 m - S_1 at 75^o
	" S_2 at 54^o
	250.2 m - S_1/S_o at 75^o
	254.8 m - S_1 at 64^o
	257.1 m - S_1/S_o at 73^o
258.5	End of hole.