

DIAMOND DRILL CORE LOG

016202

Hole Number: 76-01Fabric Orientation DiagramProject: Swim Lake (13)Location: Swim LakeClaim: SB

Terr. Plane Co-ordinates: _____ N

_____ E

Grid Co-ordinates: 76E

All symmetry determinations looking

W with S₂ dippingN with dip azimuth 000°.Total Depth: 1,724'Purpose: To test down dip extension of sulphides in 75-04.Logged by: R. P. Hill Date(s) Logged: March 1976

Drilling

Contractor: Arctic Diamond Core: Size From To Collar Cased
Drilling and Capped: YesBQ 12 1,724

Started: _____ Completed: _____

Downhole Survey:

Depth	Observed Azimuth	True Azimuth	Inclination
0		0.0	0.0
200'	S10W	223°	2.5°
400	S 2E	210	9.5
600	S13W	226	11.0
800	S40W	245	12.0
1,000	S46W	259	14.0
1,200	S34W	247	15.0
1,400	S17W	230	12.5
1,600	S14W	227	11.5

Survey Method: Sperry-Sun

Lithologic Log

Logged By: R. P. Hill

Code	From				To				Unit				Code	Description
	10	14	16	20	22	23	25	27	22	23	25	27		
L		10	0			13	0		1					H ₂ O
L			3	0			12	0	2					OB
L			12	0			105	0	3	51810				Interlaminated medium grey Ms-Ch-Gr phyllite, light grey calcareous phyllite, and light green calc-silicate bands (Q + Actin). A few late calc-silicate veins.
										5187				
L			105	0			182	0	4					Soft, interlaminated medium grey Ms-Ch-Gr phyllite, Ms-Ch phyllite and light green calc-silicate veins (?Act + Chlor + Qtz + cc), apparently veins post S ₁ , pre S ₂ . Trace of sulphide - Po with minor Cp - in calc-silicate veins. This section of core somewhat soft and shattered.
L			182	0			429	5	5	51867				Interlaminated greenish grey Ms-Ch phyllite, light greyish green calc-silicate and dark grey graphitic Ms-Ch phyllite. Proportion of dark grey graphitic layers increases gradually downwards. A few post S ₂ quartz lenses 6 to 9" thick. Crystals of sulphide occur at regular intervals - up to 1/2" square, usually 3 to 6" apart. Most are pseudomorphs of Po after Py, some are Py. Many are mantled with quartz, some have quartz growing in pressure-shadows which have grown in S ₂ . Some appear to be square Py rods growing along F ₂ . Some have grown post S ₂ . Also a few post S ₁ - pre S ₂ quartz-calc-silicate veins containing traces of Po. Slight post S ₂ injection of Po at 425-426 feet. Overall, unit is quartz poor, non-calcareous.
L			429	5			467	0	6	51867				Interlaminated dark grey graphitic Ch Ms-phyllite, medium grey Ch+Ms-phyllite and light greenish grey actin+Ch-calc-silicate containing minor Po. Generally slightly higher proportion of dark, graphitic laminae than in unit above, giving slightly darker overall color. Overall, unit is quartz-poor, non-calcareous. Many thin post S ₁ - pre S ₂ calc-silicate veins containing traces of Po. Minor late (post S ₂) injection of Po from 436.4-436.7.

Lithologic Log

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Code	From			To			Unit	Code	Description	
	10	14	16	20	22	23				25
L	4	6	7	4	9	7	0	17	Same rocks as above unit but abundant late (post S ₂) vein injection. Veins principally quartz with minor actinolite and/or diopside and traces of Po. Veins up to 1 ft. thick. Non-calcareous, quartz-poor unit.	
L	4	9	7	0	5	1	8	0	8	Interlaminated quartz-rich, graphite poor Ms-Ch phyllite (33%), quartz-poor, graphitic-Ch phyllite (33%) and quartz +?epidote +?actinolite calc-silicate (33%). Non-calcareous. Also contains a few thin post-S ₁ - pre S ₂ quartz-calc-silicate veins with traces of Po, and post S ₂ quartz veins up to 2 feet thick containing some calc-silicate (?diopside) and traces of Po. Non-calcareous, fairly quartz rich.
L	5	1	8	0	5	3	7	0	9	Interlaminated graphitic chlor phyllite (50%) and quartz-Ms-Chl-phyllite (50%). Quartz +?diopside veins (as above) up to 6" thick common. Non-calcareous, quartz rich.
L	5	3	7	0	5	5	3	0	1,0	Dark grey graphitic chlorite phyllite with layers a few inches to a foot thick, consisting of interlayered graphitic qtz-chlorite phyllite and greenish grey qtz +?actin. calc-silicate. A few post S ₁ - pre S ₂ calc-silicate veins with traces of Po, also thin post S ₂ quartz-diopside-chlorite veins with traces of Py and Cp. Non-calcareous, quartz-poor.
L	5	5	3	0	5	6	4	0	1,1	Interlaminated Ms-Ch-quartzite, graphitic chlorite phyllite and quartz-?epidote-?actinolite calc-silicate (resembles 497-518). Non-calcareous, quartz-rich unit. A few post S ₁ - pre S ₂ calc-silicate (?diopside) veins and some post S ₂ quartz veining.
L	5	6	4	0	6	5	1	5	1,2	Interlaminated dark grey graphitic chlorite phyllite, light grey Ms-Ch-quartzite and light greenish grey qtz +?actin. calc-silicate. More graphitic and chloritic layers than

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Code	From		To		Unit		Code	Description
	10	14	16	20	22 23	25 27		
								unit above. C-S layers contain minor Po. A few post S ₂ quartz veins up to 1 foot thick contain a hard, light green mineral (?diopside) and a little Po. Traces of Cp on S ₂ surfaces in the phyllite.
L	651	5	694	5	13			Interlaminated Mu-Ch-quartzite, dark grey graphitic chlorite phyllite and light greenish grey quartz _?actin. (and/or chlorite) calc-silicate (resembles 497-518 and 553-564). Some minor variations in lithology depend upon relative proportions of the 3 rock-types. In this unit, the calc-silicate layers contain up to 25% Po with traces of Py. Po seems to be replacing Py, or vice-versa. Stringers and lenses of post-S ₂ quartz contain a hard, light green mineral (?diopside) and a soft, light green mineral (?chlorite) plus minor calcite, minor Py and traces of Sph and Po. Quartz-rich, non-calcareous.
L	694	5	725	0	14			Interlaminated black graphite-Ms-Ch phyllite, light grey qtz-Ms-Chl-phyllite and light greenish grey calc-silicate. Graphitic-rich unit. Up to 50% Po in C-S layers. Abundant post S ₂ quartz veins containing the soft, light green mineral, minor calcite and Ms, minor of Po, Py and traces of Galena. One lens contains calcite and a little dark brown mineral (?siderite). At 701-709', several thin post S ₂ Po veins with trace of Cp.
L	725	0	738	3	15			Zone of sulphide replacement. Lithology similar to 651.5 to 694.5. Quartz rich, non-calcareous, not much graphite. S ₂ very poorly developed. (a) 725.0 - 726.0 - Post S ₂ veins up to an inch thick, apparently injected parallel to post S ₂ fractures. (b) 727.0 - 728.3 - Calc-silicate bands contain Po, intervening quartzitic layers contain Py with a trace of Po, apparently injection or replacement along post S ₂ fractures. The sulphide content of

Lithologic Log

Code	From		To		Unit		Code		Description
	10	14	16	20	22	23	25	27	
									both types of layer increases downwards from approx. 10% to approx. 90% over this interval.
									(c) 729.5 - 731.4 - Massive sulphides (100% sulphide). Mostly Po with traces of Sph and Cp, with some of the soft, light green mineral.
									(d) At 732.5 - Trace of Cp in quartz-chlorite vein.
									(e) 733.5 - 738.3 - Massive sulphides (approx. 75% sulphide) - apparently replacement. 733.5 to 734.8 mostly Po with trace of Py and Cp. 734.8 to 738.3 mostly Py with traces of Po, Cp, Ga, Bornite and Sph., with large blobs of Magnetite.
L	7,3,8	3	7,5,7	0	1,6				Interlaminated light grey quartzite and dark grey graphitic chlorite phyllite, with minor light green quartz +?epidote +?actinolite calc-silicate bands. From 747 to 757 - abundant veinlets of quartz + feldspar, containing a trace of calcite.
L	7,5,7	0	7,6,7	0	1,7				Zone of brecciated graphite-rich chlorite phyllite with thin interbands of quartzite; laced with veinlets of quartz, feldspar, calcite, chlorite.
L	7,6,7	0	7,6,9	0	1,8				Interlaminated dark grey calcareous phyllite and black graphitic phyllite.
L	7,6,9	0	8,0,9	0	1,9				Zone of fractured and brecciated light green calc-silicate with interlaminations of light greenish grey chlorite phyllite. Traces of Po in little pockets. Abundant quartz vein injection containing minor pale green chlorite and traces of Po. A couple of veinlets of Po in the phyllite. From 778 - 779 is a band of light grey mud. cont. angular fragments of quartzose phyllite - could this be a fault breccia? Core all broken up for several feet either side of breccia. From 800-807 - considerable quartz vein injection.

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Code	From		To		Unit		Code		Description			
	10	14	16	20	22	23	25	27				
L	8	0	9	0	8	2	0		Interlaminated pale greenish grey calc-silicate (30-50%), medium green quartzose muscovite-chlorite-phyllite (30-50%), and dark green non-graphitic chlorite phyllite partings (up to 20%). Some of the calc-silicate bands contain Py or Po - mostly they contain a few percent sulphides, but some are up to 50%. Abundant veinlets of quartz + calcite. A few veins of quartz injection, up to 18" long, containing quite a lot of pale green chlorite and traces of pyrite and/or ??Marcasite - also present on some late fracture surfaces. Trace of Cp at 883.5.			
L	8	8	3	8	8	9	8	5	2	1		Zone of abundant sulphides. Host rock is interlaminated light grey quartz-muscovite-chlorite phyllite and dark grey graphitic chlorite phyllite, with minor calc-silicate bands.
												883.8 - 895.5 - Sulphide mostly Po with trace of Cp - nearly all within quartzose bands (forms 0 to 75% of some bands).
												895.5 - 896.3 - Sulphides consist of mixture of Po and Py with abundant magnetite, along with a pale buff-colored soft mineral (?barite). Sulphides + magnetite replace whole rock (80%), not just bands.
												896.3 - 897.3 - Same as 883.8 - 895.5. Up to 40% sulphides.
												897.3 - 898.0 - Same mineralogy as 895.5 - 896.3, but with considerable brecciation and only approx. 70% sulphides + magnetite.
												898.0 - 898.5 - Same as 883.8 - 895.5.
												In this zone, most of the sulphides follow compositional layering - it looks as though sulphide emplacement here may be pre S ₂ .
L	8	19	8	5	9	2	4	0	2	2		Light grey, muscovite-bearing quartzite with interlamina-tions of dark grey graphitic chlorite-muscovite phyllite. Sulphides present in some quartzose bands, mostly Po with

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Code	From	To	Unit	Code	Description
	10 14	16 20	22 23	25 27	
					traces of Cp - present from trace to near 100% of some bands - overall perhaps 10% of rock. Also present are a few thin pale-green calc-silicate bands. Minor post S ₂ quartz veining containing mid-green chlorite and minor Po.
L	9,2,4 0	9,3,0 0	2,3		Interlaminated light grey muscovite quartzite and black graphitic muscovite-chlorite phyllite, locally with pale green calc-silicate bands. Minor Po in calc-silicate bands and some quartzite bands. Abundant late chlorite injection.
L	9,3,0 0	9,3,4 0	2,4		Very light grey, fairly massive muscovite-bearing quartzite with interlamination of white muscovite phyllite, locally containing minor graphite and/or chlorite. Locally contains thin pale green calc-silicate interbands.
L	9,3,4 0	9,4,2 5	2,5		Zone of abundant sulphides. Host rock same as 930.0 - 934.0. Sulphides up to 100% of some bands - up to about 50% of rock. Most is Po with traces of Cp at intervals. Quartzite is slightly calcareous locally.
					934.0 - 935.1 - Sulphide mostly Po with traces of Cp and Ga. Rock about 25% sulphide.
					935.1 - 936.5 - Sulphide mostly Ga with some Po, possibly also some dark brown Sph., and traces of Py and Cp. Rock about 10% sulphide.
					936.5 - 937.7 - Sulphide entirely Po, accompanied by a soft, pale buff mineral (?barite). Rock about 10% Sul sulph.
					837.7 - 938.2 - Quartzite fairly massive here, full of small vugs containing Po and a brown mineral (?siderite or sphalerite) with traces of Cp and Py. Sulphides about 10% of rock. When I squirt acid on it, the rock turns a pale greenish yellow.
					938.2 - 942.5 - Sulphides mostly Po with trace of Cp. Rock banded, with sulphides from 10 to 70%.

Lithologic Log

Code	From		To		Unit		Code	Description
	10	14	16	20	22	23		
L	942	5	948	3	216			Zone of brecciation. Interlaminated black graphitic Q-Mu-Ch phyllite and Mu-quartzite, all fractured and brecciated, with injection of quartz and chlorite with minor Po, and (from 942.5 - 944.0) abundant muscovite.
L	948	3	957	5	27			Zone of abundant sulphides. Interlaminated white to light grey quartzite and medium grey graphitic muscovite phyllite. Some slight injection of quartz + chlorite. Sulphides seem to be a mixture of Po and Py, with traces of Cp. Sulphides form up to 100% of some layers, about 25% of rock as a whole.
L	957	5	971	0	28			Fairly massive white to light grey quartzite with light grey muscovite phyllite partings, locally slightly chloritic. Some slight brecciation with injection of quartz with minor Po, Py or ?barite, and traces of Cp. A few layers contain 10 - 50% Po. At 963.6 - another little patch which turns yellow with acid.
L	971	0	977	0	29			Very light grey quartzite with partings of dark grey muscovite phyllite with minor chlorite, locally black and graphitic. Up to 20% Po + Py in some layers. A few thin post S ₂ veinlets of Py.
L	977	0	985	0	30			Interlaminated light grey quartz - muscovite - phyllite and dark grey muscovite - chlorite, locally black and graphitic. Some quartzose bands contain up to 20% Po, but these are fairly rare. A few thin post S ₂ veinlets of Py, and a few thin veinlets of calcite.
L	985	0	1015	0	31			Very light grey to medium grey quartzite, fairly massive, with partings of medium grey muscovite phyllite, locally dark grey and graphitic. Up to 50% Po in some bands, but these are quite rare. Core slightly fractured and brecciated in places. Thoroughly laced with veinlets of calcite along fractures, and a few veinlets of quartz.

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Code	From				To				Unit		Code		Description
	10	14	16	20	22	23	25	27					
L	1,0,1,5	0	1,0,2,9	8	3,2								Interbanded light grey quartzite and medium to dark grey graphitic muscovite phyllite, locally black graphite - muscovite - phyllite. Laced with veinlets of quartz, some containing minor calcite. A few random subhedral crystals of Po up to 1/3" across.
L	1,0,2,9	8	1,0,3,2	0	3,3								Diorite sill. Mottled appearance - white quartz, pale yellow and grey feldspar, some biotite or black pyroxene. Weakly foliated, apparently //S ₂ , contains a couple of subhedral Po crystals 1/4" in diameter.
L	1,0,3,2	0	1,0,4,1	5	3,4								Same as 1015.5 - 1029.8
L	1,0,4,1	5	1,0,9,8	5	3,5								Massive light to medium grey muscovite - bearing quartzite with partings of dark grey muscovite phyllite containing minor chlorite. A few veinlets of quartz, and a few of calcite, along fractures. Traces of Po as blobs at widely spaced intervals.
L	1,0,9,8	5	1,1,1,8	0	3,6								Same as 1015.5 - 1029.8, but core all broken up - some fracturing and brecciation.
L	1,1,1,8	0	1,1,8,5	0	3,7								Interlaminated creamy white quartz and feldspar rock, locally containing minor calcite, epidote and actinolite, light to medium grey muscovite-bearing quartzite, and dark grey muscovite phyllite with minor chlorite, locally with abundant chlorite. A few thin veinlets of calcite and of quartz along post S ₂ fractures. Late epidote injection along a steep-dipping fracture at 1167.5. Quartz-rich, graphite-poor, non-calcareous unit.
L	1,1,8,5	0	1,2,5,8	0	3,8								Interbanded creamy white quartz - feldspar - calcite calc-silicate, locally containing minor epidote and/or actinolite, light to medium grey muscovite-bearing quartzite, and dark greenish grey chlorite - muscovite

Lithologic Log

Core Code	From				To				Unit				Code				Description
	10	14	18	20	22	23	25	27	10	14	18	20	22	23	25	27	
																	phyllite, locally dark grey and graphitic. Abundant veinlets of quartz, calcite, or quartz + calcite, some of epidote, and some of chlorite. A few small subhedral crystals of Py or Po at widely spaced intervals. Quartz-rich, graphite poor, calcareous unit.
																	Between 1207.5 and 1214.5, the phyllite is particularly graphitic.
																	Between 1212.5 and 1220.5, much quartz vein injection, containing some chlorite, epidote and actinolite.
L	1	2	5	8	0	1	2	7	4	0	3	9					Interlaminated light grey silty limestone and light grey-green muscovite-chlorite phyllite, locally with interbands of dark grey graphite-chlorite phyllite.
L	1	2	7	4	0	1	3	3	7	0	4	0					Interlaminated dark grey graphitic muscovite phyllite, light grey muscovite-quartzite, and creamy white calc-silicate containing minor calcite, locally abundant calcite. Minor quartz vein injection, and abundant veinlets of quartz along fractures. A few scattered crystals and blobs of Py.
L	1	3	3	7	0	1	3	6	5	5	4	1					Interlaminated dark grey graphitic muscovite phyllite, light grey muscovite-quartzite, and creamy white calc-silicate, locally containing minor calcite. Some calcite veinlets along fractures. A few scattered crystals and blobs of Py.
L	1	3	6	5	5	1	3	6	9	0	4	2					Black graphite phyllite, with interlaminations of pale green muscovite - chlorite phyllite, light grey muscovite - quartzite, and pale greenish grey actinolite-bearing calc-silicate containing traces of Py.
																	Abundant quartz - calcite - actinolite vein injection. Phyllite contains small blobs of Py and Po.

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Code	From				To				Unit	Code	Description				
	10	14	16	20	22	23	25	27							
L	1	3	6	9	0	1	3	7	2	0	4	3			Pale greenish-grey, very fine grained quartz-rich rock, with only a slight hint of foliation. Probably a tuffaceous quartzite (but could possibly be massive calc-silicate). Contains small blobs of Py.
L	1	3	7	2	0	1	3	9	5	0	4	4			Interlaminated light greenish grey muscovite - chlorite phyllite and dark greenish grey chlorite phyllite, locally graphitic. Also contains a few thin bands of light greenish grey quartz - feldspar - actinolite calc-silicate and a few thin bands of light grey quartzite. At 1385 - a 6" band consisting principally of actinolite + calcite - greenstone? (or vein). Much post S ₂ injection of quartz with pale green chlorite, also a few thin post S ₁ , pre S ₂ quartz veins.
L	1	3	9	5	0	1	3	9	9	7	4	5			Interbanded medium grey graphitic chlorite phyllite, pale yellowish green quartz + feldspar + epidote + minor calcite calc-silicate, and light grey quartzite. A few blobs of Po and Cp.
L	1	3	9	9	7	1	4	0	3	5	4	6			Interlaminated medium grey graphitic chlorite phyllite, black graphite phyllite, pale yellowish green quartz + feldspar + epidote + minor calcite calc-silicate, and light grey quartzite. Minor late veining of quartz, calcite and epidote in various proportions, containing minor Py and traces of Cp and Ga. A few crystals and blobs of Po.
L	1	4	0	3	5	1	4	2	2	0	4	7			Same as 1395,0 - 1399.7.
L	1	4	2	2	0	1	4	2	4	0	4	8			Banded dark green and light yellowish green rock. Could be tuffaceous quartzite, or calc-silicate with bands of epidote-rich and actinolite-rich rock.

Lithologic Log

Code	From				To				Unit				Code	Description
	10	14	16	20	22	23	25	27	22	23	25	27		
L	1	4	2	4	0	1	4	3	0	5	4	9		Interlaminated medium grey, muscovite - chlorite phyllite, black graphite phyllite, and light grey quartzite. A few veinlets of quartz. Scattered crystals of Po.
L	1	4	3	0	5	1	4	3	2	2	5	0		Similar to 1422.0 - 1424.0, but with interbands of soft, brownish green phyllite. Contains a couple of ragged blobs of Po surrounded by a soft black mineral. A few veinlets of epidote and quartz.
L	1	4	3	2	2	1	5	1	4	5	5	1		Interlaminated dark greenish grey chlorite phyllite, locally black and graphitic, light grey-green muscovite chlorite phyllite, and light grey quartzite. A few late quartz veins containing minor chlorite. A few blobs and crystals of Po and Py.
L	1	5	1	4	5	1	5	3	9	0	5	2		Banded rock - consists of alternating bands from several inches to several feet of rocks (A) and (B): (A) is fairly massive, banded green rock (similar to 1422.0 - 1424.0) - probably tuffaceous quartzite, but possibly calc-silicate. (B) Interlaminated dark greenish grey chlorite phyllite, locally black and graphitic, light grey-green muscovite chlorite phyllite, and light grey quartzite (similar to 1432.2 - 1514.5). The phyllite bands contain fairly abundant large crystals and blobs of Po, and a few large blobs of intergrown Py and Po.
L	1	5	3	9	0	1	5	4	5	0	5	3		Interlaminated dark grey, slightly graphitic chlorite phyllite, pale yellowish green calc-silicate, locally containing minor calcite, and light grey quartzite. (Resembles 1395.0 - 1399.7 and 1403.5 - 1422.0).
L	1	5	4	5	0	1	5	5	6	0	5	4		Same as 1514.5 - 1539.0.

Structural Log

Code	From		To		Feature		SYM	S ₁		S ₂		Description
								Dip	Direct.	Dip	Direct.	
1	10	14	16	20	22	24	26	28	32	34	38	
												NOTES:
												Fold Symmetry Working West.
												Dip = angle between S and core axis (CA)
												CL = crenulation lineation.
												KB = kink-bands.
												WL = wrinkle lineation.
												CBL = colour banding lineation.
												S ₁ //S ₂ = horizontal.
S			1,2	0				9,0	0,0,0	9,0	0,0,0	WL on S ₂ , cut by KB N WL KB
S			3,1	5				7,5	0,0,0	7,5	0,0,0	S ₁ //S ₂
S			5,3	0						7,5	0,0,0	S ₁ completely folded - very steeply dipping.
S			6,3	0				7,0	0,0,0	7,0	0,0,0	S ₁ //S ₂
S			8,1	0				2,0	1,8,0	7,0	0,0,0	
S			9,4	5						6,5	0,0,0	
	1,0	0,0	1,0	7,0								Zone of intense folding (D ₂ ?). S ₁ strongly deformed, with injection of much quartz-calcite-calc-silicate material which obliterates S ₁ . S ₂ only well-developed over short intervals.
S			1,1	0,0				8,5	0,0,0	8,5	0,0,0	S ₁ //S ₂ . Post S ₁ pre S ₂ calc-silicate vein folded by F ₂ . S ₂ contains WL which is cut by KB. N WL KB

Structural Log

Code	From				To				Feature	F ₂	S ₁		S ₂		Description
	10	14	16	20	22	24	25	28			32	34	38	Dip	
S				121215	0			S		010	01010	710	01010	S ₁ vertical, folded by F ₂ with excellent development of S ₂ cren. fol. Post S ₁ pre S ₂ calc-silicate veins contain traces of Po.	
S				121315	0			S		815	11810	715	01010		
S				121418	0					710	01010	710	01010	S ₁ //S ₂ .	
S				121518	0			Z		610	01010	810	01010	CL on S ₂ (S ₁ -S ₂ intsn.) N	
S				121618	0			E				815	01010	SL on S ₂ . N	
S				121719	0					710	01010	815	01010	CL on S ₂ (S ₁ -S ₂ intsn.), cut by KB.	
S				121819	0			3		615	01010	815	01010		
S				121918	7					615	01010	815	01010	WL on S ₂ , cut by KB. N	
S				131111	0			3		010	01010	815	01010	S ₁ essentially vertical, complexly folded by F ₂ crenulations.	
S				131212	0					810	11810	815	01010		
S				131311	5			E		710	01010	810	01010	F ₂ CL on S ₂ cut by WL. N	
S				131414	0					810	01010	817	01010	CBL (S ₁ -S ₂ intsn.) on S ₂ . N	
S				131514	0			3		415	11810	715	01010	S ₁ complexly folded - S ₁ dip given is locus of small F ₂ folds.	
S				131614	0			3		110	11810	810	01010	F ₂ CL with //CBL on S ₂ (S ₁ -S ₂ intsn.). F ₂ CL cut by WL.	

Structural Log

Code	From		To		Feature	Sym	S ₁		S ₂		Description			
	10	14	16	20			22	24	26	28		32	34	38
S			137	155			Z	45	010	10	717	010	10	
S			138	145			Z				65	010	10	S ₁ nearly vertical - strongly folded by F ₂ , S ₂ cut by KB on steeply N-dipping APs. (KB-AP) (CA) = 35/000.
S			139	140			S	65	010	10	712	010	10	F ₂ CL on S ₂ . N
S			141	145				710	010	10	815	010	10	WL (S ₁ -S ₂) intsn.) on S ₂ . N
S			141	140			S				810	010	10	
S			142	140							65	010	10	BXA.
S			143	160				910			715	010	10	Post S ₁ - pre S ₂ calc-silicate veins contain minor Po. S ₂ not very strongly developed here - Fissility either S ₁ or S ₂ .
S			144	160			S	715	010	10	815	010	10	Same as 436.0.
S			145	160			S	815	010	10	815	010	10	S ₁ // S ₂ .
S			146	170			S	615	118	10	710	010	10	
S			148	180	0		S	710	118	10	610	010	10	Dominant fissility is S ₁ - S ₂ quite well developed but S ₂ surfaces discontinuous and non-planar - attitude varies $\pm 10^\circ$ over a few inches of core.
S														CL on S ₁ . N
S			149	107			S	615	010	10	710	010	10	CL on S ₂ , cut by KB.
S			151	105			S	610	118	10	810	010	10	Rock quartz-rich - S ₂ very poor.
S			151	090				85	010	10	85	010	10	S ₁ Sub//S ₂ .

Structural Log

Code	From				To				Feature	SYE	S ₁		S ₂		Description
	10	14	16	20	22	24	26	28			Dip	Direct.	Dip	Direct.	
	1	10	14	16	20	22	24	26	28	32	34	38			
S				15210	0					710	01010	710	01010	S ₁ sub//S ₂ .	
S				15314	0					715	01010	715	01010	S ₁ //S ₂ .	
S	15414	0		15419	0			S				615	01010	S ₁ greatly contorted. KB on steep AP's at 553.	
S				15514	5				3	810	01010	810	01010	S ₁ //S ₂ .	
S	15517	0		15519	0									S ₁ greatly contorted.	
S				15614	5					615	01010	615	01010	S ₁ sub//S ₂ . F ₂ Cl on S ₂ . N	
S				15715	0				3	710	11810	810	01010		
S				15815	0				Z	410	01010	810	01010		
S				15914	0				S	010	01010	810	01010	S ₁ complexly folded - roughly vertical.	
S				161015	0					717	01010	717	01010	S ₁ //S ₂ .	
S				16115	0			Z				715	01010	S ₂ rather irregular - strike appears to be changing slightly downwards. S ₁ very slightly steeper than S ₂ , and brought into parallelism in places. CL and WL on S ₂ .	
S	16210	5		16214	5			Z				617	01010	Zone of mesoscopic F ₂ folding. In places there is a foliation AP to these folds (?S ₂) which does not cut competent layers. In other places, a foliation parallel to the AP foliation cuts fold limbs - evidently later slip on earlier-formed S ₂ . Pronounced F ₂ CL on S ₂ , cut by WL.	

Structural Log

Code	From				To				Feature	SYE	S ₁		S ₂		Description
	1	10	14	16	20	22	24	25			28	32	34	38	
S					63	50					8	0	0	0	CBL on S ₂ N S ₁ not well seen.
S					64	50		3			7	7	0	0	Mesoscopic F ₂ folding - S ₁ contorted. F ₂ CL cut by WL on S ₂ .
S					65	80				7	0	0	0	0	S ₁ //S ₂
S					66	85									S ₂ folded by KB on steep AP's. AP CA = 25°.
S					67	95				8	0	0	0	0	S ₂ folded by KB on steep AP's. AP CA = 40°.
					68	90									S ₁ sub//S ₂ .
															Dominant fissility here is a fracture cleavage (?S ₃) which cuts S ₂ in phyllitic layers but is parallel to lithological banding in competent layers. Some Po injection along S ₃ .
S					70	15		E	7	5	0	0	0	0	S ₁ sub//S ₂ . Po injection with minor CP on post S ₂ fractures. At 702 - Mesoscopic F ₂ folds. N
S					71	15		Z	7	3	0	0	0	0	S ₁ //S ₂
S					72	30				9	0	0	0	0	S ₁ //S ₂ - horizontal. S ₂ folded by KB.

Structural Log

Code	From			To			Feature	S ₁ Dip Direct.	S ₂ Dip Direct.	Description	
	10	14	16	20	22	24					26
			1713	30	BIXIA						Zone of brecciation and quartz injection - most structures destroyed.
S			1743	30			810	01010	810	01010	S ₁ //S ₂
S			1753	30	E				75	01010	S ₁ vertical - changes to //S ₂ 6" above and 6" below.
S	1747	0	1767	0							Zone of brecciation and injection of much quartz, calcite and feldspar along veinlets. Structures destroyed for the greater part of this interval. Core all broken up.
S			1768	0			55	01010	55	01010	S ₁ //S ₂
	1769	0	1781	0							Zone of fracturing and brecciation - structures destroyed for the greater part of this interval. From 778-779 is a band of light grey mud containing angular fragments of quartzose phyllite - could this be a fault breccia? Core all broken up.
S			1782	5			75	01010	75	01010	S ₁ //S ₂ . Core all broken up.
S			1791	0			87	01010	87	01010	S ₁ sub//S ₂ .
S			1805	0			74	01010	72	01010	S ₁ a bit contorted.
S			1815	0			55	01010	55	01010	S ₁ sub//S ₂ . WL on S ₂ . N
S			1825	0					82	01010	S ₁ irregular, but steep.
S			1835	0	S				77	01010	S ₁ rather irregular, but shallow.

Structural Log

Logged By: R. P. Hill

Code	From		To		Feature	SYM	S ₁		S ₂		Description
	10	14	16	20			22	24	26	Dip Direct.	
S			1845	5		E	110	01010	810	01010	S ₂ rather irregular.
S			1857	0					715	01010	S ₁ irregular, but steep.
S			1872	0		S			75	01010	S ₁ irregular.
S			1882	0		S	815	01010	815	01010	S ₂ flat - S ₁ //S ₂
S			1893	0					75	01010	S ₁ poorly developed. WL on S ₂ .
S			1904	0			710	01010	710	01010	S ₁ sub//S ₂ . WL on S ₂ . N
S			1911	40			010	01010	48	01010	S ₂ steep here - S ₁ , where visible, is approx. vertical.
S			1927	40			83	01010	83	01010	S ₁ sub//S ₂ .
S			1934	0			710	01010	710	01010	S ₁ poorly developed, but //S ₂ .
S	1942	5	1948	3							Zone of brecciation and injection over most of this interval. All structures are destroyed or are totally irregular.
			1951	40							S ₂ poorly developed - mesoscopic folds fold S ₁ with development of S ₂ in incompetent layers only. Orientation of S ₂ is somewhat irregular - dips both north and south. CL and WL seen on S ₂ .
S			1965	5					610	01010	S ₂ poorly developed, S ₁ barely visible.
S			1975	5					710	01010	S ₂ rather variable, S ₁ hardly visible.

Structural Log

Code	From				To				Feature	S ₁ Dip Direct.	S ₂ Dip Direct.				Description
	10	14	16	20	22	24	26	28			32	34	38		
S			91860						010	01010	517	01010		S ₁ poorly defined, but approximately vertical. S ₂ folded by KB and WL.	
S			9960						710	01010	70	01010		S ₁ sub//S ₂ , but locally folded by mesoscopic folds.	
S			1101060											S ₂ not developed. S ₁ rather irregular.	
S			1101160				Z	817	01010	817	01010			S ₁ sub//S ₂ . S ₂ rather variable.	
S			11012160				Z	810	01010	810	01010			S ₂ sub//S ₂ . WL on S ₂ . N	
S			11013170				Z			810	01010			S ₁ irregular.	
S			11014170				3			715	01010			Zone of mesoscopic folding of S ₁ .	
S			11015170				S			712	01010			S ₁ folded and irregular. F ₂ FA with/WL on S ₂ .	
S			11016170				Z			718	01010			S ₁ complexly folded.	
S			11017170					910	01010	715	01010			S ₂ poorly developed. S ₁ sub-horizontal.	
S			11018170				Z			512	01010			S ₁ irregular and folded.	
S			11019170					712	01010	712	01010			S ₁ sub//S ₂ .	
S			1110170					810	01010	810	01010			Core fractured and broken up. S ₁ sub//S ₂ .	
S			1111170							712	01010			Core fractured and broken up. S ₂ variable. S ₁ irregular. WL on S ₂ .	
S			1112170				Z	810	01010	810	01010			S ₁ sub//S ₂ .	

Structural Log

Logged By: R. P. Hill

Core Code	From		To		Feature	SYE	S ₁		S ₂		Description
	10	14	16	20			22	24	26	28	
S			1113	70		Z	710	01010	710	01010	S ₁ sub//S ₂ . WL on S ₂ . N
S			1114	70		3			715	01010	S ₁ irregular. Meso folds. N
S			1115	70					817	01010	S ₁ not visible, S ₂ rather poorly developed.
S			1116	70		Z	617	01010	617	01010	S ₁ sub//S ₂ . F ₂ CL and WL on S ₂ .
S			1117	70		Z	215	1180	617	01010	S ₁ folded - measurement approximate. CL and WL on S ₂ .
S			1118	70		S			517	01010	S ₁ folded and irregular.
S			1119	70		Z	715	01010	715	01010	S ₁ sub//S ₂ .
S			1120	70		S			712	01010	S ₁ folded and irregular. WL on S ₂ .
S			1121	70			713	01010	713	01010	S ₁ sub//S ₂ . CL on S ₂ . N
S			1122	80		Z			617	01010	Meso F ₂ folds - S ₁ irregular.
S			1123	90		Z			710	01010	S ₁ obscured by folding and shearing along S ₂ .
S			1124	80		S			517	01010	S ₁ sheared and folded - irregular CL on S ₂ . N
S			1125	80		S			815	01010	S ₁ folded and irregular. S ₂ rather variable.
S			1126	80					516	01010	S ₁ contorted by F ₂ . F ₂ CL on S ₂ . N

Structural Log

Code	From		To		Feature	S.P.R.	S ₁		S ₂		Description	
							Dip	Direct.	Dip	Direct.		
	10	14	16	20	22	24	26	28	32	34	38	
S			12870				E			62	01010	S ₁ contorted by F ₂ . F ₂ CL on S ₂ . N
S			12890				Z			77	01010	S ₁ contorted by F ₂ , but fairly steep. WL on S ₂ . N
S			131010				330	180		65	01010	
S			131110				E			74	01010	S ₁ contorted by F ₂ . WL on S ₂ .
S			132110				Z60	01010		60	01010	S ₂ not well developed - rather variable. S ₁ sub//S ₂ .
S			133110				S			67	01010	S ₁ contorted.
S			134105				78	01010		78	01010	S ₁ //S ₂ .
S			135100				72	01010		72	01010	S ₁ //S ₂ . WL on S ₂ . N
S			136100				65	01010		65	01010	S ₁ //S ₂ . Two WL on S ₂ . N
			137100									Massive green rock. S ₂ not well developed - rather variable. S ₁ irregular, and folded by F ₂ .
S			138100				E			75	01010	S ₁ irregular.
S			139100				E67	01010		67	01010	S ₁ sub//S ₂ .
S			140100				E010	01010		62	01010	S ₁ folded and irregular, but generally vertical. WL on S ₂ . N
S			141105				75	01010		75	01010	S ₁ //S ₂ . WL on S ₂ . N

Structural Log

Code	From		To		Feature	S ₁ Dip Direct.	S ₂ Dip Direct.	Description		
	10	14	16	20					22	24
S			1142	100			71	01010	S ₁ folded and contorted. WL//F ₂ axis.	
S			1143	100		68	01010	68	01010	S ₁ //S ₂
S			1144	100		79	01010	75	01010	S ₂ rather variable - slightly oblique to S ₁ . WL on S ₂ . N
S			1145	100		72	01010	72	01010	S ₂ slightly curved. S ₁ sub//S ₂ . CL and WL on S ₂ .
S			1146	105		910	01010	76	01010	S ₂ poorly developed - rock breaks with irregular surfaces along S ₁ and S ₂ , leaving very pronounced CL. Two WL's, one //CL. S ₁ approx. horizontal.
S			1147	100				910	01010	S ₂ poorly developed - undulatory, but roughly horizontal. S ₁ also irregular - S ₁ and S ₂ meet at approx. 20° which results in irregular fracture of core, but no pronounced CL.
S			1148	100				710	01010	Core breaks irregularly - S ₁ and S ₂ intersect with small angle, but both rather irregular.
S			1149	105	S			715	01010	S ₂ curved. S ₁ folded and irregular.
S			1151	105	E	210	11810	710	01010	S ₁ rather irregular due to folding.
S			1151	130	E			718	01010	S ₁ folded and irregular.
S			1152	130		715	01010	715	01010	S ₁ sub//S ₂

Structural Log

Code	From			To			Feature	S ₁ Dip Direct.	S ₂ Dip Direct.	Description
	10	14	16	20	22	24				
S			1533	0				710 01010	710 01010	Massive rock - S ₂ poorly developed. S ₁ apparently // S ₂ .
S			1543	0		Z			717 01010	S ₁ folded and irregular.
S			1553	0		E			820 01010	S ₁ folded and irregular.
S			1564	0				45 01010	615 01010	S ₂ poorly developed - S ₁ is dominant structure - BXA
S			1574	0				010 01010		S ₂ absent - S ₁ prominent - vertical.
S			1584	0		E		010 01010	810 01010	S ₁ approx. vertical.
S			1594	0				810 11810	617 01010	Fissility along both S ₁ and S ₂ - S ₂ rather poor.
			1610	40						S ₂ absent. Fissility is S ₁ , which is completely folded.
S			161	140				612 01010	612 01010	S ₁ // S ₂
S			162	140				715 01010	813 01010	S ₁ 5 to 10° oblique to S ₂ .
S			163	150					910 01010	S ₂ very poorly developed, but approx. horizontal. S ₁ S ₂ 30°.
			164	150						S ₂ very poorly developed. Fissility is S ₁ , which undulates.
S			165	150				514 01010	715 01010	S ₂ very poorly developed.
S			166	100						S ₂ absent. S ₁ folded and irregular.
S			167	160		Z		612 01010	612 01010	S ₂ extremely well developed. S ₁ sub // S ₂ CL and WL on S ₂ .

DIAMOND DRILL CORE LOG

Hole Number: 76-03

Fabric Orientation Diagram

Project: Swim Lake

Location: Swim Lake

Claim: SB

Terr. Plane Co-ordinates: N

E

Grid Co-ordinates: 76E

All symmetry determinations looking with dipping with dip azimuth.

Total Depth: 962'

Purpose:

Logged by: R. P. Hill

Date(s) Logged: March-April, 1976

Drilling Contractor:

Arctic D. Drilling

Core: Size From To Collar Cased and Capped:

BQ 74 206

Started: Completed:

Downhole Survey:

Depth	Observed Azimuth	True Azimuth	Inclination
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Survey Method: Not surveyed.

Lithologic Log

Code	From				To				Unit	Code	Description	
	10	14	16	20	22	23	25	27				
L		0	0		7	4	0		1		H ₂ O	
L		7	4	0		2	0	6	0	2	OB	
L		2	0	6	0		2	2	5	0	3	Interlaminated light grey silty limestone, dark grey graphitic chlorite muscovite phyllite and grey-green muscovite chlorite phyllite. Abundant veinlets of calcite, a few of quartz. Fairly abundant large euhedral crystals of Py, and a few smaller crystals of Po.
L		2	2	5	0		2	5	3	5	4	Interlaminated light grey silty limestone and light green or light buff-green muscovite chlorite phyllite, locally dark grey and slightly graphitic. Fairly abundant large euhedral crystals of Py, also locally crystals and blobs of Py strong out along S ₂ foliation and on fracture surfaces. Minor quartz veining cont. pale green chlorite and pyrite circles and blobs.
L		2	5	3	5		3	2	3	0	5	Graphite phyllite, locally with interlamination of dark grey graphitic chlorite phyllite. A few bands a few feet thick containing light grey quartzite, other bands contain light grey silty limestone. Pyrite on some fracture surfaces. A few quartz veins up to 4" thick, containing from trace to approx. 25% pyrite. Core all broken up. Very poor recovery.
L		3	2	3	0		3	3	7	0	6	Interlaminated pale yellowish grey calc-silicate, locally with minor calcites, dark grey graphitic chlorite phyllite and medium grey-green chlorite phyllite. A few small crystals of Po. Very poor recovery.
L		3	3	7	0		3	4	1	0	7	Cave, containing one large crystal of Py.

Lithologic Log

Logged By: R. P. Hill

Code	From				To				Unit	Code	Description
	10	14	16	20	22	23	25	27			
L	3	4	1	0	3	4	4	0	8		Sludge - mostly graphite and dark grey graphitic chlorite phyllite flakes.
L	3	4	4	0	3	5	6	8	9		Interlaminated dark grey graphitic chlorite phyllite, medium greenish grey chlorite phyllite and light grey quartzite.
L	3	5	6	8	3	5	9	0	10		Interlaminated light green chlorite phyllite and light yellowish green calc-silicate (Q+feld+actin+calcite).
L	3	5	9	0	3	6	0	0	11		Same as 344.0 - 356.8.
L	3	6	0	0	3	6	7	5	12		Interlaminated light green and dark green rock - either banded calc-silicate of tuff. Contains minor calcite locally (See 76-01). Locally contains interlamination of dark grey graphitic chlorite phyllite.
L	3	6	7	5	4	3	2	0	13		Interlaminated dark grey graphitic chlorite phyllite, light greenish grey chlorite phyllite and light grey silty limestone. Locally contains bands of light yellowish green calc-silicate. Contains large crystals of Py (fairly abundant) and smaller one of Po (quite rare) and minor quartz veining with some chlorite.
L	4	3	2	0	6	3	8	0	14		Interlaminated dark grey-green, locally dark grey and graphitic, chlorite phyllite, light grey-green musc. chlorite phyllite, light grey quartzite and light grey-green calc-silicate. Minor quartz vein injection with some chlorite and trace of Py. Contains abundant large crystals of Py and Po. Contains limestone-greenstone bands (actinolite+chlorite+feldspar+Q) at 527-528.

Lithologic Log

Logged By: R. P. Hill

Code	From			To			Unit	Code	Description		
	10	14	16	20	22	23	25	27			
I	6	3	8	0	7	4	6	0	1	5	Interlaminated light green Q+feldspar+actinolite calc-silicate and light grey-green chlorite-muscovite phyllite locally with thin laminations of dark grey-green chlorite muscovite phyllite and light grey quartz-muscovite phyllite. Contains abundant crystals and blobs of Po and Py. A few quartz veins up to 1 ft. thick contain minor chlorite and traces of Po and Py. A few calc-silicate bands contain minor Po.
											686.6 - 688.5 - some quartz-rich layers contain 10 to 50% Po (approx. 5% of rock).
L	7	4	6	0	7	5	9	0	1	6	Interlaminated white quartzite, very light grey muscovite phyllite and light grey-green chlorite-muscovite phyllite. Locally contains partings of lustrous black graphitic muscovite phyllite. Contains fairly abundant crystals and blobs of Po and Py. Some quartz-rich layers contain 10 to 50% Po (approx. 5% of total rock). Minor quartz vein injection contains minor chlorite and Po.
L	7	5	9	0	7	6	6	5	1	7	Zone of fairly abundant sulphides. Fairly massive rock - interlaminated white quartzite and light grey muscovite phyllite locally with interlaminations of pale green muscovite chlorite phyllite. Seems to be injection or replacement along compositional layering (So); sulphides accompanied by quite a lot of quartz and chlorite, also injection along late fractures. Sulphides form from trace to approx. 75% of some bands - perhaps 10 to 20% of total rock. Mostly Po, locally with minor Py, and traces of Cp, Ga, bornite, also a few blobs magnetite.
L	7	6	6	5	7	7	6	0	1	8	Interlaminated dark grey graphitic chlorite phyllite, locally with black graphite phyllite, light grey-green muscovite-chlorite phyllite and minor light grey muscovite quartzite. Contains a few blobs and stringers of Po and Py locally. Minor quartz vein injection with minor chlorite and Po.

Lithologic Log

Logged By: R. P. Hill

Code	From		To		Unit		Code		Description				
	10	14	16	20	22	23	25	27					
L	7	7	6	0	7	8	9	0	1	9			Fairly massive light green rock with an agglomeratic appearance - probably volcanoclastic. Fairly large angular fragments of quartz and feldspar, laced with veinlets of chlorite, locally contains partings of light green muscovite, chlorite, phyllite and dark green chlorite phyllite. Contains approx. 10% sulphides - mostly Po with Traces of Cp and Ga.
L	7	8	9	0	8	0	7	5	2	0			Light green quartz-rich rock, locally with interlamina-tions of light green Ms chlorite phyllite. The quartz-rich rock may be calc-silicate, but I think it is more probably a tuffaceous quartzite. Abundant small cubes of Po, also a few large crystals and large irregular blobs of Po.
T	8	0	7	5	8	1	2	0	2	1			Interlaminated dark green chlorite phyllite and light green Ms chlorite phyllite.
L	8	1	2	0	8	2	2	0	2	2			Interlaminated dark green chlorite phyllite, light green Ms chlorite phyllite and light green quartz-rich rock (may be calc-silicate, more probably tuffaceous quartzite) in various proportions. At 814.0 - abundant banded Po with minor Cp. 821.0 - 822.0 - appears to have agglomeratic texture.
L	8	2	2	0	8	5	0	0	2	3			Very pale green chlorite muscovite phyllite, locally with interlamina-tions of dark green chlorite phyllite or light greenish grey tuffaceous quartzite. Quartz veining very prominent - veins and lenses up to 6" thick make up about 30-40% of core. Veins contain minor pale green chlorite and minor pyrrhotite, and traces of Cp. Sulphides possibly approx. 5% of total rock mass.
L	8	5	0	0	8	7	8	5	2	4			Same rock as 822-850 but with relatively minor quartz veining. Throughout this interval, a few quartz-rich

Lithologic Log

Logged By: R. P. Hill

Code	From		To		Unit		Code		Description
	10	14	16	20	22	23	25	27	
									bands and veinlets contain up to 50% sulphides. Mostly Po, with traces of Ga, Sph and Cp and Py. Sulphides possibly approx. 5% of total rock mass.
L	8,7,8	5	8,9,4	5	2,5				Fairly massive, light green quart-rich rock (tuffaceous quartzite?) containing thin interlaminations and bands up to 6" thick of above rock-type. Throughout this interval, a few bands and veinlets contain up to 50% sulphides, mostly Po with traces of Ga, Sph, Cp and Py. Minor quartz veining containing minor Po and traces of Ga. Sulphides possibly approx. 5% of total rock mass.
L	8,9,4	5	9,1,7	5	2,6				Same as 850.0 - 878.5.
L	9,1,7	5	9,2,4	7	2,7				Massive, pale green tuffaceous quartzite with thin inter-laminations of pale green muscovite chlorite phyllite, and locally interlaminations of green chlorite phyllite.
L	9,2,4	7	9,2,5	5	2,8				?Fault breccia. Soft, broken up dark green chlorite muscovite phyllite from 924.7 to 925.2. 925.2 - 925.5 - band of soft, light green mud containing fragments of light green Ms-chlor phyllite and dark green chlorite phyllite.
L	9,2,5	5	9,6,2	0	2,9				Banded rock. Bands from a few inches to several feet thick, of alternating (A) and (B). (A) Massive pale green tuffaceous quartzite with thin interlaminations of pale green muscovite chlorite phyllite and dark green chlorite phyllite. (B) Pale green chlorite muscovite phyllite, locally with interlaminations of dark green chlorite phyllite or light greenish grey tuffaceous quartzite. Minor vein quartz in bands up to 1 ft. thick. This section looks very similar to hole 76-01, from 1530 to 1562.

Structural Log

Logged By: R. P. Hill

Core Code	From				To				Feature SYM	S ₁ Dip Direct.		S ₂ Dip Direct.		Description
	10	14	16	20	22	24	26	28		32	34	38		
S				121110				Z			610	01010	S ₂ not very well developed. S ₁ folded and irregular, F ₂ CL on S ₂ . N	
S				121210					110	11810	612	01010	S ₂ very poor - core fractures irregularly on S ₁ and S ₂ . F ₂ CL on S ₂ . N	
S				121310				E			713	01010	S ₂ very poorly developed. S ₁ folded and irregular. F ₂ CL on S ₂ . N	
S				121410				Z			710	0010	S ₁ irregular. F ₂ CL on S ₂ .	
S				121510					517	01010	517	01010	S ₁ sub//S ₂ .	
S				121615					4:8	0:0:0	4:8	0:0:0	S ₁ sub//S ₂ .	
S				121715					4:7	0:0:0	4:7	0:0:0	S ₁ sub//S ₂ .	
S				121817							615	01010	S ₁ folded and brecciated - S ₂ very poorly developed. BXA.	
				121917				Z					S ₂ not present - S ₁ folded by meso F ₂ .	
	131010	0		131214									Core all broken up - cannot measure anything.	
S				131214							815	01010	S ₂ rather poor. S ₁ irregular. F ₂ CL on S ₂ . N	
	131311	5		131418									Core all broken up - cannot measure anything.	
				131418					617	01010	617	01010	S ₂ very poor - much BXA and injection of quartz - S ₁ sub//S ₂ .	

Structural Log

Code	From				To				Feature	S ₁ Dip Direct.	S ₂ Dip Direct.	Description
	10	14	15	20	22	24	25	28				
S			1358	0			Z			85	01010	S ₂ very poor - S ₁ folded and irregular.
S			1368	0			S			78	01010	S ₂ very poor - S ₁ folded and irregular.
S			1379	0						81	01010	S ₂ very poor - S ₁ irregular.
S			1389	0				55	01010	55	01010	S ₁ sub//S ₂
S			1401	0				66	01010	66	01010	S ₂ very poor. S ₁ sub//S ₂ . F ₂ CL on S ₂ . N
S			1411	0						52	01010	S ₂ very poor. S ₁ folded and irregular. BXA
S			1421	0			E	45	1810	83	01010	S ₂ very poor.
S			1431	0						75	01010	S ₂ very poor. S ₁ folded and irregular.
S			1441	0				67	01010	67	01010	S ₂ quite good. S ₁ sub//S ₂ .
S			1451	0				81	01010	81	01010	S ₁ //S ₂ .
S			1461	0				67	01010	67	01010	S ₁ //S ₂ .
S			1471	0			Z	010	01010	74	01010	S ₁ nearly vertical within lithons. F ₂ CL on S ₂ . N
S			1481	0			E	210	01010	810	01010	S ₁ folded and irregular.
S			1491	0			E	010	01010	82	01010	S ₁ nearly vertical.
S			1501	0			Z			74	01010	S ₁ rather irregular.
S			1511	0				68	01010	68	01010	S ₂ rather poor. S ₁ sub//S ₂ .

Structural Log

Logged By: R. P. Hill

Code	From			To			Feature	E S	S ₁		S ₂		Description
	10	14	16	20	22	24			26	28	32	34	
S			152100						810	01010	810	01010	S ₂ quite poor. S ₁ sub//S ₂ .
S			153100						716	01010	716	01010	S ₁ sub//S ₂ .
S			15440						612	01010	612	01010	S ₁ sub//S ₂ .
S			15540						713	01010	713	01010	S ₁ sub//S ₂ .
S			15640						719	01010	719	01010	S ₂ rather poor. S ₁ //S ₂ .
S			157140				Z				518	01010	S ₁ rather irregular, but steep.
S			15850								715	01010	S ₂ rather poor. S ₁ folded and irregular.
			15950										S ₂ poorly developed and variable. S ₁ sub//S ₂ .
S			161050								616	01010	S ₁ irregular.
S			161150						710	11810	718	01010	F ₂ CL on S ₂ . N
			162150										S ₂ rather poorly developed and somewhat irregular in orientation. S ₁ is prominent foliation, but cannot orient it.
S			163150				Z	310	01010	715	01010		Mesoscopic F ₂ /s. N S ₁ measurement is approximate.
S			164150				Z	315	01010	816	01010		
S			165150						817	01010	817	01010	S ₂ rather poor. S ₁ sub//S ₂ .
S			166150								717	01010	S ₁ not seen.

Structural Log

Logged By: R. P. Hill

Code	From				To				Feature	E S ₁	S ₁		S ₂		Description
	10	14	16	20	22	24	25	28			32	34	38		
S			167	150						610	0100	83	01010		
S			168	150						240	01010	77	01010		
S			169	150						75	01010	75	01010	S ₁ sub//S ₂ . F ₂ CL on S ₂ . N	
S			170	170						713	01010	713	01010	S ₁ //S ₂	
S			171	170						716	01010	716	01010	S ₁ //S ₂	
S			172	170				S		717	01010	717	01010	S ₁ sub//S ₂	
S			173	170				S				83	01010	S ₁ folded and irregular.	
S			174	170				S		65	1810	715	01010	Rock breaks along post S ₂ fractures which are roughly // to S ₁ .	
			175	170										S ₂ very poor, and irregular in orient. S ₁ irregular.	
S			176	170						65	1810	710	01010	F ₂ CL on S ₂ . N	
			177	170										Seems to be agglomerate or breccia - neither S ₁ nor S ₂ developed at all.	
S			179	120								611	01010	S ₂ very poor. S ₁ not really seen - massive green rock.	
S			180	120								72	01010	S ₂ very poor. S ₁ not seen - massive green rock.	
S			181	130				Z				68	01010	S ₂ not very well developed. S ₁ not seen.	
			182	130										Abundant quartz vein injection - S ₂ very poor. S ₁ folded and irregular.	

Structural Log

Code	From			To			Feature	S ₁ Dip Direct.	S ₂		Description	
	10	14	16	20	22	24			26	28		32
S			1831	0				77	01010	77	01010	S ₁ //S ₂
S			1841	0				77	01010	68	01010	S ₂ rather poor - rock splits along S ₁ . F ₂ CL on S ₁ . N
S			1851	0				90	01010			S ₂ apparently absent. S ₁ horizontal.
S			1861	0				83	11810	75	01010	S ₂ rather poor - rock splits irregularly along S ₁ or S ₂ .
S			1871	0			S	110	11810	85	01010	S ₂ rather variable.
S			1881	0				90	01010			S ₁ approx. horizontal. S ₂ very poor - variable orient.
S			1891	0						75	01010	Massive green rock - S ₂ very poor, S ₁ not seen. Measurement taken // to thin quartz veins in fractures.
S			1901	0				70	01010	70	01010	S ₁ //S ₂
S			1911	0				40	11810	75	01010	Massive rock - S ₂ very poor.
	1921	05	1923	0								Only 6" of core.
S			1924	5				67	01010	67	01010	S ₂ rather poor. S ₁ //S ₂
S			1935	0						72	01010	S ₁ irregular.
S			1945	0				90	01010			S ₁ undulates gently but approx. horiz. S ₂ apparently not developed, or //S ₁ .
			1955	0								
S			1955	0				76	01010	86	01010	

DIAMOND DRILL CORE LOG

Hole Number: 76-04

Fabric Orientation Diagram

Project: Swim Lake

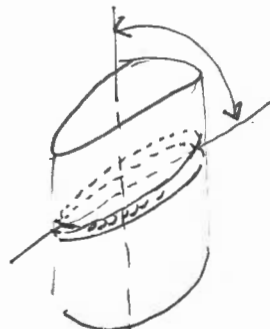
Location: Swim Lake

Claim: S.B.

Terr. Plane Co-ordinates: _____ N

_____ E

Grid Co-ordinates: _____



All symmetry determinations looking

W with 52 dipping

N with dip azimuth 000.

Total Depth: 570'

Purpose: to test gravity anomaly

Logged by: R. P. Hill Date(s) Logged: April, 1976

Drilling Contractor:	<u>Arctic Diamond Drill.</u>	Core:	Size	From	To	Collar Cased and Capped:
			<u>BQ</u>	<u>152</u>	<u>570</u>	<u>No</u>
			_____	_____	_____	
			_____	_____	_____	

Started: _____ Completed: _____

Downhole Survey:

Depth	Observed Azimuth	True Azimuth	Inclination
<u>0</u>	<u>—</u>	<u>—</u>	<u>45° 0</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Survey Method: Not surveyed

Lithologic Log

Logged By: _____

Code	From		To		Unit		Code	Description		
	10	14	16	20	22	23			25	27
L	1	5	1	0	1	8	5	0	3	Only 10 ft. of core - all broken up, no marker blocks. Interlaminated light grey limestone and black graphitic phyllite.
L	1	8	5	0	2	1	3	0	4	Interlaminated light grey limestone (locally light greenish grey calcareous calc-silicate) and black graphitic chlorite phyllite locally, with a few thin interlaminae of light grey quartzite. Contains fairly abundant crystals and blobs of Po, a few of Py. Abundant veinlets of calcite, a few of quartz.
L	2	1	3	0	2	2	5	0	5	Interlaminated medium grey-green chlorite phyllite, locally dark grey and graphitic, light greenish grey calc-silicate, locally with minor calcite and light grey quartzite. A few crystals and blobs of Po and Py. Abundant veinlets of quartz, a few of calcite, a few of light yellowish-buff mineral.
L	2	2	5	0	3	1	1	5	6	Interlaminated dark grey graphitic chlorite phyllite light grey-green chlorite-muscovite phyllite and light grey quartzite, locally with a few bands of light greenish grey calc-silicate. Abundant veinlets and small lenses of vein quartz, some containing minor chlorite and Po. Fairly abundant large crystals and blobs of Po, a few smaller crystals of Py.
L	3	1	1	5	3	7	3	0	>	Interlaminated light grey muscovite phyllite, medium grey-green chlorite muscovite phyllite (locally dark grey & graphitic), pale greenish calc-silicate (quartz + feld + actin.), with minor light grey quartzite. Some of the c-s bands contain sulphide, from a trace to ~30% in individual bands. Perhaps 2-3% of total rock, locally 10%. In some bands most is Py with minor Po, in others Py & Po are intergrown. Also fairly abundant crystals and large (Contd.)

Lithologic Log

Logged By: _____

Code	From	To	Unit	Code	Description
	10 14 16	20 22 23	25 27		
					blobs of Po and intergrown Po & Py. Minor quartz and chlorite veining containing traces of Py.
					From 335-360' - mostly cave with fractured pieces of core
L	3 7 3 0	4 1 5 0	8		Interlaminated light grey quartz-musc. phyllite and dark grey to black graphitic muscovite phyllite, locally with a few light greenish grey calc-silicate bands. From 380 on looks like slate rather than phyllite. Contains a few crystals & blobs of Po, mostly $\lt; 1/5''$ (one is <math>1 2''<="" math="">) across.</math>1>
L	4 1 5 0	4 1 7 0	9		Black graphitic muscovite slate, with thin interbands of light grey quartz-muscovite phyllite.
L	4 1 7 0	4 2 7 5	1 0		Same as 373-415 - slatelike. A few crystals & blobs of Po & Py.
L	4 2 7 5	4 3 0 5	1 1		Dark grey, fairly hard, quartz-muscovite-graphite phyllite with thin interlamination of black graphite-muscovite phyllite & pale greenish grey calc-silicate. Several large crystals of Py.
L	4 3 0 5	4 7 5 0	1 2		Interlaminated light greenish grey muscovite-chlorite phyllite, dark grey graphite-muscovite-chlorite phyllite with locally thin interbands of light grey muscovite quartzite & light greenish grey actinolite-bearing calc-silicate. A few crystals & blobs of Py & Po, some mantled by quartz, some with pressure-shadows. Minor quartz-chlorite injection.
L	4 7 5 0	4 9 0 0	1 3		Interlaminated light green muscovite chlorite phyllite and light grey-green calc-silicate, locally with interlamination of dark grey-green graphitic chlorite muscovite phyllite. A few large crystals and smaller blobs & veinlets of Py and intergrowths of Py & Po.

Structural Log

Code	From				To				Feature	SYM	S ₁		S ₂		Description
	10	14	16	20	22	24	26	28			32	34	38	Dip	
S				31630							610	01010	610	01010	S ₁ sub//S ₂
S				31730							714	01010	714	01010	S ₁ sub//S ₂
S				31835				Z			65	01010	65	01010	S ₁ sub//S ₂ S ₂ folded by KB on vertical A.P.
S				31990							712	01010	712	01010	S ₁ //S ₂
S				41110				Z					812	01010	S ₁ irregular
S				41250							715	01010	715	01010	S ₁ //S ₂
S				41350							910	01010	910	01010	S ₁ //S ₂ = horiz.
S				41450				S			811	01010	811	01010	S ₁ sub//S ₂
S				41550							810	01010	810	01010	S ₁ //S ₂ . F ₂ CL on S ₂ .
S				41650							910	01010	710	01010	S ₂ very poor - fissility is S ₁ , which is a bit irregular but approx. horiz.
S				41750							85	01010	719	01010	
S				41850							619	01010	619	01010	S ₁ sub//S ₂
S				41950				Z			610	01010	719	01010	S ₂ rather poor.
S				51050							73	01010	73	01010	S ₁ sub//S ₂
S				51160				S			810	01010	810	01010	S ₁ sub//S ₂
S				51260				S					65	01010	S ₁ contorted by folding

Structural Log

Code	From				To				Feature	Sym	S ₁		S ₂		Description	205 192 13
	10	14	16	20	22	24	26	28			Dip	Direct.	Dip	Direct.		
S			18	70							7	0	0	0	S ₁ folded & irregular	
S			19	70							7	1	0	0	S ₁ sub//S ₂	
S			20	70				S			8	0	0	0	S ₁ folded & irregular, but steep S ₂ poorly devel & somewhat variable	
S			21	70							8	3	0	0	S ₁ folded & irregular, but steep	
S			22	70							8	4	0	0	S ₁ folded & irregular, but overall nearly vertical.	
S			23	70							8	1	0	0	S ₁ folded & irregular.	
S			24	70							8	5	0	0	S ₂ rather poor. S ₁ sub//S ₂	
S			25	70							8	0	0	0	S ₂ rather poor. S ₁ folded & irregular	N ← ⊙ FA
S			26	70				S			7	2	0	0	S ₁ sub//S ₂	
S			27	70				Z			7	0	0	0	S ₁ irregular.	
S			28	70				Z			6	6	0	0	S ₁ sub//S ₂	
S			29	70							7	0	0	0	S ₁ //S ₂	
S			30	70							7	0	0	0	S ₁ sub//S ₂	
S			31	70							6	1	0	0	S ₁ sub//S ₂	
S			32	70							6	4	0	0	S ₁ irregular	
	33	50	36	0											Mostly cave with broken fragments of core	

Structural Log

Code	From		To		Feature	S ₁ Dip Direct.	S ₂ Dip Direct.	Description
	10	14 16	20	22 24 26 28				
S			3630			60 0 0 0	60 0 0 0	S ₁ sub // S ₂
S			3730			74 0 0 0	74 0 0 0	S ₁ sub // S ₂
S			3835			26.5 0 0 0	65 0 0 0	S ₁ sub // S ₂ S ₂ folded by KB on vertical A.P. N ← ⊕
S			3990			72 0 0 0	72 0 0 0	S ₁ // S ₂
S			4110		Z		82 0 0 0	S ₁ irregular
S			4250			75 0 0 0	75 0 0 0	S ₁ // S ₂
S			4350			90 0 0 0	90 0 0 0	S ₁ // S ₂ = horiz
S			4450		S	81 0 0 0	81 0 0 0	S ₁ sub // S ₂
S			4550			80 0 0 0	80 0 0 0	S ₁ // S ₂ F ₂ CL on S ₂ N ← ⊕
S			4650			90 0 0 0	70 0 0 0	S ₂ very poor - fissility is S ₁ , which is a bit irregular but approx horiz.
S			4750			85 0 0 0	79 0 0 0	
S			4850			69 0 0 0	69 0 0 0	S ₁ sub // S ₂
S			4950		Z	60 0 0 0	79 0 0 0	S ₂ rather poor.
S			5050			73 0 0 0	73 0 0 0	S ₁ sub // S ₂
S			5160		S	80 0 0 0	80 0 0 0	S ₁ sub // S ₂
S			5260		S		65 0 0 0	S ₁ controlled by folds

DIAMOND DRILL CORE LOG

Hole Number: 76-05

Fabric Orientation Diagram

Project: Swim Lake

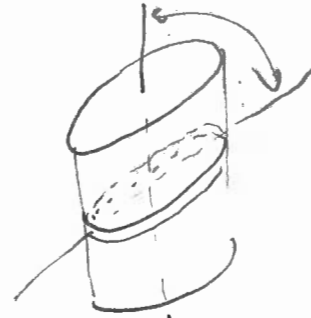
Location: Swim Lake

Claim: _____

Terr. Plane Co-ordinates: _____ N

_____ E

Grid Co-ordinates: _____



All symmetry determinations looking

W with S₂ dipping

N with dip azimuth 000.

Total Depth: 1359

Purpose: to test down dip extent of sulphide zone

Logged by: R. P. Hill

Date(s) Logged: April, 1976

Drilling Contractor: Arctic Diamond Drill.

Core:	Size	From	To	Collar Cased and Capped: <u>NO</u>
	BQ	33	1359	

Started: _____ Completed: _____

Downhole Survey:

Depth	Observed Azimuth	True Azimuth	Inclination
200	S60W	273°	2°
400'	S56W	269°	5°
600'	S67W	280°	5°
800'	S55W	268°	5.5°
1000'	S60W	273°	6.5°
1200'	S53W	266°	

Survey Method: Sperry-Sun

Lithologic Log

R. P. Hill

Logged By: _____

Code	From				To				Unit	Code	Description
	10	14	16	20	22	23	25	27			
L	3	3	0	2	8	2	0	2	3G	Interlaminated light greenish grey muscovite chlorite phyllite & dark grey graphitic muscovite chlorite phyllite, locally with minor amounts of light grey quartzite & light greenish grey calc-silicate. A few qtz. veins up to 2' thick (core very broken and very poor recovery, top 150 ft.) Top part almost devoid of sulphides (0-147) contains a few thin concordant layers of Py, and fairly abundant large crystals & blobs of Py and a few of Po, also a few quartz-rich bands locally containing up to 70% Po with minor Py. Quartz veins cont. minor Py, and traces of Po. Phyllite becoming slightly more quartz-rich downwards.	
L	2	8	2	0	3	0	2	0	3	Interlaminated light greenish grey musc-chlorite phyllite, dark grey graphitic musc. chlorite phyllite, locally black, light greenish grey calc-silicate and light grey quartzite. Many quartzite & c-s bands containing up to ~50% Po and/or Py. Also quite common are veinlets of Po & Py along fractures and crystals & blobs of Po & Py. Sulphide ~5% of rock	
L	3	0	2	0	3	3	9	0	4	Light to medium grey quartzite, with interlaminations of light greenish grey muscovite chlorite phyllite, dark grey graphitic chlorite phyllite, and light greenish grey calc-silicate. From 315 to 324 the calc-silicate layers contain from a minor to a large proportion of calcite. Some c-s bands contain minor Po & Py, which are also present locally as blobs.	
L	3	3	9	0	3	6	1	0	5	Thinly laminated light grey fine grained limestone with interlaminations of dark grey graphitic muscovite phyllite and locally light grey quartzite, also a few light grey c/s bands. Small crystals & blobs of Py. quite common. Many tiny veinlets of calcite & quartz.	

Lithologic Log

Logged By: _____

Code	From				To				Unit				Code	Description
	10	14	16	20	22	23	25	27	22	23	25	27		
L	3	6	1	0	3	8	6	0	6					Thickly banded light grey silty limestone, with thin interbands of very light brownish green muscovite chlorite phyllite and light grey sandstone. This rock does not really resemble anything in Holes 1-4
L	3	8	6	0	5	0	9	0	7					Interbanded light grey silty limestone, light grey-green muscovite chlorite phyllite, dark grey graphitic chlorite phyllite, and light grey quartzite. Locally partings of graphite. A few of the silty limestone & sandstone qtz. bands contain abundant pyrite.
L	5	0	9	0	5	3	1	0	8					Light grey muscovite bearing quartzite with interlamination dark grey graphitic muscovite phyllite and light greenish-grey to pale yellowish grey calc-silicate. Some calc-silicate bands contain abundant Py. Much quartz vein injection - veins up to 2 ft. thick, also abundant veinlets of calcite, quartz and a pale yellow mineral. A few large blobs of Py & Po.
L	5	3	1	0	5	6	7	0	9					Light grey quartzite, with interbands of light green muscovite chlorite phyllite, locally black and graphitic, and creamy white or light greenish grey calc-silicate. Fairly abundant veinlets of quartz, calcite & the yellowish mineral. Some of the c/s layers contain minor pyrite, which is also present as small blobs and tiny crystals.
L	5	6	7	0	6	9	6	0	1	0				Light to dark grey limestone, with interlamination and thicker bands of dark grey graphitic muscovite phyllite, also a few bands of light creamy white or greenish grey calcareous calc-silicate and light grey quartzite. Laced with veinlets of quartz & calcite, some c-s bands contain minor Py, also a few large crystals & blobs of Py present. Also a few thicker veins of quartz containing large blobs of Py or Po.

Lithologic Log

Logged By: _____

Code	From				To				Unit	Code	Description
	10	14	16	20	22	23	25	27			
L	6	9	6	0	7	6	3	5	1	1	Interlaminated light grey quartz-muscovite phyllite, dark grey to black graphitic muscovite phyllite and light greenish grey actinolite calc-silicate, locally calcareous. Local interbands of black graphite phyllite. A few calc-silicate bands contain traces of Py or Po. Abundant veinlets of calcite, also thin quartz veins.
L	7	6	3	5	7	6	9	0	1	2	White to light grey Ms-bearing quartzite with thin inter-laminations of light to medium grey graphitic muscovite phyllite, contains about 10% Po.
L	7	6	9	0	7	7	8	0	1	3	Only 2 ft. of broken up core - mostly dark grey muscovite quartzite, containing blobs of Po and Mag.
L	7	7	8	0	8	9	3	0	1	4	Variety of rock types - predom. interlaminations light grey quartz muscovite phyllite and dark grey graphitic muscovite phyllite, locally with abundant interbands of light grey quartzite, locally with abundant light greenish grey or cream coloured calc-silicate containing abundant Po. Fairly abundant quartz veins containing large blobs of Po. Abundant large crystals and blobs of Po. A few bands a couple of inches wide contain dark grey incipient "spots". Also a couple of bands of banded green "tuffaceous quartzite".
L	8	9	3	0	9	0	9	0	1	5	Core soft and broken up - apparently mostly interlaminated light grey quartz muscovite phyllite and dark grey to black graphitic muscovite phyllite.
L	9	0	9	0	9	3	7	0	1	6	Fairly hard, quartz-rich rock - interlaminated light to medium grey quartzite, dark grey graphitic muscovite phyllite, and medium green calc-silicate contains abundant large crystals and blobs of Py and Po, also Py along late fractures. Fairly abundant quartz veining.

Lithologic Log

Logged By: _____

Code	From		To		Unit		Code		Description				
	10	14	16	20	22	23	25	27					
L	9	3	7	0	9	5	6	5	1	7			Interlaminated light grey quartz-muscovite phyllite and dark grey graphitic muscovite phyllite, locally with interlamination of light grey-green calc-silicate, and locally bands of light grey quartzite containing minor Po.
L	9	5	6	5	9	6	2	5	1	8			Abrupt change from above unit - fairly massive light grey quartzite, in places tinged slightly green suggestive slightly tuffaceous. From 957.6 to 958.6 - band of strange green & white mottled igneous-looking rock consisting principally of calcite and (?) actinolite with minor quartz.
L	9	6	2	5	9	7	9	0	1	9			Another abrupt change - interlam. light grey-green chlorite muscovite phyllite, dark grey graphitic chlorite muscovite phyllite, and creamy white to light green calc-silicate locally containing minor calcite. Also a few bands of light grey quartzite and light grey limestone. A few c-s bands contain 10-30% Po. A few small crystals of Py surrounded by an off-black mineral.
L	9	7	9	0	9	8	7	0	2	0			Band of green & white mottled igneous looking rock similar to 957.6 to 958.6 but principally (?) actinolite & quartz with minor calcite, but containing bands with abundant calcite.
L	9	8	7	0	1	0	1	5	0	2	1		Light green quartz-actinolite calc-silicate with inter-laminations of light grey-green muscovite chlorite phyllite, locally dark grey and graphitic. Abundant crystals & blobs of Po.
L	1	0	1	5	0	1	0	4	1	0	2	2	Interlam. light green quartz-actinolite calc-silicate, light grey-green muscovite chlorite phyllite and dark grey graphitic muscovite chlorite phyllite. Abundant crystals and blobs of Po, and Py along late fracture surfaces. Some quartz veining, cont. a small amount Po and traces of Py.

Lithologic Log

Logged By: _____

Code	From		To		Unit		Code	Description
	10	14	16	20	22 23	25 27		
L	1,0,4,1	0	1,0,8,2	0	2,3			Fairly massive light grey quartzite, with interlam. and thicker bands of light grey muscovite phyllite and dark grey graphitic muscovite phyllite. A few bands up to ½" thick contain up to 80% Po, also some large crystals and blobs of Po, and a few small blobs of Cp. Sulphides ~5% of whole rock
L	1,0,8,2	0	1,1,4,6	0	2,4			Interlaminated light to medium grey quartzite, light grey or greenish grey muscovite chlorite phyllite and dark grey to black graphitic muscovite phyllite. Also some bands of light green c-s or tuffaceous quartzite. Abundant quartz vein material - makes up roughly 30% of core in veins a few inches thick. Fairly abundant crystals & blobs of Po in phyllite. Quartz veins contain large blobs which consist of small blobs of Po surrounded by a soft, dark brownish green to black alteration product.
L	1,1,4,6	0	1,1,6,6	0	2,5			Interlaminated light grey quartz-muscovite phyllite, dark grey graphitic muscovite phyllite, and light yellowish to greenish grey calc-silicate, locally containing minor calcite. Abundant thin veins of quartz containing chlorite, also several veinlets of calcite and (?) epidote. Rate small crystals & blobs of Po.
L	1,1,6,6	0	1,1,9,7	0	2,6			Zone of abundant sulphides. Appear to be intrusion or injection of sulphides along with vein quartz. Only small section of original phyllite present. Quartz contains patches of calcite locally, also veinlets of calcite common in quartz and sulphides. Where original phyllite present, sulphides tend to form as layers // to foliation. Most of the sulphides consist of a mixture of ^{course} course grained pyrite, fine grained pyrrhotite & sphal. locally containing blobs of magnetite. Contains band of relative pure graphite ½" thick at 1167'.

Lithologic Log

Logged By: _____

Code	From				To				Unit				Code	Description
	10	14	16	20	22	23	25	27	22	23	25	27		
L	1	1	7	5	0	1	1	8	3	5	2	7		Interlam. muscovite phyllite, graphitic muscovite phyllite and light grey quartzite, containing traces of Po, Py & Ga, also a few crystals of Po. Sulphides perhaps 2-3%.
L	1	1	8	3	5	1	1	8	6	0	2	8		Zone of abundant sulphides (a) 1183.5-1185.0. Rock types similar to 1175.0-1183.5, but with disseminated, coarse grained sulphide in bands a few inches thick - sulphides mostly Py with minor Po. Sulphides ~25%. (b) 1185.0-1186.0- massive sulphide again. Mostly coarse grained Py with minor Po. Sulphides ~8-10%, remainder vein quartz separated from underlying rock by thin layers of pure graphite.
L	1	1	8	6	0	1	1	9	2	5	2	9		Wierd series of rocks - at top 1186.0-1192.0 interlaminated pale greenish grey muscovite phyllite with minor chlorite, and dark grey graphitic phyllite. Very soft and broken up, and contains veins of quartz and chlorite, and veins and lumps of a fairly hard, vitreous black stuff (?? fused graphite). 1192.0-1192.5 - A band of the hard black stuff which fractures with a silky appearance, containing irregular blobs of a fairly soft, dark green vitreous material (?). (Separated from rocks below by a thin band of soft, pure graphite). Seems to be a breccia - contains some large pyrite crystals.
L	1	1	9	2	5	1	1	9	5	8	3	0		Light grey quartzite containing bands of sulphides - mixture of pyrite & pyrrhotite. Sulphides ~20% of rock.
L	1	1	9	5	8	1	1	9	7	0	3	1		Soft, light grey muscovite phyllite containing brecciated lumps of the mysterious black stuff.
L	1	1	9	7	0	1	2	2	2	0	3	2		Interlaminated light grey quartzite and medium grey muscovite phyllite, locally dark grey and graphitic. Contains fairly abundant blobs and crystals of Po, and a few veinlets of Py.

Structural Log

Logged By: R. P. Hill

Code	From		To		Feature	E N	S ₁		S ₂		Description								
	10	14	16	20			22	24	26	28		32	34	38					
S			13	19	0		S	7	0	0	0	7	0	0	0	S ₁ folded, but sub//S ₂			
S			15	1	0		S					7	1	0	0	S ₁ folded & irregular			
S			16	1	0			6	0	2	7	0	7	5	0	0			
S			17	1	0			8	0	0	0	8	5	0	0	0	S ₂ poorly developed		
S	17	18	0	19	18	0										Only 6" core recovered			
S			1	0	5	0		6	5	0	0	6	5	0	0	0	S ₁ sub//S ₂		
S			1	1	5	0		E	2	0	0	0	5	5	0	0	S ₁ contorted - S ₂ very poor & rather variable		
S			1	2	5	5		S	6	2	0	0	8	0	0	0			
S	1	2	7	0	1	4	1	0									Very poor recovery-core fractured & broken		
S			1	4	1	0			4	5	0	0	4	5	0	0	S ₂ very poor - dominant fissility is S ₁ . S ₂ developed sub//S ₁ .		
S			1	5	1	0						7	0	0	0	0	S ₁ irregular		
S			1	6	1	0			6	9	0	0	6	9	0	0	0	S ₁ //S ₂	
S			1	7	1	0			8	0	1	8	0	8	2	0	0	0	
S			1	8	1	0			2	5	5	0	0	7	2	0	0	0	S ₁ folded
S			1	9	1	0			2	5	5	0	0	6	5	0	0	0	S ₂ very poor
S			2	0	2	0			7	3	0	0	7	3	0	0	0	0	S ₁ sub//S ₂
S			2	1	2	0		S				7	0	0	0	0	0	0	S ₁ complexly folded, S ₂ rather poor

Structural Log

Logged By: _____

Code	From		To		Feature	S ₁ Dip Direct.	S ₂ Dip Direct.		Description
	10	14	16	20			28	32	
S			2,230			7,2 2,7 10	7,2 0,0 10		S ₁ & S ₂ both rather variable
S			2,330			5,6 2,7 10	7,6 0,0 10		S ₁ dominant - S ₂ very poor
S			2,430			7,0 1,8 10	5,0 0,0 10		S ₁ dominant - S ₂ very poor
S	2,5 2,0		2,7 7,0						Fold zone - S ₁ is very prominent and folded by mesoscopic F ₂ folds, with or without development of strong S ₂ .
S			2,530				6,4 0,0 10		S ₁ rather irregular due to folding S ₂ rather poor, & somewhat variable
S			2,630				7,3 0,0 10		S ₁ folded & variable - very strong CL //F ₂ axis on S ₂ .
S			2,730			7,5 1,8 10	6,5 0,0 10		S ₂ rather poor - fissility is S ₁ .
S			2,830				7,0 0,0 10		S ₁ folded & irregular
S			2,930			7,2 0,0 10	7,2 0,0 10		S ₁ sub//S ₂
S			3,030			7,0 0,0 10	7,0 0,0 10		S ₁ sub//S ₂
S			3,130				8,5 0,0 10		S ₁ folded & irregular S ₂ rather variable
S			3,230			2,0 1,8 10	7,0 0,0 10		S ₂ very poor S ₁ folded & rather irregular
S			3,330		S 4,5	1,8 10	8,7 0,0 10		S ₂ rather poor & horizontal. Rock seems to split along late fractures developed part S ₂ .

Structural Log

Logged By: _____

Code	From				To				Feature	SYM	S ₁		S ₂		Description
	10	14	16	20	22	24	26	28			32	34	38	Dip	
S			3430					Z		65	090	65	010	S ₂ rather poor. Many post S ₂ fractures filled with calcite. S ₂ undulates.	
S			3530							85	270	85	010		
S			3630					Z		50	010	50	010	Quite a massive rock, but with some brecciation. There is a crude foliation which is probably S ₂ superimposed upon S ₁	
S			3730							65	180	70	010	Same rock - S ₂ appears to be hardly developed at all. I think this chunk contains F ₁ folds. S ₁ rather variable.	
S			3830									57	010	S ₂ rather poor, S ₁ rather irregular	
S			3930					Z		20	010	82	010	S ₂ rather poor, S ₁ variable	
S			4030									82	010	S ₁ folded & irregular	
S			4130									90	010	S ₂ very poor but approx. horiz. S ₁ ^ CA ~50° but folded & irregular	
S			4230					Z		30	010	87	010	S ₂ rather poor, also variable	
S			4330							80	010	80	010	S ₁ syb//S ₂	
S			4430									78	010	S ₁ sub//S ₂ . S ₂ rather curved	
S			4530					Z		40	010	71	010		
S			4630							05	180	85	010	S ₂ very poor - S ₁ folded & irregular, but overall is near vertical.	

Structural Log

Logged By: _____

Code	From		To		Feature	S ₁ Dip Direct.	S ₂ Dip Direct.	Description		
	10	14	16	20					22	24
			4730					S ₂ absent S ₁ prominent - S ₁ ^ CA N55°		
S			4830		E	77 01010	77 01010	S ₁ folded but generally sub//S ₂ S ₂ poorly developed		
S			4930			60 01010	60 01010	S ₁ //S ₂		
S			51030					S ₂ very poorly developed and irregular S ₁ is prominent but also irregular.		
			51140					S ₂ very poorly developed and irregular S ₁ contorted by folding		
S			5240				60 01010	S ₂ very poor S ₁ brecciated & irregular		
S			5340					S ₂ not developed S ₁ folded & irregular		
S			5440		E		710 01010	S ₂ very poor S ₁ folded & irregular but approx. vertical		
S			5540		S		812 01010	S ₂ very poor. S ₁ folded & Irregular		
S			5640			60 01010	60 01010	S ₁ sub//S ₂		
S			5740			75 01010	816 01010	S ₂ rather poor - fissility is S ₁		
S			5840		S		810 01010	S ₁ folded & irregular		
	5920		60100					Core all brecciated, fractured & broken up.		
S			6010				616 01010	S ₁ sub//S ₂		

Structural Log

Code	From		To		Feature	SYM	S ₁		S ₂		Description
	10	14	16	20			Dip	Direct.	Dip	Direct.	
1	10	14	16	20	22	24	26	28	32	34	38
S			61	10					74	0100	S ₁ //S ₂
S			62	10					78	0100	S ₁ //S ₂
S			63	10			86	1810	86	0100	
S			64	10							S ₁ folded, S ₂ rather variable
S			65	10					46	0100	S ₁ //S ₂
S			66	10		Z			80	0100	S ₁ folded & irregular
S			67	10			74	0100	74	0100	S ₁ //S ₂
S			68	10		Z	67	0100	67	0100	S ₁ sub//S ₂
S			69	10			67	0100	67	0100	S ₁ //S ₂
S			70	10			78	0100	78	0100	S ₁ //S ₂
S			71	10			78	0100	78	0100	S ₁ //S ₂
S			72	20			88	0100	88	0100	S ₂ rather poor, but sub//S ₁
S			73	20					75	0100	S ₂ rather variable - S ₁ folded & irreg.
			73	60							Band of mud - fault?
S			74	20			72	0000	72	0100	S ₁ sub//S ₂
S			75	20			78	0100	78	0100	S ₁ sub//S ₂
S			76	20			80	0100	80	0100	S ₁ sub//S ₂
S			77	80			87	1810	87	0100	
			78	80							S ₂ absent - S ₂ very variable

Structural Log

Logged By: _____

Code	From				To				Feature	SYR	S ₁		S ₂		Description	
	10	14	16	20	22	24	26	28			32	34	38	Dip		Direct.
S			7,9	80							9,0	0,0	9,0	0,0	S ₁ // S ₂ - both undulate approx. horizontal	
S			8,0	80				S				7,4	0,0	7,4	0,0	S ₁ folded & irregular
S			8,1	80							6,5	0,0	6,5	0,0	S ₁ // S ₂	
S			8,2	80				S				7,0	0,0	7,0	0,0	S ₁ folded & irregular
S			8,3	80				E				7,2	0,0	7,2	0,0	S ₁ folded & irregular
S			8,4	80				E				9,0	0,0	9,0	0,0	S ₂ rather poor & rather irregular S ₁ folded - approx. vertical
S			8,5	80							6,8	0,0	6,8	0,0	S ₂ rather variable S ₁ sub//S ₂	
S			8,6	80							7,0	0,0	7,0	0,0	S ₂ //S ₁ - S ₂ rather poor	
S			8,7	80								7,0	0,0	7,0	0,0	S ₁ rather irregular
S			8,8	80							8,6	0,0	8,6	0,0	S ₁ sub//S ₂	
S			8,9	80				3				7,3	0,0	7,3	0,0	S ₂ very poorly developed S ₁ irregular
S			9,0	80								8,4	0,0	8,4	0,0	S ₁ irregular
S			9,1	80							8,5	0,0	8,5	0,0	S ₁ //S ₂	
S			9,2	80							7,0	1,8	8,3	0,0		
S			9,3	80				S			8,2	0,0	8,2	0,0	S ₂ rather poor S ₁ sub//S ₂	
S			9,4	80							7,0	0,0	8,4	0,0	S ₂ very poor	
			9,5	80											Neither S ₁ nor S ₂ well seen	

Structural Log

Logged By: _____

Code	From				To				Feature	S ₁ Dip Direct.	S ₂ Dip Direct.	Description
	10	14	16	20	22	24	26	28				
S			9680				Z		88	01010	S ₁ irregular - S ₂ rather poor	
S			9780						90	01010	S ₂ horiz. - S ₁ sub//S ₂	
			9880								S ₂ absent CA ^ S ₁ ~ 80°	
S			9980						76	01010	S ₁ sub//S ₂	
S			10080						85	01010	S ₁ sub//S ₂	
S			10180						53	01010		
S			10295				S		87	01010	S ₂ very poor	
S			10395							73	01010	S ₁ irregular
			10500								S ₂ very poorly developed & rather variable. S ₁ irregular because of folding	
S			10600				S			80	01010	S ₂ rather poor, S ₁ irregular
S			10700							90	01010	S ₂ horizontal S ₁ ^ S ₂ ~ 16°
S			10800				Z			72	01010	S ₂ very poor S ₁ folded by meso. folds
S			10900							85	01010	S ₂ rather poor, S ₁ not seen
S			11000							78	01010	S ₁ irregular
S			11100				E			83	01010	S ₁ folded & irregular
S			11200						70	01010	S ₁ sub//S ₂	

Structural Log

Logged By: _____

Code	From				To				Feature	S ₁ Dip Direct.	S ₂ Dip Direct.	Description
	10	14	16	20	22	24	26	28				
			1,1300									S ₂ absent, S ₁ irregular
S			1,1400			Z	10	180	62	01010		
S			1,1500						79	01010		S ₂ rather poor, S ₁ irregular
S			1,1600			S			75	01010		S ₂ rather poor - S ₁ irregular
			1,1700									Sulphide zone - structures destroyed
S			1,1800				77	0100	77	01010		S ₂ rather irregular - S ₁ sub//S ₂
S			1,1900						72	0100		S ₁ irregular
S			1,2030						79	0100		S ₂ variable - folded by KB KB AP dips 50° south
S			1,2130				60	0100	60	01010		S ₂ rather variable - S ₁ sub//S ₂
			1,2230									Sulphide zone - structures destroyed
S			1,2330				64	0100	64	01010		S ₁ sub//S ₂
			1,2430		BIXA							Brecciated zone
S			1,2530				75	0100	75	01010		S ₁ sub//S ₂
S			1,2630				66	0100	66	01010		S ₁ sub//S ₂
S			1,2840				57	0100	57	01010		S ₁ sub//S ₂
S			1,2960				64	0100	64	01010		S ₁ sub//S ₂
S			1,3090			Z	65	0100	65	01010		S ₁ sub//S ₂

