1978 ASSESSMENT REPORT

TITLE: DIAMOND DRILLING REPORT.
MOHAWK MOUNTAIN-KITSAULT PROPERTY.

CLAIMS: LEASE NO. 159, 160, 161, 162, 186, 189, AND 1W6, FAST 1 THROUGH 22.

MINING DIVISION: SKEENA MINING DIVISION.

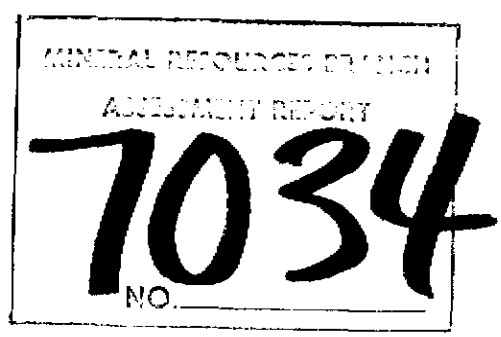
NTS LOCATION: NTS 103 P/13.

LATITUDE AND LONGITUDE: 55°26' N and 129°27' W.

OWNER AND OPERATOR: CLIMAX MOLYBDENUM CORPORATION OF BRITISH COLUMBIA, LIMITED.

AUTHOR: ROGER C. STEININGER

DATE SUBMITTED: JULY 31, 1978



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INTRODUCTION

Location and Access

Mohawk Mountain and the Kitsault open pit are approximately two miles south and southwest of the Kitsault townsite and four miles south of the town of Alice Arm. Access is by road from Kitsault to the pit and by helicopter to Mohawk Mountain (Figure 1).

Physiography

The claims are between 2,000 and 3,200 feet above sea level. Upper elevations are either thickly wooded or open swampy ground. At lower elevations tree and brush cover is extremely dense. Slopes are generally steep; deeply incised gulleys are common in the east part of the claims.

History

The Mohawk Mountain area was previously held by Kennco (Western) Ltd. Its claims were allowed to lapse in 1974.

AMAX Exploration, Inc. staked the 22 Fast claims on Mohawk Mountain in August, 1974. Responsibility for these claims was later transferred to Climax Molybdenum Corporation of British Columbia, Limited.

The open pit at Kitsault was originally owned and mined by B. C. Molybdenum, Ltd. Climax Molybdenum Corporation of British Columbia, Limited purchased the property in 1973.

The area is of interest for its known and potential molybdenum mineralization.

SCOPE OF PRESENT WORK

One NQ-BQ diamond core hole was drilled into the claims. This hole is 562.4 m long.

DRILLING RESULTS

The hole was collared with a N90^{o}E bearing and a -55^{o} inclination. The bottom of the hole gradually flattened to a -18^{o} inclination, still bearing east (survey data in Appendix B). The collar location shown on Figure 2 is at an elevation of 1,885 feet above sea level. The hole was drilled to a NQWL size from 0 to 272 feet (82.9 m) and a BQWL size

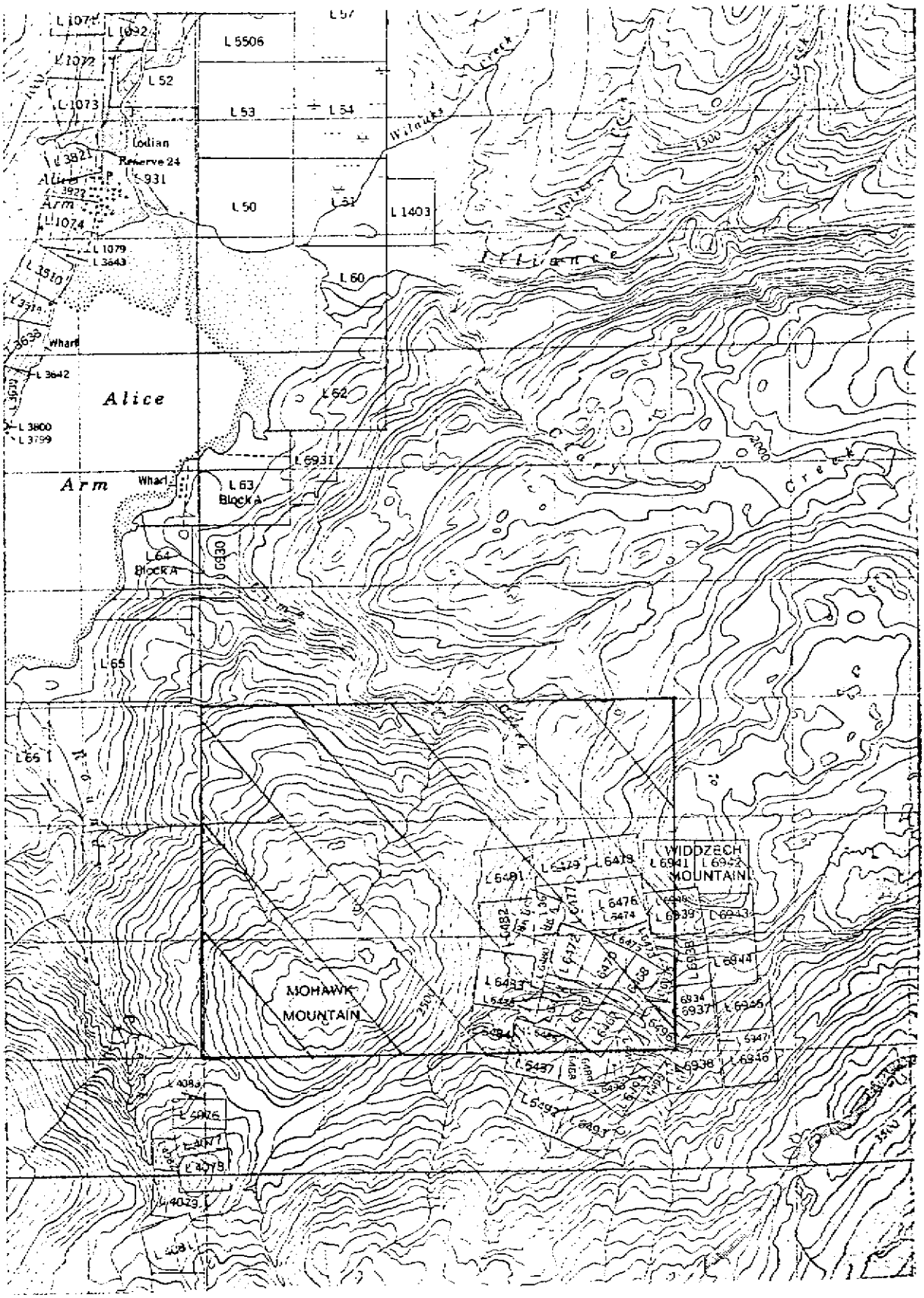

Figure 1. Approximate region of interest shown by stripped area. Map is a portion of the 1:50,000 Aiyansh sheet NTS 103 P/6. North to top.

from 272 to 1,845 feet (82.9 to 562.4 m). Drilling was started on June 5, 1978 and completed on June 30, 1978. A statement of costs for this drilling is in Appendix C.

The drill hole was collared in hornfelsed Bowser Lake Group rocks. Hornfels is present to 936 feet (285.3 m) and is moderately bleached throughout. Hornfels is cut by numerous quartz veins that may contain, in decreasing order of abundance: pyrite, pyrrhotite, sphalerite, galena, and molybdenite.

At 936 feet (285.3 m) the diorite member of the Lime Creek stock was encountered. Diorite is present to 1,520.2 feet (463.4 m). Molybdenite abundance increases within the diorite. The diorite also contains quartz-pyrite, quartz-sphalerite-pyrite-galena, and quartz-fluorite veins. Alteration is a mixture of moderate argillization with sericite and weak to moderate feldspathization.

At 1,520.2 feet (463.4 m) the granodiorite member of the Lime Creek stock was encountered. This unit is present to the bottom of the hole and is cut by narrow intramineral dikes. Molybdenite mineralization decreases toward the bottom of the hole. Alteration and mineralization are similar to that in the diorite.

A detailed geologic log is in Appendix A. No assays are available for this drill hole. All drill core is stored at the Kitsault townsite.

The objective of this hole was to test the limits of deep mineralization in the southwest portion of the Kitsault orebody. A secondary objective was to better define the geology and contact relationships along the west margin of the Lime Creek stock. Initial results indicate that these objectives were met.

July 31, 1978

Roger C. Steininger

AUTHOR'S QUALIFICATIONS

Roger C. Steininger

Education

B.S. - Geology, 1964, Western Michigan University
M.S. - Geology, 1966, Brigham Young University
Ph.D. - Geology, in progress, Colorado State University

Professional Experience

1967-1971	Associate Geologist to Senior Geologist, Climax Mine.
1971 to present	Senior Project Geologist, Climax Molybdenum Company. Responsible for exploration and evaluation of molybdenum and tungsten properties throughout North America.

CLAIM STATUS

Claim Name	Record No.	Work Due Date
Fast 1	38863	July 5/78
Fast 2	38842	"
Fast 3	38843	"
Fast 4	38844	"
Fast 5	38845	"
Fast 6	38846	"
Fast 7	38847	"
Fast 8	38848	"
Fast 9	38849	"
Fast 10	38850	"
Fast 11	38851	"
Fast 12	38852	"
Fast 13	38853	"
Fast 14	38854	"
Fast 15	38855	"
Fast 16	38856	"
Fast 17	38857	"
Fast 18	38858	"
Fast 19	38859	"
Fast 20	38860	"
Fast 21	38861	"
Fast 22	38862	"
I.W. 6	18327	Sept.
Lease No. 159	L6469	
" 160	L6470	
" 161	L6471	
" 162	L6472	
" 186	L6483	
" 189	L6480 -- bdt	

APPENDIX A

DRILL LOG FOR DRILL HOLE LC 78-1

HOLE No. LC 78-1 PAGE 1

DATE 6/26/78 LOGGED BY RCS

DEPTH	ROCK COMP.	ALTERATION							MINERALIZATION								TEXTURE			ROCK TYPE
		FeS_2	Sil	Ser	Arg	Chl	Feld	BL	Mo	WO_3	Mag	FeOx	Pb, Zn	CaF_2 $MnCO_3$	$CaCO_3$	Po	Matrix Size	PHENO Type	PHENO Size(mm) %	
0-10	S	2						2	Tr						1	1				Hornfels
10-20	M	2						5							1	2				"
20-30	M	4						2						Ca F_2 ?	1	2				"
30-40	M	3						2							1	2				"
40-50	S	2						4								3				"
50-60	S	4						3					Zn			2				"
60-70	S	3						4						Ca F_2		2				"
70-80	S	4						4	Tr				Zn			2				"
80-90	S	4						4								2				"
90-100	S	4						6								2				"
100-110	S	3						3								3				"
110-120	S	3						3					Zn			3				"
120-130	S	3						4	Tr							2				"
130-140	S	4						6	Tr				Zn Pb	Ca F_2		2				"
140-150	S	3						5						Ca F_2		2				"
150-160	S	4				?		4					Pb			2				
160-170	S	4				1		3					Zn Pb	Ca F_2		3				"
170-180	S	4						4								2				"
180-190	S	4						4						Ca F_2		2				"
190-200	S	3				1		4					Zn			2				Hornfels-Lamprophyre
200-210	S	3						3					Zn Pb			4				Lamprophyre-Hornfels
210-220	M	3						4								3				Hornfels
220-230	M	4				1		7	Tr					Ca F_2		2				"
230-240	S	4				1		6							1	2				"
240-250	S	4						4								4				"
250-260	S	4						3								4				"
260-270	S	4						5					Pb			3				"
270-280	S	4						4					Pb Zn			3				"

ROCK DESCRIPTION

0 - 10' Rock is fine-grained brown hornfels with interlayered black argillite-greywacke. Grain sizes are less than 1 mm. The brown zones are probably briotite-rich. Bleached halos along quartz and carbonate veins up to 1 cm wide. These bleached zones are probably sericite-rich. Pyrite occurs as a trace constituent in some quartz veins, but is most common on fracture surfaces. Rare molybdenite coatings on fracture surfaces scattered throughout the interval. In places, pyrrhotite occurs with pyrite on fracture surfaces and is also present disseminated throughout the hornfels.

10 - 20' Rock type is all dark-brown hornfels. Bleaching has increased over the last interval, although there is no apparent increase in the abundance of veins. Some bleached zones do not appear to be vein related.

20 - 30' Dark-brown hornfels with minor zones of black argillite. At 30 feet a 5-mm-wide quartz-pyrite vein may contain trace amounts of fluorite. Veining, mineralization, and alteration are similar to the last two intervals, with a slight decrease in the amount of bleaching over the last interval.

30 - 40' Dark-brown hornfels with minor zones of black argillite. Alteration, mineralization, and veining similar to the last intervals. Pyrite on fracture coatings is extremely fine-grained, with individual crystals less than 0.02 mm across.

40 - 50' Dark-brown hornfels throughout with numerous bleached zones ranging from 1 to 5 cm. No apparent relationship between bleaching and veining. All veining is pyrite-pyrrhotite fracture fillings. Pyrrhotite increases in abundance in this interval.

50 - 60' Dark-brown hornfels. Pyrite is the dominate sulfide with a dramatic decrease in pyrrhotite over the last interval. At 52 feet a 3-mm-wide quartz-pyrite-sphalerite vein cuts the CA at 10°. Most veins have narrow bleached halos, but the largest, most intense bleaching zones do not directly correlate with abundance or type of veining.

60 - 70' Several quartz-pyrite veins contain a purplish material both in the vein and disseminated out into the wallrock. This is probably a fine-grained fluorite. The most abundant sulfide is pyrite, occurring primarily in veins. Pyrrhotite is less abundant, and in a few places occurs in the pyrite veins and also disseminated through the hornfels. Pyrite grain size is usually less than 1 mm across.

70 - 80' Dark-brown biotitic hornfels. A few quartz-pyrite veins contain fine-grained disseminated molybdenite. Rare quartz veins contain minor disseminated sphalerite. Bleaching similar to the last few intervals. Some pyrite veins become slightly coarser grained and individual pyrite grains are up to 2 mm across.

HOLE No. I.C. 78-1 PAGE 2

DATE 6/26/78 LOGGED BY RCS

DEPTH	ROCK COMP.	ALTERATION							MINERALIZATION								TEXTURE			ROCK TYPE
		FeS_2	Sil	Ser	Arg	Chl	Feld	Bl	Mo	WO_3	Mag	FeOx	Pb, Zn	CaF_2 $MnCO_3$	CO_3	Po	Matrix Size	PHENO Type	PHENO Size(mm) %	
280-																				
290	S	4				1		3								4				Hornfels
290-																				
300	S	4				1		3								4				"
300-																				
310	S	3				1		3	Tr				Zn			4				"
310-																				
320	S	3				1		4	Tr				Pb			4				"
320-																				
330	S	3				1		4	Tr							4				"
330-																				
340	S	3				2		4	OOX							4				"
340-																				
350	M	5				1		3	Tr							3				"
350-																				
360	S	3				2		5	OOX							3				"
360-																				
370	S	4				2		5	Tr				Zn			2				"
370-																				
380	S	4				1		5	Tr				Zn			2				"
380-																				
390	S	4				1		6	OOX				Zn			2				"
390-																				
400	S	4				2		5	Tr							2				"
400-																				
410	S	3				2		6	Tr							2				"
410-																				
420	S	3				1		4	Tr							2				"
420-																				
430	S	3						3	Tr							2				Hornfels-Lamprophyre
430-													Zn							
440	S	3				2		5	Tr				Pb			2				Hornfels
440-																				
450	S	4				1		5	Tr							2				"
450-																				
460	S	3				2		6	Tr				Zn			2				"
460-													Pb							
470	S	4				1		4	Tr				Zn			2				"
470-																				
480	S	4				2		5	Tr				Pb			2				"
480-													Zn							
490	S	3				3		4	Tr				Pb			2				"
490-													Zn							
500	S	3				4		6	Tr				Pb			2				"
500-																				
510	S	3				1		4	Tr							3				"

ROCK DESCRIPTION

80 - 90' Dark-brown biotitic hornfels similar to the last few intervals. Veining is primarily quartz-pyrite with a few barren quartz veins, all of which have associated bleaching, although several zones of bleaching are not directly related to veins in the core.

90 - 100' Dark-brown biotitic hornfels completely bleached to gray from 92 to 98 ft. The intervals outside this zone are also sporadically bleached. The stronger bleached zone has no apparent increase in veining. Pyrrhotite appears to be restricted to fine-grained disseminations throughout the unbleached hornfels. Some pyrite veins contain copper-stained sulfides that are probably originally pyrite rather than chalcopyrite.

100 - 110' Dramatic decrease in the amount of bleaching. Throughout the hole, rare fracture surfaces contain a blue-colored material. This is especially prominent in the dry core. The fine-grained nature of this material prevents immediate identification, but it may possibly be ilsemannite.

110 - 120' Brown biotitic hornfels. A few quartz-pyrite veins contain minor disseminated sphalerite.

120 - 130' Rare quartz-pyrite veins contain traces of fine-grained molybdenite.

130 - 140' Fracture surfaces with bluish-purplish-colored material, appears to be fluorite rather than ilsemannite in this run. It may possibly be fluorite further up the hole. Intensity of bleaching increases in this interval over the last few intervals. Rock is cut by several 2- to 5-mm-wide quartz-pyrite-sphalerite veins, one of which contains minor disseminated galena. Molybdenite still present as trace amounts of fine-grained disseminated grains in quartz-pyrite veins.

140 - 150' Fine-grained brown biotitic hornfels is moderately bleached throughout the interval. Except for small bleached halos associated with quartz and quartz-pyrite veins, most bleaching is not related to veining intercepted in the drill hole.

150 - 160' Fine-grained brown biotitic hornfels. Some bleached zones may contain chlorite. Galena associated with one quartz-pyrite vein similar to the type veins that would also contain sphalerite. A few pyrite veins contain either copper-stained pyrite or minor chalcopyrite.

160 - 170' Traces of chlorite associated with some bleached zones. A 1-cm-wide, or several 1-cm-wide, polymetallic vein(s) subparallel to the C_A from 160 to 167 ft contain milky quartz with disseminated sphalerite, galena, and minor pyrite, and cut(s) all other veining, which is principally pyrite, quartz-pyrite, and barren quartz veins. Some fracture surfaces and some margins of the quartz-pyrite veins may contain minor fine-grained disseminated purple fluorite.

HOLE No. LC 78-1 PAGE 3

DATE 7/17/78 LOGGED BY RCS

DEPTH	ROCK COMP.	ALTERATION								MINERALIZATION								TEXTURE			ROCK TYPE
		FeS_2	Sil	Ser	Arg	Chl	Feld	Bl		Mo	WO_3	Mag	FeOx	Pb,Zn	CaF_2 $MnCO_3$		Po	Matrix Size	PHENO Type	Size(mm) %	
510-														Zn							
520	S	4				2		4		Tr				Pb			3				Hornfels
520-														Zn							
530	M	4				2		4		Tr				Pb			3				"
530-																					
540	S	4				3		5		Tr							2				"
540-														Zn							
550	S	4				2		4		OOX				Pb			2				"
550-														Zn							
560	S	4				1		3		Tr				Pb			3				"
560-																					
570	S	5				1		3		Tr				Zn			3				"
570-														Zn							
580	S	4				2		4		Tr				Pb			3				"
580-																					
590	S	4				2		4		OOX							3				"
590-														Zn							
600	S	6				2		4		Tr				Pb			2				"
600-														Zn							
610	S	5				1		3		OOX				Pb			2				"
610-																					
620	S	4				1		3		Tr							2				"
620-																					
630	S	4				1		3		Tr							2				"
630-																					
640	S	4				3		4		Tr				Pb			2				"
640-																					
650	S	4				2		3		Tr							3				"
650-																					
660	S	4				2	1	3		OOX				Pb			3				"
660-																					
670	S	3				3	1	3		Tr							3				"
670-														Zn							
680	S	3				3		4		Tr				Pb		Cu	3				"
680-														Zn							
690	S	3				3		4		Tr				Pb		Cu	3				"
690-														Zn							
700	S	3				2		3		Tr				Pb			4				"
700-																					
710	S	6				4		3		Tr							3			Hornfels-Aplite	
710-														Zn							
720	S	3				2		3		OOX				Pb			3			"	"
720-																					
730	M	4				1		2		OOX							3				Hornfels
730-																					
740	S	4				1		2		OOX							3				"

ROCK DESCRIPTION

170 - 180' Brown biotitic hornfels irregularly bleached throughout the interval.

180 - 190' Possible fine-grained disseminated fluorite on at least one fracture surface; otherwise, alteration, mineralization, and rock type are the same as the last few intervals.

190 - 200' Fine-grained brown biotitic hornfels to 199.5 ft. Typical lamprophyre dike to 200 ft., contact between pieces of core. Minor chlorite associated with and disseminated in a few quartz-pyrite veins.

200 - 210' Lamprophyre dike continues to 200.5 ft. At 206.5 ft to 207 ft a polymetallic vein that contains granular quartz, 25 percent disseminated pyrite, galena, sphalerite, and possibly molybdenite cuts the CA at 70°, also cuts all other veining.

210 - 220' Moderately bleached brown biotitic hornfels. Slight increase in quartz-pyrite veining throughout the interval.

220 - 230' Broken zone from 223 to 226 ft., rock is strongly bleached from 222 to 229 ft. There does not appear to be a corresponding increase in veining within the strongly bleached zone. Molybdenite occurs as a trace constituent within at least one quartz-pyrite vein; fluorite is also associated with quartz-pyrite veins, but not the ones that contain molybdenite.

230 - 240' Strongly bleached hornfels with numerous zones of unbleached rock. Several quartz-carbonate and carbonate veins cut the bleached zones. Chlorite is associated with quartz-pyrite veins either as vein fillings or in the wallrocks marginal to the veins. Where chlorite occurs as vein fillings, it usually occurs within the center of the vein, possibly representing a late reopening of the structure.

240 - 250' Decrease in the amount of bleaching. Rock is still fine-grained biotitic hornfels.

250 - 260' A gradual increase in the abundance of quartz-pyrite veins over the last few intervals. The veins are generally 3 to 5 mm wide, consisting of milky quartz with disseminated pyrite and/or bands of pyrite running down the center of the veins.

260 - 270' Several zones of intense bleaching, where the rock is almost white. Within these areas 1- to 3-mm-wide quartz-pyrite-galena veins cut the CA in random directions. Bleaching also destroys the pyrrhotite in the hornfels.

270 - 280' Zones of intense bleaching with veined pyrite, sphalerite, and galena similar to the last interval.

280 - 290' Bleaching decreases over the last few intervals. Some bleached zones have a green color, suggesting the presence of chlorite.

HOLE No. LC 78-1 PAGE 4

DATE 7/17/78 LOGGED BY RCS

DEPTH	ROCK COMP.	ALTERATION								MINERALIZATION								TEXTURE			ROCK TYPE
		FeS_2	Sil	Ser	Arg	Chl	Feld	Bl		Mo	WO_3	Mag	FeOx	Pb,Zn	CaF_2 $MnCO_3$		Po	Matrix Size	PHENO Type	Size(mm) %	
740-																					
750	S	4		1		1		3		Tr							3				Hornfels
750-																					
760	S	4		1		2		2		OX							3				"
760-																					
770	S	4				2		2		OOX							3				"
770-																					
780	S	4				2		2		OOX							3				"
780-																					
790	S	4				1		2		OOX				Pb			3				"
790-																					
800	M	3				1		1		OOX							3				"
800-																					
810	W	3						1		Tr							2				"
810-																					
820	M	3						1		Tr							2				"
820-																					
830	S	3						1		Tr							2				"
830-														Zn							
840	S	3						1		Tr				Pb			3				"
840-																					
850	S	3						1		OOX				Zn			3				"
850-																					
860	S	3						1		Tr				Zn			3				Hornfels-Lamprophyre
860-														Zn							
870	M	3				2		4		Tr				Pb			3				Hornfels
870-														Zn							
880	S	5				3		2		Tr				Pb			3				"
880-																					
890	S	3				1		2		Tr				Zn			3				Hornfels-Lamprophyre
890-																					
900	S	3				4		3		Tr							3		"		"
900-																					
910	S	4				2		2		OOX							3				Hornfels
910-																					
920	S	4				1		3		OOX							3				"
920-																					
930	S	4						2		OOX				Zn			3				"
930-																					
940	S	4				3		1		OOX							2				Hornfels-Diorite
940-																					
950	M	3		2	3					OOX											Diorite
950-																					
960	S	4		1	1	1				OOX											"
960-																					
970	S	5		3	1					OOX											"

ROCK DESCRIPTION

290 - 300' Mineralization, alteration, and rock type the same as the last interval.

300 - 310' Possibly some fluorite associated with quartz-pyrite veins. Sphalerite associated with a few quartz veins. Some green color in the hornfels may represent chlorite.

310 - 320' At 312 ft, two 3-mm-wide quartz-pyrite-chlorite veins cut the CA at 80°; otherwise mineralization, alteration, and rock type similar to the last few intervals.

320 - 330' Alteration, mineralization, and rock type similar to the last interval.

330 - 340' Dramatic increase in the amount of quartz- molybdenite veins. Some molybdenite still associated with quartz-pyrite veins. Slight increase in the amount of chlorite present in the hole.

340 - 350' Broken zone from 340 to 344 ft. From 346 to 347 ft a zone of strong pyrite, otherwise the rock is similar to the last several intervals.

350 - 360' Molybdenite increases again, as does chlorite. Bleaching is also more abundant in this interval. Between bleached zones rock is still fine-grained biotitic hornfels with disseminated pyrrhotite.

360 - 370' Sphalerite associated with a quartz-pyrite vein. Bleaching more widespread and moderate overall. Molybdenite occurs with quartz veins and quartz-pyrite veins.

370 - 380' Same as the last interval.

380 - 390' From 385 to the end of the hole, rock becomes strongly bleached, and is a light-gray color, extremely fine-grained, and dense, with rare patches of unbleached brown biotitic hornfels. Molybdenite most commonly occurs on vein margins of either quartz or quartz-pyrite, and is very finely disseminated margin material or weakly disseminated into the wallrock.

390 - 400' Strongly bleached zone continues to 395 ft. Below that point rock returns to weak to moderately bleached brown biotitic hornfels. Broken zone from 390 to 395 ft, slight increase in the amount of chlorite.

400 - 410' Strongly bleached brown biotitic hornfels. Intensity of bleaching locally changes the color of the hornfels to a light gray. Molybdenite present as fine disseminations through quartz-pyrite veins. Pyrrhotite restricted to unbleached brown biotitic hornfels.

HOLE No. LC 78-1 PAGE 5

DATE 7/18/78 LOGGED BY RCS

DEPTH	ROCK COMP.	ALTERATION							MINERALIZATION							TEXTURE			ROCK TYPE
		FeS_2	Sil	Ser	Arg	Chl	Feld	Ep	MoS_2	WO_3	Mag	FeOx	Pb, Zn	CaF_2 $MnCO_3$		Matrix Size	PHENO Type	Size/mm %	
970-																			
980	S	5		2	1	1		2	OOX										Diorite
980-																			
990	S	5		2	3	1		2	OOX										"
990-																			
1000	S	5		2	2	1		2	OOX										"
1000-																			
1010	S	5		3	3	1		2	OOX										"
1010-														Ca-					
1020	S	5		2	1	1		1	OOX					F_2					"
1020-																			
1030	S	5		1	1	1		2	Tr										"
1030-																			
1040	S	5		1	1	1	1	2	OOX										"
1040-																			
1050	S	3		2	1			1	OOX										"
1050-																			
1060	S	3		2	1	1	1	1	OOX									Lamprophyre	Diorite
1060-														Ca-					
1070	S	4		3			2		OOX					F_2					Diorite
1070-																			
1080	S	4		2	2		4		OX									Diorite-Alaskite	
1080-																			
1090	S	4		3	3		3		OX				Zn						Diorite
1090-																			
1100	S	3		2	2		2		OOX										Diorite
1100-																			
1110	M	3		3	1	1	2		OX										"
1110-																			
1120	M	3		3	4		2		OOX										"
1120-																			
1130	M	3		3	6		2		OOX										"
1130-																			
1140	S	3		3	2		3		OX										"
1140-																			
1150	S	3		2	1	2	2		OX										"
1150-																			
1160	S	3		2	1	1	4		OX										"
1160-																			
1170	S	3		3	1	1	3	1	OX										"
1170-														Ca-					
1180	S	2		3			3		X					F_2				Alaskite	Diorite
1180-																			
1190	S	2		3			3		X				Zn					"	"
1190-																			
1200	S	3		2			3		OX				ZN					"	"

ROCK DESCRIPTION

410 - 420' Strongly broken zone from 416.5 to 419 ft; otherwise alteration and mineralization the same as the last interval, except for a slight decrease in the amount of bleaching and chlorite.

420 - 430' Lamprophyre dike from 427 to 429.5 ft. Slight increase in molybdenite disseminated through quartz-pyrite veins. These veins are commonly 5 mm to 1.5 cm across, and contain disseminated flakes of molybdenite less than 1 mm across and up to 10 percent pyrite.

430 440' Chlorite appears to be more common with the stronger bleached hornfels. At 430 ft a pyrite-sphalerite-galena-bearing quartz vein, 1 cm wide, cuts the CA at about 30°.

440 - 450' Patches of strongly bleached brown biotitic hornfels throughout the interval. Chlorite seems to be most common in these stronger bleached zones.

450 - 460' Strongly bleached brown biotitic hornfels cut by numerous quartz-pyrite veins; some contain molybdenite, others sphalerite. At 453.8 ft a 1.5-cm-wide quartz-pyrite vein contains a bladed silvery-gray metallic mineral that is possibly a lead-bismuth-sulfosalt.

460 - 470' Slight decrease in the amount of bleaching over the last interval. Mineralization similar to the last interval.

470 - 480' Barren quartz veins cut quartz-pyrite veins, otherwise alteration and mineralization similar to the last few intervals.

480 - 490' Chloritization slightly stronger. Rock is cut by several 3- to 5-mm-wide pyrite veins containing fine-grained disseminated galena and/or sphalerite.

490 - 500' Increase in both bleaching and chloritization. At least one quartz-pyrite vein appears to contain chlorite as a primary constituent. Molybdenite still associated with quartz-pyrite veins.

500 - 510' Decrease in bleaching over the last interval and a corresponding decrease in chloritization. Molybdenite occurs as a constituent of quartz-pyrite veins and is slightly more abundant than the last intervals.

510 - 520' Alteration and mineralization similar to the last few intervals. Several small patches of slightly lighter brown biotite scattered throughout the interval.

520 - 530' Broken zone from 520 to 526 ft, consisting principally of broken rock. Sphalerite and galena still occurring in quartz-pyrite veins, as is molybdenite, but not in the same veins with the base metals.

530 - 540' Slight increase in bleaching, with a corresponding increase in chloritization, usually in the bleached zones. Molybdenite slightly more abundant, but still in quartz-pyrite veins, although some veins have only minor to trace amounts of pyrite.

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DEPTH	ROCK COMP.	ALTERATION							MINERALIZATION							TEXTURE			ROCK TYPE
		FeS_2	Sil	Ser	Arg	Chl	Feld	Ep	MoS_2	WO_3	Mag	FeOx	Pb, Zn	CoF_2 $MnCO_3$		Matrix Size	PHENO Type	Size(mm) %	
1200-																			
1210	S	3		2	1		2		X										Diorite
1210-																			
1220	S	3		2			2		X										IM-Diorite
1220-																			
1230	M	3		2	4		1		OX										Diorite
1230-																			
1240	S	2		2	4		2		X										"
1240-																			
1250	M	2		2	4		3		X										"
1250-														Ca-					
1260	S	4		2	1		2		X					F_2					"
1260-																			
1270	S	2		3	1		3		OX				Zn						"
1270-																			
1280	S	2		3	1		4		X										"
1280-														Ca-					
1290	M	3		3	3	1	2		X					F_2					"
1290-																			
1300	M	2		3	5		3		X										"
1300-														Ca-					
1310	S	3		2	1		4		X					F_2					"
1310-																			
1320	S	3		3	2		2		X										IM-Diorite
1320-																			
1330	S	3		4	4		3		X										Diorite
1330-																			
1340	S	3		3	1		3		X										"
1340-														Ca-					
1350	S	3		3			4		X				Zn	F_2					"
1350-														Ca-					
1360	S	2		2			3		OX					F_2	Gyp				"
1360-														Ca-					
1370	S	2		1			2		OX					F_2					"
1370-														Ca-					
1380	S	2		2			2		X					F_2					"
1380-														Ca-					
1390	S	2		2			2		X					F_2					"
1390-														Ca-					
1400	S	3		3			4		X					F_2					"
1400-														Ca-					
1410	S	3		3			4		X					F_2					"
1410-														Ca-					
1420	S	2		3			3		X					F_2					"
1420-																			
1430	S	2		3			4		X					"					"

ROCK DESCRIPTION

540 - 550' At 544 ft a vuggy quartz vein cuts the CA at approximately 40°, is 1 cm wide. Within the vugs are quartz and chlorite crystals up to 3 mm long.

550 - 560' A 3-inch broken zone at 556 ft. At 556.5 ft a quartz-pyrite-coarse-grained galena-sphalerite vein cuts the CA at about 30°. The vein is approximately 4 cm wide.

560 - 570' Slight increase in pyrite veining and a decrease in bleaching. Bleaching does not appear to be directly related to vein intensity.

570 - 580' Barren quartz veins up to 2 mm wide cut quartz-pyrite veins.

580 - 590' The first quartz-molybdenite vein seen at 585.5 ft. This vein does not appear to contain any pyrite. Quartz-chlorite veins and chlorite-coated fractures present throughout the interval.

590 - 600' Dramatic increase in pyrite veining throughout the interval. At 599.5 ft a 3-cm-wide quartz-sphalerite-galena-sulfosalt(?) vein cuts the CA at about 20°.

600 - 610' Slight decrease in the amount of pyrite veining. The hornfels is a slightly lighter brown color.

610 - 620' Dark-brown biotitic hornfels, similar to the last few intervals, with isolated patches of lighter brown biotitic hornfels. Bleaching still does not appear to be vein-related.

620 - 630' One quartz-pyrite vein appears to contain minor amounts of sulfosalt.

630 - 640' Chloritic alteration found in bleached zones, on fracture surfaces, and in rare quartz-pyrite veins. There appears to be a decrease in sphalerite and galena in the last three intervals.

640 - 650' Light-brown biotite is commonly found on margins of quartz and quartz-pyrite veins as halos up to 5 mm across, and is distinctly later than the dark-brown biotitic hornfels. This may possibly be a potassic alteration feature. Chloritic alteration most common in the bleached zones.

650 - 660' Light-brown biotitic envelopes still present on quartz and quartz-pyrite veins. At least two isolated patches of what appears to be secondary alkali feldspar related to quartz veins. Several quartz-molybdenite veins throughout the interval, generally 1 to 2 mm wide.

660 - 670' Alteration and mineralization similar to the last interval.

670 - 680' Rock is cut by several quartz veins, 1 to 2 cm wide, that contain pyrite, sphalerite, galena, chalcopyrite, and a bladed silver-gray mineral, probably lead-bismuth-sulfosalt. Light-brown biotitic alteration still present as vein envelopes.

680 - 690' Alteration and mineralization similar to the last interval. Most sphalerite seen appears to be a low-iron variety and is yellow to greenish in color with only rare black sphalerite observed.

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DEPTH	ROCK COMP.	ALTERATION								MINERALIZATION								TEXTURE			ROCK TYPE
		FeS_2	Sil	Ser	Arg	Chl	Feld			Mo	WO_3	Mag	FeOx	Pb,Zn	CaF_2 $MnCO_3$			Matrix Size	PHENO Type	Size/mm %	
1430															Ca-						
1440	S	2		3	3		3			X					F_2						Diorite
1440																					
1450	S	2		3	6		2			X					"						"
1450																					
1460	S	2		3	1		3			X					"						"
1460																					
1470	S	2		3	1		4			X					"						"
1470																					
1480	S	2		2			4			OX					"						Alaskite-Diorite
1480																					
1490	S	2		2			2			OX					"						Diorite
1490																					
1500	S	2		1			2			OX					"						IM-Diorite
1500																					
1510	S	2		2			2			X											"
1510																					
1520	S	3		2			3			X											"
1520															Ca-						
1530	S	3		2			4			X					F_2						Diorite-Granodiorite
1530																					
1540	S	3		2			4			X					"						Granodiorite
1540																					
1550	S	2		3			3			X					"						"
1550																					
1560	S	2		2			4			OX											"
1560																					
1570	M	2		4	2		4			X				Pb							"
1570																					
1580	M	2		4	4		3			OX					"						"
1580																					
1590	S	2		2	2		3			OX					"						"
1590																					
1600	S	2		2			3			OX											"
1600																					
1610	S	2		1			4			OX					"						"
1610																					
1620	S	2		2	1		6			OX					"						"
1620																					
1630	S	2		3	2		6			X											"
1630																					
1640	M	2	1	4	2		4			OX											"
1640																					
1650	M	2	1	2	1		4			OX				Zn							"
1650																					
1660	S	2	1	3			4			OX				Pb							"

ROCK DESCRIPTION

690 - 700' Slight decrease in the amount of base-metal mineralization over the last couple intervals.

700 - 710' Strong pyrite from 703 to 706 ft. At 709.5 ft a 5-inch aplite dike with five percent disseminated pyrite. This is probably related to the alaskite intrusive phase.

710 - 720' Aplites from 710.8 to 711.4 ft and 716 to 718 ft. These are both probably part of the alaskite intrusive phase. Both dikes contain approximately five percent disseminated pyrite and 0.5 percent disseminated molybdenite. Most molybdenite in this interval is related to the aplites. Light-brown biotitic alteration still present and related to quartz and quartz-pyrite veins.

720 - 730' Numerous 2- to 6-inch broken zones throughout the interval. Increase in the amount of quartz-moly veining over the last few intervals. Light-brown biotitic alteration slightly more common, still related to quartz and quartz-pyrite veins. Thin section of this type of alteration at 730 ft.

730 - 740' Similar to the last interval.

740 - 750' Rare quartz-pyrite veins have dark-gray QSP halos up to 2 mm wide.

750 - 760' 0.0X percent molybdenite occurring in quartz-pyrite veins, probably approaching 0.1 percent mineralization. Light- to medium-brown biotitic alteration still present as vein halos.

760 - 770' One quartz-pyrite vein 1 cm wide cutting the CA at 70^{o}, appears to have minor disseminated sulfosalts.

770 - 780' Alteration and mineralization similar to the last few intervals.

780 - 790' The principal alteration type of the dark-brown biotitic hornfels appears to be light- to medium-brown biotite that is vein related. Bleaching is not a dominant alteration type for the past few intervals and may represent a change in alteration assemblages from bleaching, which may be equivalent to QSP-type alteration, to a more potassic alteration.

790 - 800' At 798 ft a fault zone begins, consisting of broken rock, minor gouge, minor slicks. Otherwise, alteration and mineralization same as the last few intervals.

800 - 810' Fault zone throughout. Rock is badly fractured, consisting mainly of individual pieces less than 1 cm across.

810 - 820' Fault zone continues to 817 ft. Fault zone as above. From 817 to 820 ft hornfels similar to the intervals just before the fault.

820 - 830' Hornfels becoming darker brown to almost black, with superimposed light- to medium-brown biotite alteration that is vein related. Molybdenite occurs in both quartz-pyrite and quartz-molybdenite veins.

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DEPTH	ROCK COMP.	ALTERATION								MINERALIZATION								TEXTURE			ROCK TYPE
		FeS_2	Sil	Ser	Arg	Cal	Feld			Mo	WO_3	Mag	FeOx	Pb, Zn	CaF_2 $MnCO_3$			Matrix Size	PHENO Type	Size(mm) %	
1660																					
1670	S	2	1	2			4			OX											Granodiorite
1670																					
1680	M	2	1	4	5		3			OX				Pb							"
1680																					
1690	M	2	1	4	5		3			OX				Zn							"
1690																					
1700	M	2	1	3	4		3			OX											IM-Granodiorite
1700																					
1710	M	2	1	3	2		4			OX											"
1710																					
1720	M	2	1	3	3		3			OX				Zn							"
1720																					
1730	S	2	1	3	2		4			OX											"
1730																					
1740	S	2	1	4	3		3			OX				Pb							Granodiorite
1740																					
1750	M	2		4	3		2			OX											"
1750																					
1760	S	2		3	2		4			OX											"
1760																					
1770	M	2		4	3		3			OX											"
1770																					
1780	M	2		3	3		3			OX											"
1780																					
1790	M	2		3	4		3			OX											"
1790																					
1800	M	2		3	4		4			OX											"
1800																					
1810	M	2		3	4		3			OX				Zn							"
1810																					
1820	M	2		3	4		2			OX											"
1820																					
1830	M	2		3	4		3			OX											"
1830																					
1835	M	2		3	4		3			OX											"
EOH																					

ROCK DESCRIPTION

830 - 840' Dark brown to black hornfels. Bleaching is becoming a very minor phase and occurs principally as alteration envelopes that are vein related. The principal alteration type is light- to medium-brown biotite replacement of hornfels. This type of alteration is vein related, occurring as envelopes up to 1 cm wide surrounding quartz and quartz-pyrite veins. There is also a noticeable decrease in the abundance of sphalerite and galena. The base-metal sulfides occur in quartz-pyrite veins that are 1 to 5 cm wide. These veins are less abundant than up the hole. It appears we have gone through a definite base-metal zone peripheral to the moly zone.

840 - 850' Dark-brown to black hornfels with alteration and mineralization similar to the last couple intervals.

850 - 860' At 851 ft a 1.5 cm quartz-pyrite-sphalerite-sulfosalt vein cuts the CA at 35° and also cuts the light- to medium-brown alteration. At 856.1 to 859.5 ft a lamprophyre dike.

860 - 870' Fault zone from 860.3 to 865.5 ft consisting of broken rock and minor slicks. At 865.2 ft a 3 inch lamprophyre dike. At 867 to the end of the interval a quartz vein consisting of minor pyrite, traces of sphalerite, and galena, with a few rock inclusions.

870 - 880' Quartz vein continues to 870.2 ft, then several 1- to 5-cm-wide quartz veins throughout the rest of the interval contain sphalerite, galena, pyrite, and possibly local sulfosalts. There appears to be chloritic alteration associated with these quartz veins.

880 - 890' From 889.5 ft to the end of the interval, a lamprophyre dike; otherwise rock is dark-brown to black biotitic hornfels with superimposed light- to medium-brown secondary biotite that is still vein related. Rock is cut by several 1- to 10-cm-wide quartz-pyrite veins; some contain sphalerite.

890 - 900' Broken zone from 891 to 892 ft, 894.5 to 895.2 ft, and 3 inches at 899.7 ft. From 899 to 899.8 ft strong chloritic alteration has superimposed light- to medium-brown secondary biotite. Lamprophyre dike continues to 890.7 ft and cuts the CA at approximately 65°.

900 - 910' Rock is dark-brown to black biotitic hornfels. Quartz-molybdenite veins 2 to 4 mm wide are becoming more abundant, although the veins are primarily quartz with trace to minor amounts of molybdenite.

910 - 920' Molybdenite increasing as in the last interval. Pyrrhotite logged throughout the hole is a primary constituent of the hornfelsing. Broken zone from 919 to 920 ft.

920 - 930' Black biotitic hornfels with superimposed light- to medium-brown secondary biotite. Throughout the hole, sphalerite is the most abundant base-metal sulfide, followed by galena, then chalcopyrite, then the sulfosalts.

930 - 940' Contact between the hornfels and the diorite phase of the Lime Creek stock at 936 ft, with a 6-inch dike at 934 ft that cuts the CA at approximately 30°. At the contact the diorite is moderately broken and moderately argillized; no apparent change in the mineralization between the two rock types. The hornfels shows no bleaching at the contact and is a dark-brown to black biotitic variety. There seems to be a slight coarsening of the grain size over the last few tens of feet as the contact is approached, with individual grains in the hornfels approaching 1 mm across.

ROCK DESCRIPTION

940 - 950' Diorite appears to be fairly typical of the diorite phase of the Lime Creek stock. Plagioclase is weakly sericitized and argillized. Fault zone from 940 to 949 ft, with the center approximately 944 ft. The fault consists of broken rock, minor gouge, and minor slicks. Molybdenite occurs in quartz-molybdenite and quartz-molybdenite-pyrite veins.

950 - 960' No apparent alteration related to the veins. In general alteration is very weak propylitic, consisting primarily of sericite replacement of plagioclase. Possibly some chloritization related to fracture surfaces. Rock is cut by several 1- to 5-cm-wide quartz veins containing trace amounts of pyrite.

960 - 970' Rare quartz-pyrite veins with 1- to 3-mm-wide QSP halos. From 965 to 965.5 ft a bleached zone where the biotite has been altered to sericite and a slight increase in the sericitization-argillization of plagioclase grains.

970 - 980' Epidote is present as a replacement of plagioclase and appears to be associated with the narrower quartz-pyrite veins. A few wide quartz-minor pyrite veins appear to contain pink alkali feldspar.

980 - 990' From 984 ft to the end of the run slight increase in argillization. At 995 ft a 2-inch fault zone consisting of broken rock and minor slicks.

990 - 1000' Argillized zone continues to 990.5 ft. Otherwise the rock is similar to the last few intervals.

1000 - 1010' At 1000.5 ft a 6-inch fault zone consisting of broken rock, minor gouge, and minor slicks. A moderately argillized zone from 1002 to 1003 ft.

1010 - 1020' At 1017 ft a 1-cm-wide quartz-purple fluorite vein cuts the CA at about 20^{o} and contains some dark-gray sericitic alteration in an envelope approximately 5 mm wide.

1020 - 1030' The only alteration that appears to be directly vein-related is epidote that is closely associated with quartz-pyrite veins, both in the veins and on the margins.

1030 - 1040' The first quartz vein observed with a 2-mm-wide feldspathization halo is at 1034 ft. A few quartz veins contain pink secondary alkali feldspar. Minor gray sericitic alteration associated with some quartz and quartz-pyrite veins.

1040 - 1050' Diorite. Alteration and mineralization similar to the last few intervals. Rare quartz and quartz-pyrite veins have narrow dark-gray sericitic halos.

1050 - 1060' Lamprophyre dike from 1050 to 1051.2 ft cuts the CA at 70^{o}, and 4 inches of lamprophyre dike at 1054 ft. Traces of pink feldspathic alteration associated with a few quartz veins.

1060 - 1070' The majority of the sericite associated with quartz and quartz-pyrite veins is medium- to dark-gray envelopes. A slight increase in pink potassic alteration associated with quartz veins.

ROCK DESCRIPTION

1070 - 1080' Most sericitic alteration is associated with quartz and quartz-pyrite veins, and is medium- to dark-gray alteration envelopes. From 1075 to 1076 ft an alaskite dike cuts the CA at 30°, containing disseminated molybdenite in a pink feldspathic groundmass that approaches aplitic texture. Seems to be an increase in the amount of quartz veining within this rock. Outside this zone feldspathization has increased and possibly a slight increase in the amount of molybdenite. This interval represents the first 0.0X percent MoS_2 seen in the hole.

1080 - 1090' Fault zone from 1083 to 1083.5 ft consists of broken rock and minor gouge. Argillization appears to be related to this fault. Most sericite is replacement of plagioclase, rather than dark-gray vein-related type.

1090 - 1100' 3-inch broken zone at 1096 ft.

1100 - 1110' Fault zone from 1103 to 1109.7 ft consists of broken rock, minor gouge, and minor slicks. Increase in the argillization may be related to this fault zone. Some green argillization also present.

1110 - 1120' Fault zone from 1111 to 1112 ft and 1114 to 1120 ft, all consisting of broken rock, gouge, and minor slicks.

1120 - 1130' Fault zone continues to 1127 ft, with 6 inches at 1129 ft. Feldspathization appears to increase below the fault zone.

1130 - 1140' Sericite is principally dark-gray variety occurring as vein envelopes. 3-inch sand zone at 1139.8 ft.

1140 - 1150' Zone of chloritic alteration from 1149 to 1150 ft. The biotites are weakly to moderately replaced by chlorite.

1150 - 1160' Mineralization is high 0X, possibly 0.1 percent MoS_2. At 1154 ft a possible intramineral dike 4 inches wide, but difficult to tell because of alteration.

1160 - 1170' Sericite occurs primarily as dark-gray envelopes. Mineralization is high 0X. Sample of typical diorite at 1161 ft.

1170 - 1180' Probable alaskite dikes from 1174 to 1175 ft, 1175.5 to 1177 ft, and 1178 to 1179.5 ft. Contacts appear to be between pieces of core. This is probably the first interval of +0.1 percent molybdenite seen in the hole.

1180 - 1190' Alaskite dikes from 1180.1 to 1180.4 ft, 1181 to 1182 ft, 1182.7 to end of the interval. At 1180.4 to 1184.7 ft an intramineral dike cuts the CA at approximately 60°; consists of 10 percent feldspar phenocrysts, subhedral to 3 mm, 5 percent biotite phenocrysts, subhedral to 2 mm, and 3 percent quartz phenocrysts, anhedral to 2 mm, in a fine-grained medium-gray felsic groundmass. Dark-gray sericitic alteration common in the dike. The alaskites appear to contain slightly more veined molybdenite than does the diorite. At 1186 ft a 3-inch zone of pebbles, possibly a fault or cave material.

ROCK DESCRIPTION

1190 - 1200' Alaskite continues to 1190.3 ft, and then from 1191 to 1191.4 ft, 1193.5 to 1194.5 ft, and 1196 to 1196.6 ft. All alaskites in this interval and in the last couple may represent one dike that is sinuous, sub-parallel to the CA. Contacts observed are usually at steep angles to the CA, varying from 60 to 90°. Sphalerite present in one quartz-pyrite vein approximately 2 cm wide.

1200 - 1210' Sericite is primarily medium- to dark-gray variety that is vein related. Feldspathization related to quartz veins occurs as envelopes up to 5 mm wide out from the vein margins. Some quartz veins contain alkali feldspar.

1210 - 1220' At 1216.3 ft a 4-inch intramineral dike cuts the CA at 30°. This dike appears similar to the one described uphole.

1220 - 1230' Moderately argillized zone 1223 to 1228 ft. Core is slightly more broken, possibly the alteration is related to a nearby fault. Slight decrease in molybdenite mineralization over the last few intervals.

1230 - 1240' Argillized zone 1236 to 1240 ft. Core slightly more broken. This alteration may be related to a nearby fault.

1240 - 1250' Argillized zone continues to 1246 ft. Approximately half the sericite is dark-gray variety related to quartz and quartz-pyrite veins.

1250 - 1260' Fluorite occurs in a purple quartz feldspar vein. At 1257 ft a 4-inch quartz vein contains minor pyrite and sulfosalts, also some gypsum crystals.

1260 - 1270' Sericite is a mixture of groundmass replacement of plagioclase and medium dark-gray sericite as alteration envelopes.

1270 - 1280' Approximately 75 percent of the sericite occurs as the green variety replacing plagioclase; the remainder is medium- to dark-gray alteration envelopes around quartz and quartz-pyrite veins. Molybdenite occurs in quartz veins that are commonly 2 mm to 1 cm wide, and molybdenite is usually concentrated in one portion of the vein, either the center or near the vein margins. Very few veins contain molybdenite completely disseminated throughout the quartz.

1280 - 1290' From 1237 ft to end of the run fault zone, broken rock, argillization, and minor slicks. The increase in argillization is directly related to this fault zone.

1290 - 1300' Fault zone continues to 1299 ft. Some feldspathization is bleached white, probably in association with the argillization, suggesting that the argillic alteration is post-feldspathization and probably pretty late - related to the fault zones. Some patches of green argillic alteration are also present.

1300 - 1310' Fault-related argillization continues to 1301 ft. At 1301.5 ft a 2-cm-wide alaskite(?) dikelet cuts the CA at 30°. This dikelet consists primarily of massive pink alkali feldspar with minor disseminated pyrite and biotite. Fluorite is purple and still associated with quartz.

ROCK DESCRIPTION

1310 - 1320' At 1311 ft a 5-inch intramineral dike cuts the CA at 60°. This dike looks similar to the one described uphole. At 1318.5 ft a 3-inch intramineral dike consists of 5 percent subhedral feldspar to 2 mm and 2 percent subhedral biotite to 1 mm in a very dark aplitic groundmass with grains less than 1 mm across. This dike could easily be mistaken for lamprophyre, except that it is cut by a quartz-molybdenite vein.

1320 - 1330' Zone of moderate argillization from 1320.5 to 1326.3 ft. No structural change to suggest the presence of a fault zone. Again the feldspathization appears to be bleached as a result of argillization.

1330 - 1340' Essentially all sericite is the green variety replacing plagioclase. At 1334.2 ft a 1.5-cm-wide alaskite(?) dikelet cuts the CA at 45°. This is massive salmon alkali feldspar with minor disseminated biotite.

1340 - 1350' At least six quartz veins contain purple fluorite.

1350 - 1360' At 1356 ft a 2-cm-wide quartz vein contains gypsum crystals. Sericite alteration is still green sericite replacing plagioclase.

1360 - 1370' Mineralization and alteration seem to be decreasing slightly. There appears to be a general trend toward the diorite becoming less mafic-rich from the contact inward. Sample of typical diorite from this part of the drill hole at 1360 ft.

1370 - 1380' Sericite is still green replacing plagioclase. The only type of fluorite observed in the hole to date is purple and is always associated with quartz veins.

1380 - 1390' Alteration and mineralization similar to the last few intervals.

1390 - 1400' Diorite throughout the drill hole contains numerous mafic-rich zones that are 50 percent or greater biotite. Commonly these zones are slightly finer grained than the rest of the diorite. There seems to be a general increase in feldspathization and molybdenite mineralization, although the two are not directly related.

1400 - 1410' Sericite still green variety replacing plagioclase. The most intense sericite is associated with the strongest veining.

1410 - 1420' Alteration and mineralization similar to the last few intervals.

1420 - 1430' Most quartz-molybdenite veins cut the CA at between 50 and 90°, with less than 5 percent of the veins sub-parallel to the CA.

1430 - 1440' Argillization becomes moderate from 1437 ft to the end of the run. At 1436.5 ft a 2-inch breccia consists of rock fragments less than 1 mm to 2 cm across, angular in outline, in a matrix of fine-grained gray, probably moly-rich quartz.

1440 - 1450' Argillic alteration continues to 1448 ft. Appears to be post-feldspathization and locally bleaches that type of alteration. All quartz-fluorite veins observed to this point in the drill hole appear to be very late in the sequence of mineralization, because they are cut by no other veins and do cut quartz-moly veins.

ROCK DESCRIPTION

1450 - 1460' Principal alteration type is pink alkali feldspar associated with quartz veins, with minor amounts of green sericite in the plagioclase grains.

1460 - 1470' Slight increase in feldspathization over the last few intervals, but molybdenite does not appear to increase correspondingly.

1470 - 1480' From 1470.3 to 1476.4 ft a pegmatite, probably related to the alaskite phase, consists primarily of coarse-grained pink- to salmon-colored alkali feldspar; individual grains are up to 4 mm across. This is cut by numerous quartz and quartz-fluorite veins. One vein is approximately 3 cm across and consists of 50 percent purple fluorite.

1480 - 1490' Alteration and mineralization similar to the last few intervals.

1490 - 1500' At 1495.7 ft a 2-inch intramineral dike similar to the ones described further uphole.

1500 - 1510' A slight increase in the amount of quartz veining, although there does not seem to be a corresponding increase in alteration. Most sericite is medium- to dark-gray variety related to quartz and quartz-pyrite veins. At 1501 ft a 5-inch intramineral dike cuts the CA at 40°. This dike is similar to others described uphole.

1510 - 1520' At 1510.3 ft a 3-inch intramineral dike cuts the CA at 60°. There is a slight increase in feldspathization.

1520 - 1530' Contact between the diorite and granodiorite at 1520.2 ft appears to be sharp, although feldspathization related to a vein obscures the contact slightly. Granodiorite seems to cut diorite, the granodiorite being slightly finer grained at the contact, and possibly one small dikelet of granodiorite penetrates the diorite. At 1522 to 1522.6 ft an alaskite cuts the CA at 60°, contains disseminated molybdenite.

1530 - 1540' Quartz-fluorite veins are becoming less abundant. Molybdenite grades seem to be dropping off slightly. Feldspathization and barren quartz veins are increasing slightly. Rock is all granodiorite, typical of the granodiorite phase of the Lime Creek stock.

1540 - 1550' Sericitic alteration is related to bleaching of the rock, probably an intense propylitic type. This is common between zones of feldspathization.

1550 - 1560' The quartz veins are less molybdenite enriched, but have more feldspathization associated with them. Vein intensity does not appear to be decreasing over the last few hundred feet, although the molybdenite grade appears to be dropping off.

1560 - 1570' Argillization becomes a prominent alteration phase below 1568 ft. The core is slightly more broken, suggesting the presence of a fault zone. At 1569 ft a 1-cm-wide galena-sulfosalt-quartz vein cuts the CA at 70°. There is also a corresponding increase in the amount of sericite within the argillized zone.

1570 - 1580' Very poor core recovery. Rock is strongly broken from 1570 to 1575.5 ft, suggesting a fault zone. Argillization and sericitization continue throughout the interval.

ROCK DESCRIPTION

1580 - 1590' Argillization and broken rock continue to 1583 ft, then rock becomes more competent. Alteration decreases to the end of the interval. From 1583 to the end of the interval, alteration is predominantly feldspathization.

1590 - 1600' At 1590.3 ft a 2- to 4-mm-wide quartz-pyrite vein cuts the CA at 70° and contains secondary biotite in the vein and disseminated outward into the wall for as much as 2 to 3 mm. At 1589 ft a 1-cm-wide quartz-pyrite vein contains abundant black biotite; some is disseminated into the wall. Possible fault zones at 1594 ft and 1598.5 ft, consisting of pebbles, broken rock, and possibly some slicks.

1600 - 1610' 1-inch alaskite dike cuts the CA at 70° at 1600.3 ft. A 1-inch alaskite dike cuts the CA at 50° at 1600.5 ft. There appears to be a recognizable difference between alaskite dikes and feldspathization. Alaskite dikes are commonly aplitic in texture, and contain disseminated molybdenite and numerous 1- to 3-mm-wide barren quartz veins, whereas the zones of feldspathization are finer grained, commonly contain original rock biotite or secondary biotite in zones of secondary feldspathization and do not contain the disseminated molybdenite or quartz veining found in the alaskite dikes.

1610 - 1620' Feldspathization increases toward the end of the hole. The rock between the feldspathized zones is commonly sericitized, with green sericite replacing plagioclase grains and minor argillic alteration. Biotite appears unaltered and is probably a stable assemblage within the feldspathized areas. Biotite appears to be a primary constituent of the rock and is stable within the feldspathized zone, rather than a secondary added feature.

1620 - 1630' Moderate to strong feldspathization is cut by a few 1- to 3-mm-wide biotite veins.

1630 1640' Probable fault zone from 1630.3 to 1636 ft consists of broken rock, argillization, and minor gouge. A few quartz veins have minor amounts of silicification. This is replacement out from the vein margins into the wallrock.

1640 - 1650' Silicification still associated with barren quartz veins. Decrease in feldspathization. Rock between feldspathized zones is weak propylitic alteration. At 1641.3 ft a 3-inch quartz-sphalerite-sulfosalt vein.

1650 - 1660' Alteration is predominantly feldspathization with intervening propylitic sericite. The quartz vein margins are not as sharp as were observed uphole, suggesting minor amounts of replacement out into the wallrock. At 1660 ft a 2-cm-wide alaskite (aplitic variety) cuts the CA at 45°.

1660 - 1670' Alteration and mineralization similar to the last few intervals. Fairly typical piece of weakly altered to unaltered granodiorite at 1660.3 ft.

1670 - 1680' Fault zone from 1674.3 ft to end of interval consists of broken rock, minor gouge, and slicks. Argillization and sericitization increase within this zone.

ROCK DESCRIPTION

1680 - 1690' Fault zone continues throughout the interval. Increase in alteration is directly related to the fault zone. Rock is cut by several quartz veins containing sphalerite and sulfosalts.

1690 - 1700' Fault zone continues to 1696.4 ft. At 1698 ft a 4-inch-wide intramineral dike cuts the CA at 40°. This dike does not look similar to the ones described further uphole, and consists of 5 percent subhedral feldspar to 3 mm, 2 percent anhedral quartz phenocrysts to 2 mm, and 5 percent subhedral plagioclase phenocrysts to 2 mm in a dense, medium-brown felsic groundmass. The principal difference between this intramineral and those uphole is the color of the groundmass and possibly the abundance of quartz phenocrysts.

1700 - 1710' Intramineral from 1706.2 to 1708.8 ft. This intramineral looks similar to the one described uphole, has a darker color groundmass, and lacks quartz phenocrysts.

1710 - 1720' At 1719.4 ft an intramineral dike cuts the CA at 20° and is 3 cm wide. Looks like the dark-gray variety described uphole.

1720 - 1730' At 1724.6 ft a 3-inch-wide intramineral cuts the CA at 70°. This appears to be the quartz phenocryst variety. Fault zone from 1725 to 1727 ft consists of broken rock, minor gouge, and minor slicks. Argillization in this interval contains some swelling clays.

1730 - 1740' Green sericite and argillic alteration increase toward the end of the interval.

1740 - 1750' Fault zone from 1740.5 to 1744.6 ft consists of broken rock, minor gouge, and minor slicks. Argillization and green sericite appear to be related to the structure. Below that point these two types of alteration decrease, although swelling clays are common outside the fault zone.

1750 - 1760' Argillization and sericitization increase toward the end of the interval. Outside the stronger argillic zone, swelling clays are present in plagioclase grains.

1760 - 1770' Moderate sericitic and argillic alteration continues to 1769 ft. Most alteration appears to be post-feldspathization and bleached, weakly alters the secondary feldspathic alteration.

1770 - 1780' Core is moderately broken throughout, cut by several quartz veins that contain pyrite and possibly sulfosalts.

1780 - 1790' Several small fault zones up to 3 inches wide consist of broken rock, minor gouge, and minor slicks. Increase in alteration is probably related to increase in faulting.

1790 - 1800' Fault zone from 1797 to 1798.5 ft consists of broken rock, slicks, and gouge, and possibly some fault breccia.

1800 - 1810' Numerous small faults throughout the interval consist of 1 to 6 inches of broken rock, slicks, and minor gouge, and possibly some fault breccia.

ROCK DESCRIPTION

1810 - 1820' Entire interval is fault zone consisting of strongly bleached, argillized, sericitized rock that is broken, with minor gouge and minor slicks.

1820 - 1830' Intramineral, quartz phenocryst variety from 1820.3 to 1822 ft, is strongly altered, probably by the faulting, which continues throughout the interval.

1830 - 1845' Fault zone continues. Several quartz-pyrite veins that appear to be of the polymetallic variety are also faulted, indicating that the structural activity is after mineralization.

EOH EOH EOH EOH EOH EOH

APPENDIX B

SURVEY DATA FOR DRILL HOLE LC 78-1

and assays

DRILL HOLE LC 78-1

Collar coordinates: 103,092 E and 107,261 N
Elevation: 1,878 feet

Survey Point in Drill Hole	Bearing	Inclination
Collar	N90°E	-55°
80 feet	N85°E	-52.5°
180 feet	N82°E	-48°
280 feet	N82°E	-42.5°
380 feet	N82°E	-40°
480 feet	N82°E	-36°
580 feet	N83°E	-31.5°
680 feet	N83°E	-33.5°
780 feet	S80°E	-32.5°
880 feet	N85°E	-27°
980 feet	N88°E	-24°
1,080 feet	N48°E	-24°
1,180 feet	N53°E	-23.5°
1,280 feet	S72°E	-24°
1,480 feet	N84°E	-22°
1,580 feet	S74°E	-20.5°
1,780 feet	N66°E	-19.5°
1,845 feet	N90°E	-18°

SKYLINE LABS, INC.
SPECIALISTS IN EXPLORATION GEOCHEMISTRY
12090 WEST 50TH PLACE • WHEAT RIDGE, COLORADO 80033 • TEL.: (303) 424-7718

REPORT OF ANALYSIS

JOB NO. DFL 123
September 13,1978
Req. No. 6759

Climax Molybdenum Company
Attn: Roger Steininger
13949 West Colfax Avenue
Golden, Colorado 80401

Analysis of 85 Pulp Samples

ITEM	SAMPLE NO.		MoS2 (%)	
	Drill hole LC 78-1			
	All assays are in 10 foot intervals.			
1	LC78-101	1000 - 1010'	.136	.142
2	LC78-102	1010 - 1020'	.106	
3	LC78-103	1020 - 1030'	.192	
4	LC78-104		.206	
5	LC78-105		.256	.258
6	LC78-106		.143	
7	LC78-107		.11	
8	LC78-108		.271	
9	LC78-109		.129	
10	LC78-110		.203	.207
11	LC78-111	1100 - 1110'	.152	
12	LC78-112		.11	
13	LC78-113		.12	
14	LC78-114		.208	
15	LC78-115		.116	.115
16	LC78-116		.1	
17	LC78-117		.136	
18	LC78-118		.145	
19	LC78-119		.172	
20	LC78-120		.1	.100
21	LC78-121	1200 - 1210'	.173	
22	LC78-122		.182	
23	LC78-123		.242	
24	LC78-124		.182	
25	LC78-125		.397	.402

ITEM	SAMPLE NO.		MoS2 (%)	
26	LC78-126		.447	
27	LC78-127		.2	
28	LC78-128		.231	
29	LC78-129		.171	
30	LC78-130		.219	.223
31	LC78-131	1300 - 1310'	.224	
32	LC78-132		.256	
33	LC78-133		.166	
34	LC78-134		.164	
35	LC78-135		.121	.121
36	LC78-136		.141	
37	LC78-137		.139	
38	LC78-138		.178	
39	LC78-139		.137	
40	LC78-140		.082	.082
41	LC78-141	1400 - 1410'	.169	
42	LC78-142		.198	
43	LC78-143		.217	
44	LC78-144		.125	
45	LC78-145		.151	.150
46	LC78-146		.163	
47	LC78-147		.139	
48	LC78-148		.137	
49	LC78-149		.091	
50	LC78-150		.126	.123
51	LC78-151	1500-1510'	.129	
52	LC78-152		.152	
53	LC78-153		.161	
54	LC78-154		.154	
55	LC78-155		.149	.151
56	LC78-156		.078	
57	LC78-157		.099	
58	LC78-158		.126	
59	LC78-159		.174	
60	LC78-160		.13	.127

ITEM	SAMPLE NO.		MoS2 (%)	
61	LC78-161	1600-1610'	.066	
62	LC78-162		.182	
63	LC78-163		.11	
64	LC78-164		.105	
65	LC78-165		.049	.051
66	LC78-166		.047	
67	LC78-167		.027	
68	LC78-168		.043	
69	LC78-169		.038	
70	LC78-170		.054	.055
71	LC78-171	1700-1710'	.136	
72	LC78-172		.076	
73	LC78-173		.07	
74	LC78-174		.146	
75	LC78-175		.102	.103
76	LC78-176		.07	
77	LC78-177		.112	
78	LC78-178		.094	
79	LC78-179		.119	
80	LC78-180		.148	.146
81	LC78-181	1800-1810'	.075	
82	LC78-182		.064	
83	LC78-183		.036	
84	LC78-184		.058	
85	LC78-185		.017	.017

Edwin V. Post

for Gordon H. VanSickle
Manager

APPENDIX C

STATEMENT OF COSTS

CAMERON McCUTCHEON DRILLING LIMITED

DIAMOND DRILLING CONTRACTORS

Telephone 253-5251
Telex: 04-54311

745 Clark Drive
Vancouver, B.C.
V5L 3J3

INVOICE NO. 12043

JOB NO. 355

JULY 5TH, 1978

Climax Molybdenum Corp. of British Columbia Ltd.
13949 West Colfax Avenue
Golden, Colorado 80401

Attention: Mr. Roger Steininger

RE: SURFACE DRILLING AT ALICE ARM

MOBILIZATION (LUMP SUM)						$ 2,617.50 ✓
HOLE #LT 78-1	NW	0' -	7' =	7'	CASING @ $16.50	115.50 ✓
	NQ	7' -	272' =	265'	CORING @ $16.25	4,306.25 ✓
	BQ	272' -	1,000' =	728'	CORING @ $15.25	11,102.00 ✓
		1,000' -	1,500' =	500'	CORING @ $16.50	8,250.00 ✓
		1,500' -	1,845' =	345'	CORING @ $18.50	6,382.50 ✓
				1845'		
~~HOLE #LC 78-2~~	~~NW~~	~~0'~~	~~14'~~	~~14'~~	~~CASING @ $16.50~~	~~$231.00~~ ✓
	~~NQ~~	~~14'~~	~~129'~~	~~109'~~	~~CORING @ $16.25~~	~~1,771.25~~ ✓

SITE COSTS	SCHEDULE "A"	4,285.60 ✓
SUPPLIES	SCHEDULE "B"	1,928.30
		~~6,947.47~~
	TOTAL INVOICE	# 38,987.65
		~~$46,009.07~~

DIRECT PAYMENT
PURCHASE AUTH.
DEPT. HEAD
R.E.S. 7/17/78
970-98-4-1000
BCK-15
FINAL APPROVAL

SCHEDULE A

KLUSAVAT

JOB #355

JUNE 1978

LABOUR & EQUIPMENT

1978	LABOUR	EQUIPMENT STANDBY	EQUIPMENT OPERATING
JUNE 5	24 ✓		
6	40 ✓		
7	4 ✓		
8	—		
9	—		
10	—		
11	—		
12	—		
13	—		
14	—		
15	—		
16	—		
17	—		
18	2 [illegible]		1
19	3 [illegible]		1.5
20	2 [illegible]		1
21	5 SHOW 2 [illegible]		2.5
22	2 [illegible]		1
23	40		10 ✓
24	12 ✓		
25	—		
26	2 [illegible]		1
27	4 [illegible]		2
28	20 ✓		10 ✓
29	20 ✓		10 ✓
30	2 [illegible]		2
	184 ✓		42 ✓

LABOUR	184 HRS @ 17.75	3266.00	
EQUIPMENT - STANDBY	— HRS @ 11.00	—	
- OPERATING	42 HRS @ 15.00	630.00	
		3896.00	
PLUS 10%		389.60	
			4285.60

SCHEDULE 8

KITSAULT

JOB #355

SUPPLIES — JUNE 1976

1978			INVOICE #	
JUNE 8	J.K. SMIT & SON.	SHOE #1747	54-10-77	1560 3
	OCEAN CONSTRUCTION	CEMENT FONDU	29920	6447
	THIESSEN EQUIP	IN-HOLE ADDITIVES	3283	379528
	" "	" "	3292	94835
	THIESSEN EQUIP	FREIGHT ON #3283	3368	135175
				631588
	PLUS 10%			63159
				694747

Note - only $1928.30 worth of these supplies were used in LC78-1

Figure 2 - Location map for drill hole LC78-1

drill hole projected to surface

N

METRES
0 250 500 750 1000

July 31, 1978

Roger Stewart

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7034
NO.