UNITED STATES DEPARIMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Tabular summary of lithologic logs and geologic characteristics from diamond drill holes in the western International Falls and the Roseau $1^{\circ} \times 2^{\circ}$ Quadrangles, Northern Minnesota

Terry L. Klein and Warren C. Day

Open-File Report 89-346

U.S. Geological Survey, Reston, Virginia 22092

1989

TABULAR SUMMARY OF LITHOLOGIC LOGS AND GEOLOGIC CHARACTERISTICS FROM DIAMOND DRILL HOLES IN THE WESTERN INTERNATIONAL FALLS AND THE ROSEAU 1°x2° QUADRANGLES, NORTHERN MINNESOTA

BY
TERRY L. KLEIN* AND WARREN C. DAY**

Introduction

This report is part of a folio of maps and other publications prepared under the Conterminous United States Mineral Assessment Program (CUSMAP). Other publications in this folio include U.S. Geological Survey Open-File Reports OF 87-0549 (Geologic Map of the International Falls Quadrangle),OF 87-366 (USGS geochemical analyses of drill core from the International Falls and Roseau Quadrangles), OF 88-525 (Supplemental USGS geochemical analyses from the International Falls and Roseau quadrangles), OF 88-575 (Tabulated geochemical analyses from exploration drilling in the International Falls and Roseau quadrangles), Miscellaneous Field Investigations Map MF-2082 (Mineral occurrence and drill hole location map of the International Falls quadrangle).

Drill core available in the Minnesota Department of Natural Resources (MDNR) Drill Core Repository in Hibbing, Minnesota, was examined and sampled during the study of the geology and mineral resources of the International Falls and Roseau CUSMAP projects. The drill core was studied both to characterize major geologic units deliniated by aeromagnetic and gravity surveys and to help define the mineral resource potential of the area. Approximately 3 months were spent examining drill core beginning in early 1985 and contining until the spring of 1987. During that time drill core from 107 drill holes containing more than 40,000 feet of core was examined, sampled, or logged by the authors.

In the area of the western 1/3 of the International Falls and the Roseau Quadrangle 1°x2° quadrangles a total of 207 holes have been drilled and are or will be in the MDNR Core Repository (as of 4/1/89). The Minnesota Geological Survey (MGS), in cooperation with the USGS CUSMAP effort, drilled 21 of these holes (CUS-series) to provide information on the Quaternary stratigraphy and characterize the underlying bedrock with a 10-foot diamond drill core. A total of 68,314 feet have been cored with a diamond drill out of a total 105,050 feet (excluding the MGS cores) drilled during base-metal massive sulfide, gold, and iron exploration since 1952 in the area covered by this report. The average depth to bedrock as defined by this drilling is approximately 150 feet.

Method of investigation

Drill hole locations were digitized using the USGS GSMAP program from locations plotted on USGS 1:100,000 scale $1/2^{o}$ x 1^{o} quadrangles (International Falls, Baudette, Roseau, and Grygla). Locations were obtained where possible from the original location maps provided by the companies that drilled the holes. Where location maps were not available, locations obtained from the MDNR defined to the nearest 1/16 of a section were used.

Each drill hole labeled with a * in Table 3, column 3 was examined during the study. The degree to which a hole was studied was based on the complexity of the geology, its geologic or mineral resource significance, and the reliability of the available drill logs. Some drill holes were relogged in detail whereas others were spot checked and sampled for geochemistry and petrology only. Geochemical analyses of core samples are available in three of the open-file reports listed above. In general, each hole was examined to define its lithology, structure, metamorphic grade, alteration, and economic mineralogy.

The prefix "meta" was not used in describing lithology because all of the rocks have undergone some degree of metamorphism except for some relatively unmetamorphosed Proterozoic diabase dikes.

Organization of Data

Location data both in Township, Range and Section and in latitude-longitude are given in Table 1. Other physical attributes of the drill holes such as depth, orientation of the hole, the angle at which it was drilled, and the depth to bedrock are tabulated.

Summary lithologic logs and major rock units percentages are tabulated in Table 2. If the hole was examined by us (see Table 3, column 3) that lithologic information is summarized. If the hole was not examined during this study, data from existing lithologic logs was used with modification to conform with our terminology and/or was reinterpreted using geochemical data that was not available during the intial core logging.

Table 3 summarizes petrologic, structural, alteration, mineralization, and interpreted depositional environment information by drill hole.

Some drill holes are listed in only one of the two tables containing geologic information (Tables 2 and 3). These holes were not logged during this study and information was not specific enough in the previous lithologic logs for inclusion in the database. Holes listed only in Table 1 were not logged during this study and have no reliable previous lithologic logs.

It should be noted that for Table 3 the information listed under Metamorphic Minerals are minerals observed in hand specimen and that those observations listed under the presences of the minerals listed under Mineralization of Economic Significance may have significance for the occurrence of several types of metallic mineral deposits. The information listed under Structural Interpretation, Volcanic Facies, Sedimentary Facies, and Environment represent our geologic interpretations based on examination of the drill core. These interpretations, coupled with the mineralogical and petrological observations, hopefully will provide a consistent database from which the user can extract both local and regional information. These data, combined with the published geochemical databases (USGS OFR 87-366, 88-525, and 88-575) provide powerful tools to users from the industrial and academic communities and agencies of Federal and State governments. In undertaking this project, we have strived for accuracy and consistency. As research continues some of our conclusions may prove invalid, however because of the uniform nature of data (for example, the same two people looking at the available core), the data bases can continue to be modified and updated and should prove useful in the future.

* Branch of Eastern Mineral Resources, Reston, Virginia, 22092

** Branch of Central Mineral Resources, Denver, Colorado, 80225

Table 1. Locations and background information for drill holes in the Roseau and western International Falls 1°x2° quadrangles. Abbreviations are listed at the end of the table. Blanks in the data may represent no data or that the data is not defined, such as azimuth in the case of a vertical hole.

HOLE	COUNTY	LATITUDE S.	T.	R.	LONGITUDE d.	m.	s.	d.	m.	s.	AZ	INCL	TD	TOP	CORED INTV.	BEDROCK APPAR	TRUE	ELEV-TION	COMPANY	1°x2° quadrangle
40917	L.O.W	34	157	33	48	22	19	94	52	43	0	55	446	183	263		150		Inco	Roseau
40918	L.O.W	8	157	33	48	26	10	94	54	43	0	55	607	239	368	150	123		Inco	Roseau
40919	L.O.W	25	159	33	48	33	19	94	49	32	180	55	594	130	464		106		Inco	Roseau
40920	L.O.W	29	159	33	48	33	26	94	55	20	180	55	524	256	268		210		Inco	Roseau
40926	L.O.W	14	157	34	48	25	12	94	58	39	0	50	493	105	388		80	1120	Inco	Roseau
A1-1	Koochiching	35	158	29	48	27	52	94	20	19	0	55	600	242	358		198	1130	Amoco	Roseau
A4-1	Koochiching	32	157	29	48	22	35	94	23	13	150	55	600	247	353		202	1175	Amoco	Roseau
A4-2	Koochiching	33	157	29	48	22	24	94	22	56	150	55	540	254	286		208	1175	Amoco	Roseau
A6-1	Koochiching	19	158	29	48	29	45	94	25	7	340	55	683	146	537		120	1132	Amoco	Roseau
A6-2	Koochiching	18	158	29	48	29	55	94	25	1	310	55	659	214	445		175	1132	Amoco	Roseau
A8-1	Koochiching	7	158	28	48	30	46	94	17	42	145	55	600	195	405		160	1025	Amoco	Roseau
A9-1	Koochiching	5	158	28	48	31	39	94	16	13	135	55	600	93	507		76	1122	Amoco	Roseau
A9-2	Koochiching	8	158	28	48	31	27	94	16	22		?	600	121	479		?		Amoco	Roseau
A10-1	Koochiching	1	158	29	48	31	55	94	19	2	315	55	600	216	384		177	1118	Amoco	Roseau
B-B-2	L.O.W	27	159	32	48	33	51	94	44	56	180	50	330	177	153		136		Moore	Roseau
BD-1	Roseau	30	162	36	48	49	2	95	20	22	280	55	994	256	738	185	152		Exxon	Roseau
BD-1	L.O.W	12	159	32	48	36	5	94	42	13	315	50	410	157	253		120		Texasgulf	Roseau
BD-2	Roseau	31	162	36	48	48	48	95	20	22	90	55	1093	203	890		166		Exxon	Roseau
BD-2	L.O.W	15	159	32	48	35	8	94	44	42	135	50	434	199	235		152		Texasgulf	Roseau
BD-3	L.O.W	14	159	32	48	35	22	94	43	33	315	50	424	256	168		196		Texasgulf	Roseau
BD-II-1	L.O.W	33	160	31	48	38	11	94	37	56	315	47	723	174	549	213	156	1200	Duval	Roseau
BD-II-2	L.O.W	33	160	31	48	38	1	94	38	16	135	60	502	206	296		178	1200	Duval	Roseau
BD-N-1	L.O.W	26	158	34	48	29	14	94	59	49	0	45	812	71	741		50	1200	Battle Mountain	Roseau
BD-P-2	L.O.W	10	158	34	48	31	8	95	0	31	0	45	639	123	516		87	1240	Battle Mountain	Roseau
BLT-1	Roseau	16	161	37	48	45	55	95	25	58	180	60	704	334	370	255	221	1135	Newmont	Roseau
BLT-2	Roseau	16	161	37	48	45	48	95	25	50	0	60	600	320	280	265	229	1130	Newmont	Roseau
B-Q-1	L.O.W	11	158	34	48	30	47	94	58	51	180	50	454	88	366		67		Exxon	Roseau
B-1	Beltrami	20	156	36	48	18	35	95	17	39		90							MDNR	Roseau
B-2	Beltrami	29	156	36	48	17	38	95	17	40		90							MDNR	Roseau
B3-1	L.O.W	17	160	30	48	40	57	94	31	4	175	55	665	180	485		147	1093	Amoco	Roseau
B3-2	L.O.W	17	160	30	48	40	50	94	31	20	175	55	605	195	410		160	1095	Amoco	Roseau
B3-3	L.O.W	16	160	30	48	41	0	94	30	37	175	55	574	192	382		157	1095	Amoco	Roseau
B5-1	L.O.W	25	158	34	48	28	9	94	57	9	180	45	770	95	675		67		Amoco	Roseau
B7-1	L.O.W	23	160	30	48	39	58	94	28	10	145	45	624	152	472		107		Amoco	Roseau
B7-2	L.O.W	23	160	30	48	40	8	94	27	56	145	45	704	143	561		101		Amoco	Roseau
B7-3	L.O.W	23	160	30	48	39	46	94	28	6	340	55	700	138	562		113		Amoco	Roseau
B21-1	L.O.W	34	159	33	48	32	30	94	52	7	180	45	453	112	341		79		Exxon	Roseau
B21-2	L.O.W	3	158	33	48	32	34	94	52	57	7	45	724	126	598		89		Exxon	Roseau
B21-3	L.O.W	2	158	33	48	32	21	94	51	40	0	45	523	128	395		91		Exxon	Roseau
B24-1	L.O.W	30	158	33	48	28	51	94	55	55	0	45	614	136	478	130	92		Exxon	Roseau
B24-2	L.O.W	30	158	33	48	28	51	94	55	55	0	45	755	175	580	170	120		Exxon	Roseau
B24-3	L.O.W	30	158	33	48	28	51	94	55	52	180	45	855	142	713		100		Exxon	Roseau
B24-4	L.O.W	19	158	33	48	29	2	94	55	52	180	60	1684	105	1579		91		Exxon	Roseau
B31-1	L.O.W	5	157	34	48	26	57	95	4	27	150	45	723	178	545	176	124		Exxon	Roseau
B31-2	L.O.W	5	157	34	48	27	1	95	4	15	150	55	993	268	725	266	218		Exxon	Roseau
B31-3	L.O.W	5	157	34	48	26	58	95	3	53	180	55	535	102	433	97	79		Exxon	Roseau
B31-4	L.O.W	5	157	34	48	26	49	95	3	54	0	55	503	99	404	96	79		Exxon	Roseau
B31-5	L.O.W	5	157	34	48	26	54	95	3	54		90	675	81	594		81		Exxon	Roseau
B35-1	L.O.W	21	157	34	48	23	49	95	1	1	330	45	428	143	285		101		Exxon	Roseau
B54-1	L.O.W	17	158	34	48	30	33	95	3	25	180	55	325	150	175		123		Exxon	Roseau
B57-1	L.O.W	9	160	30	48	41	25	94	30	52	180	40	353	171	182	170	109		Exxon	Roseau
B58-1	L.O.W	32	158	33	48	27	28	94	55	31	165	45	444	155	289		110		Exxon	Roseau
CUS-2A	Koochiching	27	28	158	48	28	28	94	13	43		90	153				133		MGS	Roseau
CUS-3A	Koochiching	35	28	158	48	27	41	94	11	26		90	249				179		MGS	Roseau
CUS-5	Koochiching	36	28	160	48	37	41	94	11	3		90	202				164		MGS	Roseau
CUS-7	Koochiching	10	29	160	48	41	17	94	20	37		90	258				166		MGS	Roseau
CUS-7A	L.O.W	35	30	158	48	28	5	94	27	46		90	101				81		MGS	Roseau
CUS-9	L.O.W	33	31	161	48	42	54	94	39	3		90	198				198		MGS	Roseau
CUS-10	L.O.W	20	31	160	48	40	12	94	39	12		90	172				143		MGS	Roseau
CUS-11	L.O.W	9	31	159	48	36	46	94	38	48		90	293				222		MGS	Roseau
CUS-15	L.O.W	3	32	159	48	36	56	94	45	20		90	243				193		MGS	Roseau
CUS-16	L.O.W	31	33	160	48	37	40	94	57	1		90	315				213		MGS	Roseau

Table 1 (continued)

HOLE	COUNTY	S.	T.	R.	LATITUDE d.	m.	s.	LONGITUDE d.	m.	s.	AZ	INCL	TD	CORED INTV. TOP	CORED INTV.	BEDROCK APPAR	BEDROCK TRUE	ELEV-TION	COMPANY	1x2° quadrangle
CUS-17	L.O.W	18	33	159	48	35	18	94	56	45		90	190				168		MGS	Roseau
CUS-18	L.O.W	31	33	159	48	33	3	94	57	0		90	338				230		MGS	Roseau
CUS-19	L.O.W	3	35	159	48	37	13	95	8	50		90	246				230		MGS	Roseau
CUS-20	Roseau	35	35	161	48	42	57	95	7	56		90	179				157		MGS	Roseau
CUS-21B	Beltrami	30	36	158	48	28	41	95	19	15		90	377				243		MGS	Roseau
CUS-22	Roseau	29	36	161	48	43	53	95	19	42		90	364				259		MGS	Roseau
CUS-23	L.O.W	6	36	160	48	42	43	95	19	44		90	257				197		MGS	Roseau
CUS-24	L.O.W	18	36	160	48	40	42	95	20	30		90	301				217		MGS	Roseau
CUS-25	L.O.W	6	36	159	48	37	25	95	20	28		90	353				246		MGS	Roseau
CUS-26A	Koochiching	11	28	157	48	26	8	94	11	56		90	195				135		MGS	Roseau
CUS-27A	L.O.W	13	34	157	48	25	28	94	57	7		90	53				23		MGS	Roseau
D-1	Roseau	14	162	37	48	50	41	95	23	36	270	55	532	198	334	160	131		Exxon	Roseau
FT-1	Beltrami	23	158	36	48	28	55	95	14	2	180	50	711	248	463		190		Texasgulf	Roseau
FT-2	Beltrami	23	158	36	48	28	56	95	14	19	180	50	795	211	584		162		Texasgulf	Roseau
FT-3	Beltrami	23	158	36	48	28	54	95	14	42	180	50	625	241	384		185		Texasgulf	Roseau
FT-4	Beltrami	26	158	36	48	28	31	95	14	36	180	50	725	280	445		214		Texasgulf	Roseau
FT-6	Beltrami	31	157	36	48	22	16	95	20	29	0	60	643	316	327		274		Texasgulf	Roseau
FT-7	Beltrami	7	158	36	48	31	1	95	19	12	20	60	835	211	624		183		Texasgulf	Roseau
FT-8	Beltrami	1	155	38	48	16	20	95	28	3	295	60	641	355	286		307		Texasgulf	Roseau
FT-9	Beltrami	31	156	37	48	17	33	95	26	58	120	55	965	332	633		272		Texasgulf	Roseau
FT-10	Beltrami	7	158	36	48	31	19	95	19	10	0	50	800	373	427		286		Texasgulf	Roseau
FT-12	Beltrami	7	158	36	48	31	9	95	19	10	200	50	534	263	271		201		Texasgulf	Roseau
FT-13	Beltrami	7	158	36	48	31	9	95	19	10		90	650	193	457		193		Texasgulf	Roseau
FT-14	Beltrami	13	158	36	48	30	33	95	13	11	180	60	615	218	397		189		Texasgulf	Roseau
FT-15	Beltrami	24	157	36	48	24	23	95	13	46	151	50	335	249	86		191		Texasgulf	Roseau
FT-16	Beltrami	24	157	36	48	24	23	95	14	46	331	60	480	215	265		186		Texasgulf	Roseau
FT-17	Beltrami	24	157	36	48	24	25	95	13	8	340	50	425	240	185		184		Texasgulf	Roseau
FT-18	Beltrami	36	157	36	48	22	26	95	12	45	335	50	435	140	295		107		Texasgulf	Roseau
FT-19	Beltrami	24	158	38	48	29	2	95	28	20	20	55	724	276	448	264	216		Texasgulf	Roseau
FT-20	Beltrami	1	155	38	48	16	26	95	28	21	295	60	641	300	341	280	242		Texasgulf	Roseau
FT-21	Beltrami	7	158	36	48	31	0	95	19	21		90	775	201	574		201		Texasgulf	Roseau
FT-22	Beltrami	7	158	36	48	31	5	95	19	20		90	634	200	434		200		Texasgulf	Roseau
FT-23	Beltrami	7	158	36	48	31	8	95	19	30		90	239	225	14		225		Texasgulf	Roseau
G-1	Marshall	3	157	39	48	26	29	95	39	35	0	60	985	213	772		184		Exxon	Roseau
HAN-1*	Roseau	26	159	37	48	33	37	95	22	50	160	60	1013	501	512	286	248	1225	Newmont	Roseau
HAN-2*	Roseau	26	159	37	48	33	32	95	22	14	180	60	888	420	468	275	238	1135	Newmont	Roseau
HC-1	Roseau	9	161	37	48	46	53	95	26	9	270	50	783	258	525	250	192		Exxon	Roseau
IH-10	Koochiching	16	159	25	48	36	17	93	51	11		90	47	20	27		20		MDNR	International Falls
IH-11	Koochiching	16	159	25	48	35	40	93	51	12		90	24	8	16		8		MDNR	International Falls
IH-12	Koochiching	16	159	25	48	35	41	93	51	4		90	43	14	29		14		MDNR	International Falls
IH-13	Koochiching	10	159	25	48	36	37	93	49	44		90	73	28	45		28		MDNR	International Falls
IND-1	Koochiching	16	159	25	48	35	38	93	50	8	150	50	512	42	470	42	32	1125	Newmont	International Falls
IND-2	Koochiching	16	159	25	48	35	33	93	49	52	125	50	597	212	385	202	155	1123	Newmont	International Falls
IND-3	Koochiching	16	159	25	48	35	47	93	50	16	145	50	370	31	339	30	23	1135	Newmont	International Falls
J-1	Roseau	36	163	40	48	53	41	95	45	37	225	55	903	200	703	165	135	1038	Exxon	Roseau
KC-1	Koochiching	3	158	27	48	32	15	94	5	57		90	313	167	146		167		Moore	Roseau
KC-2	Koochiching	35	159	27	48	33	5	94	4	23	180	60	320	182	138		158		Moore	Roseau
KC-3	Koochiching	15	159	27	48	32	23	94	6	14	180	60	220	170	50		147		Moore	Roseau
KC-4	Koochiching	34	159	27	48	32	35	94	5	2	180	60	255	175	80		152		Moore	Roseau
LW-346-1	L.O.W.	14	159	32	48	35	50	94	45	38	340	60	651	202	449	167	145	1150	St. Joe	Roseau
LW-346-2	L.O.W.	14	159	32	48	35	44	94	45	50	315	60	641	161	480	147	127	1150	St. Joe	Roseau
M-1	Koochiching	2	159	26	48	37	37	93	55	60		90	55	50	5		50		MDNR	International Falls
M-1	Marshall	15	158	40	48	30	15	95	47	7	10	60	1095	336	759		291		Exxon	Roseau
MDD-1	L.O.W.	12	158	34	48	30	58	94	57	6	340	45	641	216	425		153	1210	Amselco	Roseau
MED-1	L.O.W.	32	158	33	48	27	59	94	55	35	352	55	514	163	351		134	1180	Amselco	Roseau
MMD-1	L.O.W.	25	158	34	48	28	39	94	57	25	326	55	559	109	450		89	1191	Amselco	Roseau
MQD-1	L.O.W.	11	158	34	48	30	49	94	59	17	137	45	376	121	255		86	1225	Amselco	Roseau
MQD-2	L.O.W.	11	158	34	48	30	40	94	59	12	315	45	422	68	354		48	1225	Amselco	Roseau
MR-1-84	Marshall	2	157	39	48	19	22	95	38	37	330	45	583	303	280		214		Texasgulf	Roseau
MR-2-84	Marshall	2	157	39	48	26	32	95	38	38	150	45	888	310	578		219		Texasgulf	Roseau
MR-86-1	Koochiching	36	160	26	48	37	59	93	54	44	180	45	351	50	301	48	34	1070	Cominco	International Falls
MSD-1	L.O.W.	6	158	33	48	31	35	94	55	48	342	55	618	233	385		191	1232	Amselco	Roseau

Table 1 (continued)

HOLE	COUNTY	S.	T.	R.	LATITUDE d.	m.	s.	LONGITUDE d.	m.	s.	AZ	INCL	TD	TOP	CORED INTV.	BEDROCK APPAR	BEDROCK TRUE	ELEV-TION	COMPANY	1°x2° quadrangle
NCB-1	Koochiching	16	159	27	48	35	13	94	6	2	130	45	384	49	335		35		Superior Oil	Roseau
NCB-2	Koochiching	16	159	27	48	35	10	94	6	35	130	55	574	5	569		4		Superior Oil	Roseau
OB-101	Koochiching	16	157	25	48	24	45	93	50	55		90					126		MNDNR	International Falls
OB-102	Koochiching	12	156	25	48	19	31	93	49	2		90					184		MNDNR	International Falls
OB-103	Koochiching	19	69	26	48	26	56	93	44	12		90					122		MNDNR	International Falls
OB-104	Koochiching	16	68	26	48	22	34	93	41	56		90					89		MNDNR	International Falls
OB-105	Koochiching	28	68	25	48	20	47	93	33	53		90					56		MNDNR	International Falls
OB-106	Koochiching	19	69	25	48	27	20	93	36	45		90					108		MNDNR	International Falls
OB-107	Koochiching	29	68	24	48	20	57	93	26	47		90					142		MNDNR	International Falls
OB-108	Koochiching	16	69	24	48	28	31	93	25	35		90					132		MNDNR	International Falls
OB-109	Koochiching	16	69	23	48	27	41	93	17	24		90					45		MNDNR	International Falls
OB-110	Koochiching	12	68	24	48	23	35	93	21	47		90					52		MNDNR	International Falls
OB-210	Koochiching	25	64	21	48	0	54	93	0	14		90					49		MNDNR	International Falls
OB-211	Koochiching	22	64	20	48	38	30	95	54	44		90					56		MNDNR	International Falls
ROS-1*	Roseau	32	159	37	48	33	12	95	26	33	180	60	849	321	528	270	234	1220	Newmont	Roseau
ROS-2*	Roseau	32	159	37	48	32	41	95	26	49	0	60	799	449	350	278	241	1224	Newmont	Roseau
RR-1	Koochiching	31	71	23	48	35	35	93	19	58	180	44	1602	6	1596		4		MDNR	International Falls
RR-2	Koochiching	4	70	23	48	34	40	93	17	26	348	43	553	11	542		8		MDNR	International Falls
RR6-1	Koochiching	20	159	27	48	34	38	94	7	34	180	50	414	143	271		110		Texasgulf	Roseau
RR6-2	Koochiching	20	159	27	48	34	21	94	7	59	180	60	366	142	224		123		Texasgulf	Roseau
RR12-1	Koochiching	10	159	28	48	36	27	94	13	14	0	45	280	66	214		47		Texasgulf	Roseau
RR12-2	Koochiching	10	159	28	48	36	25	94	13	32	0	45	282	95	187	92	65		Texasgulf	Roseau
RR16-1	L.O.W.	31	160	30	48	38	12	94	32	29	0	45	290	26	264	18	13		Texasgulf	Roseau
RR80-1	Koochiching	2	159	27	48	37	1	94	4	3	300	45	472	258	214		182	1145	Cominco	Roseau
RR80-2	Koochiching	7	159	26	48	36	40	94	0	58	330	45	461	53	408		37	1138	Cominco	Roseau
R1-1	Koochiching	25	159	27	48	33	53	94	2	54	180	60	650	200	450		173		Exxon	Roseau
R2-1	Koochiching	15	159	27	48	35	22	94	5	57	130	45	600	63	537		45		Exxon	Roseau
R2-1A	Koochiching	16	159	27	48	35	26	94	6	10	130	45	385	88	297		62		Exxon	Roseau
R2-2	Koochiching	21	159	27	48	34	49	94	6	34	120	45	763	113	650		80		Exxon	Roseau
R2-3	Koochiching	21	159	27	48	34	57	94	6	25	115	60	784	107	677		93		Exxon	Roseau
R-3	Roseau	34	160	41	48	38	30	95	54	44	178	60	1123	352	770.5	330	305	1138	Newmont	Roseau
R3-1	Koochiching	29	159	27	48	34	6	94	8	15	0	45	545	126	419		89	1157	Exxon	Roseau
R3-2	Koochiching	21	159	27	48	34	12	94	7	11	300	45	744	92	652		65	1142	Exxon	Roseau
R3-3	Koochiching	30	159	27	48	33	57	94	10	4	0	45	758	3	755		2		Exxon	Roseau
R3-4	Koochiching	30	159	27	48	34	6	94	9	46	0	45	553	7	546		5		Exxon	Roseau
R4-1	Koochiching	4	158	27	48	31	56	94	6	31	0	45	422	97	325		69		Exxon	Roseau
R4-2	Koochiching	3	158	27	48	31	54	94	5	58	340	45	530	150	380		106		Exxon	Roseau
R4-3	Koochiching	4	158	27	48	32	20	94	7	13	345	45	452	240	212		170		Exxon	Roseau
R5-1	Koochiching	26	159	28	48	33	33	94	11	54	315	45	805	116	689		82		Exxon	Roseau
R5-2	Koochiching	26	159	28	48	33	43	94	12	6	315	45	633	71	562		50		Exxon	Roseau
S43-1	Koochiching	16	159	27	48	35	11	94	6	12	135	42	498	7	491		5		Texasgulf	Roseau
S43-2	Koochiching	16	159	27	48	35	10	94	6	22	135	45	524	10	514		7		Texasgulf	Roseau
S43-3	Koochiching	16	159	27	48	35	17	94	6	13	135	45	450	21	429		15		Texasgulf	Roseau
SP-1A	Roseau	36	162	37	48	48	37	95	22	4	90	50	581	315	266	200	153	1105	Exxon	Roseau
SP-2	Roseau	36	152	37	48	48	38	95	21	48	270	55	954	300	654	180	147		Exxon	Roseau
SQW-1*	Roseau	4	158	37	48	31	46	95	23	51	180	60	754	380	374	285	247	1230	Newmont	Roseau
Star-1	Marshall	5	155	41	48	16	45	95	57	2		90	615	413	202	406	406		Lehmann	Roseau
Star-2	Marshall	4	155	39	48	16	51	95	40	44		90	357	250	107		250		Lehmann	Roseau
Star-3	Marshall	1	155	39	48	16	21	95	36	24		90	495	235	260		235		Lehmann	Roseau
T20-1	Beltrami	19	156	37	48	28	58	95	27	42	0	55	835	393	442		322		Exxon	Roseau
T25A-1	Beltrami	24	158	36	48	29	2	95	13	35	168	55	654	280	374	279	229		Exxon	Roseau
T25B-1	Beltrami	25	158	36	48	28	32	95	13	24	348	55	836	319	517	317	260		Exxon	Roseau
T25B-2	Beltrami	25	158	36	48	28	48	95	13	24	168	60	695	297	398		257		Exxon	Roseau
UBD-1	Koochiching	17	157	29	48	25	24	94	24	20	160	70	426	90	336		85		BHP	Roseau
UBD-2	Koochiching	17	157	29	48	25	30	94	23	53	160	70	481	170	311		160		BHP	Roseau
UBD-3	Koochiching	29	158	28	48	28	23	94	16	6	90	45	573	170	403		120	1170	BHP	Roseau
UBD-4	Koochiching	35	158	28	48	27	43	94	11	29	180	60	619	254	365		220		BHP	Roseau
UBD-5	Koochiching	35	158	28	48	27	34	94	11	52	340	45	820	299	521		211		BHP	Roseau
UBD-8	Koochiching	27	158	29							0	55	584	215	369		176	1160	BHP	Roseau
WB-1	Roseau	27	162	37	48	48	35	95	15	32	315	55	933	310	623		254		Exxon	Roseau
W1-1	Roseau	12	161	37	48	46	53	95	21	15		90	296	115	181		115		Exxon	Roseau
W1-84	Roseau	36	159	41	48	33	2	95	51	56	204	45	852	424	428		300		Texasgulf	Roseau

Table 1 (continued)

HOLE	COUNTY	S.	T.	R.	LATITUDE d.	m.	s.	LONGITUDE d.	m.	s.	AZ	INCL	TD	TOP	CORED INTV.	BEDROCK APPAR	BEDROCK TRUE	ELEV-TION	COMPANY	1°x2° quadrangle
W3-1	Roseau	6	161	36	48	47	27	95	20	18		90	324	166	158		166		Exxon	Roseau
W8-1	Roseau	35	162	36	48	48	35	95	15	34		90	305	174	131		174		Exxon	Roseau
W9-1	Roseau	10	162	36	48	51	52	95	16	55		90	345	159	186		159		Exxon	Roseau
W13-1	Roseau	18	162	36	48	50	47	95	20	46		90	316	145	171		145		Exxon	Roseau
YGZ-1	Roseau	31	160	40	48	37	43	95	51	25	210	60	527	379	148		328	1150	Houston	Roseau
YWA-1	Roseau	27	162	36	48	49	3	95	16	29	270	60	365	217	148		188		Houston	Roseau
YWA-2	Roseau	27	162	36	48	48	58	95	16	30	270	60	360	206	154		178	1130	Houston	Roseau
YWA-3	Roseau	27	162	36	48	48	57	95	16	33	270	60	619	218	401		189	1135	Houston	Roseau
YWA-4	Roseau	27	162	36	48	48	57	95	16	33	270	60	771	199	572		172	1135	Houston	Roseau
YWI-1	Roseau	25	161	36	48	43	42	95	14	19	225	60	804	333	471		288	1224	Houston	Roseau
YWL-1	L.O.W.	20	160	36	48	40	0	95	18	5	250	60	687	282	405		244	1222	Houston	Roseau
YWM-1	L.O.W.	28	160	36	48	38	37	95	16	43		90	600	253	347		253	1235	Houston	Roseau
YWQ-1	L.O.W.	15	159	36	48	35	44	95	16	30	252	60	844	399	445		346	1255	Houston	Roseau
YWT-1	Roseau	23	159	37	48	34	47	95	22	1	225	60	683	371	312		321	1245	Houston	Roseau
YWZ-1	L.O.W.	8	159	36	48	35	58	95	19	8	270	60	814	282	532		244	1229	Houston	Roseau
YWZ-2	L.O.W.	7	159	36	48	36	8	95	18	9	225	60	793	294	499		255	1227	Houston	Roseau

* drill holes on active leases which were unavailable for study as of 4/89.

Abbreviations of terms used in Table 1.

az	azimuth of the drill hole
bedrock appar	footage at which bedrock was encountered
BHP	Broken Hill Propietary
bottom	bottom of the cored interval
company	company which drilled the hole or the lease holder
d	degrees
depth true	vertical depth to bedrock
elevation	elevation of the drill collar (in feet)
Houston	Houston Oil and Minerals
incl	inclination of the drill hole from the horizontal
L.O.W.	Lake of the Woods
m	minutes
MDNR	Minnesota Department of Natural Resources
MGS	Minnesota Geological Survey
R	range
s	seconds
S	section
T	township
td	total depth of the drill hole
top	depth to the top of the cored interval

Table 2. Summary lithologic logs and percentage of major lithologies by drill hole for exploration drill holes in the Roseau and western International Falls 1°x2° quadrangles. All numerical information is given in feet. Total length is the total cored interval. Proportion is the thickness of a lithogic unit divided by the total cored interval. Proportions of lithologic units were combined into generalized lithologic units which are expressed as a percentage of the cored interval for each hole. The abbreviations used here are listed at the end of Table 3.

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
40917	GRAYWACKE	180.0	446.0	266.0	266.0	1.19	GRAYWACKE	100
40918	GRAYWACKE	150.0	467.0	317.0	457.0	0.69	GRAYWACKE	69
40918	MAFIC TUFF	467.0	512.0	45.0		0.10	MAFIC TUFF\VOLCANIC	31
40918	MAFIC VOLCANIC	512.0	607.0	95.0		0.21		
40919	GABBRO	130.0	138.0	8.0	412.0	0.02	GRANODIORITE	70
40919	IF	138.0	183.0	45.0		0.11	IF	20
40919	GRANODIORITE	183.0	211.0	28.0		0.07	MIGMATITE	5
40919	MASSIVE SULFIDE	211.0	225.0	14.0		0.03	GABBRO	2
40919	MIGMATITE	225.0	244.0	19.0		0.05	MASSIVE SULFIDE	3
40919	IF	244.0	280.0	36.0		0.09		
40919	GRANODIORITE (ABUNDANT XENOLITHS)	280.0	542.0	262.0		0.64		
40920	MAFIC VOLCANIC	452.0	524.0	72.0	72.0	1.00	MAFIC VOLCANIC	100
40926	GABBRO	114.0	227.0	113.0	379.0	0.30	FELSIC VOLCANIC	34
40926	DACITE AGGLOMERATE	227.0	354.0	127.0		0.34	GRAYWACKE	27
40926	GRAPHITIC SEDIMENT	354.0	392.0	38.0		0.10	GABBRO	30
40926	GRAYWACKE	392.0	493.0	101.0		0.27	GRAPHITIC SEDIMENT	10
A-1-1	GABBRO	242.0	600.0	358.0	358.0	1.00	GABBRO	100
A-4-1	TONALITE	247.0	305.0	58.0	353.0	0.16	GRAPHITIC SCHIST (SEDIMENT)	79
A-4-1	GRAPHITIC CHLORITE-MUSCOVITE SCHIST	305.0	332.0	27.0		0.08	TONALITE	21
A-4-1	TONALITE	332.0	349.0	17.0		0.05		
A-4-1	GRAPHITIC CHLORITE-MUSCOVITE SCHIST	349.0	600.0	251.0		0.71		
A-4-2	QUARTZ-BIOTITE-PLAGIOCLASE SCHIST	254.0	421.7	167.7	286.0	0.59	SCHIST (SEDIMENT)	80
A-4-2	GRAPHITIC CHLORITE-MUSCOVITE SCHIST?	421.7	479.6	57.9		0.20	GRAPHITIC SCHIST (SEDIMENT)	20
A-4-2	QUARTZ-BIOTITE-PLAGIOCLASE SCHIST	479.6	540.0	60.4		0.21		
A-6-1	GRAYWACKE	146.0	193.0	47.0	537.0	0.09	GRAYWACKE	83
A-6-1	DIORITE	193.0	212.8	19.8		0.04	IF	9
A-6-1	GRAYWACKE	212.8	431.0	218.2		0.41	DIORITE	4
A-6-1	IF	431.0	433.0	2.0		0.00	FELSIC VOLCANIC/SEDIMENT	4
A-6-1	GRAPHITIC FELSIC VOLCANIC SEDIMENT	433.0	452.0	19.0		0.04		
A-6-1	IF	452.0	482.0	30.0		0.06		
A-6-1	GRAYWACKE	482.0	569.0	87.0		0.16		
A-6-1	IF	569.0	584.0	15.0		0.03		
A-6-1	GRAYWACKE	584.0	683.0	99.0		0.18		
A-6-2	MAFIC VOLCANIC ?	214.0	659.0	445.0	445.0		ALTERED MAFIC VOLCANIC ?	100
A-8-1	DIORITE	195.0	232.0	37.0	405.0	0.09	FELSIC TUFF	57
A-8-1	FELSIC TUFF	232.0	251.0	19.0		0.05	MAFIC VOLCANIC	33
A-8-1	MAFIC VOLCANIC	251.0	385.0	134.0		0.33	DIORITE	9
A-8-1	MASSIVE SULFIDE	385.0	390.0	5.0		0.01	MASSIVE SULFIDE	1
A-8-1	FELSIC TUFF	390.0	600.0	210.0		0.52		
A-9-1	FELSIC TUFF	93.0	195.0	102.0	407.0	0.25	GABBRO	47
A-9-1	GABBRO	195.0	270.0	75.0		0.18	FELSIC TUFF	25
A-9-1	MAFIC VOLCANIC	270.0	297.0	27.0		0.07	MAFIC VOLCANIC/SEDIMENT	17
A-9-1	GRAYWACKE	297.0	339.0	42.0		0.10	GRAYWACKE	10
A-9-1	MASSIVE SULFIDE	339.0	341.0	2.0		0.00	MASSIVE SULFIDE	1
A-9-1	MAFIC VOLCANIC SEDIMENT	341.0	369.0	28.0		0.07		
A-9-1	MAFIC VOLCANIC	369.0	380.0	11.0		0.03		
A-9-1	GABBRO	380.0	500.0	120.0		0.29		
A-9-2	FELSIC VOLCANIC SEDIMENTS	121.0	425.0	304.0	479.0	0.63	FELSIC VOLCANIC SEDIMENT	64

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
A-9-2	MAFIC VOLCANIC	425.0	600.0	175.0		0.37	MAFIC VOLCANIC	36
A-10-1	MAFIC VOLCANIC	216.0	266.0	50.0	384.0	0.13	FELSIC TUFF	73
A-10-1	SERICITE-CHLORITE SCHIST	266.0	268.0	2.0		0.01	MAFIC VOLCANIC	13
A-10-1	GRAPHITIC ARGILLITE	268.0	279.0	11.0		0.03	GRAYWACKE	10
A-10-1	FELSIC TUFF	279.0	420.0	141.0		0.37	GRAPHITIC ARGILLITE	3
A-10-1	GRAYWACKE	420.0	460.0	40.0		0.10	SERICITE-CHLORITE SCHIST	1
A-10-1	FELSIC TUFF	460.0	600.0	140.0		0.36		
B-B-2	GABBRO	177.0	200.0	23.0	153.0	0.15	INTERMEDIATE VOLCANIC	55
B-B-2	INTERMEDIATE TUFF	200.0	275.0	75.0		0.49	MAFIC VOLCANIC	30
B-B-2	INTERMEDIATE VOLCANIC BRECCIA	275.0	284.0	9.0		0.06	GABBRO	15
B-B-2	MAFIC VOLCANIC-PILLOWED	284.0	330.0	46.0		0.30		
BD-1	INTERMEDIATE TUFF	157.0	174.0	17.0	253.0	0.07	MAFIC VOLCANIC/TUFF	51
BD-1	FELSIC TUFF	174.0	191.0	17.0		0.07	FELSIC VOLCANIC	41
BD-1	MAFIC TUFF	191.0	222.0	31.0		0.12	INTERMEDIATE TUFF	8
BD-1	FELSIC TUFF	222.0	228.0	6.0		0.02	MASSIVE SULFIDE	1
BD-1	MAFIC VOLCANIC	228.0	268.0	40.0		0.16		
BD-1	MAFIC VOLCANIC	268.0	308.0	40.0		0.16		
BD-1	MASSIVE SULFIDE	308.0	310.0	2.0		0.01		
BD-1	MAFIC TUFF	310.0	317.0	7.0		0.03		
BD-1	FELSIC TUFF	317.0	350.0	33.0		0.13		
BD-1	MAFIC TUFF	350.0	356.0	6.0		0.02		
BD-1	FELSIC TUFF	356.0	404.0	48.0		0.19		
BD-1	MAFIC TUFF	404.0	409.0	5.0		0.02		
BD-1	FELSIC TUFF	409.0	410.0	1.0		0.00		
BD-1*	FELSIC TUFF	256.0	297.0	41.0	738.0	0.06	GABBRO/ANORTHOSITE	45
BD-1*	MAFIC TUFF	297.0	314.0	17.0		0.02	FELSIC TUFF	29
BD-1*	FELSIC TUFF	314.0	324.0	10.0		0.01	MAFIC TUFF/VOLCANIC	16
BD-1*	MAFIC TUFF	324.0	342.0	18.0		0.02	TONALITE	8
BD-1*	FELSIC TUFF	342.0	367.0	25.0		0.03	SHEAR ZONE	1
BD-1*	MAFIC BRECCIA	367.0	411.0	44.0		0.06		
BD-1*	FELSIC TUFF	411.0	481.0	70.0		0.09		
BD-1*	GABBRO	481.0	532.0	51.0		0.07		
BD-1*	FELSIC TUFF	532.0	552.0	20.0		0.03		
BD-1*	GABBRO	552.0	561.0	9.0		0.01		
BD-1*	ANORTHOSITE	561.0	572.0	11.0		0.01		
BD-1*	GABBRO	572.0	730.0	158.0		0.21		
BD-1*	TONALITE	730.0	786.0	56.0		0.08		
BD-1*	GABBRO	786.0	794.0	8.0		0.01		
BD-1*	FELSIC TUFF	794.0	841.0	47.0		0.06		
BD-1*	SHEAR ZONE	841.0	844.0	3.0		0.00		
BD-1*	MAFIC VOLCANIC	844.0	860.0	16.0		0.02		
BD-1*	FELSIC TUFF	860.0	867.0	7.0		0.01		
BD-1*	MAFIC VOLCANIC	867.0	893.0	26.0		0.04		
BD-1*	GABBRO	893.0	994.0	101.0		0.14		
BD-2	MAFIC TUFF	194.0	200.0	6.0	240.0	0.03	FELSIC VOLCANIC/TUFF	36
BD-2	FELSIC TUFF ?	200.0	226.0	26.0		0.11	MAFIC VOLCANIC	27
BD-2	INTERMEDIATE-FELSIC TUFF	226.0	260.0	34.0		0.14	GRAYWACKE	20
BD-2	GRAYWACKE	260.0	308.0	48.0		0.20	INTERMEDIATE-FELSIC TUFF	14
BD-2	MAFIC VOLCANIC	308.0	352.0	44.0		0.18	MASSIVE SULFIDE	3
BD-2	MASSIVE SULFIDE	352.0	355.0	3.0		0.01		
BD-2	FELSIC BRECCIA	355.0	362.0	7.0		0.03		
BD-2	MASSIVE SULFIDE	362.0	366.0	4.0		0.02		
BD-2	FELSIC VOLCANIC	366.0	390.0	24.0		0.10		
BD-2	MASSIVE SULFIDE	390.0	392.0	2.0		0.01		
BD-2	FELSIC VOLCANIC SEDIMENT	392.0	396.0	4.0		0.02		
BD-2	FELSIC TUFF ?	396.0	406.0	10.0		0.04		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
BD-2	MAFIC TUFF ?	406.0	409.0	3.0		0.01		
BD-2	MASSIVE SULFIDE	409.0	410.0	1.0		0.00		
BD-2	FELSIC TUFF	410.0	414.0	4.0		0.02		
BD-2	GRAPHITIC FELSIC TUFF	414.0	423.0	9.0		0.04		
BD-2	MAFIC TUFF ?	423.0	434.0	11.0		0.05		
BD-2*	GABBRO	203.0	672.0	469.0	890.0	0.53	GABBRO/PYROXENITE	93
BD-2*	PYROXENITE	672.0	934.0	262.0		0.29	VOLCANIC SEDIMENT	7
BD-2*	VOLCANIC SEDIMENT	934.0	992.0	58.0		0.07		
BD-2*	GABBRO	992.0	1093.0	101.0		0.11		
BD-3	MYLONITE	256.0	270.0	14.0	168.0	0.08	FELSIC VOLCANIC	54
BD-3	ALTERED FELSIC TUFF	270.0	302.0	32.0		0.19	GRAPHITIC SEDIMENT	24
BD-3	GRAPHITIC SEDIMENT	302.0	304.0	2.0		0.01	GRAYWACKE	13
BD-3	ALTERED FELSIC TUFF	304.0	350.0	46.0		0.27	MYLONITE	8
BD-3	GRAYWACKE	350.0	372.0	22.0		0.13		
BD-3	FELSIC VOLCANIC SEDIMENT	372.0	379.0	7.0		0.04		
BD-3	GRAPHITIC SEDIMENT	379.0	418.0	39.0		0.23		
BD-3	FELSIC TUFF	418.0	424.0	6.0		0.04		
BD-II-1	FELSIC TUFF	225.0	243.0	18.0	498.0	0.04	MAFIC VOLCANIC	46
BD-II-1	IF	243.0	254.0	11.0		0.02	GABBRO	30
BD-II-1	MAFIC VOLCANIC-PILLOWED	254.0	366.0	112.0		0.22	GRAYWACKE	10
BD-II-1	GABBRO	366.0	380.0	14.0		0.03	FELSIC VOLCANIC	5
BD-II-1	MAFIC VOLCANIC	380.0	394.0	14.0		0.03	CHERT	5
BD-II-1	GABBRO	394.0	497.0	103.0		0.21	SEDIMENTARY BRECCIA	2
BD-II-1	MAFIC VOLCANIC	497.0	552.0	55.0		0.11	IF	2
BD-II-1	GABBRO	552.0	579.0	27.0		0.05	MASSIVE SULFIDE	1
BD-II-1	CHERT	579.0	597.0	18.0		0.04		
BD-II-1	FELSIC VOLCANICLASTIC	597.0	600.0	3.0		0.01		
BD-II-1	SEDIMENTARY BRECCIA	600.0	612.0	12.0		0.02		
BD-II-1	MASSIVE SULFIDE	612.0	615.0	3.0		0.01		
BD-II-1	CHERT	615.0	618.0	3.0		0.01		
BD-II-1	GABBRO	618.0	621.0	3.0		0.01		
BD-II-1	MAFIC VOLCANIC	621.0	667.0	46.0		0.09		
BD-II-1	MAFIC GRAYWACKE	667.0	707.0	40.0		0.08		
BD-II-1	FELSIC VOLCANIC SEDIMENT	707.0	713.0	6.0		0.01		
BD-II-1	MAFIC GRAYWACKE	713.0	723.0	10.0		0.02		
BD-II-2	MAFIC VOLCANIC	206.0	283.0	77.0	294.0	0.26	MAFIC VOLCANIC	51
BD-II-2	MASSIVE SULFIDE	283.0	292.0	9.0		0.03	GABBRO	28
BD-II-2	CHERT ?	292.0	345.0	53.0		0.18	CHERT ?	18
BD-II-2	MAFIC VOLCANIC	345.0	371.0	26.0		0.09	MASSIVE SULFIDE	3
BD-II-2	GABBRO	371.0	453.0	82.0		0.28		
BD-II-2	MAFIC VOLCANIC	453.0	500.0	47.0		0.16		
BD-N-1	MAFIC VOLCANIC	71.0	443.0	372.0	741.0	0.50	MAFIC VOLCANIC	50
BD-N-1	CHERT	443.0	465.0	22.0		0.03	MASSIVE SULFIDE	33
BD-N-1	IF	465.0	471.0	6.0		0.01	CHERT	12
BD-N-1	CHERT	471.0	540.0	69.0		0.09	FELSIC VOLCANIC	4
BD-N-1	MASSIVE SULFIDE	540.0	715.0	175.0		0.24	IF	1
BD-N-1	RHYOLITE PORPHYRY	715.0	723.0	8.0		0.01		
BD-N-1	MASSIVE SULFIDE	723.0	732.0	9.0		0.01		
BD-N-1	RHYOLITE PORPHYRY	732.0	755.0	23.0		0.03		
BD-N-1	MASSIVE SULFIDE	755.0	812.0	57.0		0.08		
BD-P-2	MAFIC VOLCANIC	123.0	630.0	507.0	516.0	0.98	MAFIC VOLCANIC	98
BD-P-2	CHERT	630.0	639.0	9.0		0.02	CHERT	2
BLT-1	MAFIC TUFF	334.0	482.0	148.0	370.0	0.40	MAFIC VOLCANIC	86
BLT-1	FELSIC TUFF	482.0	504.0	22.0		0.06	FELSIC TUFF	6
BLT-1	CHERT	504.0	524.0	20.0		0.05	CHERT	5

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
BLT-1	MAFIC TUFF/VOLCANIC	524.0	634.0	110.0		0.30	FELSIC INTRUSIVE	3
BLT-1	FELSIC INTRUSIVE	634.0	646.0	12.0		0.03		
BLT-1	MAFIC VOLCANIC	646.0	704.0	58.0		0.16		
BLT-2	PARAGNEISS	320.0	442.0	122.0	280.0	0.44	MAFIC VOLCANIC	48
BLT-2	FELSIC TUFF/SULFIDE	442.0	456.0	14.0		0.05	PARAGNEISS	44
BLT-2	MAFIC VOLCANIC	456.0	468.5	12.5		0.04	INTERMEDIATE INTRUSIVE	5
BLT-2	INTERMEDIATE INTRUSIVE	468.5	473.5	5.0		0.02	FELSIC TUFF	2
BLT-2	MAFIC VOLCANIC	473.5	530.5	57.0		0.20	MASSIVE SULFIDE	1
BLT-2	MASSIVE SULFIDE	530.5	533.0	2.5		0.01		
BLT-2	MAFIC VOLCANIC	533.0	600.0	67.0		0.24		
B-Q-1	MAFIC VOLCANIC	88.0	191.0	103.0	366.0	0.28	MAFIC VOLCANIC	79
B-Q-1	GABBRO	191.0	255.0	64.0		0.17	GABBRO	17
B-Q-1	MAFIC VOLCANIC	255.0	362.0	107.0		0.29	MASSIVE SULFIDE	3
B-Q-1	MASSIVE SULFIDE	362.0	371.0	9.0		0.02	GRANITE	1
B-Q-1	GRANITE	371.0	374.0	3.0		0.01		
B-Q-1	GABBRO/MAFIC VOLCANIC	374.0	454.0	80.0		0.22		
B-3-1	MAFIC VOLCANIC	180.0	311.0	131.0	485.0	0.27	MAFIC VOLCANIC/TUFF	78
B-3-1	GABBRO	311.0	348.0	37.0		0.08	GRAPHITIC ARGILLITE	15
B-3-1	GRAPHITIC ARGILLITE	348.0	358.0	10.0		0.02	GABBRO	8
B-3-1	MAFIC TUFF	358.0	550.0	192.0		0.40		
B-3-1	GRAPHITIC ARGILLITE	550.0	614.0	64.0		0.13		
B-3-1	MAFIC VOLCANIC	614.0	665.0	51.0		0.11		
B-3-2	CHLORITE SCHIST (MAFIC VOLCANIC)	195.0	215.0	20.0	410.0	0.05	ALTERED MAFIC VOLCANIC	44
B-3-2	QUARTZ-CALCITE-CHLORITE SCHIST	215.0	244.0	29.0		0.07	GRAPHITIC SEDIMENT	19
B-3-2	CHLORITE SCHIST (MAFIC VOLCANIC)	244.0	282.0	38.0		0.09	ALTERED ULTRAMAFIC ROCK	16
B-3-2	QUARTZ-CALCITE-CHLORITE SCHIST	282.0	313.0	31.0		0.08	QTZ-CALCITE-CHLORITE SCHIST	15
B-3-2	ALTERED ULTRAMAFIC ROCK	313.0	368.0	55.0		0.13	FELSIC VOLCANIC SEDIMENT	6
B-3-2	GRAPHITIC SEDIMENT	368.0	387.0	19.0		0.05		
B-3-2	FELSIC VOLCANIC SEDIMENTS	387.0	411.0	24.0		0.06		
B-3-2	GRAPHITIC SEDIMENT	411.0	469.0	58.0		0.14		
B-3-2	ALTERED ULTRAMAFIC ROCK	469.0	482.0	13.0		0.03		
B-3-2	CHLORITE SCHIST (MAFIC VOLCANIC)	482.0	605.0	123.0		0.30		
B-3-3	ARGILLITE/CHLORITE SCHIST	192.0	250.0	58.0	381.0	0.15	ULTRAMAFIC VOLCANIC	71
B-3-3	GRAPHITIC ARGILLITE	250.0	304.0	54.0		0.14	ARGILLITE/CHLORITE SCHIST	15
B-3-3	ULTRAMAFIC VOLCANIC	304.0	574.0	270.0		0.71	GRAPHITIC ARGILLITE	14
B-5-1	PROTEROZOIC GABBRO	95.0	414.0	319.0	675.0	0.47	MAFIC VOLCANIC/VOLCANICLASTIC	48
B-5-1	GRAYWACKE	414.0	441.0	27.0		0.04	GABBRO	47
B-5-1	MAFIC VOLCANICLASTIC/VOLCANIC	441.0	448.0	7.0		0.01	GRAYWACKE	4
B-5-1	GRAPHITIC ARGILLITE	448.0	452.0	4.0		0.01	ARGILLITE	1
B-5-1	MAFIC VOLCANIC	452.0	770.0	318.0		0.47		
B-7-1	MAFIC VOLCANIC	152.4	166.0	13.6	471.6	0.03	MIGMATITE	55
B-7-1	DACITIC VOLCANIC	166.0	172.0	6.0		0.01	MAFIC VOLCANIC	23
B-7-1	MASSIVE SULFIDE	172.0	209.5	37.5		0.08	DACITE/FELSIC VOLCANICLASTIC	14
B-7-1	FELSIC VOLCANICLASTIC	209.5	269.5	60.0		0.13	MASSIVE SULFIDE	8
B-7-1	MAFIC VOLCANIC	269.5	365.0	95.5		0.20		
B-7-1	MIGMATITE	365.0	624.0	259.0		0.55		
B-7-2	MAFIC VOLCANIC	143.0	580.0	437.0	561.0	0.78	MAFIC VOLCANIC	78
B-7-2	INTERMEDIATE INTRUSIVE	580.0	704.0	124.0		0.22	INTERMEDIATE INTRUSIVE	22
B-7-3	FELSIC TUFF ?	138.0	420.0	282.0	562.0	0.50	FELSIC TUFF	50
B-7-3	MAFIC VOLCANIC	420.0	700.0	280.0		0.50	MAFIC VOLCANIC	50
B-21-1	MAFIC VOLCANIC	112.0	136.0	24.0	341.4	0.07	MAFIC VOLCANIC	53
B-21-1	GRANODIORITE	136.0	139.0	3.0		0.01	GRAYWACKE	25

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
B-21-1	MAFIC VOLCANIC	139.0	176.0	37.0		0.11	FELSIC TUFF	13
B-21-1	FELSIC TUFF	176.0	219.0	43.0		0.13	GRANODIORITE	8
B-21-1	MAFIC VOLCANIC	219.0	291.0	72.0		0.21		
B-21-1	MAFIC TUFF	291.0	313.0	22.0		0.06		
B-21-1	GRANODIORITE	313.0	338.0	25.0		0.07		
B-21-1	MAFIC VOLCANIC	338.0	343.0	5.0		0.01		
B-21-1	MIGMATITE (GRAYWACKE)	343.0	402.0	59.0		0.17		
B-21-1	GRAYWACKE	402.0	429.0	27.0		0.08		
B-21-1	MAFIC TUFF	429.0	453.0	24.0		0.07		
B-21-2	MAFIC VOLCANIC	126.0	724.0	598.0	598.0	1.00	MAFIC VOLCANIC	100
B-21-3	MAFIC VOLCANIC/TUFF	128.0	429.0	301.0	395.0	0.76	MAFIC VOLCANIC/TUFF	100
B-24-1	MAFIC GRAYWACKE	143.0	302.5	159.5	471.0	0.34	GRAYWACKE	72
B-24-1	FELSIC TUFF	302.5	310.5	8.0		0.02	DACITE/FELSIC PORPHYRY	25
B-24-1	DACITE PORPHYRY	310.5	341.0	30.5		0.06	FELSIC TUFF	2
B-24-1	FELSIC PORPHYRY	341.0	409.0	68.0		0.14		
B-24-1	GRAYWACKE	409.0	588.5	179.5		0.38		
B-24-1	FELSIC PORPHYRY	588.5	614.0	25.5		0.05		
B-24-2	MAFIC VOLCANIC	170.0	213.0	43.0	580.0	0.07	MAFIC VOLCANIC	44
B-24-2	VOLCANIC BRECCIA (SULFIDE-RICH)	213.0	223.5	10.5		0.02	FELSIC VOLCANIC	28
B-24-2	MAFIC VOLCANIC	223.5	416.0	192.5		0.33	GRAYWACKE	13
B-24-2	FELSIC TUFF	416.0	458.0	42.0		0.07	MASSIVE SULFIDE	12
B-24-2	MAFIC VOLCANIC	458.0	475.0	17.0		0.03	VOLCANIC BRECCIA	2
B-24-2	FELSIC TUFF	475.0	522.0	47.0		0.08		
B-24-2	FELSIC VOLCANIC	522.0	550.0	28.0		0.05		
B-24-2	MASSIVE SULFIDE	550.0	580.0	30.0		0.05		
B-24-2	FELSIC TUFF	580.0	586.5	6.5		0.01		
B-24-2	MASSIVE SULFIDE	586.5	588.0	1.5		0.00		
B-24-2	FELSIC TUFF	588.0	602.0	14.0		0.02		
B-24-2	MASSIVE SULFIDE	602.0	618.0	16.0		0.03		
B-24-2	FELSIC TUFF	618.0	621.0	3.0		0.01		
B-24-2	MASSIVE SULFIDE	621.0	647.0	26.0		0.04		
B-24-2	FELSIC TUFF	647.0	652.0	5.0		0.01		
B-24-2	GRAYWACKE	652.0	672.0	20.0		0.03		
B-24-2	FELSIC TUFF	672.0	701.0	29.0		0.05		
B-24-2	GRAYWACKE	701.0	755.0	54.0		0.09		
B-24-3	MAFIC VOLCANIC	142.0	583.0	441.0	713.0	0.62	MAFIC VOLCANIC	72
B-24-3	DIABASE	583.0	614.0	31.0		0.04	DIABASE	28
B-24-3	MAFIC VOLCANIC	614.0	677.0	63.0		0.09		
B-24-3	DIABASE	677.0	847.0	170.0		0.24		
B-24-3	MAFIC VOLCANIC	847.0	855.0	8.0		0.01		
B-24-4	MAFIC VOLCANIC	105.0	550.0	445.0	1579.0	0.28	MAFIC VOLCANIC	84
B-24-4	VOLCANIC SEDIMENT	550.0	664.0	114.0		0.07	DIORITE	9
B-24-4	MAFIC VOLCANIC	664.0	1543.0	879.0		0.56	VOLCANIC SEDIMENT	7
B-24-4	DIORITE	1543.0	1684.0	141.0		0.09		
B-31-1	GRANODIORITE	178.0	308.0	130.0	545.0	0.24	MAFIC VOLCANIC	38
B-31-1	MAFIC VOLCANIC	308.0	514.0	206.0		0.38	FELSIC TUFF	31
B-31-1	CHERT	514.0	536.0	22.0		0.04	GRANODIORITE	24
B-31-1	MASSIVE SULFIDE	536.0	556.0	20.0		0.04	CHERT	4
B-31-1	FELSIC TUFF	556.0	723.0	167.0		0.31	MASSIVE SULFIDE	4
B-31-2	GRAYWACKE	266.0	368.0	102.0	727.0	0.14	MAFIC VOLCANIC	75
B-31-2	MAFIC VOLCANIC	368.0	376.0	8.0		0.01	GRAYWACKE	14
B-31-2	INTERMEDIATE-FELSIC VOLCANICLASTIC	376.0	425.0	49.0		0.07	FELSIC VOLCANIC	7
B-31-2	MAFIC VOLCANIC	425.0	900.0	475.0		0.65	INTERMEDIATE VOLCANIC	3

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
B-31-2	INTERMEDIATE VOLCANIC	900.0	920.0	20.0		0.03		
B-31-2	FELSIC VOLCANIC	920.0	925.0	5.0		0.01		
B-31-2	MAFIC VOLCANIC	925.0	993.0	68.0		0.09		
B-31-3	PROTEROZOIC DIABASE	97.0	451.0	354.0	438.0	0.81	PROTEROZOIC DIABASE	83
B-31-3	CHERT	451.0	457.0	6.0		0.01	FELSIC TUFF	7
B-31-3	MASSIVE SULFIDE	457.0	469.0	12.0		0.03	CHERT	6
B-31-3	CHERT	469.0	475.0	6.0		0.01	MASSIVE SULFIDE	4
B-31-3	PROTEROZOIC DIABASE	475.0	485.0	10.0		0.02		
B-31-3	CHERT	485.0	501.0	16.0		0.04		
B-31-3	MASSIVE SULFIDE	501.0	505.0	4.0		0.01		
B-31-3	FELSIC TUFF	505.0	535.0	30.0		0.07		
B-31-4	GABBRO	99.0	174.0	75.0	401.0	0.19	FELSIC VOLCANIC/TUFF	80
B-31-4	FELSIC VOLCANIC BRECCIA	174.0	206.0	32.0		0.08	GABBRO	19
B-31-4	MASSIVE SULFIDE	206.0	208.0	2.0		0.00	MASSIVE SULFIDE	1
B-31-4	FELSIC VOLCANIC BRECCIA	208.0	289.0	81.0		0.20		
B-31-4	FELSIC TUFF	289.0	500.0	211.0		0.53		
B-31-5	DIABASE	81.0	167.0	86.0	594.0	0.14	MAFIC VOLCANIC/TUFF	58
B-31-5	MAFIC VOLCANIC	167.0	268.0	101.0		0.17	GABBRO/DIABASE	42
B-31-5	GABBRO	268.0	432.0	164.0		0.28		
B-31-5	MAFIC TUFF	432.0	675.0	243.0		0.41		
B-35-1	GRAYWACKE	143.0	275.0	132.0	285.0	0.46	GRAYWACKE	94
B-35-1	GRAPHITIC SEDIMENT	275.0	291.0	16.0		0.06	GRAPHITIC SEDIMENT	6
B-35-1	GRAYWACKE	291.0	428.0	137.0		0.48		
B-54-1	MAFIC VOLCANIC	150.0	325.0	175.0	175.0	1.00	MAFIC VOLCANIC	100
B-57-1	MAFIC VOLCANIC ?	171.0	207.0	36.0	182.0	0.20	GRAPHITIC SEDIMENT	50
B-57-1	SHEAR ZONE	207.0	213.0	6.0		0.03	MAFIC VOLCANIC	40
B-57-1	MAFIC VOLCANIC	213.0	250.0	37.0		0.20	MYLONITE?	10
B-57-1	SHEAR ZONE	250.0	262.0	12.0		0.07		
B-57-1	GRAPHITIC SEDIMENT	262.0	353.0	91.0		0.50		
B-58-1	GRAYWACKE	155.0	320.0	165.0	289.0	0.57	GRAYWACKE	57
B-58-1	MAFIC VOLCANIC	320.0	349.0	29.0		0.10	FELSIC TUFF	33
B-58-1	DACITE TUFF	349.0	436.0	87.0		0.30	MAFIC VOLCANIC	10
B-58-1	FELSIC TUFF	436.0	444.0	8.0		0.03		
D-1	AMPHIBOLE SCHIST	198.0	239.0	41.0	334.0	0.12	AMPHIBOLE SCHIST	42
D-1	INTERMEDIATE VOLCANIC SEDIMENT	239.0	286.0	47.0		0.14	MYLONITE	27
D-1	MAFIC TUFF/SEDIMENT	286.0	325.0	39.0		0.12	INTERMEDIATE VOLCANIC SEDIMENT	14
D-1	AMPHIBOLE SCHIST	325.0	353.0	28.0		0.08	MAFIC TUFF/SEDIMENT	12
D-1	MASSIVE SULFIDE	353.0	369.0	16.0		0.05	MASSIVE SULFIDE	5
D-1	AMPHIBOLE SCHIST	369.0	441.0	72.0		0.22		
D-1	MYLONITE	441.0	532.0	91.0		0.27		
FT-1	MAFIC VOLCANIC	248.0	250.0	2.0	463.0	0.00	INTERMEDIATE VOLCANIC	51
FT-1	FELSIC VOLCANICLASTIC	250.0	256.0	6.0		0.01	MAFIC VOLCANIC	30
FT-1	MASSIVE SULFIDE	256.0	297.0	41.0		0.09	MASSIVE SULFIDE	12
FT-1	MAFIC VOLCANIC	297.0	300.0	3.0		0.01	FELSIC VOLCANIC/SEDIMENT	7
FT-1	MASSIVE SULFIDE	300.0	316.0	16.0		0.03		
FT-1	MAFIC VOLCANIC	316.0	332.0	16.0		0.03		
FT-1	INTERMEDIATE-MAFIC VOLCANIC	332.0	449.0	117.0		0.25		
FT-1	MAFIC VOLCANIC	449.0	475.0	26.0		0.06		
FT-1	FELSIC VOLCANIC	475.0	482.0	7.0		0.02		
FT-1	INTERMEDIATE-MAFIC VOLCANIC	482.0	527.0	45.0		0.10		
FT-1	FELSIC VOLCANIC	527.0	547.0	20.0		0.04		
FT-1	MAFIC VOLCANIC	547.0	567.0	20.0		0.04		
FT-1	INTERMDIATE-MAFIC VOLCANIC	567.0	580.0	13.0		0.03		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
FT-1	MAFIC VOLCANIC	580.0	597.0	17.0		0.04		
FT-1	INTERMEDIATE-MAFIC VOLCANIC	597.0	657.0	60.0		0.13		
FT-1	MAFIC VOLCANIC	657.0	711.0	54.0		0.12		
FT-2	FELSIC FLOW/VOLCANICLASTIC	211.0	285.0	74.0	584.0	0.13	INTERMEDIATE-MAFIC VOLCANIC	65
FT-2	MASSIVE SULFIDE	285.0	345.0	60.0		0.10	FELSIC VOLCANIC/SEDIMENT	18
FT-2	INTERMEDIATE-MAFIC VOLCANIC ?	345.0	697.0	352.0		0.60	MASSIVE SULFIDE	10
FT-2	VOLCANIC SEDIMENTS	697.0	715.0	18.0		0.03	MAFIC VOLCANIC	7
FT-2	FELSIC TUFF	715.0	728.0	13.0		0.02		
FT-2	INTERMEDIATE-MAFIC VOLCANIC ?	728.0	755.0	27.0		0.05		
FT-2	MAFIC VOLCANIC	755.0	795.0	40.0		0.07		
FT-3	INTERMEDIATE-MAFIC VOLCANIC	241.0	254.0	13.0	384.0	0.03	FELSIC VOLCANIC	45
FT-3	FELSIC VOLCANICLASTIC/FLOW	254.0	428.0	174.0		0.45	INTERMEDIATE-MAFIC VOLCANIC	23
FT-3	MASSIVE SULFIDE	428.0	463.0	35.0		0.09	INTERMEDIATE-FELSIC VOLCANIC	20
FT-3	INTERMEDIATE-MAFIC VOLCANIC	463.0	499.0	36.0		0.09	MASSIVE SULFIDE	12
FT-3	INTERMEDIATE-FELSIC VOLCANIC	499.0	521.0	22.0		0.06		
FT-3	INTERMEDIATE-MAFIC VOLCANIC	521.0	525.0	4.0		0.01		
FT-3	INTERMEDIATE-FELSIC VOLCANIC	525.0	577.0	52.0		0.14		
FT-3	MASSIVE SULFIDE	577.0	590.0	13.0		0.03		
FT-3	INTERMEDIATE-MAFIC VOLCANIC	590.0	625.0	35.0		0.09		
FT-4	MASSIVE SULFIDE	280.0	285.0	5.0	445.0	0.01	MAFIC VOLCANIC	47
FT-4	ARGILLITE/FELSIC VOLCANIC ?	285.0	315.0	30.0		0.07	MASSIVE SULFIDE	29
FT-4	INTERMEDIATE-MAFIC VOLCANIC	315.0	325.0	10.0		0.02	INTERMEDIATE-MAFIC VOLCANIC?	10
FT-4	MASSIVE SULFIDE	325.0	407.0	82.0		0.18	ARGILLITE/FELSIC VOLCANIC?	7
FT-4	FELSIC VOLCANIC	407.0	412.0	5.0		0.01	FELSIC VOLCANIC	6
FT-4	MAFIC VOLCANIC	412.0	428.0	16.0		0.04	MYLONITE	1
FT-4	INTERMEDIATE-MAFIC VOLCANIC ?	428.0	460.0	32.0		0.07		
FT-4	MASSIVE SULFIDE	460.0	475.0	15.0		0.03		
FT-4	FELSIC VOLCANIC	475.0	480.0	5.0		0.01		
FT-4	MASSIVE SULFIDE	480.0	510.0	30.0		0.07		
FT-4	FELSIC VOLCANIC	510.0	527.0	17.0		0.04		
FT-4	MAFIC VOLCANIC	527.0	564.0	37.0		0.08		
FT-4	MYLONITE	564.0	569.0	5.0		0.01		
FT-4	MAFIC VOLCANIC	569.0	725.0	156.0		0.35		
FT-6	WEATHERED VOLCANIC	316.0	332.0	16.0	327.0	0.05	FELSIC TUFF/SEDIMENT	62
FT-6	MUDSTONE	332.0	350.0	18.0		0.06	GRAPHITIC SEDIMENT	27
FT-6	FELSIC TUFF	350.0	425.0	75.0		0.23	MUDSTONE	6
FT-6	FELSIC TUFF/SEDIMENT	425.0	487.0	62.0		0.19	WEATHERED VOLCANIC	5
FT-6	GRAPHITIC SEDIMENT	487.0	499.0	12.0		0.04		
FT-6	FELSIC TUFF	499.0	506.0	7.0		0.02		
FT-6	GRAPHITIC SEDIMENT	506.0	582.0	76.0		0.23		
FT-6	FELSIC TUFF/SEDIMENT	582.0	643.0	61.0		0.19		
FT-7	IF	211.0	370.0	159.0	624.0	0.25	CHERT +/- PYRITE	37
FT-7	CHERT	370.0	406.0	36.0		0.06	IF	26
FT-7	MASSIVE SULFIDE	406.0	470.0	64.0		0.10	ALTERED ARGILLITE	19
FT-7	MUDSTONE	470.0	521.0	51.0		0.08	MASSIVE SULFIDE	10
FT-7	CHERT	521.0	714.0	193.0		0.31	MUDSTONE	8
FT-7	ARGILLITE	714.0	835.0	121.0		0.19		
FT-8	MAFIC TUFF ?	355.0	505.0	150.0	465.0	0.32	MAFIC TUFF	38
FT-8	CHERT BRECCIA	505.0	595.0	90.0		0.19	FELSIC TUFF/VOLCANIC	37
FT-8	MAFIC TUFF ?	595.0	599.0	4.0		0.01	CHERT	22
FT-8	CHERT BRECCIA	599.0	615.0	16.0		0.03	HEMATITE BRECCIA	3
FT-8	MAFIC TUFF ?	615.0	616.0	1.0		0.00		
FT-8	FELSIC FLOW/TUFF	616.0	669.0	53.0		0.11		
FT-8	MAFIC TUFF ?	669.0	673.0	4.0		0.01		
FT-8	FELSIC TUFF	673.0	687.0	14.0		0.03		
FT-8	MAFIC TUFF ?	687.0	699.0	12.0		0.03		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
FT-8	FELSIC TUFF	699.0	733.0	34.0		0.07		
FT-8	HEMATITE BRECCIA	733.0	747.0	14.0		0.03		
FT-8	FELSIC VOLCANIC	747.0	820.0	73.0		0.16		
FT-9	ARGILLITE (ALTERED)	332.0	405.0	73.0	633.0	0.12	FELSIC TUFF/FLOW	64
FT-9	INTERMEDIATE-FELSIC TUFF ?	405.0	483.0	78.0		0.12	INTERMEDIATE/FELSIC TUFF	12
FT-9	MAFIC VOLCANICLASTIC	483.0	496.0	13.0		0.02	ARGILLITE (ALTERED)	12
FT-9	FELSIC FLOW/TUFF	496.0	763.0	267.0		0.42	JASPER-BEARING IF	9
FT-9	IF	763.0	818.0	55.0		0.09	MAFIC VOLCANICLASTIC	2
FT-9	GRAPHITIC SEDIMENT	818.0	826.0	8.0		0.01	GRAPHITE SCHIST	1
FT-9	FELSIC FLOW/TUFF	826.0	965.0	139.0		0.22		
FT-10	INTERMEDIATE VOLCANIC	384.0	553.0	169.0	416.0	0.41	INTERMEDIATE VOLCANIC	42
FT-10	MASSIVE SULFIDE	553.0	556.0	3.0		0.01	MASSIVE SULFIDE	35
FT-10	VOLCANIC SEDIMENT	556.0	589.0	33.0		0.08	FELSIC TUFF/BRECCIA	14
FT-10	FAULT GOUGE	589.0	610.0	21.0		0.05	FAULT GOUGE	5
FT-10	FELSIC TUFF/BRECCIA	610.0	643.0	33.0		0.08	VOLCANIC SEDIMENT	8
FT-10	MASSIVE SULFIDE	643.0	647.0	4.0		0.01		
FT-10	FELSIC TUFF	647.0	656.0	9.0		0.02		
FT-10	MASSIVE SULFIDE	656.0	661.0	5.0		0.01		
FT-10	FELSIC TUFF BRECCIA	661.0	670.0	9.0		0.02		
FT-10	MASSIVE SULFIDE	670.0	786.0	116.0		0.28		
FT-10	TUFF	786.0	790.0	4.0		0.01		
FT-10	MASSIVE SULFIDE	790.0	794.0	4.0		0.01		
FT-10	TUFF	794.0	798.0	4.0		0.01		
FT-10	MASSIVE SULFIDE	798.0	800.0	2.0		0.00		
FT-12	MASSIVE SULFIDE	263.0	356.0	93.0	271.0	0.34	MASSIVE SULFIDE	70
FT-12	CHERT	356.0	365.0	9.0		0.03	CHERT	24
FT-12	MASSIVE SULFIDE	365.0	375.0	10.0		0.04	MUDSTONE	6
FT-12	CHERT	375.0	409.0	34.0		0.13		
FT-12	MUDSTONE	409.0	425.0	16.0		0.06		
FT-12	CHERT	425.0	447.0	22.0		0.08		
FT-12	MASSIVE SULFIDE	447.0	534.0	87.0		0.32		
FT-13	MASSIVE SULFIDE	193.0	227.0	34.0	457.0	0.07	CHERT	58
FT-13	CHERT	227.0	231.0	4.0		0.01	ARGILLITE	35
FT-13	ARGILLITE	231.0	390.0	159.0		0.35	MASSIVE SULFIDE	7
FT-13	CHERT	390.0	650.0	260.0		0.57		
FT-14	INTERMEDIATE TUFF	230.0	238.0	8.0	385.0	0.02	CHERT	60
FT-14	INTERMEDIATE VOLCANIC SEDIMENT	238.0	259.0	21.0		0.05	SEDIMENT/GRAYWACKE	28
FT-14	CHERT BRECCIA	259.0	368.0	109.0		0.28	INTERMEDIATE VOLCANICLASTIC	7
FT-14	GRAYWACKE	368.0	375.0	7.0		0.02	MASSIVE SULFIDE	4
FT-14	CHERT BRECCIA	375.0	499.0	124.0		0.32		
FT-14	MASSIVE SULFIDE	499.0	511.0	12.0		0.03		
FT-14	SEDIMENT	511.0	528.0	17.0		0.04		
FT-14	MASSIVE SULFIDE	528.0	529.0	1.0		0.00		
FT-14	METASEDIMENT	529.0	615.0	86.0		0.22		
FT-15	ARGILLITE ?	249.0	335.0	86.0		100.00	ARGILLITE ?	100
FT-16	ARGILLITE	215.0	233.0	18.0	265.0	0.07	MAFIC VOLCANIC/TUFF	42
FT-16	VOLCANIC SEDIMENT	233.0	285.0	52.0		0.20	VOLCANIC SEDIMENT	20
FT-16	IF	285.0	331.0	46.0		0.17	IF	17
FT-16	MAFIC VOLCANIC	331.0	360.0	29.0		0.11	FELSIC VOLCANIC	12
FT-16	MASSIVE SULFIDE	360.0	365.0	5.0		0.02	ARGILLITE	7
FT-16	MAFIC TUFF	365.0	380.0	15.0		0.06	MASSIVE SULFIDE	2
FT-16	MAFIC VOLCANIC BRECCIA	380.0	445.0	65.0		0.25		
FT-16	FELSIC VOLCANIC	445.0	478.0	33.0		0.12		
FT-16	MAFIC TUFF	478.0	480.0	2.0		0.01		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
FT-17	MAFIC VOLCANIC	240.0	313.0	73.0	185.0	0.39	MAFIC VOLCANIC	39
FT-17	FELSIC TUFF	313.00	320.00	7.0		0.04	GRAYWACKE	29
FT-17	GRAPHITIC ARGILLITE	320.00	335.00	15.0		0.08	ARGILLITE	20
FT-17	GRAYWACKE	335.00	369.00	34.0		0.18	FELSIC TUFF	11
FT-17	GRAPHITIC ARGILLITE	369.00	391.00	22.0		0.12		
FT-17	GRAYWACKE	391.00	412.00	21.0		0.11		
FT-17	FELSIC TUFF	412.00	425.00	13.0		0.07		
FT-18	ARGILLITE	140.0	310.0	170.0	295.0	0.58	ARGILLITE	66
FT-18	GRAPHITIC ARGILLITE	310.0	335.0	25.0		0.08	FELSIC TUFF/SEDIMENT	44
FT-18	FELSIC TUFF	335.0	394.0	59.0		0.20		
FT-18	VOLCANIC SEDIMENT	394.0	421.0	27.0		0.09		
FT-18	VOLCANIC TUFF/SEDIMENT	421.0	435.0	14.0		0.05		
FT-19	ARGILLITE	276.0	332.0	56.0	448.0	0.13	ARGILLITE/GRAPHITE SCHIST	55
FT-19	CHERT	332.0	354.0	22.0		0.05	FELSIC VOLCANIC SEDIMENT	33
FT-19	FELSIC VOLCANIC SEDIMENT	354.0	405.0	51.0		0.11	CHERT	12
FT-19	CHERT	405.0	420.0	15.0		0.03		
FT-19	FELSIC VOLANIC SEDIMENT	420.0	434.0	14.0		0.03		
FT-19	CHERT	434.0	450.0	16.0		0.04		
FT-19	FELSIC VOLANIC SEDIMENT	450.0	460.0	10.0		0.02		
FT-19	GRAPHITIC ARGILLITE	460.0	524.0	64.0		0.14		
FT-19	FELSIC VOLCANIC SEDIMENT	524.0	543.0	19.0		0.04		
FT-19	GRAPHITIC ARGILLITE	543.0	667.0	124.0		0.28		
FT-19	FELSIC VOLCANIC SEDIMENT	667.0	724.0	57.0		0.13		
FT-20	CHERT	300.0	427.0	127.0	341.0	0.37	ARGILLITE ?	63
FT-20	ARGILLITE ?	427.0	641.0	214.0		0.63	CHERT	37
FT-21	GRAYWACKE	201.0	214.0	13.0	574.0	0.02	GRAYWACKE/CONGLOMERATE	34
FT-21	ARGILLITE	214.0	241.0	27.0		0.05	ARGILLITE/SILTSTONE	33
FT-21	GRAYWACKE	241.0	295.0	54.0		0.09	CHERT	17
FT-21	CONGLOMERATE	295.0	310.0	15.0		0.03	FELSIC VOLCANIC/TUFF	11
FT-21	GRAYWACKE	310.0	367.0	57.0		0.10	MASSIVE SULFIDE	4
FT-21	GRAPHITIC ARGILLITE	367.0	382.0	15.0		0.03	LIMONITE	1
FT-21	CHERT	382.0	467.0	85.0		0.15		
FT-21	LIMONITE	467.0	475.0	8.0		0.01		
FT-21	MASSIVE SULFIDE	475.0	491.0	16.0		0.03		
FT-21	CHERT	491.0	494.0	3.0		0.01		
FT-21	MASSIVE SULFIDE	494.0	497.0	3.0		0.01		
FT-21	CHERT	497.0	504.0	7.0		0.01		
FT-21	ARGILLITE/GRAYWACKE	504.0	537.0	33.0		0.06		
FT-21	SILTSTONE	537.0	575.0	38.0		0.07		
FT-21	CHLORITE SCHIST	575.0	576.0	1.0		0.00		
FT-21	FELSIC VOLCANIC	576.0	589.0	13.0		0.02		
FT-21	SILTSTONE	589.0	615.0	26.0		0.05		
FT-21	FELSIC TUFF	615.0	630.0	15.0		0.03		
FT-21	SILTSTONE	630.0	634.0	4.0		0.01		
FT-21	FELSIC TUFF	634.0	650.0	16.0		0.03		
FT-21	SILTSTONE/GRAYWACKE	650.0	674.0	24.0		0.04		
FT-21	FELSIC TUFF	674.0	688.0	14.0		0.02		
FT-21	SILTSTONE	688.0	705.0	17.0		0.03		
FT-21	GRAYWACKE	705.0	723.0	18.0		0.03		
FT-21	SILTSTONE/ARGILLITE	723.0	775.0	52.0		0.09		
FT-22	IF	200.0	237.0	37.0	434.0	0.09	IF	23
FT-22	CHERT	237.0	284.0	47.0		0.11	LIMONITE-HEMATITE/BRECCIA	29
FT-22	LIMONITE	284.0	296.0	12.0		0.03	CHERT	21
FT-22	CHERT	296.0	299.0	3.0		0.01	MUDSTONE	17
FT-22	HEMATITE/LIMONITE	299.0	312.0	13.0		0.03	MASSIVE SULFIDE	10
FT-22	CHERT	312.0	332.0	20.0		0.05		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
FT-22	IF	332.0	350.0	18.0		0.04		
FT-22	CHERT	350.0	357.0	7.0		0.02		
FT-22	LIMONITE	357.0	368.0	11.0		0.03		
FT-22	IF	368.0	428.0	60.0		0.14		
FT-22	CHERT BRECCIA	428.0	435.0	7.0		0.02		
FT-22	MASSIVE SULFIDE	435.0	455.0	20.0		0.05		
FT-22	LIMONITE BRECCIA	455.0	540.0	85.0		0.20		
FT-22	MUDSTONE	540.0	605.0	65.0		0.15		
FT-22	MASSIVE SULFIDE	605.0	627.0	22.0		0.05		
FT-22	MUDSTONE	627.0	634.0	7.0		0.02		
FT-23	FELSIC VOLCANIC SEDIMENT	225.0	239.0	14.0		14.00	FELSIC VOLCANIC SEDIMENT	100
G-1	DIORITE	213.0	325.0	112.0	772.0	0.15	DIORITE	78
G-1	SERPENTINITE	325.0	390.0	65.0		0.08	SERPENTINITE	8
G-1	DIORITE	390.0	874.0	484.0		0.63	INTERMEDIATE VOLCANIC	5
G-1	INTERMEDIATE VOLCANIC ?	874.0	909.0	35.0		0.05	INTERMEDIATE/FELSIC VOLCANIC	8
G-1	MUDSTONE	909.0	923.0	14.0		0.02	MUDSTONE	2
G-1	FELSIC VOLCANIC	923.0	954.0	31.0		0.04		
G-1	INTERMEDIATE-FELSIC VOLCANIC	954.0	985.0	31.0		0.04		
HAN-1	MAFIC VOLCANIC/GABBRO	286.0	748.0	462.0	727.0	0.64	MAFIC VOLCANIC/GABBRO	64
HAN-1	GRAPHITIC ARGILLITE	748.0	958.0	210.0		0.29	ARGILLITE	31
HAN-1	INTERMEDIATE VOLCANIC ?	958.0	993.0	35.0		0.05	INTERMEDIATE VOLCANIC	5
HAN-1	ARGILLITE	993.0	1013.0	20.0		0.03		
HAN-2	SEDIMENT	330.0	523.0	193.0	558.0	0.35	INTERMEDIATE VOLCANIC	23
HAN-2	INTERMEDIATE VOLCANIC	523.0	633.0	110.0		0.20	SEDIMENT/MUDSTONE	69
HAN-2	GRAPHITIC ARGILLITE	633.0	822.0	189.0		0.34	FELSIC VOLCANIC	8
HAN-2	FELSIC VOLCANIC	822.0	869.0	47.0		0.08		
HAN-2	INTERMEDIATE VOLCANIC	869.0	888.0	19.0		0.03		
HC-1	VOLCANIC SEDIMENT	258.0	313.0	55.0	525.0	0.10	MAFIC TUFF	22
HC-1	MAFIC TUFF	313.0	430.0	117.0		0.22	MASSIVE SULFIDE	22
HC-1	FELSIC TUFF	430.0	533.0	103.0		0.20	FELSIC TUFF	19
HC-1	MASSIVE SULFIDE	533.0	649.0	116.0		0.22	GRAYWACKE/VOLCANIC SEDIMENT	10
HC-1	GRAYWACKE	649.0	783.0	134.0		0.26		
IH-10	FELSIC VOLCANIC/AGGLOMERATE	20.5	47.1	26.6	26.6	1.00	FELSIC VOLCANIC/AGGLOMERATE	100
IH-11	PROTEROZOIC DIABASE	8.0	12.0	4.0	16.0	0.25	FELSIC TUFF	75
IH-11	FELSIC TUFF	12.0	24.0	24.0		0.75	PROTEROZOIC DIABASE	25
IH-12	PROTEROZOIC DIABASE	14.0	20.0	6.0	29.0	0.21	FELSIC TUFF	59
IH-12	FELSIC TUFF	20.0	24.5	4.5		0.16	PROTEROZOIC DIABASE	21
IH-12	GABBRO	24.5	27.5	3.0		0.11	GABBRO	11
IH-12	FELSIC TUFF	27.5	33.5	6.0		0.21	INTERMEDIATE TUFF ?	8
IH-12	INTERMEDIATE TUFF	33.5	35.8	2.3		0.08		
IH-12	FELSIC TUFF	35.8	42.0	6.2		0.22		
IH-12	GABBRO	42.0	43.0	1.0		0.04		
IH-13	GRANODIORITE	28.0	64.8	36.8	45.0	0.18	GRANODIORITE	82
IH-13	MAFIC VOLCANIC	64.8	73.3	8.5		0.82	MAFIC VOLCANIC	18
IND-1	DIABASE	42.0	52.0	10.0	470.0	0.02	FELSIC VOLCANIC/TUFF	64
IND-1	DACITE TUFF	52.0	64.3	12.3		0.03	FELSIC VOLCANIC BRECCIA	17
IND-1	DACITE PORPHYRY	64.3	71.0	6.7		0.01	CHERT	3
IND-1	FELSIC TUFF	71.0	130.5	59.5		0.13	DIORITE	6
IND-1	DACITE LAPILLI CRYSTAL TUFF	130.5	156.0	25.5		0.05	IF	7
IND-1	MAFIC TUFF	156.0	161.0	5.0		0.01	DIABASE	2
IND-1	FELSIC TUFF BRECCIA	161.0	201.0	40.0		0.09	MAFIC TUFF	1

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
IND-1	FELSIC CRYSTAL TUFF	201.0	233.0	32.0		0.07	MASSIVE SULFIDE	1
IND-1	DACITE TUFF BRECCIA	233.0	272.0	39.0		0.08		
IND-1	FELSIC TUFF	272.0	275.0	3.0		0.01		
IND-1	MASSIVE SULFIDE	275.0	276.0	1.0		0.00		
IND-1	FELSIC TUFF	276.0	385.5	109.5		0.23		
IND-1	IF	385.5	418.0	32.5		0.07		
IND-1	FELSIC INTRUSION	418.0	421.0	3.0		0.01		
IND-1	CHERT	421.0	433.0	12.0		0.03		
IND-1	DIORITE	433.0	461.0	28.0		0.06		
IND-1	FELSIC CRYSTAL TUFF	461.0	512.0	51.0		0.11		
IND-2	INTERMEDIATE VOLCANIC ?	212.0	228.0	16.0	385.3	0.04	IF	42
IND-2	IF	228.0	244.0	16.0		0.04	VOLCANIC SEDIMENTS	19
IND-2	INTERMEDIATE VOLCANIC ?	244.0	257.5	13.5		0.04	INTERMEDIATE/FELSIC INTRUSIVE	19
IND-2	IF	257.0	261.5	4.5		0.01	INTERMEDIATE VOLCANIC	8
IND-2	CHLORITE SCHIST	261.5	267.0	5.5		0.01	FELSIC VOLCANIC/TUFF	6
IND-2	DACITE CRYSTAL TUFF	267.0	288.0	21.0		0.05	MAFIC TUFF	5
IND-2	DACITE PORPHYRY	288.0	300.0	12.0		0.03	CHLORITE SCHIST	1
IND-2	SEDIMENTS	300.0	369.0	69.0		0.18		
IND-2	MAFIC TUFF	369.0	387.5	18.5		0.05		
IND-2	DACITE CRYSTAL TUFF	387.5	391.0	3.5		0.01		
IND-2	IF	391.0	480.0	89.0		0.23		
IND-2	QUARTZ PORPHYRY	480.0	518.5	38.5		0.10		
IND-2	IF	518.5	569.0	50.5		0.13		
IND-2	DIORITE	569.0	593.5	24.5		0.06		
IND-2	IF	593.5	597.3	3.8		0.01		
IND-3	MAFIC VOLCANIC (PILLOWED)	36.0	101.0	65.0	334.0	0.19	MAFIC VOLCANIC	56
IND-3	DIORITE	101.0	104.0	3.0		0.01	DIORITE	11
IND-3	DACITE	104.0	106.5	2.5		0.01	GABBRO	10
IND-3	MAFIC VOLCANIC	106.5	113.0	6.5		0.02	FELSIC VOLCANIC/TUFF	10
IND-3	DIORITE	113.0	129.0	16.0		0.05	CHERT	8
IND-3	MAFIC VOLCANIC (PILLOWED)	129.0	139.0	10.0		0.03	FELSIC INTRUSIVE	3
IND-3	DIORITE	139.0	151.0	12.0		0.04	IF	2
IND-3	IF	151.0	156.5	5.5		0.02		
IND-3	DIORITE	156.5	160.0	3.5		0.01		
IND-3	FELSIC TUFF	160.0	163.0	3.0		0.01		
IND-3	GABBRO	163.0	196.0	33.0		0.10		
IND-3	CHERT	196.0	216.0	20.0		0.06		
IND-3	MAFIC VOLCANIC	216.0	218.0	2.0		0.01		
IND-3	DACITE TUFF	218.0	228.5	10.5		0.03		
IND-3	MAFIC VOLCANIC (PILLOWED)	228.5	252.0	23.5		0.07		
IND-3	CHERT	252.0	259.5	7.5		0.02		
IND-3	MAFIC VOLCANIC (PILLOWED)	259.5	278.5	19.0		0.06		
IND-3	FELDSPAR PORPHYRY	278.5	289.5	11.0		0.03		
IND-3	MAFIC VOLCANIC	289.5	314.5	25.0		0.07		
IND-3	DACITE CRYSTAL TUFF	314.5	333.0	18.5		0.06		
IND-3	MAFIC VOLCANIC (PILLOWED)	333.0	370.0	37.0		0.11		
J-1	QUARTZ MONZONITE	200.0	209.0	9.0	703.0	0.01	GNEISS	99
J-1	QUARTZO-FELDSPATHIC GNEISS	209.0	903.0	694.0		0.99	QUARTZ MONZONITE	1
KC-1	GRAYWACKE	167.0	192.0	25.0	146.0	0.17	FELSIC VOLCANIC	58
KC-1	IF	192.0	204.0	12.0		0.08	GRAYWACKE	17
KC-1	FELSIC VOLCANIC	204.0	271.0	67.0		0.46	IF	24
KC-1	IF	271.0	295.0	24.0		0.16		
KC-1	FELSIC VOLCANIC	295.0	313.0	18.0		0.12		
KC-2	FELSIC TUFF	196.0	206.0	10.0	124.0	0.08	FELSIC VOLCANIC	57
KC-2	FELSIC VOLCANIC	206.0	236.0	30.0		0.24	GRAYWACKE	32
KC-2	GRAYWACKE	236.0	246.0	10.0		0.08	MAFIC VOLCANIC	11
KC-2	FELSIC TUFF	246.0	277.0	31.0		0.25		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
KC-2	GRAYWACKE	277.0	306.0	29.0		0.23		
KC-2	MAFIC VOLCANIC	306.0	320.0	14.0		0.11		
KC-3	IF	170.0	175.0	5.0	50.0	0.10	IF	70
KC-3	GRAYWACKE	175.0	190.0	15.0		0.30	GRAYWACKE	30
KC-3	IF	190.0	220.0	30.0		0.60		
KC-4	IF/FELSIC TUFF	175.0	255.0	80.0	80.0	1.00	IF/FELSIC TUFF	100
LW-346-1	MAFIC VOLCANIC	167.0	202.6	35.6	485.0	0.07	MAFIC VOLCANIC/TUFF	63
LW-346-1	ARGILLITE	202.0	207.5	5.5		0.01	FELSIC VOLCANIC	25
LW-346-1	MASSIVE SULFIDE	207.5	209.5	2.0		0.00	CHERT	4
LW-346-1	CHERT	209.5	225.0	15.5		0.03	MASSIVE SULFIDE	4
LW-346-1	IF	225.0	235.7	10.7		0.02	IF	3
LW-346-1	MASSIVE SULFIDE	235.7	241.0	5.3		0.01	ARGILLITE	1
LW-346-1	IF	241.0	243.0	2.0		0.00		
LW-346-1	CHERT	243.0	246.0	3.0		0.01		
LW-346-1	MASSIVE SULFIDE	246.0	251.7	5.7		0.01		
LW-346-1	MAFIC/FELSIC VOLCANIC	251.7	283.0	31.3		0.06		
LW-346-1	FELSIC TUFF	283.0	285.9	2.9		0.01		
LW-346-1	MASSIVE SULFIDE	285.9	296.0	10.1		0.02		
LW-346-1	MAFIC VOLCANIC	296.0	340.0	44.0		0.09		
LW-346-1	FELSIC TUFF	340.0	352.9	12.9		0.03		
LW-346-1	IF	352.9	357.0	4.1		0.01		
LW-346-1	FELSIC TUFF	357.0	374.8	17.8		0.04		
LW-346-1	MAFIC VOLCANIC	374.0	494.7	120.7		0.25		
LW-346-1	CHERT	494.7	495.5	0.8		0.00		
LW-346-1	FELSIC TUFF	495.5	520.0	24.5		0.05		
LW-346-1	MAFIC TUFF	520.0	537.5	17.5		0.04		
LW-346-1	FELSIC VOLCANIC	537.5	553.0	15.5		0.03		
LW-346-1	MAFIC VOLCANIC	553.0	563.2	10.2		0.02		
LW-346-1	FELSIC TUFF	563.2	605.7	42.5		0.09		
LW-346-1	MAFIC VOLCANIC	605.7	651.0	45.3		0.09		
LW-346-2	MAFIC TUFF	147.0	381.5	234.5	493.0	0.48	MAFIC VOLCANIC/TUFF	85
LW-346-2	FELSIC VOLCANIC	381.5	385.0	3.5		0.01	FELSIC VOLCANIC/TUFF	11
LW-346-2	CHERT	385.0	386.0	1.0		0.00	CHERT	2
LW-346-2	FELSIC VOLCANIC	386.0	393.0	7.0		0.01	MASSIVE SULFIDE	1
LW-346-2	CHERT	393.0	394.0	1.0		0.00		
LW-346-2	FELSIC VOLCANIC	394.0	402.0	8.0		0.02		
LW-346-2	CHERT	402.0	404.0	2.0		0.00		
LW-346-2	FELSIC VOLCANIC	404.0	409.7	5.7		0.01		
LW-346-2	MASSIVE SULFIDE	409.7	415.5	5.8		0.01		
LW-346-2	FELSIC TUFF	415.5	422.6	7.1		0.01		
LW-346-2	MAFIC VOLCANIC	422.6	556.3	133.7		0.27		
LW-346-2	FELSIC TUFF	556.3	593.0	36.7		0.07		
LW-346-2	MAFIC TUFF	593.0	641.0	48.0		0.10		
M-1*	DACITE	50.0	55.0	5.0	5.0	0.01	FELSIC VOLCANIC	100
M-1	MAFIC VOLCANIC	336.0	1095.0	759.0	759.0	1.00	MAFIC VOLCANIC	100
MDD-1	MAFIC VOLCANIC	216.0	300.0	84.0	425.0	0.20	MAFIC VOLCANIC	94
MDD-1	PYROXENITE	300.0	308.0	8.0		0.02	PYROXENITE	6
MDD-1	MAFIC VOLCANIC	308.0	340.0	32.0		0.08		
MDD-1	PYROXENITE	340.0	356.0	16.0		0.04		
MDD-1	MAFIC VOLCANIC	356.0	641.0	285.0		0.67		
MED-1	FELSIC VOLCANIC	163.0	200.0	37.0	351.0	0.11	IF	40
MED-1	IF	200.0	231.0	31.0		0.09	FELSIC VOLCANIC/TUFF	26
MED-1	MASSIVE SULFIDE	231.0	237.0	6.0		0.02	MAFIC VOLCANIC	19
MED-1	IF	237.0	303.0	66.0		0.19	AUGEN GNEISS	8

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
MED-1	MAFIC VOLCANIC	303.0	356.0	53.0		0.15	MASSIVE SULFIDE	7
MED-1	AUGEN GNEISS	356.0	383.0	27.0		0.08		
MED-1	IF	383.0	426.0	43.0		0.12		
MED-1	MAFIC VOLCANIC	426.0	440.0	14.0		0.04		
MED-1	MASSIVE SULFIDE	440.0	456.0	16.0		0.05		
MED-1	FELSIC TUFF	456.0	514.0	58.0		0.17		
MMD-1	MAFIC VOLCANIC (PILLOWED)	109.0	176.0	67.0	450.0	0.15	MAFIC VOLCANIC/TUFF	81
MMD-1	GRAYWACKE	176.0	197.0	21.0		0.05	CHERT	9
MMD-1	MAFIC VOLCANIC (PILLOWED)	197.0	318.0	121.0		0.27	GRAYWACKE	9
MMD-1	GRAYWACKE	318.0	323.0	5.0		0.01		
MMD-1	MAFIC VOLCANIC	323.0	341.0	18.0		0.04		
MMD-1	MAFIC GRAYWACKE	341.0	356.0	15.0		0.03		
MMD-1	MAFIC VOLCANIC	356.0	430.0	74.0		0.16		
MMD-1	CHERT	430.0	449.0	19.0		0.04		
MMD-1	MAFIC TUFF	449.0	455.0	6.0		0.01		
MMD-1	CHERT	455.0	469.0	14.0		0.03		
MMD-1	MAFIC TUFF	469.0	475.0	6.0		0.01		
MMD-1	CHERT	475.0	482.0	7.0		0.02		
MMD-1	MAFIC VOLCANIC	482.0	559.0	77.0		0.17		
MQD-1	MAFIC VOLCANIC/VOLCANIC SEDIMENT	121.0	340.0	219.0	255.0	0.86	MAFIC VOLCANIC/SEDIMENT	86
MQD-1	MAFIC MIGMATITE	340.0	376.0	36.0		0.14	MAFIC MIGMATITE	14
MQD-2	MIGMATIZED MAFIC VOLCANICLASTIC	68.0	99.0	31.0	354.0	0.09	DIORITE ?	34
MQD-2	CHERT	99.0	122.0	23.0		0.06	GRAYWACKE/VOLCANIC SEDIMENT	32
MQD-2	MIGMATITE	122.0	130.0	8.0		0.02	CHERT	16
MQD-2	VOLCANIC SEDIMENT	130.0	140.0	10.0		0.03	MAFIC VOLCANIC	11
MQD-2	CHERT	140.0	171.0	31.0		0.09	FELSIC-INTERMEDIATE VOLCANIC	5
MQD-2	GRAYWACKE	171.0	176.0	5.0		0.01		
MQD-2	DIORITE ?	176.0	297.5	121.5		0.34		
MQD-2	CHERT	297.5	300.0	2.5		0.01		
MQD-2	FELSIC-INTERMEDIATE VOLCANIC SEDIMENT	300.0	319.0	19.0		0.05		
MQD-2	GRAYWACKE	319.0	326.0	7.0		0.02		
MQD-2	MAFIC TUFF	326.0	330.0	4.0		0.01		
MQD-2	GRAYWACKE	330.0	422.0	92.0		0.26		
MR-1-84	INTERMEDIATE-FELSIC TUFF	303.0	389.0	86.0	280.0	0.31	INTERMEDIATE-FELSIC TUFF	52
MR-1-84	FELSIC TUFF	389.0	430.5	41.5		0.15	GRAPHITIC SEDIMENT	48
MR-1-84	GRAPHITIC SEDIMENT	430.5	565.0	134.5		0.48		
MR-1-84	INTERMEDIATE-FELSIC TUFF	565.0	583.0	18.0		0.06		
MR-2-84	MAFIC TUFF	310.0	313.0	3.0	578.0	0.01	FELSIC VOLCANIC/SEDIMENT	58
MR-2-84	INTERMEDIATE TUFF	313.0	326.0	13.0		0.02	INTERMEDIATE TUFF	24
MR-2-84	FELSIC VOLCANIC SEDIMENT	326.0	335.3	9.3		0.02	CHERT	9
MR-2-84	FELSIC VOLCANIC	335.3	336.0	0.7		0.00	GRAPHITIC SEDIMENT	3
MR-2-84	FELSIC VOLCANIC SEDIMENT	336.0	340.0	4.0		0.01	MAFIC TUFF	5
MR-2-84	FELSIC TUFF	340.0	343.0	3.0		0.01	GRAYWACKE	1
MR-2-84	MAFIC TUFF	343.0	352.0	9.0		0.02		
MR-2-84	INTERMEDIATE TUFF	352.0	370.0	18.0		0.03		
MR-2-84	CHERT	370.0	371.0	1.0		0.00		
MR-2-84	INTERMEDIATE TUFF	371.0	417.5	46.5		0.08		
MR-2-84	GRAYWACKE	417.5	425.0	7.5		0.01		
MR-2-84	INTERMEDIATE TUFF	425.0	445.0	20.0		0.03		
MR-2-84	GRAPHITIC SEDIMENT	445.0	446.2	1.2		0.00		
MR-2-84	FELSIC TUFF	446.2	472.0	25.8		0.04		
MR-2-84	MAFIC TUFF	472.0	475.7	3.7		0.01		
MR-2-84	CHERT	475.7	477.0	1.3		0.00		
MR-2-84	GRAPHITIC SEDIMENT	477.0	494.0	17.0		0.03		
MR-2-84	FELSIC TUFF	494.0	553.5	59.5		0.10		
MR-2-84	FELSIC VOLCANIC SEDIMENT	556.5	567.0	10.5		0.02		
MR-2-84	CHERT	567.0	581.5	14.5		0.03		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
MR-2-84	FELSIC VOLCANIC SEDIMENT	581.5	595.5	14.0		0.02		
MR-2-84	CHERT	595.5	606.0	10.5		0.02		
MR-2-84	FELSIC VOLCANIC SEDIMENT	606.0	615.5	9.5		0.02		
MR-2-84	CHERT	615.5	629.0	13.5		0.02		
MR-2-84	FELSIC VOLCANIC SEDIMENT	629.0	646.0	17.0		0.03		
MR-2-84	FELSIC TUFF	646.0	666.5	20.5		0.04		
MR-2-84	CHERT	666.5	669.7	3.2		0.01		
MR-2-84	FELSIC VOLCANIC SEDIMENT	669.7	730.0	60.3		0.10		
MR-2-84	FELSIC TUFF	730.0	767.5	37.5		0.06		
MR-2-84	GRAPHITIC SEDIMENT	767.5	803.5	36.0		0.06		
MR-2-84	FELSIC TUFF	803.5	840.0	36.5		0.06		
MR-2-84	INTERMEDIATE VOLCANIC	840.0	888.0	48.0		0.08		
MR-86-1	CHLORITE SCHIST	50.0	61.0	11.0	301.0	0.02	ALTERED MAFIC VOLCANIC	96
MR-86-1	FAULT GOUGE	61.0	76.0	15.0		0.03	FAULT GOUGE	3
MR-86-1	QUARTZ-SERICITE SCHIST	76.0	79.5	3.5		0.01	MASSIVE SULFIDE	1
MR-86-1	MASSIVE SULFIDE	79.5	85.0	5.5		0.01		
MR-86-1	QUARTZ-SERICITE SCHIST	85.0	87.0	2.0		0.00		
MR-86-1	QUARTZ-CHLORITE-SERICITE SCHIST	87.0	351.0	264.0		0.46		
MSD-1	MAFIC VOLCANIC	233.0	528.0	295.0	385.0	0.77	MAFIC VOLCANIC	96
MSD-1	CHERT	528.0	543.0	15.0		0.04	CHERT	4
MSD-1	MAFIC VOLCANIC	543.0	618.0	75.0		0.19		
NCB-1	MAFIC VOLCANIC ?	49.0	90.0	41.0	335.0	0.12	MAFIC VOLCANIC	70
NCB-1	DIORITE BRECCIA/SULFIDE MATRIX	90.0	96.0	6.0		0.02	FELSIC VOLCANIC	15
NCB-1	MAFIC VOLCANIC	96.0	132.0	36.0		0.11	DIORITE/GABBRO	10
NCB-1	DIORITE/GABBRO	132.0	162.0	30.0		0.09	MASSIVE SULFIDE	5
NCB-1	MASSIVE SULFIDE	162.0	175.0	13.0		0.04		
NCB-1	FELSIC VOLCANIC ?	175.0	187.0	12.0		0.04		
NCB-1	MAFIC VOLCANIC	188.0	195.0	7.0		0.02		
NCB-1	DIORITE	195.0	199.0	4.0		0.01		
NCB-1	MAFIC VOLCANIC	199.0	245.0	46.0		0.14		
NCB-1	FELSIC TUFF/SULFIDE	245.0	264.0	19.0		0.06		
NCB-1	MAFIC VOLCANIC/SULFIDE	264.0	304.0	40.0		0.12		
NCB-1	FELSIC TUFF/SULFIDE	304.0	322.0	18.0		0.05		
NCB-1	MAFIC VOLCANIC	322.0	384.0	62.0		0.19		
NCB-2	GRANITE	5.0	225.0	220.0	569.0	0.39	GRANITE/MIGMATITE	49
NCB-2	MIGMATITE	225.0	234.0	9.0		0.02	MAFIC VOLCANIC	38
NCB-2	MAFIC VOLCANIC	234.0	283.0	49.0		0.09	FELSIC VOLCANIC	9
NCB-2	MIGMATITE	283.0	303.0	20.0		0.04	VOLCANIC SEDIMENT	2
NCB-2	MAFIC VOLCANIC	303.0	354.0	51.0		0.09	DIORITE	1
NCB-2	DIORITE	354.0	359.0	5.0		0.01	MASSIVE SULFIDE ?	1
NCB-2	FELSIC TUFF/CHERT	359.0	414.0	55.0		0.10		
NCB-2	MASSIVE SULFIDE ?	414.0	420.0	6.0		0.01		
NCB-2	MAFIC VOLCANIC ?	420.0	515.0	95.0		0.17		
NCB-2	VOLCANIC SEDIMENT	515.0	526.0	11.0		0.02		
NCB-2	MIGMATITE	526.0	557.0	31.0		0.05		
NCB-2	MAFIC VOLCANIC	557.0	574.0	17.0		0.03		
ROS-1	GRAYWACKE	434.0	580.0	146.0	415.0	0.35	IF/FELSIC TUFFS	39
ROS-1	MASSIVE SULFIDE	580.0	635.0	55.0		0.13	GRAYWACKE	35
ROS-1	IF	635.0	795.0	160.0		0.39	INTERMEDIATE INTRUSIVE	13
ROS-1	INTERMEDIATE INTRUSIVE	795.0	849.0	54.0		0.13	MASSIVE SULFIDE	13
ROS-2	MAFIC VOLCANIC	449.0	557.0	108.0	350.0	0.31	GABBRO	43
ROS-2	ARGILLITE	557.0	590.0	33.0		0.09	MAFIC VOLCANIC	31
ROS-2	GABBRO	590.0	741.0	151.0		0.43	GRAPHITIC SEDIMENTS	17
ROS-2	GRAPHITIC SEDIMENT	741.0	799.0	58.0		0.17	ARGILLITE	9
R-1-1	GRAYWACKE	200.0	650.0	450.0	450.0	1.00	GRAYWACKE	100

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
R-2-1	FELSIC VOLCANICLASTIC	63.0	88.0	25.0	538.0	0.05	GRAYWACKE	64
R-2-1	GRAYWACKE	88.0	187.0	99.0		0.18	GABBRO	15
R-2-1	MAFIC VOLCANIC	187.0	237.0	50.0		0.09	MAFIC VOLCANIC	9
R-2-1	QUARTZ DIORITE	237.0	273.0	36.0		0.07	QUARTZ DIORITE	7
R-2-1	GRAYWACKE	273.0	491.0	218.0		0.41	FELSIC VOLCANICLASTIC	5
R-2-1	GABBRO	491.0	569.0	78.0		0.14		
R-2-1	GRAYWACKE	569.0	601.0	32.0		0.06		
R-2-1A	FELSIC VOLCANICLASTIC	88.0	145.0	57.0	208.0	0.15	GRAYWACKE	54
R-2-1A	GRANITE	145.0	233.0	88.0		0.23	GRANITE	24
R-2-1A	GRAYWACKE	233.0	288.0	55.0		0.14	FELSIC VOLCANICLASTIC	20
R-2-1A	GRANITE	288.0	290.0	2.0		0.01	MAFIC VOLCANIC SEDIMENT	2
R-2-1A	GRAYWACKE	290.0	322.0	32.0		0.08		
R-2-1A	FELSIC VOLCANICLASTIC	322.0	341.0	19.0		0.05		
R-2-1A	GRAYWACKE	341.0	422.0	81.0		0.21		
R-2-1A	MAFIC VOLCANIC SEDIMENT	422.0	430.0	8.0		0.02		
R-2-1A	GRAYWACKE	430.0	473.0	43.0		0.11		
R-2-2	AGGLOMERATE ?	113.0	131.0	18.0	650.0	0.03	GRAYWACKE	60
R-2-2	GRAYWACKE	131.0	291.0	160.0		0.25	GABBRO	35
R-2-2	FELSIC VOLCANICLASTIC	291.0	310.0	19.0		0.03	FELSIC VOLCANICLASTIC	6
R-2-2	GRAYWACKE	310.0	510.0	200.0		0.31		
R-2-2	GABBRO	510.0	738.0	228.0		0.35		
R-2-2	GRAYWACKE	738.0	763.0	25.0		0.04		
R-2-3	GABBRO	107.0	181.0	74.0	677.0	0.11	GABBRO	72
R-2-3	GRAYWACKE/GABBRO	181.0	280.0	99.0		0.15	GRAYWACKE	28
R-2-3	GABBRO	280.0	633.0	353.0		0.52		
R-2-3	GRAYWACKE	633.0	720.0	87.0		0.13		
R-2-3	GABBRO	720.0	784.0	64.0		0.09		
R-3	GRAYWACKE ?	350.0	450.0	100.0	770.0	0.13	MAFIC VOLCANIC	66
R-3	DIORITE	450.0	465.0	15.0		0.02	GRAYWACKE	19
R-3	MAFIC VOLCANIC	465.0	864.0	399.0		0.52	MYLONITE	11
R-3	GRAYWACKE ?	864.0	893.0	29.0		0.04	DIORITE	2
R-3	MAFIC VOLCANIC	893.0	910.0	17.0		0.02	FELSIC BRECCIA	1
R-3	FELSIC BRECCIA	910.0	918.0	8.0		0.01	MASSIVE SULFIDE	1
R-3	MAFIC VOLCANIC	918.0	978.0	60.0		0.08	FELSIC INTRUSIVE	1
R-3	MASSIVE SULFIDE	978.0	984.0	6.0		0.01		
R-3	MAFIC VOLCANIC	984.0	1000.0	16.0		0.02		
R-3	MYLONITE	1000.0	1085.5	85.5		0.11		
R-3	FELSIC INTRUSIVE	1085.5	1094.8	9.3		0.01		
R-3	GRAYWACKE ?	1094.0	1106.0	12.0		0.02		
R-3	MAFIC VOLCANIC	1106.0	1120.0	14.0		0.02		
R-3-1	FELSIC VOLCANICLASTIC	126.0	136.0	10.0	419.0	0.02	FELSIC VOLCANICLASTIC	84
R-3-1	GRAYWACKE	136.0	182.0	46.0		0.11	GRAYWACKE	11
R-3-1	FELSIC VOLCANICLASTIC	182.0	256.0	74.0		0.18	MAFIC VOLCANICLASTIC	5
R-3-1	FELSIC BRECCIA	256.0	447.0	191.0		0.46		
R-3-1	FELSIC VOLCANICLASTIC	447.0	526.0	79.0		0.19		
R-3-1	MAFIC VOLCANICLASTIC	526.0	545.0	19.0		0.05		
R-3-2	GABBRO	92.0	572.0	480.0	651.0	0.74	GABBRO	96
R-3-2	GRAYWACKE	572.0	599.0	27.0		0.04	GRAYWACKE	4
R-3-2	GABBRO	599.0	743.0	144.0		0.22		
R-3-3	MAFIC TUFF	3.0	32.0	29.0	755.0	0.04	MAFIC VOLCANIC/TUFF	86
R-3-3	MAFIC VOLCANIC	32.0	110.0	78.0		0.10	GRAYWACKE	8
R-3-3	MAFIC TUFF	110.0	120.0	10.0		0.01	FELSIC VOLCANICLASTIC	6
R-3-3	MAFIC VOLCANIC	120.0	198.0	78.0		0.10		
R-3-3	MAFIC TUFF	198.0	207.0	9.0		0.01		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
R-3-3	MAFIC VOLCANIC	207.0	515.0	308.0		0.41		
R-3-3	MAFIC TUFF	515.0	581.0	66.0		0.09		
R-3-3	FELSIC VOLCANICLASTIC	581.0	609.0	28.0		0.04		
R-3-3	MAFIC VOLCANIC	609.0	682.0	73.0		0.10		
R-3-3	FELSIC VOLCANICLASTIC	682.0	696.0	14.0		0.02		
R-3-3	GRAYWACKE	696.0	758.0	62.0		0.08		
R-3-4	GRAYWACKE	0.00	30.00	30.0	553.00	0.05		
R-3-4	MAFIC VOLCANIC	30.0	360.0	330.0		0.60	MAFIC VOLCANIC	60
R-3-4	FELSIC VOLCANICLASTIC	360.0	373.0	13.0		0.02	GRAYWACKE	38
R-3-4	GRAYWACKE	373.0	553.0	180.0		0.33	FELSIC VOLCANICLASTIC	2
R-4-1	FELSIC TUFF	97.0	123.0	26.0	325.0	0.08	FELSIC VOLCANIC/TUFF	65
R-4-1	GRANODIORITE	123.0	165.0	42.0		0.13	MAFIC VOLCANIC	20
R-4-1	MASSIVE SULFIDE	165.0	173.0	8.0		0.02	GRANODIORITE	13
R-4-1	FELSIC VOLCANIC BRECCIA	173.0	357.0	184.0		0.57	MASSIVE SULFIDE	2
R-4-1	MAFIC VOLCANIC	357.0	422.0	65.0		0.20		
R-4-2	MAFIC VOLCANIC/DIABASE	150.0	167.0	17.0	380.0	0.04	FELSIC TUFF	65
R-4-2	DIABASE	167.0	205.0	38.0		0.10	MAFIC VOLCANIC/DIABASE	24
R-4-2	MAFIC TUFF	205.0	243.0	38.0		0.10	GRANITE	10
R-4-2	FELSIC TUFF	243.0	491.0	248.0		0.65		
R-4-2	GRANITE	491.0	530.0	39.0		0.10		
R-4-3	FELSIC VOLCANIC SEDIMENT	291.0	409.0	118.0	161.0	0.73	FELSIC VOLCANIC SEDIMENT/TUFF	100
R-4-3	FELSIC TUFF	409.0	452.0	43.0		0.27		
R-5-1	MAFIC VOLCANIC	116.0	247.0	131.0	684.0	0.19	GRAYWACKE	67
R-5-1	GRAYWACKE	247.0	465.0	218.0		0.32	MAFIC VOLCANIC	33
R-5-1	MAFIC VOLCANIC	465.0	560.0	95.0		0.14		
R-5-1	GRAYWACKE	560.0	800.0	240.0		0.35		
R-5-2	MAFIC VOLCANIC	71.0	201.0	130.0	562.0	0.23	GRAYWACKE	74
R-5-2	GRAYWACKE	201.0	246.0	45.0		0.08	MAFIC VOLCANIC	23
R-5-2	DIABASE	246.0	261.0	15.0		0.03	DIABASE	3
R-5-2	GRAYWACKE	261.0	633.0	372.0		0.66		
RR-6-1	GABBRO	143.0	226.0	83.0	271.0	0.31	FELSIC VOLCANIC	45
RR-6-1	MAFIC VOLCANIC	145.0	148.0	3.0		0.01	GRAYWACKE	37
RR-6-1	MASSIVE SULFIDE	148.0	188.0	40.0		0.15	MASSIVE SULFIDE ?	16
RR-6-1	FELSIC VOLCANIC	188.0	242.0	54.0		0.20	MAFIC VOLCANIC	1
RR-6-1	MASSIVE SULFIDE ?	242.0	245.0	3.0		0.01		
RR-6-1	FELSIC VOLCANIC	245.0	262.0	17.0		0.06		
RR-6-1	GRAYWACKE	262.0	362.0	100.0		0.37		
RR-6-1	FELSIC VOLCANIC	362.0	414.0	52.0		0.19		
RR-6-2	FELSIC TUFF	142.0	148.5	6.5	224.0	0.03	FELSIC VOLCANIC/AGGLOMERATE	63
RR-6-2	GABBRO	148.0	166.3	18.3		0.08	MAFIC VOLCANIC	25
RR-6-2	FELSIC AGGLOMERATE	166.3	274.0	107.7		0.48	GABBRO	8
RR-6-2	FELSIC VOLCANIC	274.0	285.0	11.0		0.05	MASSIVE SULFIDE	4
RR-6-2	MASSIVE SULFIDE	285.0	289.0	4.0		0.02		
RR-6-2	FELSIC TUFF	289.0	293.0	4.0		0.02		
RR-6-2	FELSIC TUFF	293.0	304.0	11.0		0.05		
RR-6-2	MASSIVE SULFIDE	304.0	309.0	5.0		0.02		
RR-6-2	MAFIC VOLCANIC	309.0	366.0	57.0		0.25		
RR-12-1	FELSIC TUFF	66.0	206.0	140.0	214.0	0.65	FELSIC TUFF/VOLCANIC	74
RR-12-1	VOLCANIC SEDIMENT/GRAPHITIC MUDSTONE	206.0	233.0	27.0		0.13	VOLCANIC SEDIMENT/MUDSTONE	26
RR-12-1	FELSIC VOLCANIC ?	233.0	248.0	15.0		0.07		
RR-12-1	GRAPHITIC MUDSTONE	248.0	258.0	10.0		0.05		
RR-12-1	FELSIC VOLCANIC ?	258.0	262.0	4.0		0.02		
RR-12-1	GRAPHITIC MUDSTONE	262.0	280.0	18.0		0.08		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
RR-12-2	FELSIC TUFF	95.0	162.0	67.0	187.0	0.36	FELSIC VOLCANIC/TUFF	97
RR-12-2	GRAYWACKE/GRAPHITIC MUDSTONE	162.0	168.0	6.0		0.03	GRAYWACKE/MUDSTONE	3
RR-12-2	FELSIC TUFF	168.0	170.0	2.0		0.01		
RR-12-2	FELSIC VOLCANIC SEDIMENTS	170.0	180.0	10.0		0.05		
RR-12-2	FELSIC AGGLOMERATE	180.0	229.0	49.0		0.26		
RR-12-2	FELSIC TUFF/SEDIMENT	229.0	282.0	53.0		0.28		
RR-16-1	MAFIC TUFF	26.0	135.0	109.0	264.0	0.41	MAFIC VOLCANIC	97
RR-16-1	MAFIC TUFF	79.0	100.0	21.0		0.08	MASSIVE SULFIDE	2
RR-16-1	MASSIVE SULFIDE	135.0	140.5	5.5		0.02	FELSIC TUFF	1
RR-16-1	FELSIC TUFF	140.5	144.0	3.5		0.01		
RR-16-1	MAFIC VOLCANIC	140.5	290.0	149.5		0.57		
RR-80-1	MAFIC VOLCANIC ?	258.0	300.0	42.0	214.0	0.20	FELSIC VOLCANIC/SEDIMENT	55
RR-80-1	MAFIC VOLCANIC	300.0	353.0	53.0		0.25	MAFIC VOLCANIC	45
RR-80-1	FELSIC VOLCANIC/CHLORITE SCHIST	353.0	392.0	39.0		0.18		
RR-80-1	FELSIC VOLCANIC SEDIMENT	392.0	472.0	80.0		0.37		
RR-80-2	MAFIC VOLCANIC	53.6	82.0	28.4	407.4	0.07	DIABASE	84
RR-80-2	DIABASE	82.0	426.0	344.0		0.84	MAFIC VOLCANIC	16
RR-80-2	MAFIC VOLCANIC	426.0	461.0	35.0		0.09		
S-43-1	FELSIC TUFF	7.0	91.0	84.0	491.0	0.17	FELSIC VOLCANIC	51
S-43-1	INTERMEDIATE TUFF ?	91.0	200.0	109.0		0.22	GABBRO	20
S-43-1	GABBRO	200.0	300.5	100.5		0.20	INTERMEDIATE TUFF ?	23
S-43-1	FELSIC VOLCANIC	300.5	432.0	131.5		0.27	DIORITE	6
S-43-1	INTERMEDIATE TUFF ?	432.0	435.0	3.0		0.01		
S-43-1	FELSIC TUFF	435.0	457.5	22.5		0.05		
S-43-1	GRAYWACKE	457.5	470.0	12.5		0.03		
S-43-1	DIORITE ?	470.0	498.0	28.0		0.06		
S-43-2	GRANITE	10.0	102.0	92.0	514.0	0.18		
S-43-2	MAFIC VOLCANIC	102.0	179.0	77.0		0.15	MAFIC VOLCANIC/MIGMATITE	39
S-43-2	MISSING	179.0	189.0	10.0		0.02	DIORITE	27
S-43-2	MAFIC VOLCANIC	189.0	205.0	16.0		0.03	GRANITE	18
S-43-2	DIORITE	205.0	208.0	3.0		0.01	FELSIC VOLCANIC/SEDIMENT	14
S-43-2	MAFIC VOLCANIC	208.0	222.0	14.0		0.03	MISSING	2
S-43-2	FELSIC VOLCANIC	222.0	237.0	15.0		0.03		
S-43-2	FELSIC VOLCANIC	235.0	276.0	41.0		0.08		
S-43-2	MAFIC MIGMATITE (VOLCANIC)	276.0	315.0	39.0		0.08		
S-43-2	FELSIC VOLCANIC	315.0	322.0	7.0		0.01		
S-43-2	MAFIC VOLCANIC	322.0	372.0	50.0		0.10		
S-43-2	FELSIC VOLCANIC SEDIMENT	372.0	382.0	10.0		0.02		
S-43-2	MAFIC MIGMATITE (VOLCANIC)	382.0	390.0	8.0		0.02		
S-43-2	DIORITE	390.0	524.0	134.0		0.26		
S-43-3	FELSIC VOLCANIC	21.0	41.0	20.0	429.0	0.05	GRAYWACKE	61
S-43-3	GRANITE	41.0	45.0	4.0		0.01	FELSIC VOLCANIC	37
S-43-3	FELSIC VOLCANIC	45.0	115.0	70.0		0.16	GRANITE	1
S-43-3	FELSIC VOLCANIC	115.0	141.0	26.0		0.06	GABBRO	1
S-43-3	GABBRO	141.0	144.0	3.0		0.01		
S-43-3	FELSIC VOLCANIC	144.0	160.0	16.0		0.04		
S-43-3	FELSIC AGGLOMERATE/MASSIVE SULFIDE	160.0	190.0	30.0		0.07		
S-43-3	GRAYWACKE	190.0	450.0	260.0		0.61		
SP-1A	ARGILLITE	320.0	527.0	207.0	260.0	0.80	ARGILLITE	95
SP-1A	MASSIVE SULFIDE	527.0	531.0	4.0		0.02	MASSIVE SULFIDE	5
SP-1A	ARGILLITE	531.0	541.0	10.0		0.04		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
SP-1A	MASSIVE SULFIDE	541.0	544.0	3.0		0.01		
SP-1A	ARGILLITE	544.0	556.0	12.0		0.05		
SP-1A	MASSIVE SULFIDE	556.0	560.0	4.0		0.02		
SP-1A	ARGILLITE	560.0	581.0	21.0		0.08		
SP-2	MAFIC TUFF	300.0	332.0	32.0	654.0	0.05	MAFIC TUFF	33
SP-2	GABBRO	332.0	365.0	33.0		0.05	CHERT	28
SP-2	MAFIC TUFF	365.0	474.0	109.0		0.17	ARGILLITE	12
SP-2	ARGILLITE	474.0	484.0	10.0		0.02	CHERT/MASSIVE SULFIDE	12
SP-2	CHERT	484.0	540.0	56.0		0.09	GABBRO	5
SP-2	GRAPHITIC ARGILLITE	540.0	560.0	20.0		0.03		
SP-2	CHERT	560.0	566.0	6.0		0.01		
SP-2	ARGILLITE	566.0	578.0	12.0		0.02		
SP-2	CHERT	578.0	591.0	13.0		0.02		
SP-2	ARGILLITE	591.0	599.0	8.0		0.01		
SP-2	CHERT	599.0	616.0	17.0		0.03		
SP-2	ARGILLITE	616.0	640.0	24.0		0.04		
SP-2	CHERT	640.0	726.0	86.0		0.13		
SP-2	MAFIC TUFF+CHERT	726.0	741.0	15.0		0.02		
SP-2	MAFIC TUFF	741.0	772.0	31.0		0.05		
SP-2	CHERT/MASSIVE SULFIDE	772.0	836.0	64.0		0.10		
SP-2	MAFIC TUFF	836.0	872.0	36.0		0.06		
SP-2	CHERT/MASSIVE SULFIDE	872.0	885.0	13.0		0.02		
SP-2	MAFIC TUFF	885.0	939.0	54.0		0.08		
SP-2	FELSIC TUFF	939.0	954.0	15.0		0.02		
SQW-1	ULTRAMAFIC INTRUSIVE	380.0	463.0	83.0	374.0	0.22	ARGILLITE	48
SQW-1	CHERT	463.0	502.0	39.0		0.10	ULTRAMAFIC INTRUSIVE	22
SQW-1	ARGILLITE	502.0	678.0	176.0		0.47	FELSIC VOLCANIC SEDIMENT	20
SQW-1	FELSIC VOLCANIC SEDIMENTS	678.0	754.0	76.0		0.20	CHERT	10
STAR-1	HORNBLENDE SYENITE	406.0	615.0	209.0	209.0	1.00	FELSIC INTRUSIVE	100
STAR-2	DIORITE	250.0	357.0	107.0	107.0	1.00	DIORITE	100
STAR-3	BRECCIATED GABBRO	235.0	495.0	260.0	260.0	1.00	BRECCIATED GABBRO	100
T20-1	MYLONITE	393.0	501.0	108.0	442.0	0.24	GRAYWACKE/VOLCANIC SEDIMENT	63
T20-1	GRAYWACKE	501.0	756.0	255.0		0.58	MYLONITE	24
T20-1	GRAPHITIC MUDSTONE	756.0	815.0	59.0		0.13	GRAPHITIC MUDSTONE	13
T20-1	VOLCANIC SEDIMENT	815.0	835.0	20.0		0.05		
T25A-1	MAFIC VOLCANIC/TUFF	280.0	360.0	80.0	374.0	0.21	MAFIC VOLCANIC/TUFF	68
T25A-1	MASSIVE SULFIDE	360.0	367.0	7.0		0.02	MASSIVE SULFIDE	21
T25A-1	MAFIC VOLCANIC/TUFF	367.0	479.0	112.0		0.30	FELSIC TUFF	13
T25A-1	FELSIC TUFF	479.0	528.0	49.0		0.13		
T25A-1	MASSIVE SULFIDE	528.0	599.0	71.0		0.19		
T25A-1	MAFIC VOLCANICS	599.0	654.0	55.0		0.15		
T25B-1	GRAPHITIC SEDIMENT	319.0	322.0	3.0	517.0	0.01	VOLCANIC SEDIMENT	85
T25B-1	FAULT GOUGE	322.0	402.0	80.0		0.15	FAULT GOUGE	15
T25B-1	VOLCANIC SEDIMENT	402.0	836.0	434.0		0.84		
T25B-2	FELSIC VOLCANIC SEDIMENT ?	297.0	466.0	169.0	398.0	0.42	FELSIC VOLCANIC SEDIMENT	70
T25B-2	GRAPHITIC SEDIMENT	466.0	573.0	107.0		0.27	FELSIC TUFF	15
T25B-2	MASSIVE SULFIDE	573.0	634.0	61.0		0.15	MASSIVE SULFIDE	15
T25B-2	FELSIC TUFF ?	634.0	695.0	61.0		0.15		
UBD-1	GRAYWACKE	90.00	250.00	160.0	336.00	0.48	GRAYWACKE	85
UBD-1	FAULT/MYLONITE	250.00	292.00	42.0		0.13	FAULT/SHEAR ZONE	15
UBD-1	GRAYWACKE	292.00	353.00	61.0		0.18		
UBD-1	FAULT	353.00	359.00	6.0		0.02		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
UBD-1	GRAYWACKE	359.00	426.00	67.0		0.20		
UBD-2	GRAYWACKE	170.00	255.00	85.0	310.00	0.27	GRAYWACKE	92
UBD-2	MAFIC SILL?	255.00	258.00	3.0		0.01	MAFIC INTRUSIVE?	6
UBD-2	GRAYWACKE	258.00	267.00	9.0		0.03	FAULT BRECCIA	2
UBD-2	MAFIC SILL?	267.00	271.00	4.0		0.01		
UBD-2	GRAYWACKE	271.00	274.00	3.0		0.01		
UBD-2	MAFIC SILL?	274.00	285.00	11.0		0.04		
UBD-2	GRAYWACKE	285.00	307.00	22.0		0.07		
UBD-2	FAULT BRECCIA	307.00	312.00	5.0		0.02		
UBD-2	GRAYWACKE	312.00	480.00	168.0		0.54		
UBD-3	PORPHYRITIC GABBRO	170.00	573.00	403.0	403.00	1.00	GABBRO	100
UBD-4	GRAYWACKE	254.00	257.00	3.0	365.00	0.01	GRAYWACKE	94
UBD-4	SHEAR ZONE	257.00	269.00	12.0		0.03	SHEAR/FAULT ZONE	6
UBD-4	GRAYWACKE	269.00	329.00	60.0		0.16		
UBD-4	FAULT BRECCIA	329.00	337.00	8.0		0.02		
UBD-4	GRAYWACKE	337.00	478.00	141.0		0.39		
UBD-4	FAULT BRECCIA	478.00	483.00	5.0		0.01		
UBD-4	GRAYWACKE	483.00	619.00	136.0		0.37		
UBD-5	GRAYWACKE	299.00	323.00	24.0	521.00	0.05	GRAYWACKE	90
UBD-5	FAULT BRECCIA	323.00	333.00	10.0		0.02	FAULT ZONE	10
UBD-5	GRAYWACKE/ARGILLITE	333.00	416.00	83.0		0.16		
UBD-5	FAULT ZONE	416.00	451.00	35.0		0.07		
UBD-5	GRAYWACKE	451.00	616.00	165.0		0.32		
UBD-5	FAULT ZONE	616.00	620.00	4.0		0.01		
UBD-5	GRAYWACKE	620.00	820.00	200.0		0.38		
UBD-8	MAFIC GRAYWACKE	215.00	272.00	57.0	369.00	0.15	MAFIC GRAYWACKE	77
UBD-8	SHEAR ZONE	272.00	276.00	4.0		0.01	SHEAR ZONE	23
UBD-8	MAFIC GRAYWACKE	276.00	310.00	34.0		0.09		
UBD-8	SHEAR ZONE	310.00	314.00	4.0		0.01		
UBD-8	MAFIC GRAYWACKE	314.00	350.00	36.0		0.10		
UBD-8	SHEAR ZONE	350.00	427.00	77.0		0.21		
UBD-8	MAFIC GRAYWACKE	427.00	584.00	157.0		0.43		
WB-1	MAFIC TUFF	335.0	612.0	277.0	598.0	0.46	MAFIC VOLCANIC/TUFF	71
WB-1	CHERT	612.0	626.0	14.0		0.02	FELSIC-INTERMEDIATE TUFF	22
WB-1	MAFIC TUFF	626.0	656.0	30.0		0.05	CHERT	7
WB-1	CHERT	656.0	686.0	30.0		0.05		
WB-1	FELSIC TO INTERMEDIATE TUFF	686.0	816.0	130.0		0.22		
WB-1	MAFIC VOLCANIC	816.0	933.0	117.0		0.20		
W1-1	GABBRO	115.0	191.0	76.0	181.0	0.42	GABBRO	95
W1-1	MAFIC DIKE	191.0	193.5	2.5		0.01	FELSIC VOLCANIC (XENOLITH)	4
W1-1	GABBRO	193.5	245.3	51.8		0.29	MAFIC DIKE	1
W1-1	FELSIC VOLCANIC (XENOLITH)	245.3	252.0	6.7		0.04		
W1-1	GABBRO	252.0	296.0	44.0		0.24		
W1-84	FELSIC TUFF	424.0	468.0	44.0	428.0	0.10	INTERMEDIATE VOLCANIC	35
W1-84	GRAPHITIC SEDIMENT	468.0	485.0	17.0		0.04	FELSIC TUFF	32
W1-84	FELSIC TUFF	485.0	562.0	77.0		0.18	MAFIC VOLCANIC	21
W1-84	GRAYWACKE	562.0	612.0	50.0		0.12	GRAYWACKE	12
W1-84	INTERMEDIATE VOLCANIC	612.0	760.0	148.0		0.35	GRAPHITIC SEDIMENT	4
W1-84	MAFIC VOLCANIC	760.0	852.0	92.0		0.21		
W3-1	GABBRO	166.0	176.0	10.0	158.0	0.06	MAFIC TUFF/VOLCANIC ?	73
W3-1	MAFIC TUFF ?	176.0	236.0	60.0		0.38	GABBRO	27
W3-1	GABBRO	236.0	263.0	27.0		0.17		
W3-1	MAFIC VOLCANIC ?	263.0	299.0	36.0		0.23		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
W3-1	GABBRO ?	299.0	305.0	6.0		0.04		
W3-1	MAFIC TUFF ?	305.0	324.0	19.0		0.12		
W8-1	GABBRO	174.0	178.5	4.5	131.0	0.03	INTERMEDIATE TUFF	45
W8-1	FELSIC TUFF	178.5	214.3	35.8		0.27	FELSIC TUFF	36
W8-1	MAFIC TUFF	214.3	232.0	17.7		0.14	MAFIC TUFF	14
W8-1	DACITIC TUFF/BRECCIA	232.0	243.0	11.0		0.08	GABBRO	3
W8-1	INTERMEDIATE TUFF	243.0	302.5	59.5		0.45	GRANITE	2
W8-1	GRANITE	302.5	305.0	2.5		0.02		
W9-1	FELSIC TUFF	159.0	174.2	15.2	186.0	0.08	GRAYWACKE	56
W9-1	GRAYWACKE	174.2	205.0	30.8		0.17	FELSIC VOLCANIC	33
W9-1	FELSIC LAPILLI TUFF	205.0	252.0	47.0		0.25	SERICITE SCHIST	11
W9-1	SERICITE SCHIST	252.0	273.0	21.0		0.11		
W9-1	GRAYWACKE	273.0	345.0	72.0		0.39		
W13-1	PERIDOTITE	145.0	202.7	57.7	171.0	0.34	ULTRAMAFIC INTRUSIVE	100
W13-1	ULTRAMAFIC TECTONIC BRECCIA	202.7	239.5	36.8		0.22		
W13-1	SERPENTINIZED PERIDOTITE/PYROXENITE	215.0	316.0	101.0		0.59		
YGZ-1	GRANITE + FELSIC VOLCANIC	379.0	527.0	148.0	148.0	1.00	GRANITE+FELSIC VOLCANIC	100
YWA-1	MAFIC TUFF	217.0	289.0	72.0	148.0	0.49	MAFIC TUFF	49
YWA-1	HORNFELS	289.0	298.0	9.0		0.06	GRANODIORITE	45
YWA-1	GRANODIORITE	298.0	365.0	67.0		0.45	HORNFELS	6
YWA-2	MAFIC SCHIST	206.0	360.0	154.0	154.0	1.00	MAFIC SCHIST	100
YWA-3	MAFIC VOLCANIC SEDIMENT	218.5	294.0	75.5	396.0	0.19	MAFIC VOLCANIC SEDIMENT	63
YWA-3	PYROXENITE	294.0	315.0	21.0		0.05	GRANODIORITE	31
YWA-3	MAFIC VOLCANIC	315.0	490.3	175.3		0.44	PYROXENITE	5
YWA-3	GRANODIORITE	490.0	614.0	124.0		0.31		
YWA-4	MAFIC TUFF	199.0	260.5	61.5	572.0	0.11	GRANODIORITE	54
YWA-4	PYROXENITE	260.5	286.2	25.7		0.04	MAFIC TUFF	42
YWA-4	MAFIC TUFF	286.2	464.5	178.3		0.31	PYROXENITE	4
YWA-4	GRANODIORITE	464.5	771.0	306.5		0.54		
YWI-1	MAFIC TUFF/VOLCANIC	333.0	662.0	329.0	471.0	0.70	MAFIC VOLCANIC/TUFF	81
YWI-1	GRANODIORITE	662.0	682.0	20.0		0.04	FELSIC TUFF	14
YWI-1	FELSIC QUARTZ CRYSTAL TUFF	682.0	700.0	18.0		0.04	GRANODIORITE	4
YWI-1	MAFIC TUFF	700.0	744.0	44.0		0.09	CHERT	1
YWI-1	FELSIC TUFF	744.0	746.0	2.0		0.00		
YWI-1	MAFIC TUFF	746.0	754.0	8.0		0.02		
YWI-1	CHERT	754.0	756.0	2.0		0.00		
YWI-1	FELSIC QUARTZ CRYSTAL TUFF	756.0	804.0	48.0		0.10		
YWL-1	MAFIC FLOWS	282.0	573.0	291.0	405.0	0.72	MAFIC VOLCANIC/FLOWS	88
YWL-1	FELSIC TUFF	573.0	580.0	7.0		0.02	GRAPHITIC SEDIMENT	10
YWL-1	GRAPHITIC SEDIMENT	580.0	619.0	39.0		0.10	FELSIC VOLCANIC	2
YWL-1	MAFIC VOLCANIC	619.0	687.0	68.0		0.17		
YWM-1	GRAYWACKE	253.0	480.0	227.0	347.0	0.65	GRAYWACKE	82
YWM-1	MAFIC GRAYWACKE	480.0	539.0	59.0		0.17	MAFIC VOLCANIC	18
YWM-1	MAFIC VOLCANIC	539.0	600.0	61.0		0.18		
YWQ-1	GRAPHITIC ARGILLITE	399.0	638.0	239.0	445.0	0.54	GRAPHITIC ARGILLITE/ARGILLITE	76
YWQ-1	RHYOLITE QUARTZ-EYE TUFF	638.8	650.0	11.2		0.03	FELSIC TUFF/SEDIMENT	24
YWQ-1	ARGILLITE	650.0	659.8	9.8		0.02		
YWQ-1	GRAPHITIC ARGILLITE	659.8	665.0	5.2		0.01		

Table 2 (continued)

HOLE #	ROCK NAME	START	END	THICK-NESS	TOTAL LENGTH	PROPOR-TION	GENERALIZED LITHOLOGIC UNITS	PERCENT
YWQ-1	RHYOLITE QUARTZ-EYE TUFF	665.0	719.0	54.0		0.12		
YWQ-1	ARGILLITE	719.0	745.0	26.0		0.06		
YWQ-1	RHYOLITE QUARTZ-EYE TUFF	745.0	749.0	4.0		0.01		
YWQ-1	GRAPHITIC ARGILLITE	749.0	764.0	15.0		0.03		
YWQ-1	FELSIC VOLCANIC SEDIMENT	764.0	844.0	80.0		0.18		
YWT-1	ANDESITE TUFF	371.0	559.5	188.5	312.0	0.60	ANDESITE TUFF	91
YWT-1	GRAPHITIC ARGILLITE	559.5	587.5	28.0		0.09	GRAPHITIC ARGILLITE	9
YWT-1	ANDESITE TUFF	587.5	683.0	95.5		0.31		
YWZ-1	ULTRAMAFIC VOLCANIC	282.0	590.0	308.0	532.0	0.58	ULTRAMAFIC VOLCANIC	64
YWZ-1	CHERT	590.0	593.0	3.0		0.01	MAFIC VOLCANIC	34
YWZ-1	ULTRAMAFIC VOLCANIC	593.0	625.5	32.5		0.06	CHERT	2
YWZ-1	CHERT	625.5	630.5	5.0		0.01		
YWZ-1	MAFIC VOLCANIC	630.5	814.0	183.5		0.34		
YWZ-2	MAFIC VOLCANIC	294.0	513.0	219.0	499.0	0.44	MAFIC VOLCANIC	94
YWZ-2	CHERT	513.0	527.0	14.0		0.03	CHERT	5
YWZ-2	MAFIC VOLCANIC	527.0	635.0	108.0		0.22	GRAPHITIC ARGILLITE	2
YWZ-2	CHERT	635.0	646.0	11.0		0.02		
YWZ-2	GRAPHITIC ARGILLITE	646.0	655.0	9.0		0.02		
YWZ-2	MAFIC VOLCANIC	655.0	793.0	138.0		0.28		
	MGS OVERBURDEN DRILLING							
CUS-2A-1	GRANITE							
CUS-2A-2	GRANODIORITE							
CUS-3A	GRAYWACKE WITH CARBONATE VEINS							
CUS-5	GRAYWACKE							
CUS-10	MAFIC VOLCANIC							
CUS-11	SYENITE							
CUS-15	ALTERED MAFIC VOLCANIC; QUARTZ VEIN							
CUS-16	DIORITE							
CUS-17	DIABASE							
CUS-18	ALTERED FELDSPAR PORPHYRY							
CUS-19	MAFIC VOLCANIC							
CUS-20	GRANITE							
CUS-21B	ALTERED MAFIC VOLCANIC ?							
CUS-22	GRANODIORITE							
CUS-23	PLAGIOCLASE PORPHYRY (SHEARED)							
CUS-24	GRANODIORITE							
CUS-25	ANDESITE							
CUS-26A	DIABASE							
CUS-27A	MAFIC VOLCANIC ?, GABBRO							
CUS-34	FELSIC VOLCANIC							

Table 3. Geologic and mineralization summary by drill hole. Abbreviations used in the text are listed at the end of the table. The * symbol in column 3 indicates drill holes examined by USGS.

HOLE	COUNTY		LITHOLOGY	STRUCTURAL INTERPRETATION
40917	Lake of the Woods		BIOTITE SCHIST (GRWKY)	
40918	Lake of the Woods	*	GRWKY,M VOL,M TUFF	MOD S1
40919	Lake of the Woods	*	GRANODIORITE,IF,F TUFF,MIG	MOD TO STRONG DEFORMATION
40920	Lake of the Woods	*	M VOL	WEAK DEFORMATION;MOD BRITTLE FRACTURE
40926	Lake of the Woods	*	GABBRO,F VOL,F AGLM,GRWKY,GRAPH SED	D2 FABRIC STRONG,MYLONITE,PHYLONITE
A-1-1	Koochiching	*	FOLIATED GABBRO	MOD DEFORMATION
A4-1	Koochiching	*	TONALITE,CHLORITE-SERICITE SCHIST	STRONG DEFORMATION,MYLONITE
A4-2	Koochiching		GRWKY,GRAPH GRWKY	
A6-1	Koochiching	*	GRWKY,IF(SIL),F VSED,DIORITE	S0,S1,F1(2?),INVERTED SEQUENCE
A6-2	Koochiching		M VOL ?	
A8-1	Koochiching	*	F VOL,M VOL,DIORITE,M VCL,M SULFIDE	STRONG FLATTENING IN S1
A9-1	Koochiching	*	GABBRO,M VOL,F TUFF,F LAPILLI TUFF,GRWKY	S-C TECTONITE
A9-2	Koochiching		FELSIC VSED,M VOL	
A10-1	Koochiching	*	F TUFF/AGLM,PILLOWED BASALT,GRWKY,GRAPH ARGILLITE	S-C TECTONITE
B-B-2	Lake of the Woods	*	I VOL?,M VOL(PILLOWED),GABBRO	STRONG DEFORMATION,S-C TECTONITE
BD-1	Lake of the Woods	*	M VOL/TUFF,F VOL/AGGLM?,I TUFF,M SULFIDE	MOD DEFORMATION
BD-1	Roseau	*	GABBRO, F TUFF,M VOL/TUFF,TONALITE,SHEAR ZONE	S-C TECTONITE
BD-2	Lake of the Woods	*	I-F TUFF,F VOL/TUFF,GRWKY,M VOL,M SULFIDE	STRONG SHEARING(D2?)
BD-2	Roseau	*	GABBRO,VSED,PYROXENITE,	S1,L1,INTENSE IN BANDS
BD-3	Lake of the Woods	*	ALTERED F TUFF/VCL,GRAPH VSED,GRWKY,MYLONITE	S-C AND L-S TECTONITE
BD-II-1	Lake of the Woods	*	M VOL,GABBRO,M GRWKY,F VCL,VSED,CHERT,IF,M SULFIDE	WEAK DEFORMATION
BD-II-2	Lake of the Woods		M VOL,GABBRO,CHERT?,M SULFIDE	STRONG SHEARING
BD-N-1	Lake of the Woods	*	M VOL,CHERTY AND GRAPH M SULFIDE,F VOL	MOD DEFORMATION
BD-P-1	Lake of the Woods	*	M VOL,CHERT	S1 WEAK
BLT-1	Roseau		M VOL,SYENITE,CHERT	MOD S1
BLT-2	Roseau		M VOL,GNEISSIC SEDIMENT,I INTRUSIVE,F VOL,M SULFIDE	STRONG S1
B-Q-1	Lake of the Woods	*	M VOL,GABBRO,M SULFIDE,GRANITE	WEAK DEFORMATION
B3-1	Lake of the Woods	*	CHLORITE-SERICITE SCHIST (M VOL,ARGILLITE)	S1,S2;S-C,L-S, MYLONITE
B3-2	Lake of the Woods	*	CHLORITE SCHIST (ULTRAMAFIC VOL? M VOL),GRAPH SCHIST	S1 INTENSE;S2;S-C TECTONITE;PHYLONITE
B3-3	Lake of the Woods	*	CHLORITE SCHIST (ULTRAMAFIC VOL?,M VOL)	S-C TECTONITE
B5-1	Lake of the Woods	*	PROTEROZOIC GABBRO,GRWKY,M VOL	MOD DEFORMATION
B7-1	Lake of the Woods	*	MIGMATITE,M VOL (PILLOWED),F VCL,M SULFIDE	WEAK DEFORMATION
B7-2	Lake of the Woods		M VOL,I INTRUSIVE	
B7-3	Lake of the Woods		F VCL,M VOL	
B21-1	Lake of the Woods	*	M VOL,GRWKY,F TUFF,GRANODIORITE	D1 FABRIC PRESENT
B21-2	Lake of the Woods		M VOL	
B21-3	Lake of the Woods		M VOL,M TUFF	
B24-1	Lake of the Woods	*	GRWKY,F TUFF,F INTRUSIVE	V WEAK DEFORMATION,S1
B24-2	Lake of the Woods	*	M VOL,F VOL/VCL (BRECCIA),GRWKY,M SULFIDE	WEAK DEFORMATION
B24-3	Lake of the Woods		M VOL-VCL,DIABASE	
B24-4	Lake of the Woods		M VOL,VOL SED,DIORITE	
B31-1	Lake of the Woods	*	M VOL,F TUFF,GRANODIORITE,M SULFIDE	STRONG SHEARING
B31-2	Lake of the Woods		F TUFF,M VOL,F VOL,I VCL,	
B31-3	Lake of the Woods	*	PROTEROZOIC DIABASE,F TUFF,CHERT,M SULFIDE	F2,D2,STRONG DEFORMATION
B31-4	Lake of the Woods	*	GABBRO,F VOL BRECCIA,F TUFF, M SULFIDE	S1-WEAK
B31-5	Lake of the Woods		M VOL/TUFF,DIABASE,GABBRO	
B35-1	Lake of the Woods	*	GRWKY,GRAPHITIC SED	STRONG DEFORMATION
B54-1	Lake of the Woods	*	M VOL	WEAK TO MOD S1
B57-1	Lake of the Woods	*	GRAPH SED,M VCL?,CHLORITE+SERICITE SCHIST	STRONG SHEARING,FLATTENING
B58-1	Lake of the Woods	*	FELSIC TUFF,GRWKY,M VCL	S1 MOD TO STRONG,F1
D-1	Roseau	*	AMPHIBOLE SCHIST,MYLONITE,M+I VSEDS,M SULFIDE	STRONG DEFORMATION
FT-1	Beltrami	*	I VOL,M VOL/BRECCIA,M SULFIDE BRECCIA,F VOL/VSED	MOD FLATTENING; LATE BRITTLE FRACTURES
FT-2	Beltrami	*	I-M VOL,F VOL/VCL,M SULFIDE	BRITTLE FRACTURES,WEAK SHEAR
FT-3	Beltrami		F VOL,F BRECCIA,I-M VOL,M SULFIDE	WEAK DEFORMATION
FT-4	Beltrami	*	M VOL,M SULFIDE,F VCL,ARGILLITE,MYLONITE	STRONG S1
FT-6	Beltrami	*	F TUFF,F BRECCIA,GRAPH SCHIST,MUDSTONE	WEAK DEFORMATION
FT-7	Beltrami		CHERT BRECCIA,IF,ARGILLITE,M SULFIDE	
FT-8	Beltrami	*	CHERT BRECCIA,M TUFF,F TUFF	WEAK DEFORMATION
FT-9	Beltrami	*	F TUFF/BRECCIA,I/F TUFF,IF,M VCL,GRAPH SED	S-C TECTONITE,BRITTLE FRACTURES PRESENT
FT-10	Beltrami		I VOL,F TUFF/BRECCIA,M SULFIDE	WEAK SHEAR,BRITTLE FRACTURES PRESENT
FT-12	Beltrami		CHERT,CHERT BRECCIA,M SULFIDE	
FT-13	Beltrami		CHERT,CHERT BRECCIA,ARGILLITE	
FT-14	Beltrami	*	CHERT BRECCIA,I VSED,M SULFIDE,CONGL,ARGILLITE	WEAK DEFORMATION

Table 3 (continued)

HOLE	COUNTY	LITHOLOGY	STRUCTURAL INTERPRETATION
FT-15	Beltrami	ARGILLITE	WEAK SHEAR, BRITTLE FRACTURES
FT-16	Beltrami	* M VOL/TUFF,V SED,M BRECCIA,SIL IF,M SULFIDE	WEAK DEFORMATION
FT-17	Beltrami	* GRWKY,F TUFF,GRAPH ARGILLITE	STRONG DEFORMATION
FT-18	Beltrami	* SED,GRAPH SED,F VSED	WEAK DEFORMATION
FT-19	Beltrami	* GRAPHITIC ARGILLITE,F VSED,CHERT	S1 + F0/F1, HIGHLY SHEARED
FT-20	Beltrami	* GRAPH ARGILLITE,CHERT BRECCIA	WEAK DEFORMATION
FT-21	Beltrami	* MUDSTONE,GRWKY,CHERT BRECCIA,F TUFF, M SULFIDE	STRONG DEFORMATION,S-C TECTONITE
FT-22	Beltrami	* HEMATITIC IF?,CHERT BRECCIA,ARGILLITE,M SULFIDE	
FT-23	Beltrami	F VSED	STRONG DEFORMATION
G-1	Marshall	DIORITE,SERPENTINITE,I-F VOL,F BRECCIA	
HAN-1	Roseau	M VOL/GABBRO,ARGILLITE,I FOL	
HAN-2	Roseau	MUDSTONE,I VOL,F VOL	
HC-1	Roseau	* GRWKY,M SULFIDE, F TUFF,M TUFF	S0,S1
IH-10	Koochiching	* F VOL/AGLM	
IH-11	Koochiching	* DACITE TUFF,BRECCIA,DIABASE	WEAK DEFORMATION
IH-12	Koochiching	* F TUFF,PROTEROZOIC DIABASE	
IH-13	Koochiching	* GRANODIORITE,M VOL	
IND-1	Koochiching	F VOL,CHERT,IF,M SULFIDE,M INTRUSIVE,M VOL	
IND-2	Koochiching	IF,VSED,I INTRUSIVE,M TUFF,CHLORITE SCHIST	
IND-3	Koochiching	M VOL,I INTRUSIVE,F VOL/TUFF,CHERT,F INTRUSIVE	
J-1	Roseau	* GNEISSIC GRANODIORITE, BIOTITE-Q MONZONITE, PEG	MOD DEFORMATION, TECTONIC OR FLOW FOLIATION
KC-1	Koochiching	* GRWKY,IF,DACITE TUFF,M VOL	WEAK DEFORMATION
KC-2	Koochiching	* RHYOLITE PORPHYRY,GRWKY,M VOL	S1 MOD
KC-3	Koochiching	* GRWKY,IF (SIL,OX)	
KC-4	Koochiching	* IF(OX),F VCL	
LW-346-1	Lake of the Woods	M VOL,F VOL,F VSED,M SULFIDE,IF,CHERT	
LW-346-2	Lake of the Woods	M VOL,F VOL,CHERT,M SULFIDE	
M-1	Koochiching	* QTZ XTAL TUFF	
M-1	Marshall	* M VOL(PILLOWED)	WEAKLOW DEFORMATION
MDD-1	Lake of the Woods	* M VOL,PYROXENITE,GRANODIORITE DIKES	WEAK DEFORMATION
MED-1	Lake of the Woods	* IF (SIL),M VOL BRECCIA,F VOL/TUFF,M SULFIDE	STRONG DEFORMATION
MMD-1	Lake of the Woods	* M VOL,GRWKY,CHERT	WEAK DEFORMATION
MQD-1	Lake of the Woods	* M VOL(PILLOWED),M VSED,QUARTZ DIORITE	WEAK-MOD DEFORMATION
MQD-2	Lake of the Woods	* DIORITE,GRWKY,CHERT,M VOL,F-I VOL	WEAK DEFORMATION
MR-1-84	Marshall	* I-F TUFF,GRAPH SED	S1 MOD
MR-2-84	Marshall	* F VOL/VCL,I-M TUFF,CHERT,GRAPH SEDIMENT	S1,F1,FOLDING DISRUPTED
MR-86-1	Koochiching	M VOL,CHLORITE-SERICITE SCHIST,MYLONITE,M SULFIDE	STRONG DEFORMATION,MYLONITE?
MSD-1	Lake of the Woods	* M VOL,CHERT,M SULFIDE	STRONG DEFORMATION AT BOTTOM OF HOLE
NCB-1	Koochiching	* ALT M VOL,F VOL,DIORITE,M SULFIDE	
NCB-2	Koochiching	GRANITE,M VOL,F VOL,DIORITE,M SULFIDE	FAULT BRECCIA
R1-1	Koochiching	* GRWKY,M GRWKY	WEAK DEFORMATION
R2-1	Koochiching	* GRWKY,GABBRO,M VOL (PILLOWED),DIORITE,F VOL/BRECCIA	WEAK DEFORMATION
R2-1A	Koochiching	GRWKY,F BRECCIA,F TUFF,GRANITE	
R2-2	Koochiching	GRWKY,F VCL,GABBRO	
R2-3	Koochiching	GABBRO,GRWKY	WEAK DEFORMATION
R-3	Roseau	M VOL,GRWKY,MYLONITE,I INTRUSIVE,F VOL, M SULFIDE	STRONG DEFORMATION, MYLONITE
R3-1	Koochiching	* F VCL/BRECCIA,F TUFF,GRWKY,M VCL	WEAK DEFORMATION
R3-2	Koochiching	* GABBRO,DIABASE,GRWKY	D2,STRONG
R3-3	Koochiching	* M VOL/BRECCIA/VSED,F VCL,GRWKY	WEAK DEFORMATION
R3-4	Koochiching	M VOL(PILLOWED),GRWKY	WEAK DEFORMATION
R4-1	Koochiching	* GRANDIORITE,SULF-CEM DACITE BRECCIA,M VOL(PILLOWED)	WEAK DEFORMATION
R4-2	Koochiching	F VOL,F TUFF,F BRECCIA,M VOL,GRANITE	
R4-3	Koochiching	* GRAPH V SEDS,DACITE TUFF	WEAK DEFORMATION;PERVASIVE BRITTLE FRACTURE
R5-1	Koochiching	GRWKY,M VCL,M VOL(PILLOWED)	
R5-2	Koochiching	* GRWKY,M VOL(PILLOWED)	F1,2?
RR6-1	Koochiching	F VOL,GRWKY,M SULFIDE,M VOL	
RR6-2	Koochiching	* F VOL/VCL,M VOL BRECCIA,M SULFIDE,GABBRO,F VSED	WEAK DEFORMATION
RR12-1	Koochiching	* F XTAL TUFF,AGLM,GRWKY	
RR12-2	Koochiching	* F XTAL TUFF,AGLM,F TUFF,GRWKY,GRAPH MUDSTONE	
RR16-1	Lake of the Woods	* M VOL/TUFF,F TUFF,M SULF	D2,F2:STRONG
RR80-1	Koochiching	* F VOL VSED/MYLONITE,M VOL	D1,2;MYLONITE
RR80-2	Koochiching	* DIABASE,M VOL	
S43-1	Koochiching	F VOL/VCL,I VOL,GABBRO,DIORITE	

Table 3 (continued)

HOLE	COUNTY	LITHOLOGY	STRUCTURAL INTERPRETATION
S43-2	Koochiching	* M VOL?,F VOL,MIGMATITE,DIORITE,GRANITE	S1 STRONG
S43-3	Koochiching	GRWKY,F VOL/BRECCIA,GRANITE,GABBRO?	
SP-1A	Roseau	* CHLORITE SCHIST,SILTSTONE,M SULFIDE	
SP-2	Roseau	* M TUFF,CHERT,GABBRO,ARGILLITE,GRAPH ARGILLITE,M SULFIDE	
SQW-1*	Roseau	ARGILLITE,ULTRAMAFIC INTRUSIVE,F VSED,CHERT	
Star-1	Marshall	* HORNBLENDE SYENITE	
Star-2	Marshall	* DIORITE	
Star-3	Marshall	* GABBRO BRECCIA	EXTREME PRIMARY BRECCIATION
T20-1	Beltrami	* CHLORITE SCHIST(GRWKY),GRAPH SCHIST,MYLONITE	STRONG DEFORMATION,MYLONITE
T25A-1	Beltrami	* M VOL,F VCL,M SULFIDE	WEAK D1,BRITTLE FRACTURE PRESENT
T25B-1	Beltrami	CHLORITE VSED,FAULT BRECCIA	FAULT ZONE?
T25B-2	Beltrami	CHLORITE VSED,F VCL,M SULFIDE,GRAPH SED	WEAK DEFORMATION?
UBD-1	Koochiching	GRWKY,FAULT BRECCIA,MYLONITE	WEAK TO STRONG; LOCAL BRITTLE FRACTURING
UBD-2	Koochiching	GRWKY	MODERATE TO STRONG DEFORMATION
UBD-3	Koochiching	PORPHYRITIC GABBRO,GRANITE	WEAK DEFORMATION
UBD4	Koochiching	MUDSTONE,FAULT BRECCIA	MOD TO STRONG; LOCAL BRITTLE FRACTURING
UBD-5	Koochiching	GRWKY,FAULT BRECCIA,ARGILLITE	STRONG; LOCAL BRITTLE FRACTURING
UBD-8	Koochiching	MAFIC GRWKY	MOSTLY WEAK FABRIC;LOCAL BRITTLE FRACTURING
WB-1	Roseau	* M TUFF,F TUFF	
W1-1	Roseau	* GABBRO,M DIKE	
W1-84	Roseau	* I XTAL TUFF,DACITE TUFF,M VOL,GRAPH SED,GRWKY	STRONG S1,F1 UBIQUITOUS
W3-1	Roseau	* GABBRO,M VOL?,DIABASE	
W8-1	Roseau	* I TUFF?,M VOL,F VCL,IF?	MOD,D1
W9-1	Roseau	* BIOTITE SCHIST (GRWKY),F VCL,F TUFF	S1 STRONG,S2 VERTICAL
W13-1	Roseau	* PYROXENITE,PERIDOTITE	LOCAL STRONG BRITTLE FRACTURE
YGZ-1	Roseau	F VOL,PEG	F1
YWA-1	Roseau	M TUFF,GRANODIORITE	F1 ISOCLINAL ?
YWA-2	Roseau	M SCHIST,F SCHIST,GRANODIORITE	
YWA-3	Roseau	* M SCHIST,GRANODIORITE,PYROXENITE	S-C FABRIC,,S0,S1,S2,F2
YWA-4	Roseau	M TUFF,PYROXENITE,GABBRO,GRANODIORITE	
YWI-1	Roseau	* M VOL,M VSED,F TUFF,GRANODIORITE DIKE	F0,F1;MOD S1
YWL-1	Lake of the Woods	* M VOL(PILLOWED),F TUFF,GRAPH,CHERT,GABBRO	WEAK DEFORMATION
YWM-1	Lake of the Woods	* M+F GRWKY,BIOTITE-CHLORITE SCHIST	F0?,D2
YWQ-1	Lake of the Woods	* RHYOLITE TUFF,F VSED,ARGILLITE	WEAK DEFORMATION
YWT-1	Roseau	* I TUFF,GRAPH ARGILLITE	WEAK DEFORMATION
YWZ-1	Lake of the Woods	* ULTRAMAFIC VOL?,MAFIC VOL,CHERT	WEAK DEFORMATION;F1
YWZ-2	Lake of the Woods	* M VOL,CHERT,GRAPH SED	MOD DEFORMATION,S1 STRONG,S2 WEAK

Table 3 (continued)

HOLE	METAMORPHIC MINERALS	MINERALIZATION OF ECONOMIC SIGNIFICANCE
40917	BIOT,GAR,AMPH,CHL	DISS PY
40918	CHL	PY VEINS,DISS PY,CC VEINS
40919	GAR,AMPH	M PO+MAG;DISS PO
40920	CHL	QTZ,CC VEINS
40926	AMPH,CHL,BIOT?	DISS PY,PO;PY VEINS?
A-1-1		
A4-1	CHL,BIOT	QTZ-PY VEINS,GRAPH
A4-2	BIOT	QTZ-PY VEINS
A6-1	GAR,BIOT	JASP,PO,GRAPH
A6-2		
A8-1	CHL+BIOT+HBL	CPY-PY VEINS
A9-1	BIOT,CHL,AMPH,CC+QTZ	MINOR PY,PO,VEINS
A9-2		
A10-1	GAR,CHL,BIOT,SER	PY
B-B-2	EPI	DISS PO;PO M SULFIDE,CC VEINS
BD-1	GAR,BIOT	THIN PO M SULFIDE;DISS PY-PO
BD-1	CHL,AMPH	TR PY,PO,CPY
BD-2	CHL+AMPH+GAR,BIOT	M SULFIDE;PY,CPY VEINS;QTZ,CC VEINS
BD-2	CHL,AMPH,BIOT	TR DISS PO;QTZ-PYR VEINS;TOURMALINE;DISS CPY
BD-3	SER,CHL	PY DISS AND VEINS;QTZ VEINS;GRAPH
BD-II-1	CHL,GAR	PO>PY M SULFIDE;QTZ-TOUR VEINS;QTZ-PY VEINS
BD-II-2	CHL,BIOT,GAR	PO-PY,TR CPY M SULFIDE;QTZ VEINS;PO-PY VEINS
BD-N-1	CHL,GAR	PY,PO,SPH>>CPY BANDED AND M SULFIDE
BD-P-1	CHL	DISS PY
BLT-1	CHL,BIOT,GAR,EPID,CORD?,ACT	DISS PO>PY;CC-QTZ VEINS
BLT-2	BIOT,AMPH,GAR,EPID,MUSC	DISS PY;PO M SULFIDE;Q-CC VEINS
B-Q-1	GAR,AMPH	PY,PO DISS AND VEIN;PY-PO,TR CPY M SULFIDE
B3-1	SER,CHL	QTZ,CC,PY VEINS
B3-2	CHL+QTZ+CC+ANK	DISS PY,CC+ANK+QTZ
B3-3	CHL+QTZ+CC	DISS PY,CC+QTZ
B5-1	CHL,GAR	TRACE MAG IF;DISS AND M SULFIDE (PY,TR CPY)
B7-1	EPI,CC,CHL,GRUNERITE?	PY,PO,CPY,MAG
B7-2	CHL,BIOT,GAR	DISS AND VEIN PO,PY,CPY;CC
B7-3	CHL,GAR	DISS AND VEIN PO,PY,CPY,SP,GA;CC,QTZ VEINS
B21-1	GAR (POST D1)	DISS AND VEIN PO;THIN PO,PY M SULFIDE(MINOR CPY)
B21-2	CHL,GAR,AMPH	PO,PY VEINS;DISS PO,PY;PY,PO IN MATRIX VCL
B21-3	CHL,BIOT,GAR	DISS PO,PY;CPY,PY VEINS;LAMINATED PO
B24-1	CHL+GAR+BIOT	PO,PY,TR CPY,M SULFIDE;DISS PO,MAG
B24-2	BIOT+GAR,CHL	PY+PO CEMENTED BRECCIA;PO,PY M SULFIDE;DISS PO,PY
B24-3	CHL,GAR	DISS PY,PO;PY VEINS-BANDS
B24-4	GAR	DISS PO,PY;PO,PY TR CPY M SULFIDE
B31-1	CHL,EPI	PO,PY,TR CPY M SULFIDE;PO-PY REPLACING VCL MATRIX
B31-2	CHL,EPI,GAR,BIOT	DISS+VEIN PY;CC;THIN PY M SULFIDE
B31-3	GREENSCHIST	PY M SULFIDE
B31-4	CHL+EPI	THIN PY M SULFIDE
B31-5	CHL,EPI,GAR	DISS PO,PY
B35-1	BIOT,GAR,AMPH	TR DISS PY
B54-1	AMPH(ACTINOLITE?),CHL,GAR	THIN PY,PO,TR CPY BANDS
B57-1	CHL,EPID,MUSC	THIN PY,SP,TR CPY M SULFIDE;QTZ VEINS;DISS PY
B58-1	CHL	THIN PY-PO M SULFIDE;DISS PY
D-1	AMPH+BIOT+PLAG	CC,QTZ VEINS
FT-1	CHL+QUARTZ	PY M SULFIDE;DISS MAG,PY,PO,CPY
FT-2	CHL	PY-PO M SULFIDE;DISS PY,MAG
FT-3	CHL	PY-PO M SULFIDE;PY VEIN AND DISS
FT-4	CHL,CLAY WEATHERING?	PY M SULFIDE;DISS PY; CC
FT-6	GREENSCHIST	DISS PY
FT-7		PY M SULFIDE;PY BRECCIA CEMENT,HEM AFTER PY?
FT-8	CHL	HEM BRECCIA MATRIX
FT-9	CHL	DISS PY;PY VEINS
FT-10	CHL	PY M SULFIDE
FT-12		PY M SULFIDE,HEM AFTER PY
FT-13		CC;PY DISS AND VEINS
FT-14	CHL	HEMATITE;PY M SULFIDE

Table 3 (continued)

HOLE	METAMORPHIC MINERALS	MINERALIZATION OF ECONOMIC SIGNIFICANCE
FT-15	CHL,GAR	QTZ VEINS;DISS AND VEIN PY,PO
FT-16	GAR,CHL,GRUNERITE?	DISS PY,PO;MAG IF; PO M SULFIDE
FT-17	CHL,GAR	QTZ AND CC VEINS;VEIN AND DISS PY
FT-18	CHL	QTZ,CC;DISS PY NODULES
FT-19	CHL	HEM
FT-20	CHL	HEM;TR DISS PY
FT-21	CHL	HEM;PY M SULFIDE;DISS AND VEIN PY,MAG;CC AND QTZ VEINS
FT-22	PREHNITE,GREENSCHIST	HEMATITE,LIMONITE,SIDERITE;PY M SULFIDE
FT-23	CHL	
G-1		DISS PY
HAN-1		
HAN-2		
HC-1	GAR,BIOT,AMPH,CHL	PY,PO,M SULFIDE
IH-10		
IH-11	GREENSCHIST	PY CEMENT BRECCIA
IH-12	GREENSCHIST	5-10% PY
IH-13		
IND-1	CHL	PO,PY,SP;SIL IF;CC
IND-2	CHL,GAR,BIOT	PY,PO,CPY,SP,CC
IND-3	EPI,GAR,CHL	PO,SP,PY,CC
J-1	GAR	
KC-1	GAR,CHL,BIOT	IF
KC-2	CHL	
KC-3		SIL IF
KC-4		MAG IF(OXIDIZED)
LW-346-1	CHL,BIOT	DISS PY,PO;PO AND PY M SULFIDE, TR. CPY, Q-CC VEINS;SIL IF
LW-346-2	CHL,BIOT	DISS PY,PO; PY M SULFIDE;SIL IF; Q-CC VEINS AND CC DISS
M-1	SER	
M-1	GAR+CHL+BIOT	PO CEMENT BRECCIA;CC,QTZ
MDD-1	GAR,CHL	PO M SULFIDE;PO CEMENT BRECCIA
MED-1	GREENSCHIST	MAG IF;MAG BRECCIA CEMENT;PO,PY DISS AND M SULFIDE:DISS PY,CPY
MMD-1	GAR,CHL,EPI	PY,PO,CPY M SULFIDE
MQD-1	CHL	
MQD-2	GAR+BIOT	PY-PO THIN M SULFIDE
MR-1-84	WEATHERED	
MR-2-84	GREENSCHIST,WEATHERING	
MR-86-1	CHLORITE,SERICITE,AMPHIBOLE	DISS PY; PY M SULFIDE;DISS PO;Q-CC VEINS;DISS CC
MSD-1	AMPH+PLAG+GRUNERITE+GAR	PO-PY CEM BRECCIA+M SULFIDE
NCB-1	GAR+CHL+BIOT+CORD,ANTH	PO M SULFIDE;PY-CEMENTED BRECCIA
NCB-2	BIOT,GAR,AMPH,CORD	PY M SULFIDE;CC,DISS PO AND PY;PY,CPY,QTZ VEINS
R1-1	CHL+BIOT+CORD	QTZ-CC VEINS
R2-1	CC(M2),CORD+EPI+BIOT+QTZ	DISS PY; THIN M SULFIDE
R2-1A	CHL	PY,PO,CPY DISS AND VEINS;FEW MASS PO LAYERS
R2-2	CHL,GAR	DISS PY,CPY,PO
R2-3	CHL	TR DISS PO
R-3	CHL,AMPH,GAR,BIOT	DISS PY, CPY; Q-CC DISS AND VEINS, TOURMALINE
R3-1	GAR,BIOT,CHL	PO,PY,CPY,M SULFIDE
R3-2		TR DISS PY
R3-3	CHL+BIOT+GAR+CC (VEINS)	DISS,VEINS PO;CPY;PO-PY BRECCIA MATRIX
R3-4	CHL,GAR	DISS PO,PY;PO LAMINATED AND M SULFIDE
R4-1	CHL+BIOT+GAR	PO M SULFIDE AND BRECCIA CEMENT
R4-2	CHL	PO-CEMENTED F BRECCIA;DISS PO
R4-3	CHL	DISS PY
R5-1	CHL	CC;DISS PO,PY,CPY;VEIN PY,PO
R5-2	GAR,CORD	DISS PO,CPY,
RR6-1		
RR6-2	CHL+BIOT	PY M SULFIDE;CC,QTZ VEINS
RR12-1	SER,CHL.BIOT	PY
RR12-2		PY
RR16-1	GAR,ACT/CUM	PY VEINS AND BRECCIA FILLING
RR80-1	BIOT,CHL	QTZ,CC,PY VEIN; DISS PY
RR80-2	CHL,EP	DISS PY, CC AND EP VEINS
S43-1		

Table 3 (continued)

HOLE	METAMORPHIC MINERALS	MINERALIZATION OF ECONOMIC SIGNIFICANCE
S43-2	CHL+EPI+CC(M2),BIOT+AMPH+GAR(M1)	BASE METAL M SULFIDE;CC VEINS;DISS AND VEIN PO,PY
S43-3	CHL,GAR	
SP-1A	CHL	MASSIVE AND DISS PY
SP-2	BIOT,CHL	PY CHERT;CC VEIN
SQW-1*		
Star-1		
Star-2		
Star-3		FE-TI OXIDES,APATITE
T20-1	CHL+MUSC	PY FRAMBOIDS
T25A-1	EPI,CHL.GAR	PY-PO M SULFIDE;TR CPY;PY VEINS;DISS MAG;QTZ AND CC VEINS
T25B-1	CHL	DISS PY;FEW CC VEINS
T25B-2	CHL	PY M SULFIDE;DISS AND VEIN PY
UBD-1	CHL,EP,BIOT	DISS AND LAYERED PO;PO,PY,CC,QTZ VEINS
UBD-2	BIOT	EPI,CC,QTZ,PY VEINS;DISS AND LAYERED PO,PY,CC
UBD-3	CHL	QTZ,CC,PY VEINS
UBD4	CHL,GAR,BIOT	QTZ,CC,PY,ASPY VEINS
UBD-5	CHL,BI,EPI	QTZ,CC,PY,ASPY VEINS
UBD-8	CHL,BI,ACT,	QTZ,CC,PY,EPI VEINS; DISS HEM,CC
WB-1	GAR,CHL,	ANK,CC
W1-1	GAR	
W1-84	CHL+BIOT+ACT	PY FRAMBOIDS;DISS PY;TR DISS CPY
W3-1		
W8-1	CHL	OX IF?
W9-1	BIOT,CHL,AMPH,QTZ SER	QTZ-SER SCH;DISS PY;QTZ-TOURM VEIN
W13-1	TALC,SERPENTINE	
YGZ-1	CHL	
YWA-1	(AMPH)-HORNFELS	TR PY;NATIVE CU IN FRACTURES
YWA-2	CHL,EPI	TR PY IN FRACTURES
YWA-3	BIOT,CHL,ACT	QTZ-TOURM VEIN;
YWA-4	AMPH+PLAG+CHL	TR NATIVE CU IN FRACTURES
YWI-1	GAR,BIOT	TR DISS PY;QTZ-EPI VEIN
YWL-1	GAR,BIOT,CHL	
YWM-1	GAR,BIOT,CHL	
YWQ-1	CHL,SER,EPI	GRAPH,DISS AND PY LAMINAE
YWT-1	BIOT,CHL,SER	GRAPH;DISS CC;PY LENSES
YWZ-1	CHL,BIOT,CORD?,SER	DISS PY,ASPY,PO;QTZ+CC VEINS;DISS CC;
YWZ-2	CHL	PY,PO,CPY VEINS;CC VEINS;

Table 3 (continued)

HOLE	VOLCANIC FACIES	SEDIMENTARY FACIES
40917		
40918	PROXIMAL MAFIC	MEDIAL
40919		
40920	PROXIMAL MAFIC	
40926		DISTAL
A-1-1		
A4-1		
A4-2		
A6-1		DISTAL,CHEMICAL
A6-2		
A8-1	MEDIAL BIMODAL?	
A9-1	FELSIC;NEAR VENT	DISTAL
A9-2		
A10-1	PROXIMAL FELSIC,SUBAQUEOUS MAFIC	PROXIMAL
B-B-2	PROXIMAL INTERMEDIATE,MAFIC FLOWS	
BD-1	PROXIMAL BIMODAL	
BD-1	DISTAL FELSIC	
BD-2	MEDIAL? BIMODAL	
BD-2		
BD-3	DISTAL FELSIC	
BD-II-1	PROXIMAL BIMODAL	PROXIMAL
BD-II-2	PROXIMAL MAFIC	
BD-N-1	PROXIMAL BIMODAL	CHEMICAL
BD-P-1	PROXIMAL MAFIC	CHEMICAL
BLT-1	PROXIMAL MAFIC	
BLT-2		
B-Q-1	PROXIMAL MAFIC	
B3-1	BIMODAL?	
B3-2	PROTOLITH:ULTRAMAFIC,MAFIC,FELSIC	
B3-3	PROTOLITH:MAFIC-INTERMEDIATE	
B5-1	PROXIMAL MAFIC	PROXIMAL MAFIC
B7-1	SUBAQUEOUS BIMODAL	PROXIMAL VSED
B7-2		
B7-3		
B21-1	MAFIC	
B21-2	PROXIMAL MAFIC	PROXIMAL
B21-3	PROXIMAL INTERMEDIATE-MAFIC	
B24-1	PROXIMAL FELSIC	PROXIMAL VSED,CHEMICAL
B24-2	PROXIMAL FELSIC	PROXIMAL-MEDIAL
B24-3	PROXIMAL MAFIC	
B24-4	PROXIMAL MAFIC	MEDIAL FELSIC
B31-1	PROXIMAL FELSIC	
B31-2		
B31-3	MEDIAL FELSIC-INTERMEDIATE	
B31-4	PROXIMAL FELSIC	
B31-5	MEDIAL? MAFIC	
B35-1		DISTAL
B54-1	PROXIMAL MAFIC	
B57-1		
B58-1	DISTAL FELSIC	MEDIAL FELSIC
D-1		
FT-1	PROXIMAL? BIMODAL	
FT-2	PROXIMAL BIMODAL	
FT-3	PROXIMAL BIMODAL	
FT-4	BIMODAL	PROXIMAL VSED
FT-6	PROXIMAL-MEDIAL	PROXIMAL VSED
FT-7	PROXIMAL FELSIC	MEDIAL,CHEMICAL
FT-8	VENT FOR CHEMICAL SEDS	MEDIAL F VSED,CHEMICAL
FT-9	MEDIAL-DISTAL	
FT-10	PROXIMAL FELSIC	
FT-12		
FT-13		DISTAL
FT-14	MEDIAL FELSIC	MEDIAL-DISTAL

Table 3 (continued)

HOLE	VOLCANIC FACIES	SEDIMENTARY FACIES
FT-15	DISTAL FELSIC	MEDIAL-DISTAL
FT-16	NEAR VENT FELSIC	VSED PROXIMAL,CHEMICAL
FT-17	PROXIMAL MAFIC, MEDIAL FELSIC	DISTAL
FT-18	DISTAL FELSIC	DISTAL
FT-19	DISTAL	DISTAL
FT-20	DISTAL FELSIC	DISTAL,CHEMICAL
FT-21	MEDIAL	PROXIMAL? VSED,CHEMICAL
FT-22	DISTAL	DISTAL?,CHEMICAL
FT-23	DISTAL FELSIC	
G-1		
HAN-1		
HAN-2		
HC-1	DISTAL FELSIC	PROXIMAL-DISTAL
IH-10	MEDIAL FELSIC	
IH-11	DISTAL FELSIC?	
IH-12	MEDIAL FELSIC	
IH-13	MAFIC FLOW	
IND-1		
IND-2		
IND-3		
J-1		
KC-1	PROXIMAL? BIMODAL	MEDIAL,DISTAL?,CHEMICAL
KC-2	PROXIMAL BIMODAL	PROXIMAL
KC-3		CHEMICAL
KC-4		CHEMICAL
LW-346-1		CHEMICAL, MEDIAL VSED
LW-346-2		CHEMICAL
M-1	MEDIAL FELSIC	
M-1	PROXIMAL BIMODAL	
MDD-1	MAFIC FLOWS	
MED-1	VENT-PROXIMAL FELSIC	PROXIMAL VSED,CHEMICAL
MMD-1	PROXIMAL MAFIC	DISTAL FELIC,CHEMICAL
MQD-1	PROXIMAL MAFIC	MEDIAL
MQD-2	MEDIAL FELSIC	MEDIAL,CHEMICAL
MR-1-84	DISTAL	DISTAL
MR-2-84	DISTAL FELSIC	DISTAL
MR-86-1		
MSD-1	PROXIMAL MAFIC	CHEMICAL
NCB-1		
NCB-2		
R1-1		PROXIMAL-MEDIAL
R2-1	PROXIMAL FELSIC	PROXIMAL?
R2-1A	PROXIMAL FELSIC	PROXIMAL
R2-2	PROXIMAL FELSIC	PROXIMAL
R2-3		
R-3	PROXIMAL MAFIC	
R3-1	PROXIMAL-MED BIMODAL	PROXIMAL-MEDIAL
R3-2		
R3-3	PROXIMAL MAFIC, MINOR PROXIMAL FELSIC	
R3-4	PROXIMAL MAFIC	PROXIMAL
R4-1	PROXIMAL BIMODAL	
R4-2		
R4-3	PROXIMAL FELSIC	DISTAL
R5-1	PROXIMAL MAFIC	MEDIAL
R5-2	PROXIMAL MAFIC	DISTAL?
RR6-1		
RR6-2	VENT	PROXIMAL
RR12-1	PROXIMAL FELSIC	PROXIMAL
RR12-2		
RR16-1	PROXIMAL MAFIC	PROXIMAL VSED
RR80-1		
RR80-2		
S43-1		

Table 3 (continued)

HOLE	VOLCANIC FACIES	SEDIMENTARY FACIES
S43-2	MEDIAL	
S43-3		
SP-1A		DISTAL? VSED
SP-2		DISTAL,CHEMICAL
SQW-1*		
Star-1		
Star-2		
Star-3		
T20-1	DISTAL?	DISTAL BASIN
T25A-1	PROXIMAL MAFIC, DISTAL FELSIC	PROXIMAL VSED
T25B-1	DISTAL	DISTAL
T25B-2	MEDIAL-DISTAL FELSIC	DISTAL
UBD-1		MEDIAL
UBD-2		MEDIAL
UBD-3		
UBD4		DISTAL
UBD-5		MEDIAL
UBD-8		
WB-1	MEDIAL-DISTAL? BIMODAL	
W1-1		
W1-84	PROXIMAL-MEDIAL INTERMEDIATE	PROXIMAL
W3-1		
W8-1	PROXIMAL TRIMODAL	PROXIMAL VSED,CHEMICAL
W9-1	MEDIAL FELSIC	
W13-1		
YGZ-1		
YWA-1		
YWA-2		
YWA-3	DISTAL BIMODAL	MEDIAL
YWA-4		
YWI-1	PROXIMAL-MEDIAL MAFIC; MEDIAL FELSIC	CHEMICAL
YWL-1	MEDIAL FELSIC, PROXIMAL MAFIC	
YWM-1		DISTAL
YWQ-1	DISTAL FELSIC	PROXIMAL
YWT-1	MEDIAL-DISTAL	DISTAL
YWZ-1	PROXIMAL?	PROXIMAL VSED
YWZ-2	PROXIMAL MAFIC	CHEMICAL

Table 3 (continued)

HOLE	ENVIRONMENT	YOUNGING	COMMENTS
40917			
40918			
40919	BORDER ZONE MIGMATITE		
40920	MAFIC VENT?		
40926	SHEAR ZONE-GABBRO INTRUSION	DOWN HOLE	
A-1-1	MAFIC INTRUSION		
A4-1	SHEAR ZONE		
A4-2			
A6-1	HOT SPRING?,SEDIMENTARY BASIN	DOWN HOLE	
A6-2			
A8-1	MAFIC INTRUSIVE-NEAR BIMODAL VOLCANIC CENTER		
A9-1	BIMODAL VOLCANIC CENTER		
A9-2			
A10-1	SHEARED FELSIC VOLCANIC CENTER	UP HOLE	
B-B-2	BIMODAL SUBAQUEOUS VENT		
BD-1	BIMODAL VOLCANIC CENTER		
BD-1	SHEETED MAFIC INTRUSIVE		SHEETED GABBRO INTRUSIVE COMPLEX
BD-2	BIMODAL VOLCANIC SEDIMENTARY BASIN		
BD-2	MAFIC SHEETED INTRUSIVE		SHEETED GABBRO INTRUSIVE COMPLEX
BD-3	FELSIC VOLCANIC PILE		
BD-II-1	BIMODAL VOLCANIC CENTER	DOWN HOLE	
BD-II-2	PROXIMAL MAFIC VENT		GOLD VALUES IN Q-PO-PY VEINS
BD-N-1	SUBMARINE VOLCANIC CENTER		
BD-P-1	SUBMARINE VOLCANIC PILE		
BLT-1	SUBMARINE MAFIC CENTER		
BLT-2			
B-Q-1	BORDER DIORITE INTRUSIVE		
B3-1	SHEAR ZONE		DEFORMATION INTENSE
B3-2	SHEAR ZONE		DEFORMATION INTENSE
B3-3	SHEAR ZONE		DEFORMATION INTENSE
B5-1	MAFIC INTRUSION INTO MAFIC VOL+GRWKY PILE	UP HOLE	
B7-1	VOL EXHALATIVE,TONALITE INTRUSIVE		
B7-2			
B7-3			
B21-1	BORDER ZONE MIGMATITE		
B21-2	ADJACENT MAFIC VENT	UP HOLE	
B21-3	ADJACENT MAFIC VENT		
B24-1	NEAR FELSIC VENT	DOWN HOLE	SULF-OXIDE CYCLES ASSOC. W/ EXPLOSIVE VOLC.
B24-2	SEDIMENTS PROXIMAL TO FELSIC VENT	DOWN HOLE	TOPS BOTH DIRECTIONS INDICATE SOME FOLDING
B24-3	NEAR MAFIC VENT		
B24-4	MAFIC VENT		GABRRO INTRUSIVE AT BOTTOM OF HOLE
B31-1	MEDIAL TO BIMODAL VENT	UP HOLE	
B31-2			
B31-3	FELSIC TO INTERMEDIATE VOLCANIC PILE		PROTEROZOIC DIABASE
B31-4	NEAR FELSIC VENT		
B31-5			ABUNDANT DIABASE-GABBRO
B35-1			QUETICO METASEDIMENTS
B54-1	SUBAQUEOUS MAFIC VOLCANIC CENTER		
B57-1	SHEAR ZONE		
B58-1	PROXIMAL-MEDIAL FELSIC BASIN	DOWN HOLE	
D-1	SHEAR ZONE		
FT-1	DISRUPTED MASSIVE SULFIDE,BIMODAL VENT		
FT-2	BIMODAL VENT		
FT-3	BIMODAL VENT		
FT-4	BIMODAL VOLCANIC PILE		
FT-6	FELSIC VENT	DOWN HOLE	
FT-7	SEDIMENTARY BASIN, PROXIMAL FELSIC VENT		
FT-8	SEDIMENTARY BASIN; NEAR HYDROTHERMAL VENT?		LIMONITE AND CLAY ALTERATION FROM DEEP WEATHERING?
FT-9	FELSIC VOLCANIC BASIN	DOWN HOLE	
FT-10			
FT-12			
FT-13	QUIET SEDIMENTARY BASIN		
FT-14	SEDIMENTARY BASIN W/VOLCANIC DEBRIS FLOWS	DOWN HOLE?	

Table 3 (continued)

HOLE	ENVIRONMENT	YOUNGING	COMMENTS
FT-15	SEDIMENTARY BASIN WITH LOW VOLCANIC INPUT		
FT-16	FELSIC VOLCANIC PILE		
FT-17	SEDIMENTARY BASIN (MAFIC >FELSIC VOLCANIC INPUT)		
FT-18	QUIET SEDIMENTARY BASIN		
FT-19	QUIET SEDIMENTARY BASIN	DOWN HOLE	
FT-20	SEDIMENTARY BASIN	UP HOLE	
FT-21	HOT SPRING?	DOWN HOLE	
FT-22	SEDIMENTARY BASIN,HOT SPRING		
FT-23			
G-1			THIN VOLCANIC SCREEN IN DIORITE INTRUSIVE.
HAN-1			
HAN-2			
HC-1	DISTAL VOLCANIC BASIN	UP HOLE	
IH-10	FELSIC VOLCANIC PILE		
IH-11	FELSIC VOLCANIC BASIN		
IH-12	DIABASE INTRUSIVE		
IH-13	GRANODIORITE INTRUSIVE		
IND-1			
IND-2			
IND-3			
J-1	FELSIC INTRUSIVE COMPLEX		
KC-1	BIMODAL VENT,HOT SPRING		
KC-2	BIMODAL VENT		
KC-3	HOT SPRING		
KC-4	HOT SPRING		
LW-346-1	HOT SPRING, BIMODAL PILE	DOWN HOLE	
LW-346-2	HOT SPRING, MAFIC PILE		
M-1	FELSIC VOLCANIC PILE		
M-1	BIMODAL VENT		
MDD-1	BORDER MIGMATITE		
MED-1	HOT SPRING?,NEAR-VENT BIMODAL VOLCANIC		
MMD-1	HOT SPRING, VOLCANIC BASIN		
MQD-1	SUBMARINE MAFIC VENT		
MQD-2	FELSIC VOLCANIC PILE,HOT SPRING	DOWN HOLE	
MR-1-84	SEDIMENTARY BASIN	UP HOLE	
MR-2-84	FELSIC SEDIMENTARY BASIN		
MR-86-1	SHEAR ZONE		
MSD-1	MAFIC VENT,HOT SPRING		
NCB-1	FOOTWALL OF MASSIVE SULFIDE		
NCB-2	BIMODAL VOLCANIC CENTER		
R1-1	DISTAL MAFIC VOLCANIC BASIN	DOWN HOLE	
R2-1	FELSIC VOLCANIC VENT		
R2-1A	SEDIMENTARY BASIN ADJACENT TO FELSIC VOLCANIC CENTER		
R2-2	SEDIMENTARY BASIN ADJACENT TO FELSIC VOLCANIC CENTER		
R2-3	GABBRO INTRUSION		
R-3	MAFIC VOLCANIC CENTER		
R3-1	BIMODAL VOLCANIC PILE		
R3-2	GABBRO INTRUSIVE		
R3-3	MAFIC VOLCANIC CENTER	UP HOLE	TOP REVERSED DUE TO FOLDING?
R3-4	MAFIC VOLCANIC PILE		
R4-1	BORDER MIGMATITE ZONE,BIMODAL FELSIC VOLCANIC CENTER		
R4-2			
R4-3	FELSIC VOLCANIC CENTER OVERLAIN BY SEDIMENTS	UP HOLE	
R5-1	MAFIC VOLCANIC PILE IN SEDIMENTARY BASIN		
R5-2	MAFIC VOLCANIC PILE		
RR6-1			
RR6-2	MIXED VOLCANIC VENT	UP HOLE	
RR12-1	FELSIC VOLCANIC VENT	UP HOLE	
RR12-2		UP HOLE	
RR16-1	BIMODAL VOLCANIC CENTER		
RR80-1	SHEAR ZONE		
RR80-2			
S43-1			

Table 3 (continued)

HOLE	ENVIRONMENT	YOUNGING	COMMENTS
S43-2	BORDER MIGMATITE ZONE		
S43-3			
SP-1A	VOLCANIC BASIN		
SP-2	VOLCANIC BASIN		
SQW-1*			
Star-1			
Star-2			
Star-3			
T20-1	HIGHLY SHEARED,QUIET SEDIMENTARY BASIN		TOPS DESCRIBED TO SOUTH - FOLDING IN AREA?
T25A-1	MAFIC VOLCANIC PILE,HOT SPRING		
T25B-1	STABLE SEDIMENTARY BASIN		FAULT GOUGE? 80 FEET THICK
T25B-2	SEDIMENTARY BASIN		SLUMP FOLDING
UBD-1	SEDIMENTARY BASIN WITH VOLCANIC INPUT		40 FEET OF SHEARING AND BRECCIATION
UBD-2	SEDIMENTARY BASIN WITH VOLCANIC INPUT		FOUR 2-METER SHEAR ZONES
UBD-3			THICK GABBRO BODY
UBD4	SEDIMENTARY BASIN		ABUNDANT SHEARING AND QTZ-CARB VEINING
UBD-5	SEDIMENTARY BASIN WITH VOLCANIC INPUT		
UBD-8	SEDIMENTARY BASIN WITH MAFIC SOURCE		
WB-1	HOT SPRING? VOLCANIC BASIN		
W1-1	GABBRO INTUSIVE		
W1-84	INTERMEDIATE VOLCANIC PILE		
W3-1			
W8-1	BORDER MIGMATITE, VOLCANIC CENTER		
W9-1	FELSIC VOLCANIC PILE		
W13-1			
YGZ-1	BORDER ZONE GRANITE INTRUSIVE		
YWA-1	CONTACT ZONE GRANODIORITE INTRISIVE		
YWA-2	NEAR CONTACT GRANODIORITE INTRUSIVE		
YWA-3	BIMODAL VOLCANIC BASIN	UP HOLE	
YWA-4	CONTACT ZONE GRANODIORITE INTRUSIVE		
YWI-1	MAFIC VENT		
YWL-1	BIMODAL VOLCANIC PILE,HOT SPRING		
YWM-1	SEDIMENTARY BASIN	UP HOLE	
YWQ-1	VOLCANIC BASIN	UP HOLE	
YWT-1	INTERMEDIATE VOLCANIC BASIN	UP HOLE	
YWZ-1			
YWZ-2	SUBMARINE MAFIC PILE		

Table 3 (continued)

Abbreviations and terms used in Tables 2 and 3.

LITHOLOGY

AGLM	AGGLOMERATE
ALT	ALTERED
AMP	AMPHIBOLE
BIO	BIOTITE
CARB	CARBONATE
CEM	CEMENTED
CONGL	CONGLOMERATE
F	FELSIC
FOL	FOLIATED
GRAPH	GRAPHITIC
GRWKY	GRAYWACKE
I	INTERMEDIATE
IF	IRON-FORMATION
M	MAFIC
M SULFIDE	MASSIVE SULFIDE
MIG	MIGMATITE
OX	OXIDE
PROT	PROTEROZOIC
QTZ	QUARTZ
SCH	SCHIST
SEDS	SEDIMENTARY ROCK
SEDIMENT	SEDIMENTARY ROCK
SIL	SILICEOUS
VCL	VOLCANICLASTIC ROCK
VOL	VOLCANIC ROCK
VSED	VOLCANI-SEDIMENTARY ROCKS
XTAL	CRYSTAL

METAMORPHIC MINERALS

ACT	ACTINOLITE
AMPH	AMPHIBOLE
ANK	ANKERITE
ANTH	ANTHOPHYLLITE
BIOT	BIOTITE
CC	CALCITE
CHL	CHLORITE
CORD	CORDIERITE
EPI	EPIDOTE
GAR	GARNET
GS	GREENSCHIST
MUSC	MUSCOVITE
SER	SERICITE

STRUCTURAL INTERPRETATION

D1	EARLIEST DEFORMATION EVENT
D2	LATER DEFORMATION EVENT
F0	SYNDEPOSITIONAL FOLDING
F1,F2	FOLDING, CORRESPONDING TO D1 OR D2 EVENT
L1,L2	LINEATION GENERATED BY D1 OR D2 EVENT
MOD	MODERATE
S0	BEDDING OR PRIMARY LAYERING
S1	EARLY SCHISTOSITY
S2	SECOND, LATER FOLIATION
V	VERY

MINERALIZATION OF ECONOMIC SIGNIFICANCE

ANK	ANKERITE
CC	CALCITE
CPY	CHALCOPYRITE
DISS	DISSEMINATED
EPI	EPIDOTE
GA	GALENA
GRAPH	GRAPHITE
HEM	HEMATITE
IF	IRON-FORMATION
JASP	JASPER
M SULFIDE	MASSIVE SULFIDE
MAG	MAGNETITE
MASS	MASSIVE
OX	OXIDE
PO	PYRRHOTITE
PY	PYRITE
QTZ	QUARTZ
SER	SERICITE
SIL	SILICEOUS
SP	SPHALERITE
TR	TRACE
VCL	VOLCANICLASTIC ROCK

SEDIMENTARY FACIES

VSED	VOLCANO-SEDIMENTARY ROCK