84-#349-12271

REPORT OF DIAMOND DRILLING SUBMITTED FOR ASSESSMENT WORK ON SUNSET GROUP OF MINERAL CLAIMS Lat. 50° 38' N Long. 127° 31½ W. NANAIMO, M.D.

A STATE

South States

UTAH MINES	LTD.	J.A.	FLEMING
PORT HARDY	, B.C.	MAY,	1984

FILMED

GEOLOGICAL BRANCH ASSESSMENT REPORT

12/

REPORT ON DIAMOND DRILLING

SUBMITTED FOR ASSESSMENT WORK

ON THE

SUNSET GROUP OF CLAIMS

AREA LOCATION	Latitude 50° 38' 1	N
	Longitude 127° 31½' V	W

MINING DIVISION

Nanaimo

roads.

Map 92L/12E

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DETAILED AREA LOCATION

Owners

Utah Mines Ltd.

Gordon Milbourne

The southwest quadrant of a circle having a

1300m radius and its center at the junction of the Coal Harbour and Island Copper Mine

Utah Mines Ltd.

John A. Fleming

AUTHOR

OPERATOR

DATE SUBMITTED

May 7, 1984.

TABLE OF CONTENTS

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Page OBJECTIVE 1 WORK PERFORMED 1 STATEMENT OF COSTS 2 RESULTS 3 CONCLUSIONS 6 7 STATEMENT OF QUALIFICATIONS MAPS 1) Index Map, Sheet 92L/12E 8 Claim Map, Showing Drill Hole Location (back pocket) 2) APPENDICIES

> Copies of Drill Hole Logs (back pocket). Record of Assays (back pocket).

OBJECTIVE

The objective of the drilling program was to test the area for porphyry copper mineralization. The area lies about 4.5 km west-northwest of the Island Copper pit and is underlain by the Bonanza Volcanics andesitic pyroclastic rocks cut by dykes of quartz-feldspar porphyry and hornblende porphyry. Previous drill holes in the area indicated that hydrothermal alteration minerals (e.g. chlorite, sericite, biotite) and low grade copper and molybdenum mineralization are present.

WORK PERFORMED

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 Five vertical, NQ size holes totalling 399.3 m were drilled between July 18th and July 30th.

2) Particulars of the holes are as follows:

HOLE	INCL.	$\frac{\text{LENGTH}}{(m)}$	COLLAR EL. (m)	COLLAR CO North	ORDINATES (m) East
W-3	-90	64.0	140.6	5157.3	4148.7
W-4	-90	59.1	114.5	5452.7	4755.3
W-5	-90	61.6	125.1	5344.0	4538.4
W-6	-90	105.8	86.8	5008.4	4661.4
W-7	-90	108.8	71.5	4653.1	4571.9

The co-ordinates are based on the mine grid system.

3) The holes were located on the following claims:

HOLE	CLAIM	RECORD NO.
W-3	BAY 84	17830
W-4	BAY 68	17772
W-5	BAY 68	17772
W-6	BAY 56	17760
W-7	BAY 57	17761

- 4) Magnetic susceptibility and R.Q.D. (Rock Quality Designator percent of core in lengths greater than four inches) measurements were made on most of the core. The measurements are reported on the core logs.
- 5) All core was split, sampled in 3.05 m lengths and assayed for copper and molybdenum. Gold and silver assays were done on one out of each four samples.
- 6) The drill core logs are attached to the report. Core logging was done by J.A. Fleming, B.Sc., McGill University, who is on the mine staff. All core is stored at the mine site.

STATEMENT OF COSTS

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Specifican :

FOR THE

SUNSET GROUP OF CLAIMS

A.	Diamond Drilling Contractor:	
	Overburden - 65.2m (214 ft. @ \$16.00) \$ 3,424.00	
	Rock - 334.1m (1096 ft. @ \$16.00) 17,536.00	
	Field Costs - Moving, setting up, reaming, etc. 3,600.00	
	Mob/Demob - 22.3% of total charge 1,192.98	
	Materials Consumed and Freight Tricones, rods, mud, etc. <u>6,038.03</u>	\$ 31,791.01
в.	Other Contractors:	
	1) D-6 Cat and Operator Move and prepare site - (55.25 hrs. @ \$55.00) 3,038.75 9 days standby @ \$110.00 990.00 8 loads crush rock @ \$75.00 600.00	\$ 4,628.75
	2) Lowbed Trailer, Tractor and Operator Move Cat (14 hrs. @ \$62.50)	875.00
	3) Highboy Trailer, Tractor and Operator Move Drill (30 hrs. @ \$60.00 plus OT)	2,058.00
	4) Water Truck and Operator Supply water to drill (57½ hrs.@ \$35.00)	\$ 2,012.50
C.	Other Costs:	
	 Core House Labour Geological Supervision Company Overhead (25% of items 1 and 2) Core Boxes Preparation of Report Survey of Holes 	\$ 1,200.00 1,800.00 750.00 300.00 500.00 800.00
	Total: Average cost per meter (foot) \$117 (\$35.66)	\$ 46,715.26

Average cost per meter (foot) \$117 (\$35.66)

RESULTS

ALC: NO.

The results of the drilling are summarized by hole as follows:

- W-3 A brown chlorite altered, pyritic andesite tuff from 18.9m to 45.7m overlies a light green, grey tuff which extends to the bottom of the hole. The dominant features of the rocks are the high content of pyrite (>5%) and the strong brown alteration in the upper part of the hole. Copper and molybdenum assays are all low.
- <u>W-4</u> The entire hole was drilled in a grey to pink, medium to coarse grained, fresh looking, biotite-quartz-feldspar porphyry. Quartz-pyrite-molybdenite veinlets are scattered through the rock, generally with narrow (< 5 cm) sericite alteration envelopes. The pyrite content is fairly low (< 2%) and there is no visible chalcopyrite.
- <u>W-5</u> The hole intersected about 50% dark green, medium grained, chlorite-epidote-hematite altered hornblende porphyry interlayered with or intruding green and brown, banded, fine grained, garnitiferous silic tuff. Contacts between the units show minor alterations (i.e., bleaching).

Fracturing is strong with quartz, pyrite, calcite, epidote, zeolite and molybdenite as the main infillings. Quartz-molybdenite veinlets are fairly common, the pyrite content is moderately high (3-5%) and chalcopyrite occurs in minor amounts.

- <u>W-6</u> An orange-grey, medium grained, chlorite-epidote-sericite altered quartz-feldspar porphyry from 38.4m to 94.5m cuts bedded and massive chlorite-epidote altered tuff. Contacts are sharp, but with strong magnetite alterations in tuff at the upper contact zone from 36.6m to 38.4m. Thin quartz-molybdenite veinlets are present in both units with spots and thin veinlets of chalcopyrite noted in the porphyry.
- <u>W-7</u> Reddish brown chlorite (biotite) altered pyritic, feldspathoidal tuff from 16.lm to 75.6m passes into a light coloured pyritic, quartz-sericite + magnetite altered volcanic rock. Quartzmolybdenite-pyrite veins are common while minor chalcopyrite was noted in veinlets and spotted through the rock. This is essentially the same type of mineralization occurring in the other holes but with slightly increased grades.

The Geology is summarized as follows:

Lithologies

1) Parson Bay Formation

The unit appears to be absent in the area between the Coal Harbour Road and Quatse Lake, although outcrop exposure is limited. The banded skarn in hole W-5 has been logged as altered fine grained tuff. It could, however, represent upper Parson Bay sediments as tuffaceous layers do occur in the Parson Bay sequence. The Coal Harbour Stock exposed about 800m to the north is a possible cause for the skarnification.

2) Bonanza Volcanics

Coarse to fine grained andesitic to dacitic tuffs predominate. The coarse grained tuffs (e.g. in W-3 and W-7) typically have about 15% lathes of feldspar (phenocrysts ?) from lmm to 3mm in length well indurated in a fine grained feldspathic matrix. Some lithic clasts also occur, being light to dark altered and locally with light alteration rims. Although logged mainly as crystal tuffs, the coarse grained feldspathic rocks also resemble porphyritic volcanic rocks.

textures are variably obscured by hydrothermal alterations. The Chlorite, sericite and epidote alterations are the most common. A strong brown alteration occurs in parts of holes W-3, W-6 and W-7. Some of the brown stain is clearly due to a pyrobitumen similar to that found in the Island Copper pit (gilsonite). Brown chlorite and biotite likely account for much of the brown colour. The dark alterations typically occur in spots, clots and patches giving the rock a mottled texture. The light alterations (e.g. sericite) occur as envelopes about pyrite veinlets and in sheared zones. Magnetite occurs as veinlets, disseminations and envelopes on pyrite-chlorite veins. The highest concentration of magnetite intersected was at the contacts between the quartz-feldspar porphyry dykes and the volcanic rocks. (e.g. hole W-6). Pyrite occurs in amounts from 3% to greater than 5%, both as veinlets and disseminations.

3) Quartz-Feldspar Porphyry

The porphyries intersected range from grey to pink and orange in colour and medium to coarse grained with distinct quartz and feldspar phenocrysts. The quartz phenocrysts are euhedral in the fresh looking porphyry in hole W-4, but rounded (quartz-eye) in hole W-6. Books of brown biotite occur in the porphyry in hole W-4 and K-feldspar occurs in the matrix of both porphyries. The porphyry in hole W-4 is relatively unaltered while the porphyry in hole W-6 has a pervasive orange zeolite alteration of the feldspar phenocrysts associated with veinlets of orange zeolite. In addition, the mafic phenocrysts are chlorite-sericite altered and the feldspars are weakly to moderately altered to sericite. Magnetite alterations are weak and generally associated with the mafic components of the porphyries. The pyrite content of the porphyries ranges from 1% to 3%.

4) Hornblende Porphyry

This porphyry was only intersected in hole W-5. It is medium grained, phaneroporphyritic with about 20% to 30% dark, chlorite altered hornblende phenocrysts. Feldspar phenocrysts compose less than 10% of the rock. The main alterations are chlorite, epidote, hematite with minor magnetite. The pyrite content is from about 3% to 5%. Contacts with the volcaniclastic rocks are typically moderately to highly fractured with minor bleaching at the contact. The age of this porphyry is uncertain.

Structure and Mineralization

Bedding in the volcanic rocks is common with dips ranging from -20° to -45° in hole W-5 to -50° to -55° in hole W-6. The latter dips are somewhat steeper than the regional dips and may reflect local disruption of the strata by faulting. In hole W-6, very fine, whispy beds form coarser colour bands in sections 20cm to 30cm thick that are interlayered with thicker sections of massive tuff.

Fracturing is moderate to strong in most of the core except for the porphyry in hole W-4. The main fracture fillings are zeolite (white and orange), calcite, pyrite, quartz, epidote, magnetite and pyrobitumen. Some veinlets show displacements to several centimeters due to fracturing. A tentative vein sequence is as follows:

- a) grey-white quartz, pyrite, molybdenite
- b) pyrite, epidote, magnetite, hematite
- c) zeolite, calcite
- d) pyrobitumen

The veins all appear to postdate the brown alterations that are not due to the pyrobitumen.

CONCLUSIONS

The drilling failed to intersect economic quantities of copper mineralization. However, the following factors indicate that the potential exists for a porphyry copper deposit.

- Quartz-feldspar porphyry was intersected in holes W-4 and W-6. The lack of strong alterations associated with the porphyry in W-6 may reflect the dyke phase or morphology rather than a barren parent intrusive system. Weakly altered porphyry shoots can be found in the Island Copper deposit.
- Hydrothermal alterations (e.g. chlorite, sericite, quartz, pyrite, magnetite) affect most of the rocks intersected. The strong sericite alteration in hole W-7 may represent an argillic alteration zone about a mineralized porphyry.
- 3) The sulphide (pyrite) content is moderate to high (+5%). Quartz-molybdenite veins are widespread and there are minor amounts of chalcopyrite. The high pyrite content in hole W-3 may reflect a pyrite halo about an intrusive.

It is postulated that the area is underlain by a granitic-porphyritic intrusive that may be linked to the Island Copper system. The drill holes intersected the higher level porphyry dykes and associated wall-rock alterations.

STATEMENT OF QUALIFICATIONS

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I submit that I am qualified to prepare and present this report for assessment credit. My qualifications are as follows:

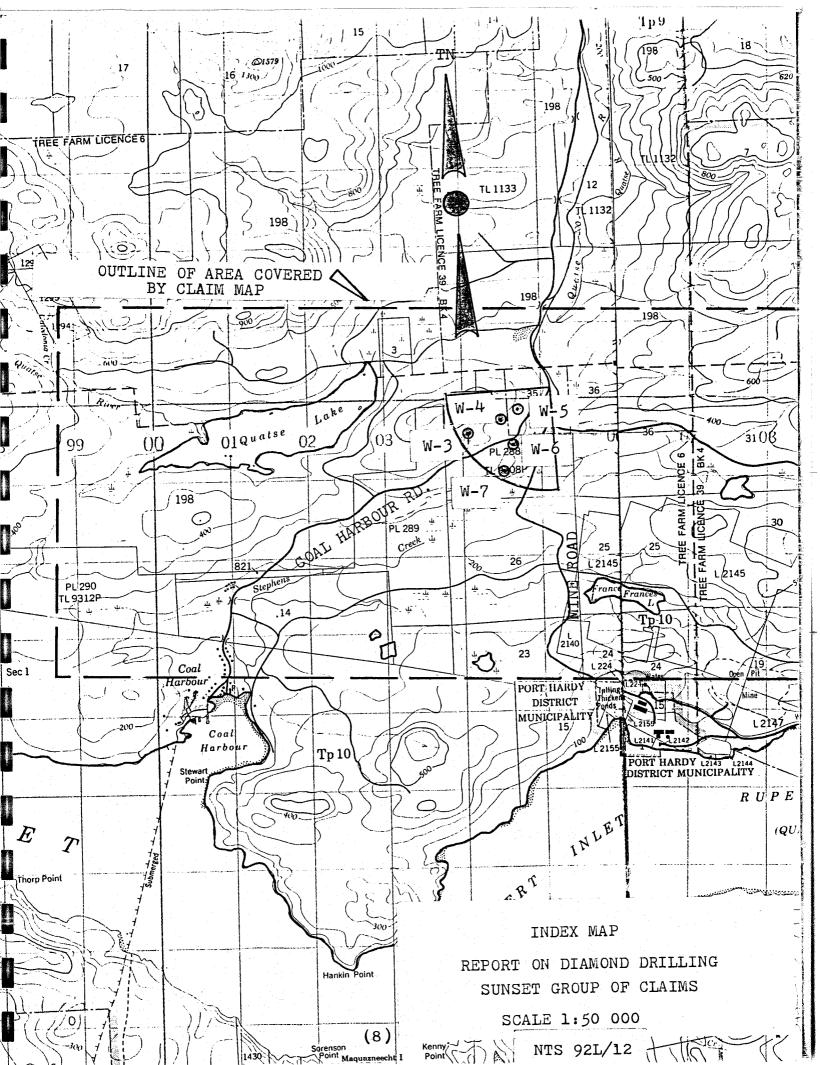
- 1) I have a B.Sc., (Majors Geology) 1971, from McGill University.
- 2) I have been employed as a geologist continuously since June, 1968, and am presently Chief Geologist, Island Copper Mine, Utah Mines Ltd.
- 3) I have been a Fellow of the Geological Association of Canada since 1974.

I declare that I personally supervised the drilling program, logged the core and wrote the report. The R.Q.D., magnetic susceptibility and percent recovery measurements were taken by a technician under my direction.

J.A. Fleming, B.Sc.,

Chief Geologist.

ISLAND COPPER MINE.



	GROU	NO ELEV. 1460	o.g S	TICK-UP: 0.5	BEAR	NG: -	D	EPTH: 0	10		Approved By	
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	TH6#	FOOTAGE	% Cu	70 Mo ppm Au	PPM AG	8FE	3 Pb	%Zn_	MAGN. Suza COSNO BENCH	8Cu	25 Mo	
1	37712		0.03	0.001 0.02		6.6	0.001	<001	2.1			
2	JB		0.07	0.001		7.1			2.)			
3	14	90-100	0.07	0.001		7.3			0.1			
4		100-110	0.11	0.003 0.02	0.30	7.4	0.001	<0.01	0.4			
5		110-120	0.07	0.003		7.6			0.5			
6		120-130	0.08	0.002		7.5			0.2			
7		130-140	0.08	0.004		7.4			0.5		*	
8		140-150	0.07	0.004 0.03	0.24	7.4	0.001	<0.0(0.4			
9		150-160	0.09	0.00à	- C	7.3			0.4			
10	9	160 - 170	0.08	0.002		7.0			0.j			
11		170-180	0.07	0.003 0.00	0.16	7.3	0.001	20.01	0.4			
12		180-190	0.06	0.002		6.5			04			
13	1	190-200	0.07	0.002		6.8			0.2			
14		200-210	0.08	0.000 0.01	0.28	7.0	0.001	<0.01	0.2			
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TA6 #	FOOTAGE	76 Cu	70 Mo	81mAu	PPM AG	8FE	2.Pb	22n	MAGN. 505 4103665	BERKH	8 Cu	70 Mb	
8554		0.03	0.004			ə.7							
8555	35-40	0.04	0.005			2.7							
8556	40-50	0.02	0.022			a.a							
8557	50-60	0.03	0.010			2.4							
8553	60-70	0.04	0.007	0.03	0.16	a.6	<0.001	<0.01	<01				
" 59	70-80	0.03	0.005	0		3.4			<0.1				
.1 60	20-90	0.03	0.004			2.5			<0.1				
37701	90-100	0.03	0.004	0.03	0.16	2.5	×.001	<0.9	<0.1				
· · · · · · · ·	100-110	0.04	0.007			2.4			0				
1 03	110-120	0.04	0.009			25			< 0.1				
1, 04	120-130	0.03	0.005	0:02	0.17	3.8	<0.001	20.01	0.1				
1105	130-140	0.03	0.006			J.4			<0.1				
11 06	140-150	0.03	0.004			2.6			<0.1				
" 07	150-160	0.01	0.005	0.02	0.14	2.3	<0.001	<0.01	0				
11 08	160-170	0.02	0.003			2.5			<0.1		-		
" 09	170-180	0.02	0.003			24			0				
" 10	180-190	0.02	0.006	0.02	0.11	2.4	6001	<0.01	0				
1 1/	190-194	0.03	0.019			2.4			0				
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 		- ORDINATES : 1	7,532.9	N ; 14,88	9.8E		MATIO	1: -90		ORE: NQ		DE: WE	Approved By	,
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	TH6#	FOOTAGE	% Cu	% Mo	ppmAu	Pero Ac	3	76 Pb	8Z0	6 MAEN: 505C X103CES	BENCH	BENCH O 70 Cu	20 Mo	1
1	3779/	22-27	0.12	0.018		0	7.3			0.1				
2	1 23	27-37	0.13	0.014			7.2			<0.1	1360	0.13	0.027	
3	11 93	37-47	6.14	0.044	0.02	0.64	5.2	0.000	<0.0I	<0.1	(50.3)			
4	11 94	47-57	0.12	0.038			7.0			0.1				
5	11 95		0.09	710.0			7.4			<0.1				
6	" 96	67-77	0.13	0.016			7.8			0.3	1320	0.11	0.017	
7	" 97	77-87	0.10	0.010	0.03	0.48	7.7	0.004	20.01	0.2	(20:5)			┢┟╧╌╎╽
8	" 98	87-97	0.13	0.018			7.4			<0.1				
9	" 99	97-107	0.15	0.093	0.03	0.64	50	0.003	0.01	0				
10	3780	107-117	0.14	0.014			<u>5</u> .8			<0.1	1280	0.14	0.016	
11	38301	117-127	0.11	0.009			7.5			0.1	(30.3')			
12	1 2	127-137	0.17	0.018	0.03	0.87	8.6	.0.005	0.01	<0.1				
13	<i>,</i> , 3	137-147	0.13	0.010			6.7			<0.1.	1			\parallel
14	" 4	147-157	0.12	0.009			7.9			<0.1	1340	0/3	0.015	
15	,, 5	157-167	0.11	0.020	0.04	0.72	6.3	0.003	0.01		(170-3)			
16	11 6	167-177	0.11	0.033			6.3			<0.1				
17	" 7	177-187	0.13	0.015			7.0			<0.1	1200			
18	'1 8	187-197	0.24	0.052	0.04	1.00	6.2	0.004	0.01	<0.1		0.16	0.029	
19	r 9	197-202	0.16	0.023	0.03	0,78	6.2	0.003	0.01	0.3	(20.3)			
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	Gnou	NO ELEV .: 128	4.9 5	EX-UP: O.	5'	BEAL	NG: -		EPTH: 3	547	PG. 1	OFZ	Approved By	f_{\perp}
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-	TAG #	FOOTAGE	70 Cu	% M6	FTM AU	PPm Ha	70Fe	%Ca	765	1103CES	BENCH	%Cu	%10	1
1	6800	42-50	,12	,012		J J	5.1	2.24	.85	a.3				
2	38310	50-60	0.12	0.032	0.04	0.63	4.4	4.00186	.01 Zn	1.9				
3	11 11	60-70	0.12	0.014			48			1.9	1200			
4	" /2	70 - 80	0.15	0.009			50			2.6				
5	84.99	80-90	.05	,007 .	-		316	2.07	1.01	5.2	(85.4)			
6	38313	90-100	0.10	0.005			3.7			1.2				
7	11 1/1	100-110	0.09	0.014	0.03	0.56	3.3	0.02 Pb	L.012n	1.2	1160			
8	15	10-120	0.09	0.004			4.8			3.3				
9	8500 #6	120-130	0.13	,010 .			6.3	2.12	.96	6.9	(175.4)			
10		130-140	0.05	0.002			a.8			0.6				
11	8 1 1	140-150	0.06	0.006			3.1			0.9	1120			
12	6705		0.06	0.004			39	1.75	0.69	0.7				
13		160-120	0.10	0.006	0.03	0.60	3.7	2.09	1.30	0.6	(165.4)			-
14		170-180	0.06	0.001			4.3	a.13	0.57	1.1				
15		180-190	0.23	0.005			2.8	2.57	1.42	0.2	1080	0.10	0.005	
16	1 1	190-200	0.05	0.007			3.7	1.35	0.36	0.6				
17		200-210	0.05	0.004	0.07	0.58	2.9	1.94	1.27	0.4	(20574)			
18		20-221	0.06	0.009			3.7	1.93	0.53	0.5				
19	38318		0.20	0.000	0.04	1.12	2.7	2.001 P6	K. or Zn	0.4	1040	0.15	0.028	
20		230-240	0.29	0.070	0.05		3.2	4.002124	. 01 2.	0.8				
21	* 20	240-250	0.03	0.017			2.9			0.6	(345.4)			
22		250 - 255	0.02	0.028	.02	.20	3.9	1001 Pb	4.01 2.	05				
23	1 1 1	255-265	.04	,007	3		3.9	1,90	. 21	0.2	1000			
24	70 300	265-275	0.02	0.011			3.1			0.6				
25		275-285	0.05	0.003			3.2			0.3	(385.4')			
26		the second se	0.02	0.012	0.03	0.15	ఎ.ల	001 Pb	2.01 2-	0.4				-
	SRAND & TOY -				1 1 1 1 1 1			16 1 1 1 1 1 7 T 1		mark that said		i. Anteritation		1.1 × 1
1	8552	295-305	0.05	0.007			3.6			0.7				
2		305-315	0.04	0.001			6.9			3.0	960	0.04	0.006	
3	<u> </u>	315-325	0.03	0.003			7.5			1.1	(325.4)			
4	27	325-335	0.10	0.001	.03	.56	8.2	.00185	, al Zn	1.8				
5	8553	335-345	0.10	1008			7,6	2.00	1.08	0.3				
6	38338	345-347	0.17	0.018	0.03	0.56	7.9			0.8	(397.0)			
7														
8														
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			1					. (Have	: W-7	Prepared By
		CADIN ATES: 15,266.				CLINATIO			ORE: NO			of Z	Approved By
	GNDON	NO ELEV. 1234.7	- אשוע	W: 0.5		ALING	· ·····				, <u>'9 '</u>	BENCH	GLADE
	TAGE	FOOTAGE	%Cu	8 Alo	An Au	PPM An	%Fe	75Pb	%Zn	MAG. SUS. X10 ³ CGS	Beno+	26	93 Mg
	1 1	53-57	0.21	0.038	0.06	0.60	6.5	0.002	0.01				
2	27	57-67	0.13		0.05	0.50	6.0	0.003	1.20		1160	0.16	0.046
3	38	67 - 77	0.17	0.023.			6.6				(15.2)		
4	39	77-87	0.11	0.010			6.5						
5	30	87-97	0.16	0.007			7.6				1120	0.17	0.016
6	3/	97-107	0.21	0.028	0.06	0.67	6.3	0.002	0.01				
7	32	107-117	0.22	0.018	0:02	0.78	6.7	0.001	0.01		(115.5)		
8	33	117-127	0.18	0.014			6.5				•		
9	34	127-137	0.12	0.01			6.7				1080	0.16	0.014
10	35	137 - 147	0.17	0.011	0.02	0.74	6.4	0.001	0.01				
11	36	147-157	0.17	0.018	•		6.5				(155.35		
12	37	157-167	0.12	0.011			6.1						
13	38	167-177	0.18	0.012	0.02	0.70	6.5	0.207	0.49		1040	0.16	0.013
14	39	177-187	0.18	0.016			6.1						
15	40	187-197	0.15	0.011			6.5				(185.3)		
16	41	197-207	0.28	0.021	0.04	1.01	4.8	0.001	4001				
17	42	207-217	0.15	0.013			5.9				· 1000	0.22	0.014
18	43	217-227	0.17	0.011			49						
19	44		0.33	0.013	0.08	1.16	5.1	0.001	20.01		(a35.5)		
20	45	237-247	0.20	0.014	0.04	0.78	5.6	0.00/	<0,01		· a		
21	46	247-257	0.10	0.011			5.2				960	0.14	0.010
22	47	257-267	0.13	0.009			58						
23	48	267-277	0.11	0.006-	0.03	0.36	5.4	0.001	< 0.01		(325.2)		
24	49	217-287										-	
25	50		0.13	0.012			5.7				୨୦୦		
26	¥ 51	297-307	0.12	0.012			5.3				•		
	AND & TOY	1 16-84210	1										
	·· ~ //	1				0.66		.001			(35.5)	TITT	
	37 7 52		0.22	0.01	0.03	0.66	49	,001					
2			0.14	0.009			50				880	0.13	0.006
3		307-337	0.11	0.007			51		1221		680	<u> </u>	U.U.O
4		337-347	0.12	0.007	0.03	0.36	5.a	0.00/	< 0.01		(555-9)		
5	56	347-357	0.12	0.001			5.9						
6		·											

PROJECT: EXPLORATION 1983 PAGE NO: / OF 3 HOLE NO. W-3 CASING COLLAR ELEV, : 1461.4 DATE STARTED: 18 th JULY '83 GROUND ELEV. : REF. TO CLAIM CORNER: SCALE: /= 10 COORDINATES: 16920.3 N. 13611.2 E. DATE FINISHED: 19th JULY 33 LOGGED BY : J.A.FLEMING TOTAL DEPTH: 210 INCLINATION: - 900 BEARING: COMMENTS Prairie, FELDSATTIK, CHEORITE + EPIDOTE + BIO (?) ALTERED. AVE CORE ALTERATION COARSE GRAINED CRYSTER AND LITTLE TUFF. REC Y / HOLE OVEREC 94 % ROD MINERAL S E ILLING URING SAMPLE LOGY VAI NO VIS CPY FORNOL MOLY ASSOC. TO OTZ UNS, CORE SECTION 51% Ξ 2 5 BROW NT % SUL %S W ROD RA Ō GEOLOGY DESCRIPTIVE 4 .60 60'-60 OVERBURDEN RECD \circ 0-60 NO CORE 62 62-150 CHLORITE (+ BIOTITE?) ALTERED, PIRTIC, mort zent COARSE GRAINED, FELDSPATTIC, CRYSTEL TUFF (+ LITHIC TUFF) 100 CALE. UNLIS 69 alow L TO COLE -70 80 MOTTLED - PATCHY REDDISH-BROWN (BD?)AND 49 ۵ EBBLY AND MED, GRN-GRY. W STRKS. OF WT. (OT., ZED. AND CALC.) arown 73 CORE LT. GRN (OHL AND SERIC). 0 55 77 TEXT. MASKED BY ALTNS., BUT NOT DESTROYED. 3 CORELOST 0 0 RK. IS WELL INDURATED; MOD. HARD. SPLINTERS DES ୭ 71-80 B 29 0 89 FELD. LATTIES COMM. W/D EVIDENT SORTING, WE V-PYRITK CLADTS ~ 1-2 mm LONG, THEY ARE GEN, LT. OLOURED 10 SCO 16 AND SILLEOUS LOOKING; ALSO LT. TO DK GRN. AND BRN. 87 MATRIX 15 SUGARY LOOIDING, FN. GRD AND LT. GRY, TO STRG. BAN. GILS. STN. DK. DEPENDING ON FLITH INTENSITY, KOO TO SUB. ANG. <u> 20</u> -90 6 3mm 012 + mory. (LITHIC) CLASTS W. SIM, COLOUR RANGE AS XALS OCCUR 100 61 MOD. THHTLY PACIED; SOMETIMES WITH THIN LT. ALT'N PTR, CAL 10 * SAM MARNER MS. COMP. OF TUFF PAOB ANDESITIC. 97 60 OTE. + CHE VN LUT BY FYR VNLIS HETN'S. ARE: PROB. SILLE (RK IS MOD. HARD), WKEI + CH2., mos BRN ALTA (BIO?). Some BRN, ALTN CLEARLY--100 SD Jam OTZ DECURS AS ETW, ON CALL BEARING VALTS (GILS. STN.) 100 62 ļ LACO UT OTHER BEN. ALTN. IS MORE PERY. W NO CLEAR TIE TOUNIES PYR ZED 10 1 OCALE. STRE, BRN. ALTO RK 15 SOFTER THAN UN ALTO IRK. 65 112 CM OF ľΫ V CALL-ZED-GILS. FIR. #570 W WS = DISSEM. 30 FR. W PYR. HID 1 MAGN. OLCURS AD DISS. IN BAN. AUTO PATCHES, RK. 15 MOD FRACTO & MOD INFILLING (F=3/4C) 100 43 to sup. W 10 SUCK FROM COLLAR TO ~90' RK IS BKN (ROD=0) AND GROUND UP. 500 55. Inm. LUCALA FRACT. DENSITY 'S MACH (F= 4/5 C) 117 CALL + YE. Sama

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HOLE NO. W-3 PROJECT : PAGE NO: OF 3 CASING COLLAR ELEV .: GROUND ELEV .: DATE STARTED: REF. TO CLAIM CORNER: SCALE: 1=10 Ν. Ε. COORDINATES: DATE FINISHED: INCLINATION: -90 BEARING: LOGGED BY : JEMING TOTAL DEPTH: 210 ALTERATION COMMENTS: AVE CORE NQ REC'Y / HOLE MINERAL GEOLOGY Ω URIN DRILLING INTERVAL % CORE RECOVEREC ECTION olv. SAMPI Ē Brow V X 3 RA SO. DESCRIPTIVE GEOLOGY 34" CRYSTAL ANDLITHIL TUFF (CONT. 120 90 14 62-90 MOD. TO HIGHLI FRACTO CORE W WT. 100 65 ZED. + CALL VALTS & LOW ANG. TO CORE CORE LOST 10 127 77-80 AND PERLY 74-77 - FAULT? HAD. BRN (BD.) ALTNE -130 130 65° MED. GRN.-GRY TUFF. J PROM. DK GRN. 100 57 CHI ALTO CLASTS 10 116-150 PERV. BRN. ALTN. Some LAALLI ELASTS BG 45° 3-4 mm MR 55 MAR TO ICM. AND ANAULAR J BRN ALTINS IN GRN. BRAN. ENV. ON FN. GRND MATRIX. HT 132' ARE SEVERAL LATERS CALC. UNLIS -140 COMMON 100 90 OF COMPLEGAND -LAALLI LITTAL TUFF N ROD CLASTS (INCLOS OTZ. CLASTS) LAYERS ARE 5-10 CM. THK 10 (BEDS?). KK. IS MOD INAL COLOURED 146.5 3° - 10 cm ZOH CALL SPOTS 150 100 65 150-210' MED to LIGHT GREEN-GREY, PIRITIC, 10 SILICE CHLORITE + EPIDOTE ALTERED 265 JTHIN WHISPY COARSE GRAINED CRYSTAL AND LITTLE BANDS-FLOW LAARING -TUFF (ANDESITIC) -160 DCMAYN. 160 BANDING OUT AT STO THE ABOUD RK, BUT W A MUCH LIGHTER 100 79 ATT CALL GLS 10 EULOURED, GREEN-WT, SILL (!) AND IHARD MATRIX. (RYSTAL.) EPI.ADD AND LITTAL CLASB FARE CLEARLY VISB. W LATHLIKE Som care .. COILS SPLINTERS BEING SILLCEDIN LOOKING. KOOK IS HARD; Icn crec. (1+= K4) 100 34 BUK. GILS Den, care, 20, BROWN FILTN 15 ALMOST ABSENT 180-202. ð 10 ١ IT NETWORK OF THIN PYR. INLIS. W V-NAAROW, DARK ŝ NFA THA 1765 ENV, THOW RIK. LOT BI 2-3 MON THIK. ZED. + CARC. VNLTS. CARLAZO PYR RUNS >5% & DISS, > WKTS, DAX SPOTS LOMP. - 5% of

HOLE NO. W-3 PAGE NO: 3 OF 3 PROJECT: GASING COLLAR ELEV .: REF. TO CLAIM CORNER: GROUND ELEV .; DATE STARTED: SCALE: 1"=10" N. ε. COORDINATES: DATE FINISHED: INCLINATION: -900 BEARING: LOGGED BY : TOTAL DEPTH: 210 ALTERATION AVE CORE COMMENTS: FRACTURING REC'Y / HOLE SULPHILL DRILLING INTERVAL % CORE RECOVERET A B CORE NQ MINERAL GEOLOGY SAMPLE INTERVAL % REC'Y SECTION SULPH Brown CHLORI % Rf SAMP DESCRIPTIVE GEOLOGY 180 % SAMA + 65 FR = PTR, EP, + 25 FR = PYR, ZED. 100 56 150-185 AS DESCRIBED-MED. 4645 70° FL ~ PTR, 200, 126.5 10 GREY-GREEN. BROWN ALTA IS MOD. 1 30° CARE + 200 UND cm AND PATERY THOO. TO -180! 100 34 190 -185-202 MOD. DARL GREY-GREEN 191 40° FR = P/R, cALL. WITH LITTLE OL NO BLOWN AT'N AND Q 5 FR & PR + CALL WEAK MAEN. ALT.N. MAGN SPOTS -10 CLOTS ASSOC. J MAPACSAPYRITE. 79 202-210-STRONG BROWNSH ALTN 100 THAN. TO END OF HOLE & VISIBLE BLACK 50° MR+GALE ON FR. 20.00 GILS ON UTE , N VINLITS W ZED AND CALL. . 200 -201 15 1/2 cm PINK ZED teme. 93 57 1 45" 1-2 cm ZED, CALC+ BLACK GILSONITE SAMP 1 10 HORN WHITE CALL - LATIONESS XAL VEN +TON (DOLD?) + DIL GREY, FN. GRID PHASE. 6° come + GILS + ZED 207 31 100 29 END OF HOLE 210' - CASING PULLEM 210 ALTENATIONS: WOAK VIN -> STRONG WIII R.Q.D. : % CORE IN LENGTHS > 4" 220 MAGNETIC STEPTIBLITT: CGS UNITS XD-3 FRACTURE DONSITY + LOW 1 > HIGH 5 DEGREE OF INFILLING: LOW A -> HIGH E 230 240

PROJECT: 1983 ENCORATION PAGE NO: 1 OF 44 HOLE NO. W-4 DATE STARTED: 19th JULY '83 CASING COLLAR ELEV, 1375.8 GROUND ELEV .: REF. TO CLAIM CORNER: SCALE: 1 =10 DATE FINISHED: 20th. July '83 COORDINATES: 17889.5 N. 15601 5 E. TOTAL DEPTH: 194 LOGGED BY : J. A. Freminken INCLINATION: -20 BEARING: ----AVE CORE ALTERATION COMMENTS: A FRESH LOOKING, RELATINES UNATED REC'Y / HOLE PORPHYRIAC - GRANIAC INTRUSIVE, MINON MARN FSUS DRILLING INTERVAL % CORE RECOVERED RAL SAMPLE URIN 63% Ъ SERICITE IS PENDOPEO IN ENVELOPES ABT. GRY WANTZ INVEL ECTION VEINS MINE Series OUE GEOLOGY DESCRIPTIVE ΨΨ u. Ó M-23 NO CORE - OVERBORDEN STRONG 11 11/ 11 ALTERATIONS; WEAK VIN ROD: % OF CORE >4" -10 24 MAGNETIK SUSCEPTIBILITY : X103CG5 UNITS FRANCIULE DENSITY: LOW = 1 / HICH = 5 DEGREE OF INFILLING: LOW = A / HGH = E 20-22 3/2 37. VE COARSE D 35 65 * same TO ICON W 23-194 GREY BIUTTE - OUAROZ-FELDSPAR. PORPHYRITIC GRANTOID (GRANDDIORIE?) NAL FACES 10 -30. LIGHT TO MEN M GREY SPOTTED W BACK TO 100 63 Mby , BRONZY BROWN MICA PITENOS. Moin FRAT. MEDIUM TO COARSE GRAINED, HYADIDMORPHIC. THIN QTZ- MA. 37 APHONO PORPHYRITE TEXT TO UP TO 25% RK.BEING 5 79 38 39. OF PHENDS :- EUHEDRAL -SUBHEDRAL QUARTE (2030)? -40 15° CRY. OT UN. NPP 7 LOCALLY TO I COM IN DIA; SUBHEDRAL TO Umary AND 98 55 ANTHEDRAL WHITE FEDSPAR (40-50%) NO BOOKS MINON SERL EWV. Samp OF PEARLY, BLACK TO REDOKT'- BRONZY BROWN N 40 OTZ. VN. W CALLY BOTTE FREQUENTLY TO HEXAGONAL FORM APHANINE 47. SERK, + BRN. MATRIX IS QUARTZOFEZDSPATIC AND VARIES GREAST STAIN ŊЬ -50 (GLEONAT?) FROM GRET TO LIGHT GREEN TO SALWON ANK IN COLOUR, PINK COODE MAY BE DUE TO CALITE. 94 52 KK IS WEARLY FINDLE TO SCATT. SHORT RUNS OF Mb & 45 coarse abry MOD FRANK MAIN FF. ARE 20 + CALC, OTZ = MOLY 56% PIRITE 15 NISEM. AS RISE YALS AND SHORT VILLES. COMMOND 48 THIN PYRT SORK. 73 #SA MA D SALMON PK MATA IX IN THE MUCH XAL

PROJECT: 1983 EXPLORATION page no: 2OF 4 HOLE NO. W-H REF. TO CLAIM CORNER: GROUND ELEV .: DATE STARTED: CASING COLLAR ELEV. SCALE: 1 = 16 ε. DATE FINISHED: Ν. COORDINATES: LOGGED BY TOTAL DEPTH: 194 INCLINATION: -90 BEARING: AVE CORE % CORE RECOVERED % & B SIZE ALTERATION COMMENTS: MEN \$ SVEPHIDES REC'Y / HOLE SAMPLE INTERVAL % REC'Y SAMP INT DRILLING FRACTURING MINERAL GEOLOGY SECTION PINK STRICITI' NAGN BOOW E DESCRIPTIVE GEOLOGY \$ GREY BIOTITE Q.F.P. (CONT. Ŵ 00 (b NH А OZ+PY TROLY W 000 11 100 73 74 COASE OTL PHENOS 10 Ų to I am ;; ; ; 64 PINKEN TRAFTRIX ١ (CRATE STAN?) 6 ح -70 XEOUTH (?) OF FINE 100 51 GRAINED GLANITL MT WABD. BAN-RETRISH 6 10 BISTITE (20 Cm) 77 J 220 GUY, FN. GRN'D A VN 5 -90 0 100 53 -TAIN QTE + PYR 00 TSEAK. GIV. C. 350 لا 1 10 5 SERIC. ALTN ASSOL FIRE TO CORE 0000 87 25 CM OF REAT-BRAN ダン AND FN GRND INT. PHASE (SAME AS @ 70) 90 0 L 10075 . [0 1 550 00-00000 10 2 cm CHOLICO WHIFE 97 L MIN. ASSDE. Tr Icm VITIE ZED (?) VN, < MOST FRACTS. HAVE COASING OF 100 100 65 000000 SOFT, CHARKY SERILIE (?) 7 10 Mb THIN OT HOLY UN. 107 0 SCATT SMALL REDDISTI ی BRN, FN. GRND KENDUTHS -110 ۵ • 100/63 < 1.1 IN 71 10 ŝ FORCETZEO HAY UN د. ۱ 不 117 e 40° -2cm 53 100

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PAGE NO: 3 OF 4 HOLE NO. W-4 PROJECT : REF. TO CLAIM CORNER: CASING COLLAR ELEV .: GROUND ELEV .: DATE STARTED: SCALE: 1 =10 Ε. Ν. DATE FINISHED: COORDINATES: INCLINATION: -90 TOTAL DEPTH: 194 LOGGED BY : BEARING: ----AVE CORE ALTERATION COMMENTS: NQ REC'Y / HOLE DRILLING INTERVAL % CORE RECOVERED MAN SULPHIDES FRACTURING SAMPLE INTERVAL % REC'Y SAMP INT MINERAL GEOLOGY PINK SECTION BROWN SPL MUL mPan Senie DESCRIPTIVE GEOLOGY BIDTTE-D.F.P. 1000T 120 00 48 XV 100 58 1 0 U 3 cm KENOLITH 107 XSAmp 33 STRG. BRA. CREASY STAIN -130 100 69 FON ZED. VN-BAN HAS Ι SEEPED INTO TI STE 1 10 45 TR. W STAIL 137 1 > Ali NOR SEALL ACTN. OF FELD. V Se PSSOL. W QTZ. WLITS. 1 140 -/ 0 ,1 FEW SCAT. WT. ZEO + 3 74 lo. CALC WUTS. -1 .0000000 < 10 147 WT. ZEO. VNUTS 12 H50 4cm XenouTH 0.00000010 69 100 2 1 \mathbf{V} 10 SOAKON W BROWN Bø CREAST GILSON ITE (PTROBAUMEN) 157 STAIN ALONG FAALTS & 50 AKOD INTO WALLAK -160-COPARSE OPT. ETES TO ICM 100 62 * same 11 J 0000 000 10 1 4B 167 レ F170 10 100 6 7 000000000 174 10 HEHLY FRACT W SERIC. ALTNS. ΗÅ NEWLYS CALC. F STRNG. BRN. BILS. STAIN + BLK GILS. 71 100 40

HOLE NO. W-44 PAGE NO: 4 OF PROJECT: REF. TO CLAIM CORNER: GASING COLLAR ELEV,: GROUND ELEV,; DATE STARTED: SCALE: 1 =10 Ν. ε. DATE FINISHED: COORDINATES: TOTAL DEPTH: 194 LOGGED BY : C IN CLINATION: -90 BEARING: -AVE CORE ALTERATION COMMENTS: ٧Q SULPHIDES DRILLING INTERVAL % CORE RECOVERED % SIZE REC'Y / HOLE FRACTURING MINERAL SAMPLE INTERVAL % REC'Y. SAMP INT ш٠ MANNE GEOLOGY SECTION TH LIT GEOLOGY DESCRIPTIVE 180 33 匕 72 -31 D SAR 184 NINON Bed. OKS 10 STAIN 100 55 -190 MЬ \$ 50 THIN OPTERMOLY UNLES 4 194 END OF HOLE - CASING NOTE FILL SAMPLES WERE STAINED FOR K-SPAR WITH THE FOLLOWING RESULTS: 25' ABO. K-SPAR IN MATRIX. 45 WK. STRIN 58 STAG. STN. OF MATRIX. 70 SAME AS 58'. K-SPAR FREE ENV. ON PIR. UNLIS. 127' No STAIN. 162' SAME AS 127' 183 11 11 11 11 87 - XENOLITH - WE STRIN

HOLE NO. W-5 PROJECT: 1983 EXRORATION OF 4 PAGE NO: CASING COLLAR ELEV .: 440.3 BROUND ELEV .: DATE STARTED: 20th JULY '83 REF. TO CLAIM CORNER: COORDINATES: 17,530.9 N. 14,8898 E. DATE FINISHED: 21 St JULY '83 SCALE: 1"=10" IN CLINATION -90 BEARING: TOTAL DEPTH: 2021 LOGGED BY : J.A. FLEMING COMMENTS: QUARTZ - MOLY VEING CUT FROPYLITICALLY ALTO ALTERATION AVE CORE REC'Y / HOLE HORNBLENCE POLATYRY AND BANDED, BRN. ANTO TUFF (RHY. FLOWS?) 1005 BLC. GILSONITE OCC. IN MIN. AMTS RIC IS MOD-HIGHI PIRTLE ROOM MINOR CU DETECTED IN RESAMS. RIN DRILLING INTERVAL % CORE RECOVERED SIZE SAMPLE INTERVAL % REC'Y SAMP INT SECTION ROD = 76Z BSUL Hem DESCRIPTIVE GEOLOGY 3 EPL Ř >4 90 0 NO CORE - OVERBURDEN 0-20 HETERATIONS : WK 111 - STRG. 11/11 R.Q.D. : % OF CORE IN LENGTHS 74" -10 MAGNETIC SUSCEPTABILITY: X 10-3 CGS UNITS 27 FRACTURE DENSITY: LOW-1 - HKH-5 DEGREE OF INFILLING : LOW . FT -> HIGH -E -90 53 SAND 22-100 CHLORITE- EPIDOTE - HEMATITE FILTERED, 65°ICM 100 65 Jorz W. MEDIUM GRAINED, MEDIUM - DARK 00 27 GREEN, HORNBLENDE FORPHYRY 1 30 MEDIUM GRAD, FMANEROPURPHYRITIC, J GRY, FLT-FRAF 92 32 10 ZONE-SOFT BLK. TO DK. GEN., STUBBY, EUHEDRAL H BL. PHENOS VILABLE 34.5 (APPROX EQUIDIAM X-SECTS, AND 2012. PERF. QEAN.) COMP. ~ 30-30% OFRK., AND W FN. GRND FED. STOCIANE. BX. -AND AMPHIB (?) X'AL'S IN MATRIX, OVERALL LAKEDW 40 100 87 PANIDIOMORPHIL TEXT GTT. VNS 10 ITLITEMATIONS ARE: A PERV. CHIN (PHENUS, EAGLY 45 SCRATCHED W KNIFE) WK. EPI ALTN PRIMA AS VALIS Mb 10cm wr. SAMP STRG. HEM STAINING IN NARROW ENV. (1-2 cm) OZ+ MOLY 100 95 +PYRTHEM. 50-ON PYR- EPIZED VNLTS; WIL MAGN. FITN AND 13-1-1 52 10 A FRINT BROWNISH ALTN (BID?) 40 5cm GAY OT MAIN F.F.'S ARE: GREY TO MILKY OTZ + MOLY, WERYZ+ 92 mary stor 100 OTZW SSCA PTRITE, EPI, ZED, CALC, 57 BO 3CMOTZUN w may

PAGE NO: 2 HOLE NO. W-5 OF 4 PROJECT : CASING COLLAR ELEV. GROUND ELEV .; REF. TO CLAIM CORNER: DATE STARTED: SCALE: 1 =10 Ε. DATE FINISHED: COORDINATES: LOGGED BY : INCLINATION: -90 BEARING: -TOTAL DEPTH: 202 AVE CORE ALTERATION COMMENTS: Frank M. R Susa Sult PHIDES DRILLING INTERVAL % CORE RECOVERED Frank SizE REC'Y / HOLE RACTURIN MINERAL LOGY SAMPLE THOSe METTINE ECTION 19 EPI RoTE 8 SAI SAI 541 Ö S DESCRIPTIVE GEOLOGY LL_ Ŭ HORNBLENDE PORPHYRY (LONT. 60 FAINT BOW. ŚŊ ALTN (810?) TRACT. DEN IS MOD HIGH W HIGH DEG OF INFILLING 100 68 10 1 LOLALY RK. STRG. FRAS (ASNOTED) AND BX'D N OT AND FTV. BX MATRIX. 67 DE FETSHKW 1 MAIN F.F.'S (IN TENT. SECO.) ARE: WHITE- BRY QTC + MOLY DRUST CALC IN OPEN FRACE 70 FYR - EPI - OTZ (?) W RED HERD ALT'N ENV., WT. ZECO V ASS. SOPT ALTNO = CALC. PIR OCCURS ~ 3-5% IT DISS & UNLIS, 65 Ø ZED PIL +BK. QLS. MINOR DISPLACEMENTS (1-2 CM) NOTED ALAUSS COTT. UNS. 30°10m 0151. فنففنك 77 PEROSS & CON OTE. VN. MЬ - AS ABOVE 22-29 40° 4 cm and w (milky) 29-34 SOFT FAULTED RK w mout -80 × M A FROM REDUST-BRN STAIN SO OTLAN TIMOLY - HIGHLY FRACTO W RUNS OF MED. 00 78 GRND BX. SHOT W WT. QTZ. + PYR VNS W SPOTS OF OTE PYR FFINE MOLY IN OTZ- VNS., AND RUNS OF LESS FRAT. 20 cm BANDED 0 181 SILKA HEALEN A PORPHTRY. 91-96 FLTO RK. W SERIC. ALTN & 91 AND 5 -90 MONDLITHE BRECCIA, W SERIATE TEXT., ANO W $|\infty|$ ANG. TO SUBANG. FRAGS. BX. IS LATTE STAGE W sand A FN. GRND, GRY, SOFT, PYRITIC MATRIX (BX. PYLE) 13XX 9 97 90-100 ALON. BUE PHETNOS TO SIM. A 5-10cm 4 Jos Jen av. vi may 0 BLEACHED CONTACT ZUNE & 100 W 2-3CM FINE FLACES p mpls-000 3-100-113' BLEACHED AND 5146, FINE GRAINED, 20 80 LOCALLY BANDED TUFF. (RHY, FLOWS?) 55° Bdgp) NOD. HARD. MOD. TO HIGHLY FLACTO, W MULT. OTZ, FN. GAND, P07 ZED VALES. HBT. 40% HAS REMA. BANDING (BEDS?) 00 LT. Calouher 00 AT 50-60° TO CORE. Ten SHORT. SEET'S OF RK SIL -·110 W HBL. PHENOS. 81 lw. 113-10.5 HORNBLENDE PORPHYRY - 1 > ~ FROM 20-100 W ABO. SOF, RED HEM ALTNENV. ON っ 117 117 5-170 SEE NEXT PACE

PAGE NO: 3 OF H HOLE NO. W-5 PROJECT : CASING COLLAR ELEV .: GROUND ELEV .: REF. TO CLAIM CORNER: DATE STARTED: SCALE: Ε. N. DATE FINISHED: COORDINATES: TOTAL DEPTH: 202 IN CLINATION: -90 LOGGED BY : BEARING: AVE CORE ALTERATION COMMENTS: THE INTENSE SOT, REDDISH BROWN ALTN \sim REC'Y / HOLE DRILLING INTERVAL % CORE RECOVERED RECOVERED MINERAL GEOLOGY 15 V-SIMILAR TO ALTIN IN W-G COLOUR SUCCESTS CSULPHIDE RIN SAMPLE ECTION ዋ SKAMNIFICATION - BRN ALTO CONE IS SOFT % RE FRACTU MIN 00 Brow ŝ DESCRIPTIVE GEOLOGY 71 GREEN AND BROWN CANDED TUFF (CONT. 1 19 120 3C 175-170 GREEN AND BROWN BANDED, FINE 6P By Amp. GRAINED, CHLORITE - EPIDDIE 70°84 D B GARNET ALTERED TUFF 127 8 OZ, PHL \boldsymbol{o} ZE VILS BANDS OF GREAST, REDDISH-BEN. AND IT. OLIVE GRN. .1 BANDS ARE PROB. TUFF BPS @ ~ 60"70" TO CORE, L -130 MND. Dem. Samp HLTNS ARE : PERV. EARLY ERN. (CHL.?) AND BRNRD OZ UN + EPI + 100 51 PHAtCAULT GARNET ALTING OUT BY MULT. QIZ, PHL, EPI, 200,2 WLTS O LOW 4 CALL VINLTS, IN OK, NARROW, ALTN ENV. ON MANY 137 Mb NE LTO COLE 3 cm PTA UN 1 QTZ. PTR. VNLTS, BAN. AUTO BANDS ADD SOFT COMP. WBLICGES. 0 1105cm -140 OF WE DOLY TO HARD, LT. GRN, BANDS. MA. RUNS 3-52 00 ο DISSEM & UNLES. D BLK QLS. 87 0 IN ZED, HOTHER 0 175-160 AS ABONE 0 Δ 1197 MINON A MONG 160-170 HKHLY FRACT W. BX NO DISPLACEMENTSI FRANT, CD OF UP TO 2-3 CM ON SLIPS. M/ULT. SRY FRAG ١. 0 as -150 QTZ. VNS GEN. W MOLY SPOTS, TN. GAND 100 92 V-Heav7-POSS. ZING BXX AT CONT. V PORPHIRY AT 170 0 min. 0 00 SAMO WK. BK 157 0 0 IMBI 50° 2 cm GRY GIZ.W IT MULY ٥ -60 $^{\prime\prime}$ 0 INT. FRACT W 0 100 1 80 0 A VNC. õ 000 Wb 972+MOY 167 OCM RTZ. UN -170 AD P 110'-187 HIGHLY FRACTURED AND BRECCIATED (STOCKWIK. 20 80 × Vi PLAQUE ALL 50 Ŗ BLECCIA) HORN BLENDE PORPHYRY 00 AXXX SIMM. AND GR'D FORP. (POST OTZ. VN BXX) HEPLED W WT. 1171 Sol ZED. V-PKITIC ~35% J VNS > DISS. ABD. SOFT BRN. STRKS: OF NHITE AL-N AND

HOLE NO. 41-5		PROJECT :	PAGE NO:44	or 4			
CASING COLLAR ELEV.	GROUND ELEV.	DATE STARTED:	REF. TO CLAIM COP				
COORDINATES:	N	DATE FINISHED:	SCALE: 1 =16	\cap			
INCLINATION: -900	BEARING:	TOTAL DEPTH: 202	LOGGED BY : 7	Ę	·		
ECTION ECTION METTE METTE MINERAL	COMMENTS:		AVE CORE REC'Y / HOLE	I UES ING RVAL		PLE	C ≺
SECTION CHLORIS CHLORIS SIHCO MASKETTE FRACTURING MINERAL	DE SHATTERED HOAN BLENDE I	ESCRIPTIVE GEOLOGY		S SUL PH DRILL INTEF	% CORE RECOVEREC	SAM	% RE SAMP
180	AHATTERED HOUN ELENTE I			187.	100 78	10	-
R0-111	RUNS OF HOR	-4. Cheen J. STREALS WHITE (TUFF TO P	PA A	102 78	10	
- \ / \ \ zao-(\ \ \ \	AND RED MON. SHLILA. RK. LA. +MOLY VNS.	-47. CREEN J. STREALS WHITE (STAIN, MAIN AUNIS, ME CHI, A CLED I VILLE. OF PTA. WILL	- GRY 972. 00		100 93	5	
	NOTE: ALL SAMA THE ONLY F K-SPAR IN NA ASSOL. BRN. A	263 STAINED FOR K-SPA DOSITIVE STAIN WAS E 22 ARROW ETVU. ALONG OTZ-PI HAN ENV.	R W SOME K. M. W				

PROJECT: 1983 EXPLORATION HOLE NO. W-PAGE NO: / OF 6 CASING COLLAR ELEV .: 1285.4 BROUND ELEV .: 1284.9 DATE STARTED: 23 RD JULY 23 REF. TO CLAIM CORNER: COORDINATES: 16,431.7 N. 15,293.2 E. SCALE: 1 =10 DATE FINISHED: 29 TH JULY '83 INCLINATION: -900 LOGGED BY : J.A. FLEMING TOTAL DEPTH: 347 BEARING: ____ COMMENTS: VINDA CP. AND Mb. OCCUR IN CHLOUTE-EDIDOLE REC'Y/HOLE ALTERDO Q.F.P. CUTTING BANDOD (BEDRED) FINE 1008 ALTERATION CTURING MINERAL OLOGY Sus I DE SECTION DRILLING INTERVA % CORE RECOVERE GRAINED SILLE TUFF (RHYODALITE?) ROD=579 SAMI CHLORI EPIDOTI SILLE MAEN. % R SAMI RAC DESCRIPTIVE GEOLOGY LL. >4 0 0-47 NO CORE - OVERBURDEN HLTERATIONS ; WEAKIN / -> STRONG- W/// -10 FRACTURE DENSITY; LOW-1 -> HIGH 5 DEGREE OF INFILLING, LOW - A - HIGH E MAGNETIC SUSCEPTABLITY: X 10 3CES UNITS R.Q.D. : "SOF CORE IN LENGTHS >14" 20 NOTE SAMPLES STAINED FOR K-SPAR W REBULTS AS FOLLOWS: 10 - WIL STAIN ASSOL. TO FRAIT - PROB. FALSE STN. 30 BO -IN OR PORPHARY - ~ 40 \$ STAINED (NOT PINK MITZ.) 300 -WK STAIN AS & 112 40 3 R 45 43-126 BEDDED, GREY, FINE GRAINED 147 63 0 SILIC TUFF Bdy 2350 1.8 MED TO LT. GRY-GRN. W PATCHES AND 50 40° 7mm GRY OTZ. W. STREAKS OF REDOISH - ORANGE (HEEZO 30), WHITE 5mm caret 200+P) 100 32 (QTZ, ZED AND CALL. VNS); BLK. (MACN. UNLIS) 10 AND DARK GRN. (CHLORITE) + BROWNISH ALT'N. حود ع م 50 V 4 57 CA GRY DTZ.VN

HOLE NO. W-G PROJECT : PAGE NO: 2 OF CASING COLLAR ELEV, GROUND ELEV .: DATE STARTED: REF. TO CLAIM CORNER: Ν. COORDINATES ε.: SCALE: | = 10 DATE FINISHED: INCLINATION: -90 TOTAL DEPTH: 347 BEARING LOGGED BY : ALTERATION COMMENTS: AVE CORE MAN. KSUS REC'Y / HOLE 0 RAL SAMPLE SAMPLE INTERVAL Ξ DRILLING INTERVAL % CORE RECOVERED ECTION URI M Ō MINE % RE(C Ö してもの Ā 5 ŝ Ê R DESCRIPTIVE GEOLOGY 60 30 cm OSP. OF GRY OT. IN ALONG FRAM. 8 O"TO CONE FN.GRNO & SOME CLASTS IN C. ORNO RANGE טד THIN BLE GILS UNUS COT WI-(1/4-4mm). BOG. 15 PREDOM. V-FINE, WHISPI 100 53 PK ZED VNLTS 10 BUT W COARSER COLOUR BANDS (WT. LT. GAN. BL 35 - ET. SILL BANDS 5.4 BRN.) COMP. OF THE THIN LATERS. Bud TUFF 67 SOME STLG. DA NOE PATCHES AND STREAKS (ZES.) -70 ALTERNATES W SEET. OF MASS. TUF. Bod, Ben @ 35° 40 GR1 052 VN- 1 CM SEZTS. = 10-30 cm. THK. 9 100 Bdy 0 300 KK IS SILL - EITHER OF PHILDUTE - DALITE 10 13 18 Jam GRY DTZ. BOMOBLE) COMP. OR SILICIFIED. (H. ANTO MATHS ARE 77 W MAGNI 252 OF RK. KK. GON, HARD DUE TO SILL 45 CROWN WT. 200/CALC VN. 11 80 100 28 R QUTS OTZ-CHL. VNS COMP. PATEN OF BLN (BID?) ANTIN (SKANN?) 87 ALTN'S ARE , PERU, SILIE'N (=), PERU. GAL'N 17 Bdg @ 40° 100 + PERU. BRN. (BIO?) AUTIN AND PERU. EDi (SPOTS 1.5 NT. CARE. W 2450 0073 87 GRY QTZ. VN. AND VINLIS.). MAGNI OLL. AS DISS. STOTS AND 100 21 89 96 BJ 035 THIN (TO DOWN) VALES ŝ MULT. CONTONTED WT. PYL IS FINELY DISSEDD AND ON FLACTS 10 85 CALE & ZED VALIS (DISS > FRACT) WEPI, CALL & CREAMY WT.-10 60' GLY OTZ UN-1.5cm PINKISH ZED, UNLIS TE O CM THK ANE COMM. 97 ABLK. GILSONITE VN. TENT. VN. SER 11: MAON; OTZ (GAY AND FLUSTY -100 = MOLY) OTZ-PIK-CIT, CALC-FIR-EP', 100 87 CALL-ZED-GILS (BLK), FRAG. DON. 15 HIGH (3 QC). LOG. BOG. AVNS 3 Big Pyr, CALC, ZED C BIL GILS VNS 1 10 107 SHOW DISPL. TO 10-30 cm. 43-90 AS ABOVE ID 9-120 FRACTORBEN. W MULT. CALL-FN. GRID GRY MTL. 100 70 1 SAN NAME DIE JERGS OF TUFF AND D.F.P. - ANG. FRAGS ZES HEALED FILAS & SOME PTIGMAR DEF. OF VNS. BOG. DESTENSED. IlliNOL SERVICE 10 117 30° - FLT-SHL ASSOCI IT LAL. GUN, DARKER THAN OTZ. Homos A ABOVE SECTION. SAMA

HOLE NO. W-G PAGE NO: 3 0F 6 PROJECT : CASING COLLAR ELEV .: GROUND ELEV .: DATE STARTED: REF. TO CLAIM CORNER: SCALE: 1 = 10 Ν. Ε. COORDINATES: DATE FINISHED: INCLINATION: ~90° TOTAL DEPTH: 347 BEARING: LOGGED BY : ALTERATION COMMENTS: AVE CORE REC'Y / HOLE % CORE RECOVERED NQ MINERAL SAMPLE INTERVAL CTURIN DRILLING GEOLOGY SECTION 30 SIZE RAD DESCRIPTIVE GEOLOGY 98 74 BEDDED AND MASSIVE SILIC TUPE (CONT.) 120 & FING OF OFP. CUT BY 120-125 DK BAN. (BID.) ANTO . V-MAGN CONTACT OT +maly ZONE MINOR EPI. SCATT. YNLIS CP. IN DIL RK + May GO IN DR TUFF 100 61 10 GRY QTZ. WE OUT BY 10 IN OTZ. UN 34 127 LACOD T 126-310 ORANGE - GREY (ZEOLITE STAINED), MEDIUM 刮 ZED. VNS. 130-191-19 130 SAMP. EFSO ERANED QUARTZ-FELDSPAR PORPHYKY 100 93 (PORPHYRITK GRANDODRITE) W RUNS OF GREY-GREEN, CHLORITE I EPIDOTE I MAGN. 35 CM CRY TUFT 10 ALTERED, BEDDED AND MASSINE COARSE AND'S 137 ·35° 200 250. FINE GRAINED TUPE 440 140 LOARSE GRAINED, APHANDPORAMIRITIC, HYPIDIOMORP. 100 80 W < 10 % ROUND (RESCRED) OTZ. (ETES) PHENOS, GEN. Bdy a 25 5 <5 mm, BUT LOW TO ICM, 30-40% SUBHEDRAL, 10 THIN GTL+ MOLY 147 WT. TO LT. GRN, AND OR. STAINED FELD PHENOS, 25% :93 VN COTS TURE & FORPHIRT 100 83 -150-CHE. AND MAGN. ALTO MAFIL PHENOS I SOME BUCH AATCA 150 GILS TO ZETO 150 HBL? HETERATIONS PRIMARLY A FEW. DR. 200. STAINING 100 81 SHARP 10 CONTRET. OF FELD. PHENDS, FISSOE, W ZED (LANM.) = CALC. UNLIS A 157 V-LT. TO LOC. MOD. SERICITE . ALTN OF FELD. AND TUFF CHL-SERIC (DK.GENESOFT.) ALT'N OF MAFK ATENDS 160 160 N GODO RELICE CLEAN. ON SOME PSEUDO MURPHS DE 100 78 HEL (?) IllAGN. ALT'N IS WK & GEN. ASSOC W MAFICS. QF.P. 10 $\overline{\omega}$ WT. + OR. ZED = CALL VNS. (TD DEM) AND FF'S ARE ABD (5=102) AND CUT GRY OTZ. VNS. ZED. IN'S ARE :3 167 als. -170 FINELI X'ALINE. BUK. AMORP. FYROBITUMEN (GILSONITE?) 170 100 71 OCC. IN MIN. APOTS. W THE ZED-CARBUNS, MYR. RUNS TUFF ~ 5% (max) W DISS, ~ VNLTS, CR OCC. LOC. AS 10 90 SHARP CONT DISCRETE VINLIS (A HO') 177 QFP.

HOLE NO. W-G PAGE NO: 4 PROJECT : OF G CASING COLLAR ELEV .: GROUND ELEV .: DATE STARTED: REF. TO CLAIM CORNER: SCALE: 1=10 COORDINATES: Ν. Ε. DATE FINISHED: INCLINATION: - 900 BEARING: TOTAL DEPTH: 347 LOGGED BY : ALTERATION COMMENTS: AVE CORE NØ REN & SUSC RING REC'Y / HOLE DRILLING INTERVAL % CORE RECOVERED BY MINERAL 790 SAMPLE ECTION Q TE Ξ R EOL SERICI SN SN C % R SAMF <u>GFO</u> mALN SUL RA ω ŝ J **GR** DESCRIPTIVE GEOLOGY N ORANGE- GREY Q.F.P. (CONT.) 180 180 FINE DISSEMINATIONS (~180-200) KM OTZ +A+PY CP, GLS, CALC d? RK. 15 MDD. FRACTO. W MOD. FHICH. INFILLING (F=340) 2 500 100 62 qP., PY WIN at THE PORPHYRY IS MOD. HARD (H=R3/4) b kρ <u>د</u> VM - 5900. 0/85 いたいたいいいいのいいの 187 THE REMM SECTIONS OF TUFF FRE CEN, MET. Ams. Ľ -190-1 Q.F.P 190 TO FINE GRAINED AND SIMILARTO THE OVERLYING 2 100 67 TUPF. FILTERATIONS AND VEINS ARE SIMILALTE THAT IN PURPHTRY, CONTRESS ARE BUTH SHAKE AND v Ø IRREGULAN TO FINGERS OF PORPHYRY CUTTING THE TUTTE 197 QFP- ORANGE V ABD- ZEZ, -200-126-136 20 STR. FRACT 110 100 54 - 137.5 GRY. SILL TUFF. W MINOL BXX. LORE I ASSOC 37.5 -143 QF.P. - ORANGE GREY SERVEITE ANTN 10 -147 BEDDED TUFF - GREY, SHIC Jak) ORANGE OFF. - INT. ZED. VNSE GILS. LACED IN ZED. UNLIS. ABO BLK- BAN (BO AFTEN HEL?) FLITA AM Some AMPHIBOLE LAT HES. -210 W BUL. GLEANTE 2 20 156-160 MASSIVE, F.V. GRND, CHL. ±EPI ± BID(?)+ MAGN. ALTO TUFF. CUT BI THIN 100 73 53 .3 CITZ-MAGN. VNUS AND GRJ. COTZ + 10 MAGN WAS TO ICM THICK. .4 .4 1.9 bold 1 GRY., MANE 167-172 ORANGE Q.F.P. W FINEL GRAINED 4 2 OFP د. ح LESS PORPHORITIC TEXT. 100 73 20 20 3597 1201 < 172 -176 GREAN - GRY TUFF, J GLEAN-BROWN ALTN PATCHES (SEE 310-347) MINOR 4. 1 100 72 ١٥ 116-207 GREY-ORANGE OF. J a. WALCON J 3 PI, CALC. ZED. RK FRESH LOOKUNG J AGO. -3 1227 HOND 7 WESPTZ PY, MOLY, FELD. EUHEORA AND OTZ. PHENOS, SCATT. -230 OF VNS ± MOLT SPOTS. 230 CP, ZED, WNS. 0 O AND 25° TO COLT (+ OZ. WNS 078-90 CP 100 179 227-234 A 2-3cm MULTIPHASE ATZ, PYR, IN OFF. ZED AND GILS WAS CUT OFF. WS 10 44 X LADO TO GRY OT WS. 237 CP. OCCURS IN FARET. IN OTZ. UNS. NINOL 10 cm GREENTUFF 1.4.18 BLECCA DEVELOPMENT

HOLE NO. W-C PAGE NO: 5 OF G PROJECT : CASING COLLAR ELEV, GROUND ELEV .: DATE STARTED: REF. TO CLAIN CORNER: SCALE: 1 =10 Ν. Ε. COORDINATES: DATE FINISHED: INCLINATION: - 900 BEARING: TOTAL DEPTH: 347 LOGGED BY ALTERATION AVE CORE COMMENTS: oNO REC'Y / HOLE WE A SUSC. URING MINERAL DRILLING INTERVAL % CORE RECOVERED RECOVERED EOLOGY ω SAMPLE INTERVAL % REC'Y SAMP INT SECTION CHLORITE SERICITE ORANGE OREY Q.F.P. (cont.) ACT G DESCRIPTIVE GEOLOGY 34 36 Ñ -74C 234-252 - MULT. CRY. OTZ. UNS., GEN. < I CM TR. 5 1 70 4 CUT PORPHYRY WIMINON BXX. A 35 cm Э 100 74 BRECCIA UN/OK OCCURS E 246 J ANGULAR 10 SAM 35 SLIP TO BLK. CAKE. FRAGS. OF FORD, IN DK., WETHILL LIMEY MATRIX. 247 30 CONTAC 252-255 GREEN, FN. GAN'O TUFF. PATCHY BAN. SAMPLE @ 247 11 250 ALT'N (SKARNIACATION?), SHARD CONTACTS. 330 355 -310 GREY-GREEN, ORANGE Q.F.T?, W ~ 570 GAI. QTZ ≠ MOLY SPOTS. GREY-GREEN PORP. 339.97 5 100 75 30 FN. GRID TUFF ككثها COMPOSES ~ 90% OF RX. & ORANCE STAIN ASSOC N W THIN ZED. VALTS. (ENVELOPES ~ 1-D cm TK.) 1 70257 3 ASNMXBMM TEXIS MORE EQUIGRANULAN N - 752 OF SPOT OF MOLY 1 د. ح -260 RK COMP. OF PHENOS. (PORPHYRITE GRANDOIDEITE) IN GRY. OT IN 10 11 4 1 MED. GAND, STURBY TO PRISMATIL MATILS 100 46 1 (PSO DO MORPHS OF HBL?) COMP. ~5-10 DOF RK. -101.0 265 THE ARE ALTO TO A BROWNISH MICA. 1 267 5 KK.15 FRESH LOOKING & SERIC. A. N 7 -50 CONFINED TO ENV. ON OTE UNS. SCATT. 10 6 100 60 QTZ VNS - 3-4 CM TK. H FEN FINE TO MED. GAND GRANITK ZONDLITTS ANE 225 1 CANDITT UP IN THE OFF. 10000000 271 -200 4 cm GRY. QTZ VN 10 W ASSOC SERK. 100 39 ALTN ENV. . OZ. AHONOS TOICM ううつこ うちょうのつみ 287 35 5cm GRJ. OTZ UN -390 10 100 73 SPOTS OF BLK GILS W ZEG IN UNLTS. 292 100 20 295 -3 5 OT VALT. :3 297 +2=0+4-5.

OF 6 HOLE NO. W-6 PAGE NO: PROJECT : CASING COLLAR ELEV,: GROUND ELEV .: DATE STARTED: REF. TO CLAIM CORNER: COORDINATES: N. Ε. DATE FINISHED: SCALE: | = / _ INCLINATION: -900 BEARING: ---TOTAL DEPTH: 347 LOGGED BY : ALTERATION COMMENTS: HOLE WAS ORIGINALLY STOPPED & 221 AND MOUST AVE CORE aNQ TO R-13. BASED ON LOW GRADE COPPER ASSAYS ~ 180-200 S N S REC Y / HOLE MACH . K JUSC RAL MINERAL GEOLOGY DRILLING INTERVAL % CORE RECOVERED THE DRILL WAS SET BACK ON HALE ON 28th July'83 AND DEFEND. ONGINAN STOPPOR 221 ON 24 H. July '83. SAMPLE INTERVAL % REC'Y SAMP INT SECTION H FRACTURI 1200 ORI Ż 072 Acr DESCRIPTIVE Ŧ GEOLOGY Ë £ 34 GREY ORANKE QIEP. (LONT.) 3x ≧ം 6 21 N 10 11 6 1 (a) 27 101,000,0.4 307 SHARP CONTACT 30 10 34 ľ 50 1034351267-30 300 1 40 310-34FT Do - GREEN, BROWN, IFINE GRAINED, MASSIVE AND BEDDED TUFF (ANDESITIC) (SKARNIFED?) 35 20° GREEN & TAN MOSTLY SEA + OLVE GREEN i ~ 40% 317 BANDS IRREG. PATCHES AND STREAKS OF GREASY BLOWN STAIN I MINON ORAVES ZED, STAINED 374 Sent. OR. ZED.+ 10 PATCHES. THE BRN. ALT'N IS 11/ TO THAT IN ABOUT CALC, GILS, VALTS 2. læ 18 1 PORPHYRT. in we 3 cm GLY. 472. W. TUFF 15 MOD. HARD AND FN. GRND I WHISPY, 1) FINE BEDS AS NOTED 1.1 5.8 3 307 THETERATION PROB. ARE; PERV. CHL. W MINDA SPOTS 11 J-3 cm BL W OR AND VILLES OF EPI. THE BAN. STAIN IS AN EARLY (SID.) 5.24 BY DYILE JTICHT PAC 10 -330 OF MED. GENOTURS ALTN. PATCHES OF PASTY LOOKING TUTTEN 1 VN FRADS IN BX CHL = SERL(1) ALTINS ARE COMMON. MAGN. 100 58 KSAMPE! MATELY, W ZED WAS · 2 ALT'N GON. NEOKL W SHORT RUNS OF MOD. INTENSITY うちかったー CATTING OTZINS (310-316, 326-328, 334) in MAGN. AS IRREE. ł 335 25 sem GRY. OTZ. VN. I LADM CORE, VNLT3. 337 FRAZ. FILLINGS ARE GRY. QTZ, ORANGE AND WT. BOG @300- FINE, WHISTY -340 ZEDLITE, BUL GILSONITE AND CARCITE. .1 10 BEDS Pyr. Gov. Dissern. (~1-22). A Few SCATT. SPOB 1 50 100 5 Dml SAUT OF CP. W .4 DYLEPI + MAGN. IN OF QP. NARROW VNLT. ₹ # 14 K 347 - CASING PULLED OUT OF HOLF FND NOTES - BRN STAIN/ALTN 15 CAT BY ALL VEINS TENT. VN. SEG. - BAN. STAIN & VALTS Eli, VNLIS. CUT GLY QTZ UNS - OTZ- GRET To may - MAGN. COLLOAS IN AND ADS. TO CT. UNS. -magn -PYR- OPI VNUTS GUT MAGN. UNS& PATCHES Lage - BRN. STAIN PUSSIA. ANDRADTE GALVITIZATION -PHE-EPI. Zeo - CALL] CLOSE SOME SMALL, ROUND XAS NOTES (RETOISH) GILSONITE

PROJECT: 1983 EXPORATION PAGE NO: OF HOLE NO. W-7 DATE STARTED: 21 ST. JULY '83 REF. TO CLAIN CORNER: GROUND ELEV .: 1234.66 CASING COLLAR ELEV .: SCALE: 1 =10 DATE FINISHED: 23 RD JULY '83 COORDINATES: 15,266.0 N. 14,999.7 E. LOGGED BY : J.A. FLEMING TOTAL DEPTH: 357 INCLINATION: -90 BEARING: AVE CORE COMMENTS: QUARTZ + may VNS. AND V-MINON CP. SLATT. THED. ALTERATION MMENTS: QUARTZ + May WAS. AND V-MINOL CP. SLATT. THES. PINING, FEROSPATTHIC, CHECKITE - EPIDOTE - BIOTITE (?) ALTROD TUFF AND OTZ.-STOCKE - PYL. ALTO TUFF, J THE LATTER RK. 10% RD SH 26 MAGN ASUL SSULPHIDES SSULPHIDES DRILLING INTERVAL % CORE RECOVERED No URING SAMPLE MINERAL GEOLOGY SECTION OCCURING FROM 248'-350' 700 % RE SAMP FRACTU M961 th DESCRIPTIVE GEOLOGY mt) 0 0-53 NO CORE - OVERBURDEN -10 FLITERATIONS: LOW \ / \ -> HIGH \\\ III : "TO CORE IN LENGTHS > 4" RQD -2-FRACTURE DENSITY: LOW-1 -> HKH-5 51 DEGREE OF NFILLING : LOW FI -> HIGH -E -30 MAGNETIL SUSCENTABILITY . CGS WITS X10-3 CHD. -50 1 53-048 61 SEE NEXT PREE 100 57

HOLE NO. W-7 PROJECT: PAGE NO:) OF 6 CASING COLLAR ELEV .: GROUND ELEV .: DATE STARTED: REF. TO CLAIM CORNER: Ν. Ε. SCALE:) =10 COORDINATES: DATE FINISHED: INCLINATION: -90 BEARING: TOTAL DEPTH: 357 LOGGED BY : ALTERATION COMMENTS: AVE CORE DRILLING INTERVAL % CORE RECOVERED RECOVERED REC'Y / HOLE RSusc PHIDES CTURING SAMPLE INTERVAL % REC'Y MINERAL OLOGY ECTION 5 BROW ы FRAC ŝ SUS DESCRIPTIVE GEOLOGY R R EP 202 60 1 4D45° 5HR.+A . BANNED ZEO+ 53- 248 CHLORITE - EPIDOTE - BLOWNISH (BIOTITE?) CALL+GILS VN 100 40 10 1 15 cm THK. FLITERED, PIRITE, CORREGERAINED, 67 FELDSPATTIC, CRISTAL + LITHE TUFF 35° ICM. WT. OTZ. +PYR. UN ¢ 70 MED GRN-GRY, REDOISH-BRN, WRUNS LT. GRY-WHITE. Jem. QTZ+ 10 COARSE GRAINED & ROD TO SUB-FING. FELD. CLASTS. 100 34 Zeo+ CALL+ PYR. VN. 1 COMP. UP TO ASTOF RK. N 5 70 = DARK ALTD. SPOTS IN 3 3 cm wratz w FN. GRND. MATRIX LITHIC CLASTS FIRE TAKEN AS THE 77 MOLY + COTBY 9 CALC UNLT. DARK CLOTS, BUT SOME OF DARK CLOTS ARE CLEARLY ASD 200 ICM VUGT .80-MAFK (HBL') CRISTILS. THE FELD. CLASTS ARE ~ 1-2 mm 1 1 CALL. XALS & ZED. XALS- QUTS OT W. N DIA. 100 53 10 P'R-CHK-MARN ALTN'S, ARE, A PERV. REDOISH-BRN. ALTN. OF THE MATRIX VNLTS OUT BY CALC. WINS THAT PREDATES THE VEINS & WILTS INTENSITY OF BRN. ALTIN SAMRE 687 87 XSAM VARIES FROM NK. TO STRE. OVER DIST. LIM. CHLL HARD TUFF -90 SUCIFIED MAGN, OCCURS IN DR. PATCHES, ASSOC. & FYR. VNLTS. EPi 100 49 15 CLOSELY ASSOC, W PIR + CHR. VNLB. THE BAN ALTD 10 CORE IS SOFT COMPARED TO THE LIGHTER AND HARDER CORE THAT IS PRUB. SILLIFIED. SERVITE IS ASSOC. W FRAG. 4 Scn Pyrt 20 - Fine 97 1 MAGN. VNLT. SLIPS (EG. 130-131, 154-157) MAIN FRACT. FILLINGS ARE (IN TENT. SED.); QIZ ± -100 Ŋ CALL+ZED, MOLY = PYR PYR = EPi = MAGN, ZED = CALC = FN. GAND. 10 100 73 IN VUG. GRY MTL. I GILSONITE (BLK) MAIN SULPHIDE 15 PMR., GEN ~ 5+98 W DISS & WHLTS, 50° 30m WT, OTZ 107 -IN. 5 PYR. V-MINOL MOLT IN QTZ VNS, NOTED. 45 locm orz MA+ -110 CALL+GRY, FN.GRID TRACT. DENSITY IS MOD. TO MOD-HIGH W FEW MTL. 10 SEGT, OF BXX ASSOC, W SLIPS, SLICK. DN HERED 00 43 RKLACED FRACT, INDICATE SOME MOVEMENT - MINON DUP. NOTED THIN VALTS. ON FR. Ŵ 117 SAMPLE Q 120

HOLE NO. W-7 PAGE NO: 3 OFG PROJECT : CASING COLLAR ELEV .: GROUND ELEV .: REF. TO CLAIM CORNER: DATE STARTED: SCALE: 1 =10 N. Ε. DATE FINISHED: COORDINATES: TOTAL DEPTH: 357 LOGGED BY : INCLINATION: -900 BEARING: AVE CORE ALTERATION COMMENTS: CDAN SUSE. REC'Y / HOLE FRACTURING MINERAL ш<u>-</u> SAMPLE % REC'Y GEOLOGY SECTION RTE SEALITE BROWN EPIDO 0HO DESCRIPTIVE GEOLOGY -/20 40 53-100 MOD DK. ALTO TUFF. J STR. BRN. 100 64 DO DCM ZEST CALL +PYA TOL GRY, FN GAN'S 10 ALTN MOD - HKH FRACT. DENSITY Mrc. SAMLE & 125 127 100-171 Mixed MED-LIGHT JO MED-DK. ALTO TUTT STRG BEN. ALTN, & LOCALLY SOFT 60° ICM UT. OT. UN.W PYR. -130 WHITE (SERK.) ALT'N OF FELD. (E6 130-155') SHRS. S SERK. ON 10 100 67 Ø TES & W CHEN ULATED ZED. VNLIS . ALSO INFUSED & CILS. FER SERIC ATO 1137 1, 1 -140-1 10 53 10 147 45° SLIP/SHKWAII YNS OF OTZ SOME 1) 1 CALL AND GILS -150 55° 3 cm sH120 13ANDED OTL, ZE, CARL, VN. 1 100 57 10 4 35° ICM PYR, MAGN + CALC. VN, STRG. SERIL, FALTN, 11 1 157 1 Same -160 ý 10051 10 25° 2 cm 200, CALC 1, + GRY MTL. 4 167 -/70 1 100 53 10 177 *SOME

HOLE NO. W-7 PAGE NO: 4 0F 6 PROJECT : CASING COLLAR ELEV .: GROUND ELEV .: REF. TO CLAIM CORNER DATE STARTED: SCALE: 1 =10 Ν. Ε. DATE FINISHED: COORDINATES: TOTAL DEPTH: 357 LOGGED BY INCLINATION: - 90° BEARING: -ALTERATION AVE CORE COMMENTS: NQ REC'Y / HOLE 5EALITE | FRACTURING Ash \$ 505- \circ DRILLING DRILLING INTERVAL % CORE RECOVEREC MINERAL GEOLOGY SAMPLE SECTION % RE SAMP Ø Beuw CHLO 245 DESCRIPTIVE GEOLOGY 70 100 45 MOLY SKN. ON 177-185 LT. GRY - WT., SILIC AND IHARD FRACT. J CALE 100 53 -Zez 10 VARIETZ & SOME BRN. ALT'N. 185-190 DARK REDOISH-BRN TO BLK, HE 187. DARKEST SECTION OF HOLE - NOT DUE TO MACN. NЬ 190-200 MOD. BEN. ALTN. MULT. VALTS. OF. -190 40° a cm. GRY QTL W MOLY, PXR. ZED, CALL, OR = MOLT. 120 54 10 6 40" SLIP I I/ VNS. 200-248 DARK CHL. - PYK + MAGN ALTO ZEO, CALL, OTE MAFIL SAD AND GLOTS MURE ABD. (-10%) AND 197 35°ICM OTZ +PY COARGER (TO ICM), RK. HAS MOTTLED AREARCE. -200 THE MATRIX IS WHITER AND MORE SILL THAN p 63 10 45° OTZ VN I OF. PYR., MOLY. PREVIOUS SECTIONS (SILLIFIED?) SOME OF THE SOFTER, Mb. LIGHT ANTO ENV. ON FLACT IS PRUB SERIC. BRN. 60° PYR ON FR. ALT'N IS MORE GREASY LOOKING THAN IN ABOVE 207 SECTIONS. RK V- MOTTLED 230-245 W. 10-15% 20 1 cm OR VNS 1 ° 50° 60 32 DK. CLOTS OF CHL + PYR+ EPI + MAGN IN LT. 10 GRY-WT. SILK. MATRIX. DK SPOTS COMMONLY LACED I P/R. HEALED FR. GREAST BAN. LORE IS GEN. HARDER THAN ABY. 27 SECTIONS, SUGGESTING SILK. ALT'N OF TUFF. MAGN. OCL. IN DK, IRREG. PATCHES TUSCOM 3 40 CALLAYE ON FR 0049 10 DIA. J ABD. PYR, RL. V-PYRITIC. som SAMPLE @ 2000' 16 JUFF TEXT IS PARTIALLY MASKED WHERE 45° PX. TMOLY ON FR. TMOLY ON MATRIX IS LT. LULOURED AND SILL. A PINKUSH COLOUR 207-> (FELD.) IS NOTED IN MATRIX - 240-250. ୶ଽ୰ Mb Them WI OTZ 90%00 60 60 10 NOLY SPTS. THRO, LT. ALTO RK. + FEN BLERS 237 OF OP. BLK. GLS. IN VN

HOLE NO. W-7 PAGE NO: 5 OF 6 PROJECT: CASING COLLAR ELEV, GROUND ELEV .: DATE STARTED: REF. TO CLAIM CORNER: SCALE: 1=10 N. E . DATE FINISHED: COORDINATES: TOTAL DEPTH: 357 LOGGED BY : INCLINATION: -90 BEARING: ALTERATION AVE CORE COMMENTS: NQ Sus-REC'Y / HOLE ШΩ FRACTURING SULT.... DRILLING INTERVAL % CORE RECOVERE SAMPLE INTERVAL % REC'Y SAMP INT MINERAL GEOLOGY RITE SECTION He Ins & BROWN SERIC. 0 SILC DESCRIPTIVE GEOLOGY 24 90 FELDSPATTIC CRISTAL TUFF (CONT. Sto. 2 100 51 10 047 ORANGE 200. WS 248-350 MEDIUM TO LIGHT GREY-GREEN, -350 43 100 QUARTZ- PARITE - SERVITE ± MAGN 10 55° 3cm OTZ. W FLIERED, COARSE GRAINED CRYSTALL moly. LITHIC TUFF. 3 mm son salk 257 M Jam OTZ. VN. THIS RK IS V-SIMILAR TO THAT ABOVE INTENT. δ W. ATBHT PACK OF FED. CLASTS (1-2mm) IN A 100 43 ZED. +PYR. VNUS 10 LT. SILK. MATRIK STRE. LT. GRN TO WHITE ALT'N NARRON, G. ALTN SAMP ENV. ENV. ON PYR. YNLTS CRISS-CROSS CRIL (FORM OF 267 STOCK WORK.) BROWN ALT'N IS NOT STRG., WHEREAS THE 20 SERK. ENV. 1 LT - BLEACHED ENVS. (SERICITE ALTN) TO 2-3 cm ON PXR. 100 35 VNLTS ento 10 1 ON THE PIR. VINLIS, FARE COMMON, RK.15 V-PIRITIC (5-107) W DISSEM & VINLIS. SILLIFILATION OF 35° I Con ATZ+ PYR & maly ערב MATRIX 15 ASSUMED FOR THE HARD SETTIONS NOT ATTECTED BY THE SERIC. ALT. ENVS, MAGN. 30 Ņ 45 SERIC. ENNI ON PAR OCCURS AS IREG. PATCHES TO 3-4 cm. CHL. 100 32 10 UNLIS ALTN IS WEAK TO NOT EVIDENT. MAIN F.F. ARE P.R., ZED, CALC, QTZ. AND 45°5500 012-387 MINON GILS AND FN. GRID, GRY, SOFT MTL. PTA & SERC. EN. -390 100 68 BLK MAGN. CLOTT 10 CUT ST LT. ALAS 297

HOLE NO. W-7 PAGE NO: 6 056 PROJECT : CASING COLLAR ELEV .:. GROUND ELEV .: DATE STARTED: REF. TO CLAIM CORNER: SCALE: 1-10 Ν. Ε. COORDINATES: DATE FINISHED: INCLINATION: -90 TOTAL DEPTH: 357 BEARING: LOGGED BY : ALTERATION COMMENTS: AVE CORE MACN & SOM DRILLING INTERVAL % CORE RECOVERED M SIZE REC'Y / HOLE FRACTURING SAMPLE INTERVAL % REC'Y SAMP INT MINERAL GEOLOGY SECTION E BROUN SEXK. CHLORI DESCRIPTIVE GEOLOGY -300 5 to dem. SERIC. ENV. amp 100 58 10 ON PR. SM. A. SAM1. & 303' 1 50º Icm. P.R. +CALE 307-W 55° PAR. Sons, ~ Sonk, ENV. +QTZIMOLY WS -30 10 100 62 1 45 4 cm GILSONITE ١ SOMED & VEIN/ TO OTZ. WS. 1 30°- 3-4 cm GILS SOALED BAND. 317. ١ OTZ UNITS E 30° CUT BY 5000 PYLW.) 3 100 63 10 ICM ALTNENUS ON 397 PTR. 503. 050° 1 -330 35° 10 cm & VN J FRASS OF OTZ 100 63 10 CALC HEALED W CALC, GILS, 200. 45° I EM PYR. SM TO SERIC ENV. 337--340 450 1 1263 10 MULT. PIK 3MS W SERIC ENV. Samo 317-N BLIK GILS. W CALL. -ZED. VN COOP -350 350-357 RED-BROWN, COARSE GRAINED TUFF 1 100 61 10 35 SERIC, EAV. 1 1 LESS SERIC. PLOW ON SMSASTR. REDNISH ACTIN ON PR. Sm. . 1 1 357 END OF HOLE - CASING PULLED SAMPLE = 356 357 PLASTIC (PVL) CASING INSTALLED TO BORK

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