Sample Nº	Location	Length	Description	Au	Aq	Pb	Zn	Remorks.
	Zone I - Lower							Channel Somples
4 95251	E. contact to 5'	5'	L. S some oxidation	8.005	18.7	7.8	26.2	
+ 95252	" +5' +0 10'	5'	1	0.005	12.6	7.2	29.7	
+ . 53	+10' to 15'	5'		tr.	9.50	9.3	35.6	
4 54	" +15 +0 26'	5'		tr	5.58	2.7	18.4	Composite
- 55	. + 20 25	5'		0.01	10.6	1.8	5.9	0.06%
+ 56	+25' 30'	5'	•••••••••••••••••••••••••••••••••••••••	0.02	16.8	2.8	48	
L 57	- + 30 · 35	5	· · · · · · · · · · · · · · · · · · ·	0.02	7.72	3./	2.6	J
	Zone I- Upper.							
1 95258	E. contact to 3'	3′	Grey sil. Is.	0.005	6.80	0.03	1.09	9
+ 59	+3' +0 5'	2'	Vol. band , some py .	tr	0.16	0.01	0.62	5,00
4 60	11 - 45' to 7.5'	2.5'	" a oxidizad	tr	0.70	0.02	0.28	
7 61	" + 7.5' to 10.6'	2.5'	Ls. oxidized	0.005	0.58	0.03	0.12	
7 62	" + 10.0 to 156	5.0'	L.s. consid. oxid.	0.01	9.70	0.05	0.57	
F 63	+ 15.0' to 17.5	2.5	L.S. " "	0.01	7.74	7.47	0.62	
+ 64	·· · + 17.5' +0 20.6'	2.5'	Mognetite - acts on Ls. some oxid. compos	0.015	4.02	0.03	0.52.	
	Zone 2 Tre	nch I						
4 66765	W. contact to 1'	,.	Sil. Is bond in schist.	. 005	0.80	016	0.8	-20, 1/66, 2.65
1 66766	W +1' to 4'	3′	" 1.5 schisted	.01	3.66	2.8	4.0	
66767	+4' to q'	5'	Frec. sil 1.s	.005	1.34	0.5	1.7	(1)
1 66768	++' to 13'	4'	" 311.1.3	.02	1.74	1.0	2.8	19 19 19
+ 66769	+13' to 16'	3'		.02	1.14	0.2	1.6	3 4 6 60 - 12 67
L 66770	- " +16' to 28'	5'		.01	4.72	3.6	4.1	.28 4 13 01 00 51
-, 66771	+ 21' to 26'	5'	Sil. 13 schisted	. 005	0.70	0.5	0.5	
+ 66772	+26 +. 29	3	Greg. Is. minor sil.	.005	0.46	0.6	1.4	
1 66773	· - +29' to 33'	4'	Hass. sil. 1.5	. 605	0.36	0.7	0.2	
+ 66774	·· · + 33 +0 35.5	2.5		.005	2.14	0.8	0.4	
1 66775	35.5' 16 37.5'	2!	Dk. quey 1.5. min sil.	Tr	0.36	0.1	0.4	
	Zone 2. Ti	ench ;	Resample					
66817	W. contact to 1'			Tr.	0.76	0.05	0.99	
	" " +1' to 4'					0.38		
	+4' +09'					0.83		
	+ 9' +0/2'					0.48		30 samples
	+12' +015'			0.01	1.44	0.03	1.71	

Sample No	Locotion	Length	Doscription	Au	Ag	Pb	Zn	Remorks.
	Zone Z - Trench	I Re	sample contid					
66822	W. contact +15 to 20'			0.005	2.08	0.76	1.56	
23	- + 20' to 25'					0.15		
. 24	" +25' +0 2F'					0.25		
25	·· + 28' + 32'					0.25		
† 34	·· ·· + 32 · +0 37					0.23		
7 34	F 32 F8 37				, 00			
			i i i i i i i i i i i i i i i i i i i					
					3			3-4 - 7.8 - 7.8
	Zone Z Trench					, ,		an _ 77 535
	W. contact to 5'		Sil. froc. 1.s.			4.5	10.6	Ponel Samples
52	·· - +5' +0 /0'		·		1.80		2.3	
53	+10' to 15'	5′	•	tr.	0.40	0.1	2.5	- p
54	·· ·· + /5' +0 20'		" massive "	0.005	1.66	0.1	3./	,
<u>. 55</u>	+ 20 +0 25	5΄		0.01	0.70	0./	2.3	,
+ 56	·· + 25 + 30	5'	Linney schist.	0.01	0.92	0.2	4.5	
+ 57	+30' + 35'	<b>5</b> '	<u>.</u>	tr	0.50	0.1	2.B	
<b>*</b> 58	+35 + 40	5΄	Arg.? schist	tr.	0.18			
	Zone 2- Tren	ch 2 -	. Resample.					
66835	W. contact to 5'	5′		0.015	4.30	0.53	9.67	Channel Samples
36	+ 5' to 10'	5		0.01	0.90	0.13	2.99.	
37	- · + 10' +015'	<b>క</b> ′		0.01	0.32	0.15	2.89	
38	+15' +020'			0.01	1.78	0.25	1.94	
39	· · · + 20 · +•25					0.28		
	·· ·· + 25 +0.30	5.				0.25		
- 41	·· + 30 + 55	5′						
	- +35 + 40	5		0.43		0.05		
42	+35 +6 46	3		0.005	0./2	0.63	0.56	
	Zone.2-Tre	nch.3						Pond Somples
	W. contact to 1.5'	1			0.82		<del>-</del> .	
66877	·· - +1.5. +0 3.8'	2.3'	Schist + gouge + 311.1.s	tr	5.72	1.5	0.7	13-16 3 1 . 66
66878	" + 3.8' + 0.5.8'	2.0'	11 + altered " "	tr	9.42	5.6	3.2	18.1" 31.5
+ 66880	+5.8. +010.8.	5.0'	Massive sil. 1.5.	0.005	3.70	6.3	4.7	Cd 0.02.
4 66881	+ 10.8' + . 13.8'	3.0'	", troct	tr.	2.90	0.7	10.7.	187620 301
+ 66882.	+ 13.8' to 18.8'	5.0'	Grey " - "	tr	0.70	tr	7.0	/ 35 35
, 66883	·· ·· + 18.8 +0 23.8	5.0'	e. w ti ei	tr	1.20	0.2	3.0	,,
7 66884	+ 23.8 to 28.8	5.0	Highly sil + front 1.s.	,,	1.56	0.4	2.3	30 samples
			Schisted limes arg.		0.22	_	-	

Sample Nº	Location	Length	Description	Au	Ħq	Pb	24	Remarks
	7. 7	./ 7				Was .		
	Zone Z. Tren				2.5			Special Sample
+ 66879	W. contact + 5.3' 1658	0.5	Schisted off. sel. 1.5.	.01	21.5	16.8	9.8	Special semple
		2-1-1						
						9,50		
	7 7 7	-/ -	P 1					
	Zone Z - Tren		Resample.					Channel Samples
	W. Contact to 1.6'	1.6'			1.02	7	0.81	(65.0)
+ 66844	+1.6' +6 3.8'				9.50	0.15		
F 66845	· + 3.8' to 6.0'			6.025	7. 58	0.18	2.99	
+ 66846	+6' +0 11	5.0		0.01		0.13	5.93	
T 66847	·· -+11 to 14'	3.0'		0.005	2.48			
† 66848	+14' to 19'	5.0'		0.01	1.50	0.03	6.07	p+
66849	" +19' to 24'	5.0'		0.03	1.46	0.03	3.4.6	
+ 66850	+24' +0 29'	5.0'		0.005	2.04	0.03	1.71	
								Reconsolidated
	Zone 3 - Tren	ch Z.	Mn. wad + Imanite					rubble - rot in
+ 66900	Went to 5'	5′	Fract. sheared 1.5	0.02	9.44	3.6	1.1	
+ 66873	" " + 5' +0 16'	5'	Frost sil 1.5.	0.005	3.60	1.7	1.2.	
4 66874	+ 10' to 15'	5'	Rubb 4 1.5.	2.005	3.72	1.6	1.4	
	+15' to 19'	4'	Froct. soft gray 1.5.	0.01	1.68	0.2	0.5	
	Zone 3 - Botto	m of	bluft below + to E at	Trence	s z.			
+ 66832.			Lt. grey brece. 1.s			0.2	0.6	
			Highly sil. 1.s. green olt.					Ag ossey to come
		8 1						
			7					
	Zone 4 - Tr						0.52	Only minerolized
95306	Nend trench + 10 to 145	4.5	Lightly 511. 1.3.	Tr	0.04	0.03	0.32.	section in trench.
			•					(2) - 1. N
	Zone 5- Tre							Trench bottom
			Gouge + weathered Is.					+ possibly leached
66746	· - + 3.5 +0 8.5	5.0'	Fract. 311. 1.3.	0.01	1.66	0.1	1.6	rock. Mineralization
4 66747	· + 8.5 + 6/3.5	5.0	<u> </u>	0.01	1.18	m	0.4	depth as evidence
1 66748	- + +13.5 to 165	3.0		+-	.76	•	0.7	IN Zone 16. Tr. 2.
1	- + 16.5 to 21.5	.1	Gouge + crushed 1.5.		.60		0.3	21 samples

Som	ple No	Location	Lengti	Description	Au	Ag	Pb	ZH	Remarks
			, ,						
		Zone. 5 Trend				N.	1		65
		RP + 6' +0 11'	5'	Massive lightly sel 1.5			Tu	0.2.	2.14 2.53
	6751	+ 11 +0 16	5	" sil. green alt.13			3.8	2.7	
	6757	+16 + 21	5'		-	1.42	2.9	1.8	
· 6	6753	" +21 to 26"	5'		0.005	1.32	0.6	1.6	Cd-Trace
6	6 754	. +26' + 31'	5		0.01	6.12	4.0	1.7	<del>/</del>
+ 6	6 755	+31 to 36	ວັ′	Brecc I.s.	0.005	1.74	0.4	3.2	Gd-0.05
									<i>e</i>
						1.			1 7.70
5.5		Zone 5 Trene	4.3						
+ 6	6859	T.p3 + 17.3 5. +0 22.3	5'	Fract. sil. 1.3	tr	1.38	0.2	1.4	p)
1 6	6860	+ 22.3 + 28.8	6.5'		0.01	4.62	1.8	3.0	1 2000)
+ 6	68 61	. + 28.8. 4 29.8.	1.0'	Black gouge	fr.	0.30	0.1	0.3	
+ 6	6862	" + 29.8° + 34.8'	5.0'	Fract . sil. l.s.	tr	tr	0.1	0.7	
+ 6	6863	. + 34.8' +639.8'	5.0		tr	0.34	+	0.7	Special sample # 66865 sent for
	66864	+ 39.8' to 46.8'	1.0		tr	0.14	0.1	1.6	Au + Ay . 23504 0 = 14 - No voluce.
	6865	" 136.8 to 37.8	1.0	, , ,	7r	+1			
		7 - 5 - 1							
		Zone 5. Trench						122	Main trench did
4 7	3 30 /.	W. end of trench	Grop		tr	1.72	0.73	7. 33	mot get down to
					1-1				
								2	
		Zone 5. Trench			5 73				Considerat/e
	5293			Highly sol. I.s. mossice	tr	0.46	2.05	1.33	pyrhotite + rHod.
4	94	10'to 15'			+-	0.48	0.05	0.81	
+	95	/5' to 20'		<u> </u>	0.005	0.44	0.03	0.81	
st	96	20 1024	4.0	" " -	tr	0.16	0-03	0.62	
<u> </u>	97	" - 24 / 27	3-0	Crushed L.S. + gouge	tr	0.16	0.03	0.43	
4	98	- 27 to 30	3.0	Highly sil front 1.5.	tr	1.58	0.03	0.81	
+	99	Face of bluff	5.0'	Lightly Sil. 1.5.	tr	0.04	0.03	0.47	
+ 9				Highly sil. 1.5.	tr	0.08	0.03	1.71	
*	01	" " 40 +0 45	5.0	Lightly sil 15.	tr	0.62	0.05	1.99	
4	02	45' to 50'	5.0'	" - sheared 1.5.	0.01	0.96	0.05	2.84	
+	03	60' to 73	5.0	Highly sil. 1.5.	tr	418	1.01	1.42.	
									24 somples
									103'

5 /- Nº	Locotion	Length	Description	Au	Ag	P6	Zn	Remorks
Sample Nº		~//y/#		770				
	Zone 6 50	erface	outcrop.					
+ 66829	W. contact to 5'	5'_	" Weatherd grey las minor si	.005	242	11.8	1.6	Considerable
+ 66830	n - +5' +010'	.5'	5:1. /s.	tr-	0.66	8.3	1.6	
+ 66831	" " +10' +015'	5'			0.94	0.4	2.4	
4 66828	u + +15' +0 20'			.005	1.86	1.0	1.5	Cd- 0.05
+ 66827		MEDICAL SERVICE	" + some chert		.74		1.2.	22-0.05
+ 66826	+25' +0 30'				1.22			
	7 8 7	-4 -						CL 15 1
	Zone 8 Trend to 21.6 Evend of trench + 165'					,		Channel Samples.
			Shaffered + leached 15.					· 04 Cd.
+ 66735			Sil . 1.s. green oltersto				1.7	.25
t 66736				.005	6.34	3./	6.1	1.31 cd.
+ 66737	+3/6 +3/66	3-1	и и и	.01	2.72	1.2	5.1	tr ed.
66733	·· - + 36.6 to 41.4	4.8'	Vary =il. "	.01	4.70	2.6	3.6	. 09 cd.
× 66738	n - 41.4 to 447	3.3.	Grey borren 1.5	tr	+-	tr	0.3	tr. Cd.
66732	44.7 % 45.8	0.81	5il. grey. l.s.	.02	8.30	4.4	3.2.	V tr Cd.
¥ 66739	45.5 % 49.5	4'	Grey borren 1.5.	*	to		0.3	tr cs.
			6					
	Zone 8 Trench	z	Resample					Panel Samples .
± 59996	Eend trench 20.5 + 24'	3.5'		tr	1.04	tr	1.0	Cut along bottom
× 59997	"+24" to 27	3.0		,,	0.52		1.3	of 5. well. on.
£ 59998	·· ·· +27' +0 29'	2.0		.02	4.00	1.2	2.3.	85 3 A 6 W
1 59999	" - " 29'. 16 3)'	2.0		.30	9.54	1.5	2.3	48 5 46
		2.0		.01	8.10	3.2.	7.8	
	33 + 35	2.0		.005	2.02	1.2.	5.7	
	35 +. 375	2.5'		.005	14.6	6.7	10.1	3 5 5 6 6 6
9 4 4	37.5 + 39.5	2.0'			2.76	1.3	8.5	
		5.0'						
							7.6	
+ 66764	·· 44.5 to 49.5	5.0'		.005	4.36	3./	3.4	J:
	·							
- W								12-
								24 sample
								9.7
					0-4			

<i>c</i> , ,			sen. Ashby Pro		1	DI	1 -,	17
Sample Nº	Location	Length	Description	Hu	119	Pb	211	Removes
	Zone 8A-Tr	ench - 1						
95265			511. Is greenalter	0.005	0.94	0.03	1.91	
	+5' +0 10		the rest of the second	-				The state of the s
		1 8 . X.						
+ 67	- +10' to 15			1000	0.14			
+ 68	· - +15 to 20				2.00			
+ 69	+ 20 +027	1 2		0.015	1.96	0.06	9.9	6 (X)
t 70	+22' to 25	3	Minor sil gray limestone	0.08	61.26	20.64	2.3	7 (X)
							-	
					137			
	Zone 8A. Tren	ch- 2.			8			100 46 20
95271	E contact to 2'	2'	J.l. J.s. some oxi dation	0.005	2.30	1.5	2.5	46 0 0 0
		1		le some				57.01
013042	+2' to 4'		Fed Mn gouge.	Page 1	100			
73	+12' +0 /6/		sil. 1.s. prece.	Maria.	27.4	10.4	3.7	
75	·· + 16.1 +0 18.1	2.'	Minor sel. 1.5 "	0.02	2.80	1.3	2.1	5.8 70
		- 3						
	Zone 10 - Tre	nch 1						
4 95276	R.P. + 35' +0 40' W	5 '	sil.1.s prece.	0.01	0.22	0.05	1.18	Pyrroh. + rhod.
_ 77	- 40' +0 45'	5		0.01	0.26	0.03	1.32	1
78	· 45' + 0 50'	5		0.01	0.40	0.03	2.69	X
		5'						
79	" 50' to 55"			0:005	0.08	0.05	0.71	Non mineralized
+ 80	110:5 to 115.5	5	"	tr	0.01	0.12	0.03	•
81	" 115.5 to 119.5"	4		0.01	0.12	0.03	0.76	Pyrroh. + rhod.
† 82	" 1195 to 124'	4.5	<u> </u>	0 003	0.36	0.05	0.66	
4 83	" 124' to 129'	5'		0.005	0.16	0.05	0.29	
<i>→</i> 84	" 129 to 134"	ร์	v	0.005	0.24	0.05	0.62.	
7 85	" 13 4 to 136.5	2.5		0.015	0.88	0.05	0.95	
+ 86	136.5' to 139'	2.5'		0.02	1.00	0.03	0 28	
	· 139' to 141	2.0'		0.01	0.58	0.03	0.85	
			Minor				ş. =	
4 28	" 141 to 143	2.0'		tr		0.03	0.62	
+ 89	· 145' to 148'	5.0'		+-	0.48	0.05	0.38	
4 90	·· /48' +0 /53'	'ه∙ِدَ		tr	0.20	0.03	0.66	
+ 91	n 153' to 158'	5.0'		tr	0.04	0.03	0.76	·
1 92	/58' +0163	5.0		+-	+-	0.05	0.05	27 samples
		8						115.6
			Y					

Sample 110	Location	Kength	Pescription	Au	Aq	P6	Zn	Remarks
	Zone 10 - Tre	ench 2	(Trench loter dec	pen ed	+ leng	thene	d - u.	se doto below)
- 66740	R.P. to 5' E	5′	511. 1.s. breec.	0.005	. 82	+-	1.1	
1 41	+5' to 6.5' E	1.5'		0.005	.64		0.3	
4 42	+ 6.5 E to 11.5	5.0'		0.04	3.22	2.0	5.6	Ded-0.19
+ 43	+11.5 +0 17.5 E	6.6	,	+r	0.70	tr.	1.0	cd. tr.
+ 44	" +0 5' w	5.0	From weathered 1.5	. 005	0.80	1.0	3.6	cd-0.06
	Zone 10 - Tren	ch 2	ofter deepening					(A () 3 12 1
- 66866	N.E end to 3'	3'	5.1. 1.5	0.005	2.18	. 4	2.2.	1
67	+3' 105'	2'		0.01	3.66	2.8	3.4	1-1-12 54 1,5
48	+5 +010'	5		0.01	2.16	1.4	1.1	TOWN TO AS
69	+10' to 15	5	cherty	tr	.96	0.7	1.5	1 13 35 15
† 70	+15' +0 18'	3		tr	1.22	0.6	1.3	Rho donite
71	+18' to 22'	4'			2.62	2.3	5.1	Cd - "0.03
+ 72	· - + 22 ' + 25'	3		tr	0.86		2.0	
+ 88	- +25 % 30	5′	Minor		0.64	0.3	2.6	
+ 89	+30 +032'	2'	- ·		0.68	0.4	1.9	V
112	·· · + 32 +0 37	5'	Weathered , leached 15.		0.38		0.5	
¥ 90	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Wealthream		0.00	Jagon.		
	7 0 7							
95344	Zone 10 - Tr Evend + 10.5' + 15.5'			1-	0.30	4.45	1.64	
							7-4-1	
. 05	+15.5 +, 205	5		10.	0./4	0.83	0.48	
						1		
	7000 11 - Tr-	ach I	(First samplin	)		<b>\$</b> 1.5		
+ 61.001	IN. band mineral		Sil. Is froctured		5.80	2.3	2.3	(x)
							1.4	
7 66887					, 08			
			(Second sampling	e, )				R42 1.49 1.60
					2.36		1.5	
	At E. end Tr.	,,	/. / -		4.46	1.3	7.3	
	E. band mineral		sil. I.s.					
+ 66892	E. band mineral  E. end + 16' to 19'	2'	<b>.</b>	•	1.30	0.5		
+ 66892	E. band mineral	2'	511. 1.s.	•		0.5		
+ 66892	E. band mineral  E. end + 16' to 19'	2'	<b>.</b>	•	1.30	0.5		
66892	E. band mineral  E. end + 16' to 19'	3'			1.30	0.5	2.4	23 sample

sample Nº	Location	Length	Description.	Au	Ag	PL	$Z_n$	Kemorks.
	Zone Il Tre	anh	7					
66895	1'- 5'	I SHOW	51. 1.5. brece.	T	0.84	1.3	2.9	
			on. 1.5. Drece.		Tn.			
66896								0
+66897	7- 9.5'	2.5	Shear in sil. l.s.	7-	6.80	2.9	7.7	(X) CJ 0.03
	Zone II. Tres	ich s	<u>L</u>					
66898	6" from dike to 3'	3	Sil 10/1.1.5.	tr	.46	0.2	0.3	
66899	3'- 3.	3.6	n + n /.s.		.96	0.6	0.4	
								5
	Zone 12 - Tro	ench	<i>;</i>					
66802.	IN. Contact to 5'	5-1	Brown weathered 1.s.	tr.	0.20	0.1	0.2.	
66803	+5 +0 10	5'	sil. dk gray l.s.		0.22	+r	0.6	
66804	· · +10 +0 15'	5'	I.s. groen olt.		0.24	0.1	0.4	
4 66 805	+15 + . 20'	<b>ລ້</b> ′			0.40	+r	0.7	
+ 66805	" + 20 to 25'	5'		,	0.50	0.3	0.5	
+ 66807	+25 /030	5'			0.50	0.1	1.3	Cu-Tr.
- 66808	+30 + 35	5′			0.42	tr	1.3	
- 09	. + 35 +046	5			0.36	0.2	1.0	
- 10	+ 40 +6 45	5			0.24	た	0.7	
r 11	45 % 50	5'			0.28		0.7	•
+ 12	50 4055	5 '	·		0.20	0.1	0.5	
+ /3	" - 55 +060°				0.82		1.4	Ø
+ 14	60 to 67.5	2.5		. 665	0.82	1.1	1.3	(X)
-1 15		1.5	FW. Gouge Fo oxid.	tr	0.22	0·z	0.4	
+ 16	59'+060'	,	5:/. /.s.	0.02		5.7	4.4	Special samp do not weight
								79.1°
								20 samples

				7	1			
Sample No	Locotion	Length	Description	Au	Ag	Pb	2n	Remorks.
		~/	1/	1			1	
		11150	ellaneous Som	p les	1			Source not
+ 66729	Fricksen - Ashby		Float from tolus	0.04	5./2	5.5	3.9	occurately determined
			Private Heat holes.	0.05	1.50			
+ 66730	Along Brocken Four	*	Pyrite Host from	0.03	1.50		-	
+ 66756	below old camp	Grob.		0.005	1.74	0.4	3.7.	
+ 59801	entoct 5. of Zone 2.	1		0.005	4.08			
	Pyrite zone W. of							
+ 59807	. top copter landing			+-	0.18		-	
+ 59803	E.ot top copter lauding			+r	0.24	18-7		
			,,				7.0	stort of trenching
- 66737	Zone 8A. Tr-1	••	Heavy galena.	0.04	21.0	12.6	1.4	
+ 66758	Below + N. of Wollers		Skarn zone	tr	0.32			
			51. 1.s. time spholerith				10=	J.J. Tr
7 60/31	Zone 84. Tal		Jul. 1.3. mineral	1				Ant. Tr
+ 66801	- 8A. Tel.		Mossive P.b	0.20	127.4	20.6	1.8	56.3.3
+ 95274	14/. of Zone 2.	•		0.01	6.76	1.72	4.02	
						- / ^	1.70	. Graphite 9 9.64%
4 953 08		14 "		-				9.64%
+ 95309	Line 12 . J.P. Grid		Andesite dike with	Tr	To			
	n.i			-				4-40
	HOIT, KOOT	+ )A/a	11 Sampling.		-			L 4-40
+ 5 9976	5+0 5 +5 W.Wall	3'		0.01	5.16	1.9	3.4	5/55 EP 5 2, 10-2
+ 77	" " cont. ot.78						1.5	6.48.00 118
					Poll Y			
+ 78	Root from W. Wall 3 on W. Wall	4.8		+-	2.72	0.1	2.2	10 Po. 12 12 12 12 12 12 12 12 12 12 12 12 12
+ 79	- +15'1" root	4'		tr	1.48	tr	1.0	3.72 - 4.6
+ 80	+ 25' W. Woll	5'	(	+-	3-04	0.6	3.6	
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81	1 +25 W.Woll	2.'		0.02	3.74	1.0	1.4	7-48 2 0 0 2580
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84	1. 7+0 W. Woll.	7.0'		0.005	4.46	1.2	3.34	3/ 24/ 19 3/ 3/ 3/ 3/
85	- 7+30' W.Woll	2.6'		_	6.9	2.3	5.4	17 4 5 14 6
	. Roof from							
86	" 7+20 Ewell	3.6'		0.005	12.7	5.7	3.5	
87	" 7+10' Root.	4.0'		0.005	13.0	4.0	5.5	
. 86	W. Wall	2.5'		0.44	10.6	1.4	4.5	24 - 11 - 11 - 11
. 86	4 +55 Root down.		3	0.01	,06			
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+			5					
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			- 24					
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### Mines Division

Engineering Report #5

January 1953

# ERICKSON ASHBY OPTION

Mines Series: 3461

# 1. SUMMARY AND CONCLUSIONS

The approximate 150 foot limestone bed, traced for over 1 mile, was known to contain on surface several small Pb-Zn replacement orebodies, the largest being estimated at 2000 tons per vertical foot grading 0.06 Au 10 oz Ag 1.9% Pb and 1.8% Zn. Although of sub-ore grade, establishment of large tonnages would make an operation feasible, and in spite of the difficult terrain, this exploration chance was warranted, particularly in view of our position in the Tulsequah Area.

The showing is very difficult to test and, since the most accessible point to test was some 1000 feet below the surface outcrop, and tomnage to this depth would be necessary for an operation, a test at this location was decided on using three 800 foot drill holes.

As the program got underway, inumerable and costly difficulties appeared that had not been foreseen. As a result only one long hole could be drilled yet an additional appropriation was required. This overexpenditure was occasioned first by the difficulty of access, and secondly by the extent and hardness of the granite porphyry wall rock.

Results of the one hole drilled were negative but one hole only is not a conclusive test. With a vertical to 75° assumed rake or plunge to the depth continuation of this mineralized zone, our one drill hole has tested for depth continuation and it did not extend to that level. If, however, this plunge should be less than 75°, this mineralized zone could continue to depth and not be intersected by our drill hole.

Costs to complete the original program for a conclusive test and the lack of encouragement in the one hole drilled, forces one to conclude that the ore chances have now been reduced, the costs increased, and these costs are excessive.

The option has therefore been abandoned, prior to the first payment of \$ 4000.00 .

#### 2. PROPERTY

The property as optioned consisted of 17 claims as follows:

Apex #s 1 to 7 incl. -#s 129505 to 11 - Work due July 15/52.

Badger #s 2 to 5 incl. - #s A31992 to 95 - Work due July 15/52.

Badger # 1 ----- # A 32150 ---- Work Due August 12/52.54

Badger Ext #s 1 to 5 incl -#A32812 to 16 - Work due Sept 8/52.53

In addition the following adjoining claims were staked by Cominco during the option.

E.A. #s 1 and 2 - A31866 and 7 Work due June 19/53. E.A. # 3 - A65572 - Work due Aug. 419/53. A geological report of work done in September 1951 was submitted in early June /52 to cover the required 1952 assessment work. By July 10th this had not yet been accepted and it was necessary to visit the Mining Recorder at Atlin and protect ourselves. Although at least \$ 7000.00 had been expended at that time, it was on trail work and preparations for drilling only, Under the circumstances this was allowed for Apex 1 to 7, Badger 2 to 5, and later for Badger #1. Still later, the geological report was finally accepted as one years work, and the claim status is believed to be as follows:

Apex #s 1 to 7 incl. -Next work due by July 15/54
Badger #s 2 to 5 incl. - Next work due by July 15/54
Badger #1 ----- Next work due by Aug. 12/53
E.A. 1 and 2 ---- Next work due by June 19/53
E.A. #3 ---- Next work due by Aug. 19/53

Work done in 1952 by Cominco, amounting to 1064 feet of EX diamond drilling on E.A. #3 and Apex #5, has not been recorded.

There are no surface, timber or water licences.

#### 3. OWNERSHIP

The property is owned 100% by Mr. H.C. Bracken and Mr. J. Sve, both of Juneau Alaska. During the option Mr. Sve died and his estate now holds his interest, though Mr. Bracken has power of attorney, and is agent for the group.

While Bracken and Sve legally own the property on a 50-50 basis, certain interests, without loss of control, have been allotted and disbursements under our option were to have been as follows:

Mit	John Sve - Juneau Alaska	41.1%
	Harry C. Bracken - Juneau Alaska	
	Jean Pearson - Juneau Alaska	
Mr	Leroy Ninnis - Juneau Alaska	5.9%
	Fred Behovec - Baranoff Alaska	
MI	Hohn R. McDonald - Tulsequah B.C	5.9%

Total ..... 100 %

#### 4. LOCATION

Lat. - 580 40'N Long 1330 29'W Elevation - Approx. 3500°

The property is located at Tulsequah B.C. in the Atlin Mining Division. The showings lie on Erickson Mountain, a prominent ridge rising to about 4700 feet, and on the south east side of the Taku River, opposite the Big Bull Mine.

From Tulsequah Landing, at the junction of the Taku and fulsequah Rivers, the property is reached by ascending the Taku River some 5 to 6 miles by boat, to elevation about 200 ft.asl. The main surface showings are at 4000 ft. along Erickson mountain. To drill them, from elevation 3100 feet, a pack-trail was built from the Taku River up Erickson Creek to its headwaters in a cirque basin, this trail ascending to 3100 foot elevation in a distance, including switchbacks, of close to 5 miles.

The property is 3 miles due east of the Big Bull Mine or 7 miles S.E. of the Tulsequah Chief. General climate, topography, transportation etc. are therefore comparable, though actual location and topography make the Erickson Ashby more inaccessible than either the Big Bull or Tulsequah Chief.

## 5. HISTORY

The prospect is quite evident from the Taku Valley because of its prominent brown: black stains, so that in spite of its inaccessibility it was staked by Messers Erickson and Ashby in 1929 when mining activity increased in the Tulsequah Area. At that time a price of 1 million dollars was asked, with \$ 25,000 cash. Thus little or no work was ever done and the property lapsed during the depression '30s.

Towards the end of the depression John Swe staked the showings, did no work, and it again lapsed. In 1947 Bracken and Sve, the present owners, restaked and it has been owned by them since that time with only minor work done.

Cominco optioned the property in September 1951 and immediately carried out a 2 week geological program. A 3000 foot drill program was recommended for 1952 and approved. With great difficulties, one hole was drilled, without sucess, and the option abandoned in December 1952.

## 6. FRODUCTION

N11

# 7. DEVELOPMENT

By owners 1929-1951 Very minor trenching and test pitting. By Cominco 1951 - 2 weeks geological program. 1952 - 1064 feet EX Diamond Drilling.

## 8. GEOLOGY

(For full details see Geological Report by J.K. Webb)

The showings occur in a N.W. striking 150 foot limestone bed, with volcanics on either side and dipping almost vertically. This zone is flanked on the southeast by a roughly parallel intrusive of quartz felspar porphyry about 1000 feet thick.

Mineralization is intermittently exposed along this limestome bed for a distance of over one mile, the main or Glory Hole showing, being located near an apparent bend in the limestome bed, suggesting a probable control down the pitch of this fold, and thus offering hopes for good depth possibilities. No definite controls are known. The exposed orezones are Pb-Zn replacement types in the limestone.

Because of the difficult terrain, complete sampling was not possible, but it did indicate a potential size, large enough to warrant exploration at the estimated grade obtained. This further exploration was to be done by 3 -800 foot drill holes. Only one of these holes was completed and results were negative. Little new geological information was obtained.

The log of the drill hole was as follows:

- D.D. #1 plus 2° to plus 8° 1084 feet EX core Recovery almost
  - 831 granite porphyry

- -831 to 860 grey tuffs
  -860 to 1064 Limestone, impure with some bands of volcanics or intrusives no mineralization.
- Hole believed ended in hangingwall zone of lime bed.
- Unable deepen further due to snowslides.

9. ORE

At least 5 mineralized showings are known in the mile of limebed checked. The geological program suggested the most important zone as the "Glory Hole" estimated to be 800 feet long, averaging 25 feet wide and grading 0.06 Au 10.3 oz Ag 1.9% Pb and 1.8% Zn. This amounts to 2000 T/VF, or if the zone extended to a depth of 1000 feet, a tonnage of about 2 million.

Our one drill hole into this zone, some 700 feet below the surface, failed to intersect any mineralization. However, it should be noted that this one hole is not a conclusive test.

Original plans called for 3 - 800 foot holes at 250 foot intervals along the 800 foot mineralized section. A suspected ore control down the plunge of a "bend" in the limestone bed was to be kept in mind, though the angle of this plunge was, and still is, unknown. Hele I was proposed at the centre of the orezone, hole 2 to the south would catch a southerly plunge, and hole 3 to the north would catch a northerly plunge if present.

It was not possible to place Hole 1 as planned. It is located towards the south end of the zone, some 200 feet from its projected termination in that direction, assuming a vertical plunge. Failure to obtain an intersection in this hole means either that the orezone terminates before reaching this depth (approximately 700 feet below the surface) or, that if it continues, it has a northerly plunge of 700 or less.

Since no definite survey tie-in was made between the Glory Hole surface outcrops and the actual drill hole, their exact positions in respect to each other are not certain (See Plate 19). In spotting the hole direction at the drill site, it was aimed directly below the Glory Hole, yet the survey, up the valley, and without tie in to the surface outcrop on the top of the ridge, shows the drill hole to intersect towards the south end of the projected orezone, or some 400 feet south of where it was aimed for at the drill site. Thus two hole positions are shown on Palte 19.

In any event, however, this intersection, in either location would cover a downward continuation of the mineralized zone from a vertical to a 75° plunge. Should the plunge be less than 75° however, the orezone could continue at depth and be missed by our drill hole.

Our results therefore are not entirely conclusive in regard to the ore possibilities, but have been rather conclusive in regard to development costs, the 1064 feet drilled costing \$ 36.70 per foot overall. To complete our original program, and drill two more holes for a conclusive test, would require a full seasons work and at least 2000 feet of drilling. While costs would be lower for a second season, it is thought they would be approximately \$ 20.00 per foot, requiring an appropriation of \$ 40,000 plus a minimum \$ 4,000.00 option payment.

For the remaining ore chances, such heavy expenditures did not appear justified.

### 10. PRODUCTION COSTS

Not investigated.

## 11. DEVELOPMENT COSTS

To explain these high costs considerable detail is advisable.

The decision to diamond drill was made after a 2 week geological program, carried out only at the top of Erickson Mountain on the mineralized lime bed. Drilling on the mountain top would be the normal procedure. with short holes, but this was considered impractical due to inaccessibility and complete lack of water for drilling purposes. It did however appear to be entirely feasible to drill from Erickson valley, though this would be at greater depth and require longer holes. All estimates for drilling from Erickson valley were made from general data only, as no specific data was available on valley conditions where the drilling must be done.

Consequently, one of the chief factors in underestimating costs was our complete lack of specific data on the actual terrain at the proposed drill site.

Erickson Mountain, on Erickson Creek side, appeared as a cliff face, and it was estimated that an 800 foot hole at 2500 foot blowhtien would pass through the lime bed fully ( See Geological Map attached Oct./51). This slope was estimated at 750 mountain top to drill site, and then a 25 to 30 degree tslope from the drill to the cree level. The camp would be located along the creek and the drill could easily be moved up the 25 to 30 degree talus slope to the drill site at 2500 foot elevation. The drill would move under its own power, and supplies would be backpacked.

Approved cost estimates were then as follows:

1.	Diamond Drilling - 3000 feet at \$ 5.00/ft.  (a) Drill crew wages \$ 8500.00	15,000.00
	(b) Camp operation loss 1000.00	
	(c) Drilling costs 3000.00	
	(d) Transportation 2500.00	
2.	Property Supervision	1.875.00
3.	General Overhead	4,150.00
4.	Option Payment Dec. 15/52	4,000.00
5.	Claim Maintenance	1,000.00
6.	Contingencies	2,475.00
	Total	28,500.00

Work began on the trail on May 20th, and it was planned to have the job completed by early August. Immediately work began "on the ground" unexpected difficulties arese as follows:

"on the ground" unexpected difficulties arose as follows:

(1) Trail conditions up Erickson Creek were such that backpacking gasoline and supplies, even if men were available for
such a job, was not practical and the best solution was to obtain
horses, This was complicated by the U.S. ban on livestock movements due to the foot and mouth disease outbreak in Canada. We
were unable to move horses by boat through Alaska and thus forced
to bring them 150 miles overland from Telegraph Creek. We were
also forced to buy all feed, hay and oats, direct from Seattle
because of the ban. Even though 20 miles of new trail was necessary bringing the horses overland to Tulsequah, it should have
been accomplished in 2 weeks. After the trek started, warm weather
caused high water conditions on the intervening rivers and the
trip took 4 weeks. 2 horses were killed ensoute.

- (2) It was now early July, but a permanent camp had been established on Erickson Creek, elevation 1400 feet, the horses had caught up on the packing backlog, and the trail and drill equipment were past camp and directly below the proposed drill sites. The drill foreman estimated that the drill would be in position in less than a week. However, as the snow melted, it revealed that the talus slope extended only to elevation 1800 feet with bare rock slopes above. In addition the slopes, both above and below the drill sites were not in keeping with the estimates, and an 800 foot hole at the 2500 foot level would not even reach the lime bed. (See Plate 18) The slope from the creek to the "cliff face" was actually 30 to 35 degrees, the upper part being bare rock, and the cliff face itself being only 60° rather than 75°. The geologists moved the hole location up to 3200 feet so our drill capacity would reach.
- (3) On July 20th, the drill had reached the top of the talus slope, some 700 feet below the original drill site, or 1400 feet below the new locations. The drill crew, without warning, advised that it was impossible to proceed. The horses could go no farther, nor could man on foot with a load on his back. On an immediate visit to the property, the hole locations were lowered about 100 feet and moved southerly some 500 to 1000 feet. A new trail up Erickson Creek, over the cirque wall and into the upper valley basin, then allowed us to reach the newest drill site with a horse trail (See Plate 17). The drill was torn down and packed by horses beginning August 8th. However, a good two weeks time and wages had been lost when the crew allowed themselves to work into a dead end.
- (4) The first hole was collared August 16th, after laying 2200 feet of water line. On August 17th, a connecting rod went through the crankcase on the drill motor, and the job was shut down and delayed awaiting repairs, involving an almost new motor.
- (5) It was now evident that neither time nor money would allow drilling all three holes and further drilling setups to the north were not reasonable. More money was requested, the job cut to two holes, using plug bits in the second to speed progress.
- (6) Throughout the major portion of the program there was considerable labour trouble and suspected waste supplies and wasted time. Until actual drilling started, troubles were most evident in the cookhouse and the packing. After drilling began, drill crew dissatisfaction arose and men light quitting. A great deal of time was lost running back and forth to Tulsequah (generally a 2 day trip) for every minor item needed, though they were asked repeatedly to cut this down to a minimum. The crew were also asked, once drilling began, to move camp up to the upper basin, some 1000 feet higher and I mile closer to the drill, but this was never done.
- (7) As drilling proceeded it was found that the extent, and hardness of the porphyry rock was excessive. The average advance per drilling shift was only 11 feet. Our sights were lowered to one hole and a second wedged intersection.
- (8) Diamond loss was high. Each new rum in the granite porphyry required a new bit.
- (9) Continued small drill breakdowns occurred. Resultant delays accounted for about 30% lost time and this was costly.

- (10) By October 1st, we were down to one shift per day the drill foreman being the only runner left. The student
  engineer also had to return to school, supervision then came
  from Tulsequah, with no "on -the- job" supervision. It was
  obvious the best we could do was just finish the hole we were
  on. Further excessive time was lost by the drill foreman running back and forth to Tulsequah for supplies and/or instructions,
  requiring a complete shutdown of the drill when he was away.
- (11) The season was now so late that the horses could not be taken overland back to Telegraph Greek. It was necessary to purchase them, and destroy them on completion of the job.
- (12) A decision was made to cease drilling and move out on October 15th. Extra help was obtained and it was felt the job would be finished by the end of October. It was the 15th of November before work ceased, and even then a good portion of the equipment was left up river. Conditions on the mountain were hazardous almost continuous snow and rain and snow slides had already covered a portion of the drill shack and swept all drill core down the mountainside. The packtrail was a quagmire and the horses were on feed rations. The Taku River was so low that travel up river was 50% poling. Under these conditions, and with no company supervisor on the job, there was a good deal of lost time and effort.

Our final costs were as follows:

# (A) Job Breakdown

1. Diamond Drilling - 1064 feet @ \$ 30.90/foot \$ 32,985.20 (1431 man days @ \$ 23.00) (a) Drill Crew - Moving In 21% 35% (5% advance per man day) - Drilling - Delays Repairs31% 13% (Incomplete) - Move Out Total 555 man days @ \$ 20.70 ..... \$ 11,691.49 (b) Camp Operation-258 man days labour -Overall cost \$ 5.40 per man day -Loss \$ 2.90 per man day -1531 man days @ \$ 2.90 4,461.62 (c) Drilling Costs- Drill O/H and Diamond loss \$ 3,017.12 (\$ 2.84 per foot) - Fuel costs \$ 1.04 per foot \$ 1,115.25 (d) Transportation - 307 man days trail work \$ 6,597.72 - Horses & Packer 4,801.26 1,300.14 \$12,699.12 - Other Drilling Total ..... \$ 32,985.20 2. Property Supervision 125 man days.....\$ 2,635.20 3. General Overhead - Co. Aircraft 1,061.67 Equipment 1,415.61 Misc. 1,067.03 3,544.31

Final Total

\$ 39,164.71

# (B) Costs Fer Foot Drilled

(1) Direct - Drill Crew - Move In & Out \$3.72 - Delays Repairs 3.82 - Actual Drilling 3.40 - Camp Loss	*	10.95 4.18 3.37 11.90
Sub-Total	*	30.90
(2) Indirect - Property Supervision General Overhead	\$	2.48 3.32
Grand Total	\$	36.70 per foot

In simple terms, the overexpenditure was due to \$ 9,000.00 additional costs for access and transportation and approximately \$ 7,000.00 additional due to drilling costs such as diamond loss delays and repairs, rock hardness etc. While a portion of this might have been avoided had the true situation been known to begin with, the majority of the extra expenditures were a necessity if the job was to be done. However, certain pointers are definitely evident from this job and the main ones are listed herewith.

(1) No program should be proposed, approved, or proceeded with, unless sufficient "on the ground" data is known to ensure that estimates are reasonable.

In this case sufficient information was not available to make any reasonable estimate of costs. This should have been obtained in the Fall of 1951 if drilling was to be proposed for 1952.

(2) Similarly, no option should be taken that does not allow sufficient time to assemble information, and have development proceed in an orderly manner, before committments of consequence are due.

In this case 15 months was allowed before the first payment of \$4,000.00 was due, so it was doubtful if this time could be extended greatly. In effect the option should have been taken about 2 months earlier in the season, allowing this extra time to make proper estimates and check conditions up Erickson Creek, once diamond drilling had been recommended following the geological work.

(3) Men on bush jobs must be more competent and reliable.

In this case we knew shortly after the job began, that the labour situation was not satisfactory, but no further men of reasonable calibre were available, who would accept our wages for bush living and working conditions. Had it not been for the logging strike, the situation would have been even worse.

(4) At least one experienced staff man must be on the job at all times and in charge of it in the field.

In this case our property engineer was not experienced and had to return to school 6 weeks before the job was completed. Cominco supervision was then indirect from Tulsequah. The drill foreman stayed for the entire job, and was considered experienced, but certainly on this job at least, he failed to show much foresight or leadership.

# 12 &13. EQUIPMENT AND BUILDINGS

The only building on the property is an old log cabin, about 10 x 12, at the edge of the Taku River. A considerable amount of equipment was left in the cabin, at the season's end, due to the low water in the Taku River. This equipment will be salvaged next season.

## 14 &15 ECONOMIC AND FINANCIAL

The option was taken by Cominco in early September 1951. It called for payment of \$40,000.00 by 1956 for a 90% interest. First payment of \$4,000.00 was due Dec. 15/52 and second payment of \$6,000.00 due Dec. 15 /53. The 1952 work committment was on expenditure of \$5,000.00.

Our expenditures in Sept. 52 for a two week geological program amounted to \$ 1977.72. Expenditures in 1952 for diamond drilling totalled \$ 39,164.71. Total expenditures on the property have therefore been \$ 41,142.43.

Appendix Geological Reports - J.K. Webb

Attachments-Geological Maps - Original Oct. 51- JKW
-Final Nov. 52 - JKW.
- Plates 1 - 17- 18- 19

GNM/rcb Prince Rupert Office Feb. 9 1953 cc Mines Dept. (2) Pr. Rupert File (1) Fiald File (1) G. Neely Moore, Exploration Supt., Northwestern District.

Submitted by