Box 17

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114-P, #12

REPORT

ON

ALSEK COPPER

(WINDY-CRAGGY)

DIAMOND DRILLING PROGRAMME

1965

ATLIN
MINING DIVISION

J.J. McDougall
Geologist

REPORT ON

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DIAMOND DRILLING PROGRAMME

1965

Vancouver, B. C.
January 12, 1966.

J. J. McDougall
Geologist.

C O N T E N T S

REPORT ON
ALSEK COPPER (WINDY-CRAGGY)
DIAMOND DRILLING PROGRAMME
1965

This report covers results of a short drilling programme undertaken during 1965 on the previously partially tested copper property remotely situated in the St. Elias Mountains of extreme north-western B. C. The writer supervised the work which unfortunately took place after several severe winters with a resultant higher than usual snow accumulation which all but refused to melt so that needed drilling water could be made available.

PROPERTY

The property includes 14 located claims - the Windy #1 to 8 and the Craggy #1 to 6. All are in good standing until 1975.

LOCATION & ACCESS

The property is located in the St. Elias Mountains, 45 miles west of the Haines Cut-off Highway and 20 miles north of the junction of the Alsek and Tatshenshini Rivers. Access in 1965 was by company helicopter.

ORE

Copper and minor cobalt in pyrrhotite.

HISTORY & DEVELOPMENT

Previous reports cover these aspects of the property and reference should be made to them.

The deposit, discovered during our northern prospecting programme in 1958, was partially mapped and tested by 5 packsack holes totalling 305 feet in 1959. During 1960, 14 packsack holes, totalling 567 feet, were put in and the property better mapped, topographically

and geologically. No further work was done until August of 1965 when drillers Robertson and Schussler with helpers Holtz and Lawrence (after an extended wait for water) put in 3 AXWL holes totalling 1194 feet, which marked partial completion of a programme laid out to test drill the largely ice-covered showing at 1000-foot intervals. Logs and sections are enclosed. During AX drill breakdowns, 3 short packsack holes (total 50 feet) were put in to test exposures of "cupriferous shale" previously reported west of the cabin.

Besides the writer, Stan Charteris visited the operation in 1965.

GEOLOGY

There has been no geological work done in the area since 1960 and the deposit still remains as a sulphide replacement of Tats Greenstones and shaly to argillaceous sediments along a somewhat folded and brecciated or sheared contact.

DESCRIPTION & RESULTS OF 1965 WORK

The object of the 1965 work was to continue the search within the 6000-foot long zone for the required appreciable concentrations of 2-4% copper noted in float originating in this small but effectively ice-capped area.

While awaiting snow meltage and being uncertain of the ability of our equipment to drill efficiently through snow and ice as hoped for, the first section (A - A_1) drilled was designed (a) to make certain of at least some assessment work being accomplished and (b) to test the deposit near its southern, poorly exposed extremity where assay values have never been exciting. This was the only locality, where, with the

equipment available, we could assure solid footings and drill from the footwall side.

The second section ($B - B_1$) entailed drilling through the snow and ice by first driving casing. By carefully controlling excess water the snow footings held for almost a week of steady drilling during which time a 536-foot hole was completed. For some yet unknown reason the massive sulphides encountered shattered extensively and pulls every six inches were common. Recovery, however, was good. Although a fourth hole was warranted, freezing waterlines and commitment of the helicopter elsewhere dictated that such not be attempted at this time.

A converted Husky aircraft was used to fly the equipment out from Tats Lake as the helicopter had only a few hours left on it to complete the season. Despite the fact that foul weather prevented planned landings Kelsall Lake and the trips had to be made to Dezadeash, use of this superb machine effected substantial savings - in tempers as well as finances - even though a long ferry trip from Prince Rupert was involved. Somewhat of a "first" was created when, in view of a White Pass strike and no objections from the better-educated of the Customs officials, our equipment was sent by truck to Prince Rupert on the convenient Alaska Ferry System with great savings in time and money. Despite disbelieving and somewhat horrified Canadian Customs officials in Prince Rupert, it is hoped that relevant lawmakers not obligated to the B.Y.N. will see the light and make such trips legal in the future.

Examination of the drill core, particularly of Holes #1 and 2, showed the footwall area to be much more shattered and brecciated than previously realized with small amounts of copper occurring throughout.

Also the sulphide body (at least the western footwall ? contact) would appear to be steeper than anticipated with some suggestion of an "S"-type structure being involved.

All core, save for condensed representative samples, was assayed.

ASSAYS & RESERVES

Assay results are summarized on the drill logs and sections and need not all be repeated here.

Drill core was sampled in its entirety at 10-foot intervals despite the fact that much of the drilling was done (collared) in only weakly mineralized footwall country rock.

Holes 1 and 2 encountered, as continuous sections. 70 feet and 80 feet of 1.01% and 1.03% copper respectively. A 100-foot (inclusive) section of the first hole ran 0.86% Cu and a 180-foot section of the second, also including the pre-mentioned, ran 0.78%. The overall average for #1 was 247 feet at 0.428% Cu and for #2, 409 feet at 0.48%. The pyrrhotite-pyrite content of the first hole was 40% and of the second, 45%. Average cobalt was 0.075%. The holes may not have gone through the zone as slightly cupriferous pyrrhotite was still present at the bottoms.

Small values may have been contributed in a few sections of d.d.h.'s #1 and 2 by secondary copper minerals occurring in areas of poor recovery but with these minor exceptions, all values originate from the primary chalcopyrite.

Hole #3, drilled westerly through snow and ice, encountered 76 feet of leached and cellular gossan before encountering solid material.

An impressive 360-foot intersection of near-massive cupriferous pyrrhotite and pyrite was then encountered before the hole was abandoned at 536 feet in shattered but still weakly mineralized "footwall" rocks (see section B - B_1). A 340-foot section averaged out at 1.01% copper. This included a 140-foot length of 1.51%. The complete hole in solid material (381 feet) averaged 0.95% copper. The leached gossan material, 73 feet, ran 0.15%.

Total sulphide content was 80%. Cobalt content, from three "total core" composites of .09, .14, and 0.11%, averaged out at approximately 0.11%. Gold and silver values were trace, which usually means a 50¢/ton value.

The true thickness of the portion of the massive sulphide body intersected, judging from projected geology and somewhat varying core intersection angles, appears to be about 250 feet. We have no idea of how many more feet may be added to this width, or the configuration at depth. The possibility that we may be drilling along a crossfold is remote, but exists. (Hypothetical Section A - A_1 in the 1959 report appears to have been substantiated in large part.) No attempt at predicting reserves is in order at this time as the picture is too spotty and incomplete. Overall vertical range of the Zone as a whole is over 1000 feet and that proven by drilling (Section B - B_1) is about 600 feet. For each thousand feet of depth, a 250-foot wide sulphide body would make "ore" at about 30,000 tons per horizontal foot of advance. Given 1000 feet of length and 2000 feet of depth, 60 million tons could be outlined. This is in the "required order" category.

CONCLUSIONS & RECOMMENDATIONS

Although the copper content is not up to that required for underground block-caving mining, a 360-foot partial intersection of near massive cupriferous pyrrhotite which contains a footwall intersection of some 140 feet assaying 1.51% copper demands that the property receive further investigation by drilling both at depth and along strike.

The 1965 programme, despite unpredictable difficulties, provided much useful information; statistically and otherwise, the work was certainly warranted. The property is not ripe for any sudden on-the-spot abandonment unless recent history including long term (20 year) outlook is ignored. There is just too much massive mineralization (pyrite and pyrrhotite) to ignore without at least preliminary testing. The writer has little faith in sulphur ratios determining the potential value of a mineral deposit in the Cordillera, where, unlike in the Shield, rapid temperature-pressure gradients during the mineralizing period have resulted in zoning which must be recognized and appreciated. To use such to eliminate large areas - almost geographic units - is to ignore numerous examples established in Western Canada and the U.S. long before mining in the East graduated from its infancy.

There is enough gradation already shown by the limited drilling on the unfortunately remote Windy-Craggy deposit to establish this point, which, if even partially accepted, leaves little room for refuting the possibility that a higher grade (outer zone) envelope does not exist and is not a worthwhile drilling target. Sulphide bodies of over 2 or 300 feet in width are a rarity and a geological phenomena that cannot be overlooked.

Recommendations are that sometime in the future the drilling on 1000-foot sections be continued with allowance for greater depth penetration than afforded in 1965. Thus a steep, -70° to -80° westerly directed hole from the #3/65 location should be long enough to penetrate the sulphide body completely and, particularly if the former still collars in massive sulphides, another location be picked downhill on the same section from which an intersection at greater depth is feasible. As any worthwhile deposit in this area would have to be mined underground from a drift collared several miles away and at a 2500 - 4000 foot lower elevation, increased grade and tonnage at depth (a pipe-like "Noranda type" body) are more important targets than continuity near surface.

More claims, particularly to the east, are required before any future work is undertaken.

If Steve Presunka were available, an EM and magnetometer survey of the ice covered area would be in order, although associated magnetics are very low.

In order to utilize good weather during the short work season, at least two full-time drilling rigs should be employed. Were drilling water obtainable at reasonable cost by a fuel-oil supplied snow melting device, the drilling season could be doubled.

To those initiated as well as others, the isolated area appears as a bleak ice cap, well removed from any possible value. Similar descriptions were also given of Keno Hill, Kenecott, Cassiar, Yellowknife and Pine Point, to name a few. Granduc, in similarly rough local terrain, is perhaps the closest correlative where an 11-mile tunnel will give the mine an outlet at Tide Lake at which point a 25-mile road

connects with salt water at Stewart. In the Alsek a 6 or 7-mile tunnel would be required to connect the deposit with Tats Lake (elev. 2600') while an 8 or 9-mile tunnel could connect with a 10-square mile patch of Alsek gravel flats at an elevation of 900 feet or less. From the latter point, 20 miles of easily constructed road along the extensive gravel flats (on which, given an adequate supply of culverts and bridges, a jeep could be driven now) would be required, followed by 25 slightly more tricky miles in order to reach salt water at the fishing village at the mouth of the Alsek at Dry Bay, Alaska.

We have little hope of finding a deposit on a paved highway in the north and any deposit that responds to the diamond drill is going to have to be big and expensive.

Vancouver, B. C.
January 12, 1966.

J. J. McDougall,
Geologist.

REFERENCES:

1958 & 1959 Northern Prospecting Reports - J. J. McDougall

1960 Windy-Craggy Report - J. J. McDougall

1965 - July, August, September Monthly Reports - J. J. McDougall

PROPERTY ALSEK COPPER - Windy-Craggy

HOLE NUMBER 1/65

SHEET NUMBER 1

SECTION FROM ____ TO ____

DIAMOND DRILL RECORD

LOCATION: LAT ____ DEP South slope of mountain approx. 90 feet due south of 1960 transit station #19

ELEVATION OF COLLAR Map Base +252 feet actual approx. 5375

DATUM Sheet 1, 1960 Map W2/60

DIRECTION AT START: BEARING N48°E DIP -30° at collar; -33° at 247'

STARTED August 12, 1965

COMPLETED August 18, 1965

ULTIMATE DEPTH 247'

PROPOSED DEPTH ____

DEPTH FEET	FORMATION	FROM TO	WIDTH OF SAMPLE	Cu %		
0 - 11	Greenstone (volcanics) 3701	0 - 10	10'	0.35		
	Dark green, aphanitic, limonitic - ½" patch with slip 43° @ 6'	10 - 20		0.69		
11 - 12	Lost Core	20-30		0.20		
12 - 13	Vugs of limonite in ochre staind qtz matrix	30-40		1.25		
13 - 14.6	No core	40-50		0.61		
14.6 - 15.6	White qtz cut by irreg limonite fracts					
15.6 - 16.0	No core	50-60		0.88	Au	Tr
16.0 - 20.8	40% qtz with gns frags cut by pyrr bndg @ 45° & lim	60-70		0.73	Ag	Tr
	fract	70-80		0.89	Co	0.05
20.8 - 25.6	qtz and sil volc cut by irreg bnds pyrr with cp	80-90		1.46	Ni	Tr
	@ 20° to 40°: S_2 = less than 15% of sections. Cp 1%	90-100		1.29	Sol. Fe	24.5
	of S_2; est less than 0.2% Cu. Gossany material to	100-110		0.59		
	this point	110-120		0.08		
25.6 - 68.5	Sil gns; med green with irreg ptchs & streaks	120-130		0.08		
	S_2 (98% pyrr, 2% Cp)	130-140		tr		
	30 - S_2 bndg @ 45°; ½" bnds sub parallel to core 3715	140-150		0.01		
	32-34 - 5% Cp bndg at low angle to cross 3716	150-160		0.07		
	cutting limonitic bands @ 40°	160-170		0.13		
	43-50.3 - fine pyrr with poss 5% Cp	170-180		0.24		
68.5 - 69.5	Gns	180-190		0.32		
69.5 - 80	Sil pyrrhotitic gns. (69.5 - 73 - gray shale incl)	190-200		0.37		

N.M.P.-FORM A

PROPERTY ALSEK COPPER - Windy-Craggy

HOLE NUMBER 1/65

SHEET NUMBER 2

DIAMOND DRILL RECORD

SECTION FROM ..... TO .....

LOCATION: LAT .....
DEP .....

ELEVATION OF COLLAR .....

DATUM .....

DIRECTION AT START: BEARING .....
DIP .....

STARTED .....

COMPLETED .....

ULTIMATE DEPTH .....

PROPOSED DEPTH .....

DEPTH FEET	FORMATION	FROM TO	WIDTH OF SAMPLE	Cu %			
80.0 - 82.0	No core	200-210	10'	0.43			
82.0 - 82.5	Lim & pyrr in sil gns	210-220		0.01	Au	Tr	
82.5 - 105.0	Gossany material; prob a soln cavity; frag of	220-230		tr	Ag	Tr	
	Cu sulphates (chalcanthite ?)	230-240		0.02	Co	0.10	
	93.0 - 2" soft green sericitic amphibolite ? 3725	240-247	7'	tr	Ni	Tr	
105 - 110	Sil volc. bands of pyrr cut by lim fractures				Sol. Fe	25.05	
	- a few with cuprite @ 40° (1 mm wide)						
110 - 121	gns - 10% pyrr in irreg bnds parallel on low angle						
	to core; less than 2% cp						
121 - 157	Gns. dark green aphanitic; in a coarser phase						
	- at 131, 40% interstitial light green feldspar						
	- 144 Co3 & qtz in veins						
157 - 204	Pyrr gns; av. 40% pyrr in irreg masses; less than						
	2% assoc Cp; interstitial volcanics not						
	conspicuously silicified; sl increase Cp last 5 feet						
204 - 247	Gns; as 157-204						
	230.6 slip @ 60°						
	END OF HOLE 247 as drillers report open space (?)						
	but no sign of gossany material						
	Core Recovery: 0-25 = 75% 83-105 = 20% Av. bndg. 46.8						
	Remainder 97% average						

N.M.P.-FORM A

PROPERTY ALSEK COPPER - Windy-Craggy

HOLE NUMBER 1/65

SHEET NUMBER 3

SECTION FROM ..... TO .....

DIAMOND DRILL RECORD

LOCATION: LAT .....
DEP .....

ELEVATION OF COLLAR .....

DATUM .....

DIRECTION AT START: BEARING .....
DIP .....

STARTED .....

COMPLETED .....

ULTIMATE DEPTH .....

PROPOSED DEPTH .....

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
	Complete Hole = 247 ft. = 0.428% Cu, 0.075% Co							
	includes 100-ft. section @ 0.86% Cu							
	which in turn includes 70.0 ft. @ 1.01% Cu							
	(approx. calculations assuming 4:1 pyrr/pyrite = 247 ft. averaging 40% total S_2)							
ADDITIONAL:	Better banding + shear attitudes, etc. (JJMCD)							
18'	Sh @ 46°							
24'	S_2 bndg 31°							
32'	" 53°							
72'	Sh bedding 80°							
"	Sh ctct 60°							
110	Co_3 strgs 45°							
122	fract 52°							
145	Buff Bands 40°							
183	S_2 bndg 43°							
206	" 52°							
233	Co_3 bndg 27°							
	Average Bndg 46.8°							
	Drilled by: Robertson, Schussler, Holtz, Lawrence --- log S.N.C.							

N.M.P.-FORM A

PROPERTY ALSEK COPPER - Windy-Craggy

HOLE NUMBER 2/65

SHEET NUMBER 1

SECTION FROM ..... TO .....

DIAMOND DRILL RECORD

LOCATION: LAT Same as DDH #1/65
DEP

ELEVATION OF COLLAR 5375'

DATUM

DIRECTION AT START: BEARING N45°E
DIP -55°

STARTED August 18, 1965

COMPLETED August 26, 1965

ULTIMATE DEPTH 409'

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM TO	WIDTH OF SAMPLE	Cu %			
0 - 15	Sl oxid, weakly brecciated and Co_3 veined 3726	0-10	10'	0.37			
	sl granular volc as prev (V1)	10-20		0.16			
15 - 73	Volc; fracture coating & diss pyrr, Cp. Prob 5% sed	20-30		0.40			
	skarn.	30-40		0.67			
73 - 100	As prev but increasing content (60%) of greenish	40-50		0.89			
	grey, f.g. cherty volc or sil seds ??	50-60		0.62			
	- occ buff mineral (ankerite ?) as bands or frags	60-70		0.40			
	most evident in shatter or breccia zones. 15% pyrr,	70-80		0.89		Au	Tr
	sl py, diss + veind Cp.	80-90		0.86		Ag	Tr
	85-88 oxid...sl fault zone; brecciated	90-100		0.27		Ni	Tr
100 - 200	V1 - intermixed granular and cherty (sed &/or volc?-	100-110		0.36		Co	0.05
	sections	110-120		0.22		Sol.Fe	22.85
	- occ sl brecc	120-130		0.69			
	- 20% S_2 - pyrr..minor py, cp.	130-140		0.52		(200 ft.)	
	112-113 - wk porphyry devel in greenish V1 or	140-150 (3740)		0.58			
	meta sed ??	150-160		0.73			
	168-168.5 - qtz veins containing common S_2	150-170		0.52			
200 - 335	50% pyrr repl V1 + minor sed skarn	170-180		1.21			
	285-312 - 20% S only	180-190		1.35			
	312-327 - shear area	190-200		1.27			
	mixed gouge, oxide (20% pyrr)						

N.M.P.-FORM A

PROPERTY ALSEK COPPER

HOLE NUMBER 2/65

SHEET NUMBER 2

SECTION FROM ..... TO .....

DIAMOND DRILL RECORD

LOCATION: LAT .....
DEP .....

ELEVATION OF COLLAR .....

DATUM .....

DIRECTION AT START: BEARING .....
DIP .....

STARTED .....

COMPLETED .....

ULTIMATE DEPTH .....

PROPOSED DEPTH .....

DEPTH FEET	FORMATION	FROM TO	WIDTH OF SAMPLE	Cu %			
	327-335 - 60% pyrr 3746	200-210	10'	2.10			
335 - 409	Weakly min black-grey f.g., sl chloritic altered V1	210-220		0.29			
	hornfelsic in pt.	220-230		0.33			
	- occ Cp on joints and near sl brecc areas	230-240		0.47			
	- buff mineral (Co_3) and common as veinlets;	240-250		0.29			
	also as gobs near brecc areas	250-260		0.37		Au	Tr
	END OF HOLE	260-270		0.40		Ag	Tr
	Prominent Banding, Banding Contacts, Shear. etc. attitu	270-280		0.30		Co	0.10
	attitudes:	280-290		0.40		Ni	Tr
	21' S_2 @ 51°	290-300		0.23	So.	Fe	34.67
	33 " 55°						
48 - 49	ctct gr sil V1 or sid ? @ 40°					(209')	
	73 ctct " " @ 14°						
	99 S_2 @ 58°						
	100 S_2 @ 41° & 90°						
	125 S_2 @ 38°						
	127 " 32°						
	133 " 50°						
	172 Sh 24°						
	175 S_2 45°						

N. M. P. - FORM A

PROPERTY ALSEK COPPER

HOLE NUMBER 2/65

SHEET NUMBER 3

SECTION FROM ..... TO .....

DIAMOND DRILL RECORD

LOCATION: LAT .....
DEP .....

ELEVATION OF COLLAR .....

DATUM .....

DIRECTION AT START: BEARING .....
DIP .....

STARTED .....

COMPLETED .....

ULTIMATE DEPTH .....

PROPOSED DEPTH .....

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Cu %			
	182' S_2 @ 72° 3756	300	310	10'	0.08			
	273-275 S_2 @ 35°	310	320		0.40			
	288 Buff Bndg @ 65°	320	330		0.37			
	328 S_2 @ 58°	330	340		0.23			
	409 Buff Bndg @ 63°. Av. Bndg. 48.4°	340	350		0.01		See prev.	page
		350	360		0.05			
		360	370		0.05			
	Core Recovery	370	380		0.11			
	0 - 30 = 35%	380	390		0.07			
	30 - 409 = 98%	390	400		0.14			
	3766	400	409	9'	0.15			
	Complete hole 409.0 ft. @ 0.483% Cu, 0.075% Co							
	which includes a section of 180.0 ft. @ 0.78% Cu							
	" " " 80.0 ft. @ 1.03% Cu							
	(approx sulphides assuming 4:1 pyrr/py							
	ratio = 409 ft. @ 45% total S_2)							

N. M. P. - FORM A

PROPERTY ALSEK COPPER - Windy-Craggy

HOLE NUMBER 3/65

SHEET NUMBER 1

SECTION FROM ____ TO ____

DIAMOND DRILL RECORD

LOCATION: LAT 590' @ N48°E from 1960 transit station #14
DEP

ELEVATION OF COLLAR 5495 (365' in Base Map)

DATUM Map WC2/60, sheet 2

DIRECTION AT START: BEARING S48°W
DIP -55°(start), -48°30' @ 100', -49°30' @ 200', -49°30' @ 300', -50° @ 400', -51° @ 538'

STARTED August 27, 1965

COMPLETED September 4, 1965

ULTIMATE DEPTH 538 ft.

PROPOSED DEPTH ____

DEPTH FEET	FORMATION	FROM TO	WIDTH OF SAMPLE	Cu %
0 - 25	Snow 3767	84-157	73'	0.15
25 - 75	Ice	157-160	3'	0.88
75 - 84	Ice; sl oxide	160-170	10'	1.61
84 - 157	10% CR of porous, cellular chocolate brown to	170-180		1.55
	yellowish red gossan - original rock appeared to	180-190		1.67
	be a fragmental volcanic replaced by pyrrhotite;	190-200		1.35
	a "recent" cgl in part ??	200-210		1.06
	Cu completely leached ??			
157 - 200	80% mass f.g. cupriferous pyrr replacement of V1			
	and poss sl highly altered sed vx; 2-3% py	210-220		1.75
	- oxide on jnts, fractures, etc.	220-230		2.35
200 - 300	as 157-200	230-240		1.39
	252-255 - poss f.g. gran basic dyke (andeso-	240-250		1.72
	basalt) - highly altered; ctd @ 22°	250-260		1.67
300 - 400	300-325 - pebbly recovery of pyrrhotitic breccia -	260-270		1.41
	gouge zone	270-280		0.88
	325-400 - 85% cupriferous pyrr, minor py.	280-290		1.57
	repl. in part of brecci V1	290-300		1.19
	occ gobs CP, particularly evident in brecc areas	300-310		0.59
400 - 512	85% pyrr repl of V1 as previous	310-320		0.71
		320-330		0.91

(126.0 ft.)

	Au	Tr
	Ag	Tr
	Co	0.09
	Ni	Tr
Sol	Fe	49.70

(270 ft.)

	Au	Tr
	Ag	Tr
	Co	0.14
	Ni	Tr
Sol.	Fe	52.51

N.M.P.-FORM A

PROPERTY ALSEK COPPER

HOLE NUMBER 3/65

SHEET NUMBER 2

DIAMOND DRILL RECORD

SECTION FROM ..... TO .....

LOCATION: LAT .....
DEP .....

ELEVATION OF COLLAR .....

DATUM .....

DIRECTION AT START: BEARING .....
DIP .....

STARTED .....

COMPLETED .....

ULTIMATE DEPTH .....

PROPOSED DEPTH .....

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Cu %			
	3786							
512 - 533	V1=banded, cherty, f.g. bluish grey volc; buff Co_3	340	350	10'	0.54			
	bndg, 5% S_2,	350	360		0.77			
	512-516 - repl of brecc	360	370		0.58			
533 - 536.5	90% pyrr	370	380		1.63			
536.5 - 538	as 512-533	380	390		0.99			
	END OF HOLE	390	400		0.54			
		400	410		0.44			
	381.0 ft. (complete hole) = 0.95% Cu, 0.11% Co	410	420		1.08		As previous	
	includes: 340 ft. section @ 1.01% Cu	420	430		0.68			
	which in turn includes 140 ft. section @ 1.51% Cu	430	440		0.33			
		440	450		0.47			
		450	460		0.47			
	Better defined bndg, ctcts, etc.:	460	470		0.57			
	84' - gossan ctct/greenish porous volc @ 36°	470	480		0.47			
	167 Cp bndg in pyrr @ 37°							
	213 S_2 bndg @ 45°							
	215 " 50°							
	236 " 30°							
	237 " 45°							
	246 " 46-55°							
	248 " 44°							

N. M. P. - FORM A

PROPERTY ALSEK COPPER

HOLE NUMBER 3/65

SHEET NUMBER 3

SECTION FROM ..... TO .....

DIAMOND DRILL RECORD

LOCATION: LAT .....
DEP .....

ELEVATION OF COLLAR .....

DATUM .....

DIRECTION AT START: BEARING .....
DIP .....

STARTED .....

COMPLETED .....

ULTIMATE DEPTH .....

PROPOSED DEPTH .....

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Cu %			
	260' pyrite bndg @ 53° 3651	480	490	10'	0.26		(50.0 ft.)	
	298 pyrr @ 48°	490	500		0.53			
	327 " @ 40°	500	510		0.40		Au	Tr
	329 " @ 55°	510	520		0.16		Ag	Tr
	331 buff Co_3 cutting dark cherty veins @ 143°	520	530		0.24		Co	0.11
	373 paralleling pyr, pyrr, buff Co_3 bndg @ 50°	530	538	8.0'	0.37		Ni	Tr
	381 S_2 @ 60°					Sol.	Fe	39.18
	418 " 43°							
	427 " 52°							
	450 Volc & S_2 @ 40°	Core Recovery:						
	483 " 47°	84 - 157	= 10%					
	493 " 58°	157 - 200	= 85%					
		200 - 250	= 93%					
	Average attitude - 48.8°	250 - 275	= 75%					
		275 - 300	= 30%					
	(Approx sulphide content for hole assuming	300 - 325	= 10%					
	4:1 pyrr/py ratio = 80% S_2)	325 - 350	= 70%					
		350 - 400	= 93%					
		400 - 538	= 99%					

N. M. P. - FORM A

TYPES:	DESCRIPTION	Au. oz.	Ag. oz.	Cu. %	Pb. %	Zn. %	Extra
1.	REPRESENTATIVE FLOAT TYPES OCCURRING AT FOOT OF TATS GLACIER						
	(A) FINE-GRAINED SILICIC VOLCANIC	0.04	0.9	8.26			
	(B) BANDED REPLACEMENT SILICIFIED ROCK	0.08	0.1	8.23			
	(C) MASSIVE PYRRHOTITE	TR.	TR.	1.08			
	(D) COARSE-GRAINED, ALTERED ANPHIBOLITE	TR.	TR.	0.27			
	(E) VOLCANIC COUNTRY ROCK- RANDOM SAMPLE	TR.	TR.	0.03			
	(F) BORNITE-QUARTZ	0.02	0.2	0.70			
2.	NO.1 COPPER SHOWING-TATS GROUP-40 FOOT WIDTH						
	(A) FIRST 18 FEET TO SOUTH	TR.	0.3	0.80			
	(B) NEXT 22 FEET TO NORTH	0.01	0.3	2.30			
	(C) 12 FEET MASSIVE MAGNETITE	0.02	0.2	1.55			
	(D) QUARTZ VEINS IN VICINITY	0.01	0.2				
3.	FLOAT FOUND ON TOP OF MOUNTAIN						
	(A) GREEN ROCK	0.01	22.4	2835			Ni.01%
	(B) QUARTZ CALCITE ROCK NEAR (A)	TR.	0.4	0.62			
4.	LARGE MARIPOSITE-CHLORITE OUTCROP	0.01	0.4				TR. Ni.
5.	FLOAT REPRESENTING MINERALIZED MATERIAL IN MORRAINE						
	(A) BROWN QUARTZITE	TR.	TR.	0.17			
	(B) QUARTZ STRINGERS IN GREEN CHLORITE	0.2	0.3	0.53			
6.	1 FOOT WIDE VEIN MASSIVE CHALCOPYRITE NEAR EDGE OF GLACIER	0.02	0.5	25.16			
7.	GREEN ROCK CREEK-FLOAT NEAR MOUTH						
	(A) ALTERED PYRITIC BASIC ROCK	TR.	0.1	0.37			
	(B) PYRRHOTITE-QUARTZ	TR.	TR.	0.15			Ni.05%
	(C) CARBONACEOUS SANDSTONE-PYRITIC	TR.	0.2				
	(D) CARBONACEOUS SANDSTONE-BLACK						Mn.36%
8.	GREEN SCHIST BELOW FAULT CONTACT			0.53			TR. Ni.
9.	RED ROCK ALONG FAULT	TR.	TR.	0.03			
11.	SMALL-SCALE MINERALIZATION IN GRANITE NEAR TOP OF HILL						
	(A) FLOAT-SILICIFIED GRANITE	0.01	0.6	4.65			
	(B) GREEN SILICIFIED GRANITE	0.01	0.1	1.16			
13.	GALENA-CALCITE-QUARTZ FLOAT	0.02	0.30	3.35			
		0.04	6.3		11.9		
14.	POORLY EXPOSED MINERALIZATION ALONG EDGE OF GLACIER MARKING SOUTHERN EXTENSION OF NO.2 COPPER ZONE (CRAGGY-WINDY GP.) SAMPLES INCLUDE CONSIDERABLE GOSSAN MATERIAL AND CUT STRIKE OBLIQUELY FOR ABOUT 600 FEET						
	(A) 150 FT. SAMPLE-LARGELY SURFACE PYRRHOTITE	TR.	0.2	0.92			
	(B) NEXT 100 FT. NORTHEAST FROM (A)	TR.	0.3	1.41			
	(C) NEXT 100 FT. NORTHEAST FROM (B)	TR.	0.2	0.73			
	(D) NEXT 200 FT. EAST OF (C) 50% GREENSTONE	TR.	0.2	0.74			
15.	APPROX. 200 FT OF PYRITIC "WALLROCK" GOSSAN-COMPOSITE	TR.	TR.	0.10			
16.	BORNITE-BEARING FLOAT NEAR TOP OF MOUNTAIN	0.02	2.4	6.41			
17.	BROWN, DOLOMITIC QUARTZITE (COUNTRY ROCK?)	TR.	0.1	0.27			
18.	SLIGHT GALENA, PYRITE, ARSENOPYRITE IN ALTERED DOLOMITE (FLOAT)	TR.	TR.		0.48		
19.	MINERALIZED GRANITE FLOAT	TR.	0.5	3.24			
20.	10 FT. QUARTZ VEIN						
	(A) 9 FT. QUARTZ SECTION	TR.	TR.			0.07	
	(B) 1 FT. ZINK SECTION	TR.	0.2			32.9	Cd. 0.16
21.	PYRRHOTITE NEAR DYKES	TR.	TR.	0.08			
22.	GALENA-SPHALERITE VEIN-3 FT. WIDE	TR.	0.2				
23.	SPECKLED CHALCOPYRITE IN GREENSTONE FLOAT ON TRAIN OF 216-246 GLACIER	TR.	0.1	0.65			
24.	COPPER MINERALIZATION IN SKARN WEST OF MAID OF ERIN						
	(A) MINERALIZED SKARN	TR.		1.14			
	(B) MASSIVE SULPHIDES	TR.	9.8	14.3			
25.	RIDGE NORTH OF TATS LAKE-FLOAT	TR.	0.4	0.62			
26.	TYPE SAMPLES FROM FLOAT AND SLIDE ROCK BELOW CLIFF FORMING NORTHERN EXTENSION OF NO.2 COPPER ZONE						
	(A) 1 TON PIECE OF FLOAT SHOWING CHALCOPYRITE AND PYRRHOTITE IN DARK, ALTERED VOLCANIC ROCK	TR.	0.5	2.33			
	(B) MASSIVE-FINE-GRAINED SULPHIDES-PYRITE, PYRRHOTITE AND CHALCOPYRITE	TR.	0.6	1.11			
	(C) CHALCOPYRITE AND PYRITE DISSEMINATED IN CRYSTALLINE CALCITE	TR.	0.6	3.58			
30.	RIDGE WEST OF MAID OF ERIN						
	(A) BLACKJACK IN EPIDOTIZED, ALTERED GREENSTONE	TR.	0.5		7.97→		
	(B) GREENISH EPIDOTIZED VOLCANIC-SLIGHT GALENA	TR.	2.2				
	(C) CHALCOPYRITE IN GREENISH, CHLORITIC SKARN	TR.	2.2	1.66			
32.	COPPER SHOWING ABOVE NARROWS LAKE						
	(A) SMALL STOCKWORK SHOWING CHALCOPYRITE	TR.	0.2	3.69			
	(B) HIGHLY ALTERED GRANITIC ROCK	TR.	TR.	0.43			
35.	GYPSUM-ANHYDRITE						
37.	SMALL COPPER SHOWING WEST OF MUSH LAKE	0.08	0.1	0.77			
40.	GOSSAN MATERIAL WEST OF SOUTH END OF MUSH LAKE						

LEGEND

- (22) PROSPECT EXAMINED AND SAMPLED
- FAVOURABLE PROSPECTING LOCALITY TO BE CHECKED
- GLACIER
- CAMPSITE
- MINERAL CLAIMS STAKED
- DRAINAGE DIVIDES
- 4235 AIRPHOTO CENTRE
- TRAIL
- POSSIBLE ACCESS ROUTES-LAND AND RIVER

NOTE: NAMES OF MINOR TOPOGRAPHICAL FEATURES ARE OUR OWN AS NO OTHERS EXIST.

114 I/NW

AP3

MAP SHOWING
ALSEK PROSPECTS

DISCOVERED DURING 1958 FIELD SEASON

TO ACCOMPANY REPORT BY J.J.McDOUGALL, FROBISHER LIMITED, OCT. 1958

BRITISH COLUMBIA FOREST SERVICE
FOREST SURVEYS AND INVENTORY DIVISION
INDEX TO
THE INTERIM FOREST COVER SERIES
AND
THE FOREST INVENTORY AREA REFERENCE SYSTEM
Scale, 4 miles to 1 inch

NOTE—Summary data will be referred to the region and compartment outlined and numbered on the map. Region Numbers, Compartment Numbers and Map Sheets of the National Topographic Series are shown on this map.

For detailed cover-map information, refer to the Interim Forest Cover Series compartment maps.

REFERENCE