

DRILLING REPORT

93N/14W

Col Group, Lorraine Property and Adjoining Claims
Duckling Creek Area, Omineca MD, NTS 93N
Col 1-9, 11-13, 15-21, 51-56 - W.R. Bacon in Trust
GK 18 - The Granby Mining Company Limited
Lorraine 1, 2, 4, 1 Fr, 4 Fr Kennco Explorations
(Western) Limited

Work done Aug. 12 - Sept. 10, 1973
Report Jan. 9, 1974 by D. H. James, P. Eng.

4850

DRILLING REPORT

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INTRODUCTION

This report is written to fulfill the requirements of Part III of Regulations Governing Assessment Work under the Mineral Act. It describes drilling carried out on the Lorraine 4 Mineral Claim grouped with the contiguous claims listed in the title.

The Lorraine 4 claim covers part of the original Lorraine copper prospect described in various publications of the British Columbia Department of Mines. For regional geology and location the reader is referred to Preliminary Map No. 9 compiled by J. A. Garnett.

The property can be reached in good weather by four wheel drive vehicles from Mile 28 on the Germansen Landing mining access road, but as the nearest supply centre is at Fort St. James, it is more efficient to supply fresh food and mail by aircraft from Smithers to Germansen Landing.

SPECIAL CIRCUMSTANCES

This drilling was done to sample the central portion of the original Lorraine showing. This showing was previously drilled from a ridge at the upper edge of the mineralization and from points on a talus slope at the base of the cliff which approximates its lower margin. The steep rock slope between is very difficult to establish drill sites on. A trench was bulldozed as far as possible and then extended by drilling, blasting and hand mucking across the approximate centre of the mineralized area. This trench also served as safe access for men and light portable equipment. A Winkie drill was employed in an effort to drill a series of 200-foot holes into the deposit.

Because of uncertainties relating to access, water supply and the size of the job it had to be let "cost plus". Many holes could not be completed due to limitations of the equipment and crews, and only about 2/3 the desired program could be completed. Costs are thus somewhat higher than normal.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **4850** MAP _____

COST STATEMENT

The following costs are considered directly applicable to the program:

Wright Drilling Ltd.	
Invoice 18104 as amended	\$10,576.65
Invoice 18114	2,564.69
Supervision, core handling, logging	
W. J. Wilkinson Aug. 24-30	
6 days = Y4 mo @ \$1450 + 15%	416.87
J. Vander Ark Aug. 22 - Sept. 12	
22 days = 1 mo @ \$650 + 15%	747.50
Vehicle for supply, service, safety	
3/4 ton FWD	
22 days = 3/4 mo @ \$400 (internal rate)	300.00
Camp costs - food, fuel, etc.	
96 man days @ \$10	960.00
Air Service Smithers - Germansen	
TPA Charter Tickets Aug. 24	216.00
Aug. 31 (half)	150.00
Assays (see logs) 93 @ \$3.33	<u>309.69</u>
Total	\$16,241.40

LOGS

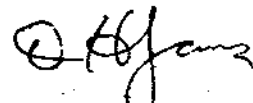
Logs of the holes are appended as part of this report. They are Xerox copies of originals because in the writer's experience more errors get into logs through transcription mistakes than arise through illegibility.

The logs were done by Mr. W. J. Wilkinson B. Sc. who is employed as regional geologist Smithers by The Granby Mining Company Limited and is fully qualified by his degree in geology and his experience. Details of the holes are given in the headings of the logs.

Split halves of the cores are stored in Smithers, except for portions used for metallurgical testing.

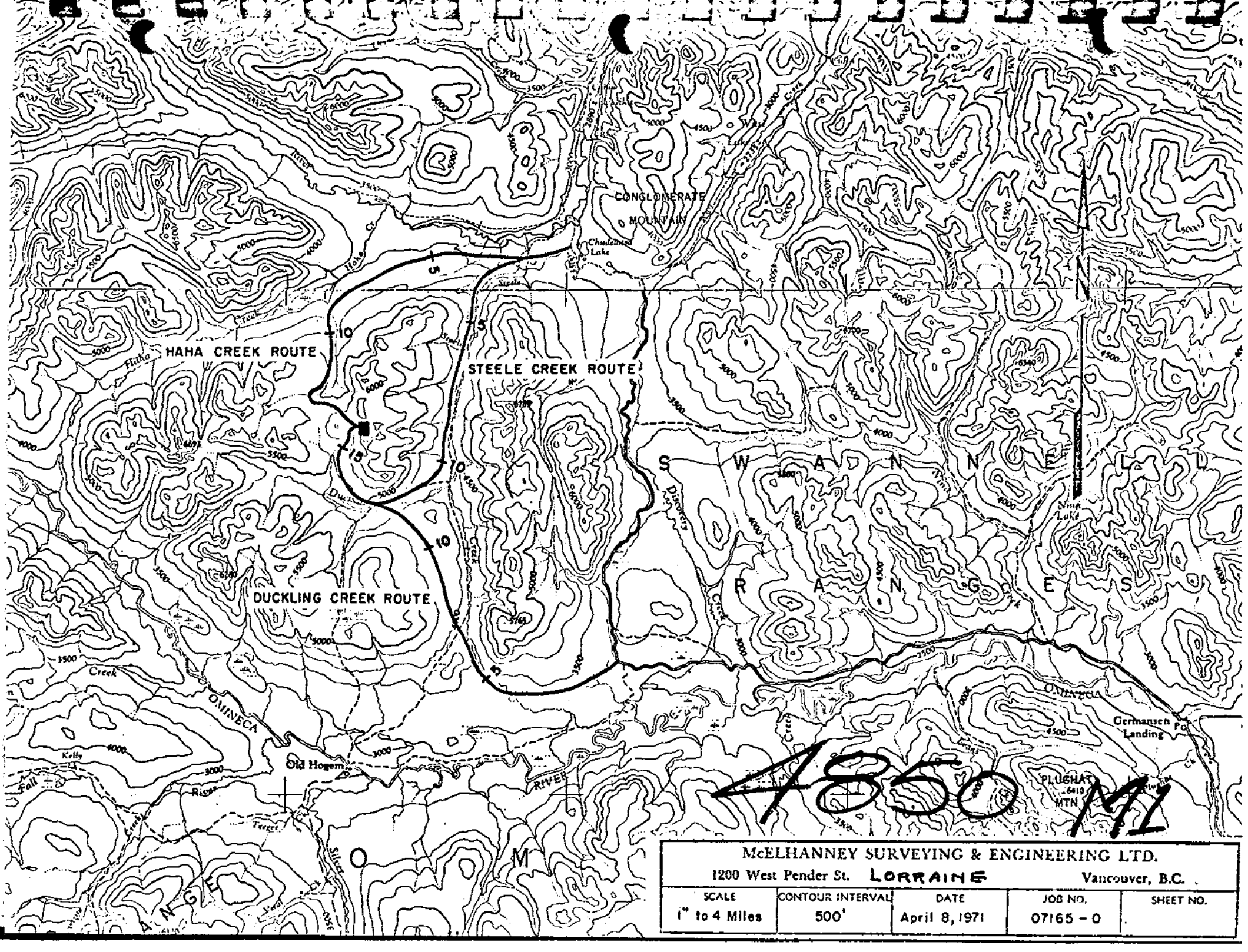
PLANS

The enclosed index plan is at 1" to 4 miles. The location plan is at 1" to 400 feet.



D. H. James, M.Sc. P. Eng.
Manager, Metals Exploration
The Granby Mining Company Limited

DHJ/eb
Encl.



Haha Creek Route

Steele Creek Route

Duckling Creek Route

CONGLOMERATE MOUNTAIN

Chalkland Lake

OMINECA RIVER

ANGEL RIVER

Germansen po Landing

4850

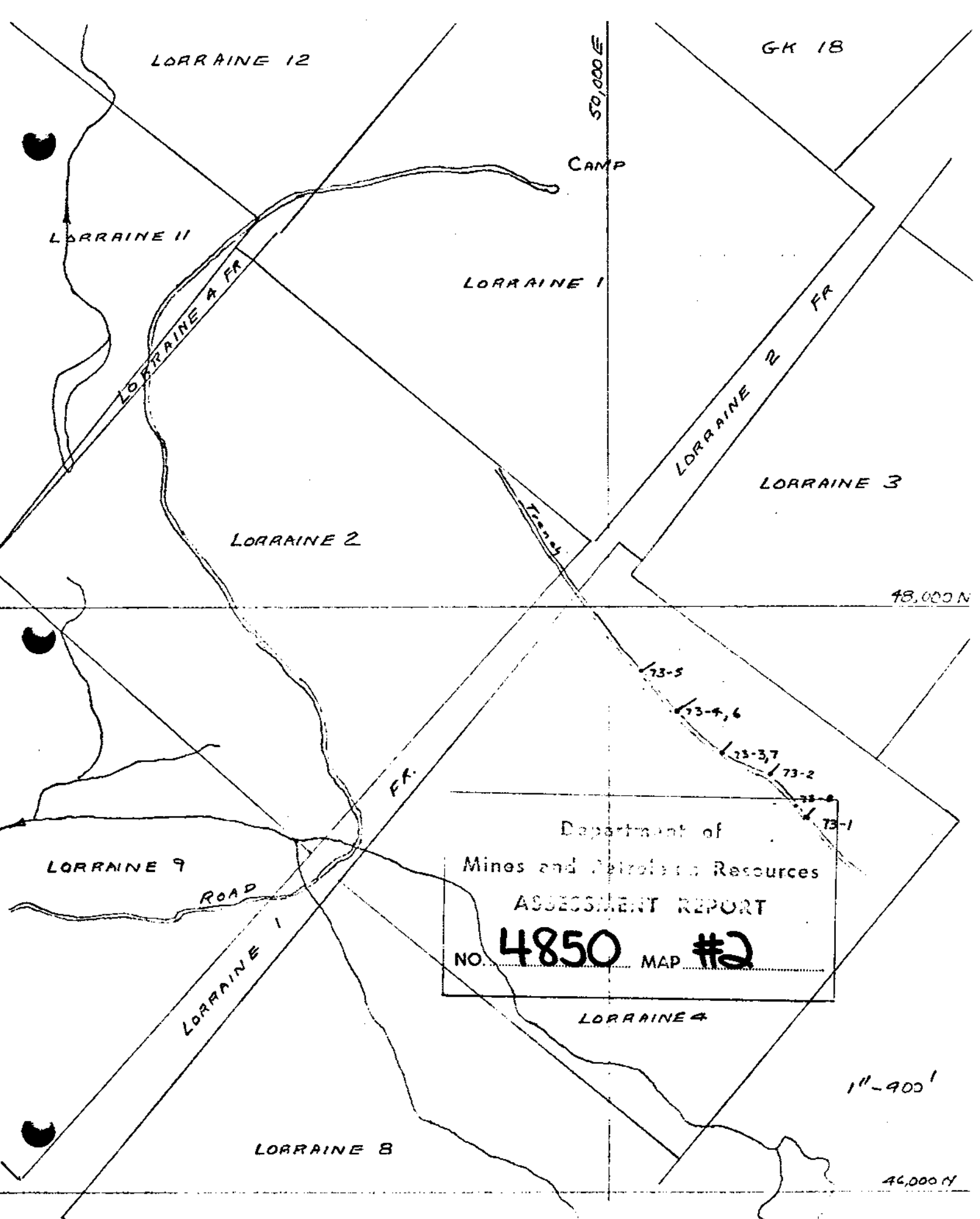
PLUSHAT 6410 MTN

McELHANNEY SURVEYING & ENGINEERING LTD. 1200 West Pender St. LORRAINE Vancouver, B.C.				
SCALE 1" to 4 Miles	CONTOUR INTERVAL 500'	DATE April 8, 1971	JOB NO. 07165 - 0	SHEET NO.

Department of
Minas and Petroleum Resources

ASSESSMENT REPORT

NO. **4850** MAP **#1**



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **4850** MAP **#2**

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

PROPERTY LORRAINE

CLAIM LORRAINE No. 4

LATITUDE 47,283 N

BEARING N 45° E

Hole No. 73-1

DEPARTURE 50,672 E

SLOPE -45°

PAGE 1/2

ELEVATION 6,028'

LENGTH 102'

DATE STOPPED September 12, 1973

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
0	73	Mesocratic <u>Syenite</u> <u>Migmatite</u> : grey-orange, grey, fine-grained, equi granular. Weak, irregular foliation marked by mafic streaks, patches. Magnetite present as narrow veinlets and larger clots healing more brecciated rock. <u>Chalcopyrite</u> , <u>bornite</u> in intimate relation to magnetite and to mafic streaks/patches. Rock quite fresh except on and adjoining fractures (numerous), which are characterized by malachite/limonite/(Uverite?) stain. (59-67: Grey Syenite Migmatite: fresh, foliated, fine-grained, grey-migmatite, good exp/bn; totally lacking in orange ligner.) <u>Mineralization</u> : weak to very good, extremely finely disseminated chalcopyrite & bornite, with larger sulphide clots in magnetite patches & mafics.	0-10	26962	0.58			
			10-20	26963	0.68			
			20-30	26964	0.54		22-23%	1
			30-40	26965	0.49		32-35	1/2
			40-50	26966	0.45		35-37	1/2
			50-60	26967	0.37			
			60-70	26968	0.56			
		(Granitic) <u>Aplite</u> Dykes ^{122°NW} <u>alphanitic</u> , grey-white, with traces disseminated sulphides; fresh, but with malachite/limonite stain on fractures Occur at: 1 1/2' - 2 1/2', 22 1/2' - 24' (upper contact parallel to core axis; lower contact ~30° off c.a.), 27-28 1/2', 32-32 1/2', 41-42						

LOGGED BY J. J. Williams

HOLE NO. 73-1

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

PROPERTY LORRAINE

CLAIM _____

LATITUDE	BEARING	Hole No. <u>73-1</u>
DEPARTURE	SLOPE	PAGE <u>2/2</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
73-101		Mesocratic Syenite: orange-grey, ^{grey,} fresh, fine-grained, mottled texture appears intrusive. Little epidote alteration, little limonite stain (only traces of malachite. Rock is orange-grey, flecked with orange K-spar to 87', where becomes grey, free of orange K-spar, but carries chalcopryite and bornite finely disseminated and as black veinlets (Malachite, black (tarnish?)) Overall grade low, but looks better than assays indicate.	70-80	26969	0.20			
			80-90	26970	0.08			
			90-100	26971	0.12			
101-102		(Granitic) Aplite Dyke: grey-white, aphanitic, fresh, hard, brittle. Contact at 101 about 75° off core axis.	101-102	26972	8.03			
		End of Hole						

LOGGED BY [Signature]

HOLE NO. 73-1

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

 CLAIM LORRAINE No. 4

LATITUDE <u>47,431 N.</u>	BEARING <u>N 45° E</u>	Hole No. <u>73-2</u>
DEPARTURE <u>50,561 E</u>	SLOPE <u>-45°</u>	PAGE <u>1/3</u>
ELEVATION <u>6,015 ±</u>	LENGTH <u>158'</u>	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
0	16	Mesocratic Syenite Migmatite: hard, ^{fairly} fresh, orange-grey, mostly fine-grained, K-feldspar-pyroxene (sillite) rock. Migmatitic in part, with characteristic mafic patches & streaky foliation grading into speckled rock which looks intrusive. Pyroxene partly chloritized; few Qtz, K-spar veinlets. Mineralization: weak disseminated sp; little malachite disseminated, and on fractures (also brown stain (limonite) and fine black encrustations (tenorite?).	0-10	27132	0.22			
			10-20	27133	0.40			
16	36 1/2	Mesocratic Syenite: hard, fresh, grey to orange-grey, fine to medium-grained. Similar to (0-16) in composition, but texture looks intrusive. Weak folia marked by alignment of ^{mafic} crystals. Black material (weathered chlorite?) and limonite stain on (numerous) fractures. Many small (~4%) Kspar veinlets, 80-90° off core axis. Mineralization: only traces of sulphides, malachite	20-30	27134	0.03			
			30-40	27135	0.21			
36 1/2	117	Mesocratic Syenite Migmatite: like (0-16). Mineralization: extremely finely disseminated hematite and chalcopyrite, very hard to see; extensive malachite on fractures; malachite throughout. Some black (tenorite?) ^{some} powdery material; larger chalcopyrite grains surrounded enclosed by thick shell	40-50	27136	0.68			
			50-60	27137	1.32			
			60-70	27138	0.61			
			70-80	27139	0.47			
			80-90	27140	0.45			
			90-100	27141	0.40			

 LOGGED BY M. J. Williams

 HOLE NO. 73-2

THE GRANBY MINING CO. LTD.
CORE DRILL LOG

PROPERTY LORRAINE

CLAIM

LATITUDE	BEARING	Hole No. <u>73-2</u>
DEPARTURE	SLOPE	PAGE <u>2/3</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAB NO.	% CU	AVG.	FROM TO	SHORT
117	117	of translucent, vitreous to adamantine replacement mineral, color ranging from ruby red to light brown to nearly black. May be cuprite, or mixture of cuprite and goethite (limonite). Also occurs throughout as discrete disseminated grains. Impossible to estimate sulphide Cu grade due to extreme fineness of material and irregular occurrence, unlikely to be more than 0.2%, even in short intervals. Oxides decrease with depth; sulphides predominant ^{74"-102"} below 74"; still extensive malachite on fractures, black encrustations (some brownish-black, dendritic - pyrite-like).	100-110	27142	1.04			
		102"-114" : strong malachite dissen and on fractures; only few large blebs sulphides visible; grade must be due to oxides.	110-120	27143	0.50			
117	143	Mesocratic Syenite: grey & orange-grey, fine- to medium grained bi-px - (Kspars?) rock. 1/8" phenocrysts, often lath-shaped, of pyroxene appear to be pseudomorphs (after hornblende). Short lengths perphyritic, with grey (Kspars?) laths to 1/2" long, aligned approximately perpendicular to core axis. Texture appears intrusive; very irregular orange K-spar permeation.	120-130	27144	0.07			
			130-140	27145	0.07			

LOGGED BY J. J. Johnson

HOLE NO. 73-2

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

 CLAIM

LATITUDE	BEARING	Hole No. <u>73-2</u>
DEPARTURE	SLOPE	PAGE <u>3/3</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
(117)-	143	Mesocratic Syenite (cont'd.): Mineralization: nil sulphides; few traces of malachite on fractures. Slightly chloritized; little epidote.						
143-	158	Mesocratic Syenite Migmatite: similar to (36 $\frac{1}{2}$ -117); fine-grained, strong folia varying from 60°-80° off core axis, consisting of very fine laminations of (strongly chloritized) mafics. Chloritic alteration variable, weak to completely altered. Mineralization: nil sulphides visible. Traces malachite, more limonite and black powdery mineral on some fractures. Pegmatite dykes 149'-150', 156'-158' (where includes ^{short} melanic sections: biotite-pyroxene-feldspar magnetite rock, possibly pyroxenite?)	140-150	27146	0.10			
			150-158	27147	0.09		150-158	2'

 LOGGED BY W. Williams

 HOLE NO. 73-2

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

 CLAIM LORRAINE No. 4

 LATITUDE 47,509N

 BEARING N 45° E

 Hole No. 73-3

 DEPARTURE 50,392 E

 SLOPE -45°

 PAGE 1/3

 ELEVATION 6,002 ±

 LENGTH 80'

 DATE STOPPED Aug. 29/73

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
0	26'	Mesocratic Syenite Migmatite; grey-crang;	0-10	26951	0.35			
		fairly fresh, hard. Light pink-grey Kspar	10-20	26952	0.53		11-20	4
		and foliated biotite, chlorite. Foliation	20-30	26953	0.12		20-26	2
		perpendicular to core axis at 6'; mostly						
		slightly to non-foliate. Pegmatite dyke						
		(possibly from 20'-24'?) - much lost core.						
		Rock appears quite fresh except for						
		oxidation of copper sulphides.						
		Few magnetite veinlets.						
		Mineralization: Weak disseminated						
		chalcopyrite; much malachite, especially						
		along fractures. Limonite, and black						
		stain (possibly tenorite?) both on fractures						
		and disseminated.						
26	5.3	Grey Syenite (Monzonite?): medium-grained,	30-40	26954	0.03			
		fresh; mottled, intrusive-like texture; grey	40-50	26955	0.04			
		to white feldspars surrounded by randomly						
		spaced equigranular mafics - biotite,						
		pyroxene (?). Weak, irregular foliation						
		roughly perpendicular to core axis,						
		marked by subhedral mafic crystals.						
		Occasional orange-pink K-spar veining						

LOGGED BY

A. Hartou
of Wilkinson

HOLE NO.

73-3

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

CLAIM _____

LATITUDE	BEARING	Hole No. <u>73-3</u>
DEPARTURE	SLOPE	PAGE <u>2/3</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
<u>26-53</u>		with associated chloritized clots. 'veining' increases with depth; rock is flooded with Kspar; colour changes to pink with mafics enclosed. Alteration: some chloritization; some calcite along fractures (esp. 36'); kaolinization of feldspars. Mineralization: nil; little limonite on fractures, occasional trace of malachite.						
<u>53-80</u>		K-feldspathized Syenite: fine- to medium-grained, grey-orange, intrusive texture. Same as (26-53) except for complete flooding of matrix with Kspar. Mafics chloritized; slight foliation. Rock includes short sections of 'migmatite' - strong foliation, well fractured, plentiful sulphides, oxides. Spotty green chloritized mafics in pink Kspar matrix typical of top of section grades downward to mafic banding in ophanitic aphanitic matrix near 80'.	<u>50-60</u>	<u>26956</u>	<u>0.08</u>			
			<u>60-70</u>	<u>26957</u>	<u>0.10</u>			
			<u>70-80</u>	<u>26958</u>	<u>0.14</u>		<u>70-75</u>	<u>4 1/2</u>
							<u>75-80</u>	<u>4 1/2</u>

 LOGGED BY A. Marton
A. J. Richardson

 HOLE NO. 73-3

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

PROPERTY LORRAINE

CLAIM _____

LATITUDE	BEARING	Hole No. <u>73-3</u>
DEPARTURE	SLOPE	PAGE <u>3/3</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
<u>(53-80)</u>		<i>continued: few magnetite veins occur near bottom, also little disseminated chalcopyrite in matrix, little malachite</i>						
		<i>End of Hole (caving)</i>						

LOGGED BY A. Marton
A. W. Holliman

HOLE NO. 73-3

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

 CLAIM LORRAINE No. 4

LATITUDE	47, 648 N	BEARING	N 65° E	Hole No.	73-4
DEPARTURE	50, 240 E	SLOPE	- 45°	PAGE	1/4
ELEVATION	5,943' ±	LENGTH	182'	DATE STOPPED	August 25, 1973

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	Avg.	FROM TO	SHORT
0	10	Mesocratic Syenite: equigranular, mottled (intrusive?) texture; white, grey and orange feldspars, biotite and pyroxene. Mineralization: a little chalcopyrite, plus a fair number of malachite-coated fractures.	0-10	26917	0.46	$\frac{1.57}{182}$	0-5	1
							5-8	1
							8-10	1/2
							10-15	1/2
10	93	Mesocratic Syenite Migmatite: grey and orange-grey, very fine-grained, equigranular, foliated (foliation marked by rock-colored brown feldspars, dark grey mafics and light to olive-green chlorite). Grain size varies from fine-grained in melanocratic sections to coarse in mesocratic-leucocratic sections. Foliation intensity varies from strong to nil (seen principally as mafic alignment or malachite on planar microfractures). Magnetite occurs as veinlets conformable to foliation as well as in random orientation. Alteration: some chloritization, kaolinization, moderate to extreme intense K-feldspathization.	10-20	26918	1.60			
			20-30	26919	2.60		20-25	2 1/2
			30-40	26920	2.80			
			40-50	26921	2.40		45-50	3
			50-60	26922	1.28			
			60-70	26923	0.92			
			70-80	26924	1.36			
			80-90	26925	1.52			

 LOGGED BY A. Marton
 & J. Williamson

 HOLE NO. 73-4

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

 CLAIM LORRAINE No. 4

LATITUDE	BEARING	Hole No. <u>73-4</u>
DEPARTURE	SLOPE	PAGE <u>2 / 4</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
(10-93)		(continued)						
		<p><u>Mineralization</u>: good grade chalcopryrite & bornite on fractures and microfractures; disseminated blebs in heavily feldspathized sections; ^{also} associated mafics. Quartz filling small (occasional) fractures.</p> <p>Very extensive malachite crusts on larger fractures (also some azurite) - possibly 1/2-1/3 of total copper occurs as oxides - also have limonite, plus unidentifiable black stain and/or powder (tenorite?).</p> <p>Malachite very dominant near-surface, but gradually gives way to fracture-plane chalcopryrite-bornite mineralization with increasing depth, except for very strong fractures, which remain essentially malachite.</p>						
93-96		<p>Leucocratic Syenite (dyke?):</p> <p>salmon-pink, grey, brown & white feldspar phenocrysts. Some fractures mineralized with chalcopryrite, bornite (minor malachite). Fine disseminated mineralization generally lacking. Biotite moderately chloritized; larger blocks near (contacts?).</p>						

 LOGGED BY A. Marton
J. Wilkinson

 HOLE NO. 73-4

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

PROPERTY LORRAINE

CLAIM LORRAINE No. 4

LATITUDE	BEARING	Hole No. <u>73-4</u>
DEPARTURE	SLOPE	PAGE <u>3/4</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY			
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% Cu	AVG.	FROM TO	SHORT	
96-	121	<p><i>Mesocratic Syenite Migmatite: predominantly mesocratic migmatite alternating with melanocratic. Flesh-brown to grey, pink feldspars. Foliation 10° off core axis outlined by K-spar-filled fractures, some with good chalcopyrite-bornite; hard to see (mafic) foliation.</i></p> <p><i>Mineralization: very good chalcopyrite-bornite as fine disseminations and on fractures; not strongly oxidized, although malachite and limonite are present, with strongest oxidation occurring on fractures.</i></p>	90-	100	26926	1.38			
			100-	110	26927	1.28			
			110-	120	26928	1.76		116-121	1
121-	182	<p><i>Melanocratic Syenite Migmatite: very fine-grained, grey rock grading to mesocratic migmatite. Brown, orange feldspar phenocrysts in a green-grey mafic matrix ('host' rock?). Mafic foliation generally not visible (122' - 85° off core axis)</i></p> <p><i>155'-156' - Pegmatite Dyke - contact 15° off core axis. Spotty orange & pink feldspars with spiculate patches. Cp, bn reduced.</i></p> <p><i>121-166 Mineralization: extremely finely</i></p>	120-	130	26929	1.48			
			130-	140	26930	1.52		128-133	1
			140-	150	26931	0.72		142-147	1 1/2
			150-	160	26932	1.04			
			160-	170	26933	2.00			
			170-	182	26934	2.10		178-182	3

LOGGED BY A. Marten
A. W. Williamson

HOLE NO. 73-4

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

PROPERTY LORRAINE

CLAIM.....

LATITUDE	BEARING	Hole No. <u>73-4</u>
DEPARTURE	SLOPE	PAGE <u>4/4</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
-182		<i>disseminated chalcopyrite and bornite, relatively fewer mineralized fractures. Sulphides reduced near K-spar 'veins'. 168-182: Mostly dark grey to green-grey, slightly foliated (20° off core axis), melanocratic. Foliation occasionally marked by K-spar 'veining' (less K-spathized 'host' relic). Mineralization - good chalcopyrite, bornite; malachite on fractures</i>						
		<i>End of Hole</i>						

LOGGED BY A. Marten
J. J. Wilkinson

HOLE NO. 73-4

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

 CLAIM LORRAINE No. 4

LATITUDE <u>47, 780 N</u>	BEARING <u>N 65° E</u>	Hole No. <u>73-5</u>
DEPARTURE <u>50, 120 E</u>	SLOPE <u>- 45°</u>	PAGE <u>1/4</u>
ELEVATION <u>5, 940'</u>	LENGTH <u>158'</u>	DATE STOPPED <u>August 23, 1923</u>

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG No.	% CU	AVG.	FROM TO	SHORT
0	26	Mesocratic Syenite Migmatite: fine-grained, grey and orange-grey. Felds. spars grey, light brown white. Faint foliation. Mineralization: lean chalcocopyrite; moderate amount malachite, predominantly along fractures. Occasional oblique vein of magnetite and orange K-spar.	0-10	26901	0.21	$0.34/158$	0-3	1 1/2
			10-20	26902	0.40		3-7	1
			20-30	26903	0.25		7-12	1
		23-26: feldspars mostly white, surrounded by orange alteration. Phenocrysts rounded. Chlorite and Kspar alteration. Spotty chalcocopyrite, malachite.						
26	38	Mesocratic Syenite: fine to medium-grained, grey to light brown feldspars. Slightly foliated. Speckled (intrusive?) texture in part, possibly contact phase. Alteration: chloritized, kaolinized. Occasional clots of 'pyroxenite', magnetite. Mineralization: weak chalcocopyrite; spotty malachite along mafic foliation.	30-40	26904	0.20		29-32 1/2	1
							32 1/2-36	1/2
38	46 1/2	Mesocratic Syenite Migmatite: same as (0-26).	40-50	26905	0.29			

 LOGGED BY A. Marton
8/23/23

 HOLE NO. 73-5

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

CLAIM _____

LATITUDE	BEARING	Hole No. <u>73-5</u>
DEPARTURE	SLOPE	PAGE <u>2/4</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
<u>46 1/2</u>	<u>139</u>	<u>Leucocratic Syenite Migmatite: salmon-pink to light brown feldspars with occasional orange Kspar structure. No foliation (lack of mafics). Sugary texture. Few clots of altered chlorite, bleached feldspar and coarse biotite.</u>	<u>50-60</u>	<u>26906</u>	<u>0.18</u>			
			<u>60-70</u>	<u>26907</u>	<u>0.13</u>			
			<u>70-80</u>	<u>26908</u>	<u>0.19</u>			
		<u>76 1/2 - 78: weak chalcopryrite, light malachite (malachite only on fractures)</u>						
		<u>78 - 85: A fine-grained, equigranular, salmon-pink to grey-white feldspars; slightly foliated with spotty to continuous biotite. Non-magnetic Feldspar laths not oriented. Occasional pyroxenite clots with magnetite, strong chlorite alteration, slight kaolinization.</u>	<u>80-90</u>	<u>26909</u>	<u>0.31</u>			
		<u>: chalcopryrite weakly disseminated, associated with mafics (foliated) slight - 30° off core axis). Malachite along fractures and disseminated specks.</u>						
		<u>85 - 95: medium-grained, leucocratic, salmon-grey to light pink feldspars with few clots of pyroxenite altered to chlorite. Random blebs magnetite. Occasionally orange</u>						

LOGGED BY

A. Marton
& W. Wilkinson

HOLE NO.

73-5

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

CLAIM _____

LATITUDE	BEARING	Hole No. <u>73-5</u>
DEPARTURE	SLOPE	PAGE <u>3/4</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
		Kspar in fractures with better mineralization. ✓ Kachitized, chloritized more than previous core. Foliation absent. : minor disseminated pyrite, weak to fair chalcopyrite. Malachite along fractures.						
		95-105 : fine-grained version of (85-95); (leucocratic); some epidote. Some later Kspar along fractures with orange Kspar alteration adjacent to fractures; a little carbonate along some microfractures. : clots chalcopyrite around mafics, malachite along some fractures.	90-100	26910	0.38			
		105-129 : leucocratic; foliation appears weakly at 110', well banded at 125'. More orange feldspar overall. More chloritic alteration and magnetite. Occasional quartz-filled small fracture.	100-110	26911	0.27			
			110-120	26912	0.33			
			120-130	26913	0.47			
		: good chalcopyrite, increasing with mafic content and foliation; bornite (especially at 115', with Fe stain around. Some chalcopyrite on microfractures. ✓						

 LOGGED BY A. Marton
& H. Wilkinson

 HOLE NO. 73-5

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

CLAIM _____

LATITUDE	BEARING	Hole No. <u>73-5</u>
DEPARTURE	SLOPE	PAGE <u>7/7</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY	
FROM	TO	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
	129-139: leucocratic syenite with narrow melanocratic bands, well foliated about 60° off core axis - gross structure. Microfractures of quartz(?) with chalcopyrite in fracture, bordered by K-spar alteration. : melanocratic bands well mineralized - chalcopyrite and bornite, plus magnetite, malachite on fractures.	130-140	26914	1.08			
139-158	Mesocratic Syenite Migmatite: grey and orange-grey, fine-grained, with orange, white and grey feldspar laths intermixed with biotite, pyroxene, chlorite. Texture partly migmatitic, partly intrusive. Foliation - aligned feldspars and mafics - almost perpendicular to core axis. Mineralization: weak to nil disseminated chalcopyrite; minor malachite, limonite, black stain, on fractures.	140-150	26915	0.41		144-151	5'
		150-158	26916	0.30		151-153	1 1/2'
						153-158	2'
	151-158 - Fault or Shear Zone? - poor recovery. Malachite on fractures, lean chalcopyrite.						
	End of Hole.						

 LOGGED BY A. Marten
& W. Nickerson

 HOLE NO. 73-5

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

 CLAIM LORRAINE No. 4

LATITUDE	47, 618 N	BEARING	-	Hole No.	73-6
DEPARTURE	50, 240 E	SLOPE	-90°	PAGE	1/3
ELEVATION	5, 943' ±	LENGTH	148'	DATE STOPPED	August 26, 1973

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
0-	17	Mesocratic Syenite: same as 73-4, (0-10)	0-10	26925	0.19		0-5	1
		spotty intrusive texture	10-20	26926	0.64	0.98/148	8-14	1/2
		Alteration: chloritization, K feldspathization, epidote					14-19	1/2
		Mineralization: chalcocyanite with magnetite						
		(blobs) in highly altered pegmatitic zones						
		: chalcocyanite and bornite in						
		K-spar veinlets and along contacts of veinlets						
		with mafics.						
		: malachite, azurite along fractures						
17-	148	Mesocratic Syenite Migmatite: same as						
		73-4 (10-93) etc.						
		17-68: aphanitic, foliated, mesocratic	20-30	26937	1.68		30-35	2
		alternating with melanocratic syenite.	30-40	26938	4.70		35-40	4
		Rock colour varies (with copper grade?): ?	40-50	26939	2.00		40-44	3
		17-26 green grey, brown	50-60	26940	2.00		55-60	3
		26-48 blue-grey, light brown	60-70	26941	1.04		64-69	2
		48-68 light brown, grey, dark grey						
		Foliation: 27' - 25° off core axis						
		48' - 15° " " "						
		62' - 10° " " "						
		Some quartz-filled fractures, magnetite.						

 LOGGED BY A. Marten
A. J. Wilkinson

 HOLE NO. 73-6

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY Lorraine

CLAIM _____

LATITUDE	BEARING	Hole No. <u>73-6</u>
DEPARTURE	SLOPE	PAGE <u>2/3</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
		(17-68): Mineralization: Numerous fractures are well mineralized with chalcopyrite, bornite, malachite - <u>good evidence</u> of primary sulphides on fractures, oxidizing to malachite (and tenorite?). Also fine to coarsely disseminated chalcopyrite, bornite. Oxide copper about 1/2 of total (?).						
		68-113: grey with orange Kspar veins or "flows". No definite foliation. Less fractured, though some quartz veins present to 1/2" thick. (e.g. 100). Much (disseminated) magnetite. Mineralization - moderate amount chalcopyrite, bornite, mostly disseminated. Chalcopyrite occurs on fractures, diminishing with depth (deepest spot where prominent - 83'). Sulphides predominant, but malachite present both disseminated and on fractures, with limonite and black stain.	70-80	26942	0.45			
			80-90	26943	0.28		80-83	1/2
			90-100	26944	0.18			
			100-110	26945	0.10		107-113	1
		113-132: Agmatite: more coarsely migmatitic; large patches and streaks of mafic rock engulfed, permeated by	110-120	26946	0.31			
			120-130	26947	0.53		127-132	1

LOGGED BY

A. Marton
& W. Wilkinson

HOLE NO.

73-6

THE GRANBY MINING CO. LTD.
CORE DRILL LOG

PROPERTY LORRAINE CLAIM _____

LATITUDE	BEARING	Hole No. <u>73-6</u>
DEPARTURE	SLOPE	PAGE <u>3/3</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
		orange K-spar. Pink and grey-white feldspars give rock varying colours. Traces of epidote, some biotite 'locks'. No foliation seen. Chlorite, kaolin alteration. Mineralization: disseminated chalcopyrite and (minor) bornite. Hematite, malachite on a few fractures. Magnetite as accessory (?) and in veinlets.						
		132-148: more leucocratic (more strongly K feldspathized). Pink colour, with short grey (mafic) sections.	130-140	26948	0.51			
			140-150	26949	0.76		142-149	1/2
							149-148	2 1/2
		133-134 - possibly syenite dyke? - but very granular.						
		Much fine disseminated chalcopyrite in strongly K feldspathized sections, throughout. Increase in malachite on fractures, microfractures.						
		117-148: only light malachite, limonite coatings on fractures; disseminated sulphide chiefly chalcopyrite.						
		End of Hole						

LOGGED BY A. Marton
J. Wilkinson

HOLE NO. 73-6

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

 PROPERTY LORRAINE

 CLAIM LORRAINE No. 4

LATITUDE <u>47,509 N</u>	BEARING <u>-</u>	Hole No. <u>73-7</u>
DEPARTURE <u>50,392 E</u>	SLOPE <u>-90°</u>	PAGE <u>1/2</u>
ELEVATION <u>6,002 ±</u>	LENGTH <u>79'</u>	DATE STOPPED <u>September 1973</u>

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
0	36	Mesocratic Syenite Migmatite: grey, orange, orange-grey, mostly fine-grained, fresh & hard except in fractures, foliation occasionally present (fine laminations of mafics); often fine-grained orange leucocratic syenite envelopes relatively large (several inches) mafic streaks, patches. Magnetite as accessory mineral - 18%? Weak chloritic alteration, stringer in fractures. Mineralization: some very finely disseminated chalcopyrite. Fractures extensively coated with limonite, black powder, malachite, little azurite. (Oxides much more prevalent ^{30-36'} 30-74' ; few sulphides visible.)	0-10	26959	0.32		0-6	3'
			10-20	26960	0.27		16-20	1 1/2
			20-30	26961	0.30		20-25	1
			30-40	27127	0.56		25-30	4
							30-35	1
							35-41	2
							51-55	1 1/2
							61-67	1
							64-70	2
							70-74	1 1/2
							74-79	4
		Core recovery very poor.						
36	74	Mesocratic Syenite: orange-grey, medium grained, biotite-pyroxene-gyser rock. Mafic phenocrysts give 'speckled' appearance; texture looks intrusive. Fresh, unaltered (slightly chloritized). Mineralization: no disseminated sulphides seen; several small 'veinlets' of magnetite with coarse lumps of chalcopyrite; some malachite, limonite and black stain on fractures. Traces of disseminated pyrite.	40-50	27128	0.12			
			50-60	27129	0.09			
			60-70	27130	0.22			
			70-79	27131	0.12			
		70-74 - lost core; possibly pegmatite dyke (narrow)						

 LOGGED BY M. J. McKinnon

 HOLE NO. 73-7

THE GRANBY MINING CO. LTD.
CORE DRILL LOG

PROPERTY LORRAINE

CLAIM

LATITUDE	BEARING	Hole No. <u>73-7</u>
DEPARTURE	SLOPE	PAGE <u>2/2</u>
ELEVATION	LENGTH	DATE STOPPED

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
<u>74-79</u>		<u>Fault zone? : little core recovered (little syenite, little coarsely crystalline K-feldspar -pegmatite?); drillers report 4' of sand or fault gouge.</u>					<u>74-79</u>	<u>4'</u>

LOGGED BY G. J. Wilkinson

HOLE NO. 73-7

THE GRANBY MINING CO. LTD.

CORE DRILL LOG

PROPERTY LORRAINE

CLAIM LORRAINE NO. 4

LATITUDE 47, 325 N

BEARING —

Hole No. 73-8

DEPARTURE 50, 640 E

SLOPE -90°

PAGE 1/1

ELEVATION 6, 020'

LENGTH 4'

DATE STOPPED September 14, 1912

GEOLOGY		SAMPLES				RECOVERY		
FROM	TO	DESCRIPTION	FROM TO	TAG NO.	% CU	AVG.	FROM TO	SHORT
0	4	Mesocratic Syenite Migmatite: grey-sandy, fine-grained, granular. Fairly well-developed folia marked by mafic streaks, varies 95°-90° off core axis. Strongly fractured in vertical planes. Rock quite tough hard except minor chloritic alteration. Notice weathering on fractures. Mineralization: only very fine traces of disseminated chalcopryite visible. Malachite and limonite coatings on most fractures; also patches of black powdery mineral (tenorite?). Fresh rock is well-mineralized with "disseminated malachite" - evidently formed by oxidation of sulphides.	0-4	26973	0.84			
		End of Hole (drill breakdown)						

LOGGED BY J. J. Wilkinson

HOLE NO. 73-8

WRIGHT DRILLING LTD.
 GENERAL DELIVERY
 KNUTSFORD, B.C.

OUR NUMBER	18104
DATE	20 SEPT, 1973.
CUSTOMER'S ORDER	
SALESMAN	
TERMS	
F.O.B.	

SOLD TO GRANBY MINING COMPANY LTD.

SHIPPED TO LORRAINE

ADDRESS _____ VIA _____

INVOICE

	WINKIE DRILLING AUG 20 - SEPT 15	\$10,576.65
	(BREAKDOWN ENCLOSED)	
	DIAMOND CUT-OUTS & MISC. FRGT TO	
	FALLINGS	
	X45 re items checked	
	81 774.	
	10/0 9616.23	
	TOTAL DUE	\$10,576.65

BREAKDOWN INVOICE #18104

LABOR		\$6638.16	✓
DRILL RODS, CORE BARRELS & DRILL SUPPLIES \$788.13			
(J.K. SMIT INV. COPIES ENCLOSED) 5 739.41			
		827.56	
DRILL & PUMP RENTAL		400.00	✓
TRUCK RENTAL (FORD 4X4)		350.00	✓
FREIGHT (ENCLOSED)		41.40	✓
WATER HOSE		598.50	✓
PIPE FITTING, SPARK PLUGS, LAMP PARTS		51.69	✓
WRENCH JAWS		33.18	✓
FUEL AND OIL		45.55	
MOBILIZATION & DEMOBILIZATION			
TRUCK MILEAGE 2 TRUCKS KAM-LOIRRAINE RTN 2400 @ .12		288.00	✓
ROOMS (ENCLOSED RECEIPTS)		88.20	✓
MEALS (" ")		36.40	✓
BUS FARES (" ")		16.50	✓
	TOTAL	\$9,615.14	
	PLUS 10%	961.51	
	<u>TOTAL DUE</u>	<u>\$10,576.65</u>	

DIAMONDS HAVE BEEN RETURNED BUT NO CUT-OUT IS AVAILABLE. BILLINGS FOR THESE, PLUS ADDITIONAL FREIGHT & PHONE CALLS WILL FOLLOW UPON RECEIPT OF SAME. THE ORIGINAL INVOICES FOR THE DIAMOND PRODUCTS ARE ENCLOSED.

D Wright.

PAYROLL RECORD

AUG 20 - SEPT 15

D. WRIGHT

\$ 350.00

B. MATHIEU - DRILLER-FOREMAN

OVERTIME 108 HRS @ \$ 8.10 874.80
 STRAIGHT TIME 180 HRS @ 5.40 972.00

R. ANDREWS

HELPER 8'
 OVERTIME 67 HRS @ 6.30 422.10
 STRAIGHT TIME 116 HRS @ 4.20 487.20

F. LEGATH

DRILLER
 OVERTIME 60 HRS @ 7.50 450.00
 STRAIGHT TIME 165 HRS @ 5.00 825.00

F. LEGATH

HELPER
 OVERTIME 41 HRS @ 6.30 258.30
 STRAIGHT TIME 64 HRS @ 4.20 268.80

J. GLEASON

HELPER
 OVERTIME 64 HRS @ 6.30 403.20
 STRAIGHT TIME 112 HRS @ 4.20 470.40

TOTAL

\$ 5,531.80

ADMINISTRATION & OVERHEAD @ 20%

1,106.36

TOTAL LABOR COST \$ 6,638.16

BREAK DOWN

INV. # 19114

DIAMOND PRODUCTS J.K. SMITH & SONS INVOICES

12 IEX CORING BITS	#5952-5963	\$ 782.59
19 IEX " "	5897-5901	
	5075-5086	
	5004 & 5005	1249.90
18 IEX CORING BITS	5069-5071	
	5877-5891	1107.66
10 IEX CORING BITS	5887-5896	639.97
2 IEX CORING BITS	5073-5074	133.50
1 IEX SHELL	#2413	91.88
1 IEX SHELL	#2414	91.88

TOTAL INVOICED FOR \$4,097.38 (DR)

TOTAL CREDIT INVOICES

\$2898.70

LESS COST 1 EX CASING SHOE & 3 EXK BITS }
(N.A)

211.85

2686.85 CR.

BALANCE

\$1410.53

SUPPLIES & PARTS

INVOICES ENCLOSED
LESS CREDIT INVOICES

\$928.26 DR

187.85 CR.

BALANCE

\$ 740.51

SHIPPING CHARGES

INVOICES #48-10-73, 187-9-73

48.53

TELEPHONE CANS

32.67

FUEL OIL INVOICES

99.30

TOTAL

\$2331.54

PLUS 10%

233.15

TOTAL DUE

\$2564.69

1000' OF RUBBER HOSE

2000' OF PLASTIC HOSE

SHOWN IN AT GERMANSEN LANDING. (FREIGHT BILL TO FOLLOW
SPRING 1974)

Trans-Provincial Airlines Ltd.

Flt. Report Number	CHARTER AND CONTRACT TICKET	Invoice Number
--------------------	------------------------------------	----------------

Charge to: Franky Exploration

Date <u>July 24</u>	Cash	Phone
A/C Type <u>DH05</u>	CF- <u>109</u>	Warrant or Reg. No.
Base <u>McLure</u>	Pilot <u>C. MESICH</u>	

From: McLure To (1) Serranusa
 To (2) To (3)
 To (4) To (5)

FARE	<u>240</u> Miles @ \$ <u>90</u>	\$ <u>216.00</u>
	Hours @ \$	
Contract Rate	
Waiting Time	@ \$	
Extra Landings	@ \$	
Pilot Expenses	
Other	

TOTAL CHARGES

Authorized By [Signature]

THIS TICKET IS EXPRESSLY SUBJECT TO THE CONDITIONS AND TERMS PRINTED ON THE REVERSE SIDE OF TICKET AND WHICH ARE HEREBY ACCEPTED. (PASSENGERS' SIGNATURES)

- | | |
|---------|----------|
| 1 | 7 |
| 2 | 8 |
| 3 | 9 |
| 4 | 10 |
| 5 | 11 |
| 6 | 12 |

F-48
[Signature]

No 29902

Supplies for drilling program.

Trans-Provincial Airlines Ltd.

Flt. Report Number 058	CHARTER AND CONTRACT TICKET	Invoice Number
-------------------------------	------------------------------------	----------------

Charge to: The Granby Mining Co Ltd.

Date <u>Aug 31/73</u>	Cash	Phone
A/C Type <u>OTTER</u>	CF- <u>XUJ</u>	Warrant or Reg. No.
Base <u>MCHORE</u>	Pilot <u>W. KOPASCHUK</u>	
From: <u>MCHORE</u>	To (1) <u>G. H. MANSON</u>	
To (2) <u>MCHORE</u>	To (3)	
To (4)	To (5)	

FARE <u>240</u>	Miles @ \$ <u>1.25</u>	\$ <u>300.00</u>
	Hours @ \$	
Contract Rate		
Waiting Time	@ \$	
Extra Landings	@ \$	
Pilot Expenses		
Other		
TOTAL CHARGES		\$ <u>300.00</u>

Authorized By Al Martin

THIS TICKET IS EXPRESSLY SUBJECT TO THE CONDITIONS AND TERMS PRINTED ON THE REVERSE SIDE OF TICKET AND WHICH ARE HEREBY ACCEPTED. (PASSENGER'S SIGNATURES)

1 <u>Andy Kormendy</u>	7
2 <u>Bruce Anderson</u>	8
3 <u>Jim Hutter</u>	9
4 <u>AL MARTIN</u>	10
5	11
6	12

x-48
Al Martin

No **31418**

*1/2 drilling program supply
1/2 crew move out, trenching crew only.*