

GEOLOGY OFFICE

COPY

66, 67, 68, 69

The Granby Mining Company Limited

PHOENIX COPPER DIVISION

Grand Forks, B. C.

801977

1967 EXPLORATION REPORT

AND RECOMMENDATIONS FOR 1968

by

J. PAXTON
Mine Geologist

January 1968

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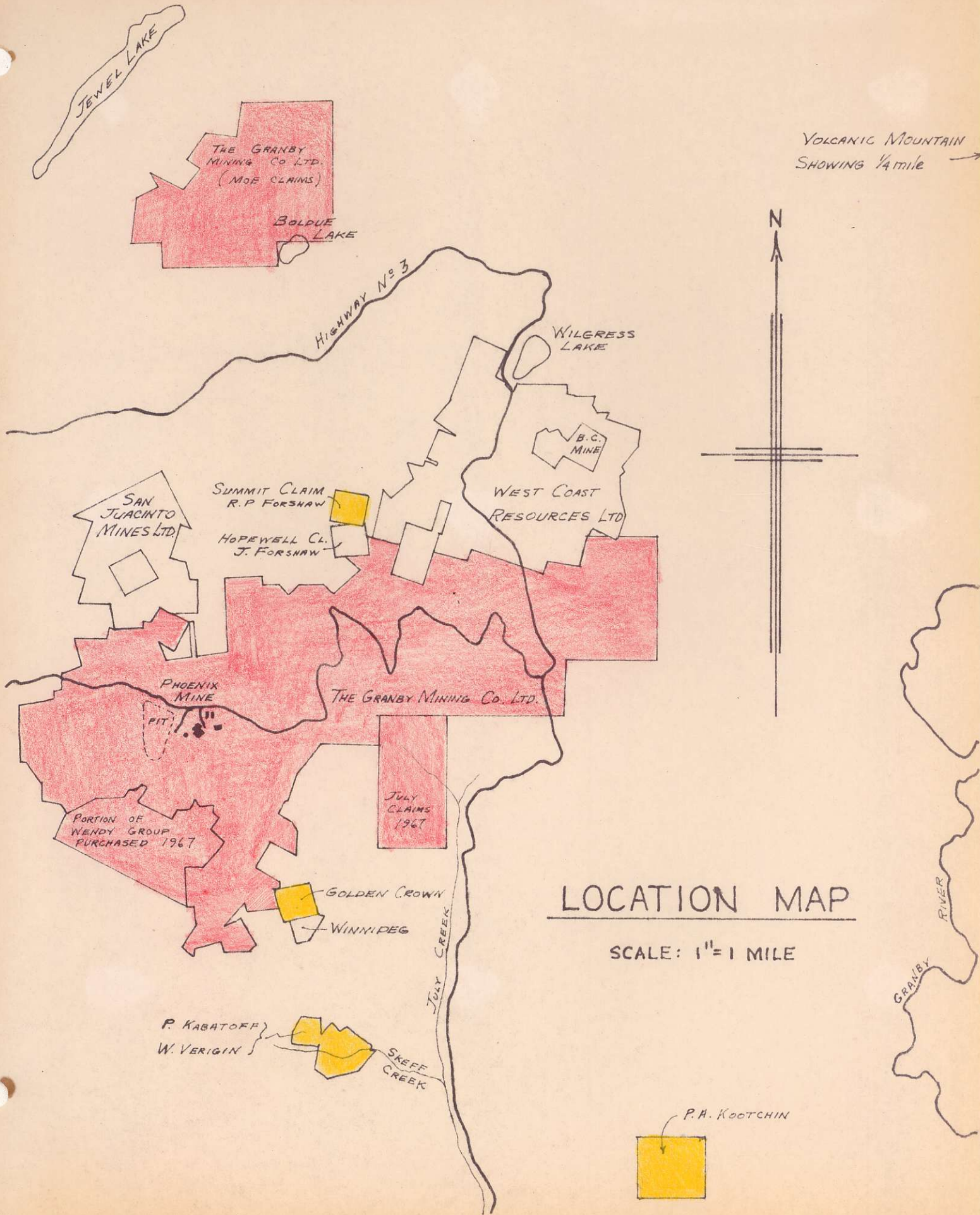
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PART I - Examination of Properties not Owned by Granby

A - Old Properties

1. The Volcanic Mountain Showing

This showing lies ten miles north of Grand Forks on the steep south slope of Volcanic Mountain. It consists of a gossan zone several hundred feet square, lying on a limestone-diorite contact, and underlain by bands of massive pyrite and pyrrhotite. A small amount of chalcopyrite and magnetite is also present. Previous owners of the claims dug several pits and drove a tunnel 800 feet into the mountain below the gossan. The present owners of the claims are Ken Moffat and John Stoochinow of North Surrey, B. C. The property was visited several times during the summer and a separate report was written covering it.

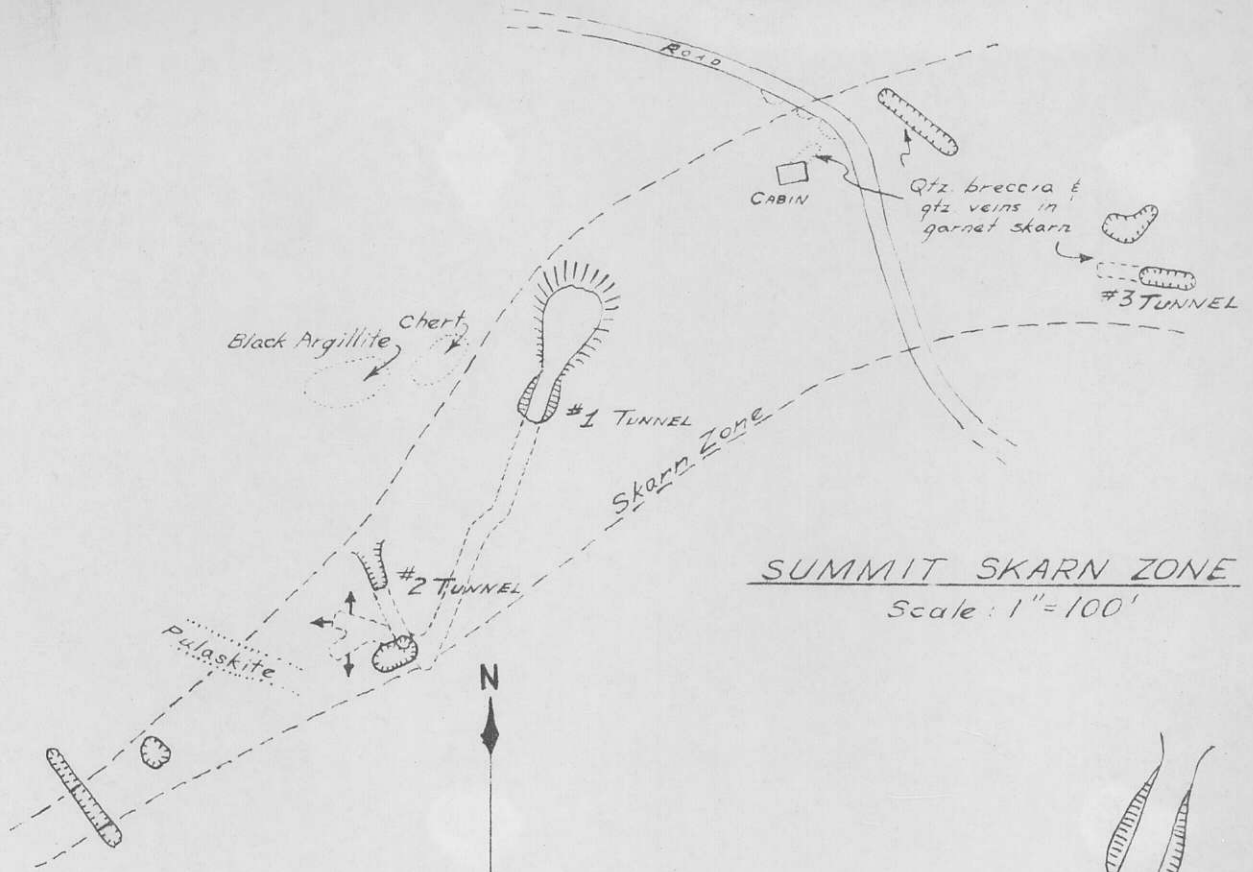
2. The Summit Claim

This showing was visited during the summer at the request of Mr. J. Forshaw of Greenwood, B. C., on behalf of his brother Mr. R. P. Forshaw of Vancouver, B. C., who is the owner. A tape and compass survey of the pits and tunnels on the property was made and used as the base for the small geological map on Page . The mineralization was found to occur in a band of garnet skarn similar to that at the Oro Denora Mine. The band is approximately 700 feet long and 150 feet wide and strikes N.60° E. The sulphide mineralization, which occupies only a small portion of the skarn, is similar also to the Oro Denora and consists of five disseminated chalcopyrite plus rims and blebs of chalcopyrite and pyrite in calcite-quartz veins. Referring to the geological map, perhaps one-third of #1 tunnel would assay over 1% copper, and scattered mineralization occurs in the other tunnels. The remaining skarn area is barren. To the north of the skarn zone, a number of outcrops of limestone were noted. This limestone appeared to be Brooklyn type of Triassic Age, conflicting with Dr. Little's map of the area which shows it as Knob Hill volcanics of Permian Age. This showing merits a small amount of drilling to test the down dip extension of the skarn zone. It would also be of interest to trace the skarn to the east where it is covered by overburden. It may connect with the Oro Denora skarn zone.

3. The Golden Crown and Winnipeg Mine Dumps

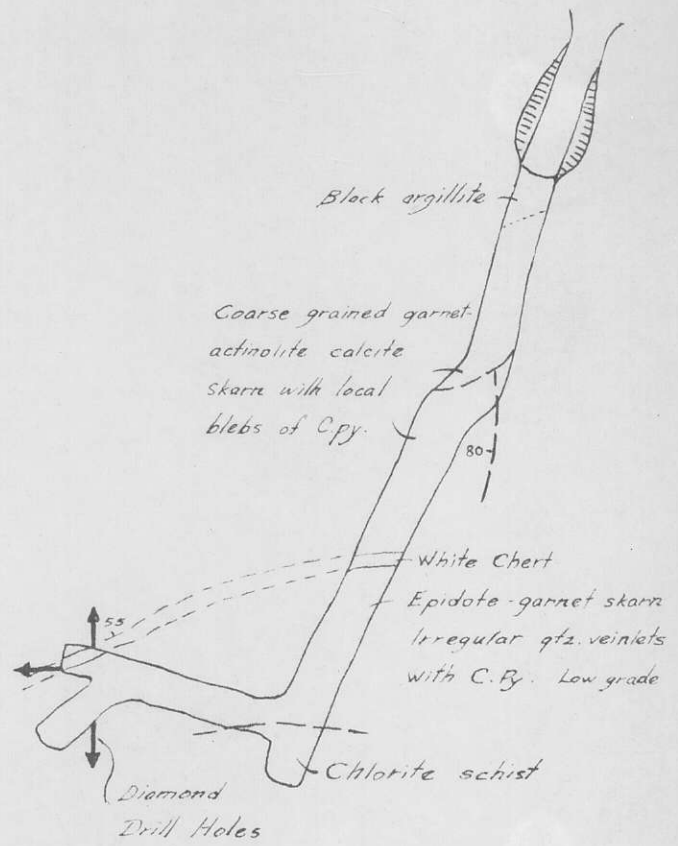
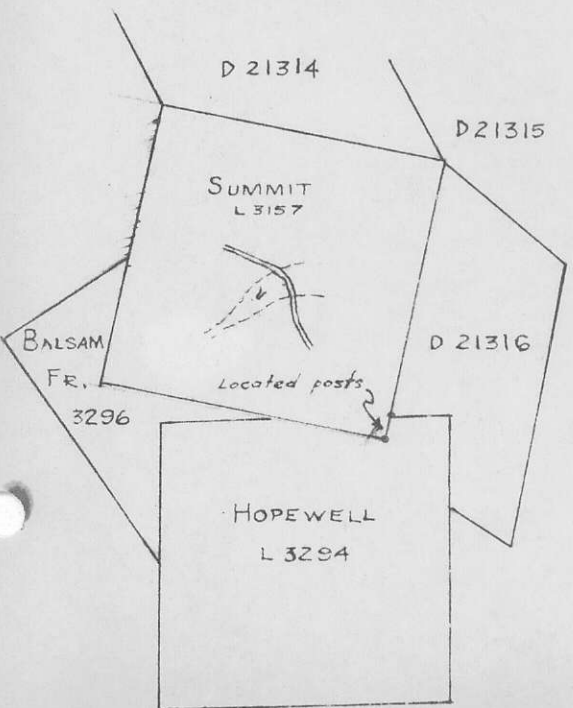
The Golden Crown and Winnipeg Mine waste dumps were visited at the request of Mr. Bill Sookchoff and Mr. Buster Skillings who said they had obtained the right to market the dumps from the present owners of these mines, Sabena Mines Ltd. Sookchoff and Skillings planned to high-grade the dumps and to sell the product to Granby. After examining the dumps it was estimated that the main Golden Crown dump contained 8000 tons. The rock on the dump consisted of various types of greenstone, quartz vein with sulphide, and massive pyrite. Three samples were taken and assayed as follows:

16809 - Fine, unconsolidated material	- 0.55 Cu, 0.76 Ag, 0.22 Au
16810 - Massive pyritic material	- 1.10 Cu, 1.40 Ag, 0.76 Au
16811 - Quartz vein material	- 0.77 Cu, 0.32 Ag, 0.06 Au



SUMMIT SKARN ZONE
Scale: 1" = 100'

LOCATION MAP
Scale 1" = 1000'



#1 TUNNEL
Scale: 1" = 40'

THE GRANBY MINING COMPANY LIMITED
PHOENIX COPPER DIVISION
SUMMIT CLAIM
TAPE & COMPASS SURVEY 1967
J. PAXTON R. FORSHAW

From this it appeared that most of the gold values were associated with pyrite and not with the quartz vein material as expected. Since it was doubtful that much of the gold could be recovered in the Phoenix mill and since the tonnage was quite small, no offer to purchase ore was made. Sookchoff and Skillings were advised to try shipping some of it to the Trail smelter.

B - New Prospects

1. The Skeff Creek Showing of Kabatoff and Verigin

A molybdenum showing, three miles due south of Phoenix on Skeff Creek was visited at the request of the owners, Mr. P. Kabatoff and Mr. W. Verigin of Grand Forks. The showing was found while bulldozing a road across a small garnet skarn zone about 100 feet long. Near the south end of the skarn zone over an area of about ten square feet, the skarn contained flecks and veinlets of molybdenite and chalcopyrite. A diligent search of the area around the showing found no extension of the mineralization. No further action was taken on this property.

2. The Hardy Mountain Showing of P. A. Kootchin

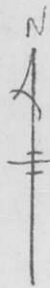
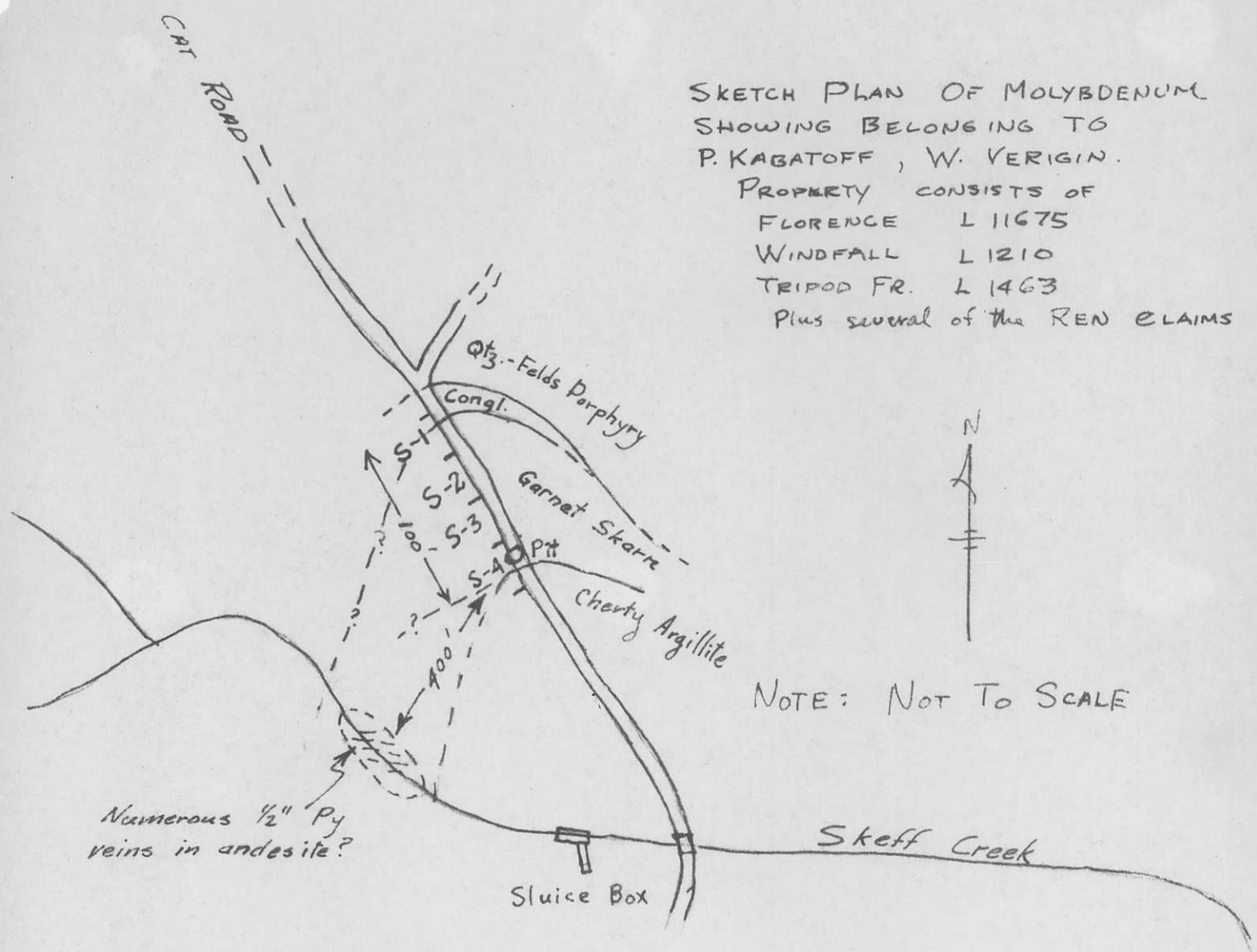
This showing was first visited by Mr. D. Cox, Granby geologist, while on a hunting trip with Mr. Kootchin. The writer first visited the showing in late October when there was snow on the ground and a thorough investigation could not be made. The only showing seen by the author consisted of a small stripped area and a small pit on a limestone-shale contact. In the pit there was an irregular zone of siliceous breccia and chlorite schist mineralized with pyrite and chalcopyrite. The showing is similar to several others examined in this general area in past years. No action was taken on this property.

3. Molybdenum Showing of Gordon Wiggins

This showing was visited at the request of Tom Pedersen of Greenwood, a friend of Wiggins, who brought a sample from the showing in to Phoenix, which assayed 0.323% MoSz. The showing is located about six miles northwest of Bridesville, B. C., near the top of a mountain of reddish-brown granodiorite. The showing was found to be very small and most of the original mineralization had been removed as samples. Some scattered specks of molybdenite were seen associated with iron stains and with veinlets of grey quartz. Mr. Wiggins has four claims staked on this showing. No action was taken on this property.

SKETCH PLAN OF MOLYBDENUM
SHOWING BELONGING TO
P. KABATOFF, W. VERIGIN.

PROPERTY CONSISTS OF
FLORENCE L 11675
WINDFALL L 1210
TRIPOD FR. L 1463
Plus several of the REN CLAIMS



NOTE: NOT TO SCALE

SAMPLE	DESCRIPTION	TAG NO	Mo	Cu	Au	Ag
"	S-1 chip over 25'	12078	.0025	.05	TR	.20
"	S-2 " " "	12079	.0675	TR	TR	.20
"	S-3 " " "	12080	.0300	.07	.01	.30
"	S-4 " " "	12081	TR.	.05	TR	.20
"	S-5 grab from pit. High grade	12082	.4400	.07	.02	.20
"	S-6 grab	12083	.0150	.20	.01	.20
"	S-7 grab	12084	.0075	.27	.01	.20

THE GRANBY MINING CO LTD.
GRAND FORKS B.C.

MINERAL SHOWING SKETCH

June 16 1967 | J. Paxton

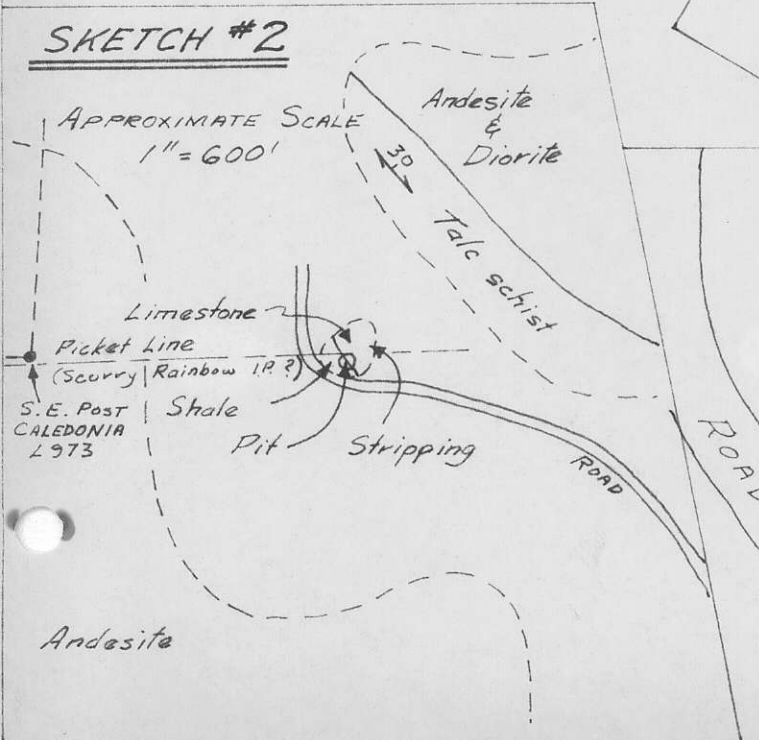
SKETCH #1

APPROX. SCALE:
1" = 1500'



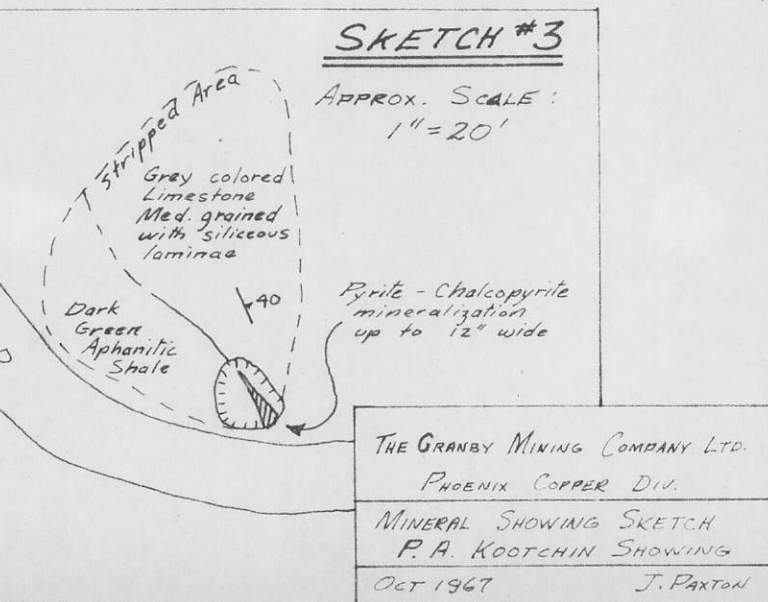
SKETCH #2

APPROXIMATE SCALE
1" = 600'



SKETCH #3

APPROX. SCALE:
1" = 20'



THE GRANBY MINING COMPANY LTD.
 PHOENIX COPPER DIV.
 MINERAL SHOWING SKETCH
 P.A. KOOTCHIN SHOWING
 OCT 1967 J. PAXTON

PART II - Geophysical and Geological Work on Property Held by Granby

INTRODUCTION

Between the dates April 20th and November 1st, 1967, line grids were surveyed and cut on the northern Lois claims, the western Pac claims, the Midnight area and the Snowshoe area. I. P. Surveys were run on these grids. Geological maps and magnetometer surveys were made on the 1966 and 1967 Pac grids, and on the 1967 Lois grid. The line cutting was done on contract by Mr. J. Forshaw of Greenwood, B. C., and the I. P. Survey was done by Huntac Ltd., of Vancouver, B. C. The rest of the work was done by Granby personnel.

A - Induced Polarization Surveys

1. Lois Claims Area

Making use of the 1966 baseline, a grid was laid out, consisting of fourteen lines 2800 feet long and 400 feet apart, covering the northern half of the Lois Claim group. Geological mapping was done on the grid and indicated several strong faults, a zone of disseminated pyrite, and the possibility of a hidden skarn zone. An I. P. Survey was done with disappointing results. Only two second class anomalies were discovered. One appeared to be caused by disseminated pyrite in sharpstone conglomerate, and by magnetite in serpentine, both of which outcrop in the area. The other anomaly was covered and could be caused by a small ore body. If the geological interpretation is correct, this occurs on the contact between sharpstone and a feldspar-porphry intrusive.

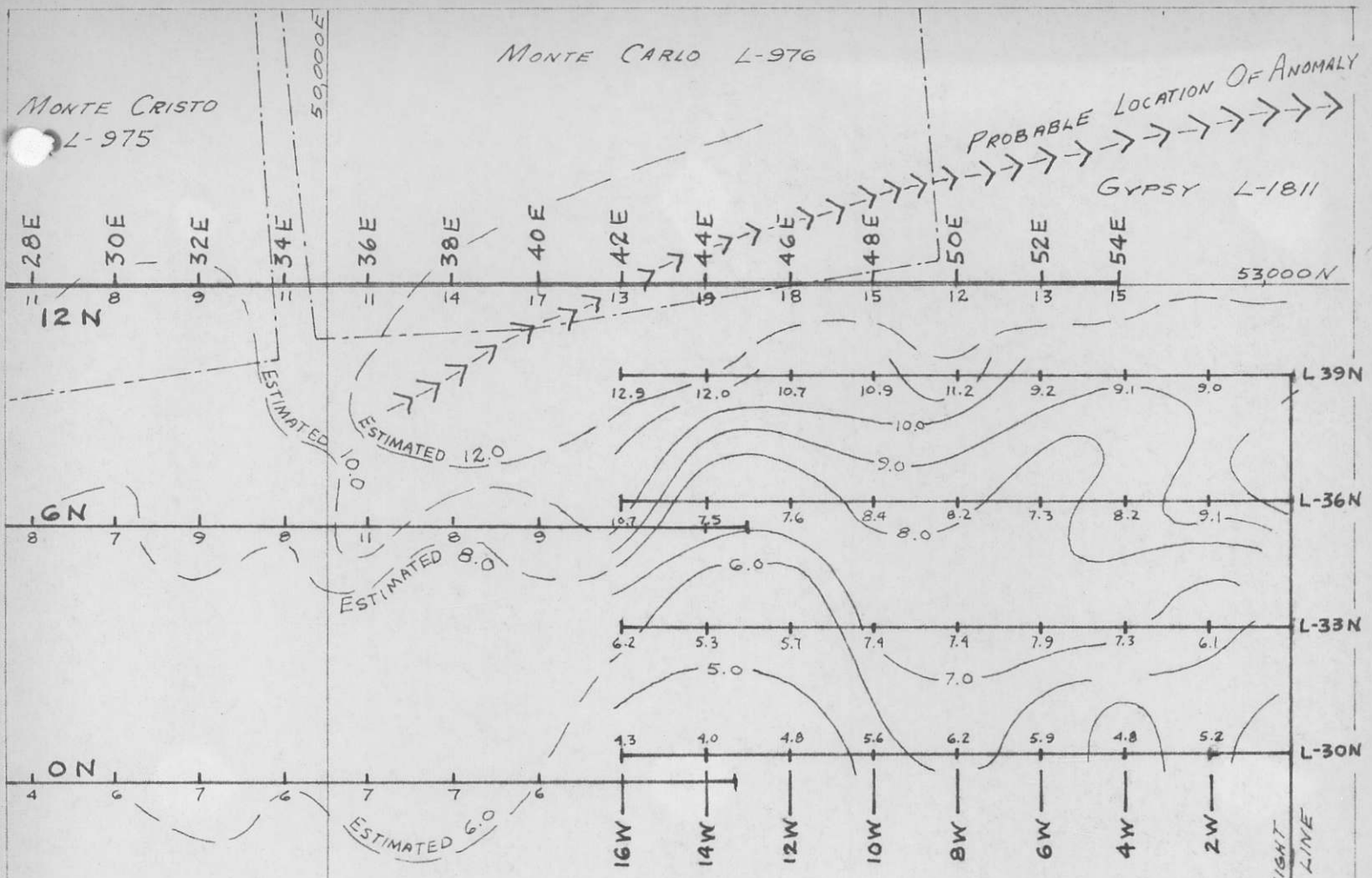
2. Midnight Area

In 1966, the I. P. Survey on the Gilt Edge claim encountered an anomaly at the extreme east end of the most northerly survey line (12N). Most of this anomaly lay just north of the Granby property boundary on the Monte Carlo claim (L.976). In order to discover if this anomaly extended onto Granby property which lay to the southeast, an I. P. Survey was made. A baseline was cut from the Snowshoe pit north to the anomaly area. Here, six 1800 foot lines at 300 foot intervals were cut westward to meet the lines of the 1966 Gilt Edge survey. The survey was run and although it showed a rise in chargeability to the north, it did not define an anomaly. It was concluded that the high readings made in the 1966 survey appear to be caused by a narrow, east-west striking zone just north of the Granby boundary. If it extends eastward, it should run onto the Granby-owned Bobcat claims.

MONTE CRISTO
L-975

MONTE CARLO L-976

PROBABLE LOCATION OF ANOMALY
GYPSY L-1811

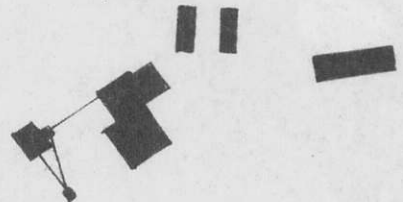


NOTES:

COMBINED MIDNIGHT 1967 AND
GILT EGE 1966 GRIDS SHOWING
I.P. CHARGEABILITY CONTOURS
ON 400 FOOT SPACING.

MIDNIGHT
BASE LINE

GRANBY MINING CO LTD
PHOENIX COPPER DIV.
PLANT



THE GRANBY MINING CO. LTD.,
PHOENIX COPPER DIV.,

MIDNIGHT GRID
I.P. INTERPRETATION

SCALE : 1" = 400'

JAN. 1968

J. Paxton

59,000 E

59,000 E



3. Snowshoe - Ironsides Test Lines

This survey was designed to test the I. P. method over known orebodies. It was run on two parallel east-west lines 400 feet apart from a point just north of the Snowshoe Pit to the west edge of the Ironsides Pit. The results were quite good. The known ore zones in the Ironsides and Snowshoe pits were indicated by strong anomalies. In addition, a strong anomaly was discovered in what was thought to be a barren area to the northeast of the Snowshoe pit. For details on this survey, the reader is referred to the 1967 geophysical report by Huntac Ltd.

B - Magnetometer Surveys

Magnetometer surveys were done on the 1967 Lois grid and on the 1966 Pac grid in the hope that they would help with the geological interpretation of these areas. In the case of the Lois grid, the results were much the same as in 1966. A well defined rise in readings was correlated with the Midway volcanic flows due to the fine disseminated magnetite which they contain. A very strong rise in readings was correlated with a band of serpentine which also contains abundant magnetite. Other rock types in the area had no recognizable effect on the magnetometer readings.

On the Pac grid, the results were disappointing. It had been hoped that the belts of limestone outcropping in the northern part of the area could be traced southward under the overburden by this means, but nowhere in the area could magnetometer readings be related to rock type.

In neither the Pac or Lois areas did the magnetometer readings appear to have any relationship with the I. P. chargeability.

C - Geological Mapping

1. 1967 Lois Grid

This area was mapped using picket lines and air photos for control. It was found to comprise a series of andesite flows and sharpstone conglomerate overlain locally with Midway trachyte and latite and intruded by serpentized basic dykes and by sills of grey feldspar porphyry carrying pyrite. Several strong faults cross the area, their course being marked by outcrops and boulders of breccia. No limestone was seen in the area. Enough work was done to give a fairly reliable structural interpretation. It had been planned to make a topographical survey of the area using altimeters, but time and the priority of other work did not allow this. Also, before it could be done, much of the grid was destroyed during the summer by range cattle trampling and moving pickets.

2. 1966 Pac Grid

This area was covered rapidly in reconnaissance fashion by walking the picket lines and noting any outcrops crossed. No attempt was made to trace contacts or to cover outcrops away from the lines. The western half of the area was found to consist of "Brooklyn" type rocks, sharpstone conglomerate, aeolian sandstone, and limestone, strongly folded and faulted. Overlying these rocks in the eastern half were found a series of tuffs and andesites presumably of Jurassic Age. The interpretation of folding in the Brooklyn rocks was based on bedding dips in the limestone and on the repetition of beds in diamond drill hole W. P. 1. Good fold crests were not observed in the bedded limestones and apparently have been destroyed by metamorphism. The north-south trending belts of limestone in the area are interpreted as tight synclines having shallow plunges to the north. In several cases, these synclines correspond with I. P. anomalies. In the east end of the area, there is a quartz-diorite intrusive which pierces the Jurassic tuffs and is presumed to be of Cretaceous Age.

D - Cost Analysis of Geophysical and Geological Work

1. 1967 Line Cutting Costs

LOCATION	Line Cut and/or Picketted by J. Forshaw Crew				Line Cut and/or Picketted by Granby Crew			
	Base Line		Cross Line		Base Line		Cross Line	
	In Bush	In Clear	In Bush	In Clear	In Bush	In Clear	In Bush	In Clear
Lois Claims					1,600	3,000	40,800	
Snowshoe-Ironside			3,000		1,200		5,400	
Midnight	1,500		7,200		1,200			
Pac (West)	2,400		30,000					
TOTALS:	3,900	--	40,200	--	1,200	2,800	3,000	46,200

1. J. Forshaw crew cut 44,100 feet of line in bush at a cost of \$1797.05
 44,100 feet equals 8.37 miles then $\frac{1797.05}{8.37} = \$214$ per line mile

2. Estimated rate of chaining and surveying line equals two miles per day for two men. Estimated cost equals \$35 per man per day. Total cost then equals $8.37 \times 35 = \$293$ or \$35 per line mile

3. To cut, picket and survey lines in the bush using J. Forshaw crew cost a total of $\$1797 + \$293 = \$2090$. That is $\frac{\$2090}{8.37} = \250 per line mile

4. In 1967:

(1) Granby completed $\frac{4200}{5280} = 0.796$ miles in bush

(2) J. Forshaw completed 8.37 miles in bush

(3) Total line cut in bush = 9.17 miles
Applying a cost of \$250 per mile this equals \$2,295

(4) Granby surveyed and chained $\frac{48000}{5280} = 9.1$ miles in clear
Applying a cost of \$35 per mile this equals \$318

(5) Total estimated line costs then equal $\$2295 + \$318 = \underline{\underline{\$2,613}}$

2. 1967 I. P. Survey Costs

During 1967, 17.6 miles of line were surveyed by Huntco Ltd. of Vancouver. Granby supplied them with a helper at a cost of \$525.65. They charged \$4,575.15.

(1) Total cost for I. P. work then amounted to \$5,100.80.

(2) This amounts to $\frac{5101}{17.6} = \$289$ per line mile.

3. 1967 Magnetometer Survey Costs

Estimated rate of survey for reading at 100 foot intervals is three miles per day. Add one-half day to cover calculating and map drafting = two miles per day. Estimated cost of wages, transportation and depreciation of equipment = \$70 per day.

Total cost of magnetometer survey = $\frac{70}{2} = \$35$ per line mile

4. 1967 Geological Mapping Costs

Estimated rate for rapid reconnaissance mapping along cut lines = two miles per day. Add on half day to cover map drafting and interpretation

= 1 1/3 miles per day. Total cost of geologist salary, transportation, etc. estimated at \$100 per day.

Total cost of geological survey = \$75 per line mile

5. Summary

The total cost per line mile for combined I. P., geological and magnetometer surveys is estimated as follows:

1. Line cutting (in bush)	\$214.00
2. Surveying and chaining	35.00
3. I. P. survey	289.00
4. Magnetometer survey	35.00
5. Geological survey	<u>75.00</u>

\$648.00 per line mile

Note 1:

On a 400-foot spacing, it would require 5,600 feet of line to cover a standard mining claim, 1,500 feet square.

The cost to cover a mining claim would then be: $\frac{5600}{5280} \times 648 = \688

Note 2:

The largest single area of I. P. survey done so far is the 1966 and 1967 Pac survey in which a total of 35.4 line miles were covered. Applying the above cost of \$648.00 per mile this would amount to \$22,900.

In these surveys, nine anomalies were located. The cost per anomaly would then be $\frac{22,900}{9} = \underline{\underline{\$2,540}}$

Part III - Diamond Drilling

A - Drilling Costs

The drilling was done by T. Connors Ltd. of Vancouver, B. C., between July 1st and September 20th, 1967. Seven holes were drilled in four locations totalling 2,438 feet. Total costs were \$18,886.77 resulting in an overall cost per foot of \$7.75. The weather was extremely dry and it was found necessary to haul water to the drill by truck in the periods August 1-15, September 1-15 and September 15-20. The rental cost of truck and tanks averaged \$1.48 per foot over their period of use. The drill was operated on two shifts by drillers from Vancouver with helpers hired locally. The turnover in helpers was high with eight being hired before the job was completed. During the summer, the original drillers were fired and another driller had to be sent in from Vancouver.

The program followed a familiar pattern with high performance at the start which dropped off as the job progressed, then a change in driller and a short spurt at the end to complete the job.

B - Drilling Results

1. Pac Anomalies W. P. 1 and W. P. 2

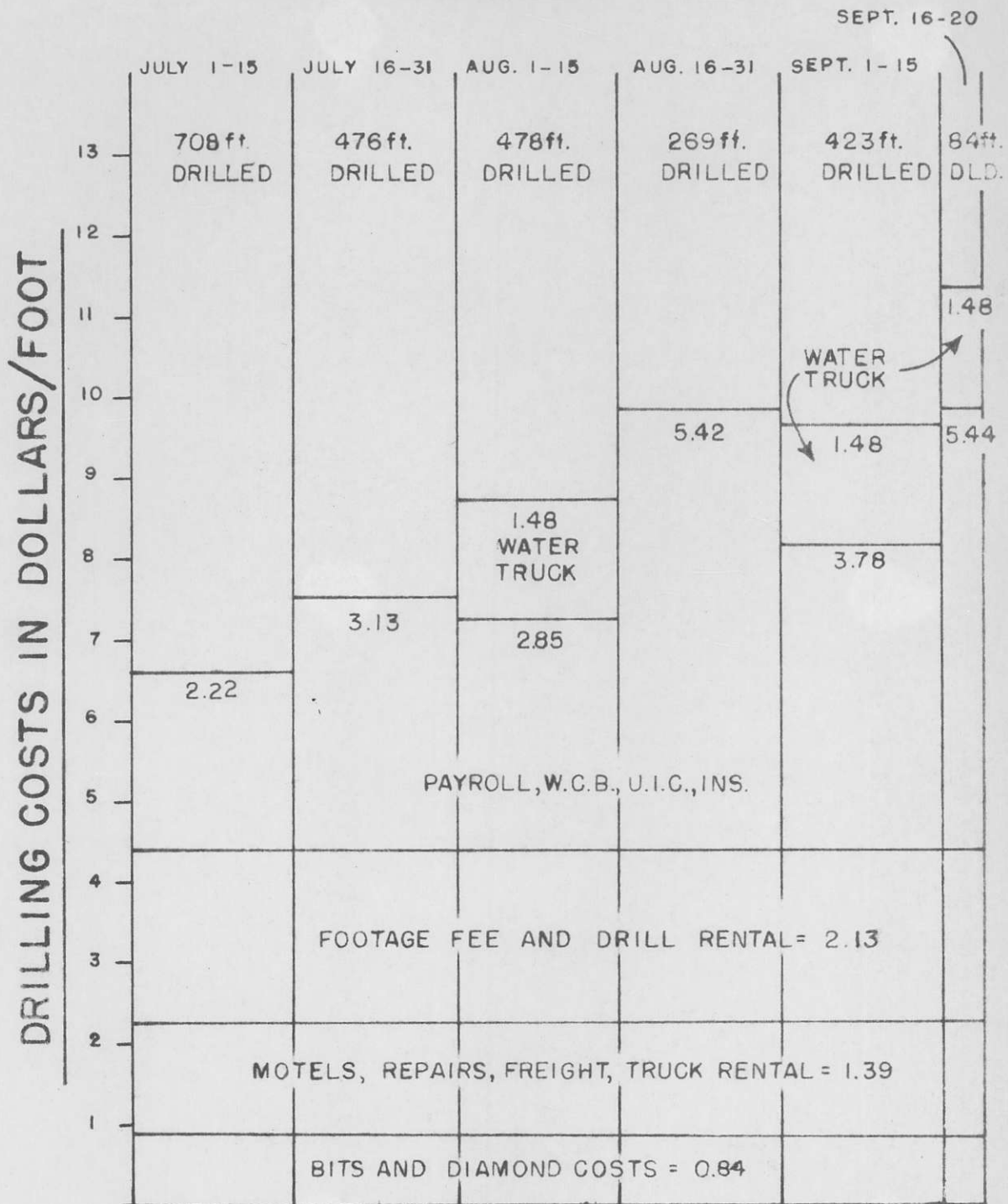
These anomalies lie side by side in the southern part of the 1967 Pac grid. Two holes were drilled here, W. P. 1 and W. P. 2. The apparent cause of anomaly W. P. 2 was disseminated pyrite in a conglomerate plus fine pyrite and perhaps graphite in a black limestone. There was no copper mineralization. Anomaly W. P. 2 was found to be caused by strong pyrite mineralization along a diorite-limestone contact. The diorite is a porphyry of white feldspar phenocrysts in a dark grey groundmass flecked with pyrite and pyrrhotite and it assays approximately 0.05% Cu. The adjoining limestone was also mineralized with pyrite. The sulphur assay over the whole mineralized section indicated sulphide mineralization equivalent to 2.59% pyrite over 165 feet. The structure here is interpreted as being a syncline. Evidence for this is the repetition of conglomerate beds in drill hole W. P. 1 plus the regional surface geology interpretation based on outcrops to the north.

2. Pac Anomaly W. P. 4

This anomaly which lies in the northern part of the Pac grid was tested with three holes, W. P. 3, W. P. 4 and W. P. 5. The anomaly was found to be caused by sulphide mineralization in a low grade skarn zone. Most of the mineralization is pyritic but a narrow zone, which was cut by two of the holes, had

-8a-

DRILLING PERIODS



TOTAL OF 144 DRILL CREW SHIFTS = 17 FT./SHIFT
 TOTAL OF 93 DRILLING SHIFTS = 26 FT./SHIFT
 TOTAL OF 51 SHIFTS MOVING, REPAIRS, WATER, ETC.
 TOTAL DRILL FOOTAGE = 2438 = 7.75/FT.
 TOTAL DRILLING COST = 18886.86

**DIAMOND
 DRILLING
 STATISTICS
 1967**

chalcopyrite mineralization. This was encouraging, but it was decided that further drilling was not justified until more I. P. work was done to the north. South from the drill holes the anomaly crosses an old railroad cut in which the rock is well exposed. No copper mineralization or skarn was seen in this cut and it was presumed that the mineralization died out in this direction.

3. Moe Claim Group

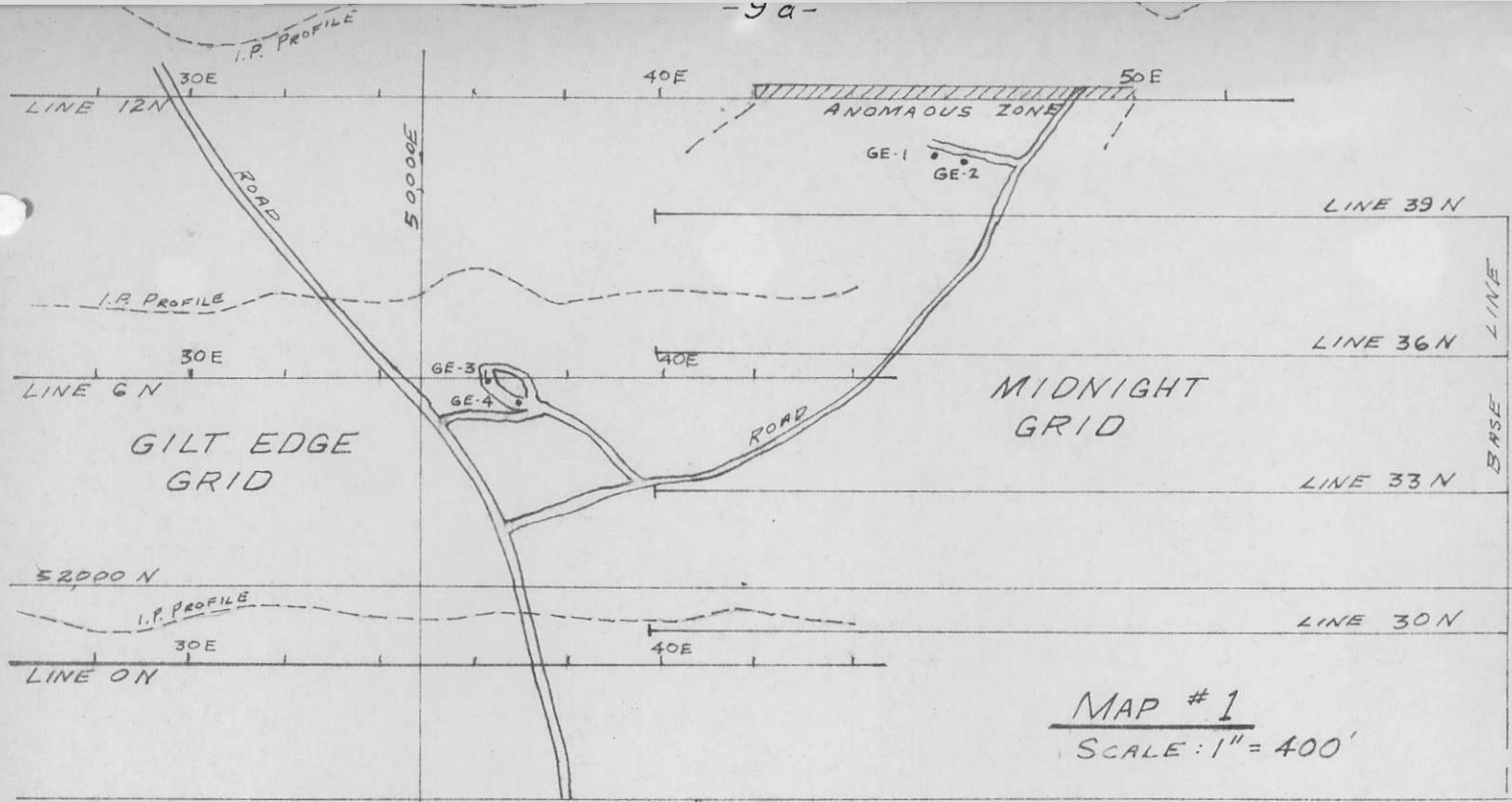
In 1966, an I. P. survey was done on the Moe claims and several anomalies were discovered. One of these anomalies extended to the western boundary of the claim group. Options were taken on several of the adjoining claims until the anomaly could be tested by drilling. Due to delays, this drilling had to wait until 1967. The Huntec Interpretation of the anomaly showed it as being displaced by a north-south striking fault. Two holes were drilled, one on each side of the presumed fault. The rock encountered was similar in both holes and was similar to that encountered in the 1966 drilling on the anomaly eight hundred feet to the east. This proved the Huntec Interpretation of the shape of the anomaly to be correct. The rock type which caused the anomaly has been logged as "agglomerate" and consists of lenticular to irregular shaped masses of grey quartzite up to 2", in a dark brown schistose matrix which is very fine grained and in which fine biotite and garnet are locally recognizable. In 1966, a thin section of this rock showed fine pyrite and perhaps graphite in the matrix and it is thought that these minerals are the direct cause of the anomaly. In the 1967 drilling, short sections of dark green andesite were also encountered. Fractures in the andesite close to the contact were often filled with pyrrhotite and chalcopyrite. This was interesting but in no case did the mineralization approach ore grade, therefore, the options on the adjoining claims were dropped.

Part IV - Percussion Drilling

1. Grey Eagle Mine

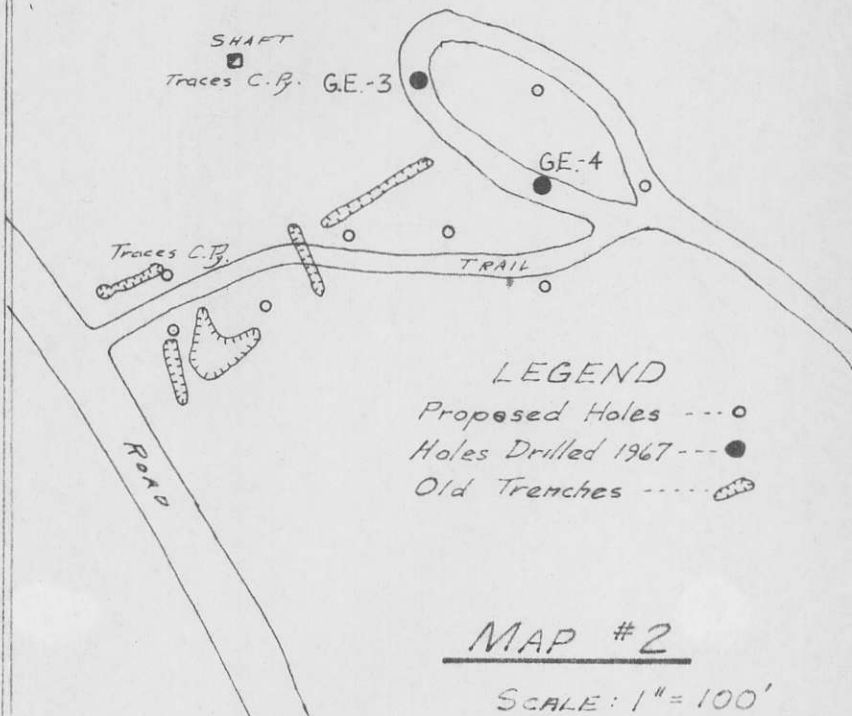
During the 1966-67 winter, it was necessary to dump waste from the Ironsides Pit to the south. This waste dump began encroaching on the old Grey Eagle Mine workings and it was decided to test the area around the toe of the dump with an airtrac drill. Fourteen holes were drilled. The four most southerly holes showed values, the highest occurring in hole #8 with .65% Cu over ten feet. The drilling made reasonably certain that the dump does not cover ore.

2. GILT EDGE AREA



ASSAY RESULTS

FOOTAGE	G.E. 1	G.E. 2	G.E. 3	G.E. 4
0-10	.05	.07	.07	Tr.
10-20	.05	Tr.	.05	Tr.
20-30	Tr.	Tr.	.07	.10
30-40	Tr.	Tr.	.15	.12
40-50	Tr.	Tr.	.15	.20
50-60	Tr.	Tr.	.15	.17
60-70	.05	Tr.	Water	.20
70-80	Tr.	Tr.		.27
80-90	.05	Tr.		.25
90-100	Tr.	Tr.		.20
100-110				.12
110-120				.12

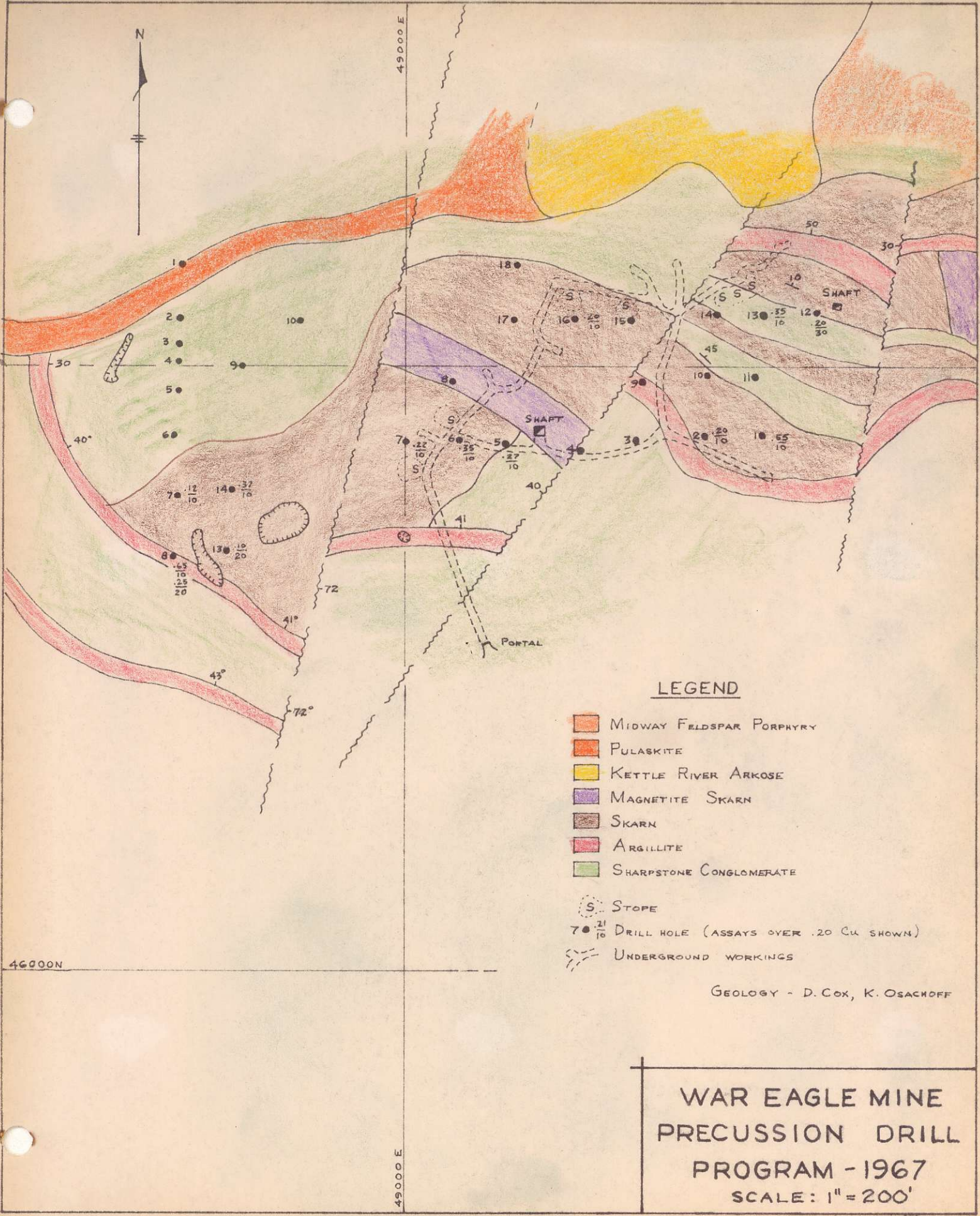


THE GRANBY MINING COMPANY LTD.
PHOENIX COPPER DIV.

GILT EDGE PRECUSSION
DRILLING PROGRAM




JAN. 1968

J. PAXTON



LEGEND

-  MIDWAY FELDSPAR PORPHYRY
-  PULASKITE
-  KETTLE RIVER ARKOSE
-  MAGNETITE SKARN
-  SKARN
-  ARGILLITE
-  SHARPSTONE CONGLOMERATE

-  SHAFT
-  DRILL HOLE (ASSAYS OVER .20 CU SHOWN)
-  UNDERGROUND WORKINGS

GEOLOGY - D. COX, K. OSACHOFF

WAR EAGLE MINE
PRECUSSION DRILL
PROGRAM - 1967
SCALE: 1" = 200'

2. War Eagle Mine

In the winter of 1966-67, the underground workings were geologically mapped on a scale of 1" = 40'. Several bands of massive magnetite similar to that seen on surface around the shaft were noted. The magnetite contained a small amount of pyrite and chalcopyrite and had been partially mined by a number of small stopes. It was hoped that this magnetite material would form a sheet of low grade ore with a shallow dip to the north. Eighteen holes were drilled with an airtrac drill with disappointing results. The best values encountered were in hole #1 which assayed 0.55% Cu over ten feet. This drilling was fairly widely spaced and so there could possibly be one or more small undiscovered ore bodies, but it is certain there is nothing big enough to justify extending the Ironsides Pit this far south.

Part V - 1967 Ironsides Pit Mapping

In September, 1967, all the new faces in the Ironsides Pit were mapped and parts of the 1966 mapping were re-examined. Two maps were produced, one showing rock types based on texture and structure and the second based on metamorphic mineral zones.

The following things were noted in this mapping:

1. In the southwest corner, the footwall argillite was found to be strongly epidotized and pyritized indicating that the ore solutions were not confined to the limey rocks. This supports the theory that the ore occurs in lime-silicate rocks only because they formed a good trap and that the ore is epigenetic.
2. In the south end of the pit, small irregular zones of "shadow" breccia were observed. They are interpreted as being fault breccia zones which have been so strongly metamorphosed that the breccia structure is partially obliterated.
3. In the south end of the pit, it was noted that the rock around open limonite-filled fractures had been very strongly metamorphosed to garnet and magnetite. It would appear that these limonite-filled fractures, which are very common in the south end of the pit were the original channels for the ore solutions.
4. On the west wall of the pit on Bench 26, a small pod of grey medium-grained diorite, strongly mineralized with pyrite, was discovered.

The above observations all suggest the existence of a fault below the Ironsides Pit which has acted as a channelway for the ore solutions.

The fact that a line of old mines run northwest from the Yankee Boy, through the Ironsides Pit to the Brooklyn also supports this idea.

If it could be proved that such a fault does exist, it would be a valuable aid to prospecting in the area.

Part VI - Commentary on the 1967 Work

A - Examination of Outside Properties

A relatively small amount of this type of work was done and what was done was greatly hampered by lack of detailed geological maps of the Phoenix area and by lack of background information on the numerous old mines and showings in the area. If more of this type of work is planned in the years ahead, a file should be built up containing all possible written information on each of these old showings.

B - Induced Polarization Surveys

Huntec Ltd. did their work rapidly, efficiently and accurately. May and June are the ideal months to do I. P. in this area because the snow is off the ground, yet the soil is still moist and conducts electricity readily. The spring is also the best time for diamond drilling since water is most available at this time. Therefore, it is most efficient to try and locate anomalies in the spring and drill them the next spring.

C - Magnetometer Surveys

The magnetometer surveys were unsatisfactory in that the instrument (Sharpe MF-1) did not function properly part of the time due to the wrong type of batteries. Also the readings were taken at 100 foot intervals which is too far apart and misses much important detail.

D - Geological Mapping

As always, geological mapping was found to be very time-consuming. Enlarged air photos were found to be an advantage in mapping the Lois area.

E - Diamond Drilling

Diamond drilling was the major cost in the 1967 program and it was higher than it should have been. The roads and drill sites were prepared well ahead of time and at the time of preparation, ample supplies of water were available nearby. The drill did not arrive until July 1st. All went well until the end of July when most sources of water dried up. Much time was wasted trying to use alternate sources and finally it was necessary to resort to hauling water by rented truck. The truck and tanks were unsuited to the job and slow to fill. At least a thousand dollars could have been saved if a suitable set of tanks and a filling pump had been available.

The drilling crews were not very experienced. The turnover in helpers, which were hired locally, was much too high. Some type of job completion bonus might have helped to hold them on the job until they learned enough to be useful.

Wireline equipment was used for the first time in 1967 and was very successful. There was relatively little time lost in cementing core and recovery was so good that core loss could be disregarded when logging.

F - Ironsides Pit Mapping

This mapping went as planned and was completed in the time estimated. The surveying was done by the pit surveyor who located points along the toe of each bench previously marked by the geologist.

Part VII - Recommendation for 1968

A - Induced Polarization Surveys

1. P. surveys should be done in the following areas:

1. East of the Snowshoe Pit to close the anomaly located here in 1967.
2. North and south of the 1967 Pac grid to extend anomalies W. P. 1, W. P. 2 and W. P. 4.
3. On the Bobcat claims to the east of the Monte Carlo in order to locate the eastern extension of the anomaly located here in 1966.

These surveys should be done in the spring or early summer. An attempt should be made to close every anomaly located. That is, if it appears that an anomaly will run off a grid, the grid should be extended until the anomaly terminates.

This can be provided for by cutting extra long base lines right at the start so the extra grid lines can be added quickly if needed. To do this, the line cutting must start earlier, and proceed more rapidly than the I. P. work.

B - Diamond Drilling

The anomalies located on the Pac in 1966 and on the Lois in 1967 should be tested by diamond drill in the spring, before the surface streamlets dry up. Following this, the drill can be moved to the Snowshoe-Rawhide-Monarch area at Phoenix to drill zones that are too deep to reach with percussion drill.

C - Percussion Drilling

An extensive program of percussion drilling should be begun in the Snowshoe-Rawhide-Monarch area in order to check the ore intersections noted in the 1900-1919 annual reports. In areas where the expected ore is deeper than 100 feet, they should be tested by diamond drill.

D - Winter Research

1. Snowshoe-Rawhide-Monarch Area

A final compilation of all information relating to this area should be made before planning the drilling program. A special effort should be made to determine if the ore intersected by holes mentioned in the old annual reports was subsequently mined out or if it is still in place.

2. General Phoenix Area

All old information on each showing known in the Phoenix area should be compiled from old G.S.C. reports and from B. C. Minister of Mines Annual Reports.

E - Geological Mapping

A new geological map of the Phoenix area should be made to replace the 1" = 400' scale map made by Mr. George Addle in 1964. This mapping project would use the 1967 topographic map of the area made by McElhanney Surveying and Engineering Ltd. as a base map. It would require a summer's work by a geologist and two assistants.