

92 I
Property Submitted

92-1
File

810736

MEMORANDUM

To: A. E. Aho, J. S. Brock
From: R. W. Nusbaum
Date: 16 April 1971
Re: Shear Claim Group, Cache Creek AREa

Summary

The Shear group of claims offered to Dynasty by John Lepinski and located about 2 miles northeast of Bethlehem's Maggie Mine discovery, are underlain mainly by tertiary volcanics which contain no known mineralization and are situated about 3,000 feet above the valley floor.

Conclusions

The claims cover a small chromite prospect, also a possible future site for a tailings disposal area but the possibilities of find an economically feasible copper deposit appear remote.

Recommendations

No further work recommended.

Introduction

The Shear group of claims were submitted to Dynasty by Hohn Lepinski, a promoter and claim staker now living in Cache Creek. A cursory examination was conducted on the lower section of the claim group, the higher section was still snow covered at the time, April 13. Interest in this particular area is still high and the entire area from Spences Bridge to Clinton is staked solid. The latest rumors tell of Bethlehem striking highgrade massive copper sulfides with the deepening of several diamond drill holes. The depths are rumored to be in the range of 2500 to 3000 feet.

Location

The Shear group of claims is located on Ferguson Creek, a small tributary entering the Bonaparte River from the east about 10 miles north of Cache Creek, B.C. The claim group is 2 miles to the northeast of the Bethlehem discovery. The area can be located on the Ashcroft map sheet 92-I, west half.

Access

Access to the claim group is by paved road 10 miles from Cache Creek, then 3 to 5 miles of dirt road suitable for a pickup truck.

Property and Ownership

There are 28 unpatented claims in the Shear group and are owned by John Lepinski, Box 811, Cache Creek, B.C. and Dave Anderson, Cache Creek, B.C.

Topography

The claims cover a pronounced cirque and steep side hills at the head of Ferguson Creek at elevations of 3,000 to 4,500 feet. General relief is 4,000 feet with elevations ranging from 1500 feet at the valley floor to about 5,500 feet. The steep sides and cirque on Ferguson Creek provide one of the few local sites for tailings disposal in the event a mill is constructed for the Maggie deposit.

Overburden is generally thick, except on the steepest side hills. Vegetation consists of Ponderosa pine trees, coarse grass and sagebrush at lower elevations, tamarac, fir and pine trees and buck brush at higher elevations.

History of the Occurrence

A small chromite showing at the head of Ferguson Creek about 2 miles from the Bethlehem deposit has been known for years but has no history of production. No other work has been done on the claims.

General Geology

Exposures are few and the only rocks seen on the property consist of Tertiary basalts of the Kamloops Group. These are strongly weathered and have a pillow-lava type appearance. According to a report by the Geological Survey, the chromite showings occur in serpentine which is covered by recent formations. This prospect was not visited.

Mineralization

Other than the chromite showings there is no known mineralization on the property.

The chromite, according to the Geological Survey, occurs

as lenses and disseminations in serpentine with the largest lens being about 350 by 18 feet. Selected highgrade samples assayed 45% Cr_2O_3 . The serpentine is exposed over an area about 1200 by 700 feet and is strongly faulted.

Results of a survey by Geo-X Surveys Ltd. indicate the possibility of a basement fault system with the intersection in the cirque at the head of Ferguson Creek. This intersection is considered as possibly being related to mineralogic control for the area. This point of apparent intersection of magnetic trends on Ferguson Creek is about 3000 feet above the mineralization in the valley.

RWN

RWN:eph

5. Final Maps of Project

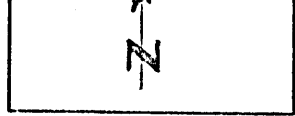
1. Mosaic with flight lines (Scale 1" = 1,000')
2. Total Magnetic Intensity map, Contour interval 25 gammas (Scale 1" = 1,000')

Copies of the Government Aeromagnetic Contours at a scale of 1" = 1,000' for comparison are available.

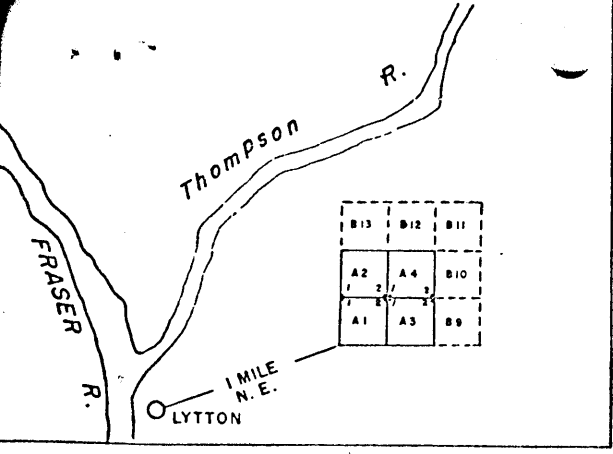
DISCUSSION OF RESULTS

Three major magnetic trends are apparent in the Maggie Mine Area magnetic map (see figure 3). The most obvious trend is the steep gradient (A) which generally follows the Bonaparte River. This gradient results from the Cache Creek formation contact with the Kamloops group volcanics. The second feature (B) is a less obvious north-south trending series of magnetic lows which parallels and closely follows the eastern border of the survey area. Reference to the government aeromagnetic map for this area indicates that this feature can be traced more or less continuously for 40 miles to the south to the Highland Valley, and thus magnetic trend (B) may be an expression of basement faulting. The third feature (C) is a strong east-west trending disruption in the vicinity of the Maggie Mine. The intersection of zones (C) and (B) may be related to the mineralogic control for the area.

previously located claims should also be shown.
N.B.—The sketch for a group claims may be placed on one affidavit

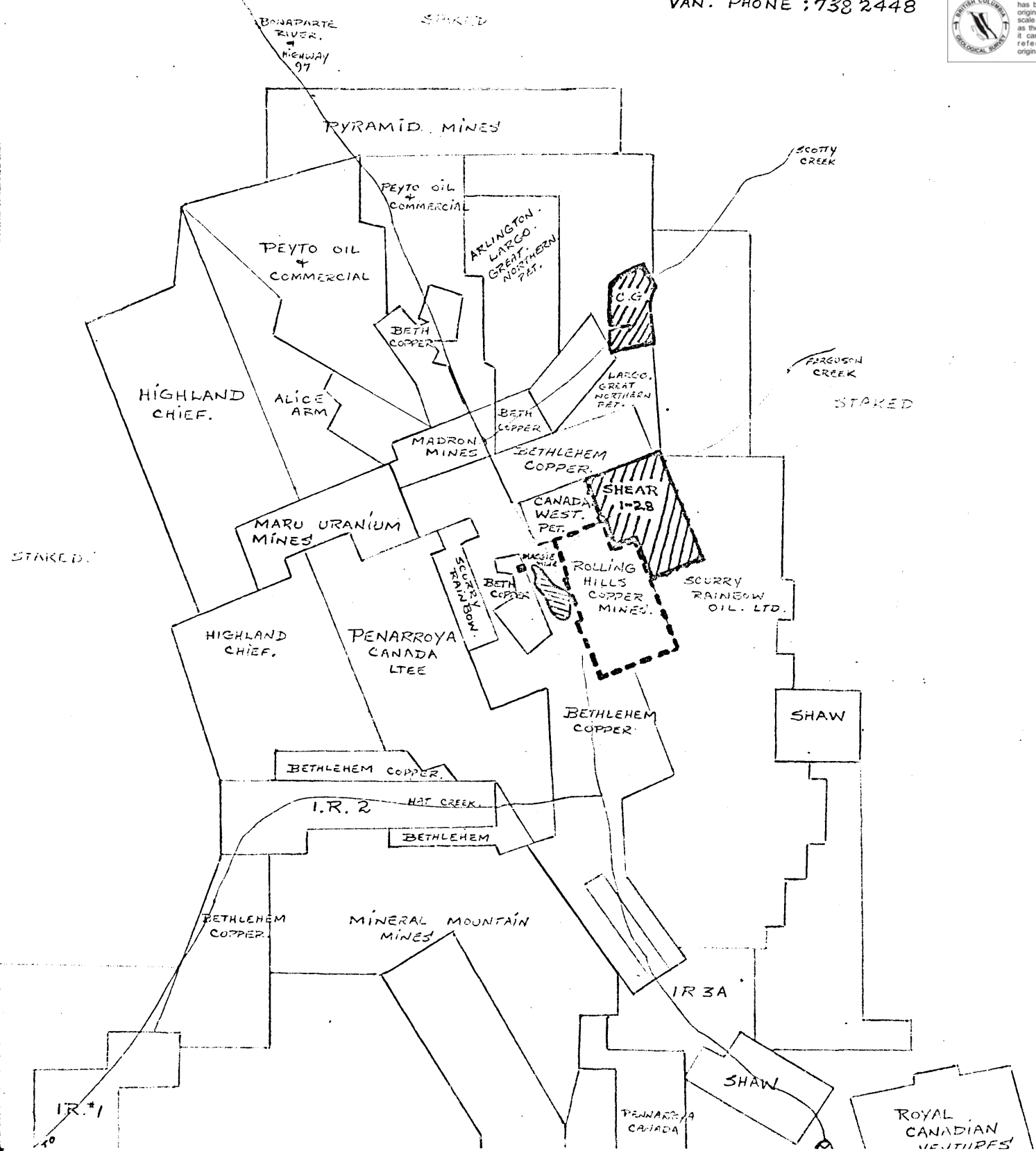
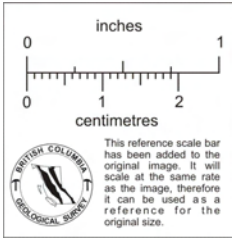


INDICATE NORTH
(True or Magnetic)



SHEAR 1-28
JOHN LEPINSKI,
BOX 811,
ASHCROFT, B.C.,
PHONE: 457 6573.
OR
VAN. PHONE: 738 2448

1" = 2 mi



John Lepinski

Box 811

Archercroft, B.C. Phone 457-6573

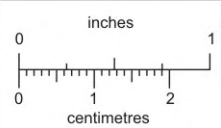
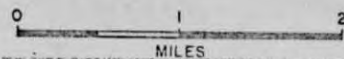
Vancouver phone

738-2448

GEO-X SURVEYS LTD.

MAGGIE CREEK AREA

BRITISH COLUMBIA



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.



Highland Group (14)

References: Drysdale, C. W., 1916, p. 90. B.C. Minister of Mines, Ann. Repts.: 1902, p. H194; 1907, p. L136; 1915, pp. K275-276; 1917, p. P225; 1922, p. N141; 1924, p. B100.

The Highland group of claims is situated on Forge Mountain about 2 miles south of the Transvaal group. The veins are similar to those of the Transvaal in occurrence and character and the two properties are connected by an old road. Exploration was carried out during the early years of the century when a shallow shaft was sunk, several surface pits cut, and a 115-foot adit driven into the hillside about 2,000 feet northeast of the shaft. These workings are now caved and inaccessible.

Maggie Mine (4)

References: B.C. Minister of Mines, Ann. Repts.: 1907, pp. L134 and 215; 1913, p. K183; 1915, pp. K284-285 and 366; 1929, p. C215; 1930, p. A109.

The Maggie mine is situated near the Cariboo Highway about 2 miles north of the confluence of Hat Creek and Bonaparte River. Some exploration and underground development were done in 1907, but no new work has been done since and the workings are now caved and inaccessible.

Reports of the B.C. Minister of Mines indicate that in 1907 development work had progressed as far as the opening of three levels, the lowest 185 feet below an adit level. In addition to a shaft, 1,100 to 1,200 feet of underground lateral work was reported as well as some stoping on No. 2 level. An attempt was made to re-open the property in 1915, but this hardly progressed past the dewatering stage. The next recorded work was in 1930, when the mine was again dewatered but little else accomplished.

The Cache Creek rocks are here highly sheared, and are vividly coloured by oxidation of pyrite. Workings on the property followed a shear zone striking northeast and dipping 70 degrees southeast. The zone contained chalcopyrite, and during early developments about 50 tons of selected ore sent to the Ladysmith smelter yielded 2 ounces of silver a ton, no gold, and 8 per cent copper. Low assay returns in lead and zinc have also been reported. Examination of the workings was impossible because of their poor condition. The siliceous material on the dumps and the amount of silica and pyrite in evidence in the rocks close to the workings indicate strong hydrothermal activity in this vicinity.

Victory Claim (15)

The Victory claim, staked by Eric McColl of Lillooet in 1911, lies at the western end of the ridge between Luluwissen and McGillivray Creeks, at an elevation of 5,000 feet. Mineralization of interest is in evidence along the fault that cuts the Coast intrusions in this vicinity, the fault zone extending northwest and southeast of the claim for some miles. The rocks at the showings consist largely of what appear to be inclusions in the main intrusive mass. The fault zone here strikes about north 60 degrees west and dips nearly vertically. Along and near the fault the rocks are pyritized and extremely rusty, and at a few points lenses composed almost entirely of fine-grained pyrite occur in the reddish decomposed matter of the fault. A little copper stain was noticed.

BOTH PROPERTIES HELD BY:

JOHN B. LEPINSKI,

Box 25,

ASHCROFT, B.C.

453 2236

G. A. Young,
Chief Geologist,
Geological Survey

COPY MA
Memorandum to:

PRELIMINARY REPORT ON
FERGUSON CREEK CHROMITE SHOWINGS
ASHCROFT B.C.

Introduction

Ferguson Creek is a small tributary of the Bonaparte River entering it from the east side about nineteen miles above Ashcroft or four miles above Hat Creek. The showings up the creek are reached by a trail two miles long.

The deposits are covered by four claims held by D.B. Sterrett, (Agent) 328 St. Paul Street, Kamloops, B.C., Henry Cargile, and J.L. Burr of Ashcroft, B.C.

Summary

The chromite deposits on Ferguson Creek consist of lenses of disseminated ore with a few small seams of more or less massive chromite. There does not seem to be any chance to mine ore of direct shipping grade. There are, however, about 20,000 tons of ore averaging about 15%Cr₂O₃ reasonably well assured and no serious mining or transportation difficulties. The probability of finding additional lenses to the extent of another 20,000 tons or more is excellent.

Owing to the cost of the long rail haul to the eastern markets it is doubtful if these deposits could be

operated commercially at the present price of chromite concentrates but there is little doubt that they could be worked with but little assistance from the Government; if, for instance, the freight be assumed thus allowing the operation to compete on an equal footing with eastern chromite deposits.

General Considerations

In the area being considered is a body of serpentine, outcropping in more or less vertical-sided noses on each side of Ferguson Creek valley over an area some 1200 feet by 700 feet. On both sides above a certain level the serpentine is covered with more recent formations and its full extent is not known.

Ore occurs in lenses with a maximum known length of 350 feet and a maximum known width of 18 feet. Most of these lenses have been dislocated by strike faulting and to some extent by cross faulting. However the impression gained by the writer is that, while a lense may now consist of a complicated zone of faulted blocks, in general it is continuous and should not be unduly difficult to follow when being mined.

The ore itself consists in places of seams and lenses of more or less massive chromite. A picked sample of this material ran 45.02% Cr_2O_3 , 11.84% Fe., and with a chrome-iron ratio of 2.6 to 1, it is unlikely that hand sorted material would run as high as this and

only a small tonnage of such a product could be made. However this assay gives some idea of the kind of product that could be made by concentration.

Most of the ore consists of disseminated grains of chromite in trains, lenses, and patches. All grades of this type of mineralization can be found and the boundary between minable and non-minable ore is largely arbitrary. In the tonnage estimates given later the cut-off has been taken at about 10% Cr₂O₃.

There are three principal zones; the Northeast Showings, the Central Showings, and the Southeast Showings. These will now be considered in that order.

Northeast Showings

In these showings is the principal lens of ore and the only workings on the property. It is the only occurrence considered in previous reports and, as far as the writer is aware, the only one known prior to the work of the Geological Survey this summer. These showings are depicted in Map 2 and the projection, accompanying this report.

The main lens occurs at or near the base of a cliff forming one side of a nose of outcrops. It has a strike of about north 10° west and dips east from 35 to 65 degrees. At the upper end it has been followed for about 25 feet by stripping to within a short distance of the younger formations. At the top of this stripping it

pinches down and splits although 15 feet back from the end of it is 4 feet wide. This may be the end of the lens or a local contraction. From there downwards the lens can be followed continuously for about 215 feet. At that point its continuity is interrupted by a complicated system of faults. Most of these seem to be strike faults but the lens appears to have been displaced to some extent by cross faults. For the next 30 feet ore can be seen only in occasional fault blocks but from there to the last of the exposures, in an open out below the point of the cliffs, the lens is once more continuous. Widths and assays are shown on the projection as well as the subdivision into blocks for purposes of tonnage computation. These figures are given in Table 11.

A short adit has been driven under the ore in the open-out. It can be seen in the plan that two zones of ore have been encountered. One of these has the normal attitude but the one in the semicircular part of the drift is more probably a faulted block. The cross-out part of the tunnel at the end has not gone far enough to the northeast to explore fully the downward continuation of the ore in the open-out.

Above the main lens is another, narrow and lower grade. Its extension down the face of the cliff is interrupted by a cross fault and beyond this point the

cliffs are inaccessible. This lens appears to dip less steeply than the main lens and it is possible that one of several mineralized zones on the other side of the nose of outcrops may be its extension. For this reason tonnage calculations were based on a block extending but a short distance from the line of outcrops.

Central Showings .

The main lens in this zone is that designated on Map 3 as Block E. This consists of a wide and continuous lens of disseminated chromite bearing about North 10 degrees West and dipping East at about 55 degrees. There is little or no high-grade ore but the mineralization is remarkably uniform. At the bottom the zone disappears under the over-burden. At the top is a complicated fault zone. Through this zone the lens cannot be followed continuously but patches of good ore occur. It is probable that mineable ore could be developed above the limits of Block E but no tonnage has been ascribed to it.

North of this lens is a zone designated as Block F. This zone consists of disseminated and some massive chromite. Some sections consist of excellent ore but the whole zone is irregular. Its trend is hard to determine and its extensions are not known.

North of this zone is another lens designated as Block G. This zone consists of disseminated ore. The

upward extension can be traced to the edge of the out-crops but it is very low grade. Downward where it disappears under the overburden it consists of good ore.

Between Blocks F and G and below Block F are many patches of ore, some of nearly solid chromite, some of low-grade disseminated material. No tonnage can be ascribed to these but some undoubtedly can be mined.

South of Block E on the next nose, is an area or irregular zones of mineralization. Upwards this area is bounded by unsuitable host rock but close to the edge of the drift much of it is good ore. The samples taken by Sterrett were both in exceptionally low grade sections. No tonnage is ascribed to this area although ore could undoubtedly be mined and it is probable that exploration might result in the development of an important ore-body.

Southeast Showings

Across the valley serpentine occurs in two bluffs only. In the most northerly one no significant mineralization was seen but in the southerly one three lenses of ore occur. The lowest of these is from 4 to 7 feet wide and is exposed for about 40 feet. Above this is a parallel lens consisting of about two feet of high grade ore exposed for some 30 feet. It disappears under

drift at both ends. A little to the north of this is a lens, similar to the last, that is exposed for only about fifteen feet. There is also a good deal of low grade disseminated ore between the two high-grade lenses.

No tonnage can be calculated from the Southeast showings but it is clear that the prospect of developing a mineable quality of ore is excellent.

Other small showings occur at several places but are of less importance than those already described. The area between the Central and Southeast showings is deeply covered with drift and there would seem to be excellent chances that ore-bodies occur under the overburden.

Conclusions

Table 1 (at end of report) is a list of assays received to date.

Table 11 shows the tonnage of probable ore.

It will be seen that some 20,000 tons of ore averaging about 15% Cr_2O_3 can almost certainly be won from the deposits on Ferguson Creek. There is every probability that the lenses considered will extend beyond the limits assigned and, of the many other ore occurrences some will almost certainly develop into mineable ore-shoots. A possible 50,000 ton of ore is not unreasonable to expect.

It is apparent that the only possibility for successful operation of the property is by milling the ore.

For this purpose a mill would have to be erected, preferably on the Bonaparte river as there is not enough water for milling at the property. A mill centrally located could also treat ore from the deposits at "Scotty Creek." Before operations could be commenced a road about two miles long would have to be built up Ferguson Creek. There are, however, no serious obstructions to such a road and it should not cost more than \$2,000 at most.

The following computations are strictly provisional as the writer has no data at hand. They are simply a rough attempt to get some idea as to whether the showings are worth further consideration.

Average grade of ore -----	15% Cr ₂ O ₃
Recovery -----	80%
Recoverable grade of ore ---	12%Cr ₂ O ₃
Grade of Concentrate -----	45%Cr ₂ O ₃
Concentration ratio -----	3.8 to 1

Cost per ton of ore: mining -----	\$2.50
milling -----	1.25
hauling to mill---	.50
	<hr/>
	4.25

Cost of mining and milling a ton of concentrate \$4.25 times 3.8 --- \$16.15 Capital set-up say \$75,000 to be written off against 30,000 tons of ore. ----- \$2.50 per ton of ore
\$9.50 per ton of concentrate

Cost of producing a ton of concentrate and delivering it to the railway at Ashcroft:-

Mining and milling -----	\$16.15
Hauling -----	2.00
Capital write-off -----	9.50
	<u>\$27.65</u>

Cost at Eastern markets:-

At Ashcroft -----	\$27.65
Present rate of rail-haul	15.90

\$43.55

From the above calculations it can be seen that it is doubtful if the Ferguson Creek deposits can be worked commercially by itself although if ore from Scotty Creek were also treated in the mill, thus reducing the capital write-off per ton, it might be possible. However, it is also clear that the property deserves careful consideration as it is probable that concentrates could be produced with but little financial assistance from the Government; say assumption of the cost of the rail haul to the Eastern markets.

There is little doubt that more ore could be found but it is believed that there is enough ore already in sight on which to base a conclusion. If what is now known cannot be worked the discovery of 10,000 or 20,000 tons more ore is not likely to affect the situation.

Sept. 10, 1942

(Sgd.) H.M.A. Rice

Table 1

<u>Sample No.</u>	<u>Width</u>	<u>Assay %Cr₂O₃</u>
F1-----	6.5-----	16.1
F2-----	4.5-----	14.4
F3-----	4.4-----	10.7
F4-----	5.3-----	11.1
F5-----	5.0-----	9.2
F6-----	2.7-----	20.4
F7-----	4.0-----	31.7
F8-----	4.0-----	10.6
F9-----	7.3-----	17.0
F10-----	5.8-----	19.4
F11-----	4.0-----	11.0
F12-----	2.7-----	12.0

Table 11

	<u>Outcrop Length</u>	<u>Width</u>	<u>Distance normal to outcrop</u>	<u>Tons</u>	<u>Percent Cr₂O₃</u>
<u>Northeast Showings</u>					
Block A -----	55'	3.4	50'	810	18.0
Block B -----	175'	5.0	100'	7,330	19.4
Block C -----	90'	6.5'	75'	3,780	13.1
Total Main Lens				11,920	17.3
Block D -----	90'	3.5'	30'	820	11.0
<u>Total Northeast Showings</u>				<u>12,740</u>	<u>15.9</u>
<u>Central Showings</u>					
Block E -----	115'	7.7'	75'	5,730	Assays not
Block F -----	40'	6.0	30'	620	15% assumed in
Block G -----	30'	3.0'	30'	210	10% " "
<u>Total Central Showings</u>				<u>6,560</u>	
<u>Total Probable Ore</u>				<u>19,300</u>	