

ARIS SUMMARY SHEET

District Geologist, Kamloops

Off Confidential: 89.11.21

ASSESSMENT REPORT 18458

MINING DIVISION: Kamloops

PROPERTY: Ferg
LOCATION: LAT 50 56 30 LONG 121 23 00
UTM 10 5644363 613583
NTS 092I14W
CLAIM(S): Ferg
OPERATOR(S): Nethery, R.
AUTHOR(S): Nethery, R.
REPORT YEAR: 1989, 17 Pages
COMMODITIES
SEARCHED FOR: Chromium/Chromite, Iron, Platinum
KEYWORDS: Dunite, Peridotite, Fractures, Chromite, Tuff
WORK
DONE: Prospecting, Geochemical
PROS 500.0 ha
SAMP 3 sample(s) ; NI, CR, PT, PD
MINFILE: 092INW035

| | |
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| LOG NO: 0510 | RD. 3 |
| ACTION: Date received report back from amendments 18p. | |
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| LOG NO: 0224 | RD. |
| ACTION: | |
| 17p. MI 35, 921 NW | |
| FILE NO: | |

GEOLOGICAL REPORT

FERG CLAIM

Kamloops Mining Division

Lat. 50°57'

Long. 121°23'

NTS Map 92I/14

Owner and Operator: R.J. Nethery

FILMED

By
R.J. Nethery

February 7, 1989

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,458

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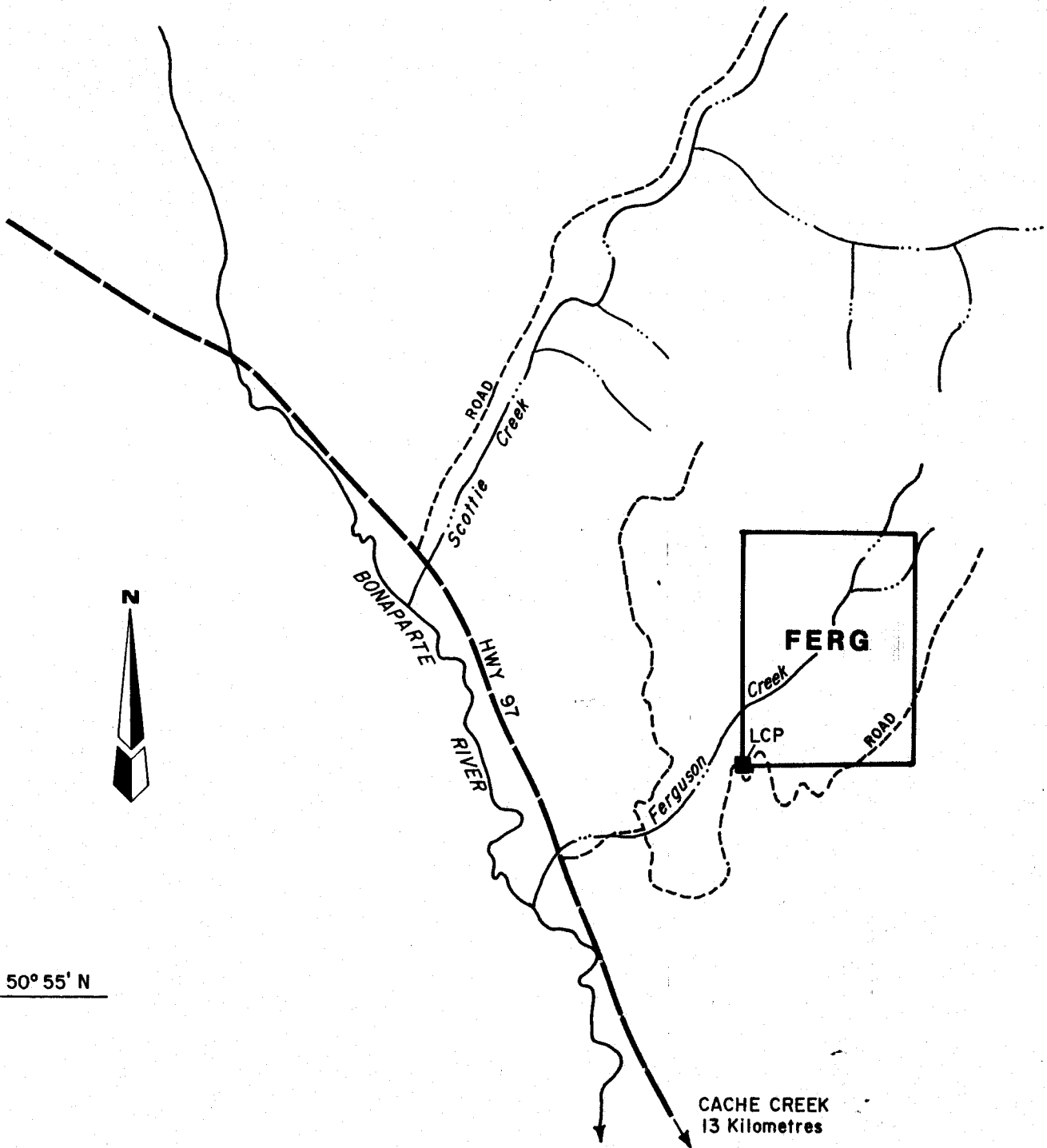
ILLUSTRATIONS

- Figure 1 Ferg Claim, Location map /
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121° 25' W



50° 55' N



FERG CLAIM
KAMLOOPS MINING DIVISION, B.C.

LOCATION MAP



N.T.S. 92-I-14W

SCALE 1:50,000

FIG. 1

INTRODUCTION

The Ferg Claim was geologically mapped in October 1988. The mapping and sampling indicated the claim has economic potential in several areas.

CLAIM DATA

The Ferg Claim was staked on November 25 and 26, 1987, and recorded on December 9, 1987, Record Number 7409, Kamloops Mining Division. The claim is registered in the name of R.J. Nethery and consists of 20 contiguous units.

LOCATION AND ACCESS

The property is located 14.5 km N.NE of Cache Creek. Access is via a good dirt road which branches off Highway 97 approximately 16 highway kilometers north of Cache Creek. The claim lies 3 road kilometers east of Highway 97.

TOPOGRAPHY AND PHYSICAL ENVIRONMENT

The elevation of the mapped area varies from 1,250 m in the north and east to less than 900 m in the southwest. Ferguson Creek, which drains to the west, cuts across the claim from the northeast to the southwest. The area is semi-arid, with the upper claim area being moderately timbered with ponderosa pine. Outcrop on the property is mainly confined to the steep gorge area of Ferguson Creek, as the upper regions are totally covered with glacial drift.

PREVIOUS WORK

Chromite was first discovered on Scottie Creek, which lies 4 km north of the Ferg Claim, in 1901. Approximately 454 tonnes of chromite ore was mined in 1918. Consolidated Mining and Smelting Company of Canada drove test adits on the Scottie and Ferguson Creeks showing between 1927 and 1931. Eight claims were Crown granted on Scottie Creek. From 1931 to 1977, both areas have been held by various parties but little work was done. In 1977 St. Joseph Exploration Limited conducted a magnetometer survey over the Ferguson Creek showing. It was hoped that the survey would outline the chromite mineralization but apparently chromite was not discernable from the host rocks. In 1986, Equinox resources Ltd. carried out a geochemical survey over the Ferguson Creek area. Stream sediment, soil and rock samples were collected from the area and analysed for platinum, palladium, gold, nickel and chromite and the 30 element CIP analysis. Some moderately anomalous gold values were obtained but no follow up work was undertaken.

H.M.A. Rice of the Geological Survey of Canada examined the Ferguson Creek showing in 1942. He concluded that there were 18,140 tonnes of 15% Cr_2O_3 reasonably assured. Concentration tests on the Ferguson west showing by the Bureau of Mines, Ottawa, showed that the ore concentrated readily on a Wilfley table to 50% Cr_2O_3 and 15% Fe at grinds of from 28 to 35 mesh yielding chrome-iron ratios of 2:25 to 1.

SAMPLE RESULTS

The chip sampling was undertaken with the intent of checking the chromite grade of the most favorable showing. The average grade for the three samples is 21.5% chromium. The nickel assays were insignificant but previous sampling by Equinox Resources revealed the showing due grade 0.08 to 0.28% Ni over a fairly wide area. It is not certain if the nickel is in a silicate or a sulphide. Sample results are as follows:

| Sample No. | %Ni | %Cr | Pt oz/ton | Pd oz/ton |
|------------|------|-------|-----------|-----------|
| 1 | 0.01 | 22.47 | --- | --- |
| 2 | 0.01 | 18.31 | --- | --- |
| 3 | 0.01 | 23.74 | 0.001 | 0.001 |

GEOLOGY

Outcrop on the property is generally restricted to the Ferguson Creek gorge. The chrome-bearing ultrabasics form rugged outcrops for over 400 metres along the north side of Ferguson Creek. There is a minor outcrop of ultrabasics on the south side of the creek. The upper rims of the Ferguson Creek gorge are capped with a light colored tuffs. The ultrabasics are highly fractured and faulted with no readily discernable pattern with the exception of a few near vertical N & NE trending faults. The ultrabasic body is mostly dunite with

lesser peridotite (McTaggart, 1943), that has been for the most part intensively serpentized. Chalcedony, opal and lesser carbonate are common fracture fillers in all outcrop.

The widest and most continuous chromite lense is located in the NE outcrop area. The showing occurs at the base of a cliff and much of the lense has been covered by talus. The banded chromite is over four feet wide in some exposures and trends $325^{\circ}/50^{\circ}$ NE. This lense was sampled in three areas with the location indicated on the accompanying map. (Figure 2) Other chromite showing are less continuous and generally exhibit greater fault displacement. All significant chromite mineralization observed is related to the buff colored serpentine.

ECONOMIC IMPLICATIONS FOR THE FERGUSON CREEK CHROMITE DEPOSITS

Chromite is the source of chromium, which is used to harden steel alloys and to produce stainless steel. The U.S. is entirely dependent upon imports for its chromium needs. Although some resources do exist, the ore is not extracted due to its low commercial potential. South Africa supplies approximately two-thirds to three-quarters of U.S. needs, depending on demand and the type (either chromite ore used in the refractory, chemical and ferroalloys industries, or high- and low- carbon ferrochromium used in steel making).

Chromium is of critical importance not only to the U.S.

industrial base, but also to its national defense system. It is used to produce stainless, full-alloy, and high-strength, low-alloy steel high-purity ferrochromium, and electrolytic chromium metal. These materials in turn are used in production of tanks, ships, military hospital equipment, military aircraft, naval nuclear-propulsion systems, and other industrial equipment.

South Africa has 84% of the world's chromium reserves and supplied 240,350 tons of chromite to the U.S., over 70% of the total for the first nine months of 1986, valued at \$10.7 million. The U.S. is one of the world's major consumers of chromium. Some 86% of domestic usage is in the chemicals and metallurgical industries; the remainder is used in the refractory industry. The aforementioned data indicates the trouble the U.S. would be in if the chromium supply was cut off from South Africa. Since most of the world's supply is located in volatile southern Africa, one can imagine the chromium price increases should the supply be shut down.

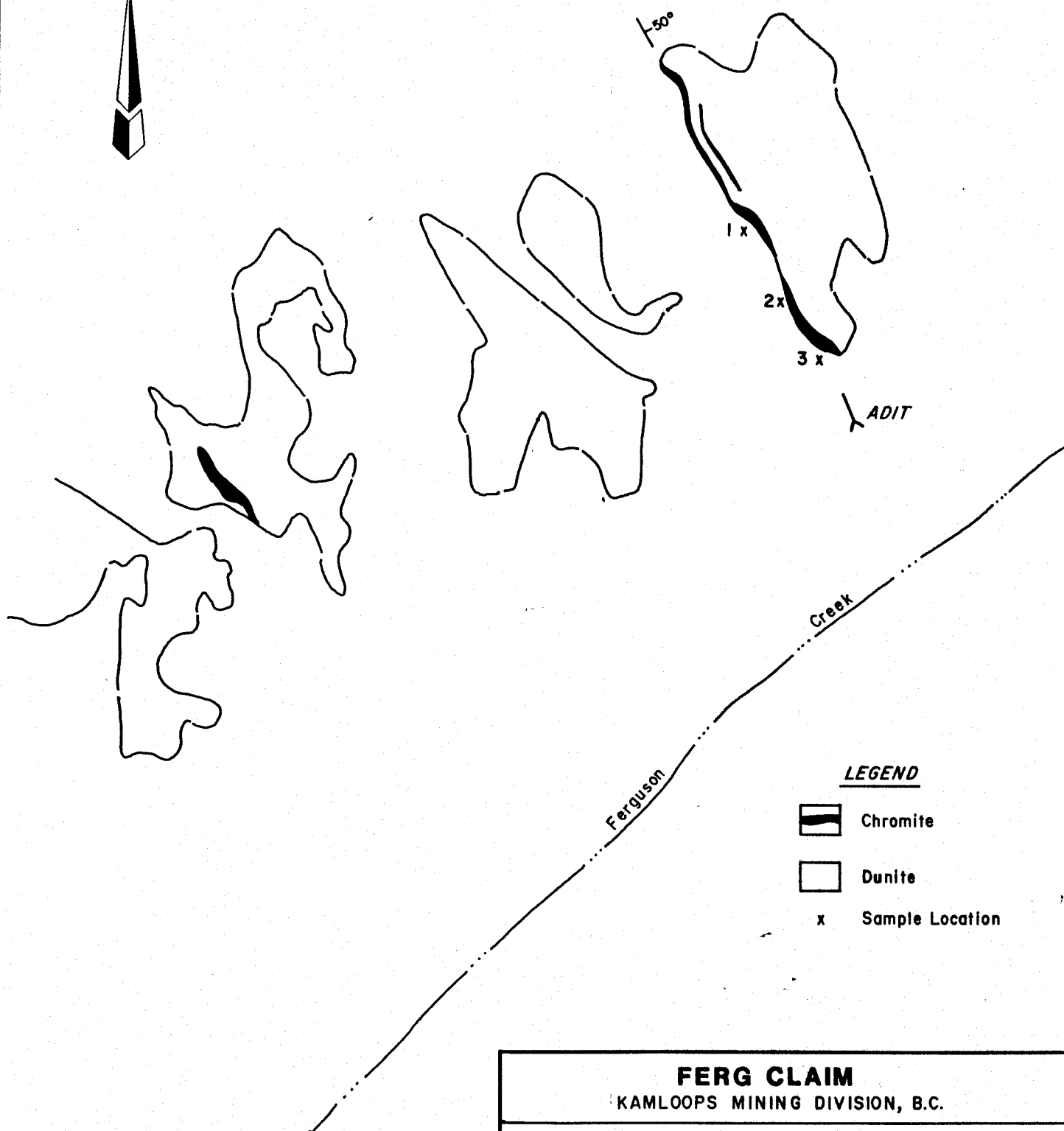
At the present time, lower grade ferrochromium, called charge chrome, is being used in increasing amounts in the making of chromium bearing steel alloys. Charge chrome can be made from chemical grade ore which has about 44% Cr_2O_3 and a Cr/Fe ratio of 1.5:1. The Ferguson Creek deposit chromite concentrates to 50% Cr_2O_3 and has a Cr/Fe ratio of 2.25:1. This would appear to be satisfactory for metallurgical grade,

but other tests must be performed on the chromite to determine if its sulfur, phosphorus, SiO_2 , etc. content are satisfactory.




The Ferguson Creek deposit contains about 20,000 tons of 15% Cr_2O_3 and these reserves are based on outcrop observation as no drilling has been done on the property. The main lense on the property is approximately 6 to 7 feet wide, strikes north and dips 50 to 60 degrees to the east and can be traced for 100 feet before being lost under the tertiary cover. Geophysical methods would not be useful in outlining the chromite; drilling or drifting would have to be used to test the deposit. Extensive tertiary flows and glacial drift cover the main showing to the north, south, east and west.

Previous geochemical surveys have indicated slightly anomalous gold values in streams draining the east and south portion of the property. No highly anomalous platinum values were detected in the Ferguson Creek deposit, but the Scottie Creek showing just two miles to the north, and possibly in the same ultra-basic body, has well noted placer platinum. It should be noted the chromite bearing lenses are prime targets for platinum.

This property is primarily a chromite prospect, with favorable ground for both platinum and gold. Over the last ten years, the price of metallurgical grade chromite has varied between \$50 and \$140 per metric ton, depending on the grade and



LEGEND

-  Chromite
-  Dunite
-  Sample Location

FERG CLAIM
KAMLOOPS MINING DIVISION, B.C.

SAMPLE LOCATIONS MAP



Note: Base Map After McTaggart (1943)

world price fluctuation.

Remember, chrome is, more than any other metal, the Achilles' heel of the U.S. economy. Without it America would be brought quickly to its knees. If any tonnage can be proven up, this could be a very valuable deposit in the near future, if world supplies are disrupted.

SUMMARY AND CONCLUSIONS

According to McTaggart, 1943, the adit below the NE showing intersected two chromite lenses, one of which parallels the chromite lense exposed on the surface for 100 feet. This factor would appear to give some continuity to the lenses in this showing, possibly indicating continuous structures with good tonnage potential. Since the banding and layering of these chromite lenses indicate they were formed from magmatic segregation, one might assume the mineralization to be consistent throughout the rock type. Therefore, there would appear to be a good chance that the chromite lenses in the NE showing could continue for some distance under the drift cover, both the north and the south.

The tertiary volcanic tuffs which outcrop along the upper area of Ferguson Creek are also of economic interest. The tuffs have been subjected to preliminary tests which indicate an absorbent product could be made after drying and pelletizing,

which could be suitable as an industrial absorbent or as kitty litter. Also of interest is the fact that most tuffs and sandstones in the area contain zeolites. Some zeolites (ie. clinoptilolite) have the property of causing nitrogen fertilizers to slowly release their nitrates when they are mixed together, thus producing a long lasting fertilizer.

ADDENDUM

GEOLOGY

It should be noted that the entire claim block is covered with glacial drift with the exception of a few outcrops along the Ferguson Creek gorge.

REFERENCES

- Duffell, S. and K.C. McTaggart (1952). Ashcroft Map Area, British Columbia; Geological Survey of Canada, Memoir 262, p. 98-99.
- McTaggart, K.C. (1943). "The Ferguson Creek and Scottie Creek Chromite Deposits", B.A.Sc. Thesis, University of British Columbia, Vancouver.
- Miller, D.C. (1978). Magnetometer Survey Report for St. Joseph Explorations Ltd. TIK-1 Claim.
- Page, Jay W. (1986). Geochemical Survey Report for Equinox Resources Ltd., Chrome 1 Claim.

STATEMENT OF EXPENDITURES

PERSONNEL:

| | |
|--|------------|
| R.J. Nethery, P.Eng. Oct 13-15, Dec 4, 1988 4 days @ \$350/day | \$1,400.00 |
| J.G. Collins, Field Assistant Oct 13, 1988 1 day @ \$200/day | 200.00 |

TRANSPORTATION:

| | |
|--|--------|
| Ford F-150 4WD Pickup, R.J. Nethery 3 days @ \$60/day | 180.00 |
|--|--------|

LODGING AND MEALS:

| | |
|---------------------------------|--------|
| R.J. Nethery Oct 13-15, 1988 | 167.00 |
|---------------------------------|--------|

CONTRACTOR'S EXPENDITURES:

| | |
|-----------------------------------|-------|
| Acme Analytical Laboratories Ltd. | 49.00 |
| Drafting | 50.00 |
| | ----- |

| | |
|---------------|------------|
| TOTAL: | \$2,046.00 |
|---------------|------------|

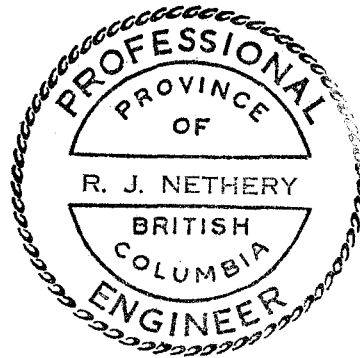
R. J. Nethery
R.J. Nethery
February 7, 1989

STATEMENT OF QUALIFICATIONS

- (i) I am a graduate of the University of British Columbia and obtained a B.Sc. degree in Geology in 1967.
- (ii) I am a registered Professional Engineer in the Province of British Columbia.
- (iii) I have examined the property discussed in this report.
- (iv) I have an interest in the property.

R.J. Nethery

R.J. Nethery, P.Eng.
February 7, 1989



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DATE RECEIVED: JAN 23 1989

DATE REPORT MAILED: Feb 6, 1989

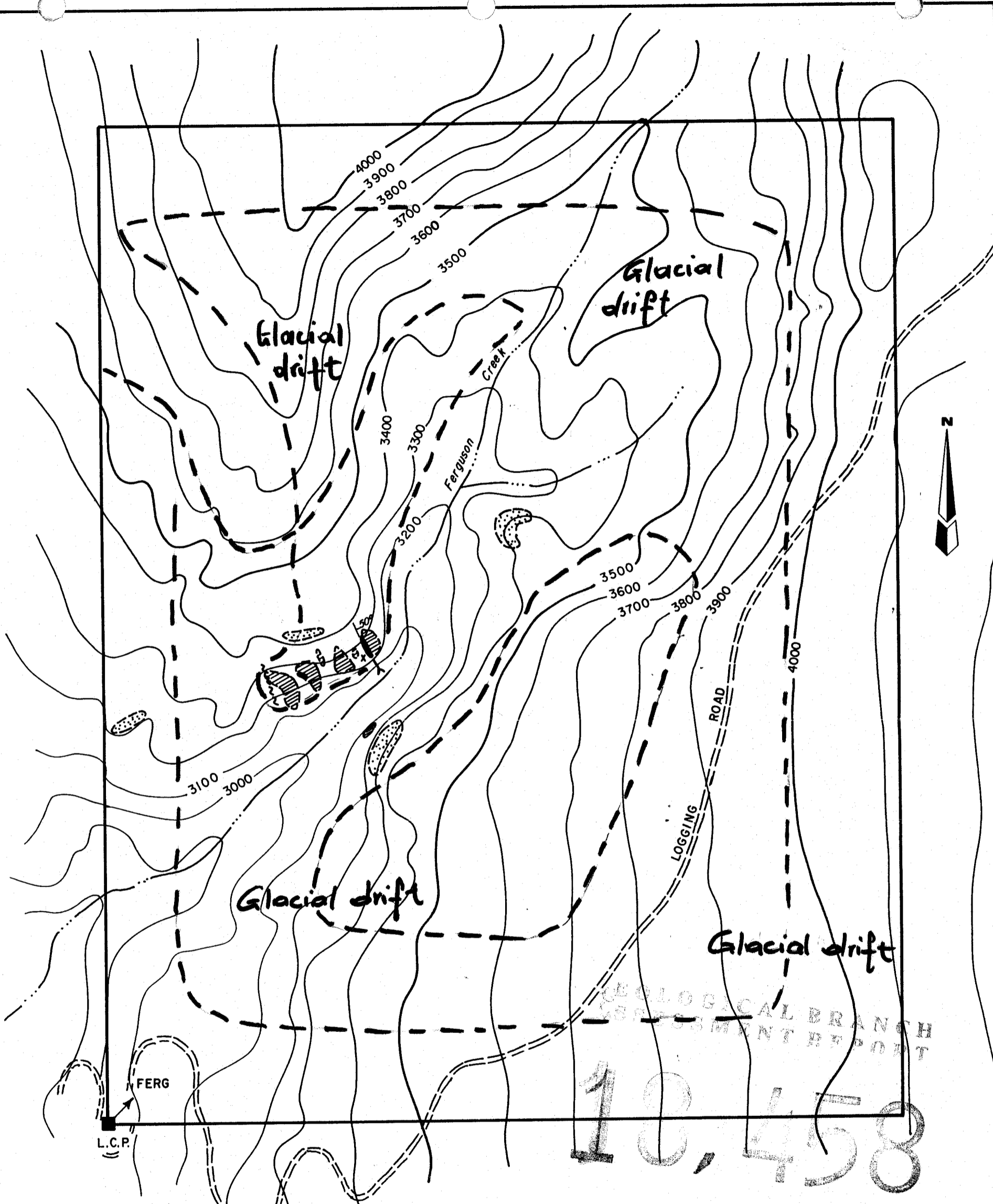
ASSAY CERTIFICATE

PT** & PD** BY FIRE ASSAY.
- SAMPLE TYPE: ROCK

SIGNED BY. *[Signature]* D.TOYE, C.LEONG, B.CHAN, J.WANG; CERTIFIED B.C. ASSAYERS

R. NETHERY FILE # 89-0147

| SAMPLE# | NI % | CR % | PT** oz/t | PD** oz/t |
|---------|---------|---------|--------------|--------------|
| 1 | .01 | 22.47 | - | - |
| 2 | .01 | 18.31 | - | - |
| 3 | .01 | 23.74 | .001 | .001 |



GEOLOGY

- MIDDLE EOCENE**
 Kamloops Group
 Cream-weathered rhyolite tuff
- PENNSYLVANIAN To TRIASSIC**
 Cache Creek Complex
 Dunite, lesser peridotite & serpentine

SYMBOLS

- ← Adit
- ~ ~ ~ Fault
- x Sample Locations

— 5-15% disseminated chromite

- - - Prospecting traverse

FERG CLAIM
 KAMLOOPS MINING DIVISION, B.C.

GEOLOGY MAP

m. 300 200 100 0 100 200 300m.

NTS. 92-I-14W SCALE 1:10,000 FIG. 3