2274

GEOLOGICAL AND MAGNETOMETER SURVEY REPORT

by

C. Coveney, P.Eng. and F. Lee, Geologist

on the

CONSTEEL EXPLORATIONS LTD. (N.P.L.)

TINA - CATHY PROPERTY

on

OLIVINE MOUNTAIN

Similkameen Mining Division, B.C.

Latitude: 49°31'N
Longitude: 120°53'W

Dates: 20th May, 1969 to 31st January, 1970

31st January, 1970

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INTRODUCTION

The Tina-Cathy group of claims lie on the northern slopes of Olivine Mountain approximately 6 miles west of Tulameen, B.C. They extend from the summit of Olivine Mountain, elevation 5,800 feet, down to the Tulameen River at an elevation here of 2,900 feet, and overlie large areas of outcrop of ultra-basic intrusive rocks. The terrain is fairly rugged and only sparsely treed except near the river.

A grid system, based on three parallel surveyed base lines, was cut over most of the property. A magnetometer survey was then carried out on this grid with readings being taken at 100 foot intervals along the cross lines. The survey was carried out intermittently from May to October.

The geological investigation of the property consisted of making a series of zig-zag traverses over the hillside so that the general outline of the geology of the property could be determined and areas of mineralization pin-pointed. Detailed mapping of mineralized areas was to be left until a later date. The claims were originally staked as an iron prospect, but during the geological mapping programme chromite and platinum mineralization were also considered.

Geological mapping was carried out from 7th October to 14th October, 1969 inclusive and map compilation and report writing at a later date. The field work was done by F. Lee of Western Geological Services Ltd. with J. Gabel of Okanagan Centre as field assistant. Map compilation was done by F. Lee in Vancouver.

The programme was under the supervision of C.J. Coveney, P.Eng., and was carried out at a cost of approximately $13,200.

SUMMARY AND CONCLUSIONS

This report describes the geology of the Cathy group of 33 contiguous mineral claims and 1 mineral lease which are located about 6 miles west of Tulameen on the northern Slopes of Olivine Mountain in the Similkameen Mining District of British Columbia. The claims are held by Consteel Explorations Ltd. (N.P.L.) with registered office at 601-850 West Hastings Street, Vancouver 1, B.C.

The report is based on a detailed magnetometer survey carried out intermittently from May to October, and on geological field work carried out over a period of eight days commencing on the 7th October, 1969. The geological survey was not intended to be detailed but rather was done to gain a general outline of the geology of the property, to correlate magnetometer survey results with geology if possible, and to locate areas of mineralization, which would be mapped in detail at a later date if the property appeared a promising prospect.

The claims overlie a portion of the Olivine-Grasshopper Mountains ultra-basic intrusion, an intrusion thought to be Jurassic in age. There is a central, north-north-west trending zone of peridotite bordered to west and east by pyroxenite and these two rock types are by far the most dominant rock types on the property. The transition between peridotite and pyroxenite is not sharp but broadly gradational so that it was often difficult in the field to decide whether a rock outcrop was olivine peridotite, peridotite, or pyroxenite. These rocks are co-magmatic and are cut by dykes of similar material so that they are probably segregation phases of the same stock. It is reported in past Canadian Department of Mines reports that most of the peridotite core has been extensively altered by metasomatism to serpentine. On the property, this extreme serpentinisation seemed restricted to zones within the peridotite although milder serpentinisation was obvious throughout the peridotite and parts of the

pyroxenite.

In addition to the peridotite/pyroxenite mass and related dykes, a small area of augite diorite occurs in the north-eastern part of the property. It is either a large dyke or elongated small stock of later origin than the ultra-basic rocks.

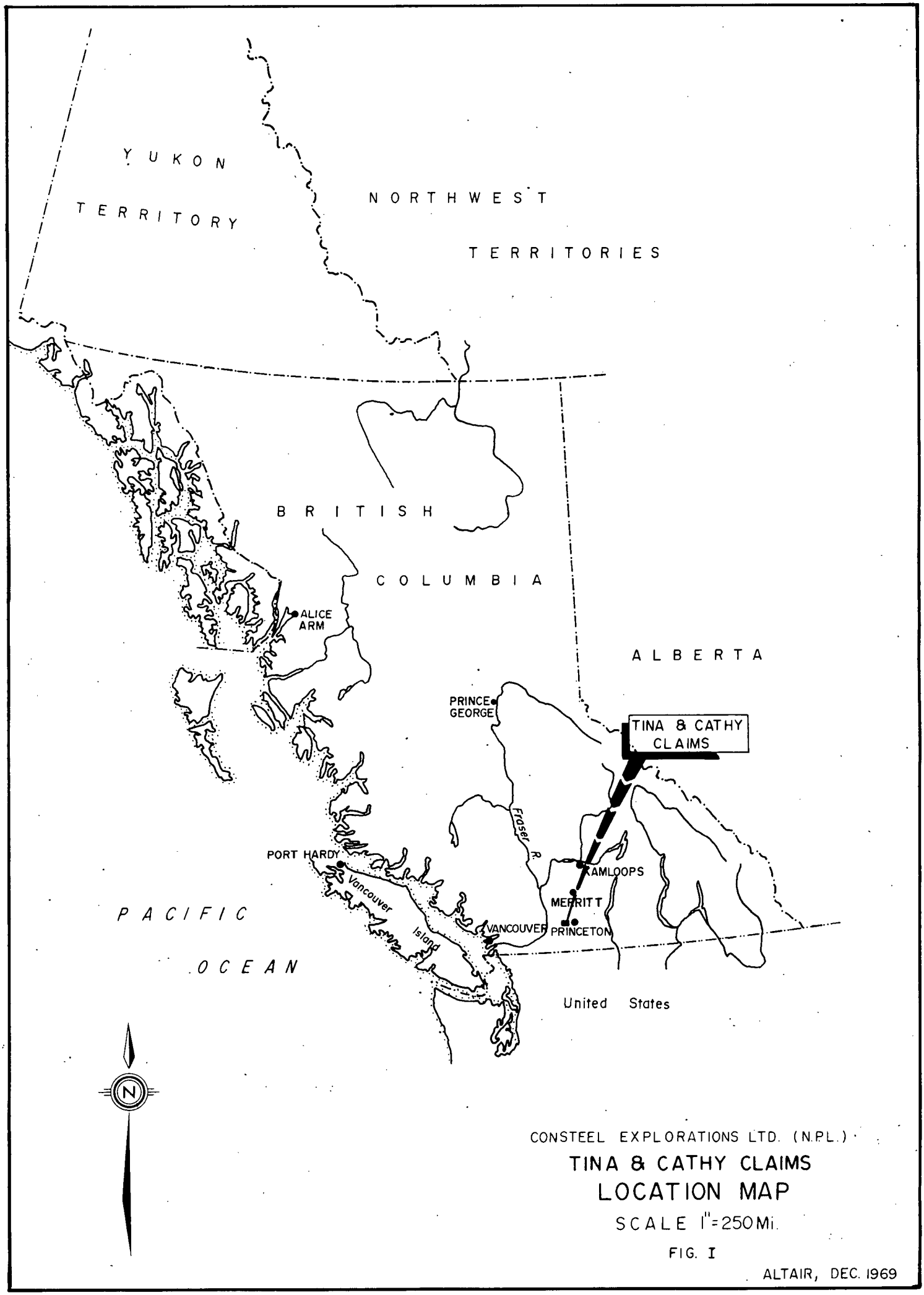
The original intention of the survey was to determine the iron potential of the property. The survey showed fairly conclusively that no iron minerals in anything but accessory amounts exist on the property with the possible exception of the south-western corner. Here, in an area not crossed by geological traverses, is an area of moderately high magnetometer readings which could be due to magnetite. Inspection of the location is, however, required to determine the cause of the magnetic high.

Chromite is present over much of the property but only in accessory amounts except for a restricted zone within the peridotite. Here it occurs in scattered small gash veins and local crystal segregations but is not economically significant.

Copper mineralization was noted in only one small area, in the presence of chromite in a metamorphosed ultra-basic rock, probably originally pyroxenite. The mineralization is not thought to be economically significant.

As the general area was known to be platinum-bearing, many rock specimens were taken during the survey and ten of these were assayed for platinum. Assay results confirmed the field interpretation that platinum mineralization occurs in one or more highly serpentinised zones lying within the peridotite on the property.

In summary, it has been shown that platinum minerals occur in possibly significant amounts and the property, therefore, warrants further investigation.



CONSTEEL EXPLORATIONS LTD. (N.P.L.)

TINA & CATHY CLAIMS
LOCATION MAP

SCALE 1"=250Mi.

FIG. I

ALTAIR, DEC. 1969

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 2274 MAP #1

LOCATION AND ACCESS

The Tina-Cathy group of claims, covering portion of the northern slopes of Olivine Mountain approximately 6 miles west of Tulameen, B.C. lie within the Similkameen Mining Division on and around latitude 49°31'N and longitude 120°53'W.

The property can be reached by car from Tulameen by taking the all-weather graded dirt road which follows the northern bank of the Tulameen River. About 7 miles along the road and about 1½ miles short of Eagle Creek an ungraded dirt road turns off from the main road down to a bridge across the Tulameen River. This road allows easy access to the property.

CLAIMS

The claims comprising the Tina-Cathy property consist of 33 mineral claims and 1 mineral lease as tabulated below. All claims lie within the Similkameen Mining Division of British Columbia, and are held by Consteel Explorations Ltd., (N.P.L.) with registered office at 601-850 West Hastings Street, Vancouver 1, B.C.

Claim Name	Record No.	Expiry Date
Cathy #2	22471	May 31, 1970
Cathy #3 Fr.	22472	"
Cathy #12	22473	"
Cathy #14	22474	"
Cathy #15 Fr.	22475	"
Cathy #16	22476	"
Cathy #5	22280	"
Cathy #6	22281	"
Cathy #7	22282	"
Cathy #8	22283	"
Cathy #9	22284	"
Cathy #10	22285	"
Tina #1	22668	July 4, 1970
Tina #2	22669	"
Tina #3	22670	"
Tina #4	22671	"
Tina #5	22672	"
Tina #6	22673	"
Tina #7	22674	"
Tina #8	22675	"
Tina #9	22676	"
Tina #10	22677	"
Tina #15 Fr.	24070	Feb. 10, 1971
Tina #16 Fr.	24071	"
Doug #1 Fr.	25768	Aug. 26, 1970
Doug #2 Fr.	26295	Sept. 26, 1970
Doug #3 Fr.	26296	"
Doug #4 Fr.	26297	"
Cathy #17	26298	Sept. 26, 1970
Cathy #18	26299	"
Cathy #19	26300	"
Cathy #20	26301	"
Cathy #21 Fr.	26302	"
M.L. #74	Lots 1136 & 1137	Feb. 17, 1970

HISTORY

Working of placer gold and platinum in the upper reaches of the Tulameen River commenced in 1886 after coarse gold was discovered in Granite Creek late in 1885. Annual platinum production from 1886 to 1891 varied between 1,000 and 2,000 ozs. since when production fell gradually. From about 1910 onwards production has been small and mining intermittent.

Mining interest in the area resulted in geological investigations being undertaken at the beginning of this century, of which investigations, that by Camsell (1909 and 1910) was perhaps the most complete. The investigations showed that the Olivine-Grasshopper Mountains ultra-basic stock rocks were at least in part the source rocks of the placer platinum of the Tulameen River. Numerous attempts were apparently made to trace workable lode platinum deposits on Olivine Mountain during the early part of the century and occasionally up to the present time but grades were everywhere too low for prevailing prices.

The area covered by the Tina-Cathy property has been intermittently staked since the turn of the century. The first claims of the present property were staked during 1967 and others have been added since. The claims were staked with a view to prospecting for iron deposits.

For excellent detailed descriptions of the history, physiography, and geology of the area around Olivine Mountain the reader should refer to:

(i) Memoir No. 26 of the Geological Survey, Department of Mines, Ottawa, 1913 "Geology and Mineral Deposits of the Tulameen District, B.C." by Charles Camsell.

(ii) Economic Geology Series No. 13, Canada Department of Mines, 1934 "Platinum and Allied Metal Deposits of Canada" by J.J. O'Neil and H.C. Gunning.

PHYSIOGRAPHY

The property lies on the northern slopes of Olivine Mountain and stretches from almost the summit of the mountain, at 5,800 feet elevation, to the Tulameen River below, at 2,900 feet elevation. The average slope over the property is therefore almost 1 in 2 but in fact the slope is less in the upper half of the property and more in the lower. Cliffed areas are common in the north-central part of the property. Except for the far eastern and far western parts, the property ground surface is generally rugged and there is much rock outcrop. This rocky area is lightly treed. A denser forest cover mantles the far eastern and far western parts of the property where gentler, well-soiled slopes exist.

Contact Creek appears to be a permanently running stream but the other creeks on the property are dry in summer.

MAGNETOMETER SURVEY

The magnetometer survey was carried out by Okanagan Testing Services Ltd. of Penticton during the months of June to September, 1969 inclusive. A Sharpe Magcrometer ES18 Serial No. 223, on which readings are taken on a micrometer scale, was used for the survey. This instrument has a range of from 0 to 1150 scale divisions and on the lower scale an accuracy equivalent to 30 gamma is possible. Conversion from instrument reading to gammas is made by using a graph supplied with the instrument. The resultant readings are the vertical component of the earth's field.

Readings were taken at 100 feet intervals along grid cross-lines spaced at 400 feet intervals over the whole of the property as it existed at the time of the survey. All readings were taken facing magnetic west. These readings were then adjusted to the provisional base line established by the Dominion Astrophysical Observatory, Victoria, B.C. by reference to daily magnetograms. The corrected readings were plotted on a grid map and contoured at 2,000 gamma intervals between 5,000 gamma and 15,000 gamma.

It can be seen by inspection of the map that readings generally lie within the 5,000 gamma to 15,000 gamma range and only a few readings are in excess of 20,000 gamma. There is a definite elongation of the contour lines in a north-westerly direction and this was not expected. It was anticipated that the contour trend would parallel the strike of the stock which is north-north-west. The major lows do, however, coincide approximately with the peridotite core while the highs in the main overlie pyroxenite. By comparison of the magnetometer and geological maps it is apparent that much of the rock outcrop over which moderately high magnetic readings were recorded contain only accessory amounts of finely disseminated magnetite so that the lack of strong anomalies and large

readings in all but a few restricted localities suggests that there is no appreciable concentrated amounts of magnetite on the property.

It was thought that the contours might reveal the highly serpentinised areas in the peridotite core, so helping to delineate the areas of likely platinum mineralization. There is, however, only a vague correlation and in fact it appears that the slightly higher areas lying within the general magnetometer lows may indicate the more completely serpentinised zones.

GEOLOGY

A. Mapping Procedure

The incidence of outcrop over the property is so great that a series of widely spaced traverses can give a good picture of the geology and mineral potential of the area. Thus, although it was impossible to detail map the property in the time allotted for the survey the series of irregular traverses actually planned and made enabled the writer to gain a good understanding of the geology and mineralization on the property. All traverse lines were located by noting crossing points on the cross-lines of an existing grid laid out over the property. Numerous rock specimens were collected during the survey and are being kept at the Vancouver office of Western Geological Services Ltd. for future reference. Portions of the specimens were used for assay purposes.

The method adopted for recording the geology seen during the survey was decided upon because it was considered that a geological map of normal type would prove more misleading than informative. The following geological discussion will make this clear.

B. Discussion

Good general descriptions of the geology of the area may be found in the two government reports listed in the history section.

The property lies on the northern slopes of Olivine Mountain over a portion of the large, elongated Olivine-Grasshopper Mountains complex ultra-basic stock. This stock consists of a central core of peridotite, more accurately described as dunite according to the literature, surrounded by a shell of pyroxenite of variable composition. There is a gradational change from peridotite of pyroxenite by decrease of olivine and increase of pyroxene in the essential mineral constituents. This

change takes place over a fairly wide zone but is quite variable from place to place. Less basic rocks, possibly related to but slightly younger than the peridotite and pyroxenite, appear to form part of the stock. However, it is clear that most of the claims in the property lie over the central core of peridotite, which here strikes approximately north-north-west across the property from the summit of Olivine Mountain towards the Tulameen River. Just before reaching the Tulameen River the intrusion passes under valley glacier till deposits and reappears north of the river on the southern slopes of Grasshopper Mountain. The average width of the peridotite core on the property is about 5,000 feet. Pyroxenite was recognized on the property both to the east and west of the central peridotite core. That to the west was more easily recognisable, chiefly because of its coarser grain size.

Although identified as peridotite in the field and so marked on the accompanying map, previous literature on the area classified the core of the intrusion as dunite. Dunite can be considered a pyroxene-free peridotite in which the rock is composed almost solely of the mineral olivine (= olivinite). The olivine usually shows mild to extreme alteration to serpentine. The dunite on the property also contains accessory amounts of chromite. Because of the difficulty in distinguishing dunite from peridotite the term dunite will not be used in this report. It will be considered a variety of peridotite. Peridotite is a less basic rock than dunite and contains pyroxene, usually clino-pyroxene, as an essential mineral besides olivine, i.e. peridotite must have pyroxene and olivine present but either one or the other may greatly dominate. Accessory magnetite is normal but in this stock it is almost non-existent though some secondary magnetite exists. Its place is taken by chromite. Pyroxenite is a rock made up essentially of the mineral pyroxene, either clino-pyroxene or ortho-pyroxene, and all other minerals present are in accessory amounts only. In the Olivine Mountain stock some chromite occurs in accessory amounts near the core edge but appears to give way to magnetite further

out towards the sides of the stock. All the dunite, peridotite, and pyroxenite of this intrusion are coarse-grained to medium-grained.

It can be seen from the above descriptions that field identification of the rocks on the property is quite difficult, made increasingly so by the gradational changes from one to the other. This explains the alternative names and question-marked names shown in places on the map of this report.

Almost all the property is composed of the above three rock types. However, outcrops of diorite and one outcrop of gabbro occur in the north-eastern part of the property. More detailed mapping will be necessary to determine if the diorite was a small plug or a wide dyke but it clearly intrudes the peridotite/pyroxenite ultra-basics. No mineralization was found accompanying it. The gabbro may be a segregation in the peridotite.

The peridotite/pyroxenite mass is cut by numerous ultra-basic dykes and veins and there are probably more present than indicated on the map for the dykes and veins are usually essentially of the same composition as the stock, thus being easily overlooked. Dykes were common in the pyroxenite west of the peridotite and in this locality amphibolite veins were recognized as well as pyroxenite. Monchiquite dykes were tentatively recognized lying within the peridotite in the eastern portion of the stock. Monchiquite is a lamprophyre dyke rock of ultra-basic composition. In addition to the dykes it is possible that a large segregation deposit of coarse-grained hornblendite exists in the western corner of the property.

The peridotite/pyroxenite mass has undergone hydrothermal alteration. This alteration is not constant throughout the stock, however, but varies widely in intensity from place to place. At some localities there appears to be little alteration but this is not common. In others

alteration is almost complete. There appears to be two types of alteration and these fall into two broad zones. The western-most zone is chiefly in pyroxenite and here hydrothermal alteration of the pyroxene has resulted in a fibrous mineral forming, possibly tremolite. The alteration is quite patchy. This tremolitisation appears to be restricted to the pyroxenite west of the peridotite core and to parts of the western edge of the core. Where tremolitization occurs serpentine is absent. Instead of serpentine, epidote veinlets and patches occur in the rock. It is in this zone that coarse-grained augite and/or hornblende veins occur.

The second and eastern zone of hydrothermal alteration occurs in the peridotite core of the stock. Alteration of the rock mass is to serpentine and in several places the rock has been completely serpentinized. Serpentine, serpentine/asbestos, asbestos, and serpentine/(?) hornblende veins and veinlets cut the peridotite core. This veining is widespread and probably exists throughout the core both in unaltered and altered rock, but it is generally poorly developed in the highly serpentinized parts. The veins rarely exceed ½ inch in width but in places form swarms of parallel sheets. Serpentine and serpentine/asbestos veins also cut the pyroxenite on the eastern side of the core. However, there is a pronounced lessening in numbers of veins towards and into the pyroxenite which appears to be only mildly serpentinized. Chromite occurs in more than accessory amounts in and adjacent to areas of moderate veining in the altered peridotite. Here chromite occurs as clusters of disseminated coarse crystals easily distinguishable with the unaided eye, as irregular veinlets, in coarse "bunches", and as small "gash" veins. From its incidence in and beside a pale-coloured dyke cutting the stock it is thought that this coarser chromite was introduced during the period of hydrothermal alteration but alternative explanations are that it concentrated as magmatic segregations or that it formed by metasomatic concentration of existing chromite. Platinum is known to accompany the chromite and zone of serpentinisation.

C. Economic Minerals

1. Magnetite. Magnetite is known to exist as concentrations within the Lodestone-Olivine Mountains ultra-basic stock and the original intention of this survey was to determine the magnetite potential of the property.

The area was sufficiently well covered by the geological survey to show that no economic deposits of iron minerals occur on the property, with the possible exception of the south-western corner. Here, in an area not crossed by geological traverses, is an area of moderately high magnetometer readings which could be due to magnetite. Inspection of the location is, however, required to determine the cause of the magnetic high.

Magnet deflection tests of all rock specimens collected shows that while nearly all the rock specimens showed some magnetism, the magnetism was very weak except for specimen T 8. T8 pyroxenite taken from the summit of Olivine Mountain gave a moderate deflection and while the magnetite causing the deflection could be seen with the naked eye the amount was quite small.

Results of the magnetometer survey completed just prior to the geological survey support this conclusion as nowhere were readings measured that would indicate magnetite deposits.

2. Chromite. Chromite is known to exist as an accessory mineral throughout the peridotite core and to a lesser extent in the pyroxenite. Locally in the peridotite, and particularly in areas of high serpentinisation of the rock, chromite occurs as segregations of coarse crystals, as irregular "bunches", as irregular veinlets, and as small "gash" veins. Evidence points to

there being a relatively chromite-rich zone within the peridotite core and possibly roughly parallelling the strike of the core. However, the concentration of chromite is insufficient and its distribution too erratic to be of economic interest.

3. Copper (Chalcopyrite). Chalcopyrite was seen in situ at only one locality on the property, near picket N20 W5 of the grid, where it occurred in the presence of platiniferous chromite. Further mapping or prospecting would be required to determine the extent of mineralization but a brief inspection during the survey indicated that the zone is not extensive. A grab sample averaged 0.21% Cu, 170 ppB Pt, and 120 ppB Pd. This sample was the only one taken from the property which contained significant amounts of palladium.

The copper zone is probably small in extent and low in grade and it is considered that copper mineralization on the property is not economically significant.

4. Platinum. It has been fairly well established by earlier geological investigations of the area, particularly by the Canadian Department of Mines, that the platinum placer deposits of the Tulameen River valley originated in large part by weathering of the Olivine - Grasshopper Mountains ultra-basic stock. A series of specimens of different rock types were therefore collected on the survey and ten sent to Bondar-Clegg and Co. Ltd. for fire-assay/atomic absorption testing. Five of the specimens were of relatively unaltered rock and five of serpentinised rock. Assay results confirmed that platinum exists in rocks on the property and also support the belief gained in the field that best platinum values occur in a highly serpentinised, mildly asbestos-veined zone or zones lying within the peridotite core.

(Values may be best in this zone where chromite occurs.)
Assay results for the five significant specimens are listed below:

Sample No.	Rock Type	Assay Result Pt ppB
T4	Completely serpentinized dunite.	565
T18	Moderately serpentinized peridotite with numerous fine veinlets of asbestos.	200
T13B	Black, fine to medium grained highly serpentinized peridotite.	165
T19	Pale-coloured, banded altered dyke rock containing chromite.	150
T20	Mildly altered (tremolitized?) dunite with disseminated coarse chromite crystals.	115

(See map for locations of specimens)

It will be noticed that the Bondar-Clegg assays give values only up to 0.0165 oz. Pt/short ton (565 ppB). However, a specimen sent for assay by D. Chapman and Associates of Penticton to Johnson Mattkey Chemicals Ltd., London, England contained 0.24 oz. Pt/long ton. This specimen was taken at the same locality as sample number T4. It is therefore clear that platinum distribution is highly erratic throughout the rock. This is to be expected when such small grades of ore (down to 0.1 oz./ton) can be considered as economically significant.

It can therefore be said that platinum occurs on the property and possibly in significant amounts. Grab sample assays give no

indication of the average grade of platinum in the rock and so give no idea of the economic value of the rock. Nonetheless, there is sufficient evidence on hand to show that the property warrants further investigation of its platinum potential.

CONCLUSIONS AND RECOMMENDATIONS

Although the property was not covered by a high density of traverse lines the survey was sufficiently thorough to show that it is not likely that economic iron or chrome mineralization exists on the property. It should, however, not be overlooked that magnetometer readings well in excess of normal background occur in the south-west part of the property on the Cathy No. 12 claim and this area should be more thoroughly investigated for the presence of iron.

Copper mineralization was seen at only one locality on the property and there it was sub-ore grade. The chances of anything but small patches of copper mineralization appear to be remote and notfurther prospecting is recommended for copper on the property.

Consideration however should be given to a more detailed investigation for platinum. A highly serpentinized peridotite zone or zones exists on the property in which native platinum has been proved to occur. Best platinum values may be associated with chromite segregations in this serpentinized zone. Assay results indicate that distribution of the platinum is erratic and the ore grade is commonly low although locally values of almost 2 oz. Pt/ton may be achieved (Canadian Department of Mines report). The average grade of any outcrop is not known and as the present price of platinum is approximately $120/oz. (producer), an average grade of 0.1 oz./ton would be significant. To the writer's knowledge only grab samples have been assayed in the past and these do not give any indication of average grade. Sampling has shown the definite presence of platinum but to date no thorough sampling programme has been undertaken. Due to the erratic distribution of the platinum minerals a more systematic and detailed method of sampling is imperative to more accurately define the grade. It is recommended that such a programme be undertaken.

LIST OF PERSONNEL AND DATES EMPLOYED

Name and Address	Position	Work Performed	Employed
F. Lee 308-540 Burrard St. Vancouver 1, B.C.	Geologist	Geological mapping, map drawing, report preparation.	During period 6th October - 17th October, 1969 and 10th December, 1969 to 31st January, 1970.
J. Gabel Okanagan Centre B.C.	Field Assistant	Assisting geologist in collecting rock specimens, mapping, etc.	7th October to 15th October, 1969.
R. Chapman 15 Sage Mesa Penticton, B.C.	B.C.L.S.	Survey and general supervision.	22 days from May to October.
N. Holtz 1245 King St. Penticton, B.C.	Senior Instrumentman	Baseline surveys	13 days from May to August.
R. Waters Middle Bench Rd. Penticton, B.C.	Junior Instrumentman	Base & Grid Lines & Magnetometer Survey	20 days between May and September.
D. Maxwell 1096 Kilwinning St. Penticton, B.C.	"	"	78½ days between May and August
R. Lockhart 273 Lachine Ave. Princeton, B.C.	"	"	17 days from August to September
J. LaRoche 237 Penryn Ave. Princeton, B.C.	Chainman	"	69 days from June to October
E. Petchsl Tulameen, B.C.	"	"	16 days in August
J. Broadhurst Princeton, B.C.	"	"	4 days in May

Name and Address	Position	Work Performed	Employed
D. LaChapelle Princeton	Chainman	Base & Grid Lines & Magnetometer Survey	2 days in October
S. Colby Toronto	"	"	3 days in July
P. Potts Toronto	"	"	4 days in May

Frank Lee

Declared before me at the City of Vancouver, in the Province of British Columbia, this 5 day of February 1970, A.D.

A Commissioner for taking Affidavits within British Columbia
A Notary Public in and for the Province of British Columbia

SUB-MINING RECORDER

CERTIFICATION

I, Thomas Frank Lee, HEREBY STATE THAT:

1. I am an Australian citizen residing in Vancouver, B.C.

2. I received a Diploma of Civil Engineering in Victoria, Australia, in 1954 and a B.Sc. (Ordinary) in geology at the Melbourne University, Australia in 1959.

3. I am a member of the Geological Society of Australia and a graduate member of the Institution of Engineers, Australia.

4. After three years practice as a structural engineer and one as an assistant office geologist, I spent three field seasons in tropical Australia as a Geologist for The Broken Hill Pty. Co. Ltd. being Officer in Charge for the last two years (1960-61). From 1962 to 1966 I was lecturer in charge of geology at the Bendigo Institute of Technology (late Bendigo School of Mines) and during the field season of 1967 was employed by Bethex Explorations Ltd. as geologist at Alice Arm, B.C. From May 1968 to the present I have been employed by Western Geological Services Ltd. of Vancouver, B.C.

Frank Lee

T.F. Lee, B.Sc., Dip. of C.E.,
TTTC

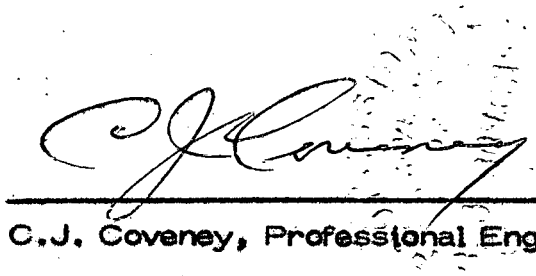
CERTIFICATION

I, Cecil J. Coveney, CERTIFY THAT:

1. I am a Consulting Geologist and that I reside at 4024 Delbrook Avenue, North Vancouver, British Columbia.

2. I am a member of the Association of Professional Engineers of the Province of British Columbia and a graduate of the University of New Brunswick and the University of Toronto and have practised my profession for more than twenty years.

3. This report is based on several visits to the property in 1969 and on work done in the Tulameen area in 1966.



C.J. Coveney, Professional Engineer

NOTE
To accompany geological & magnetometer survey report by C.J. Caveney, P. Eng. and F. Lee, geologist on the Tina-Cathy Property, Olivine Mountain, Similkameen Mining Division, dated 31st. January, 1970

Frank Lee
C.J. Caveney

CONSTEEL EXPLORATIONS LTD. (NPL)

PLAN SHOWING MAGNETOMETER SURVEY ON CATHY GROUP OF MINERAL CLAIMS - OLIVINE MOUNTAIN SIMILKAMEEN MINING DIVISION

Scale: 1 IN. = 600 FT.

NOTE:
All Magnetometer readings adjusted for diurnal variations

Magnetometer Reading 12345.0 = Overburden
.R = Rock outcrop
.S = Slide (or loose rock)

Magnetic contours at: 7,000 γ
9,000 γ
10,000 γ
11,000 γ
13,000 γ
15,000 γ

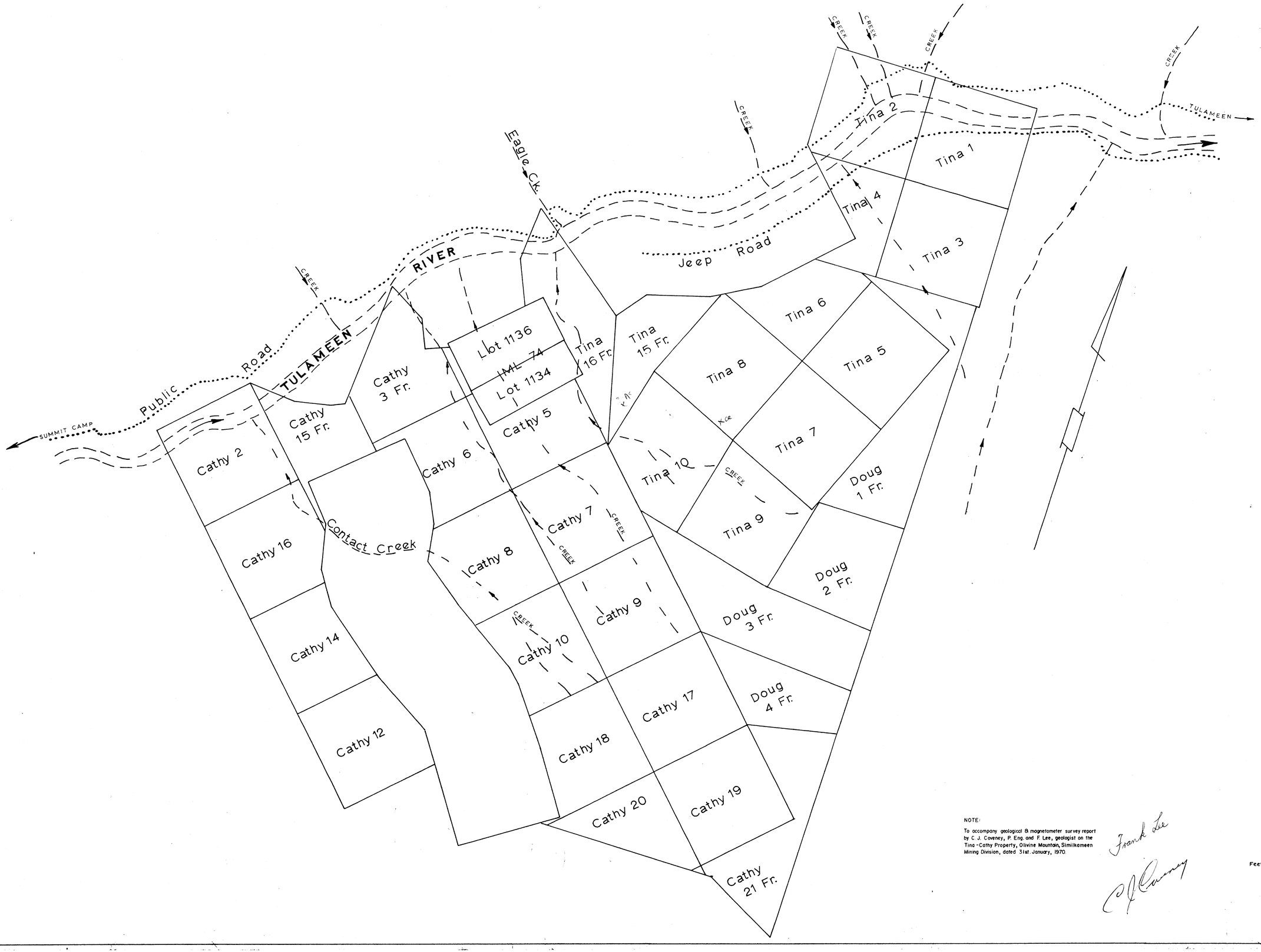
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2274 MAP #2

2274

Fig. 2

December 5, 1969.

OKANAGAN TESTING SERV. LTD.
264 Westminster Ave. W. - Penticton, B.C.



NOTE:

To accompany geological & magnetometer survey report by C. J. Coveney, P. Eng. and F. Lee, geologist on the Tina-Cathy Property, Olivine Mountain, Similkameen Mining Division, dated 31st. January, 1970.

Frank Lee

C. J. Coveney

2274

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2274 MAP #3

Fig 3

CONSTEEL EXPLORATIONS LTD. (N.P.L.)

CLAIMS MAP

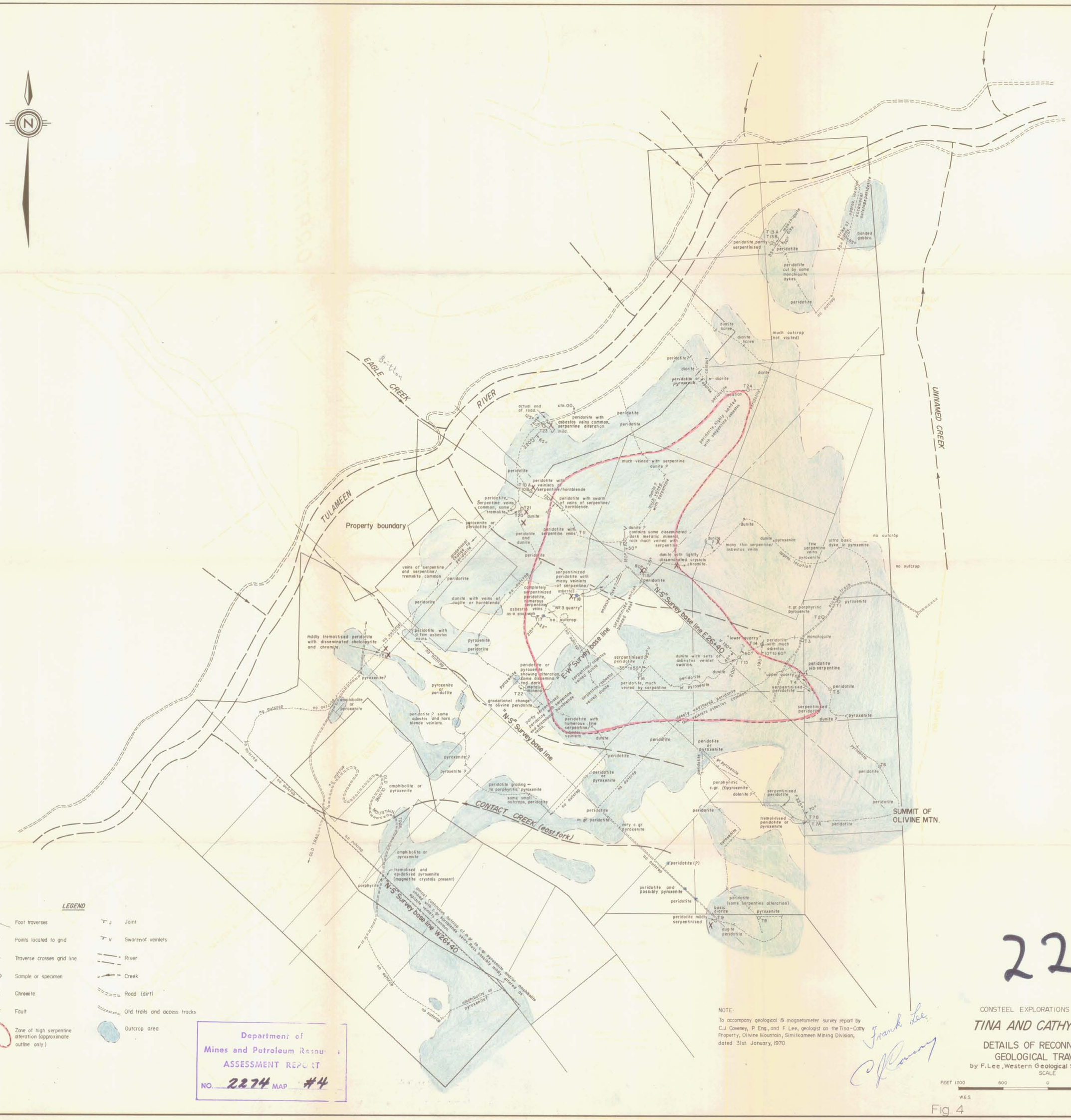
Tina and Cathy Claims

SCALE

Feet 1200 600 0 600 1200

W.G.S

December, 1969



LEGEND

- Foot traverses
- + Points located to grid
- + Traverse crosses grid line
- T6 ⊙ Sample or specimen
- X Chromite
- T F Fault
- Zone of high serpentine alteration (approximate outline only.)
- T J Joint
- T V Swarm of veinlets
- River
- Creek
- Road (dirt)
- Old trails and access tracks
- Outcrop area

NOTE:
To accompany geological & magnetometer survey report by C.J. Coveney, P. Eng., and F. Lee, geologist on the Tina-Cathy Property, Olivine Mountain, Similkameen Mining Division, dated 31st. January, 1970

Frank Lee
C.J. Coveney

2274

CONSTEEL EXPLORATIONS LTD. (N.P.L.)

TINA AND CATHY CLAIMS

DETAILS OF RECONNAISSANCE GEOLOGICAL TRAVERSES

by F.Lee, Western Geological Services Ltd.

SCALE
FEET 1200 600 0 600 1200 FEET

W.G.S. 16 October, 1969

Fig. 4