

3128

REPORT OF
GEOLOGICAL AND GEOCHEMICAL WORK
PERFORMED ON THE MFJ GROUP OF MINERAL CLAIMS
YUKONADIAN MINERAL EXPLORATIONS LIMITED
LOCATED IMMEDIATELY NORTH OF EALUE LAKE
57° 45' N 129° 45' W

LIARD MINING DIVISION, B.C.

104 H / 13W

IN THE PERIODS
JULY 28-31, 1970 and AUGUST 17-27, 1970

by

ERIK A. OSTENSOE, CHIEF GEOLOGIST

and

KARL O. PALMER, GEOLOGIST
GRANDUC MINES, LIMITED (N.P.L.)

JUNE 18, 1971

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3128 MAP.....

SUMMARY

Erik Ostensoe, Chief Geologist, Granduc Mines, Limited (N.P.L.), examined parts of the MFJ Mineral Claims in the period July 27-31, 1970, and outlined a limited program of geological and geochemical work. From August 17-27, 1970, Karl Palmer, Geologist and Peter Neilans, Assistant, employees of Granduc Mines, Limited (N.P.L.) carried out geological mapping, detailed prospecting, and collected soil and stream sediment samples from parts of the claims.

The property is located immediately north of Ealue Lake, 225 miles north of Terrace, B.C. Elevations on the claims vary from 2820' at the waters edge to in excess of 5000' in the north-western part of the claim group. The western portion of the MFJ claim group is underlain by basic porphyritic volcanic rocks tentatively classified as trachyte porphyry; the eastern portion is underlain by a limestone-conglomerate-volcanic breccia sequence.

Extensive gossans are developed over outcrops of porphyritic andesite. Where unoxidized, the rock type contains a few percent of pyrite. Chalcopyrite occurs as grains in quartz and calcite veins and as veinlets within the andesite porphyry. Malachite and azurite are common and widespread in and near outcrops of that rock type.

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(REFERENCES)

APPENDIX A - GEOCHEMICAL ANALYSIS

B - STATEMENT OF QUALIFICATIONS

C - STATEMENT OF COSTS

ILLUSTRATIONS

- #1 FIG. 1. LOCATION AND CLAIM MAP, SHOWING AREA REPORTED ON,
SCALE 1" = 1 MILE.
- 2 FIG. 2. GEOLOGICAL SKETCH OF PART OF MFJ GROUP, SCALE
4" = 1 MILE.
- 3 FIG. 3. SKETCH SHOWING GEOCHEMICAL SAMPLE SITES AND
COPPER AND ZINC ANALYSES. SCALE 4" = 1 MILE.

INTRODUCTION

A property examination and a limited program of follow-up work were performed on the MFJ property of Yukonadian Mineral Explorations Limited during parts of July and August, 1970 by personnel employed by Granduc Mines, Limited (N.P.L.). This report is based on company reports describing the property and work done thereon and is submitted in support of an Affidavit on Application for Certificates of Work.

The MFJ property (Fig. 1.) includes the following mineral claims:

| | | | |
|-----|---------|------------|-------------|
| MFJ | 1 - 4 | Record No. | 38392-5 |
| | 5 - 8 | | 27112-5 |
| | 13 - 14 | | 27120-1 |
| | 34 | | 27141 |
| | 36 | | 27143 |
| | 45 - 51 | | 27152-8 |
| | 53 | | 27160 |
| | 61 - 64 | | 27168-71 |
| | 71 | | 27178 |
| | 73 | | 27180 |
| | 92 - 95 | | 27199-27202 |
| | Fr. #1 | | 38400 |
| YME | 9 - 12 | | 38396-9 |

The claims extend in a block north from the mid point of the north side of Ealue Lake on the east side of Ehahcezette Mountain and are from three to five miles east of Eddontenajon Lake. The location is 225 miles north of Terrace, B.C. Title to the property is held by Yukonadian Mineral Explorations Ltd., 214-525 West Georgia Street, Vancouver, B.C., a public company incorporated in British Columbia.

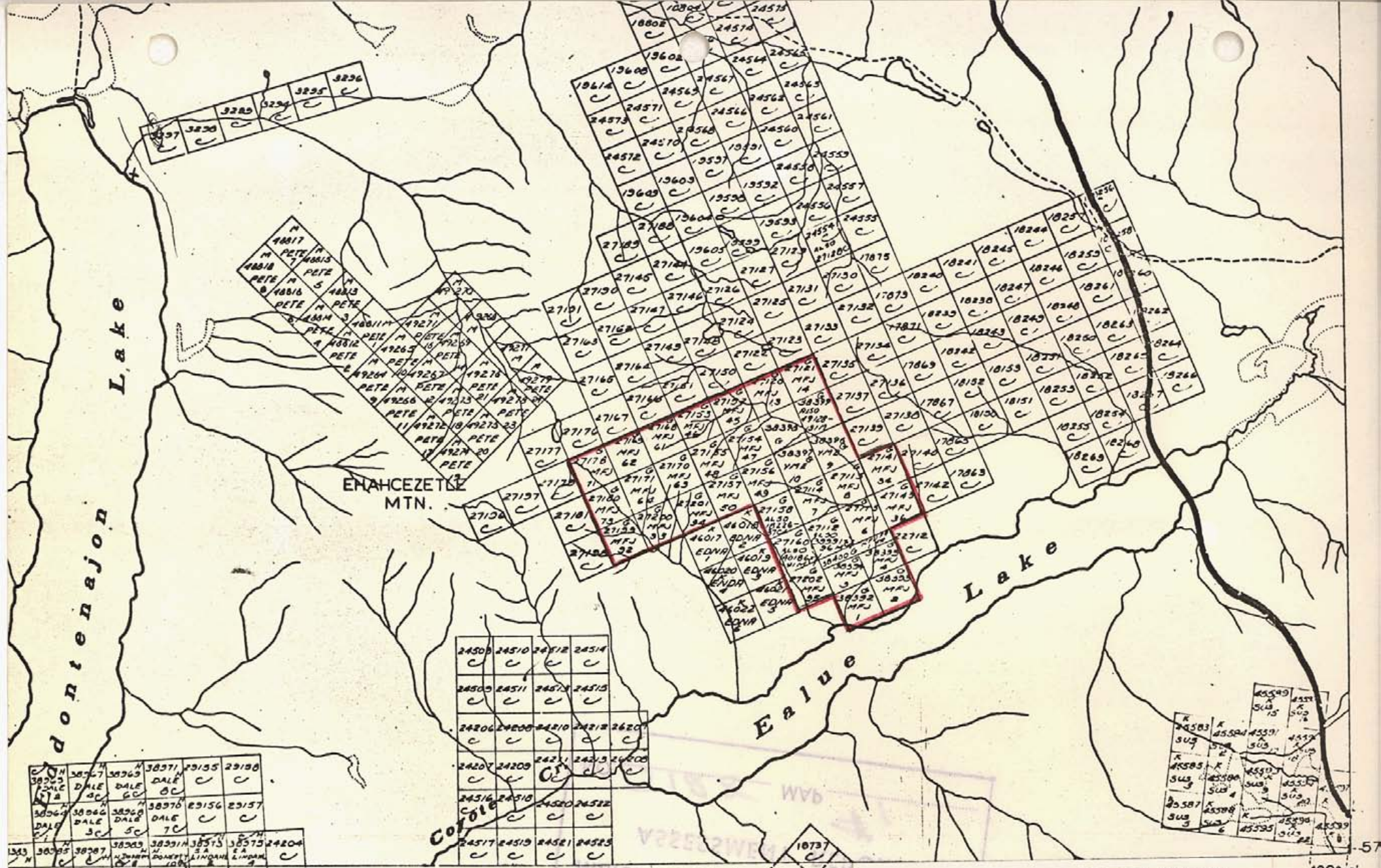


FIG. 1. MFJ GROUP MINERAL CLAIMS
LIARD MINING DIVISION, B.C.

DEPARTMENT OF MINES AND PETROLEUM RESOURCES
VICTORIA, B.C.

MINERAL CLAIM MAP 104H/13W (M)



This map is prepared to serve as a
to the positions of located mineral claims
and Placer Mining Leases only. Unlocated
claims and leases are plotted from loca-
sketches and are not guaranteed. L
C & indicate claim is Crown-Grants
Symbol 'C' indicates claim has forfeited

formation
area you
the Mining
Mining
ed

LIARD MINING DIVISION

TO SOUTH SEE MAP 104H/12W

129°45'

FIELD WORK

Erik Ostensoe, on behalf of Granduc Mines, Limited (N.P.L.) examined the MFJ property in the period July 27-31, 1970. He was accompanied and guided on the property by Ron P. McBean, President of Yukonadian Mineral Explorations Limited. Access to the property was via non-scheduled aircraft from Stewart, B.C., to the landing field near the north end of Eddontenajon Lake and thence via chartered helicopter.

Work at that time included general reconnaissance of the property to establish the major rock types and to locate and examine mineralization in various trenches and pits and in an adit. Some efforts were required to gain access to the portal of the adit and some of the old trenches were caved.

Following the initial examination, a program of reconnaissance geological mapping, on the scale 4" = 1 mile, combined with a limited geochemical stream sediment and soil survey, was undertaken during August 1970 by Karl Palmer, Geologist, assisted by Peter Neilans.

GENERAL GEOLOGY

The MFJ group of mineral claims is located in an area of Mesozoic age sedimentary and basic volcanic rocks with many small igneous bodies that, although not dated, are presumed to be late Mesozoic or early Tertiary in age. Most of the intrusions are acidic in composition and are accompanied by alteration halos of sericite and pyrite. Copper mineralization is occasionally present.

Drift cover is extensive in and along main valleys but elsewhere good outcrops generally occur. Over most of the eastern part of the MFJ claims, unconsolidated cover consists of up to 30 feet of sandy and rocky deposits of the type characteristic of glacial outwash.

Insufficient work was done in the MFJ area to identify the major structural elements.

DETAILED GEOLOGY

The MFJ claims are underlain (see Fig. 2.) by several variations of a porphyritic andesite rock type. Conglomerate and limestone occur interbedded with the andesite. A dark grey coarsely porphyritic dacite rock type outcrops east of the main stream that crosses the property. Prominent white plagioclase phenocrysts up to 4 mm. in length may form as much as 60% of the rock. The matrix is fine to very fine grained and is somewhat sugary in texture. It occurs in outcrops that interrupt a well exposed limestone band for approximately 1000' and although good evidence was not found, it may have been faulted into that present position.

A broad area of gossaning is developed on porphyritic andesite that contains 1 to 10% pyrite and which lies west of the coarse, apparently intrusive, dacite. Although the close relationship of the dacite and the gossan is strongly indicative of a link, it was not possible to prove a relationship. The limestone band varies in width from 20 to 60 feet and in colour from white to light blue. It is massive and forms the crest of a prominent northwesterly trending ridge east of the central part of the property.

Coarse conglomerate containing pebbles and cobbles of quartzite, siltstone and epidotized porphyry was mapped in several parts of the property. It is interbedded with the porphyritic andesite. Widths varying from 20 to 200 feet were mapped.

One reddish syenite occurrence, containing more than 70% orthoclase, with quartz and unidentified mafic minerals, forms a 50' outcrop in the creek bed. It appears to be a dike and contains no sulfide mineralization.

Meagre evidence, including trends of mapped rock units and a scattering of bedding attitudes indicate that the dominant geological trends are westerly to northwesterly and subordinate fractures are northerly. In the limestone bedding attitudes as well as the trace of outcrops indicate a steeply dipping unit but the adjacent and more abundant volcanic rocks yielded ambiguous observations. In the vicinity of the short adit tuffaceous bands in fragmental andesites strike northerly (358°) and dip 31° easterly.

GEOCHEMICAL SURVEY

54 geochemical samples were collected from the central portion of the MFJ claims, 18 were stream sediment samples and 36, soil samples. Stream sediment samples of one third to one half pound weight, gathered from the actively flowing portions of streams, were dried and screened at the field camp. About two tablespoons full of minus 80 mesh particles were submitted for analysis for copper and zinc. Where possible the "B" soil horizon was sampled but in many parts of the area the unusually well drained sandy soils had poorly defined profiles. As with the silts, soil samples were dried and screened in the field and analysed for copper and zinc.

Chemical analyses were done by Chemex Labs Ltd., North Vancouver, B.C., using standard techniques of digestion, followed by determination of copper and zinc concentrations by atomic absorption methods. The Varian Techtron A-A-5 Atomic Absorption Spectrophotometer in use achieves a detection limit of 1 ppm copper and 0.5 ppm zinc. Certificates of Analysis (Appendix I) form part of this report.

Results of the geochemical surveys are presented in Fig. 3. The limited number of samples analysed, precludes any comprehensive interpretation of the geochemical patterns prevailing at the MFJ property.

The background level of copper in soils may be 25-50 ppm. and in stream sediments, about 80 ppm. The background level of zinc both in soils and in stream sediments appears to be close to 100 ppm.

Geochemical values substantiate the information gained from mapping and prospecting, in particular the observation that a broad band favourable for locating copper occurrences extends obliquely northwesterly across the stream valley from MFJ #36 to YME #9, 10 and 11 claims. The entire length of the main stream is clearly anomalous in copper. The fact that anomalous copper values were obtained from stream sediments collected upstream from the gossanned area is significant.

CONCLUSIONS

The MFJ claims cover an area in which copper occurrences and anomalous copper geochemistry prevails. Insufficient work has been done on the property to demonstrate its potential. Despite the rather meagre amounts of copper sulfides that have been found to date, the favourable geology and location indicate that further exploration utilizing geological and geophysical methods is justified.



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA
TELEPHONE: 985-0648

• CHEMISTS • GEOCHEMISTS • ANALYSTS • ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 11768

TO: Granduc Mines Ltd.,
Box 217
Stewart, B. C.

INVOICE NO. 3985

DATE RECEIVED Sept. 4/70

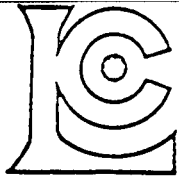
DATE ANALYSED Sept. 10/70

ATTN: Mr. E. Ostensoe

cc: Mr. P. Conley

| SAMPLE NO.: | PPM Copper | PPM Zinc |
|-------------|---------------|-------------|
| Silt Ehah 1 | 500 | 123 |
| Silt 1 | 341 | 104 |
| 2 | 362 | 104 |
| 3 | 352 | 107 |
| 4 | 386 | 101 |
| 5 | 400 | 101 |
| 6 | 400 | 98 |
| 7 | 400 | 98 |
| 8 | 386 | 98 |
| 9 | 400 | 98 |
| 10 | 450 | 104 |
| 11 | 700 | 107 |
| 12 | 200 | 153 |
| 13 | 212 | 158 |
| 14 | 82 | 307 |
| 15 | 42 | 140 |
| 16 | 33 | 90 |
| Silt 17 | 42 | 145 |
| Soil 1 | 242 | 120 |
| 2 | 80 | 257 |
| 3 | 70 | 227 |
| 4 | 82 | 113 |
| 5 | 70 | 207 |
| 6 | 60 | 120 |
| 7 | 213 | 435 |
| 8 | 51 | 74 |
| 9 | 285 | 98 |
| 10 | 248 | 107 |
| 11 | 50 | 104 |
| 12 | 54 | 163 |
| 13 | 64 | 93 |
| 14 | 28 | 71 |
| 15 | 56 | 113 |
| 16 | 21 | 104 |
| 17 | 46 | 117 |
| 18 | 30 | 90 |
| 19 | 34 | 110 |
| 20 | 106 | 82 |
| 21 | 74 | 68 |
| Soil 22 | 34 | 101 |
| Std. | 92 | 40 |

Certified by 



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CANADA
TELEPHONE: 985-0648

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CERTIFICATE OF ANALYSIS

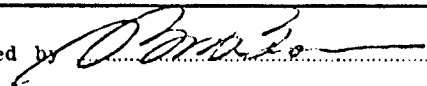
TO: Granduc Mines Ltd.,
Box 217
Stewart, B. C.

CERTIFICATE NO. 11769
INVOICE NO. 3985
DATE RECEIVED Sept. 4/70
DATE ANALYSED Sept. 10/70

ATTN: Mr. E. Ostensoe

Mr. P. Conley

| SAMPLE NO.: | | PPM Copper | PPM Zinc |
|-------------|----|---------------|-------------|
| Soil | 23 | 44 | 101 |
| | 24 | 26 | 76 |
| | 25 | 26 | 173 |
| | 26 | 40 | 117 |
| | 27 | 21 | 71 |
| | 28 | 16 | 71 |
| | 29 | 52 | 87 |
| | 30 | 24 | 82 |
| | 31 | 92 | 110 |
| | 34 | 72 | 98 |
| | 35 | 92 | 101 |
| | 36 | 70 | 101 |
| | 37 | 102 | 98 |
| Soil | 38 | 68 | 87 |
| | | | |
| | | | |
| | | | |
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| | | | |

Certified by 

APPENDIX B

STATEMENT OF QUALIFICATIONS

The field work for this report was done by Erik Ostensoe, Karl Palmer and Peter Neilans, whose qualifications are outlined below:

Erik Ostensoe, Chief Geologist for Granduc Mines, Limited (N.P.L.), Vancouver, B.C., completed B.Sc. (Honours Geology) at University of B.C. in 1960, completed course requirements for M.Sc. (Geology) at Queen's University, Kingston in 1966; employed by Newmont Mining Company of Canada from May 1970 through August 1964 as field and mine geologist in Granduc area of northwestern B.C., under supervision of D.M. Cannon and G.W.H. Norman; employed by Mount Billings Venture from May through September 1965 as syndicate geologist in southern Yukon; employed by Asarco and assigned to Scud Venture, from May through October 1966 as field geologist in northern B.C. under supervision of R.H. Seraphin and W. St. C. Dunn; employed by Granduc Mines, Limited (N.P.L.) from October 1966 to present as geologist and chief geologist under supervision of P.I. Conley.

Karl O. Palmer, geologist for Granduc Mines, Limited (N.P.L.) Vancouver, B.C., completed B. Sc. (Geology) at University of Western Washington in 1969; employed by Granduc Mines, Limited (N.P.L.) as field geologist from June through September 1970 in geological field work in Stewart area of northwestern British Columbia, under supervision of Erik Ostensoe.

J. Peter Neilans, field assistant for Granduc Mines, Limited (N.P.L.), Vancouver, B.C., completed first year Applied Science at University of B.C. in 1970; employed by Noranda Explorations as assistant during the summers of 1966 and 1967 in southern B.C., under supervision of Tom Walker; employed by International Nickel from January through May 1969 in Kalgoolie district of Western Australia as geophysical and geological technician;

employed by Granduc Mines, Limited (N.P.L.) as field assistant during summers of 1969 and 1970, under supervision of Erik Ostensoe and Peter Brown.

APPENDIX C

STATEMENT OF COSTS

| | | \$ | \$ |
|---|------------------------------------|-------------|----------|
| <u>Salaries</u> | (30 working days per month) | | |
| Erik Ostensoe | 6 days at \$1,150 per month | 230.00 | |
| | 4 days in field: July 28-31, 1970 | | |
| | 2 days in office: June 17-18, 1971 | | |
| Karl Palmer | 11 days at \$600 per month | 220.00 | |
| | August 17-27, 1970 | | |
| J. Peter Neilans | 11 days at \$500 per month | 183.00 | |
| | August 17-27, 1970 | | 633.00 |
| | | | |
| <u>Transportation</u> | (Via Cessna 180 aircraft) | | |
| Palmer and Neilans - | Stewart to Ealue Lake | | |
| | August 17, 1970 | 165.00 | |
| | Ealue Lake to Stewart | | |
| | August 27, 1970 | 165.00 | 330.00 |
| | | | |
| <u>Field Expenses</u> | 22 man-days at \$7.50 per day | | 165.00 |
| | | | |
| <u>Analysis of Stream Sediment and Soil Samples</u> | | | |
| | 54 at \$1.50 | | 81.00 |
| | | | |
| <u>Miscellaneous</u> | Maps, Secretarial and etc.) | | 30.00 |
| | | | |
| | | TOTAL COSTS | 1,239.00 |

ERIK OSTENSOE

**Department of
 Mines and Petroleum Resources**
ASSESSMENT REPORT
 NO. 3128 MAP #2

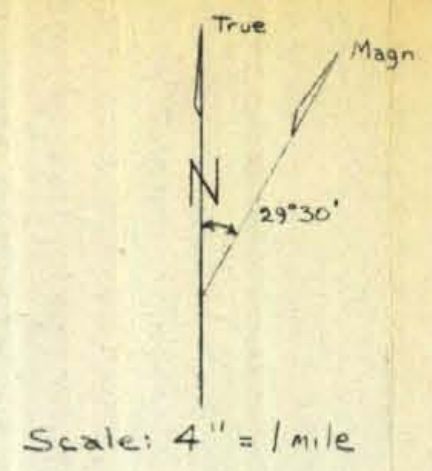
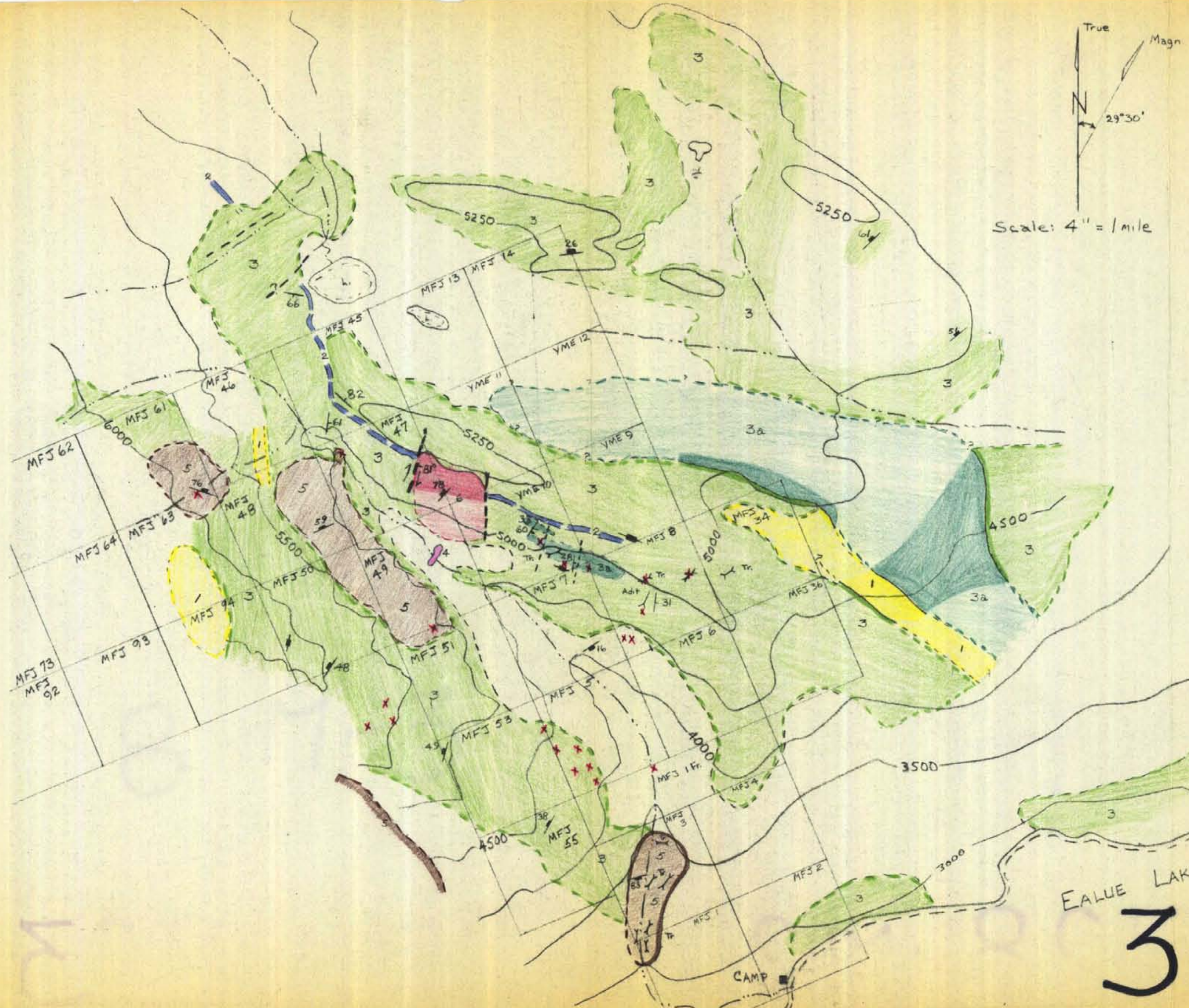


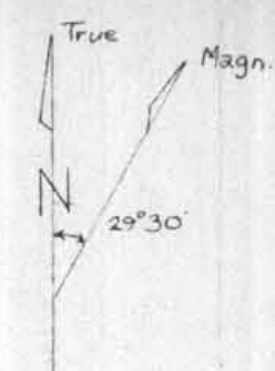
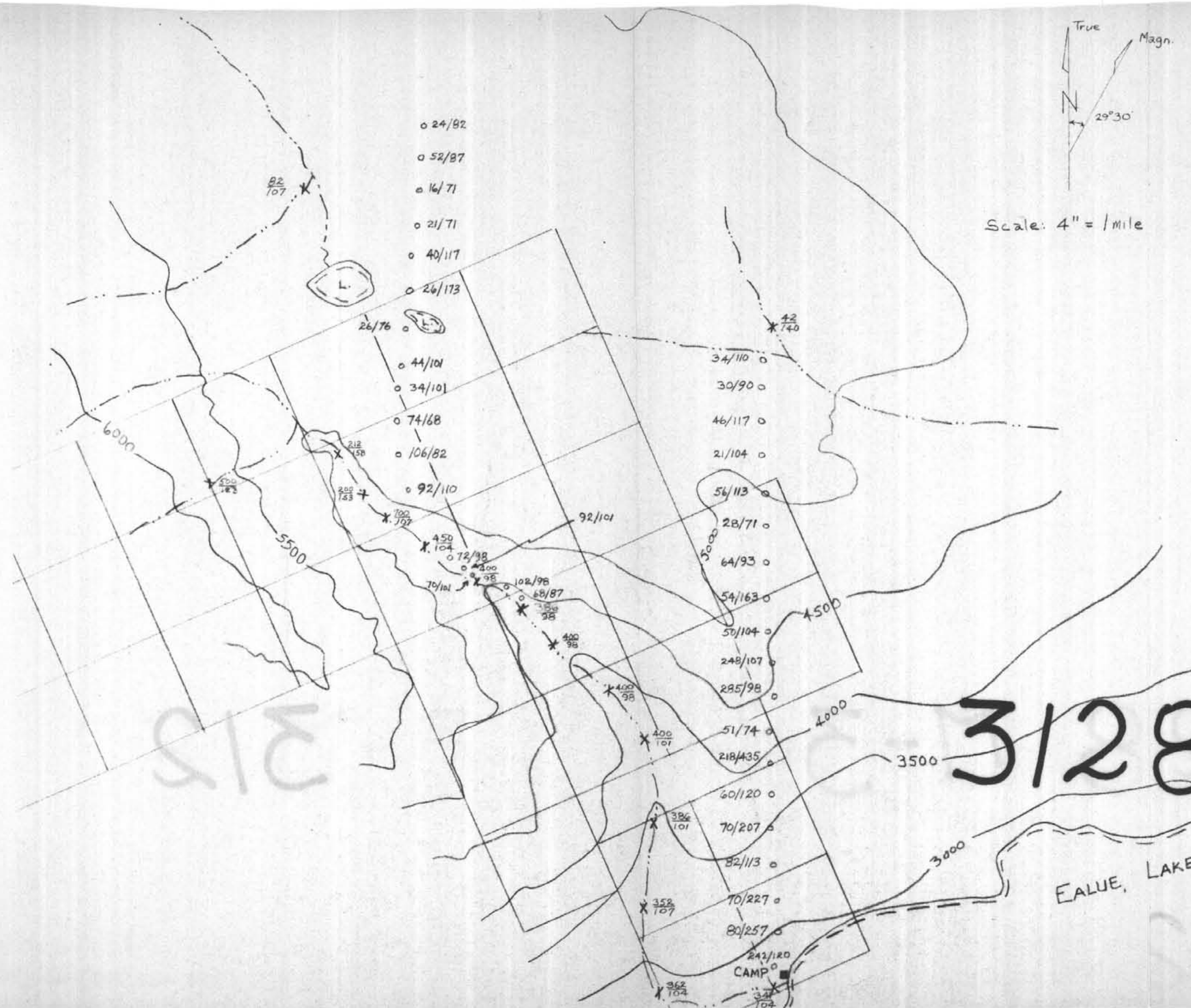
Figure 2.
 Geological Sketch showing Rock
 Types and Mineralization -
 MFJ Claims - Ealue Lake, B.C.
 To accompany report by
 E. Ostensoe & K. Palmer
 June 1971.



- Code & Symbols
- bedding attitude
 - foliation attitude
 - adit
 - trench
 - Copper stain or occurrence
 - geological contact
 - inferred
 - probable fault
- Rock Types
- Conglomerate
 - Limestone
 - Porphyritic Andesite
 - fragmental and brecciated
 - Syenite
 - Gossaned andesite
 - Dacite

Claim outlines are approximate.

3128 M-2



Scale: 4" = 1 mile

Figure 3.
 Sketch showing sample sites
 and copper-zinc analyses
 MFT Claims - Ealue Lake, B.C.
 To accompany report by
 E. Ostensoe & K. Palmer
 June 1971.

- 44/101 ○ Soil sample site Cu/Zn ppm
- 450/104 X Stream sediment sample site $\frac{Cu}{Zn}$ ppm

Department of
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 ASSESSMENT REPORT
 NO. 3128 MAP # 3

3128 M-3

EALUE LAKE

Claim outlines are approximate.
 See Figure 2 for names
 and numbers.