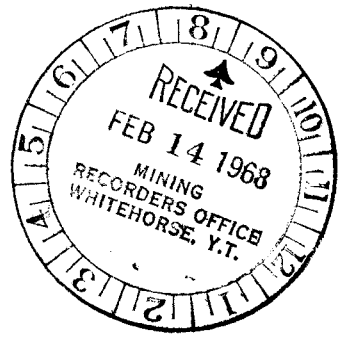
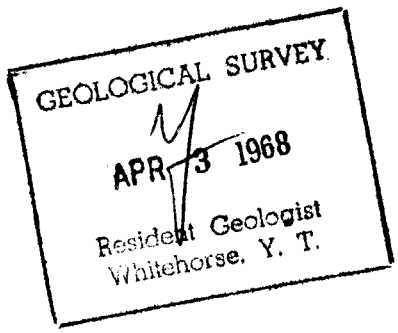
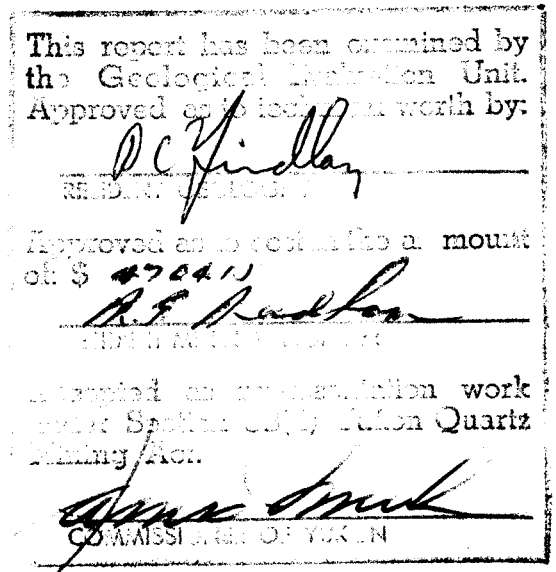


Report on a Geochemical Survey and an Electromagnetic Survey on the Jo 1 to 37 Mineral Claims of KIM EXPLORATIONS LTD. Vangorda Creek Area, Y. T.

ALRAE EXPLORATION LTD.





January 31, 1968

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

INTRODUCTION

The Jo claim group of Kim Explorations Ltd. consists of 37 contiguous, full size mineral claims, situated in the Rose Creek Valley, four miles northwest of Anvil Mining. Corp. Ltd's Faro deposit.

At the present time Anvil is readying its deposit, which contains in excess of 60 million tons of lead-zinc-silver ore grading 9% combined lead-zinc and 1 oz. of silver per ton, for production. The ore occurs in a chlorite schist near the contact with the Anvil Batholith. A similar geological setting exists on the Jo group of Kim Explorations Ltd.

Kim requested Alrae Exploration Ltd. to investigate their favourably situated Jo claims for lead-zinc deposits similar to the Faro occurrences. A field program consisting of geochemical and electromagnetic surveys was carried out, utilizing a grid which has been cut for a magnetometer survey the previous year. Field work was performed by Alrae personnel from July 31 to August 11, 1967, under the supervision of the author.

CONCLUSIONS AND RECOMMENDATIONS

Weak to moderate anomalous conditions have been outlined in the central and north-central portion of the Jo claims. The north-central portion of the group, in which magnetic, geochemical and electromagnetic anomalies have been outlined, should be further investigated by a diamond drilling program to determine the causes of the anomalous situations. Attention should also be given to the central portion of the group where only geochemical anomalies are evident.

LOCATION AND ACCESS

The claims are situated at latitude 62°23' and longitude 133°30' as shown on claim sheet 105-K-6, Whitehorse Mining Division. This site is four miles northwest of Anvil's Faro ore deposits.

Personnel and supplies were trucked from Whitehorse to a trailer on the Rae group of Kim, six miles southeast of the Faro campsite. Living quarters were established at the trailer. Personnel commuted daily by truck to within three miles of the work site and thence by foot.

TOPOGRAPHY AND VEGETATION

The claim block occupies a south-facing slope, extending from Rose Creek to treeline. The hillside has a uniform slope of approximately ten degrees. Most of the group is covered by stands of spruce and balsam, commonly one to three feet in diameter. Buckbrush and willow are common in all open spaces and creek bottoms.

CLAIM DATA

Kim Explorations Ltd. owns the Jo 1 to 37 contiguous, full size mineral claims, as shown on claim sheet 105-K-6, Whitehorse Mining Division, Y.T. Record numbers of the claims are as follows:

Claim Name	Record Number
Jo 1 to 16	95036 to 95951
Jo 17 to 24	95456 to 95463
Jo 25 to 30	95052 to 95057
Jo 31 to 37	Y10535 to Y10541

HISTORY

A line cutting program and magnetometer survey were carried out by Alrae on the group during the summer of 1966. The results of this survey are contained in a report by J. Mackie and R. Philp (Report on a Magnetometer Survey on the Jo 1 to 37 Mineral Claims of Kim Explorations Ltd., November 21, 1966). A number of

magnetic anomalies were outlined which warranted further attention to determine if they are related to economic mineralization.

GEOLOGY

General geology of the Anvil - Vangorda area is characterized by a northwest - southeast trending belt of metamorphosed sedimentary and volcanic rocks, bounded on the northeast by granitic rocks of the Anvil Batholith and on the southwest by the Tinta Fault. The metamorphosed rocks dip southwesterly. Mississippian and Mid-Cretaceous ages have been tentatively assigned to the metamorphic and granitic rocks, respectively by the Geological Survey of Canada (Roddick and Green, Map 13-1961, Tay River, Yukon Territory).

The Faro deposits of Anvil and Vangorda deposits of Vangorda Mines Ltd., which represent in excess of 70 million tons of material grading 9% combined lead-zinc and 1 oz. of silver, are confined to a chlorite schist within the larger sequence of metamorphic rocks. Geological mapping by the Geological Survey of Canada indicates that the chlorite schist band which contains the Faro and Vangorda deposits underlies much of the Jo block of claims.

At the Vangorda deposit, according to Chisholm (Methods and Case Histories in Mining Geophysics, Geophysical Exploration of a Lead-Zinc Deposit in Yukon Territory, Edward O. Chisholm, 1957), the ore deposit comprises an overlapping series of horizontal lenses of sulphides that appear to replace a favourable sedimentary bed. The ore deposit is a fine grained aggregate of approximately 60% sulphides in a siliceous matrix. The minerals, in order of abundance, are pyrite, sphalerite, galena, pyrrhotite, chalcopyrite, arsenopyrite, magnetite and marcasite.

GEOCHEMICAL SURVEY

(i) Field Procedure

The geochemical survey carried out was a program of soil sampling. Samples were collected on all lines at 100 foot intervals except in the Rose Creek bottom. They consisted primarily of residual soil underlying the organic and volcanic ash layer. Permafrost was generally encountered inches below the volcanic ash layer. Approximately 27-1/2 line miles of grid were sampled.

(ii) Laboratory Procedure

Initially, alternate samples from all grid lines were analysed for lead and zinc and alternate samples from every other grid line were analysed for copper. Upon receiving these results, further samples were sent for lead, zinc and copper analysis to give more detail over selected areas. The laboratory analysis was performed by Barringer Research of Toronto.

After drying and screening to -80 mesh, the metals were extracted by a hot HNO_3-HCl solution. The quantities of each metal in a sample were determined by atomic absorption spectrographic analysis. Contoured laboratory results for lead, zinc and copper are shown on figures 3, 4 and 5, respectively.

(iii) Interpretation

Background values for lead, zinc and copper are less than 30, 100 and 40 parts per million, respectively. Coincident, anomalous areas for the three metals have been outlined in the central portion and the northern portions of the claim block. Each area consists of a number of small, weak to moderate geochemical anomalies. Other isolated anomalies are also apparent.

The northern anomalous zone is in the same area as the series of small, but intense magnetic anomalies outlined in 1966.

They cover an area approximately 4,000 feet long by 1,500 feet wide, trending in a northwest - southeast direction.

The central zone has a trend similar to the northern zone, measuring approximately 2,500 feet long by 1,000 feet long, however, it is not associated with abnormal magnetic characteristics.

The small areal extent of individual anomalies suggests that the causitive bodies are very local. However, the effects of permafrost and depth of overburden make it impractical to compare these anomalies to the Vangorda deposit.

ELECTROMAGNETIC SURVEY

(i) Type of Instrument

A Ronka EM-16 instrument was employed. This instrument utilizes the signals from very low frequency radio stations which are in contact with offshore submarines. The radio stations have vertical antennae, the currents in which induce concentric horizontal magnetic fields. When these induced fields meet conductive bodies in the ground, secondary fields result. Ther vertical components of these secondary fields are measured by the EM-16.

The instrument is a sensitive receiver tuned to the frequency band of the VLF station and consists of two coils, one vertical and the other horizontal. These coils have separate inputs. When the signal from the vertical coil is minimized by physical tilting, the angle is an accurate measure of the real component of the secondary field (in phase reading). The remaining signal is balanced by a measured percentage of a signal from the second coil. This compensation signal is a measure of the quadrature vertical signal.

For interpretive purposes, the actual readings are plotted using suitable scales, and curves constructed to determine the location of any conductive zones.

(ii) Field Procedure

Readings were taken using the signals from VLF station NAA operating at 17.8 kilocycles. Readings were taken at 100 foot intervals along alternate crosslines as shown on Fig. 6. The in phase values are plotted in degrees and the quadrature values in percentages. A total of 14-1/2 miles of grid lines were tested.

The instrument was oriented northwards.

(iii) Interpretation

A few very weak crossovers, indicative of poor conductors were outlined as shown on Fig. 6. These crossovers could be caused by weakly conductive sulphide zones or shear zones.

Respectfully submitted:

J. A. C. Mackie, P. Eng.

APPENDIX "A"

TIME AND COST DISTRIBUTION

Labour*	
J. Mackie - Supervision Vancouver, B. C.	$ 850.00
B. Garner - Electromagnetic Instrument Operator Vancouver, B. C.	363.75
P. Cumberbirch - Geochemical Sampler Vancouver, B. C.	255.00
D. Smallman - Geochemical Sampler Haileybury, Ontario	255.00
* All personnel worked from July 31 to August 11, 1967, inclusive.	
Transportation - Ground 4x4 rental	225.00
- Air	150.00
EM rental (Ronka EM 16 s/n 51)	150.00
Laboratory preparation and analysis of soil samples for Pb, Zn and Cu (Barringer Research)	1,845.40
Camp costs - 48 man days x $7.50/man day	360.00
Miscellaneous	250.00
	$ 4,704.15

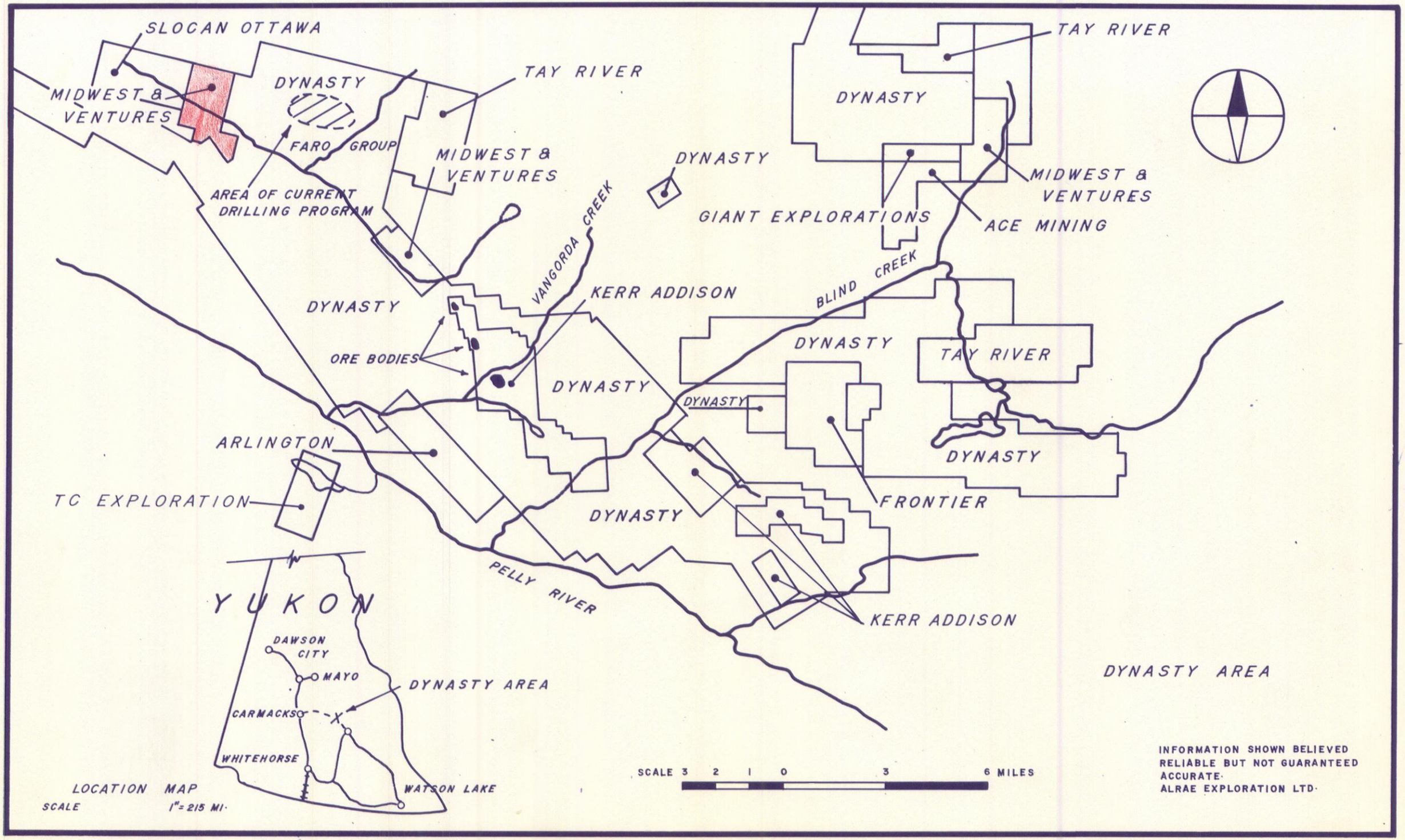
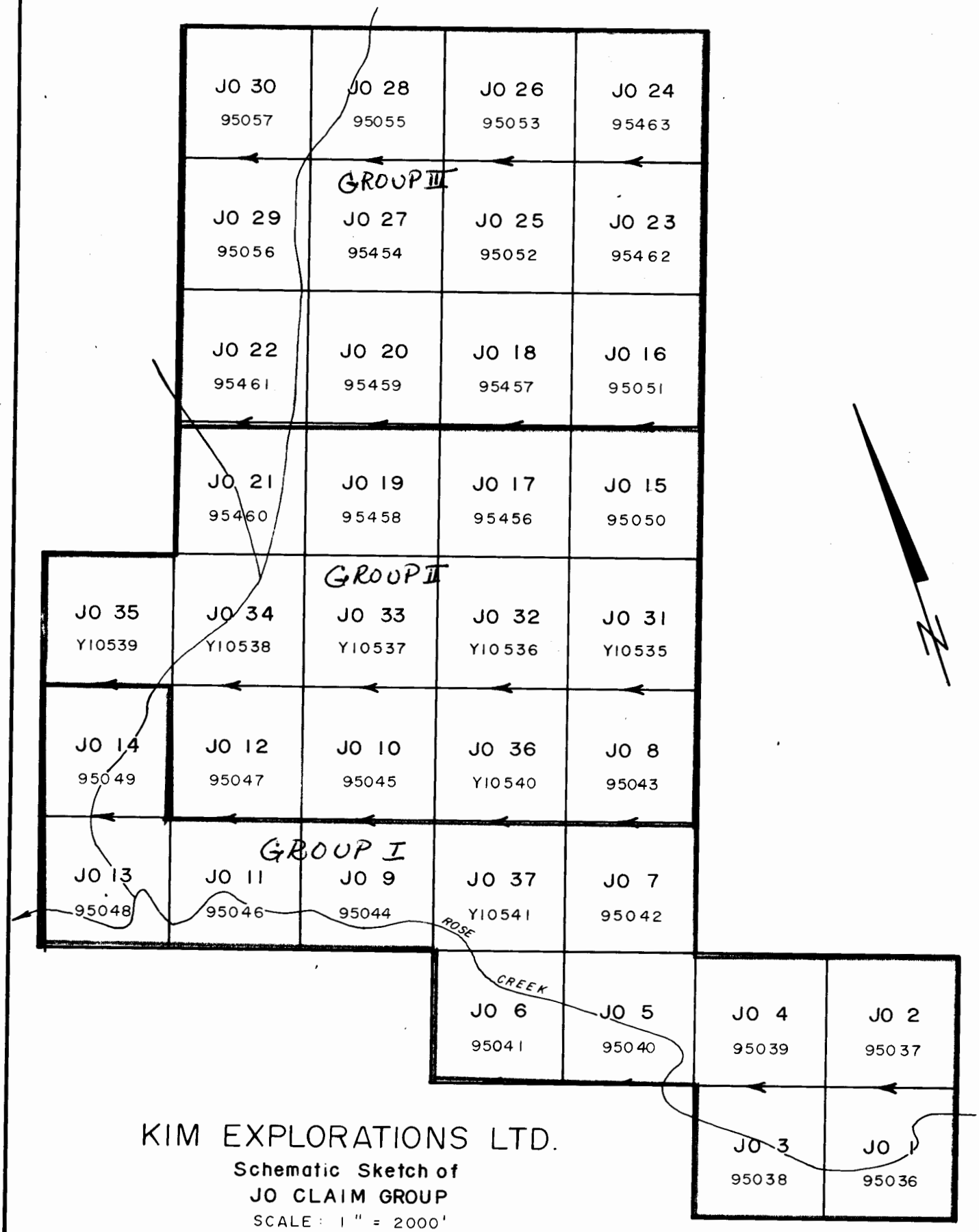

SLOCAN OTTAWA
MIDWEST & VENTURES
DYNASTY
FARO GROUP
AREA OF CURRENT DRILLING PROGRAM
TAY RIVER
MIDWEST & VENTURES
DYNASTY
VANGORDA CREEK
KERR ADDISON
DYNASTY
ORE BODIES
DYNASTY
ARLINGTON
TC EXPLORATION
DYNASTY
PELLY RIVER
YUKON
DAWSON CITY
MAYO
DYNASTY AREA
CARMACKS
WHITEHORSE
WATSON LAKE
LOCATION MAP
SCALE 1"= 215 MI.
DYNASTY
TAY RIVER
DYNASTY
GIANT EXPLORATIONS
MIDWEST & VENTURES
ACE MINING
BLIND CREEK
DYNASTY
TAY RIVER
DYNASTY
DYNASTY
FRONTIER
KERR ADDISON
SCALE 3 2 1 0 3 6 MILES
DYNASTY AREA
INFORMATION SHOWN BELIEVED RELIABLE BUT NOT GUARANTEED ACCURATE.
ALRAE EXPLORATION LTD.

FIGURE No. 1



KIM EXPLORATIONS LTD.

Schematic Sketch of
JO CLAIM GROUP

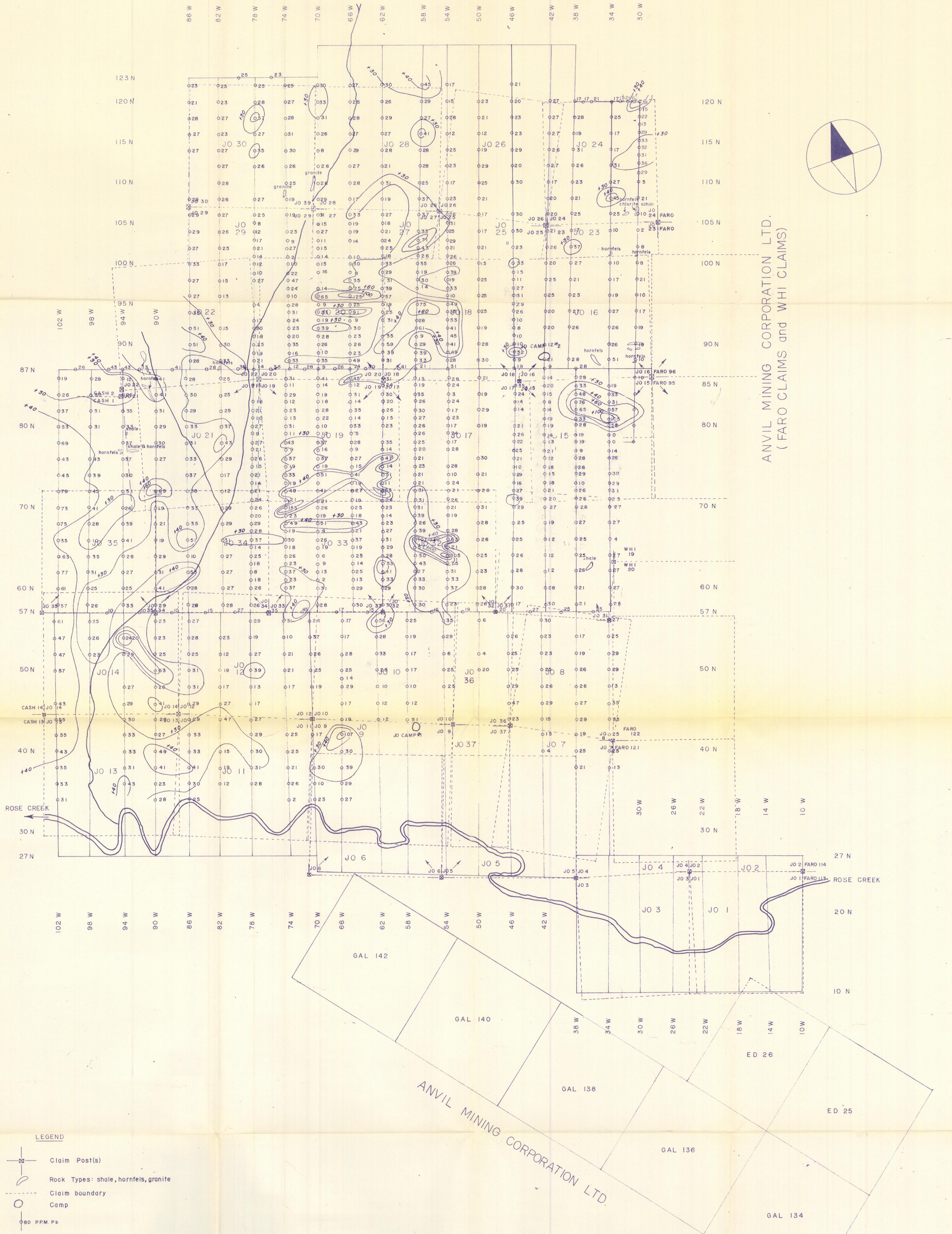
SCALE: 1" = 2000'

ALRAE EXP. LTD. November 1967

Figure No. 2

Dwg. No.

FLAGSTONE (LEE CLAIMS)



ANVIL MINING CORPORATION LTD.
(FARO CLAIMS and WHI CLAIMS)

LEGEND

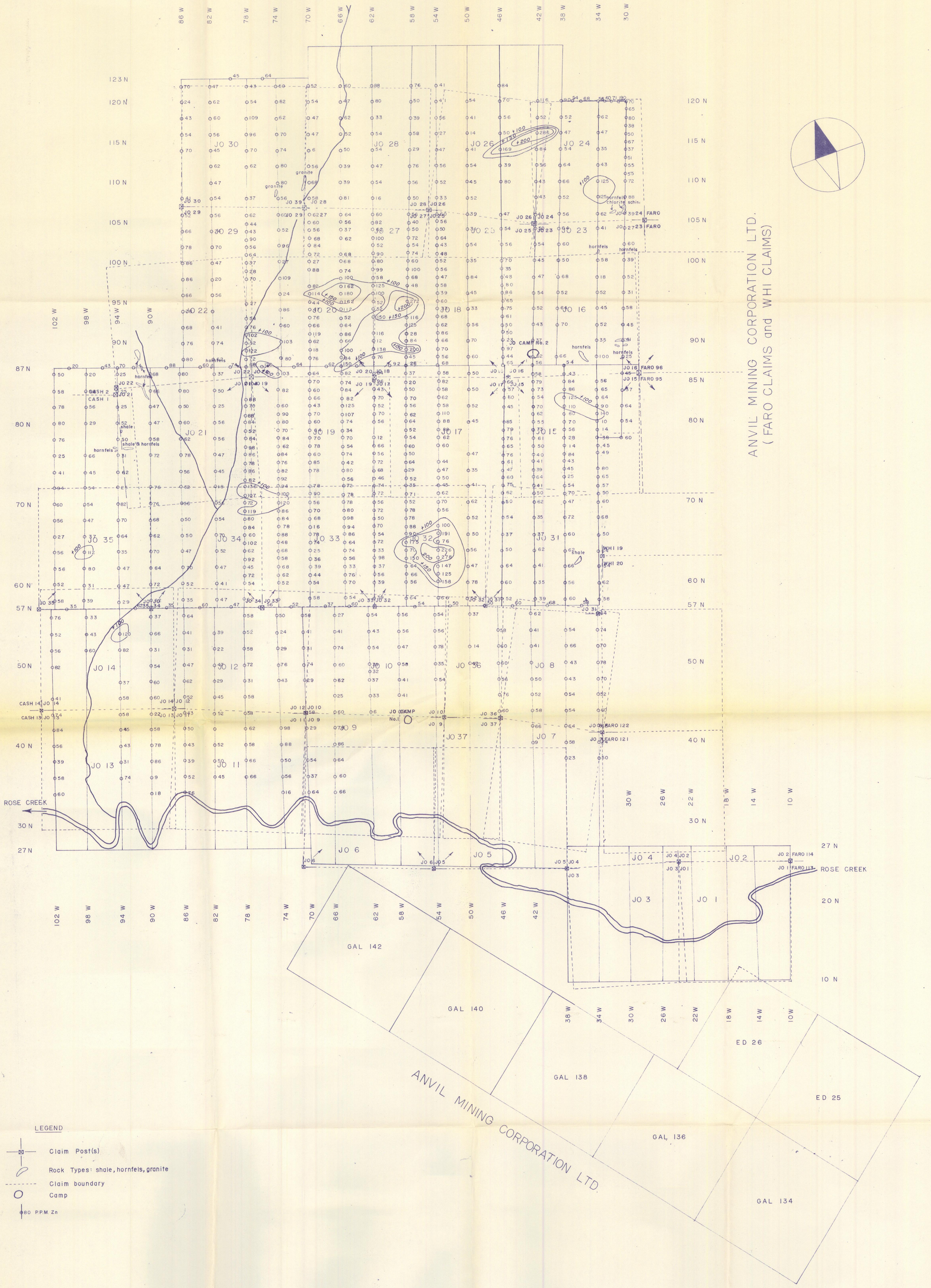
- Claim Post(s)
- Rock Types: shale, hornfels, granite
- Claim boundary
- Camp
- ⊙80 P.P.M. Pb

500 0 500 1000 1500

SCALE: 1" = 500'

KIM EXPLORATIONS LTD.	
DYNASTY AREA-JO CLAIM GROUP GEOCHEMISTRY RESULTS-LEAD	
ALRAE EXPLORATION LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B. C.	
DESIGNED R. MACBEAN	SCALES HOR: VERT: 1" = 500'
DRAWN M.R.L.	
CHECKED J.M.	DATE OCTOBER 1967 REV.
ALRAE EXP. LTD. DWG. No. 950-	JOB No.
FIGURE No. 3	

FLAGSTONE (LEE CLAIMS)



ANVIL MINING CORPORATION LTD.
(FARO CLAIMS and WHI CLAIMS)

LEGEND

- Claim Post(s)
- Rock Types: shale, hornfels, granite
- Claim boundary
- Camp
- 80 P.P.M. Zn

500 0 500 1000 1500

SCALE: 1" = 500'

KIM EXPLORATIONS LTD.

DYNASTY AREA-JO CLAIM GROUP

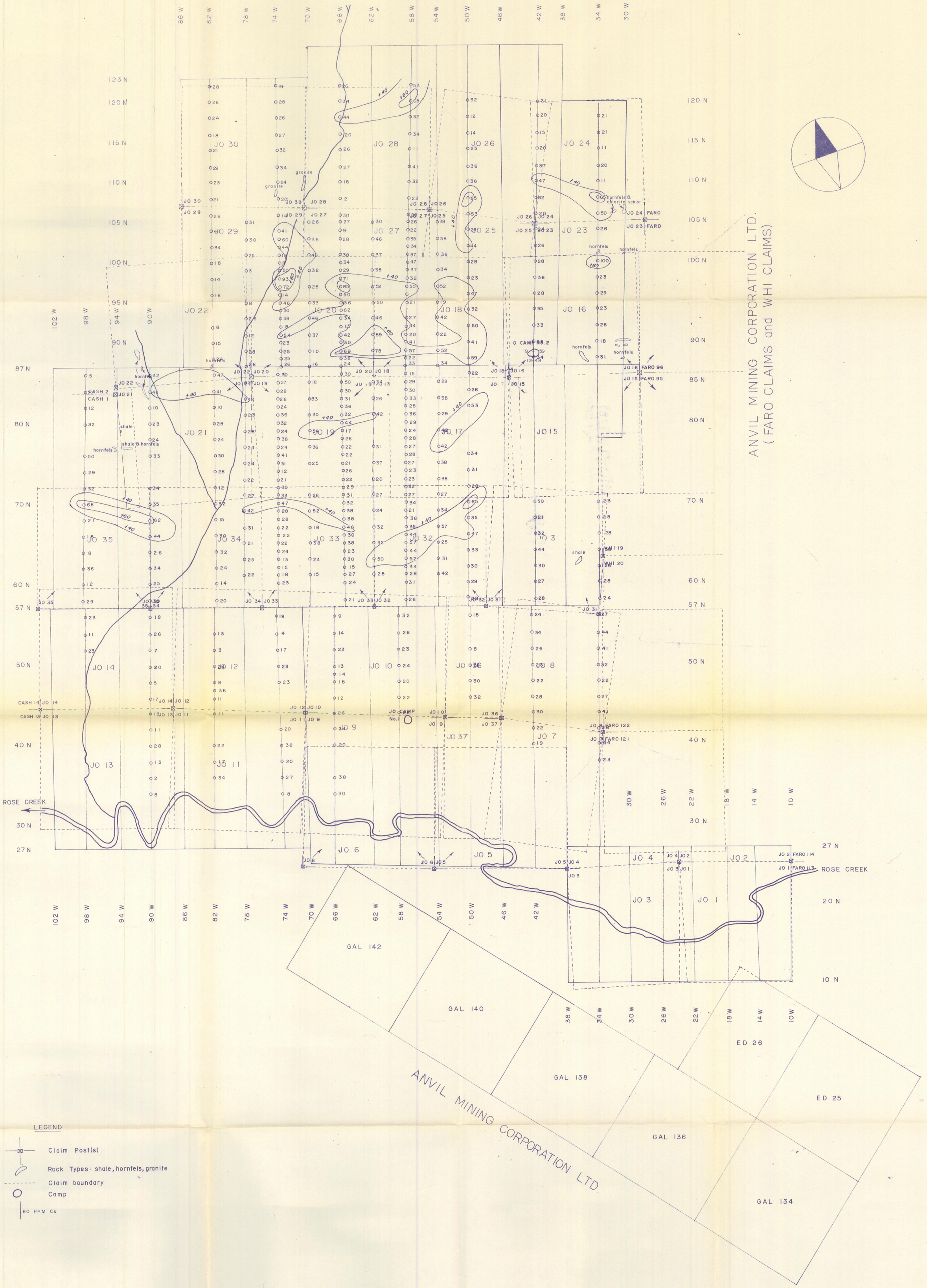
GEOCHEMISTRY RESULTS-ZINC

ALRAE EXPLORATION LTD.

GEOLOGISTS AND ENGINEERS
VANCOUVER, B. C.

DESIGNED R. MACBEAN	SCALES HOR: 1" = 500' VERT:
DRAWN M.R.L.	
CHECKED J. M.	DATE OCTOBER 1967
ALRAE EXP. LTD. DWG. No. 950-6	JOB No.
FIGURE No. 4	REV.

FLAGSTONE (LEE CLAIMS)



ANVIL MINING CORPORATION LTD.
(FARO CLAIMS and WHI CLAIMS)

LEGEND

- Claim Post(s)
- Rock Types: shale, hornfels, granite
- Claim boundary
- Camp
- 80 PPM Cu

500 0 500 1000 1500

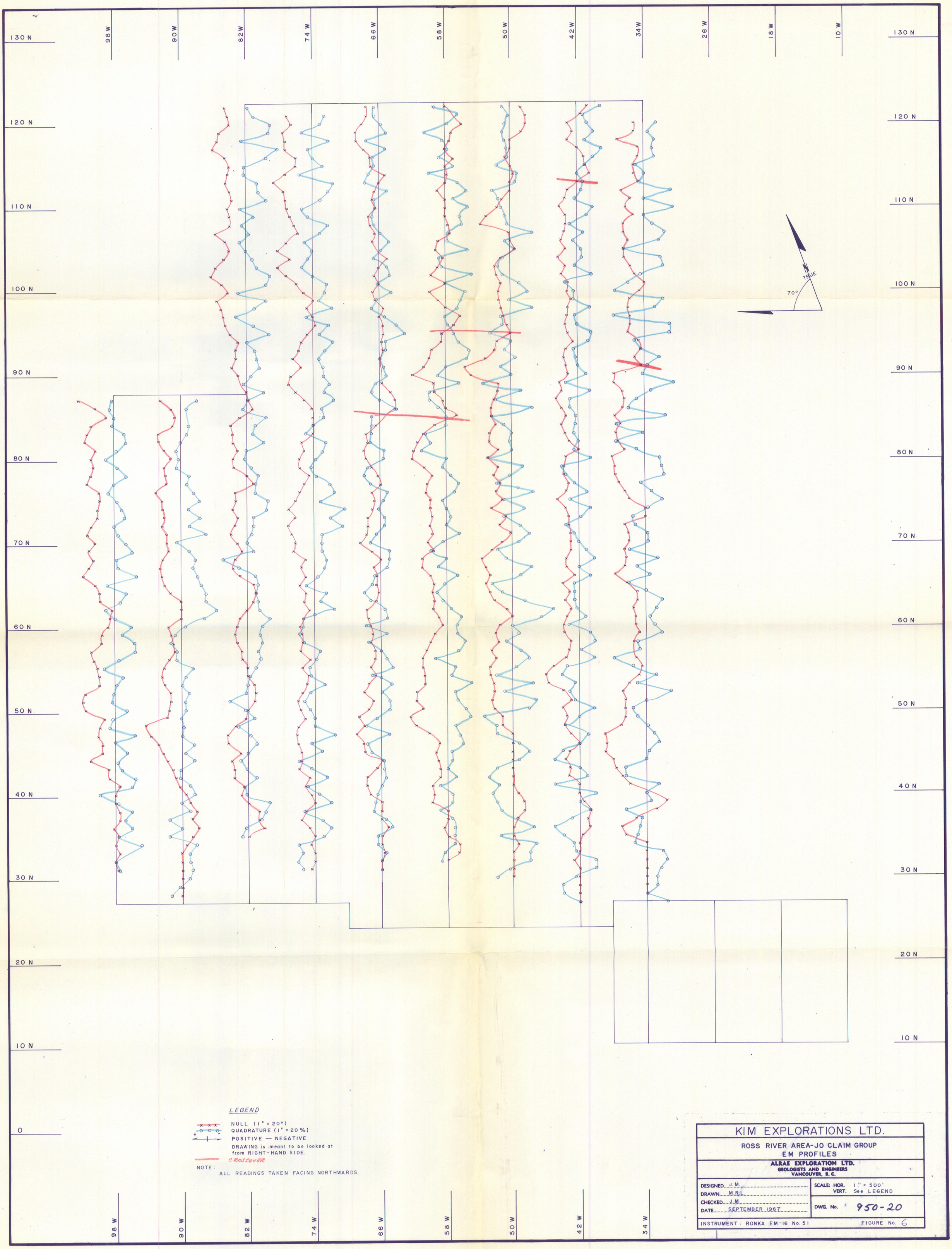
SCALE: 1" = 500'

KIM EXPLORATIONS LTD.

DYNASTY AREA-JO CLAIM GROUP
GEOCHEMISTRY RESULTS-COPPER

ALRAE EXPLORATION LTD.
GEOLOGISTS AND ENGINEERS
VANCOUVER, B. C.

DESIGNED R. MACBEAN	SCALES HOR: 1" = 500' VERT:
DRAWN M.R.L.	
CHECKED J.M.	DATE OCTOBER 1967 REV.
ALRAE EXP. LTD. DWG. No. 950-	JOB No.
FIGURE No. 5	



LEGEND

NULL (1" = 20°)
QUADRATURE (1" = 20%)
POSITIVE — NEGATIVE
DRAWING is meant to be looked at from RIGHT-HAND SIDE.
CROSSOVER

NOTE:
ALL READINGS TAKEN FACING NORTHWARDS.

KIM EXPLORATIONS LTD.

ROSS RIVER AREA-JO CLAIM GROUP
EM PROFILES

ALRAE EXPLORATION LTD.
GEOLOGISTS AND ENGINEERS
VANCOUVER, B. C.

DESIGNED J. M.	SCALE: HOR. 1" = 500'
DRAWN M.R.L.	VERT. See LEGEND
CHECKED J. M.	DWG. No. 950-20
DATE SEPTEMBER 1967	
INSTRUMENT: RONKA EM-16 No. 51	FIGURE No. 6