

4160

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT
JD 21-90, 103-108, PIN 1-7, J.D. Mineral Claims
Iron Mask Batholith Area,
KAMLOOPS MINING DIVISION, B.C.

LOCATION:

NORTH LATITUDE 50° 34'
WEST LONGITUDE 120° 18'

WORK DONE DURING:

January 30, 1972 to February 4, 1972
May 4, 1972 to October 31, 1972

REPORT BY:

R. Vallabh, M.Sc.
February 6, 1973

Professional Engineer:

W.G. Stevenson, P. Eng.

Department of
Mines and Technical Resources
Alberta
no. 4160

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NO 4160 #1

FLAGSTONE MINES LTD. (N.P.L.)
 J.D. Mineral Claims
INDEX MAP

INTRODUCTION

The 84 JD and Pin Mineral Claims referred to in this report were either staked and subsequently transferred to Flagstone Mines Ltd. (N.P.L.), which is now the registered owner of these claims) or are in the process of being transferred to Flagstone Mines Ltd. (N.P.L.). Claim Map and list of claims form a part of this report and only lists claims which are presently owned by Flagstone Mines Ltd. (N.P.L.). The property is centered at north latitude 50° 34' and west longitude 120° 18'.

Grid location, geochemical, geophysical, geological and claim survey work was done during the year 1972 (January 30, 1972 to February 4, 1972; May 4, 1972 to October 31, 1972) by field staff of Northmount Engineering & Investments Ltd. of Vancouver, B.C. on cost or contract basis.

LOCATION AND ACCESS

JD and PIN Group of mineral claims is in the Afton Mine Area, within Iron Mask Batholith. Anderson Creek passes within the northwest corner of the property; McLeod Lake lies along west side of property, Separation Lake lies at northeast corner of property. Highway #5 from Kamloops to Merritt intersects eastern and southeastern part of the property. Location map, scale 1.25 inches = 1 mile, has been prepared and forms a part of this property.

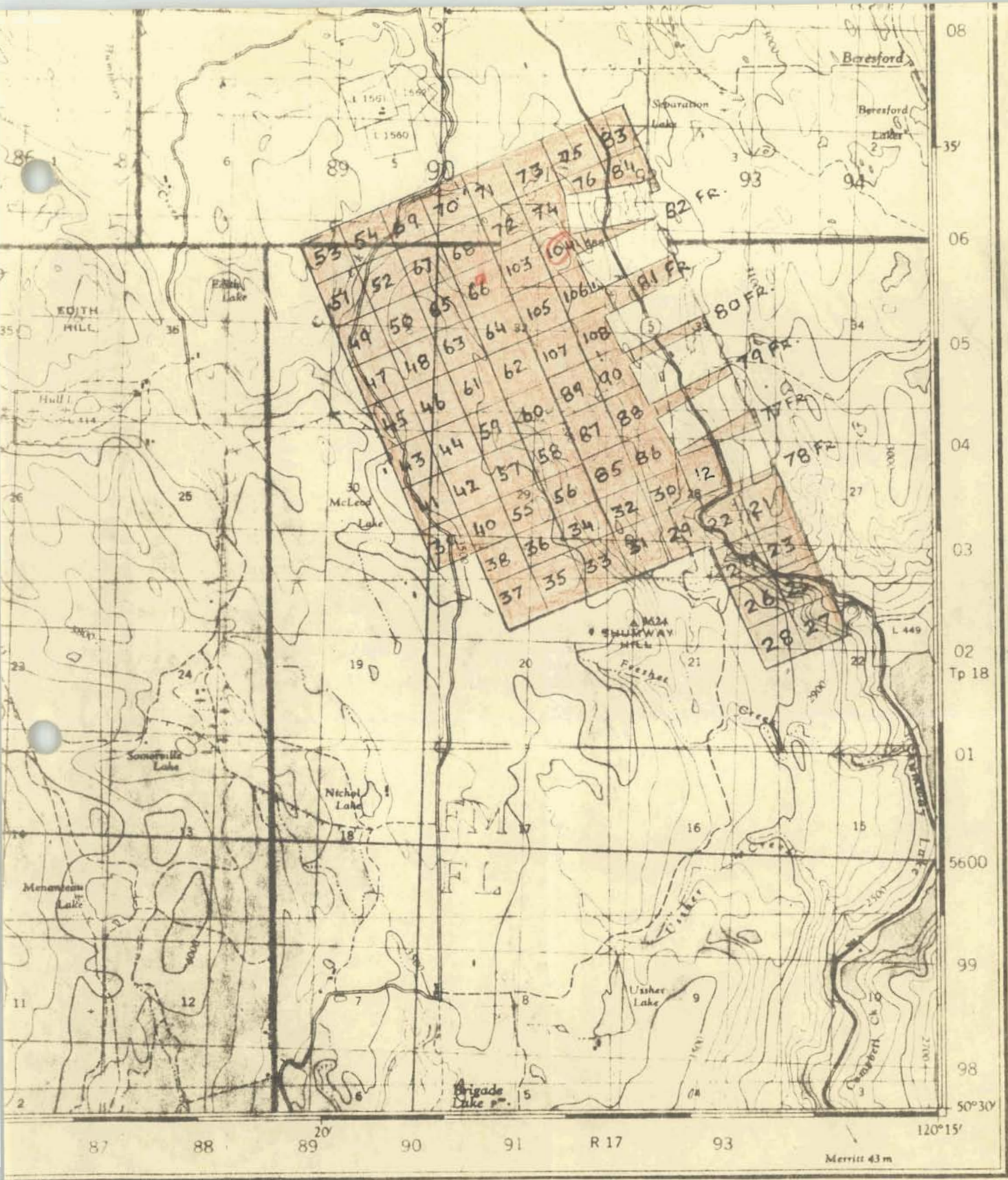
JD Group of mineral claims are easily approached from Kamloops by Highway #5 and lies at four road miles from Knutsford Village, towards Merritt; and can be approached by Jackson Road which joins Highway #5; and by road leading to Rossmore Lake from Knutsford Village.

PHYSIOGRAPHY

Situated between 2,400 and 3,600 feet elevation. Except few, all claims lie in a moderate relief making it easy to work.

The property is generally void of forest growth and is used from cattle grazing. Summer temperatures are moderate to 95°F., winter temperatures up to -30°F. with up to three feet of snow.

Due to moderate relief and easy approach by road, working in JD, PIN Group is a pleasure.



Department of
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ASSESSMENT REPORT
 NO. **4160** MAP **#2**

FLAGSTONE MINES LTD. (N.P.L.)
 J.D. Mineral Claims

CLAIM MAP

Scale 1.25 inches = 1 mile
 January 5, 1973

CLAIM BOUNDARY SURVEY

JD Group of mineral claims were acquired because of the existence of copper mineralization within the general area.

It was realized that due to absence of trees and blazes, the ground could be covered by earlier staking of good standing and therefore unless it was ascertained as to how the claim boundaries lie, there was no use working on the property.

A detailed examination of old mineral staking records, which were sometimes not available, was conducted and literally all the ground had to be covered to find claim posts.

The claim survey established that JD Group had partly overstaked other mineral claims.

A good property map was prepared after the survey and forms a part of this report marked 'Grid Map'.

LIST OF MINERAL CLAIMS

<u>Claim Name</u>	<u>Record Number</u>	<u>Expiry Date</u>
JD #21 to JD #76	103964-104019	February 4, 1973
JD 77 FR. to JD 82 FR.	104020-104025	February 4, 1973
JD 83 to JD 90	104026-104033	February 4, 1973
JD 103 to JD 108	116144-116149	May 8, 1973
JD 12.	102984	January 18, 1972
Pin 1-7 Fractions	71608-13,71619	September 16, 1973
	<u>GRID LOCATION</u>	

After completion of claim boundary survey, grid lines were located with the help of flagging, wooden stakes, blazes. Due to a large number of cattle grazing in the area few lines were redone while work was being done along the grid lines, as the flagging were eaten or chewed and wooden stakes broken.

All grid lines were laid with the help of nylon chain and compass.

Grid map - scale 1" = 1,000' has been prepared and forms a part of this report.

GEOCHEMICAL SURVEY

Introduction

Soil samples were taken by M/S. R. Agarwal, D. Selwa, D. Schmidt, Frank Brillinger, Prospectors and R. Vallabh Geologist.

Soils were very dry and, therefore, sometimes it took twenty minutes to get one soil sample.

Due to the presence of economic grade mineralization within the property and possibilities of finding economic ore body, great care was taken to ensure proper soil sampling was done.

Soil samples were taken along grid lines marked every 100 feet.

Soils, Vegetation and Topography

Most of the property is covered by fine clayey light buff coloured soil. In flat areas, with moisture, the soil was black due to humus.

At few places drumlins were seen and glacial material was considered unimportant due to their limited thickness and extent. It appears that in major part of the property soil is upto five feet thick, particularly in western, northern and south-western parts of the property.

Vegetation primarily consists of grass and few trees and relief is very low.

Sampling Method and Analyses

Sampling was done with the help of stainless steel auger one inch diameter bit and all samples, except for a few, were taken from a six inch section (6" - 12" deep), completely rejecting the top 6". In areas with black soil, attempt was made to go deeper and get soils free from humus.

Samples were placed in paper bags supplied by analysts and suitably marked by codes or station numbers.

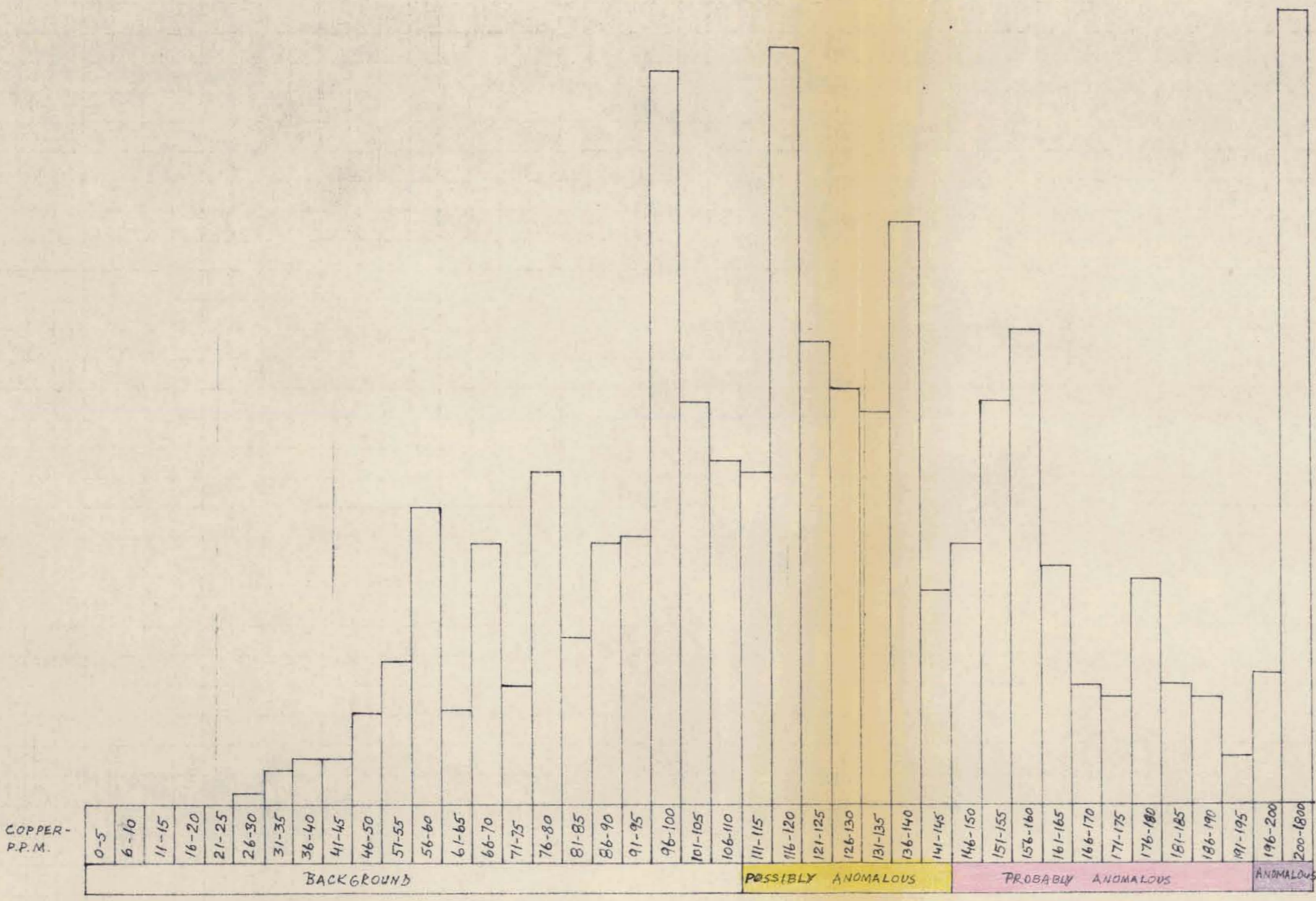
Analytical work was done by Crest Laboratories Ltd., Homer Street, Vancouver, B.C., with the help of atomic absorption method. All samples except for a few were analysed for copper. Sample was digested by $HClO_4 + HNO_3$.

Copper Anomalies

A histogram has been prepared, which forms a part of this report, and the following values have been considered as anomalous.

111 ppm to 145 ppm	Possibly Anomalous
146 ppm to 195 ppm	Probably Anomalous
196 ppm and above	Anomalous

COPPER HISTOGRAM
 828 SOIL SAMPLES
 J.D. GROUP - KAMLOOPS M.D.



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **4160** MAP **#6**

FLAGSTONE MINES LTD. NPL
 JAN. 26, 1973
 DRAWN BY: R. VALLABH.

Geochemical Copper Anomalies

Two geochemical maps scale one inch = 400 feet and one inch = 200 feet, covering northwestern and southern parts respectively of JD, PIN Group of mineral claims have been prepared.

Area with 'Possibly anomalous' copper values have not been coloured as only more important geochemical targets have been outlined.

Two major anomalies of most significance i.e. anomalies D and A are described

Geochemical Anomaly D

See geochemical map scale one inch = 200 feet covering southern part of JD, PIN claims and geological map scale one inch = 200 feet covering the southern part of the property.

Anomaly D covers approximately 350,000 square feet area. Anomaly E towards northwest, appears to be a part of Anomaly D.

Geological mapping revealed faulting in north-south and east-west directions which makes this a very interesting target.

Copper values have abruptly dropped at the western contact of diorites with the Kamloops andesite lavas. It appears 'anomalous areas D and E' extend towards northwest and west beneath the lavas. Rocks underlying these anomalies consist of microdiorite, medium grain diorite and diorite gneiss. Within anomaly E diorite gneiss has been mapped.

Almost all the outcrops show small amounts of chalcopryite, malachite stains and sometimes pyrite, in the form of disseminated specks, films along fracture planes.

Quartz carbonate veins upto 4 inches wide with north-south strike and 30° dip westerly was mapped in between line 0 + 11^W and 2ⁿ + 11^W. This vein consisted of massive chalcopryite.

Float, as shown on geological map near line 2ⁿ + 12^W assayed as follows:

Copper	- 4.27%
Gold	- 0.44 oz./ton
Silver	- 0.4 oz./ton

Rocks within geochemical anomaly D and E sometimes are highly altered and fractured making it difficult to identify.

Anomaly A

Geological mapping shows Anomaly A overlies medium grained diorite. Outcrops at the intersection of Anomaly A and road have chalcopyrite mineralization in the form of specks and films. Diorites are relatively fresh and moderately fractured with reddish colour.

It appears the copper mineralized zone is represented by outcrops at road and extend northwesterly and southerly as is the outline of geochemical anomaly.

The southern extension of Anomaly A appears to represent the contact of tertiary lavas and coast intrusions.

Conclusion and Recommendations

1. At this stage of exploration geochemical survey results have outlined two major targets. Less significant anomalies have not been given any attention.
2. Soil appears to be insitu and anomalies realistic.
3. Anomalies A and D well correlate with mineralized diorite.
4. Geochemical anomaly targets A and D should be further tested by I.P. Survey.
5. Due to presence of high grade copper mineralization within narrow structures (Joker adit, Afton and Leemac properties) anomalies with small width should not be ignored.

GROUND MAGNETOMETER SURVEY

Magnetometer Survey was conducted over grid lines established. See 'Grid Map'. A total of 9.943 line miles were traversed, within the northwestern corner of JD Group.

Equipment, Method and Procedure

Sharpe MF-1 Fluxgate Magnetometer was used.
R. Vallabh worked as operator.

After selecting a relatively non-anomalous and convenient spot, base station was established. Magnetometer readings were taken every 100 feet along grid lines. Whenever major variation in magnetometer reading was observed, the reading was rechecked in the general area.

To remove diurnal time variation of geomagnetic field from data, magnetometer readings at base station were taken before and after the completion of daily work. All magnetometer readings have been corrected for daily variation and also the variation in relation to the first base station reading when work started. A calculator (Olivetti Logos-250) was used to make corrections.

All the corrected data has been plotted on a map drawn to the scale 1 inch = 400 feet and forms a part of this report.

Results, Recommendations and Conclusions

Maximum magnetic variation is 12886 gammas.

On the basis of corrected field data, magnetic highs and lows were outlined on isomagnetic map.

High magnetic variation is due to high magnetite content and magnetite free rocks. At places magnetite in rocks, on visual examination, was 25% by volume.

Magnetometer results are well correlated with high and low magnetite content of rocks. The contact of magnetic contours co-incide with the general northwest-southeast direction of iron mask batholith.

Copper mineralization in the form of native copper, chalcopyrite, malachite, azurite has been seen to coincide with comparatively magnetite free rock. It is, therefore, essential that magnetic low areas, as picked up by this ground magnetometer survey, are especially looked into.

At the time survey was being done the presence of high magnetite content rock within JD Group was not known. It is adviseable to explore the possibilites of recovering magnetite for commercial purposes.

Magnetic low as outlined near station 47^W on lines 80^N to 92^N coincides with narrow geochemical copper anomaly. This magnetic low area should be thoroughly explored.

Copper mineralization as mapped and magnetic highs and lows do not have any direct correlation.

Whole of the property should be covered by ground magnetometer survey.

GENERAL GEOLOGY

Reference Memoir 249 by W.E. Cockfield.

Geological Survey of Canada Map shows JD Group of mineral claims to lie within southeastern tip of Iron Mask Batholith, with miocene or earlier age Kamloops Group of rocks towards south and west and palaeozoic argillites towards east.

Mineral localities of Grey Mask, Joker Adit lie within JD Group and ore reserves of Cominco's Jacko Lake, Galaxy, Kimberley, Leemac, Copper King, Afton etc. lie towards north, northwest and are associated with Iron Mask Batholith.

British Columbia Minister of Mines and Petroleum Resources Annual Report, Year 1967, at page 137, by Dr. J.M. Carr and as modified by V.A.G. Preto, describes the geology of the eastern part of Iron Mask Batholith.

Preto mentions about discovery of two new suites of intrusive rocks younger than Iron Mask Batholith associated with copper mineralization. These 2 groups of rocks are named Sugarloaf porphyritic diorite and Cherry Creek porphyry.

Geological mapping during 1972 has given valuable information not known before.

GEOLOGICAL SURVEY

76 Mineral Claims comprising JD 21-90, JD 103-108 were prospected with a view to finding different rock types, old workings, mineral showings and selection of areas for initial exploratory work.

Systematic geological mapping was conducted over 21 mineral claims JD 30, 32, 34, 56, 85, 86 (within southwest western part of JD Group) and JD 51-54, 61-70, 107 (within northwestern part of JD Group).

Two geological maps of scale 1 inch = 400 feet (northwest area) and scale 1 inch = 200 feet (southern area) have been prepared and form a part of this report.

Geology, Structure and Mineralization

Within the property the following rock types have been mapped.

1. KAMLOOPS GROUP (TERTIARY AGE)

Basalt and Andesite lavas are of dark grey colour, fine grained, aphanatic, with or without small (1 m.m. x 2 m.m.) vesicles. Bedding is indistinct except in area south of JD Group.

Lavas are well exposed at their contact with iron mask batholith rocks and the general feeling indicates that the lavas dip 5 degrees westerly and on the basis of topographic map it appears that the lava thickness is about 200 feet maximum.

2. IRON MASK BATHOLITH (JURASSIC AND (?) LATER AGE)

- (a) Gabbro
- (b) Pyroxenic diorite
- (c) Medium grained diorite
- (d) Micro-diorite
- (e) Sugarloaf intrusions; porphyritic diorite
- (f) Cherry Creek intrusions: pink feldspar porphyry
- (g) Brecciated diorite

(A) GABBRO

Geology map scale 1 inch = 400 feet shows coarse grained, dark grey-green coloured, heavy, highly magnetic with up to 25% magnetite, almost wholly consisting of pyroxene, hornblende and magnetite, occurring towards north-western part of the property.

Ground magnetometer survey has outlined an area with high magnetometer readings coinciding with area showing gabbro outcrops.

(B) PYROXENIC DIORITE

Within the northwestern part of JD Group (see enclosed geology map scale 1 inch = 400 ft.) and sometimes within and or adjoining Gabbro, Pyroxenic diorite has been mapped. This rock type is dioritic, rich in pyroxene minerals and with 5-10% magnetite. Sometimes it is closer to diorite and sometimes closer to Gabbro in composition.

(C) MEDIUM GRAINED DIORITE AND (d) MICRO-DIORITE

Medium grained diorite and microdiorites have been mapped in different part of the property. These are light grey to grey in colour, micro diorite has grain size of 1 m.m. or less and medium grained variety approximately 2 m.m. size grains.

Minor amounts of biotite, chlorite epidote can be seen in few outcrops. Invariably microdiorites are very light grey in colour. Altered rocks are lighter in colour.

Except in medium grained diorite, quartz was not seen. Quartz when present is less than 2% by volume.

These rock types are highly fractured and or altered and sometimes massive and compact.

Copper minerals in the form of veins of up to 4" massive chalcopyrite have been mapped in southern part of the property. Generally, copper is in the form of small specks of chalcopyrite or along fractured planes. Malachite and azurite is commonly present wherever chalcopyrite was mapped.

Two samples from Joker adit located on mineral claim JD 104 assayed as follows:

	<u>Gold</u>	<u>Silver</u>	<u>Copper</u>
Sample Flg.D	0.02 oz./ton	0.2 oz./ton	5.09%
Sample Flg.E	0.01 oz./ton	0.1 oz./ton	0.07%

(E) SUGARLOAF INTRUSIONS

These are porphyritic microdiorite with conspicuous hornblende phenocryts, and have only been mapped in a small area around 84 N + 60 W.

V.A.G. Preto in Page 137 of Minister of Mines Report - Year 1967 has well described this rock type.

Preto has mentioned about association of copper mineralization with Sugarloaf intrusions in Afton-Pothook Shaft, east of Hughes Lake.

Sugarloaf diorites intrude into iron mask rocks.

(F) CHERRY CREEK INTRUSIONS

These rocks have only been mapped in north-western area and are more acidic than diorites with visible quartz and distinct pink potash feldspar. Cherry Creek Quartz Diorite intrudes into iron mask batholith rocks.

Preto, on Page 138, in Minister of Mines Report - Year 1967, mentions about the presence of Cherry Creek intrusions in the vicinity of Evening Star Shaft, Galaxy Copper Body, etc. and has well described this rock type.

Cherry Creek rocks are reported to be related to copper mineralization and at several localities are extensively mineralized.

Only a small outcrop of Cherry Creek intrusive was mapped in the northwestern part of the JD property as shown on Geology map scale 1 inch = 400 feet.

Brecciated Diorite

Has been mapped near 76 N + 55 W by the side of old shaft which has a monor shear zone 1.5 feet wide with copper

minerals including chalcopyrite, malachite, azurite.

Brecciated diorite at 76 N + 55 W is similar to brecciated Cherry Creek intrusive diorite and is liminotic and pinkish in colour.

Brecciated diorite has been mapped at near 2 N + 10 W. Within and around this breccia chalcopyrite specks and veins are widespread.

Picrite Basalt

Appears to occur as intrusion within the iron mask batholith. Picrite basalt is dark greenish black with prophyritic appearance. Serpentine and olivine are visible constituents, olivine being in the form of rounded masses of 2-3 m.m. diameter, within greenish black aphanatic ground mass.

Picrite basalt easily decomposes into pale greenish clayey soil and is exposed around 0 + 0 station.

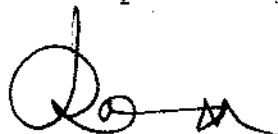
Near 4 N + 13 W a Picrite basalt boulder with approximate 1/4 inch diameter chalcopyrite bleb was mapped.

The contact between picrite basalt and batholith rocks should be interesting areas for search of economic mineral deposit.

CONCLUSIONS AND RECOMMENDATIONS

1. Geological mapping over parts of JD, PIN claims has given valuable information regarding presence of Cherry Creek and Sugarloaf varieties of intrusions. Copper mineralization has been mapped in different parts. Whole property should be systematically mapped.
2. Geochemical soil survey has outlined two major targets which coincide with favourable geological information and needs careful examination. Whole property should be soil sampled as the survey has given useful and reliable results.
3. Claim survey has established a reasonably correct outline of the ground Flagstone Mines Ltd. holds.
4. Induced polarization survey should cover geochemical, geological and magnetometer targets outlined in this report.
5. Ground magnetometer survey has outlined areas with magnetic low and high. Whole property should be surveyed.
6. Only after complete information is collected, existing and future targets, if any, should be drilled, keeping in mind that not only low grade copper, gold, silver mineralization but high grade mineralization in the form of native copper and chalcopryrite, chalcocite, bornite could exist in narrow areas. Native copper, chalcocite, bornite, chalcopryrite, malachite has been mapped in Joker adit, located within JD 104 mineral claim.

Respectfully submitted,

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R. Vallabh

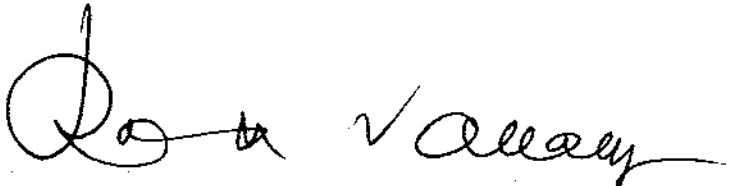
 ✓ *allan*

REFERENCES

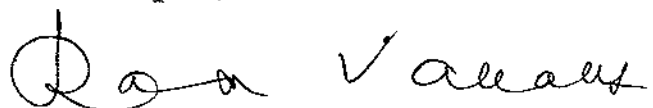
1. Memoir 249 by W.E. Cockfield, Department of Mines and Resources, Canada, 1948.
2. Bulletin 154 by R.J. Fulton, G.S.C., 1967.
3. Map 886A scale 1" = 4 miles, Kamloops and Yale District, B.C. Department of Mines and Resources, Canada.
4. 1967 Annual Report, Minister of Mines and Petroleum Resources, B.C.
5. 1956 Annual Report, Minister of Mines and Petroleum Resources, B.C.
6. Map 92 I/9W N.T.S., scale 1.25 inches = 1 mile.
7. B.C. Government aerial photographs numbers B.C. 4380-112 to 113, B.C. 4411-027 to 30, 075 to 77, B.C. 4370-227. Scale 1" = 1/4 mile.

STATEMENT OF QUALIFICATIONS

1. I, Ram Vallabh, am working as a geologist at Northmount Engineering and Investments Ltd., with offices at: Suite #1110-505 Burrard Street, Vancouver 1, B.C.
2. I passed the degree of Bachelor of Science with geology in the year 1952 from the University of Lucknow, India.
3. I passed the degree of Bachelor of Laws with specialization in Law of Taxation, in the year 1955 from the University of Lucknow, India.
4. I passed the degree of Master of Science, geology - in the year 1957 from the University of Lucknow, India.
5. For the last fifteen years since 1957, I am practising my profession as a geologist (five years in Canada and ten years elsewhere) and have been associated with a variety of geological environments and programmes in mining and exploration work.



Ram Vallabh, B.Sc., M.Sc.
February 6, 1973



CERTIFICATE

I, William G. Stevenson, DO HEREBY CERTIFY:

- That I am a Consulting Geological Engineer with offices at Suite 209 Crown Trust Building, 475 Howe Street, Vancouver 1, B.C.

- That I am a graduate of the University of Utah, 1946, with a B.S. Degree.

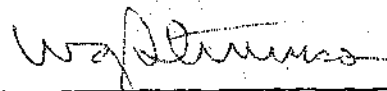
- That I am a registered Professional Engineer in the Association in British Columbia.

- That I have practised my profession for 23 years.

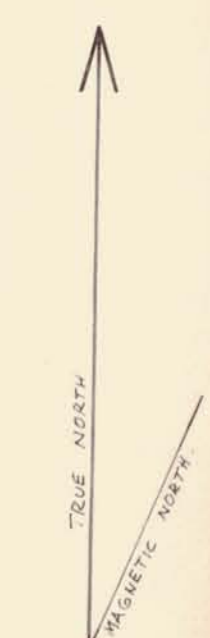
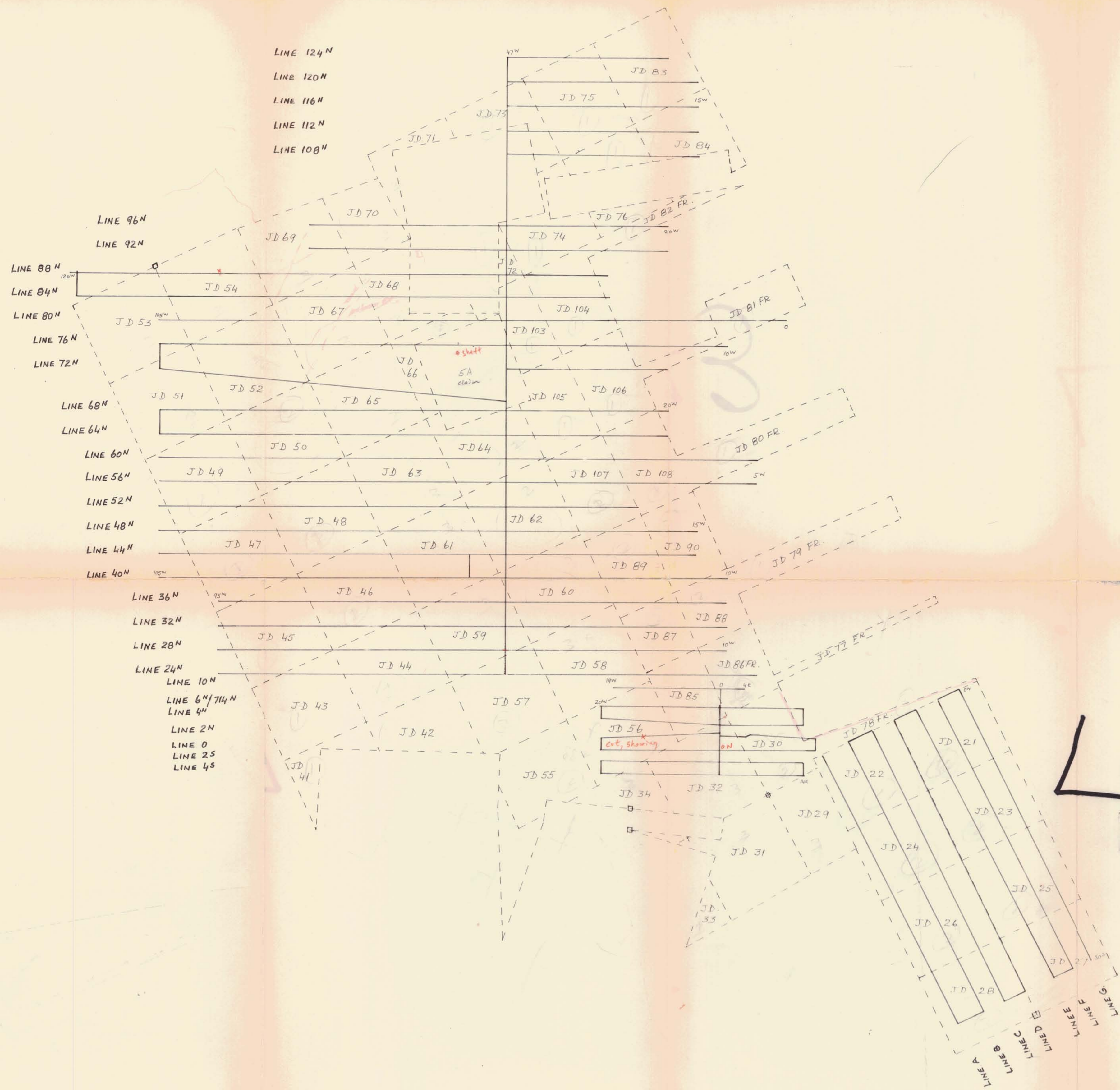
- That I have no direct, indirect or contingent interest in the J.D., & Pin Mineral claims or in the securities of Flagstone Mines Ltd. or Northmount Engineering & Investments Ltd., nor do I intend to receive any such interest.

- That this report dated February 6, 1973, is based on a study of published and unpublished maps and reports, discussions with colleagues and from examinations I have conducted in this area. DATED at Vancouver, British Columbia, this 12th day of February, 1973.

W.G. Stevenson & Associates Ltd.
Consulting Geologists



W.G. Stevenson, P.Eng.



LEGEND

- CLAIM BOUNDARY, PROPERTY BOUNDARY
- GRID LINE AND LINE NUMBER
- CLAIM POST
- 120W — STATION NUMBER

4160 M-3

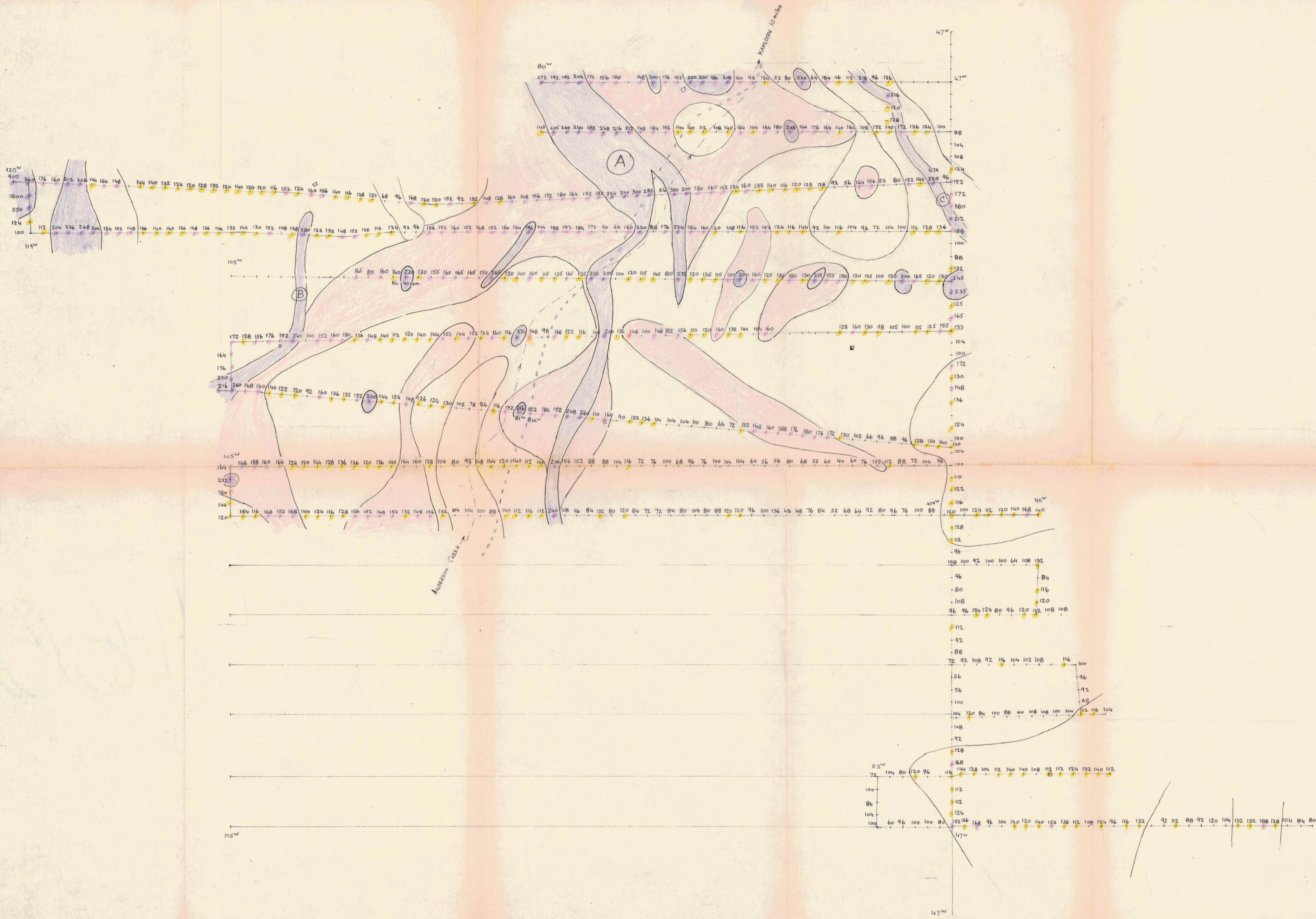
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4160 MAP #3

FLAGSTONE MINES LIMITED (N.P.L.)
IRON MASK BATHOLITH, AFTON AREA, KAMLOOPS MD., B.C.

GRID MAP

SHOWING FEW CLAIM POSTS, CLAIM BOUNDARIES,
PROPERTY OUTLINE, GRID LOCATION, LINE NUMBER,
STATION NUMBER, BASED ON YEAR 1972 FIELD WORK

SCALE 0 1000 FT 2000 FT 3000 FT
DATE: JAN 29 1973 DRAWN BY: [unclear] MICHAMOUNT ENGINEERS LTD.



LINE 96^N
 LINE 92^N
 LINE 88^N
 LINE 84^N
 LINE 80^N
 LINE 76^N
 LINE 72^N
 LINE 68^N
 LINE 64^N
 LINE 60^N
 LINE 56^N
 LINE 52^N
 LINE 48^N
 LINE 44^N
 LINE 40^N

LEGEND

- STATION LOCATION
- SOIL VALUE - COPPER IN P.P.M.
- CLAIM POST
- SHAFT
- === ROAD
- ~ CREEK

COPPER ANOMALIES

- ANOMALOUS - 196 ppm to 1800 ppm
- PROBABLY ANOMALOUS - 146 ppm to 195 ppm
- POSSIBLY ANOMALOUS - 111 ppm to 145 ppm

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 4160 MAP #4

W. J. ...

To accompany Geological, Geochemical and Geophysical Report on J.P.P. claims, dated February, 1973
D. ...

FLAGSTONE MINES LTD. (N.P.L.)
 IRON MASK BATHOLITH, AFTON AREA, KAMLOOPS M.D., B.C.
 NORTHMOUNT ENGINEERING AND INVESTMENTS LTD.

GEOCHEMICAL MAP - COPPER

SOILS COPPER VALUES BASED ON GEOCHEMICAL SURVEY CONDUCTED DURING YEAR 1972. MAP SHOWS GEOCHEMICAL COPPER ANOMALIES.

SCALE: 0 FT. 400 FT. 800 FT. 1200 FT. 1600 FT.

DRAWN BY: R.V. DATE JAN. 15, 1973 R.VALLABH. GEOLOGIST.

EDITH LAKE



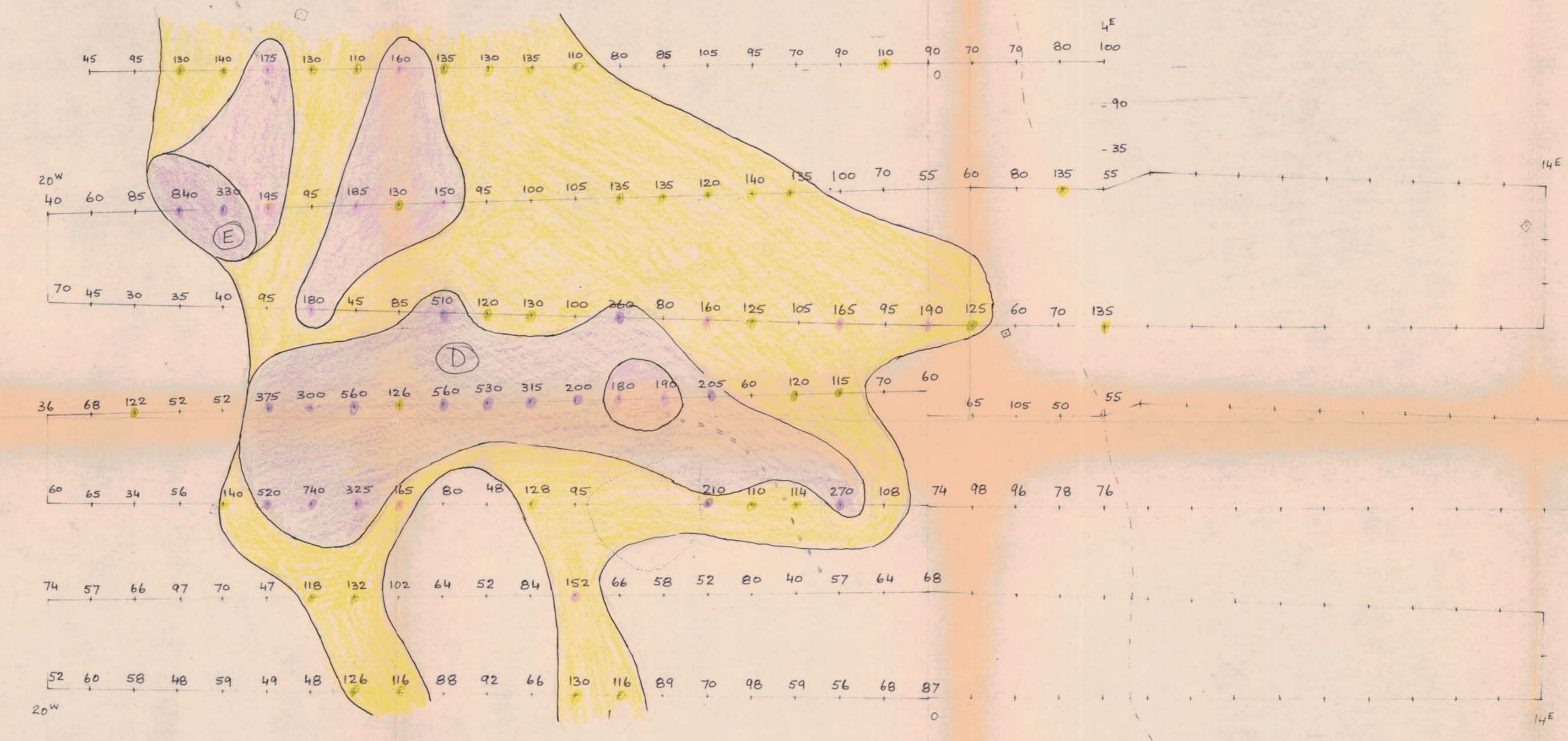
LEGEND

- 20^m — STATION NUMBER AND LOCATION
- 1800 40 — SOIL VALUE - COPPER IN P.P.M.
- CLAIM POST IN GOOD STANDING
- OLD FORFEITED CLAIM POST
- LAKE / POND
- == ROAD
- - - CREEK

COPPER ANOMALIES

- ANOMALOUS - 196 ppm to 1800 ppm.
- POSSIBLY ANOMALOUS - 146 ppm to 195 ppm.
- PROBABLY ANOMALOUS - 111 ppm to 145 ppm.

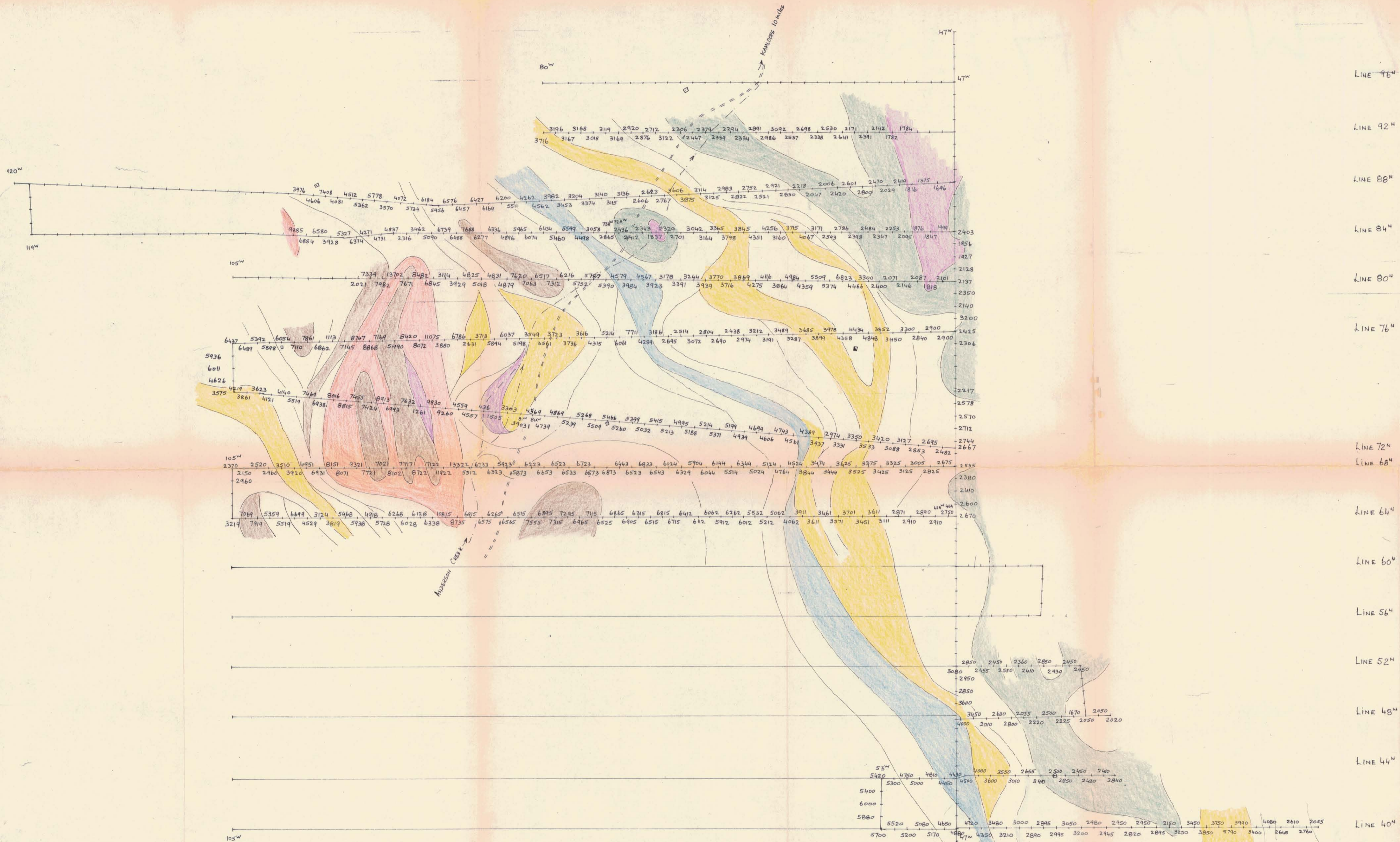
LINE 10^N
LINE 6^N & 7^{1/2}^N
LINE 4^N
LINE 2^N
LINE 0
LINE 2^S
LINE 4^S



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4160 MAP #5

W. J. ...
To accompany Geological, Geochemical,
Geophysical Report on J28 / Pin claim, 1973 F66
D. ... v. ...

FLAGSTONE MINES LIMITED (N.P.L.)
IRON MASK BATHOLITH, AFTON AREA, KAMLOOPS M.D., B.C.
GEOCHEMICAL MAP - COPPER
SOILS COPPER VALUES BASED ON GEOCHEMICAL
SURVEY CONDUCTED DURING YEAR 1972 BY
NORTHMOUNT ENGINEERING AND INVESTMENTS LTD.
SCALE 0 FT. 200 FT. 400 FT. 600 FT. 800 FT.
DATE: JANUARY 20, 1973 DRAWN: R.V. GEOLOGIST: R. VILLASH.



LINE 96^N

LINE 92^N

LINE 88^N

LINE 84^N

LINE 80^N

LINE 76^N

LINE 72^N

LINE 68^N

LINE 64^N

LINE 60^N

LINE 56^N

LINE 52^N

LINE 48^N

LINE 44^N

LINE 40^N



LEGEND

- 1000 130
- 80W
- ROAD
- CREEK
- BELOW 2000 GAMMAS
- 2001 to 2500 GAMMAS
- 2501 to 3000 GAMMAS
- 3001 to 3500 GAMMAS
- 3501 to 4000 GAMMAS
- 4001 to 4500 GAMMAS
- 4501 to 5000 GAMMAS
- 5001 to 6000 GAMMAS
- 6001 to 7000 GAMMAS
- 7001 to 8000 GAMMAS
- 8001 AND ABOVE GAMMAS

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4160
M.P. #7

W. J. ...

To accompany Geological, Geochemical
and Geophysical Report on J.P./P.A.
claims dated February 1973

Don van der ...

FLAGSTONE MINES LTD. (N.P.L.)
IRON MASK BATHOLITH, AFTON AREA, KAMLOOPS M.D., B.C.
 NORTHMOUNT ENGINEERING AND INVESTMENTS LTD.
GROUND MAGNETOMETER DATA MAP AND
ISOMAGNETIC PLAN

BASED ON ADJUSTED GROUND VALUES IN GAMMAS. DATA
 OBTAINED DURING YEAR 1972. MAP SHOWS GROUND
 MAGNETOMETER VALUES, STATION LOCATION, ANOMALOUS AREAS ETC.
 SCALE: 0 FT. 400 FT. 800 FT. 1200 FT. 1600 FT.
 DRAWN BY: R.V. DATE JAN. 15, 1973 R.VALLABH. GEOLOGIST.

4160 M-7

EDITH LAKE

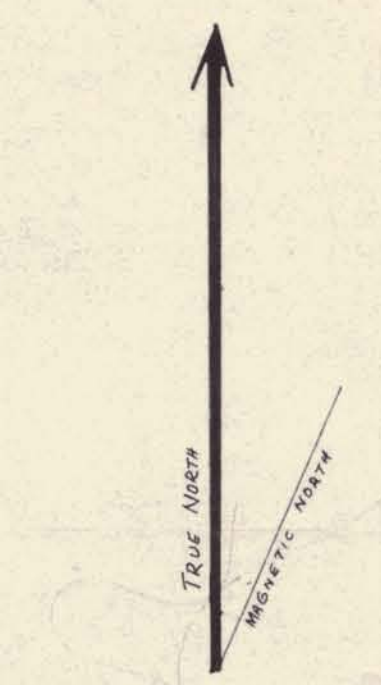


LINE 96^N
 LINE 92^N
 LINE 88^N
 LINE 84^N
 LINE 80^N
 LINE 76^N
 LINE 72^N
 LINE 68^N
 LINE 64^N
 LINE 60^N
 LINE 56^N
 LINE 52^N
 LINE 48^N
 LINE 44^N
 LINE 40^N

LEGEND.

- LINE 84^N MIOCENE OR EARLIER - KAMLOOPS GROUP.
 - 10 ANDESITE LAVAS
- LINE 80^N JURASSIC AND (P) LATER - COAST INTRUSIONS.
 - 9 PICRITE BASALT - INTRUSION - AGE ?
 - 8 BRECCIATED DIORITE (CHERRY CREEK - MICRODIORITE)
 - 7 CHERRY CREEK INTRUSION - PINK FELDSPAR PORPHYRY
 - 6 SUGARLOAF INTRUSIONS - HORNBLLENDE PORPHYRY DIORITE
 - 5 MICRODIORITE
 - 4 MEDIUM GRAINED DIORITE
 - 3 PYROXENIC DIORITE
 - 2 GABBRO

- LINE 60^N UPPER TRIASSIC - NICOLA GROUP
 - 1 ANDESITE
- LINE 56^N
 - Rock Outcrop
 - Lake/Pond
 - Road
 - Creek
- LINE 52^N
 - CHAL. CHALCOPRITE, MALACHITE
 - Py, Prr. PYRITE, PIRROTITE
 - WIRE FENCE
- LINE 48^N
 - SURVEY STATION AND TRAVERSE LOCATION.
 - CLAM POST To accompany Geological, Geotechnical and Geophysical Report
 - FAULT DIP AND STRIKE on J.D./Pir Camp dated February 1973
 - SCHISTOSITY, DIP DIRECTION
 - PROJECTED CONTACT
- LINE 44^N
- LINE 40^N



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 4160 MAP #8

FLAGSTONE MINES LTD. (N.P.L.)
 IRON MASK BATHOLITH, AFTON AREA, KAMLOOPS M.D., B.C.
 NORTH MOUNT ENGINEERING AND INVESTMENTS LTD.

GEOLOGICAL MAP
 OF
 NORTH WESTERN AREA - J.D. GROUP

SHOWING STRUCTURE, MINERALIZATION, OUT CROPS GEOLOGY ETC.

SCALE: 0 FT. 400 FT. 800 FT. 1200 FT. 1600 FT.

DRAWN BY: R.V. DATE JAN. 15, 1973 R.VALLABH. GEOLOGIST.

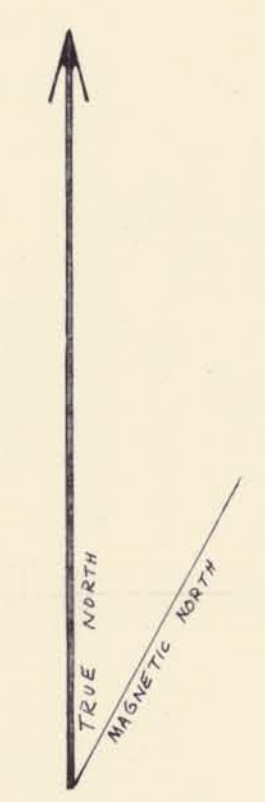
I.P. J.D. 61,62
K.P. J.D. 59,60

TERTIARY
LAVAS
OUTCROPS

J.33-56

TERTIARY LAVA
OUTCROPS

P.P. 3,1,2



LEGEND.

MIOCENE OR EARLIER - KAMLOOPS GROUP

10 ANDESITE LAVAS

JURASSIC AND (?) LATER - COAST INTRUSIONS

8 PICRITE BASALT - INTRUSION - AGE ?
BRECCIATED DIORITE (CHERRY CREEK / MICRODIORITE)

1 CHERRY CREEK INTRUSION - PINK FELDSPAR PORPHYRY

6 SUGARLOAF INTRUSIONS - HORNBLende PORPHYRITIC DIORITE

5 MICRODIORITE

4 MEDIUM GRAINED DIORITE

3 PYROXENIC DIORITE

2 GABBRO

UPPER TRIASSIC - NICOLA GROUP

1 ANDESITE

- ROCK OUTCROP
- LAKE / POND
- ROAD
- CREEK
- CHAL. CHALCOPYRITE, MALACHITE
- Py, Pyr. PYRITE, PYRROTITE
- WIRE FENCE
- SURVEY STATION AND TRAVERSE LOCATION.
- CLAIM POST
- FAULT
- DIP AND STRIKE
- SCHISTOSITY, DIP, DIRECTION
- PROJECTED CONTACT

LINE 10^N

LINE 6^N & 7¹⁴N

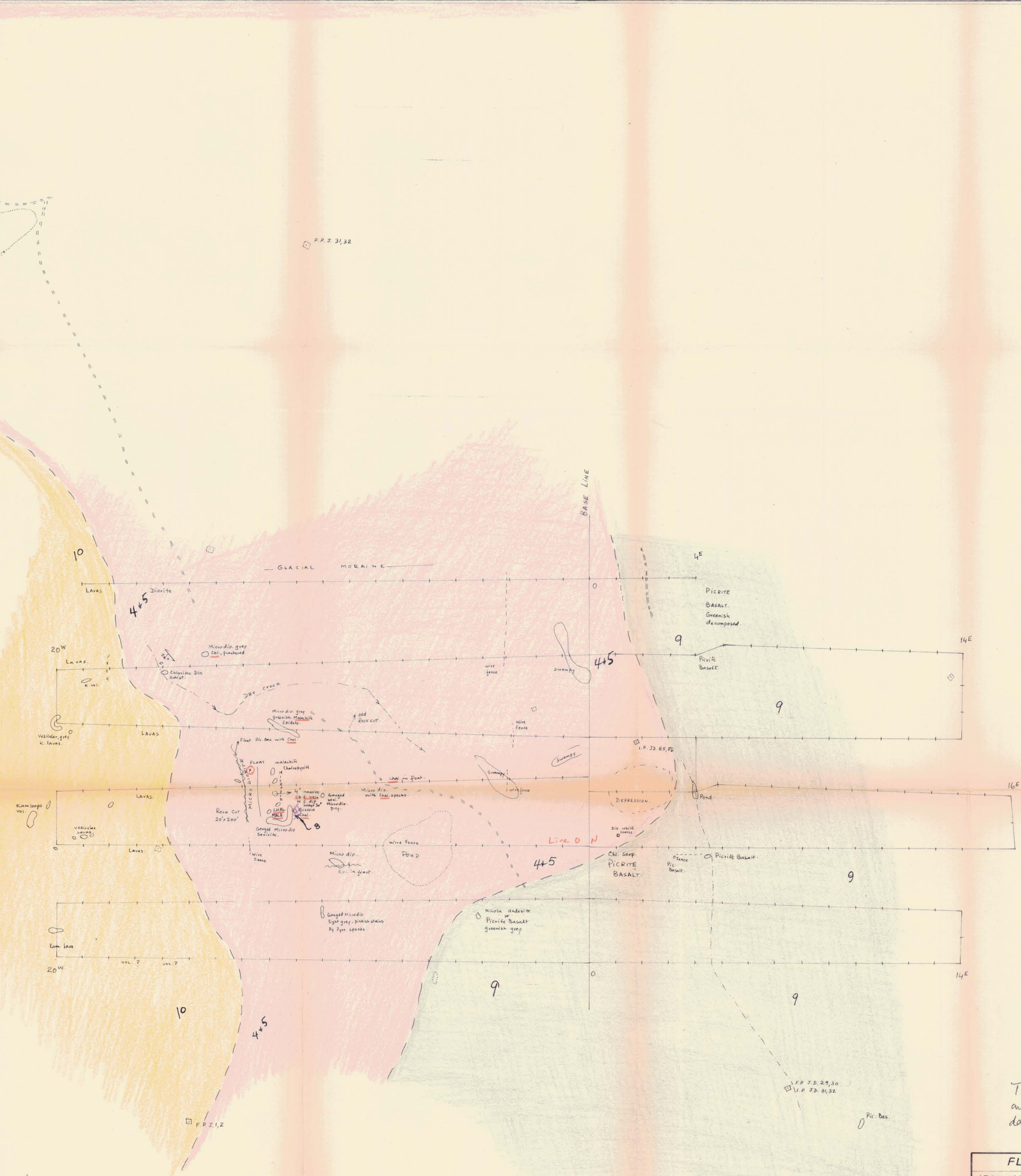
LINE 4^N

LINE 2^N

LINE 0

LINE 2^S

LINE 4^S



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4160 MAP #9

W. J. Williams
To accompany Geological, Geochemical
and Geophysical report on J.D./P.I.N Group
dated February 1973
D. A. Laary

FLAGSTONE MINES LIMITED (N.R.L.)
IRON MASK BATHOLITH, AFTON AREA, KAMLOOPS M.D., B.C.

GEOLOGICAL MAP
OF
SOUTHERN AREA-J.D. GROUP
SHOWING STRUCTURE, MINERALIZATION, OUTCROPS, GEOLOGY, ETC.

SCALE: 0 FT. 200 FT. 400 FT. 600 FT. 800 FT.

DATE: JANUARY 20, 1973 DRAWN: R.V. GEOLOGIST: R. VALLACH