

MONETA PORCUPINE MINES, LIMITED

ROOM 408 - 402 WEST PENDER STREET
VANCOUVER 3, B.C.

Telephone: MUtual 1-9721

Please Refer File:

408

April 5th, 1962.

The Mining Recorder,
GRAND FORKS, B.C.

BAE/2E

Dear Sir:-

The following is a record of salaries, wages, and expenses paid in connection with the geological, geophysical, and geochemical surveys of claims Lex #1 and #2, Roe No. 1, and Dete No. 1 to 8 near Greenwood B.C., made between October 2nd and December 15th, 1961:-

A.W. Dean, assistant	- 30 days @ \$22/day	\$ 660.00
A.J. Teed, assistant	- 30 days @ \$18/day	540.00
R.H. Seraphim	- 25 days @ \$40/day	<u>800.00</u>
	TOTAL	\$2,000.00

One half of R.H. Seraphim's time is applicable to geological work, to be applied to Lex #1 and Lex #2 claims. The remainder to be applied to Roe No. 1 and Dete No. 1 to 8 claims.

I declare the above statements to be true and correct.


R.H. Seraphim

RHS/dc

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act"

Declared before me at the City of Vancouver, in the Province of B.C., this 17th day of April, 1962 A.D.



Shirley J. Gannette
Mining Recorder

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April 5th, 1962.

The Mining Recorder,
GRAND FORKS, B.C.

Dear Sir:-

Re Filing of Geological, Geophysical and
Geochemical Surveys for assessment
work, Claims Lex #1, Lex #2, Roe No. 1,
Detes No. 1 to 8, near Greenwood, B.C.

Statement of Qualifications of R.H. Seraphim

I, R.H. Seraphim, Ph. D., P. Eng., am registered with
the Association of Professional Engineers in the Province of
British Columbia, and have had previous experience in opera-
ting geophysical and geochemical equipment.


R.H. Seraphim

RHS/dc

#408 - 402 West Pender St.,
Vancouver 3, B.C.
May 25th, 1962.

The Gold Commissioner,
GRAND FORKS, B.C.

Dear Sir:-

In accordance with your letter of May 23rd, a page describing method of geophysical and geochemical survey has been inserted (page 1(a) in the text of the reports returned.

A summary of my previous experience follows:-

Undergraduate and post graduate courses in geophysics and geochemistry, including major in latter for doctorate degree.

Three years work in Greenwood area (1951 to 1953 inclusive) in which geophysical and geochemical work - magnetometer, self-potential, electromagnetic, and both soil and foliage geochemical testing - were used extensively.

Numerous surveys 1953 to 1962 in which geochemistry and geophysics were used in property examination.

Survey of claims VL 14 to 21 inclusive near Toketic, B.C., submitted to Department of Mines, January, 1961.

Yours sincerely,



R.H. Seraphim.

RHS/dc

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 408 MAP

GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL
REPORT ON CLAIMS LEX #1, LEX #2, AND
DETE NO. 1 TO DETE NO. 8, GREENWOOD M.D.

SUMMARY AND CONCLUSIONS

The claims cover or are close to a band of dacitic rocks which contain ubiquitous copper mineralization. The mineralization appears to be concentrated in places where minor serpentine bands are co-incident with shearing, folding, or both. The work has indicated one or more areas warranting further exploration, perhaps induced potential survey, to be followed by diamond drilling if results continue encouraging.

INTRODUCTION

The claims were staked to cover the northward extension of a favourable belt south of the 49th parallel. On the U.S. side the belt contains, about 1500 feet south of the border, a copper deposit with indicated 640,000 tons of roughly 1% Cu plus \$1.00 in precious metals. Since much of the ground is covered with thick glacial fill, preliminary exploration by geophysical and geochemical methods is of value in correlation of geology and indicating favourable areas for diamond drilling.

METHOD

The region was mapped geologically on 300 feet to the inch, using the surveys of Crown-granted claims, existing roads, and tape and compass for control. Tape and compass grid lines were cut out and blazed for control of the more detailed (100 ft. = 1 in.) survey of the areas considered more important on the basis of the geological survey.

1 (a)

The magnetometer survey was completed on cross-lines of 200 foot spacing, with readings taken at 100 foot intervals on these lines. Readings on the Sharps A-3 magnetometer were corrected for diurnal variation and calculated to gammas (accuracy approximately 100 gammas). The numbers recorded on the accompanying map are in gammas, and include the earth's field of approximately 52,000 gammas. Contours are applied at 1000gamma intervals.

The geochemical readings were not taken on the grid as it was believed the locally thick glacial till containing scatters of copper bearing float would produce results too confusing to be worthwhile. Geochemical work was thus limited to rubeanic acid tests at intervals along the major drainages.

GEOLOGICAL SURVEY

Lithology

The conformable? units, trending southerly to southeasterly, are

1. Serpentine. A band up to six or seven hundred feet thick is traceable by outcrop and high-magnetometer readings completely through the mapped area. It contains a major disruption, perhaps a sharp fold or cross-fault, on the Orphan claim.
2. Carbonate - mariposite - silicified zone. Only one exposure of this zone is found, near the City of Paris - Lincoln boundary. However, fairly abundant float, and its location by drilling south of the mapped area, suggest that it follows the west contact of the serpentine through the mapped area. The zone is accompanied with strong shearing, and the rock-type is probably formed by alteration along a fault.
3. Dacitic-rock with minor serpentine lenses. This rock type contains at least traces of copper mineralization in all outcrops found. Shearing or folding within it commonly occurred near, or more likely was followed by intrusion of or alteration by, serpentine. No definite criteria were found to determine whether the dacitic rock is intrusive or extrusive. It is commonly shattered and sheared. The areas of more intense shattering and shearing are invariably accompanied by a bleaching alteration, silicification, and more abundant copper mineralization. The drilled out area of the Lone Star workings, and the material on the dump of the caved shaft near the N.E. corner of the Orphan claim, are good examples. The dacitic band, 1500 to 2000 feet wide, hosts all the known copper showings, and is thus of major importance.

4. Argillite and chert. A thin bedded metamorphosed assemblage of these rocks bound the dacitic rocks on the west. A few quartz veins are found in them, but no mineralization of importance.
5. Volcanics. Andesitic to basaltic volcanics are found in several outcrops east of the main band of serpentine. No mineralization was found in outcrop, but some float containing chalcopyrite and pyrrhotite appeared to be formed by replacement of this rock type.

Rocks definitely intrusive include:

1. Granitoid rocks. Exposures of granitoid rocks are found on the Lex #1 and #2 claims; near the north corner of the New St. Maurice; and on the eastern Dete claims. Further south, on the U.S. side, the exposures are unusually coarse grained, approaching a pegmatite.
2. 'Black Dyke'. A very dark grey to black rock is found footwall to the ore zone in the Lone Star underground workings, and in two nearby exposures south of the U.S. border. No outcrops were found north of the border.
3. Gabbro. Several outcrops of gabbroic dykes were found in the area mostly underlain by argillites west of the main dacitic band.

Structure

Outcrops are far too few to obtain other than generalized hypotheses concerning structure in the area. The argillites and dacitic rock ~~which~~ appear to be conformable, but no criteria are evident to determine whether the dacitic rock is extrusive or intrusive. Bedding in the argillite, and a marked planar structure in one serpentine outcrop

near argillite, dip about thirty degrees easterly. Most of the shearing in the dacite dips easterly, but at angles up to eighty degrees. The Lone Star deposit is on a zone of shearing which swings from a dip 45 degrees easterly to 30 degrees southerly. The main serpentine band, bounding the dacitic rock on the east, dips very steeply easterly judging by one drill hole and geophysical work.

Inasmuch as the Lone Star deposit has formed on a 'folded shear' accompanied by serpentine (or serpentinization), any evidence of folding, or of serpentine bands within the dacite, should be investigated for mineralization. A fold is evident from the distribution of outcrops near the center of the Orphan claim. An old caved shaft on the New St. Maurice nearby, judging from material on the dump, contained dacitic rock with pronounced shearing and alteration, as well as abundant (though probably sub-ore) copper mineralization.

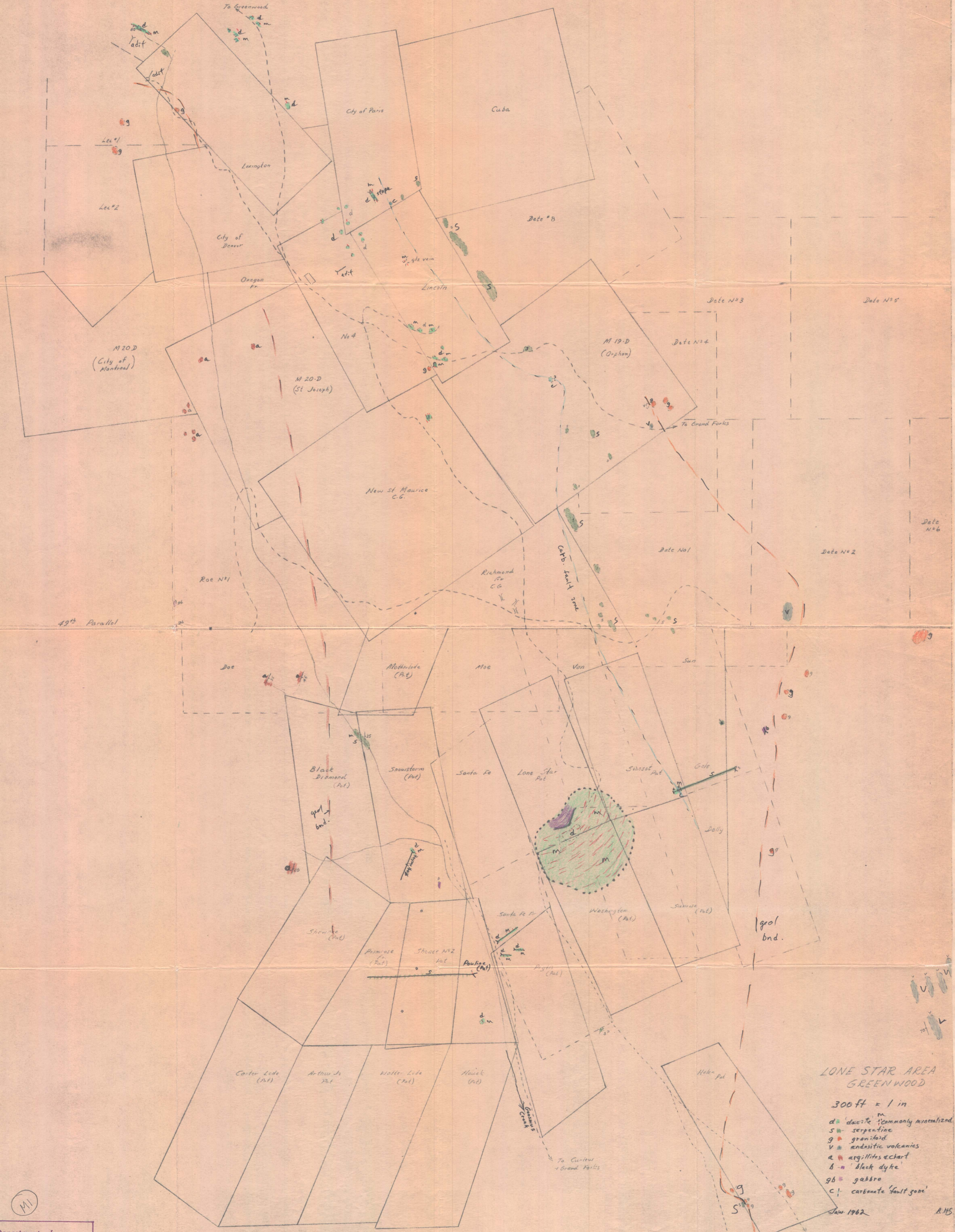
Geophysical Survey

The magnetometer survey shows a pronounced 'high' conforming to the main serpentine band, and caused by the fairly abundant magnetite in the serpentine. Similarly, serpentine from the Lone Star workings shows fairly abundant magnetite. Thus the magnetometer survey should show zones of serpentine within the dacite as 'high's'. A marked 'high', with a configuration such as would be expected from a thin serpentine band, does occur on the St. Joseph claim, and tails out towards the old caved shaft on the New St. Maurice. The fold in the serpentine on the Orphan claim, evident from outcrop distribution, is also closely confirmed by magnetic survey. The area underlain by dacitic rocks in these two vicinities should be explored further by induced potential survey.

Geochemical Survey

Glacial fill, with thickness in places up to seventy feet, precludes accurate delineation of copper-rich areas. Nevertheless, a number of soil samples were taken from the bottoms of draws in the area, and tested for copper by the rubeanic acid method. The results are plotted on the 100 scale geologic-topographic map. They show a general increase in copper in the areas considered favourable from geological and geophysical work. However, they should not be considered an important criterion in this locality.

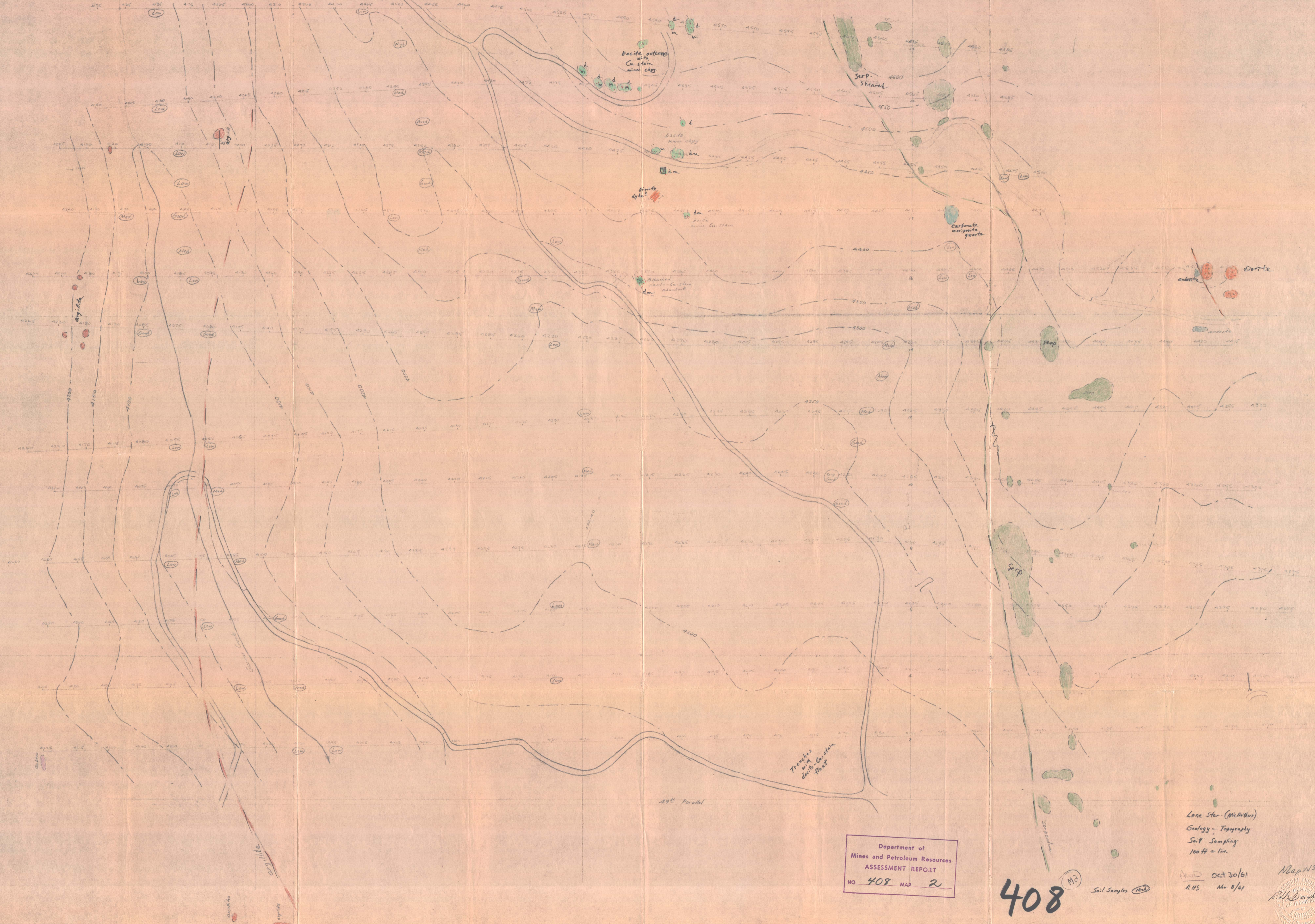
R. H. Deringer



Department of
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LONE STAR AREA
 GREENWOOD
 300 ft = 1 in
 d = dacite commonly mineralized
 s = serpentine
 g = granitoid
 v = andesitic volcanics
 a = argillites schist
 b = black dyke
 gb = gabbro
 c = carbonate 'fault zone'
 Jan 1962
 R.H.S.
 Map No 1
 R.H.S.



Department of
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Lone Star - (McArthur)
 Geology - Topography
 Soil Sampling
 100 ft = 1 in.
 R.H.S. 160 8/61

Map N=2
 R.H.S.

Soil Samples

ST. JOSEPH (M.202)

NEW ST. HUBERT

RICHMOND FR

ORFAN

Date: 1

Roe #1

Coastway Lines

45° Parallel

1000' BASE LINE

408

Map No 3

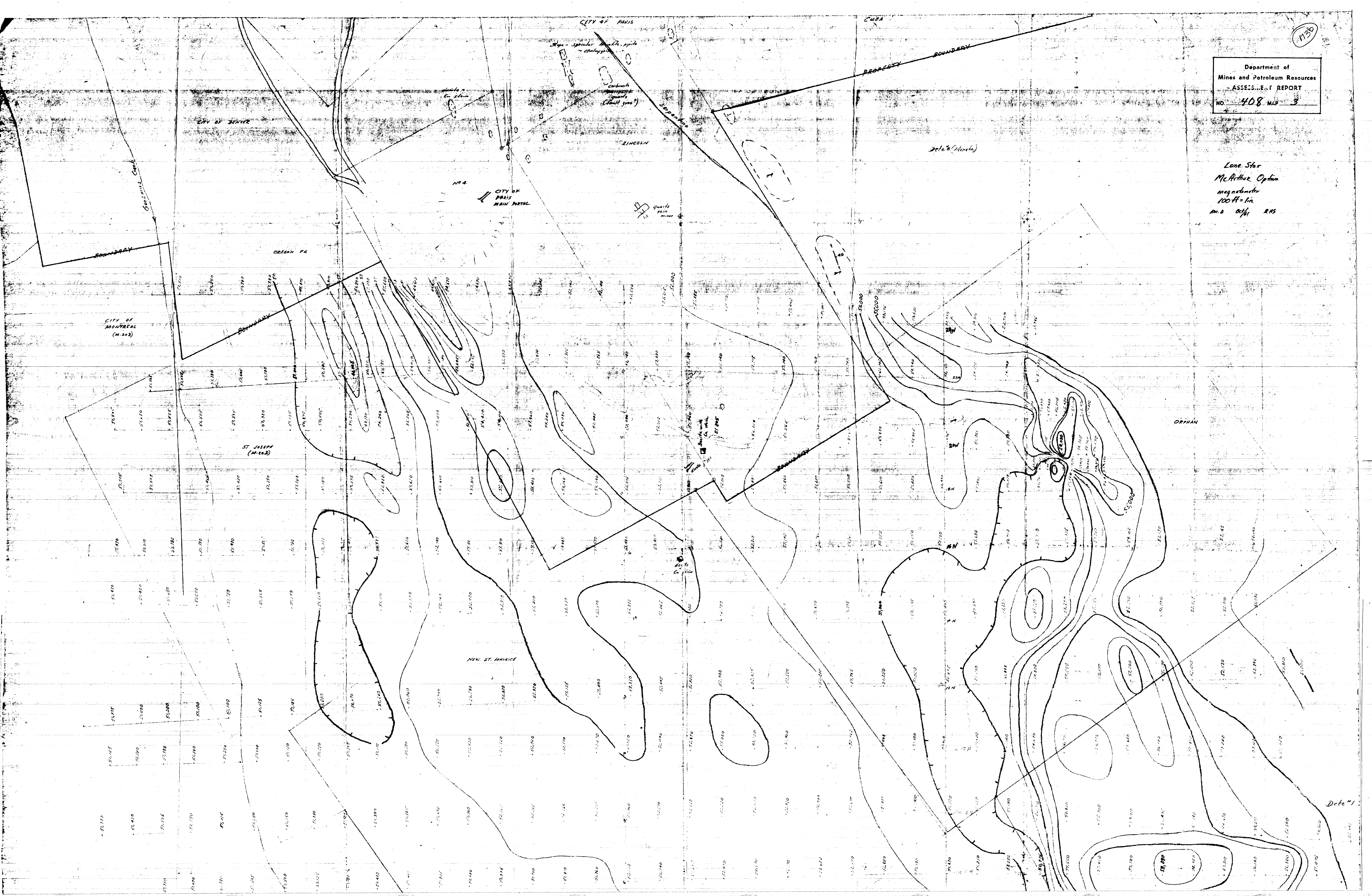
P. J. D'Amboise



1138

Department of
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Lone Star
McArthur Option
magnetics
100 ft = in
M.D. 05/61 RNS



Date 61