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<u>Geophysical Survey on ML 72 to 75 Claims:</u>		<u>Days</u>
Alex Smith	- 1950 - September 10-14 inc.	5
	- 1951 - September 1-5 inc.	<u>5</u>
	Total	<u>10</u> Days
Jas. A. Robertaon - 1950 - September 10-18 inc.		
	Total	<u>8</u> Days

Information taken from letter
from Alex Smith, St. Eugene Mining
Corp. dated November 14/51
(L.I.#14082/51)

901 - 626 WEST FENDER STREET
VANCOUVER, B. C.

September 12th, 1951

The Mining Recorder,
Granbrook, B. C.

Dear Sir:

Re: Filing of Geophysical Survey for Assessment Work, ML 72 Fr. ML 73 Fr. ML 74 and ML 75 Claims:
Statement of Qualifications of Alexander Smith as a Geophysicist, and James A. Robertson as a specially qualified worker:

The following is an outline of qualifications as required by Order-in-Council 1532 -

Alexander Smith: 1 Undergraduate and 4 post graduate courses in Geophysics, California Institute of Technology. Offered Geophysics as one of branches of Geology required for Ph. D. degree. Approximately 1 year field experience electrical and magnetometer surveys.

James A. Robertson: 1930 Compassman timber surveys. 1941-1948 Assistant to Alexander Smith in mining examination and geological surveying. Planetable operator. Transit and Compass surveyor, etc.

Yours very truly,



Alexander Smith, R.P.E.

901 - 626 WEST PENDER STREET
VANCOUVER, B. C.

September 12th, 1951

The Mining Recorder,
Granbrook, B. C.

Dear Sir:

The following is the record of salaries, wages and expenses paid in connection with the Geophysical Survey of the ML 72 Fr. ML 73 Fr. ML 74 and ML 75 Claims:

September 10, 1950 - September 15, 1951:

	<u>Days</u>	<u>Rate</u>	<u>Total</u>
Alexander Smith	10	\$35.00	\$350.00
James A. Robertson	8	15.00	<u>\$120.00</u>
			\$470.00
			<u><u> </u></u>

Yours very truly,

*Alex. B. Smith*AFFIDAVIT:

I declare the above statements to be true and correct.

Alex. B. Smith

REPORT OF MAGNETOMETER SURVEY

ML 72 Fr. ML 73 Fr. ML 74, ML 75 CLAIMS

MOYIE, B. C.

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M A P S

1. Topographic and Claim Map - 1" = 200'
2. Magnetometer Survey Map - 1" = 200'
3. Magnetic Profile Map - 1" = 200'

MAGNETOMETER REPORT

on

ML 72 Fr. ML 73 Fr. ML 74. ML 75 CLAIMS

FORT STEELE MINING DIVISION

BRITISH COLUMBIA

by

ALEXANDER SMITH

MAGNETOMETER REPORT

on

ML 72 Fr. ML 73 Fr. ML 74, ML 75 CLAIMS

FORT STEELE MINING DIVISION

BRITISH COLUMBIA

SUMMARY AND CONCLUSIONS:

A magnetometer survey of the ML 72 - 75 claims has disclosed a magnetic anomaly of up to 200 gammas intensity in an area about 1000 feet by 200 feet, lying to the east of the John Dee workings. This may be related to sulphide mineralization of the St. Eugene type, as good values had been previously obtained in lead pannings concentrates from the area of this anomaly.

INTRODUCTION:

Detailed magnetometer surveys of part of the St. Eugene vein show magnetic anomalies of up to 200 gammas over portions of the vein. These anomalies are sharp and narrow and of the type to be expected over a steeply dipping vein structure. The John Dee workings developed a small lead-silver ore shoot on what may be the eastern extension of the St. Eugene vein fracture system. It was thought that a magnetometer survey of the ML 72 - 75 claims, lying east of the John Dee, might aid in exploring for any continuation eastward. In addition, pannings taken from John Dee Creek east of the junction shown on the topography map yielded values of up to 1% lead in the pannings concentrate.

GEOLOGY:

These claims are underlain by Creston quartzites lying on the east flank of the Moyie anticline. In this area they strike about N50°W and dip about 20° northeast. The John Dee is the only known lead-silver deposit in the area lying in the Creston, and it occurs where a St. Eugene type fracture is intersected by north-south and east-west cross-fractures. The Creston quartzites have the typical greenish colour and wavy structures in the bedding planes. They are mostly thin-bedded banded light and dark varieties with some horizons showing rusty weathering surfaces, similar to the upper part of the Aldridge.

METHOD:

Lines were surveyed and cut out, using Chain & Brunton Compass. Elevations were obtained from an airplane-type Aneroid, which was checked, together with the magnetometer, at key stations. The area has been burnt over and is now covered with windfalls and a dense growth of young jack-pine, and parts are very difficult to traverse.

The magnetometer used was a Sharpe Vertical Component Variometer with one scale division equal to 15 gammas, and with a sensitivity of about 1.5 gammas. Experience has shown that to pick up anomalies of the type shown by the St. Eugene veins, it is necessary to have the station interval of 100 feet or less. When any indication of an anomaly is obtained, it is necessary to check it by intermed-

iate stations at smaller intervals.

Maps accompanying this report are -

1. Topographic, showing the position of the claims, etc.
2. Magnetometer Survey Map, giving the values in terms of scale divisions.
3. Magnetic Profile Map, indicating the position of the anomalies obtained.

The results of the survey are more easily interpreted from profile maps than from magnetic contour maps. It is almost impossible, even by checking hourly at a central station, to eliminate entirely the effect of diurnal variation. This effects a magnetic contour map where one is trying to draw such contours at small intervals. However, on the profile map the changes in magnetic gradient, which are the significant factor, are much more apparent and are not masked by any uncompensated diurnal variation.

ANALYSIS OF RESULTS:

The interpretation of the anomalies is complicated by three factors:

First: - There is a much greater range in magnetic susceptibility in the Creston than in the underlying Aldridge. Some horizons are reported to be quite magnetic, so much so that some investigators working in the area have used a magnetite rich horizon near the base of the Creston as a marker with which to determine the Aldridge-Creston contact.

Second: - With relatively flat-lying beds and steep topography, any magnetic variations in the sediments would yield pronounced anomalies in certain topographic positions. For instance, where magnetic horizons outcrop on steep slopes.

Third: - There is likely to be a concentration in draws or creek valleys of magnetic material derived from the erosion of either rock in place or glacial debris.

Anomalies: The most significant anomaly encountered lies near John Dee Creek, just above the junction of the two forks. Here an area 1000 feet long and up to 200 feet wide shows a magnetic high of up to 200 gammas intensity.

Any of the factors listed above might have had an effect in producing this anomaly, but it does lie on the eastward extension of the east-west fracture encountered in the John Dee works; and, in addition, our pannings concentrates have shown good values for lead in this area. There is then the possibility that this anomaly is caused by mineralization of commercial importance. If so, it may be localized at the junction of a north-south fracture zone, extending down the north branch of John Dee Creek. There is topographical and some geologic evidence for such a fracture. It may extend south into the magnetic high encountered on the ML 74.

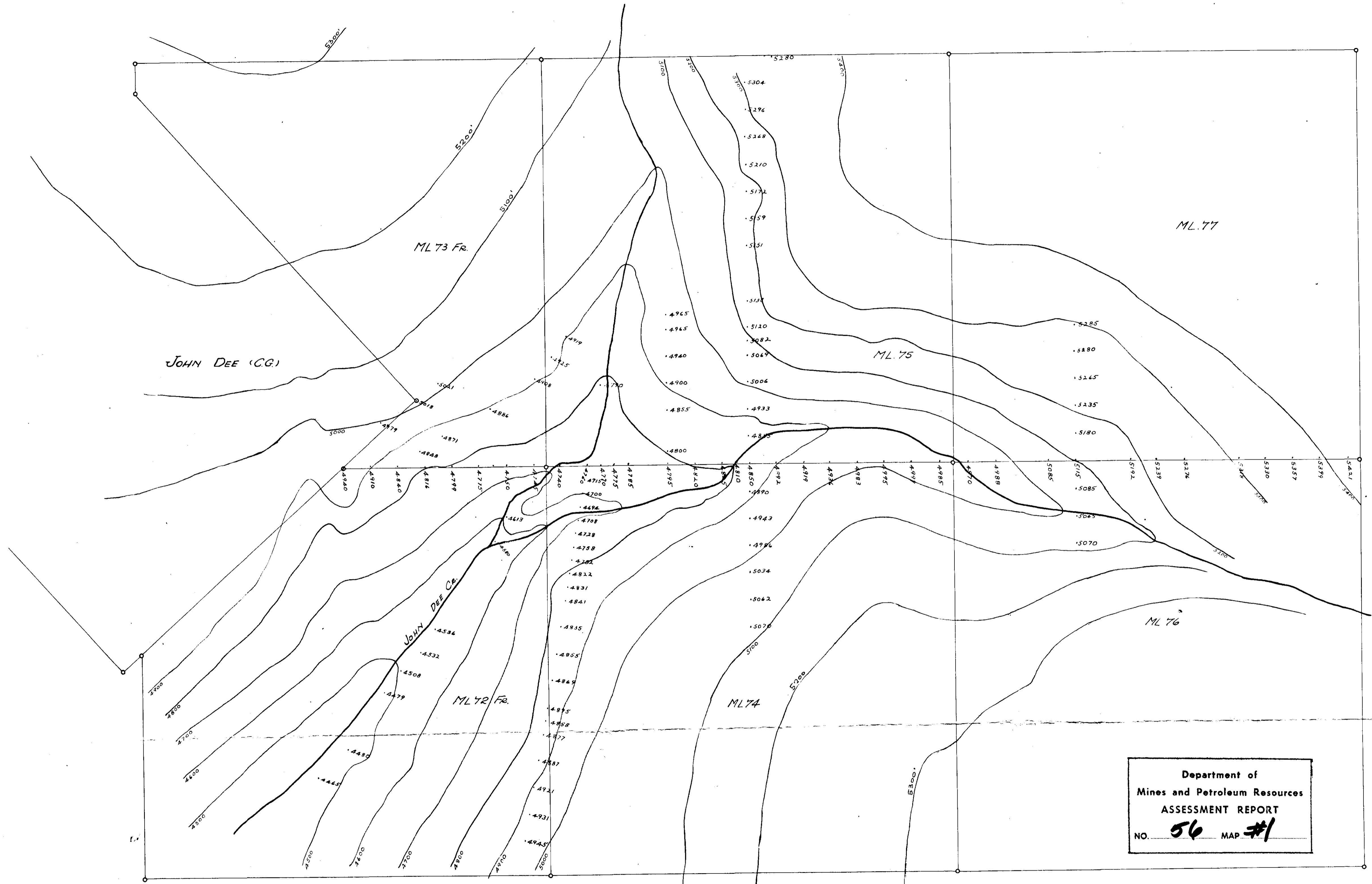
The magnetic lows of 100 gammas intensity

encountered on the ML 75 and 77 are in small north-south draws. They may have some structural significance. In addition, the magnetic high extending down the John Dee Creek, below the junction, may be north-east trending fracture intersecting the main east-west anomaly.

Alex Smith

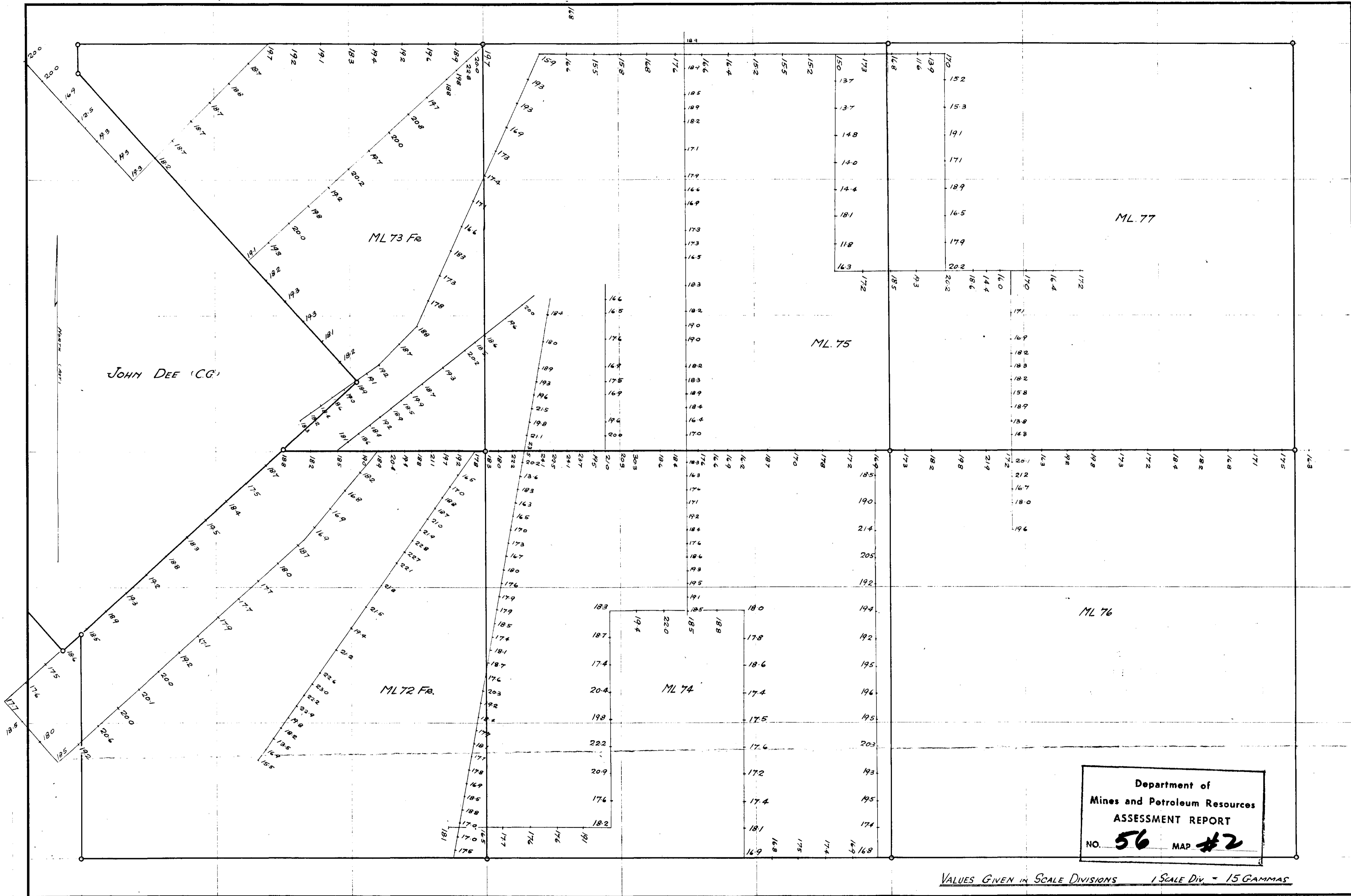
Alex Smith, Geologist

Vancouver, B. C.
September 13th, 1951.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **56** MAP #1

TOPOGRAPHY ML 72-77 CLAIMS
FOR LEGEND SEE MAGNETOMETER M.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **56** MAP # **2**

VALUES GIVEN IN SCALE DIVISIONS 1 SCALE DIV. = 15 GAMMAS

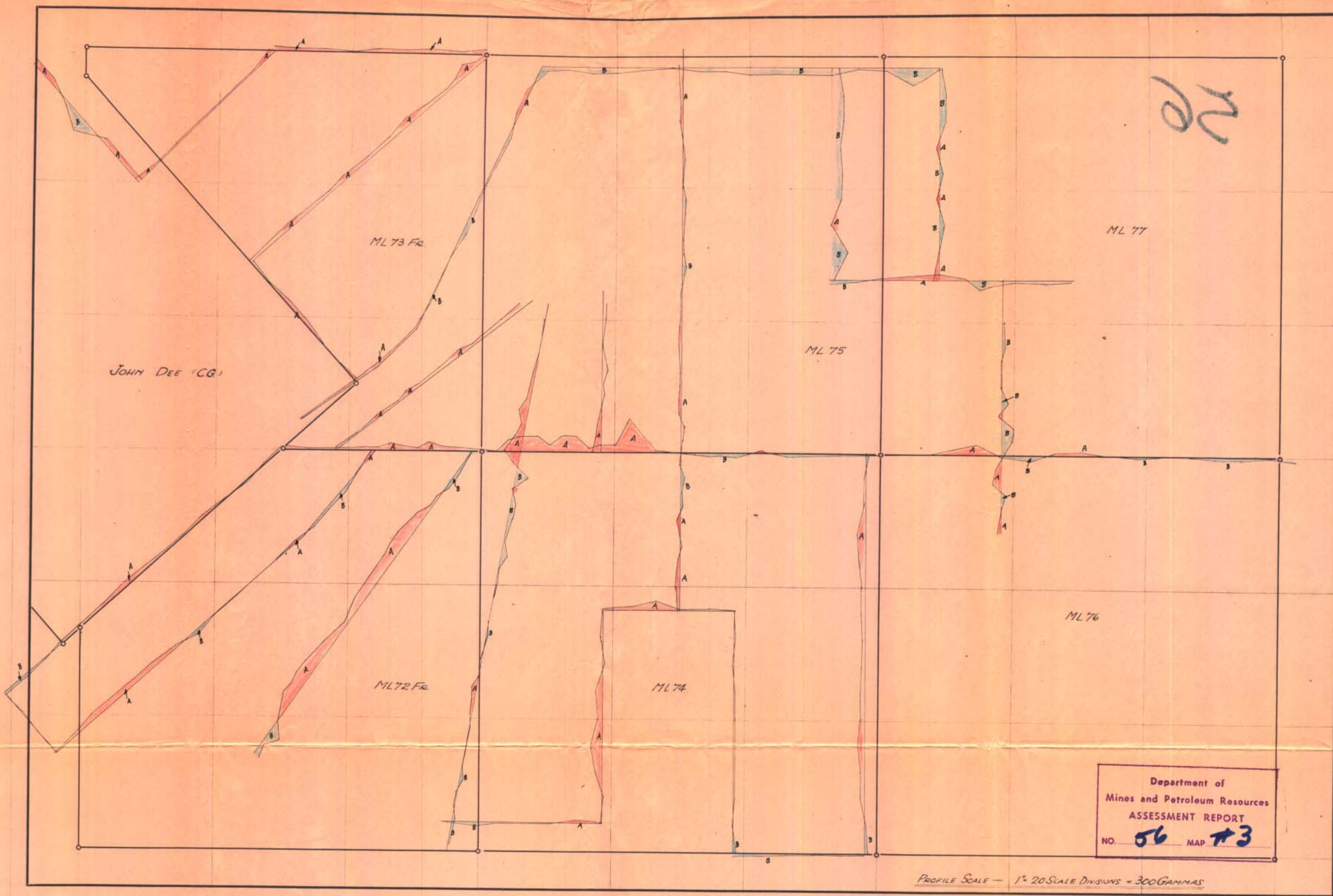


COMPANY **ST. EUGENE**
PROPERTY "
LOCATION **MOYIE, B.C.**

WORKING PLACE **ML 72-77 CLAIMS**
EAST OF JOHN DEE
TYPE OF MAP **MAGNETOMETER SURVEY**

DATE **SEPT. '51**
DRAWN BY **A.S.**
MAP NO.

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Department of
 Mines and Petroleum Resources
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 NO. 56 MAP #3

PROFILE SCALE - 1" = 20 SCALE DIVISIONS = 300 GAMMAS

200 400 600 800 1000 1200 1400
 SCALE 1 INCH TO 200 FT.

COMPANY ST. EUGENE NB: RED • A
 PROPERTY BLUE • B
 LOCATION MOYIE, B.C.

WORKING PLACE ML 72-77 CLAIMS
 EAST OF JOHN DEE
 TYPE OF MAP MAGNETIC PROFILES

DATE SEPT '51
 DRAWN BY A.S.
 MAP NO.