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GRAVITY SURVEY

of the

LEE CLAIMS GROUP
YUKON TERRITORY

for

CANADIAN RESERVE OIL & GAS LTD.

by

OVERLAND EXPLORATION SERVICES (1969) LTD.

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$4153.53

D. E. Craig
Geologist or
Provincial Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

Commissioner of Yukon Territory

060964

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INTRODUCTION

In July and August 1970, Overland Exploration Services (1969) Ltd., conducted a gravity survey on the Lee Claim Group for Canadian Reserve Oil & Gas Ltd. This survey was carried out on grid lines spaced 750 feet apart and the gravity station interval along these grid lines was 200 feet. Overland Exploration carried out the work from base camps set up at strategic positions on the prospect and this camp was moved in and out and supplied by helicopter. Overland stocked food stuffs and gasoline at Faro townsite in order to shorten the helicopter haul to the prospect. The Lee Group of Claims is situated 20 miles northwest of the Anvil townsite, on Map Sheet 105K-5, 133° - 55' west by 62° - 25' north.

DATA

Bouguer Free-Air Correction Factor	-	0.06
Latitude Correction	-	4911.15 feet/milligal
Density	-	2.65
Diurnal Drift	-	Taken from Base Plots
Terrain Corrections	-	Taken where necessary
Meter Numbers	-	Worden No. 806
	-	LaCoste & Romberg No. 181 & No. 225
Meter Constants	-	No. 806 - 0.08351 No. 181 - 1.05556 No. 225 - 1.06040
Base Value	-	Arbritary value of 500 milligals

SURVEY & FIELD PROCEDURE

The Horizontal and Vertical Survey was conducted with a T-I A Theodolite. Stations were located and elevated along each of the grid lines. The elevation was then closed across the extremities of the grid lines, all of the closures thus formed were under 2.5 feet. A field plot of the actual elevation closures has been included with this report. The gravity readings were taken with a Worden Master and LaCoste & Romberg meter and stations were metered on a two and one-half hour run from base to base interval. The base station plots were used for graphing the diurnal gravity drift which in turn was applied to all station readings. Each gravity station run had several repeat stations from preceding runs in order to prove the repeatability of the gravity meter. The repeats were all within a 0.00 to 0.08 milligal range. All gravity readings were corrected for diurnal tidal drift, Bouguer Free-Air-Correction, latitude correction, and terrain correction. A density factor of 0.060 for a surface density of 2.65 has been used in this interpretation.

INTERPRETATION

Included with the interpretation of the Lee Claim Block is:

(1) Elevation Map

(2) Bouguer Gravity Map

(3) Residual Gravity Map

(4) Bouguer Profiles showing regional gradient and residual features.

The basis of this gravity interpretation is the examination of residual gravity highs and lows from a regional gravity gradient. We have attempted to construct a regional gravity gradient over the Lee Claim Block area which filters out deep-seated gravitational effects. Apparent positive and negative deviations from this gradient are considered as being "residual" and to probably emanate from within the top 1,000 feet of the geological section. The interpretation of this report is an investigation of these residual anomalies. Overland has tested rocks from within the Anvil area and have assembled density data to the degree

that average densities for known rock types are now available. Using these average densities, along with the known densities of massive sulphides in the Anvil area, we have been able to establish the perameters whereby anomalies can be investigated for the necessary contrast which would equate them to possible sulphide deposits. The following is a discussion of the various maps presented.

BOUGUER GRAVITY MAP

The Bouguer Gravity Map is a total intensity map which displays the entire gravitational field. Quite often is of little value, as the main gravitational features appearing on the map are sourced from major density changes deep within the earth's crust. Occasionally shallow features and trends can display enough relief to have visual significance, and be discernible against the deeper and broader background. The Bouguer Map of the Lee Claims shows a broad gravity high nose extending from the east along the base line. This nose is a feature related to rock type distribution underlying the area. However, there are interesting areas showing local gravity highs along the broad positive nose. These local highs are quite shallow and receive a close examination in the residual gravity portion of this map.

RESIDUAL GRAVITY MAP

The Residual Gravity Map of the Lee Claims shows two anomalous areas. The first of these is a low magnitude anomaly situated on Claim No. 6. This anomaly is crossed by only one grid line and we feel at this time that further work should be done in the immediate area of this gravity positive feature. The additional work would show whether or not the anomaly attained a greater magnitude either to the east or west of the single line which crosses the feature.

The second feature is at the north end of the Lee Group where there is a gravity positive made up of several dense features which meld together into one positive gravity high. These features belong to a trend which extends northwards off of the Lee Group. The source of the gravity positive as it appears within the Lee Group is a dense body situated 400 feet below surface. This dense body is probably

formed by three pod-shaped masses centered on Line 23, Station 1 North, Line 24, Station 5 North and Line 24, Station 9 North. The excess tonnage involved with these three masses is approximately 10 million tons of material. We feel that this area is worthy of a test hole, preferably at Station 5 North on Line 24. A 500-foot vertical hole drilled at this location should intercept, at least, a portion of the causative mass forming this gravity positive.

CONCLUSIONS

We feel that the anomaly at the north end of the Lee Group of Claims warrants the drilling of at least one test hole to determine the origin of the 0.77 gravity anomaly situated in this location. There is an excellent chance that the source of this anomaly may be a massive sulphide body as we determine the probable contrast between the causative mass and the surrounding native rock to be 0.83. This contrast is very close to the suspected sulphide to native rock contrast found in this immediate area. To the south on Claim No. 6 we feel that further work should be done before drilling is contemplated in this area. The anomaly which we have found there is not as well defined as the northern anomaly. There is however, a possibility that the magnitude may be greater just west of Line No. 25.

Respectfully submitted by:

OVERLAND EXPLORATION
SERVICES (1969) LTD.

WTS/jp

W. T. Dart.

CERTIFICATE OF QUALIFICATIONS

I, David K.Y. Chen, Geophysicist, of 6405 Center Street North, Calgary 47, Alberta, Canada, hereby certify that:

1. I am a professional geophysicist associated with Overland Exploration Services (1969) Ltd., 1347 - 12th Avenue S.W., Calgary 3, Alberta Canada.

2. I have no direct or indirect interest in, nor do I have or expect to receive any direct or indirect interest in any properties or securities of Canadian Reserve Oil & Gas Ltd.

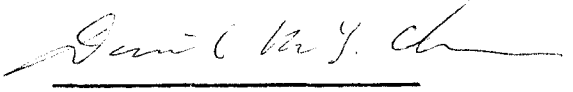
3. I have attended the National Hunan University of Changsha, Hunan, China, 1947, receiving a Bachelor of Science Degree in Mining Engineering; that I hold a Master's Degree in Earth Sciences (geophysics major) from New Mexico institute of Mining Technology at Socorro, New Mexico, U.S.A. During the period of 1964-67 I undertook part-time graduate studies in geophysics at Washington University, St. Louis, Missouri, U.S.A. I have completed all requirements of the graduate courses for my Ph. Degree work in geophysics except the thesis.

4. Since 1957, I have been intensively engaged in seismic, gravity and magnetic surveys and interpretations for oil/ore exploration in the U.S.A and Far East with several Chinese, U.S. and Canadian oil and geophysical companies. In 1947, I was engaged as a Petroleum Engineer supervising oil well drilling and production. In 1957, I became involved in the geophysical oil/ore exploration field. I have held the following positions.

- Geophysicist
- Research Geophysicist
- Assistant Professor in Geophysics.

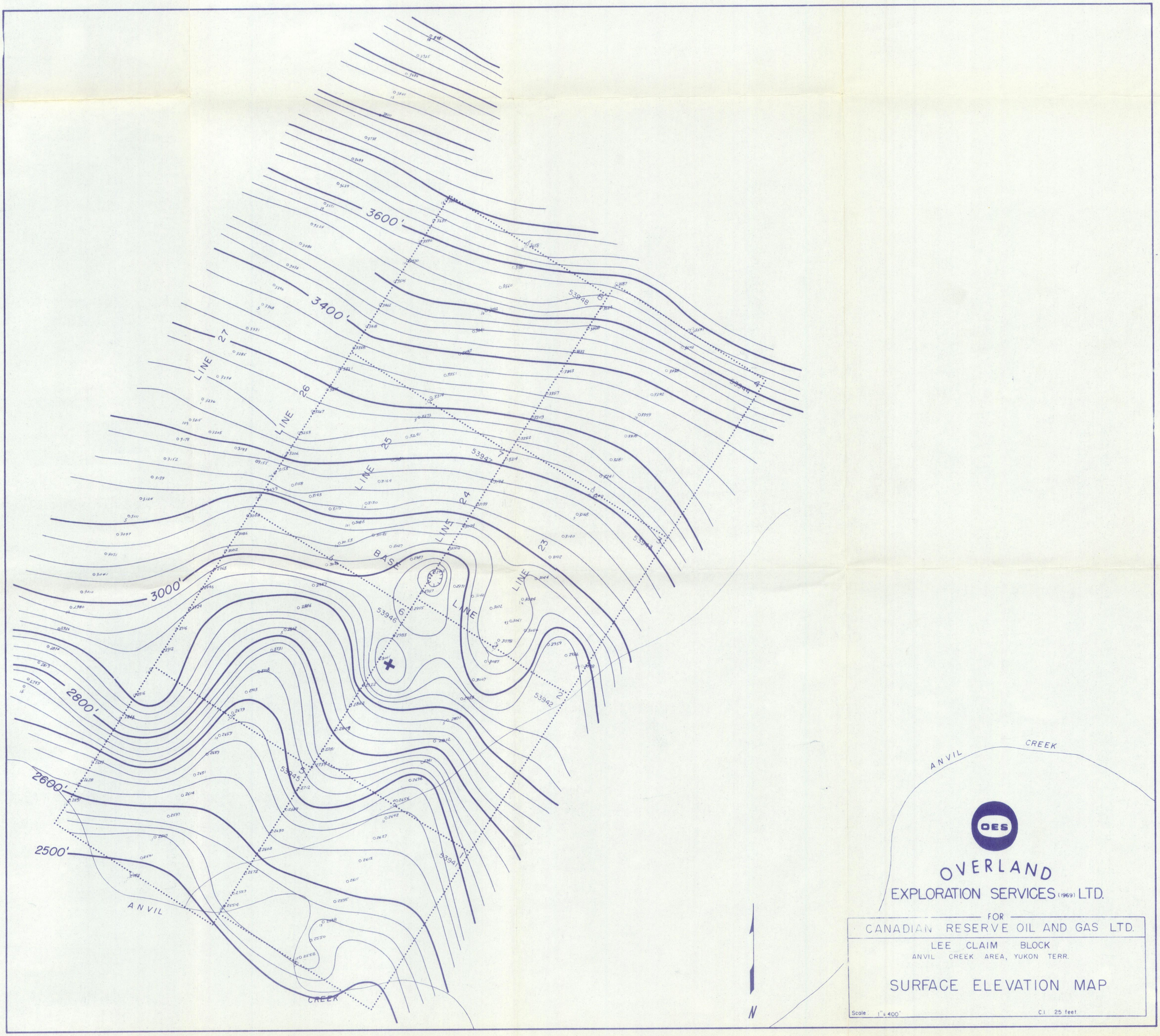
5. I am a member of the following academic and professional societies:

- Society of Exploration Geophysicists
- American Geophysical Union
- European Association of Exploration Geophysicists
- Association of Professional Engineers of Alberta
- Geological Society of Republic of China
- Chinese Petroleum Institute
- Chinese Institution of Mining and Metallurgical Engineers.



DAVID K.Y. CHEN
Professional Geophysicist

DKYC/jp



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LEE CLAIM BLOCK

ANVIL CREEK AREA, YUKON TERR.

SURFACE ELEVATION MAP

Scale: 1" = 400' C.I. 25 feet

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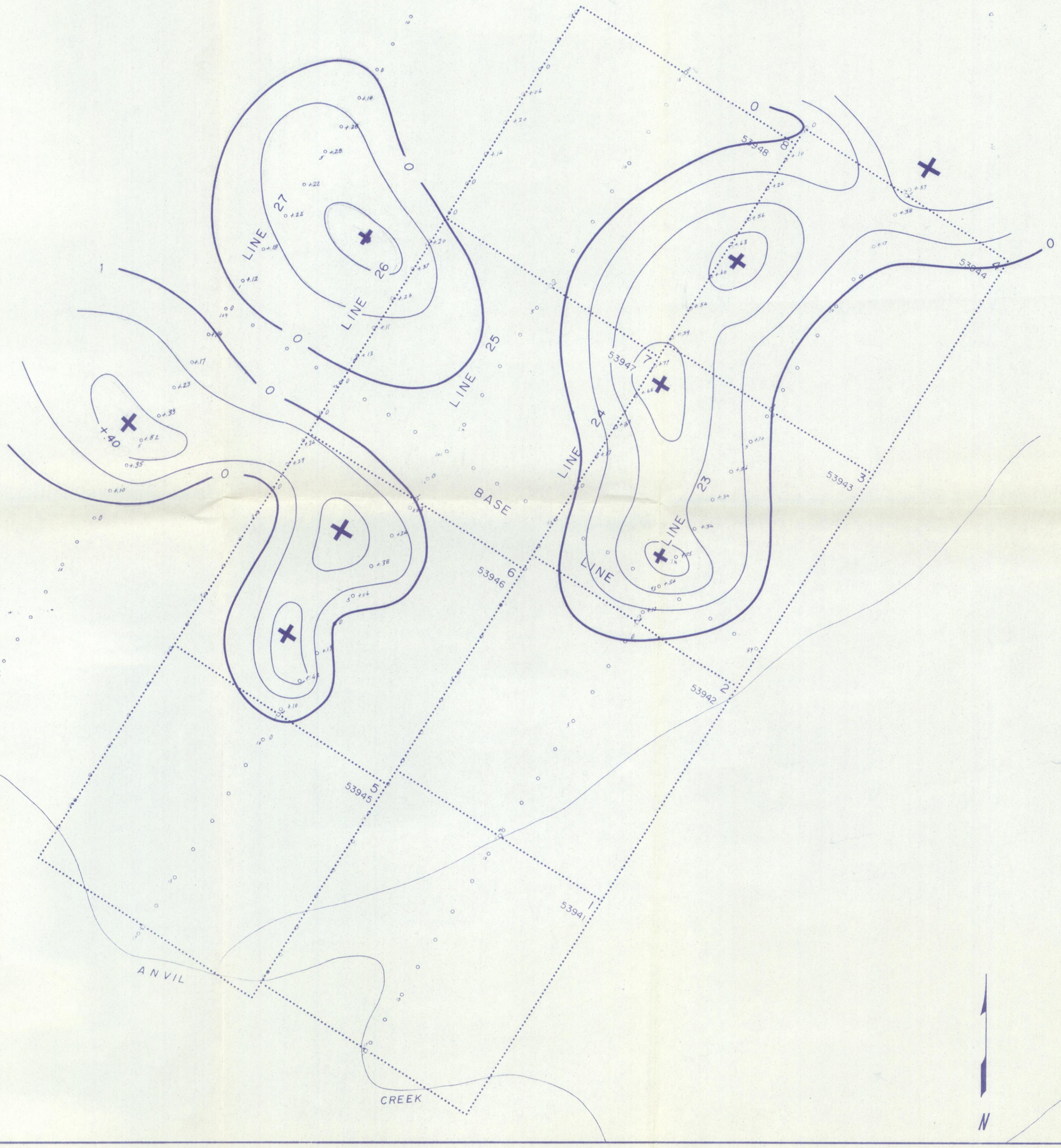
LEE CLAIM BLOCK

ANVIL CREEK AREA, YUKON TERR.

BOUGUER GRAVITY MAP

Scale 1"= 400'

0.20 mgl.



ANVIL CREEK

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LEE CLAIM BLOCK

ANVIL CREEK AREA, YUKON TERR.

RESIDUAL GRAVITY MAP

Scale: 1"=400'

C.I. 0.20 mgl.

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