WHSE. 105L

GRAVITY SURVEY

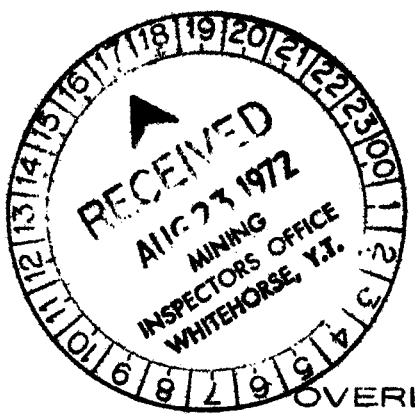
of the

ARROW CLAIMS (41 to 50) GROUP, YUKON TERRITORY

Map Sheet 105L-9
Latitude 62° 35' and Longitude 134° 15'

for

CANADIAN RESERVE OIL and GAS LTD.



by

OVERLAND EXPLORATION SERVICES (1969)

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

$ 4840

D. B. Craig
Resident Geologist or
~~Resident Mining Engineer~~

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

Commissioner of Yukon Territory

Job No. 71-182
July 21st to August 8th, 1971

David K.Y. Chen

INTRODUCTION

In July and August 1971, Overland Exploration Services (1969) Ltd. conducted a gravity survey on the Arrow Claim Group, Claims No.'s 41 to 50 inclusive. This is a ten claim extension to the original Arrow Group staked in 1970. In the 1971 season the base line was extended to the east and grid lines cut over the new claims. Overland located its crew in a tent camp on the Tay River. Food and supplies were helicoptered into the camp from Overlands stock at Faro. The claims are located 35 miles north of Faro on the Tay River at Latitude 62° 35' and Longitude 134° 15' (Map Sheet 105L-9).

Claim Grant Numbers are:

ARROW	41 - Y 61610	46 - Y 61615
	42 - Y 61611	47 - Y 61616
	43 - Y 61612	48 - Y 61617
	44 - Y 61613	49 - Y 61618
	45 - Y 61614	50 - Y 61619

In all, 7.4 miles were run in the 1971 survey.

PERSONNEL on the 1971 ANVIL PROJECT

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Mike Dettling	-	Box 355 Fairview, Alberta
Terry Dublonko	-	10610 - 87th Street Edmonton, Alberta
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Gordon Haire	-	733 - 12th Avenue S.W. Calgary 3, Alberta
John Krohn	-	General Delivery Bowden, Alberta
Achille Mallet	-	General Delivery St. Raphiels Sur Mur, New Brunswick
Murdock MacLellan	-	R R # 1 Port Hastings, N.S.
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OFFICE SUPERVISOR

W.T. Salt	-	1347 - 12th Avenue S.W. Calgary 3, Alberta

INTERPRETATION

David K.Y. Chen W.G. Crook		1347 - 12th Avenue S.W. Calgary 3, Alberta

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 Nos 181 & 225
Meter Constants	-	No. 806 0.20961 No. 181 1.05556 No. 225 1.06040
Base Value	-	Arbitrary value of 500 milligals

SURVEY & FIELD PROCEDURE

The horizontal and vertical survey was conducted with a T-1A 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 and 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 0.06 for a surface density of 2.65 has been used in this interpretation.

INTERPRETATION

Included with this report are the following maps

- Elevation Map
- Bouguer Gravity Map
- Residual Gravity Map
- Bouguer Profiles showing regional gradient and residual features.

The interpretation of this report is mainly based on the Bouguer Profiles of the surveyed area. It is the profiles which have been examined for anomalous trends and it is from the profile gradient that model studies have been conducted to significant gradient changes. Any gradient changes emanating from within the upper 1,500 feet of the geological section are deemed to be "residual" and are shown as being positive or negative on the Residual Map.

The features which are being sought are gravity positives which can be identified with a source contrast of 1.00 specific gravity. This is the average minimum

contrast that we can expect to find between the altered sedimentary host rock and the massive sulphide bodies.

Complicating the search are two events that will nearly satisfy the above parameters for density contrast. One is a cone or ridge of dense native rock surrounded by several hundred feet of surface till. The second is a mass of altered quartzite or skarn that can be very dense (up to 3.5) and if adjacent to a phyllite with a density of 2.65 will appear as a positive gravity anomaly which is similar to the anomaly produced by massive sulphide bodies.

In most instances only drilling will verify the cause of the anomaly.

The following is a discussion of the maps presented.

BOUGUER GRAVITY MAP

The Tay River Bouguer Gravity Map has a prominent gravity low approximately coincident with the Tay River itself. This mass deficient area is probably a reflection of the gravel filled river channel. From this central low we find the gravity rising to the south and southwest. There is a total rise of 13 milligals in this direction. Where the survey terminates there is an increase in gradient and to extrapolate the Bouguer gravity it would appear that it may gain considerable strength immediately southwest of the survey. This increase in gradient is a reversal to the surface elevation trend. If it had not diverged from the elevation, we would be concerned that the Bouguer free air correction is over corrected for this survey. In fact it is this very deviation in Bouguer and elevation gradients which leads us to believe the coincident elevation low and gravity low at the river is a chance happening due to the increase in gravel thickness.

RESIDUAL GRAVITY MAP

The Residual Gravity Map shows the difference (in gravity) between the observed gravity and the regional gravity gradient. The regional gravity gradient on the Arrow Claims Group has been constructed from a profile analysis of the surveyed gravity lines and is designed to attempt to eliminate deep-seated gravity features which complicate the identification of the shallow-sourced gravity features. These shallow features may indicate mineralized areas. By using this method, the deep seated gravity events are filtered out or suppressed to a point where the remaining or residual gravity is (mostly) emanating from above a predetermined maximum depth. In the case of the Arrow Claims Group area this investigation depth is 1,500 feet or less below surface.

The Residual Map over the Arrow Claims No.s 41 to 50 inclusive does not show the expected extension of the gravity high as exhibited in 1970's work. This

gravity feature called Anomaly "A" terminates at the edge of the old work and in the 1971 Program we only see the southeast flank. Further east there is an indication of another positive area marked "AA", however, this anomaly does not have a residual value of 1.00 milligal and may not be of much interest in the search for massive sulphides.

To the southwest there are several interesting highs, each having a magnitude of 1.00 milligal. These highs are a continuation of a trend of highs extending south from the 1970 Program. This series of about six gravity positives form a linear feature which should be worked by I.P. If there should be coincident I.P. anomalies on the gravity highs, follow up drilling should be considered. Modeling these 1.00 milligal features show them all to be within 500 feet of the surface and probably having identical sources.

CONCLUSIONS

The 1971 work has been dissappointing insofar as finding a south extension to the "A" anomaly goes. Most of the feature was defined in 1970 and this years work has only enhanced its anomalous circumstance by defining the southeast flank.

Respectfully submitted by:

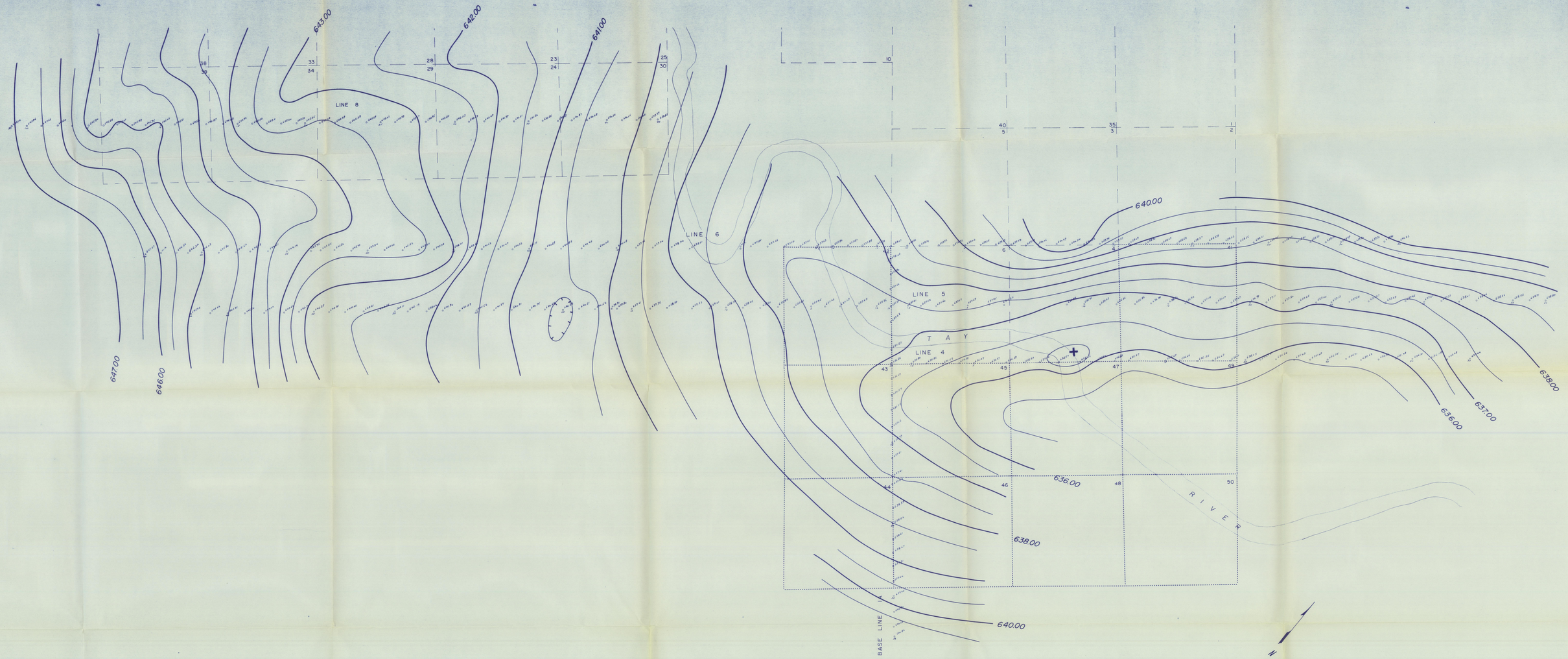
OVERLAND EXPLORATION
SERVICES (1969) LTD.

W.T. Salt

W.G. Crook

David K. Y. Chen

/lp



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FOR

CANADIAN RESERVE OIL AND GAS LTD.

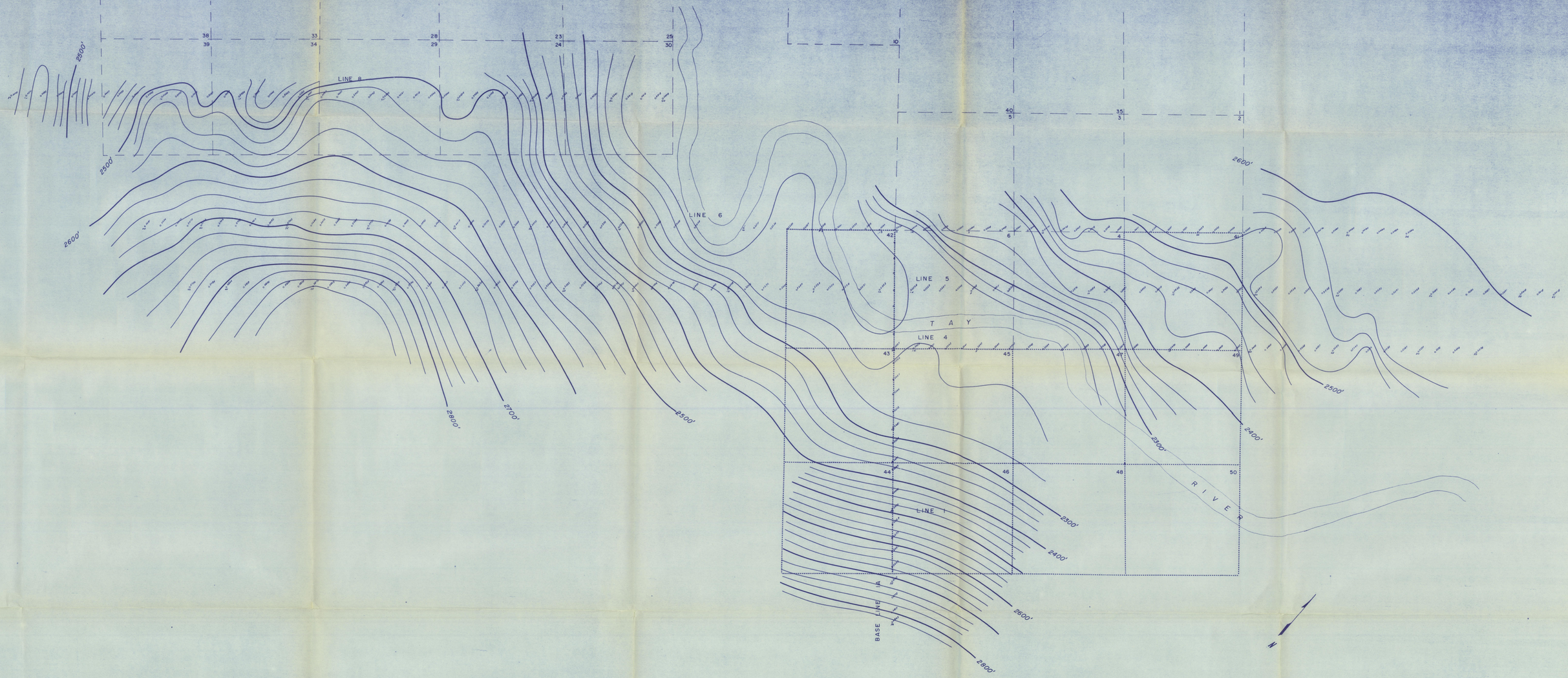
ARROW CLAIM GROUP Extention No's 41-50

TAY RIVER AREA YUKON TERR.

BOUGUER GRAVITY MAP

Scale 1" = 400'

C.I. 0.50 mgl.



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ARROW CLAIM GROUP Extention Nos 41-50
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SURFACE ELEVATION MAP

Scale 1"=400'

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RESIDUAL GRAVITY MAP

Scale 1"=400'

CI. 0.20 mgl.