

1133

KENNCO EXPLORATIONS, (WESTERN) LIMITED

REPORT

ON

GEOCHEMICAL SOIL SURVEY

AT

NADINA NINES CLAIMS,

AND

KENNCO NAD GROUP

Owen Lake Area
Omineca Mining Division
British Columbia

54° 05' N

126° 42' W

By

George O. M. Stewart
P. T. Black, P. Eng.
(Supervisor)

December 5, 1967

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REPORT ON GEOCHEMICAL SOIL SURVEY

AT

NADINA MINES CLAIMS AND KENNCO NAD GROUP

INTRODUCTION

A soil geochemical survey was done during the months of June, July and August in 1967 in order to determine areas of base metal mineralization. The survey covered approximately four (4) square miles to include fifty (50) mineral claims, some of which are Crown Grants. The claims are owned by Nadina Exploration Limited, Frontier Explorations Ltd., and Kennco Explorations, (Western) Limited.

The claims owned by Nadina were under option to Kennco Explorations, (Western) Limited during this period.

LOCATION AND ACCESS

The claim groups are located on the south end of Owen Lake and extend from the eastern shore of Owen Lake for an average of seven (7) claim lengths to the east.

The area is 28 road miles south of Houston, British Columbia. Highway 16 from Prince George to Prince Rupert and the Canadian National Railway pass through the town of Houston. The road from Houston to the property is an all-weather gravel road which is cleared of snow during the winter.

GEOLOGY

The area covered by the soil survey is underlain by pyritized, argillic altered, diorite intrusive and associated breccia. The diorite intrudes Hazelton Group pyroclastic rocks where observed, in the south central part of the sampled area.

The rocks have been sheared and faulted in a north and east direction. The shears and faults appear to be complimentary resulting from a period of stress. Some of the north striking shear zones have been partially filled with dykes of varying size and composition.

The larger dykes, several feet to 1500 feet wide, are diabase. Trachyte dykes are generally smaller than the diabase, seldom thicker than 30 feet.

North trending shears, faults, and associated dykes dip steeply, either east or west. Subsequent to dyke emplacement some shear zones have been filled or replaced with quartz, carbonates, and sulphides, to form vein structures. Vein minerals are pyrite, sphalerite, galena, chalcopyrite, tetrahedrite in a gangue of rhodocrosite, micro-crystalline quartz, calcite and ankeritic carbonate.

The west striking ruptures appear to be mainly faults with few associated dykes or significant shear replacements. The mineralization in west striking structures is not as abundant as in the northerly trending structure. Veins usually consist of quartz with pyrite and minor galena and sphalerite.

TOPOGRAPHY AND VEGETATION

The topography of the area appears to reflect the geology. The rounded hills are underlain by dykes and the east-west striking gullies are fault-controlled.

The vegetation consists of scattered deciduous trees in a thick undergrowth of weeds and grasses. The swampy areas and most gullies are generally covered with coniferous trees.

GLACIATION AND OVERBURDEN

Glacial striae in the area indicate that the last ice movement was in a southeasterly direction. Striations are observed to change direction over a short distance on the ridges, suggesting that locally deep scouring has taken place. Later deposition of till has filled up valley to depths of 150 feet and mantled ridge with a thin layer of overburden.

SAMPLING METHODS

Survey Grid

In preparation for the sampling, two tie lines were cut 7000 feet apart. The tie lines were run with a transit and picketed every 200 feet. The base lines are 7600 feet long to the west and 1100 feet long to the east. From this control, 27 sample lines were run by compass and chain, and picketed every 200 feet.

An 8400-foot prospect line was run by compass and chain on the eastern border of Owen Lake. This prospect line was also picketed every 200 feet. This gives a sample line distance of 50.2 miles. Fifteen of these lines were spaced 600 feet apart, while 12 lines run on the claims owned by Frontier Explorations Ltd. were run 200 feet apart.

A total of 824 samples was obtained from this survey.

Field Analyses

Samples were collected from the A zone section of the soil profile, directly below the grass roots. The samples were dried and screened using facilities on the property. The prepared samples were then tested for copper and molybdenum in a field lab established at the camp site of Nadina Mines.

The methods used for the field analysis for copper was a fusion biquinoline method with a colorimetric standard. For molybdenum, the fusion thiocyanate stannous chloride method was used, with a colorimetric standard specific for molybdenum.

Laboratory Analyses

Dried screened sample rejects were then forwarded to the Kennco laboratory in North Vancouver and analyzed for Pb, Zn, Au, Ag, Mn, and again re-tested for Cu and Mo. The method used was a perchloric digestion with atomic absorption determinations reported in parts per million.

The gold was digested in Aqua regia and the silver in methyl-isobutyle ketone. Gold contents, reported as parts per million, were determined by atomic absorption. All samples are now stored in the Kennco laboratory at North Vancouver.

DISCUSSION OF RESULTS

Results are shown on four (4) plans - Plates 2, 3, 4 and 5. Locations can be directly compared with Plate 1 showing grid coordinates in relation to claim locations.

In areas where overburden was less than 20 feet, mineralized veins were detectable by the copper content in soil samples. The obvious copper anomalous areas are shown on Plate 2. As shown on Plate 4, molybdenum in soils showed no obvious anomalous area. On the same plate, lead appears to be anomalous at one place.

Silver and gold, as shown on Plate 5, are slightly anomalous in the vicinity of the west end of the main baseline. Manganese and zinc, as shown on Plate 3, appear to be widely dispersed.

CONCLUSIONS

In general, the various metals tested for the survey indicated no widespread mineralization. Anomalous copper areas could be correlated with known positions of vein mineralization. Other elements (Ag, Au, Mn, Zn, Pb) did not readily show vein locations. Dispersions in the latter elements within widespread sulphide mineralization may be due in part to mineralized erratics and surface oxidation of sulphides. Overburden depths in excess of 20 feet apparently are effective in masking geochemical reflections from veins.

Vancouver, B. C.

December 5, 1967

P. T. Black

P. T. Black, P.Eng.

STATEMENT OF COSTS

Transit Surveying, Line-Cutting, Chaining and Picketing

<u>Personnel</u>	<u>From</u>	<u>To</u>	<u>Days</u>	<u>Rate</u>	<u>Total</u>
R. McLeod	June 15	July 31	47	\$14.80	\$ 695.60
F. Lubbers	" "	June 30	16	15.62	249.92
D. McKinnon	" "	" "	16	12.33	197.28
	July 6	July 10	5	12.33	61.65
E. Berrington	June 15	June 30	16	19.73	315.68
A. Vanderhorst	July 1	July 12	12	12.33	147.96
P. Thompson	" "	July 20	20	16.44	328.80
W. Pearson	July 11	July 17	7	14.80	103.60
S. Brooks	July 12	July 19	8	12.33	98.64
Direct costs applicable to line-cutting					250.00
Sample Collection:					
P. Thompson	July 20	July 26	7	16.44	115.08
R. McLeod	Aug 1	Aug 5	5	14.80	74.00
W. Pearson	Aug 5	Aug 9	5	14.80	74.00
Sample analyses: 824 samples @ \$4/sample					<u>3,296.00</u>
TOTAL					\$6,003.21



To accompany geophysical report submitted by McPhar Geophysics by R.A. Bell & D.B. Sutherland, dated September 26, 1967.

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KENNCO EXPLORATIONS (WESTERN) LIMITED

NADINA PROJECT
SOIL & MAGNETIC GRIDS

DATE: SEPT. 3, 1967	DRAWN BY: R. M.	PLATE NO.: 1
REVISED BY:	DATE:	SCALE:
G. O. S. M.	SEPT. 5, 1967	1" = 1,000'

To accompany Report on Soil Geochemical Survey at Nadina Mines by: P. T. Black, P. Eng. (Supervisor) Owen Lake Area, Omineca Mining Division, British Columbia, December 5, 1967



LEGEND

- SOIL LINE
- - - MAGNETIC CONTOUR
- - - CLAIM LINE

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KENCO EXPLORATIONS (WESTERN) LIMITED

**NADINA PROJECT
SOIL & MAGNETIC GRIDS**

To accompany Report on Soil Geochemical Survey at Nadina Mines
By: P. T. Black, P.Eng. (Supervisor)
Owen Lake Area, Omineca Mining Division,
British Columbia, December 5, 1967

DATE: SEPT. 3, 1967	DRAWN BY: R. M.	PLATE NO.: 1
REVISED BY:	DATE:	SCALE:
G. O. S. M.	SEPT. 5, 1967	1" to 1,000'

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1133 MAP 1



OWEN LAKE



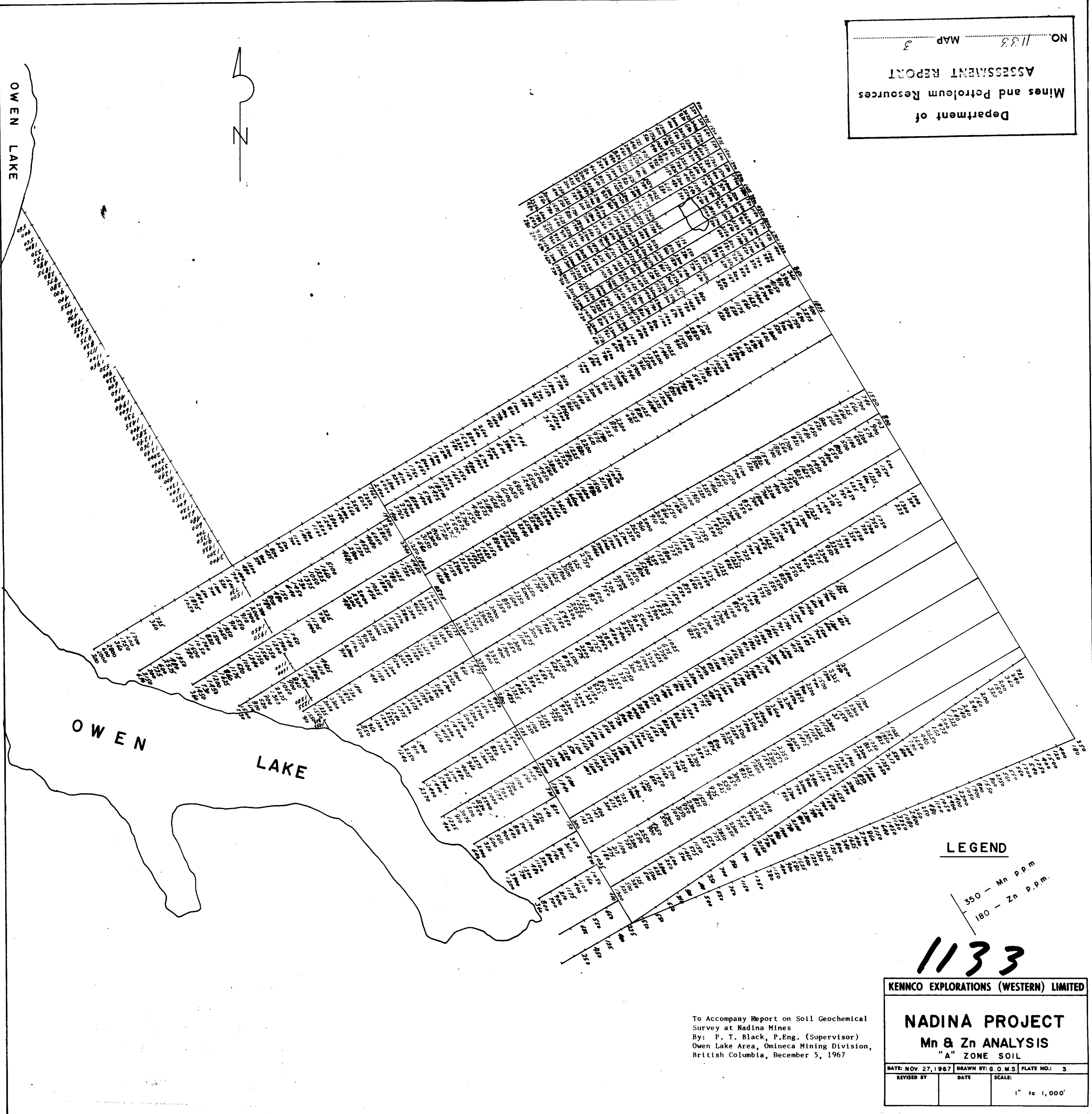
LEGEND

— 28 — Cu p.p.m.

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KENNCO EXPLORATIONS (WESTERN) LIMITED		
NADINA PROJECT		
Cu ANALYSIS		
"A" ZONE SOIL		
DATE: NOV. 27, 1967	DRAWN BY: G. O. M. S.	PLATE NO.: 2
REVISED BY:	DATE:	SCALE:
		1" to 1,000'

To Accompany Report on Soil Geochemical Survey at Nadina Mines
By: P. T. Black, P.Eng. (Supervisor)
Owen Lake Area, Omineca Mining Division,
British Columbia, December 5, 1967



LEGEND

350 - Mn p.p.m.
180 - Zn p.p.m.

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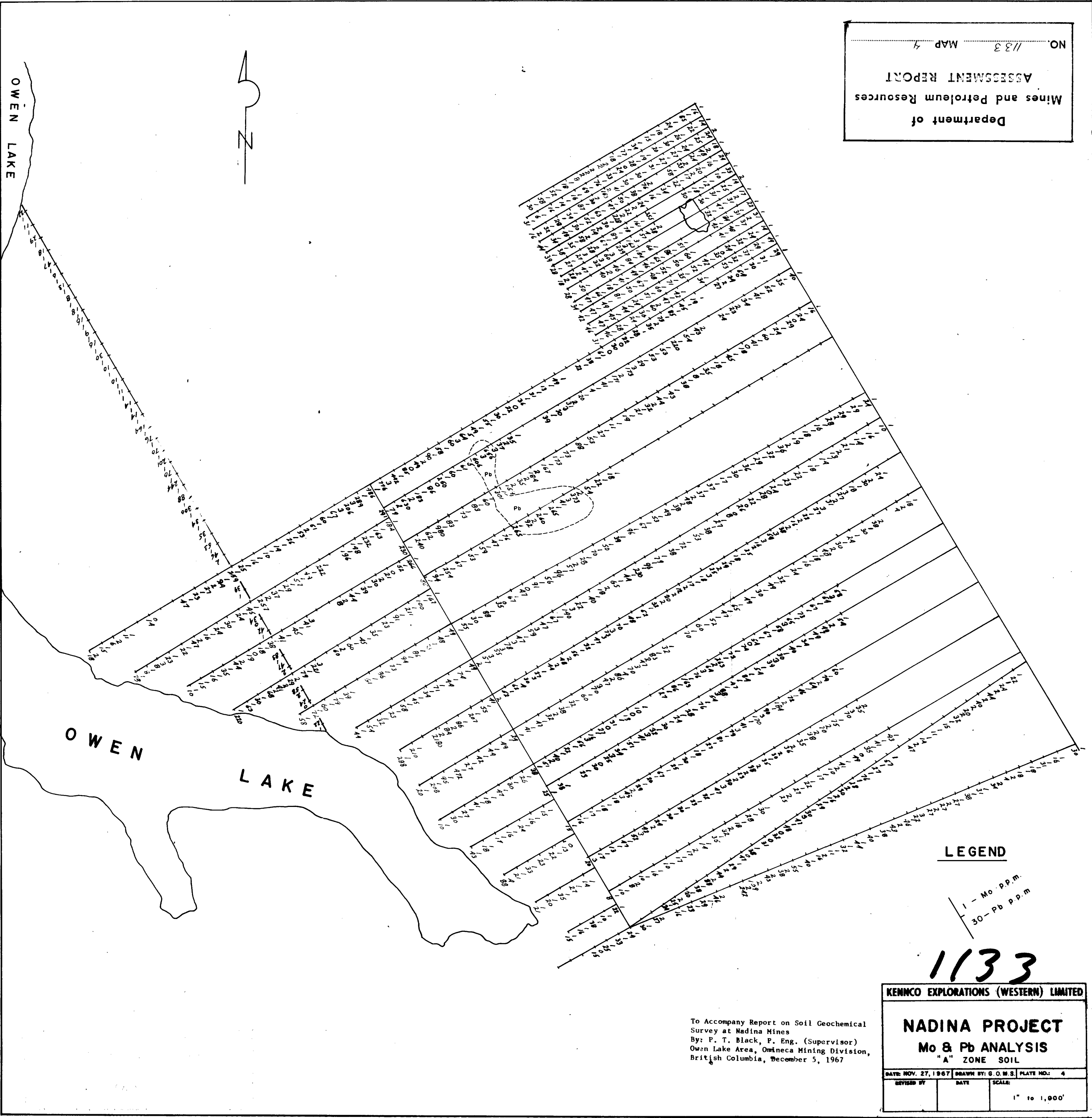
KENNCO EXPLORATIONS (WESTERN) LIMITED

**NADINA PROJECT
Mn & Zn ANALYSIS
"A" ZONE SOIL**

To Accompany Report on Soil Geochemical
Survey at Nadina Mines
By: P. T. Black, P.Eng. (Supervisor)
Owen Lake Area, Omineca Mining Division,
British Columbia, December 5, 1967

DATE: NOV. 27, 1967	DRAWN BY: G. O. M.S.	PLATE NO.: 3
REVISED BY:	DATE:	SCALE:
		1" to 1,000'

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1133 MAP 4



LEGEND

1 - Mo p.p.m.
30 - Pb p.p.m.

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KENNCO EXPLORATIONS (WESTERN) LIMITED

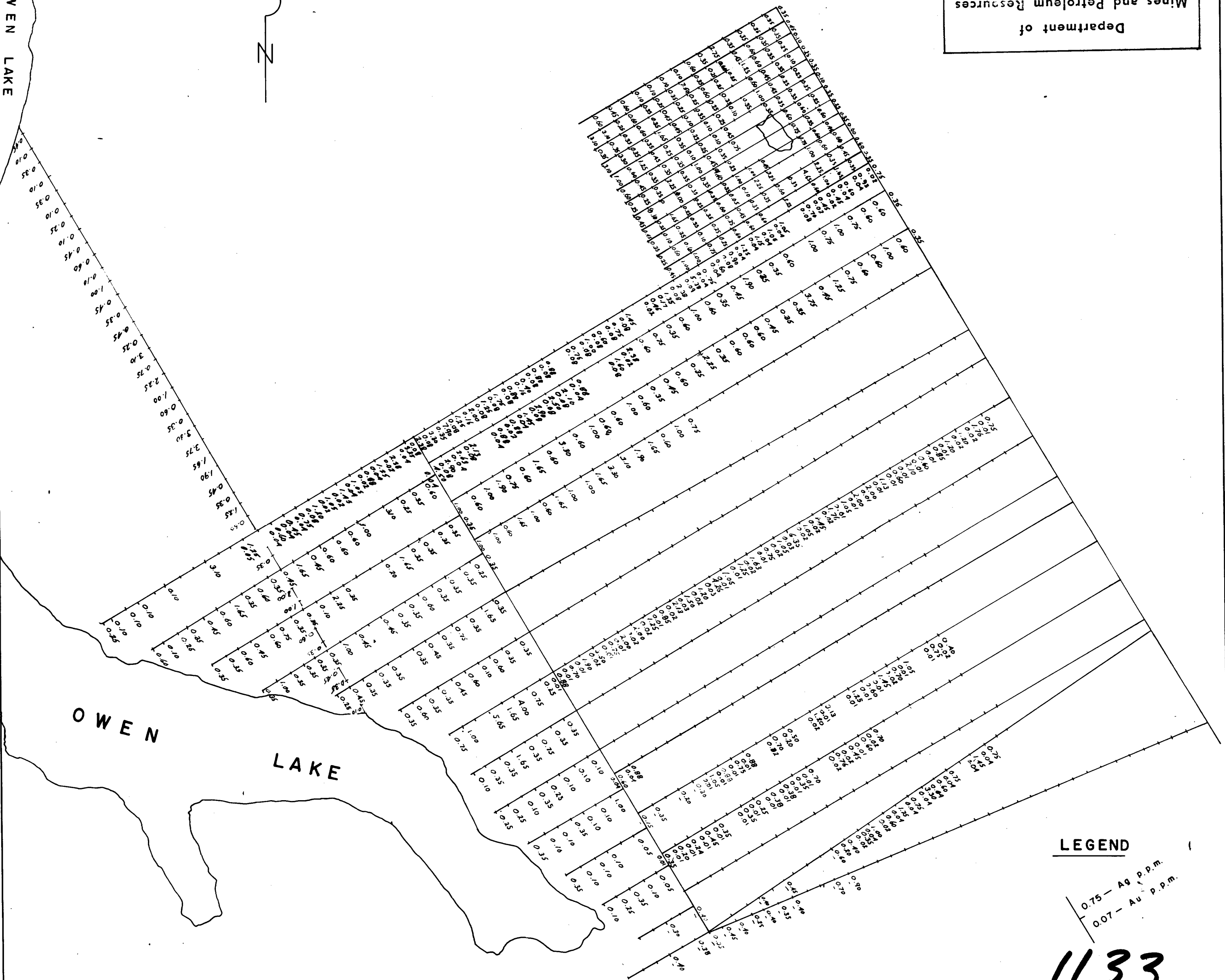
NADINA PROJECT
Mo & Pb ANALYSIS
"A" ZONE SOIL

DATE: NOV. 27, 1967 DRAWN BY: G.O.M.S. PLATE NO.: 4

REVISED BY	DATE	SCALE
		1" to 1,000'

To Accompany Report on Soil Geochemical Survey at Nadina Mines
By: P. T. Black, P. Eng. (Supervisor)
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OWEN LAKE



OWEN LAKE

LEGEND
0.75 - Ag p.p.m.
0.07 - Au p.p.m.

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KENNCO EXPLORATIONS (WESTERN) LIMITED		
NADINA PROJECT		
Ag & Au ANALYSIS		
"A" ZONE SOIL		
DATE: NOV. 27, 1967	DRAWN BY: G. O. M. S.	PLATE NO.: 5
REVISED BY:	DATE:	SCALE:
		1" to 1,000'