MAP No.	ASSESSMENT REPORT N. M. E. A. P. CONFIDENTIAL OPEN FILE ☐	TYPE OF WORK: GEOPHYSICS 091122
105 D 10		

REPORT FILED UNDER	ALICE LAKE MINES LTD.	DOCUMENT NO. ~~091764~~
DATE PERFORMED	1968	DATE FILED: 1968
LOCATION – LAT.	60° 45' N	AREA: WHITEHORSE COPPER BELT
LONG.	134° 30' W	(COWLEY PARK)
CLAIM NO.	MIKE 1-10	
VALUE $		
WORK DONE BY	P.E. WALCOTT	
WORK DONE FOR	EAGLE GEOPHYSICS LTD.	
REMARKS	Nothing was detected of interest on this property despite Mag., E.M. and resistivity surveys.	

91/22

A Report
on
A Ground Magnetic
and
Induced Polarization Survey
for
Alice Lake Mines Limited

by

Eagle Geophysics Limited
Vancouver, British Columbia

December, 1968

DOMINION OF CANADA

Province of British Columbia

IN WIT:

IN THE MATTER OF

the Yukon Quartz Mining Act, and

IN THE MATTER OF

ALICE LAKE MINES LIMITED
(Non-Personal Liability)

I, ROBERT HADAWAY of the City

of Vancouver in the Province of British Columbia,

DO SOLEMNLY DECLARE

1. THAT I am a Director and President of Alice Lake Mines Limited N.P.L. and as such have knowledge of the matters hereinafter deposed to.

2. THAT now produced and shown to me and marked Exhibit 'A' to this my declaration is a Statement of Expenditures made by Alice Lake Mines Limited N.P.L., on its Linda and Mike Group of Mineral Claims located in the Cowley Park Area, Whitehorse Mining District, Yukon Territory.

3. THAT this Statement of Expenditures is filed in support of an Affidavit of Work filed by the Company with the Office of the Mining Recorder at Whitehorse, Yukon Territory, and I hereby certify that the expenditures noted in the attached Exhibit and totalling $8,939.37 were properly expended by the Company in carrying out exploration work on its Linda and Mike Group of Mineral Claims.

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 Vancouver

in the Province of British Columbia

this 11th day of

March A.D. 1969

A Notary Public in and for the Province of British Columbia.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
PROPERTY AND LOCATION	2
PURPOSE	3
GEOLOGY	4
SURVEY SPECIFICATIONS	5
DISCUSSION OF RESULTS	7
SUMMARY AND RECOMMENDATIONS	8
APPENDIX	
COST OF SURVEY	(i)
PERSONNEL EMPLOYED ON SURVEYS	(ii)
CERTIFICATION	(iii)

INTRODUCTION

Between June 13th and 23rd, 1968, Eagle Geophysics Limited carried out a ground magnetic and induced polarization (I.P.) survey on a property held by Alice Lake Mines Limited and located in the Whitehorse area, Yukon Territory.

The Survey was conducted along N 110° E handcut lines, which were turned off every 400 feet from a N 20° E baseline, and chained and picketed at 100 foot intervals.

Readings on the magnetic survey were taken every 100 feet along the picket lines using a sharpe M.F.1 fluxgate magnetometer with additional reading at 50 feet intervals where deemed necessary.

Measurements on apparent chargeability (The I.P. response parameter) were made over the entire line grid using the "Three Electrode Array" method with an electrode separation of either 300 or 200 feet and a station interval of 200 feet. Simultaneous measurements of apparent resistivity were also made.

Some additional measurements of apparent chargeability and resistivity were made using electrode separations of 100, 200, and 300 feet respectively and appropriate station intervals.

The data are presented on plan maps on the line grid, maps E-127, 1 to 3, at a scale of 1 inch equals 200 feet. The chargeability and resistivity readings are presented in profile form on map E-126-2 and 3, while the magnetic measurements are shown in contoured form on map E-126-1.

PROPERTY AND LOCATION

The property consists of 10 contiguous unpatented mining claims registered in Whitehorse, Yukon Territory as follows:

Claim Name	Grant Number	Expiry Date
Mike 1-8	91807-91814	March 15, 1969
Mike 9-10	91819-91820	March 15, 1969

These claims are situated in the Whitehorse Mining District of the Yukon Territory (Claim Map 105-D-10) and are located about 12 miles south of the town of Whitehorse in the central part of a moderately treed area known locally as "Cowley Park".

They adjoin the boundary of New Imperial Mines Limited and lie about 1/8 mile north of the Cowley deposit where the latter company are reported to have a mineable orebody.

They are readily accessible from Whitehorse via the Alaska Highway and the Carcross road, and with a two-wheel drive vehicle it is possible to drive onto the claims.

PURPOSE

The purpose of the survey was to try to determine by the magnetic method the existence of a possible limestone-granite contact, and to detect by the induced polarization technique the presence of any mineralization that might be associated with or occur near this contact.

GEOLOGY

General For a general description of the geology of this area the reader is referred to: (a) Memoir 312 of the Geological Survey of Canada, "Whitehorse Map-Area, Yukon Territory, 165 D," by J.O. Wheeler and (b) Paper 63-41 of the Geological Survey of Canada, "Copper and Iron Resources, Whitehorse Copper Belt, Yukon Territory" by E.D. Kindle. Briefly it is as follows:

(A) Geological Environment. The original rocks of the Whitehorse Copper Belt were the Lewes River group, Upper Triassic in age and consisting for the most of quartzites, arkoses, greywackes, argillites, limestones and dolomites. These, in parts of the Copper Belt, are overlain by the Laberge group of Lower Jurassic age. The limestones and dolomites were the most predominant rock types before being intruded and consequently metamorphosed by the large Coastal Intrusive batholith of Cretaceous age. In very recent times the forementioned rocks have been covered in parts by the Miles Canyon extrusive basalts.

(B) Economic Geology. The deposits of the Whitehorse Copper Belt lie at or near the contact of granitic rock with the limestones of the Lewes River Group. These deposits are mostly contact metamorphic skarn deposits with associated magnetite, but occurrences of "porphry type" deposits such as the Keewenaw ore body do occur. Bornite and chalcopyrite are the principal economic copper minerals but chalcocite, copper carbonates and chrysocolla do occur.

Geological setting of the property

The property lies in the southern portion of the Whitehorse Copper Belt and is thought by the writer to be underlain by Cretaceous Coast Intrusive, numerous outcroppings of which occur on the southern half of the claim group, and by Triassic sedimentary rocks of the Lewes River Group.

SURVEY SPECIFICATIONS

The induced polarization (I.P) survey was carried out by using a pulse-type system manufactured by Huntec Limited of Toronto, Ontario. Measurements with this system are made in the time domain.

The system consists basically of three units, a receiver, a transmitter and a motor-generator. The transmitter, which provides a maximum of 7.5 kw. d.c. to the ground, obtains its power from the 7.5 kw. 400 cycle three phase generator driven by a gasoline engine. The cycling rate of the transmitter is 1.5 seconds "current on" and 0.5 seconds "current off", the pulses reversing continuously in polarity. The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through electrodes C_1 and C_2, the primary voltage (V_p) appearing between the potential electrodes, P_1 and P_2 during the "current on" part of the cycle and a secondary or overvoltage (V_s) appearing between P_1 and P_2 during the "current off" part of the cycle. The apparent chargeability (M_a) is calculated by dividing the secondary voltage by the primary voltage and multiplying by 400, which is the sampling time in milliseconds of the receiver unit. The apparent resistivity (P_a) in ohm-meters is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry of the array used. The chargeability and resistivity obtained are called apparent as they are values which that portion of the earth sampled would have if it were homogeneous. As the earth sampled is usually inhomogeneous the calculated apparent chargeability and resistivity are functions of the actual chargeability and resistivity of the rocks.

The survey was carried out using the "three electrode array" method of surveying. In this method the current electrode C_1 and the two potential electrodes P_1 and P_2 are moved in unison along the survey lines. The spacing between these three electrodes is kept constant for each traverse at a distance roughly equal to the depth to be explored by that particular traverse. The second current electrode C_2 is kept fixed at "infinity".

Thus, on a "three electrode array" traverse with an electrode spacing of 300 feet, a body lying at a depth of 150 feet will produce a strong response, whereas the same body lying at a depth of 300 feet will only just be detected. By running subsequent traverses at different electrode spacings more precise estimates can be made of depth, width, thickness and percentage of sulphides of causative bodies located by the I.P. method.

The magnetometer survey was carried out using a Sharpe M.F.1 Fluxgate magnetometer. This instrument measures variations in the vertical component of the earth's magnetic field to an accuracy of +10 gammas. Corrections for diurnal variations of the earth's field were made by tying-in to previously established base stations at intervals not exceeding two hours.

DISCUSSION OF RESULTS

The magnetometer survey (map E-126-1) indicated that the property is underlain by two different magnet rock types, Units M_1 and M_2 respectively. On the basis of other work done in the area it is the writer's belief that these units correspond to the intrusive and sedimentary rocks of the area.

The I.P. survey (map E-126-2), as performed with either a 300 or a 200 foot electrode separation, indicated the property to have a low flat chargeability back ground above which no anomalous conditions were discernible.

The resistivity survey done simultaneously with the I.P. survey, did little but indicate overburden thickness and bedrock conductivity with higher resistivity values being obtained in the outcrop areas (map E-126-3).

SUMMARY AND RECOMMENDATIONS

From June 13th to 23rd 1968 Eagle Geophysics Limited carried out a ground magnetic and induced polarization survey over a property held by Alice Lake Mines Limited.

The property is located in the "Whitehorse Copper Belt" of the Yukon Territory and is situated 1/8 mile north of the Cowley orebody of New Imperial Mines Limited.

The magnetic survey suggested that the property is underlain by two different magnetic rock types corresponding to sedimentary and Coast intrusive rocks.

The I.P. survey failed to locate the presence of any anamalous conditions that might correspond to sulphide mineralization.

The resistivity survey did little but indicate overburden thickness and bedrock conductivity with higher readings being obtained over the outcrop areas.

As a result of the above surveys the writer recommends that no further work be done at this time but that the property, because of its geological location, be held in abeyance until such time as the assessment credits expire.

Respectively submitted,
EAGLE GEOPHYSICS LIMITED

Peter E. Walcott, P. Eng.
Geophysicist

Vancouver, B.C.

July, 1968

A P P E N D I X

COST OF SURVEY

From June 13th to 23rd, Eagle Geophysics Limited provided a geophysicist, a geophysical operator, a 7.5 kw I.P. unit and a four wheel drive truck for $275.00 per day, and undertook a magnetometer survey at $60.00 per line mile.

Draughting and interpretation charges were extra, so that the total cost of all services provided by Eagle Geophysics Limited was $3,872.50.

PERSONNEL EMPLOYED ON SURVEYS

NAME	OCCUPATION	ADDRESS	DATE
Peter E. Walcott	Geophysicist	Eagle Geophysics Ltd. 815 - 736 Granville St. Vancouver 2, B.C.	June 17-23, 1968 July 29th, 1968
John Lloyd	"	"	June 13-23, 1968
Verne Fallstrom	Geophysical Operator	"	"
Gary MacMillan	"	"	"
Victor A. Pashniak	"	"	"
Don Burns	Helper	General Delivery, Whitehorse, Yukon	June 14-21, 1968
D. Grant	Drafting	Eagle Geophysics Ltd. 815 - 736 Granville St. Vancouver 2, B.C.	June 26-30, 1968
R. Schroeder	Typing	"	March 1, 1969

C E R T I F I C A T I O N

I, Peter E. Walcott, of the Municipality of Coquitlam, British Columbia, hereby certify that

1. I am a graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics option.
2. I have been practising my profession for the last six years.
3. I am a member of the Association of Professional Engineers of British Columbia, Ontario and the Yukon Territory.
4. I hold no interest, direct or indirect, in the securities or properties of Alice Lake Mines Limited, nor do I expect to receive any.

Peter E. Walcott, P. Eng.

July 30, 1968

Claim No 91813

105-D-10

DD 29A

DDH M1

Vertical

T.D. 115'

091122

0-115 Med. to coarse grained granodiorite, minor hornblende and magnetite accessory minerals

DDH M2

-45° N

Mike 7 M.C.

casing sheared, lost hole. some malachite observed in altered quartz diorite on fault surfaces

DD29A

DDH M3

-70° N

T.D. 171'

m 0-171 Altered quartz diorite, bleached, faulted, sheared, minor magnetite accessory mineral, shearing parallel to hole

DD 29A

DDH M4

T.D. 134'

0- 53	Overburden, casing
53- 75	Altered fine grained quartz diorite
75-134	Coarse grained quartz diorite

DD 29 A

DDH M5

Vertical

T.D. 87'

0- 34	Casing
34- 36	Fine grained diorite
36- 39	Coarse grained altered quartz diorite to granodiorite
39- 41	Granodiorite
41	Andesite band
41- 59	Coarse grained granodiorite, Dev. of ankerite Gouge seams and shearing prominent minor olivene at 53'
59- 64	Fault zone. Struct. parallel to hole
64- 87	Coarse grained granodiorite

DD294

DDH M6

Vertical

T.D. 229

0- 78	Overburden, casing
78-121	Broken altered medium grained quartz diorite Dev. of ankerite
121-229	Coarse grained hornblende-biotite granodiorite minor serpentinization

DD29A

DDH M7
-60° W (230° M)
T.D. 357'

0- 10	Overburden casing.
10- 35	Medium grained grahodiorite, minor magnetic, ankerite developed Fractured transition to Quartz-hornblende.
35- 36	Malachite stained 50% mafic.
36- 80	Increased alteration and serpentinization flow structure.
80-110	As above, lineation and zoning evident medium medium grained to coarse grained hornblende crystals.
110-111	Pink feldspar dyke @45°
111-120	Pink feldspar dyke @45° ½" wide.
110-125	Fe stain, increased serpentine on sheared surfaces and fault flanes.
132,140,141,148 to 151	Narrow quartz filling Segregation. Numerous quartz filling fissure dykes, signs of copper min. at depth.
156-159	Minor chalcopyrite, specks of cuprite.
159-162	Fine grained black siliceous dyke
162-164	Minor chalcopyrite and pyrite
164-167	Dyke
167-170	Minor chalcopyrite and pyrite
170-171	Quartz porphyry dyke
171-172	Alt. granopiorite minor chalco and pyrite.
172-192	Medium grained granodiorite, hornblende, sugary textured quartz, minor pyrite, magnetite, and chalcopyrite.
192-193	As above. Recomented breccia-quartz dyke
193-206	200 Start pyrite chalcopyrite appearance 208 Molybdenite, chalcopyrite 209 Incr. mineralization 210 Disseminated pyrite and chalcopyrite

211-213	Molybdenite seams, chalcopyrite pyrite.
	218 Dissem. chalco, pyrite, pyrrhotite 221 Weak mineralization 223 Incr. chalcopyrite. 226 Weak mineralization 238 Bornite, chalco, pyrite, pyrrhotite.
238-240	Fine grained black dyke
240-247	Minor sulphides
247-249	Bornite, chalco,, pyrrhotite, pyrite specks
250-276	Sheared blocky intrusives Minor chalcopyrite at 257, 268
276-293	Porphyry, broken
293-357	Minor fe stain.

DD29A

DDH M8

-60° West

Loc. 100' N of DDH M7

T.D. 316'

0- 12	Casing
12- 13	Quartz porphyry
13- 24	Med. gr. quartz diorite, minor pyrite, pyrrhotite 13½, 18 -molybdenite in pods 14 ,15 -molybdenite and chalcopyrite present some biotite, hornblende alteration
24- 27	Alteration zone, broken, minor bornite and chalco
27- 38	Med. gr. quartz-hornblende-diorite
38- 71	Fine grained, grey, pyritized quartz diorite seams of hematite
71-130	Med to coarse grained altered quartz diorite. Fe stain on fractures 91' - native copper 90-92 malachite, chalcopyrite, pyrite 122 molybdenite, chalcopyrite ga to alt hornblende and coarser grai n
130-140	Grey quartz feldspar porphyry 142 - minor chalcopyrite
140-156	Med. grained quartz diorite 146 - native copper 147 - chalcopyrite
156-160	Pink quartz dyke, sugary texture 153, 154, 156 chalcopyrite present
160-183	Med. gr, quartz hornblende diorite
183-186	Fine grained andesite dyke, blocky, Fe stained
186-188	Fine grained silicified andesite. Minor Chalco
188-234	Med. gr quartz diorite 190-191 - chalcopyrite 200 - chalcopyrite

DDH M8 ...cont.

234-236	Greenstone
236-253	Quartz diorite
253-258	Broken ground
258-265	Quartz diorite
265-270	Broken, sheared, minor malachite stain
270-314	Quartz diorite
314-315	Broken, fault zone
315-316	Quartz diorite

DD 29A

DDH M9

-60° EAST
Located at DDH 8
T.D. -246'

0- 8	Overburden
8- 17	Altered medium grained quartz diorite some epidote. At 14'-chalcopyrite molybdenite seam 1/16"
17- 25	As above. INcr fe stain, minor chalcopyrite, pyrite, pyrrhotite, malachite, manganese stain.
25	Broken.
25- 32	Cont. broken, highly altered & development of serpentine.
32- 46	Incr. siucification, alt hornblende, fe stain, quartz diorite. minor magnetite, hematite stain on sheared surfaces (38-43-highly sheared)
46-58	Quartz diorite, hornblende, quartz, mg, sphene, partly act, serpentine.
58- 60	Cont. incr shearing, bleached, blocky.
60-112½	Med. grained quartz diorite, minor mg. pyrite, 3" aplite dyke at 112½.
112½-135	Coarse grained quartz diorite, soft, altered, minor fe stain. Shearing and flow structure evident 119-Native copper present.
135-157	Minor changes 137 Fine grained quartz diorite 8" 142 Fine grained quartz diorite 8" 143 Alteration 150½ Chalcopyrite present 154 Good chalcopyrite 157 Chalcopyrite.
157-171	Change in quartz diorite, chalcopyrite, pyrite thru alt zone at 169 massive chalco.
171-201	Med gr. quartzdiorite, some faulting, fe stain, magnetic. Flow structure.
201-228	Sugary texture quartz diorite, med grain some alteration. 212½-Chalcopyrite,
228	Fault
293-298	Breccia zone Broken.

TD. 298

DDH M10

Loc. 100'N of M9

T.D. 266½'

0- 6	Casing
6- 8	Broken, altered, bleached quartz diorite
8- 27	Med. grained altered quartz diorite. Vis flow structure @ 45°. Slightly magnetic, Fe stain, altered hornblende
27- 27½	Light brown quartz porphyry dyke
27½ 67	Med. grained quartz diorite, minor magnetite Varicolored and altered
67- 91	Porphyry. Broken, sheared lime silicate rocks
91- 97	Alt. quartz diorite, lime silicates
97-100	Sheared greenstone. Porphyritic texture
100-118	Alt. bleached quartz diorite, pyrite, hematite stain on sheared surfaces
118-160	Fine grained grey quartz diorite, sheared
160-	Contact
160-200	Coarse grained quartz diorite. Hematite stain on sheared surfaces, Fe stain, some zoning and alteration of hornblende
200-206	Fine grained greenstone w. calcite stringers
206-213	Contact zone. Broken quartz diorite
213-216	Fine grained greenstone
216-222	Alt. bleached quartz diorite
222-227	Fine grained greenstone
227-262	Broken sheared quartz diorite
262-263	Brown silicified dyke
263-266½	Fault zone, broken, lost hole

DD29A

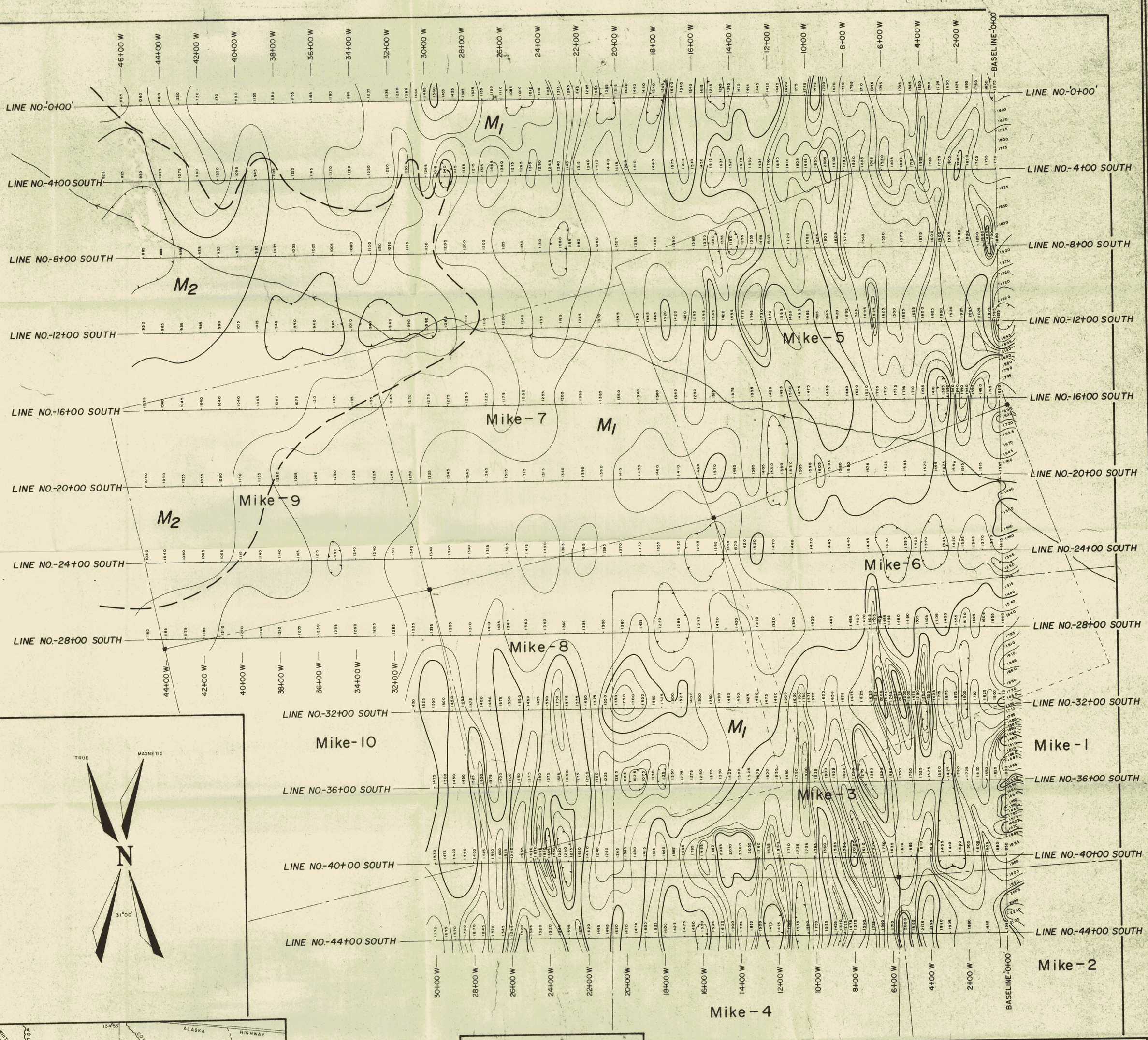
DDH M11
Vert.
T.D. 168'

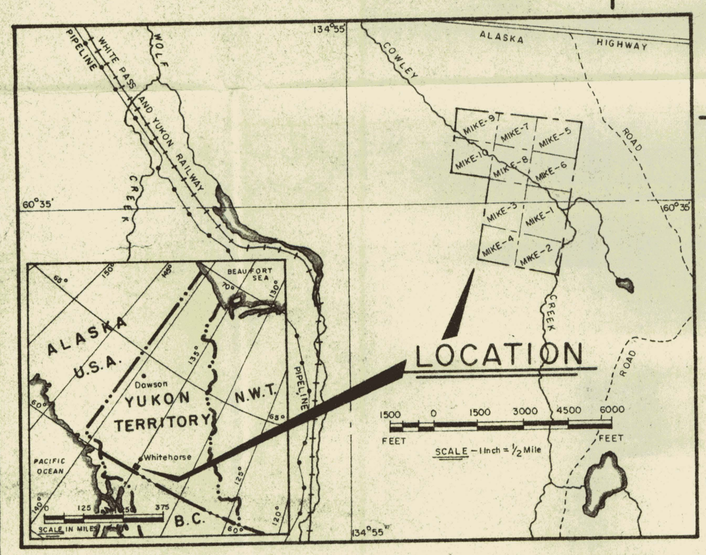
0- 12	Overburden, casing.
12- 25	Altered quartz diorite
25- 26	Broken
26- 40	Med. grained quartz diorite
40- 44	Broken
45	Contact
45-60	Grey quartz porphyry
60- 71	Broken, malachite stain on fract. surf.
71	Bornite $\frac{1}{4}$" vein
71- 80	Greenstone (poor core recovery)
90	Broken no core 10'
90-110	Med. grained quartz diorite
110-111	Q.D. with pyrite and chalcopyrite
111-168	Med. grained quartz diorite

ALICE LAKE MINES LTD. (NPL)

MIKE CLAIMS, COWLEY PARK AREA, YUKON TERRITORY–WHITEHORSE MINING DIVISION

MAGNETOMETER SURVEY





LEGEND

MAGNETOMETER SURVEY

CONTOUR INTERVAL 100 GAMMAS

500, 1000 GAMMA INTERVAL CONTOUR

100 GAMMA INTERVAL CONTOUR

MAGNETIC LOW

M_1 — INFERRED INTRUSIVE ROCKS

M_2 — INFERRED SEDIMENTARY ROCKS

INFERRED CONTACT OUTLINE

MAP SYMBOLS

CLAIM POST AND BOUNDARY

COWLEY CREEK

100 0 100 200 400 600 800 1200 1400 FEET

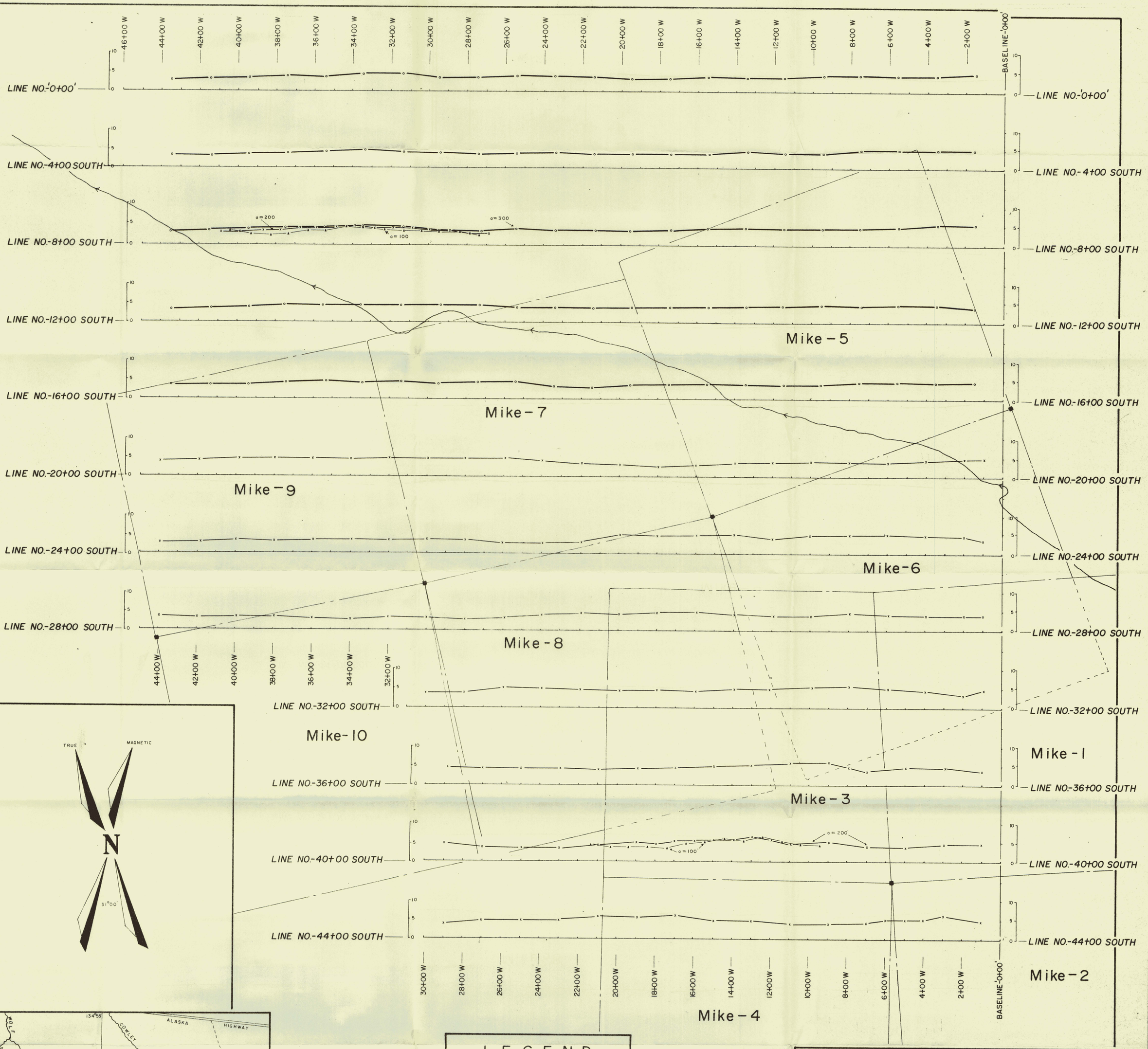
SCALE – 1 Inch = 200 Feet

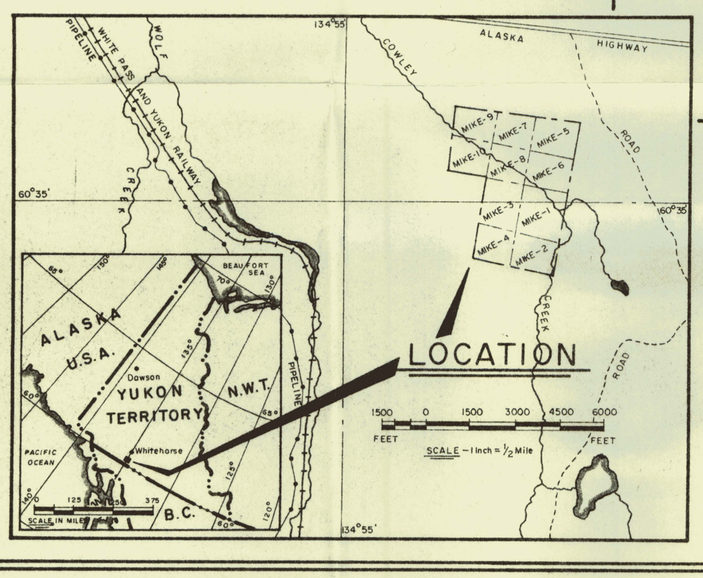
JUNE – 1968

EAGLE GEOPHYSICS LIMITED

MAP NO.-E-126-1

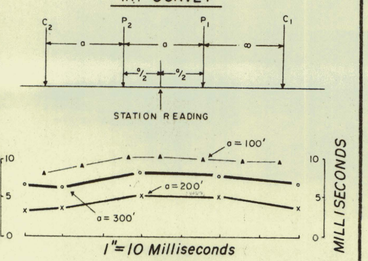
TO ACCOMPANY REPORT BY P.E. WALCOTT - P.Eng., DATED JULY 1968





LEGEND

I.P. SURVEY



MAP SYMBOLS

CLAIM POST AND BOUNDARY

COWLEY CREEK

ALICE LAKE MINES LTD. (NPL)

MIKE CLAIMS, COWLEY PARK AREA, YUKON TERRITORY-WHITEHORSE MINING DIVISION

INDUCED POLARIZATION SURVEY

APPARENT CHARGEABILITY PROFILES

100 0 100 200 400 600 800 1200 1400
FEET FEET
SCALE - 1 Inch = 200 Feet

JUNE - 1968

MAP NO.-E-126-2

EAGLE GEOPHYSICS LIMITED

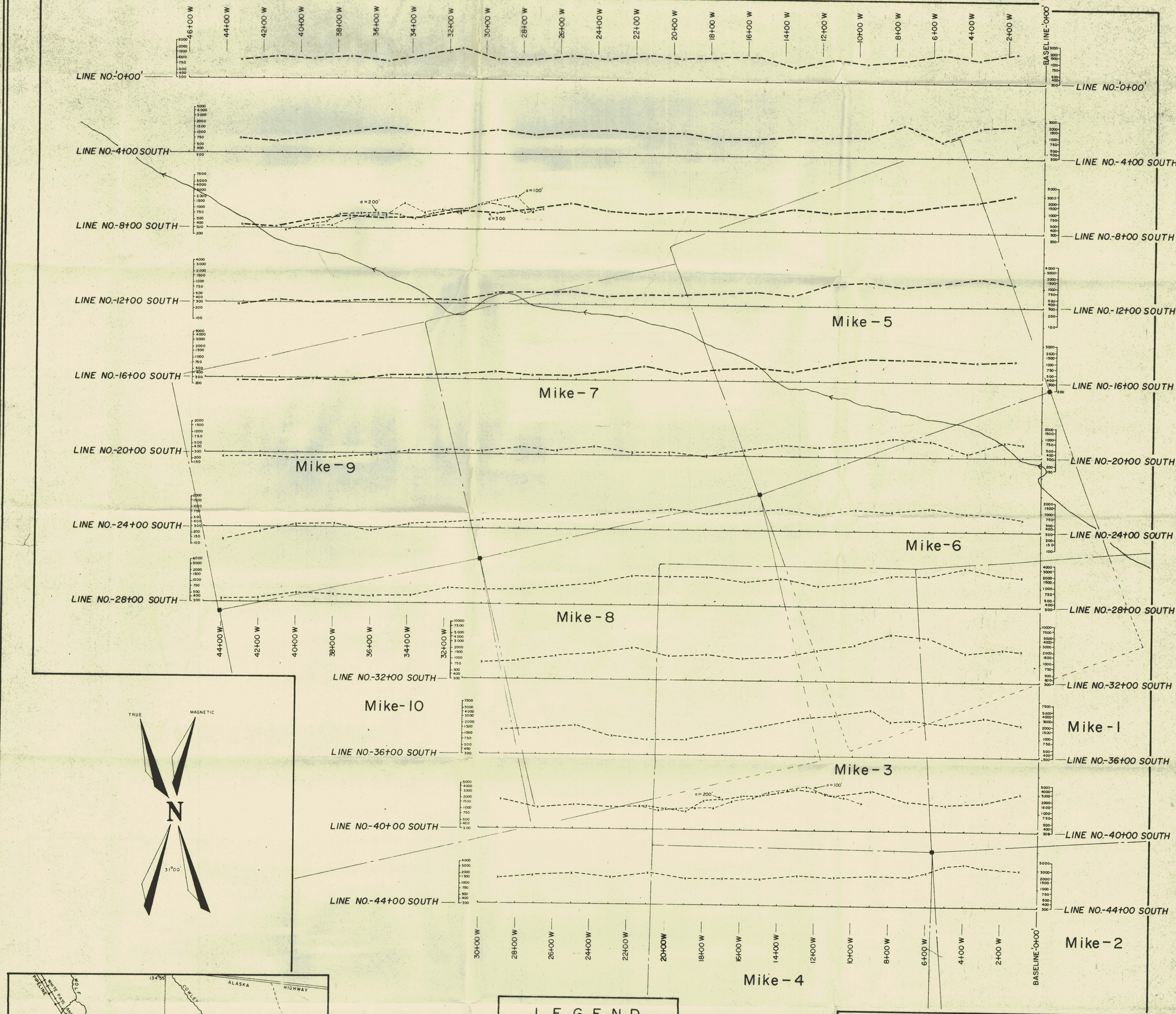
TO ACCOMPANY REPORT BY P.E. WALCOTT - P.Eng., DATED JULY 1968

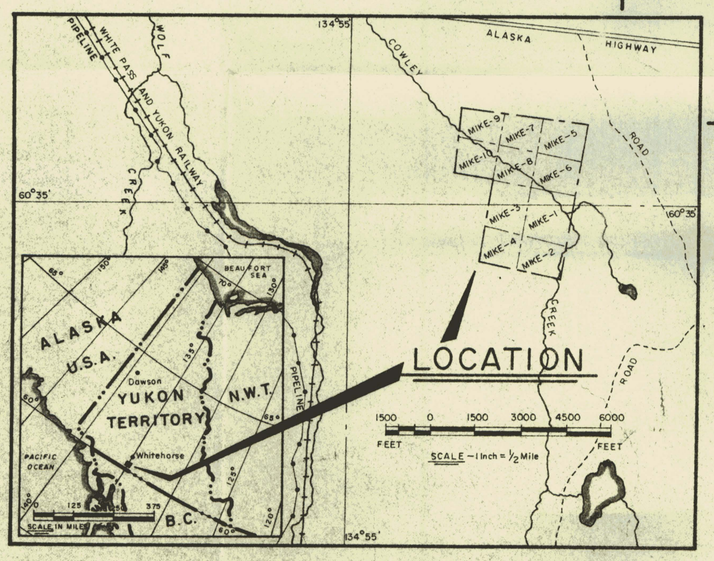
ALICE LAKE MINES LTD. (NPL)

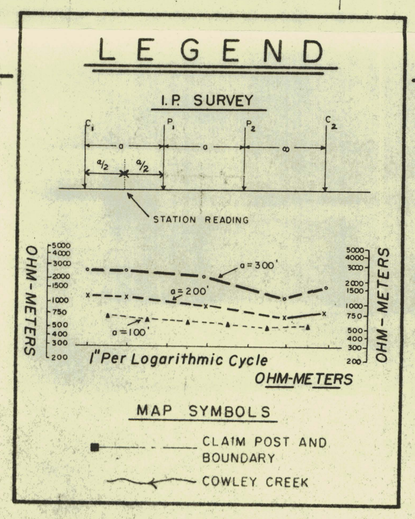
MIKE CLAIMS, COWLEY PARK AREA, YUKON TERRITORY–WHITEHORSE MINING DIVISION

INDUCED POLARIZATION SURVEY

APPARENT RESISTIVITY PROFILES







100 0 100 200 400 600 800 1200 1400
FEET
SCALE – 1 Inch = 200 Feet
FEET

JUNE – 1968

MAP NO.-E-126-3

EAGLE GEOPHYSICS LIMITED

TO ACCOMPANY REPORT BY P.E. WALCOTT - P.Eng., DATED JULY 1968