

700

REPORT ON
AN INDUCED POLARIZATION AND MAGNETOMETER SURVEY
GJ CLAIM GROUP
KINASKAN LAKE, BRITISH COLUMBIA
(57°, 130°, N.E.)

FOR

CONWEST EXPLORATION COMPANY LIMITED

BY

HUNTEC LIMITED
TORONTO, ONTARIO
SEPTEMBER, 1965

Qualifications of Andrew R. Dodds, Hunttec Limited.

Academic

B. Sc. degree in geology and geophysics, granted by Queens University, Kingston, Ontario in 1963.

Practical

Field geophysicist with Hunting Survey Corporation Limited and Hunttec Limited from July 1963 to date. This includes field supervision, interpretation and report writing of magnetic, electro-magnetic and induced polarization surveys, primarily the last named from January 1964 to date.



Andrew R. Dodds, B. Sc.

Geophysicist

TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION	1
SURVEY SPECIFICATIONS	3
INTERPRETATION	5
SUMMARY AND RECOMMENDATIONS	7
APPENDIX I	
Claims surveyed	i
Miles surveyed	i
Personnel employed on survey	ii

APPENDIX II

#1 Profiles of Apparent Chargeability,
Apparent Resistivity, and Vertical
Magnetic Intensity,
Lines GJ-1 and GJ-2
Scale: 1 inch to 200 feet

Line Map

MAP POCKET

Scale: 1 inch to 800 feet

I.P. Lines relative to Claim Boundaries.

#2 - GJ Group - Kinaskon Lake, B.C.
1" = 1500

#3 - Survey Line Location Map.

INTRODUCTION

Between July 12th and July 16th, 1965, a combined magnetometer and Induced Polarization (I.P.) survey was carried out by Hunttec Limited for Conwest Exploration Company Limited. The survey area covered a group of 16 mineral claims (GJ 119 to 126 inclusive, and 147 to 154 inclusive) located approximately five miles north of Kinaskan Lake, in the Stikine area of British Columbia (57°, 130°, N.E.).

The geophysical crew was managed by Mr. A.R. Dodds, assisted by Mr. B.T. Howes, both of Hunttec Limited. Conwest were represented by Mr. P.O. Hasley, and they provided two field helpers. Drafting and typing were done at the Toronto office of Hunttec Limited.

The I.P. survey consisted of 1.70 miles of readings taken at 200-foot intervals on two lines at right-angles and chained from the intersecting point, using the electrode configuration known as the "three-electrode array". Electrode separations of 400 feet and 800 feet were used, with 400 feet between the potential electrodes. In addition, part of one line was detailed, using electrode separations of 100 feet and

200 feet. Magnetometer readings at 100-foot intervals were taken on one line.

The data are presented in the form of profiles, using a distance scale of 1 inch to 200 feet. Vertical scales are 1 inch to 4 milliseconds, 1 inch to 40 gammas, and 2 inches per logarithmic cycle for chargeability, magnetic intensity and resistivity respectively.

SURVEY SPECIFICATIONS

The Hunttec pulse-type I.P. instrument is similar in design and operation to that described by R. W. Baldwin in "A Decade of Development in Overvoltage Surveying", A. I. M. E. Transactions, Vol. 214, 1959. Power is obtained from a gasoline motor coupled to a 2.5 kw, 400 cycle three phase generator, providing a maximum of 2.5 kw d. c. to the ground. The cycling rate is 1.5 seconds "current on" and 0.5 seconds "current off", the pulses reversing continuously in polarity.

The data recorded in the field consist of careful measurements of the current (I) in amperes flowing through electrodes C_1 and C_2 , the primary voltage (V_p) appearing between P_1 and P_2 during the "current on" part of the cycle, and the secondary voltage (V_s) appearing between P_1 and P_2 during the "current off" part of the cycle. The apparent chargeability (M_a), in milliseconds, 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, in ohm-meters, is proportional to the ratio of the primary voltage to the measured

current, the proportionality constant depending on the geometry of the array used. The resistivity and chargeability obtained are called "apparent" as they are values which that part of the earth sampled would have if it were homogeneous. As the earth sampled is usually inhomogeneous, the calculated apparent resistivity and apparent chargeability are functions of the actual resistivity and chargeability and of the geometry of the rocks.

The electrode configuration used for this survey was the "three-electrode array". For this array one current electrode, C_1 , and the two potential electrodes, P_1 and P_2 , are moved in unison along the survey lines. The spacing of these electrodes determines the depth penetrated. The second current electrode, C_2 , is placed an infinite distance away which, in practice, is about ten times the distance between C_1 and P_1 . The I.P. measurement is plotted halfway between C_1 and P_1 .

The magnetometer readings were taken with a Jalander magnetometer at a station interval of 100 feet.

INTERPRETATION

Both lines in this area are characterized by a high chargeability background level. Since sulphides are fairly widespread in the little outcrop available, it appears likely that this is also the case to some depth, and in rocks covered by overburden.

The anomaly on Line GJ-1 at 3+00S, covered with 100, 200, 400, and 800-foot electrode separations, is most pronounced on the two closer separations. This does not, however, mean that the causative body pinches out or weakens at depth, since a body of limited horizontal extent would be expected to show up more clearly with shallow electrode separations. Because the amplitude difference between the four spacings is so slight, it is expected that this body is fairly extensive vertically, and may widen at depth, as shown under the profile. The mineralization in this zone is probably, on average, about double that in the surrounding rocks, reaching a maximum of from 2% to 10% under the peak of the anomaly.

The resistivity profiles over this area show no change with variation of electrode separation, and it is therefore concluded either that overburden is thin, or that there is no resistivity contrast

between overburden and bedrock. The former interpretation is more probable. It is also clear that the mineralization is not present in a form continuous enough to provide d. c. conduction of electricity.

The magnetics are relatively flat with a total relief of 100 gammas. A possible contact, indicated by a 50 gamma drop in magnetic intensity, is shown in the region of 24+00N.

SUMMARY AND RECOMMENDATIONS

The chargeability measurements in this area indicate widespread mineralization, with some concentration in the region of the intersection of the lines. This concentration must be close to bed-rock surface, and may extend to considerable depth. I.P. readings over an extended area would be necessary before a more definite interpretation could be given.

Resistivity measurements suggest that overburden is shallow in the area of concentration.

The fluctuation in magnetic intensity is not sufficiently marked to give any definite information. The possible contact indicated under the profile would need confirmation from a more extensive survey before much reliance should be put on its existence.

HUNTEC LIMITED

Andrew R. Dodds.

Andrew R. Dodds, B.Sc.
Geophysicist

for *Norman Watson P.Eng.*

Roger K. Watson, B.A.Sc., P.Eng.
Geophysicist

APPENDIX I

Claims surveyed:

The survey area was covered by 16 mineral claims, as follows:

GJ 119 - 126 inclusive
and 147 - 154 inclusive

Miles surveyed:I.P.

Various electrode separations and station intervals were used for this survey, as follows:

<u>Electrode Separations</u>	<u>Station Interval</u>	<u>Miles</u>	<u>Readings</u>
800'	400'	1.67	24
400'	400'	1.72	25
200'	100'	0.38	22
100'	100'	<u>0.40</u>	<u>22</u>
		4.17	93

Magnetometer

The magnetometer survey consisted of 0.95 miles of readings at 100-foot intervals.

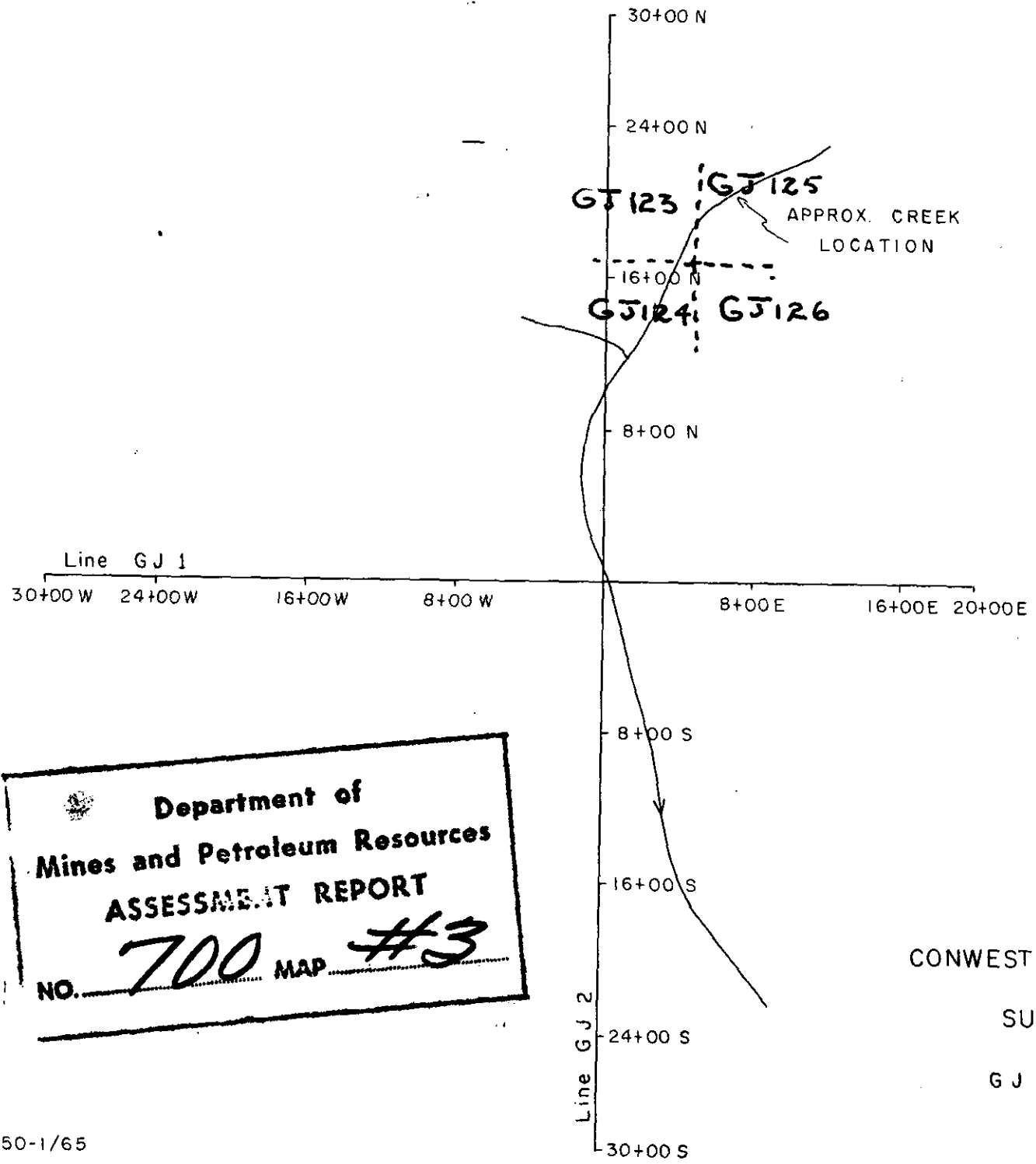
Personnel employed on survey:


<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Dates</u>
A.R. Dodds	Geophysicist	1450 O'Connor Drive Toronto 16, Ontario	July 12 - 16, 1965 Aug. 6, 1965
B.T. Howes	Geophysical Operator	-do-	July 12 - 16, 1965
P.O. Hasley	-do-	Conwest Exploration Company Limited	July 12 - 16, 1965
A. Inkster	Geophysical Helper	-do-	July 13 - 14, 1965
T. Inkster	-do-	-do-	July 13 - 14, 1965
A. Groat	-do-	-do-	July 15 - 16, 1965
J. Dennis	-do-	-do-	July 15 - 16, 1965
Miss J. Wilson	Drafting	1450 O'Connor Drive Toronto 16, Ontario	Sept. 30, Oct. 1, 1965
Miss E. Reid	Typing	-do-	October 1, 1965

C

C

C

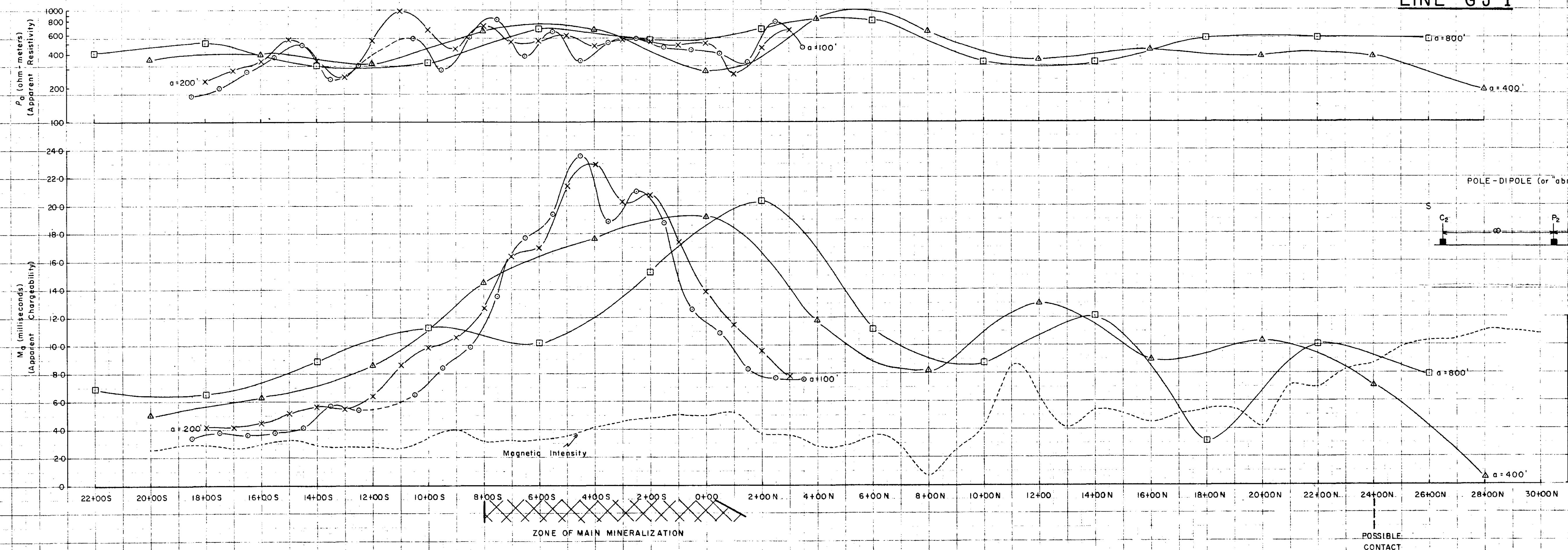



**Department of
Mines and Petroleum Resources**
ASSESSMENT REPORT
 NO. 700 MAP #3

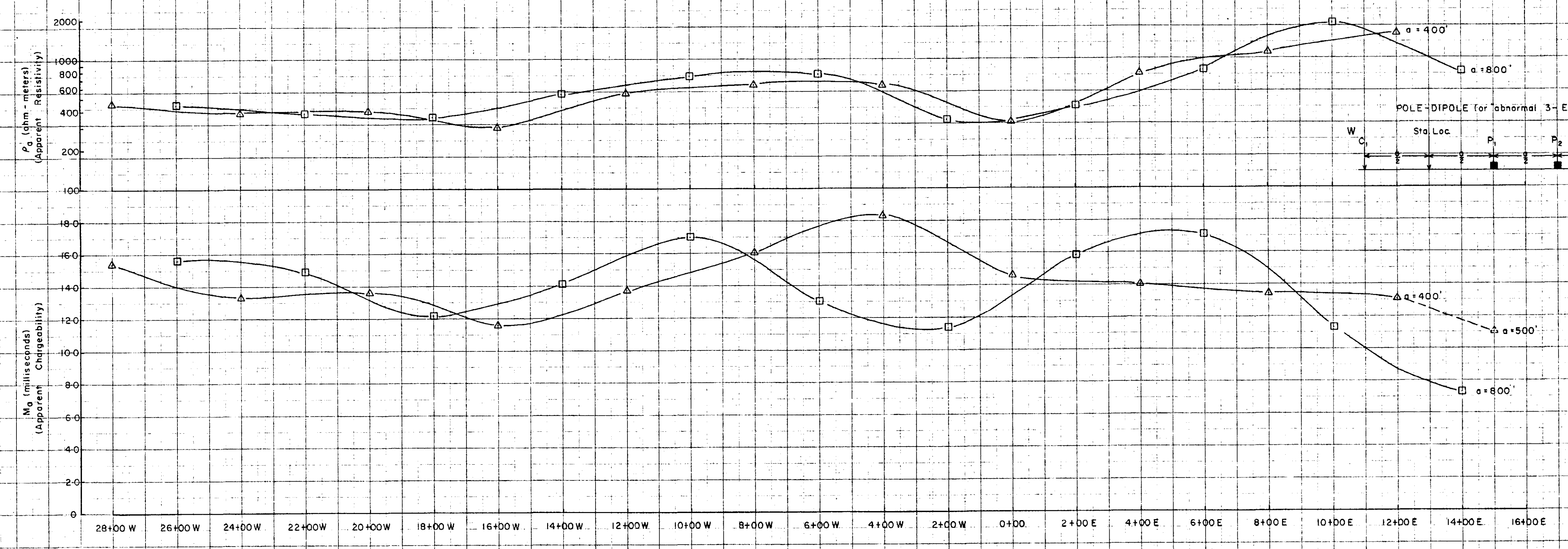
CONWEST EXPLORATION COMPANY LIMITED
 SURVEY LINE LOCATION MAP
 GJ CLAIMS, KINASKIN LAKE, B.C.

1 inch = 800 feet

LINE GJ 1



LINE GJ 2



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 700 MAP #1

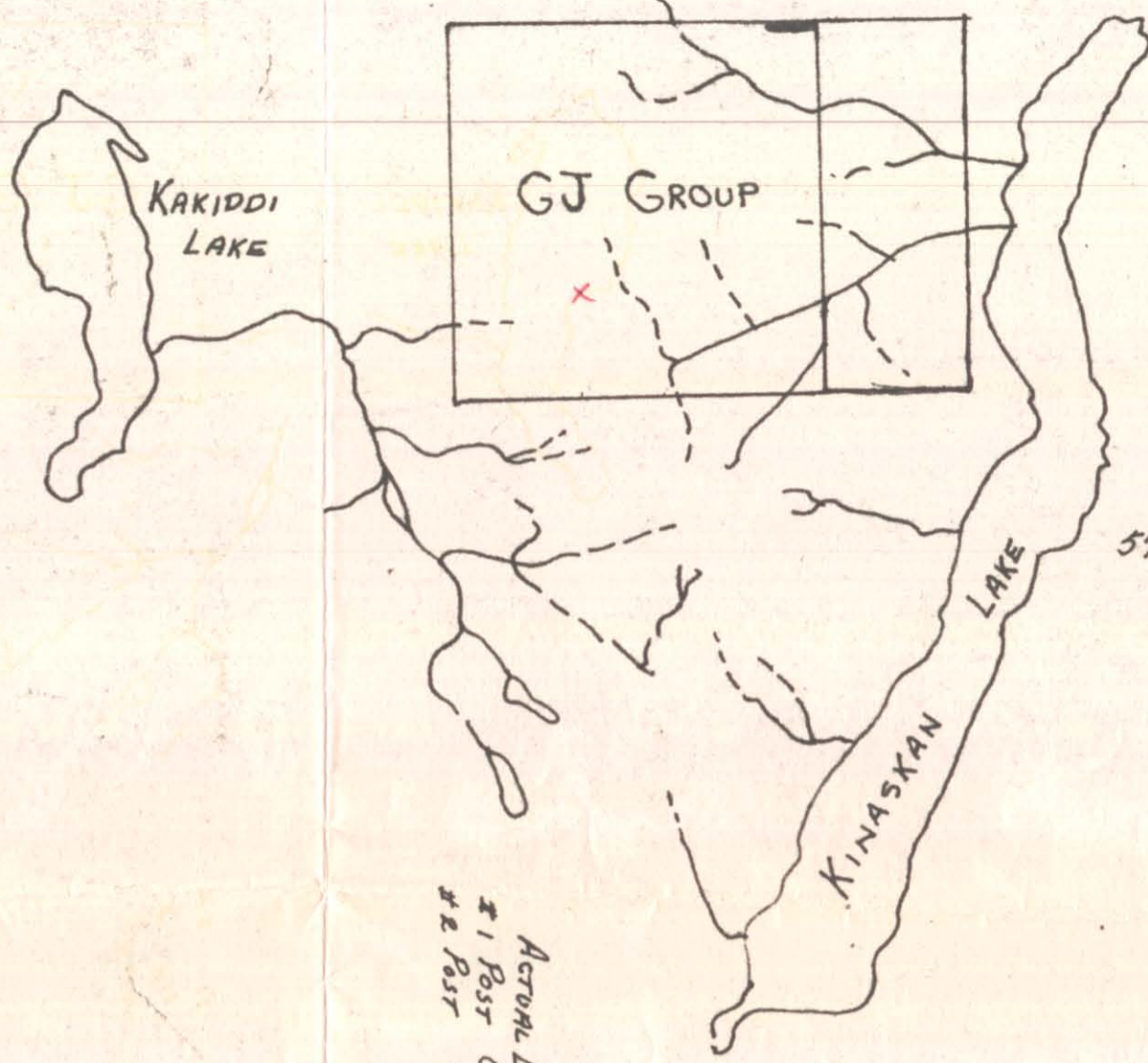
CONWEST EXPLORATION COMPANY LIMITED
INDUCED POLARIZATION AND GROUND MAGNETIC SURVEY
KINASKIN LAKE, B. C.
G. J. CLAIMS
PROFILES OF
APPARENT CHARGEABILITY, APPARENT RESISTIVITY
& VERTICAL MAGNETIC INTENSITY
WITH INTERPRETATION

HORIZONTAL SCALE: 1 inch = 200 feet

HUNTEC LIMITED, Toronto, Canada - September, 1965

Andrew R. Odds
Andrew R. Odds, B.Sc., Geophysicist

700



130° 00'



LOCATION SKETCH
FROM CLAIM MAP 53M
B.C. DEPT. OF MINES
SCALE 1" = 2 MILE

Actual Location
#1 Post G15+26
#2 Post G121+44

Actual Location
#1 Post G13 47-56
#2 Post 45-56

GJ 252	GJ 250	GJ 248	GJ 246	GJ 244	GJ 242	GJ 240	GJ 238	GJ 236	GJ 234	GJ 232	GJ 230	GJ 228	GJ 226
530356	54	52	50	48	46	44	42	40	38	36	34	32	530330
GJ 281	GJ 249	GJ 247	GJ 245	GJ 243	GJ 241	GJ 239	GJ 237	GJ 235	GJ 233	GJ 231	GJ 229	GJ 227	GJ 225
530355	53	51	49	47	45	43	41	39	37	35	33	31	530329
GJ 224	GJ 222	GJ 220	GJ 218	GJ 216	GJ 214	GJ 212	GJ 210	GJ 208	GJ 206	GJ 204	GJ 202	GJ 200	GJ 198
530328	26	24	22	20	18	16	14	12	10	08	06	04	530302
GJ 223	GJ 221	GJ 219	GJ 217	GJ 215	GJ 213	GJ 211	GJ 209	GJ 207	GJ 205	GJ 203	GJ 201	GJ 199	GJ 197
530327	25	23	21	19	17	15	13	11	09	07	05	03	530301
GJ 227	GJ 225	GJ 223	GJ 221	GJ 219	GJ 217	GJ 215	GJ 213	GJ 211	GJ 209	GJ 207	GJ 205	GJ 203	GJ 201
524227	524228	524229	524230	524231	524232	524233	524234	524235	524236	524237	524238	524239	524240
GJ 225	GJ 226	GJ 227	GJ 228	GJ 229	GJ 230	GJ 231	GJ 232	GJ 233	GJ 234	GJ 235	GJ 236	GJ 237	GJ 238
25	26	27	28	29	30	31	32	33	34	35	36	37	38
GJ 223	GJ 224	GJ 225	GJ 226	GJ 227	GJ 228	GJ 229	GJ 230	GJ 231	GJ 232	GJ 233	GJ 234	GJ 235	GJ 236
23	24	25	26	27	28	29	30	31	32	33	34	35	36
GJ 221	GJ 222	GJ 223	GJ 224	GJ 225	GJ 226	GJ 227	GJ 228	GJ 229	GJ 230	GJ 231	GJ 232	GJ 233	GJ 234
21	22	23	24	25	26	27	28	29	30	31	32	33	34
GJ 219	GJ 220	GJ 221	GJ 222	GJ 223	GJ 224	GJ 225	GJ 226	GJ 227	GJ 228	GJ 229	GJ 230	GJ 231	GJ 232
19	20	21	22	23	24	25	26	27	28	29	30	31	32
GJ 217	GJ 218	GJ 219	GJ 220	GJ 221	GJ 222	GJ 223	GJ 224	GJ 225	GJ 226	GJ 227	GJ 228	GJ 229	GJ 230
17	18	19	20	21	22	23	24	25	26	27	28	29	30
GJ 215	GJ 216	GJ 217	GJ 218	GJ 219	GJ 220	GJ 221	GJ 222	GJ 223	GJ 224	GJ 225	GJ 226	GJ 227	GJ 228
15	16	17	18	19	20	21	22	23	24	25	26	27	28
GJ 213	GJ 214	GJ 215	GJ 216	GJ 217	GJ 218	GJ 219	GJ 220	GJ 221	GJ 222	GJ 223	GJ 224	GJ 225	GJ 226
13	14	15	16	17	18	19	20	21	22	23	24	25	26
GJ 211	GJ 212	GJ 213	GJ 214	GJ 215	GJ 216	GJ 217	GJ 218	GJ 219	GJ 220	GJ 221	GJ 222	GJ 223	GJ 224
11	12	13	14	15	16	17	18	19	20	21	22	23	24
GJ 209	GJ 210	GJ 211	GJ 212	GJ 213	GJ 214	GJ 215	GJ 216	GJ 217	GJ 218	GJ 219	GJ 220	GJ 221	GJ 222
09	10	11	12	13	14	15	16	17	18	19	20	21	22
GJ 207	GJ 208	GJ 209	GJ 210	GJ 211	GJ 212	GJ 213	GJ 214	GJ 215	GJ 216	GJ 217	GJ 218	GJ 219	GJ 220
07	08	09	10	11	12	13	14	15	16	17	18	19	20
GJ 205	GJ 206	GJ 207	GJ 208	GJ 209	GJ 210	GJ 211	GJ 212	GJ 213	GJ 214	GJ 215	GJ 216	GJ 217	GJ 218
05	06	07	08	09	10	11	12	13	14	15	16	17	18
GJ 3	GJ 4	GJ 5	GJ 6	GJ 7	GJ 8	GJ 9	GJ 10	GJ 11	GJ 12	GJ 13	GJ 14	GJ 15	GJ 16
03	04	05	06	07	08	09	10	11	12	13	14	15	16
GJ 1	GJ 2	GJ 3	GJ 4	GJ 5	GJ 6	GJ 7	GJ 8	GJ 9	GJ 10	GJ 11	GJ 12	GJ 13	GJ 14
524201	524202	524203	524204	524205	524206	524207	524208	524209	524210	524211	524212	524213	524214

ASSESSMENT
WORK APPLIED
TO CLAIMS OUTLINED

INTERSECTION
HP LINES
G11 + G2R

■ CLAIM POSTS IN PLACE
□ WITNESSED

GJ GROUP

KINASKAN LAKE, B.C. CONWEST EXPLORATION COMPANY

JULY 17, 1964

AUG. 7, 1964

RECORDED ONLY GJ1-196 incl.

700

LOCATION MAP.

I.P. Lines relative to Claim Boundaries,
To Accompany
A Geophysical Report on
An Induced Polarization and Magnetometer Survey

Kinaskan Lake, British Columbia,
(57° N, 130° E.)

For
Conwest Exploration Company Limited,
By: A. R. Dodds, B.Sc., Geophysicist.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

700 M.P. #2

700