REPORT ON

AN INDUCED POLARIZATION AND MAGNETIC SURVEY

CW CLAIM GROUP

STIKINE AREA, BRITISH COLUMBIA

(57°, 131°, S. E.)

FOR

747

CONWEST EXPLORATION COMPANY LIMITED

BY

HUNTEC LIMITED

TORONTO, ONTARIO

SEPTEMBER, 1965

TABLE OF CONTENTS

INTRODUCTION

Between July 19th and July 27th, 1965, a combined Induced Polarization (I. P.) and magnetometer survey was carried out by Huntec Limited for Conwest Exploration Company Limited. The survey area comprised a group of 6 mineral claims (CW 94, 96 and 141 to 144 inclusive) located on Galore Creek, approximately 14 miles east of the Stikine River and 50 miles south of Telegraph Creek, British Columbia (57^{o}, 131^{o}, S. E.).

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

The I. P. survey consisted of 2.68 miles of readings taken at 200-foot intervals on lines 400 feet apart, using the electrode configuration known as the Pole-dipole array. An electrode separation of 200 feet was used, with 100 feet between the potential electrodes. In addition, parts of two lines were detailed using electrode separations of 100 feet and 400 feet.

The magnetometer survey consisted of 3.10 miles of readings at 100-foot intervals, and covered most of the lines surveyed by the I. P. method.

The reconnaissance data are presented in the form of contoured maps, at a scale of 1 inch to 200 feet. The contour intervals are 1 millisecond, 10 gammas and in ohm-meters at logarithmic intervals for apparent chargeability, magnetic intensity and apparent resistivity respectively. The detail

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 equipment used was a 2.5 kilowatt pulse type induced polarization instrument designed and manufactured by Huntec Limited. Power is obtained from a gasoline motor coupled to a 400 cycle three-phase generator. This powers a transmitting unit which provides 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 throuth 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 electrode 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 dipole 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 of penetration and the spacing $C_1 - P_1$ is kept twice the distance of $P_1 - P_2$. 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 half-way between C_1 and P_1. When reference is made to the "electrode spacing", it is the distance $C_1 - P_1$ that is meant.

INTERPRETATION

The I. P. survey results are characterized by considerable variation in apparent chargeability values over the whole area. These variations are not random however, and the contoured map of apparent chargeability readings clearly indicates two general areas of interest. Since the readings in these anomalous areas increase gradually, it is not always possible to completely define the boundaries of the anomalous zones. The possible limits, and the centres of prime interest, are shown on the interpretation map (Map Pocket).

Anomaly A, in the northwest corner of the survey area, is the more significant on account of both its amplitude and its extent. Rough terrain prevented any attempt at fully outlining this anomaly. On the north side the anomaly drops off abruptly, and some sort of fault control or contact might be expected in the region of 32+00N. The eastern boundary is less well defined, and may indicate a gradual decrease in mineralization or an easterly dipping contact. Detailing on Line 26+00N (Profile 1) indicates that the latter solution is the more probable. This detailing also indicates that the reactive body may be more complex than is suggested by the reconnaissance contours. The readings at a 100-foot electrode separation reveal two narrow zones, as shown under the profile, which may approach bedrock surface. However, it is expected that the top of the causative body is at least 50 feet below the surface of the ground and that the centre of chargeability is about 130 feet below ground surface.

Anomaly B is of lower amplitude than anomaly A, but still stands out clearly above the background level. Again, the north boundary of the zone is the only one that can be located with any accuracy. Elsewhere, the apparent chargeability readings pick up gradually from background level, possibly indicating a dipping contact. This interpretation is supported by the detailing on Line 22+00N (Profile 2) which indicates deeper mineralization at about 8+00W.

Variations in resistivity in this area are caused in part by changing thickness of overburden and distortion of the current distribution by rough terrain. The general resistivity low along the main creek is certainly caused in part by the latter effect, since the creek has cut a steep valley. However, the main chargeability highs correspond to some extent with resistivity lows, possibly indicating a change in rock type or alteration of the rocks under the I. P. anomalies. Also, the sharp northern boundary of anomaly A is marked by an equally abrupt change in resistivity, increasing the probability of a well-defined contact in this area.

The magnetic intensity measurements over this area are relatively flat, and again the variations could well be caused by rough terrain and varying thickness of overburden. The low readings along the main creek are doubtlessly caused by terrain effect. There appears to be little correlation between the I. P. anomalies and the magnetometer readings, and no magnetic evidence of changes in rock type.

SUMMARY AND RECOMMENDATIONS

The I. P. survey over this area indicated two possible mineralized zones. Both are extensive and may be roughly dome-shaped, truncated by a near-vertical contact on the north side. If sulphide mineralization is the cause of these anomalies, as appears likely, an average concentration of at least 2% sulphides is expected for anomaly A. Anomaly B could be caused by a rather lower percentage.

It is recommended that close examination of outcrop be the first stage in following up this survey. If it appears likely that sulphide mineralization in the area might be economic, then drilling is recommended as follows:

Anomaly A -- A 45° hole, plunging east or west, to intersect 130 feet below 21+60W on Line 26+00N. Hole length 400 feet.

Anomaly B -- A hole collared at 5+00W on Line 22+00N, and dipping 45°E. Hole length 400 feet.

These two drill holes should identify the cause of the anomalies.

HUNTEC LIMITED

Andrew R. Dodds, B. Sc.
Geophysicist

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

APPENDIX I

Claims Surveyed

The survey area comprised 6 mineral claims as follows: CW 94, 96 and 141 to 144 inclusive.

Miles Surveyed

The induced polarization survey was divided into 2 parts: reconnaissance (covering the lines once with one electrode separation) and detail (resurveying certain lines with different electrode separations). Total miles surveyed and readings taken are as follows:

	Electrode Separation	Station Interval	Miles	Readings
Reconnaissance	200 ft.	200 ft.	2.68	79
Detail	400 ft.	200 ft.	0.42	13
	100 ft.	100 ft.	0.44	25
			3.54	117

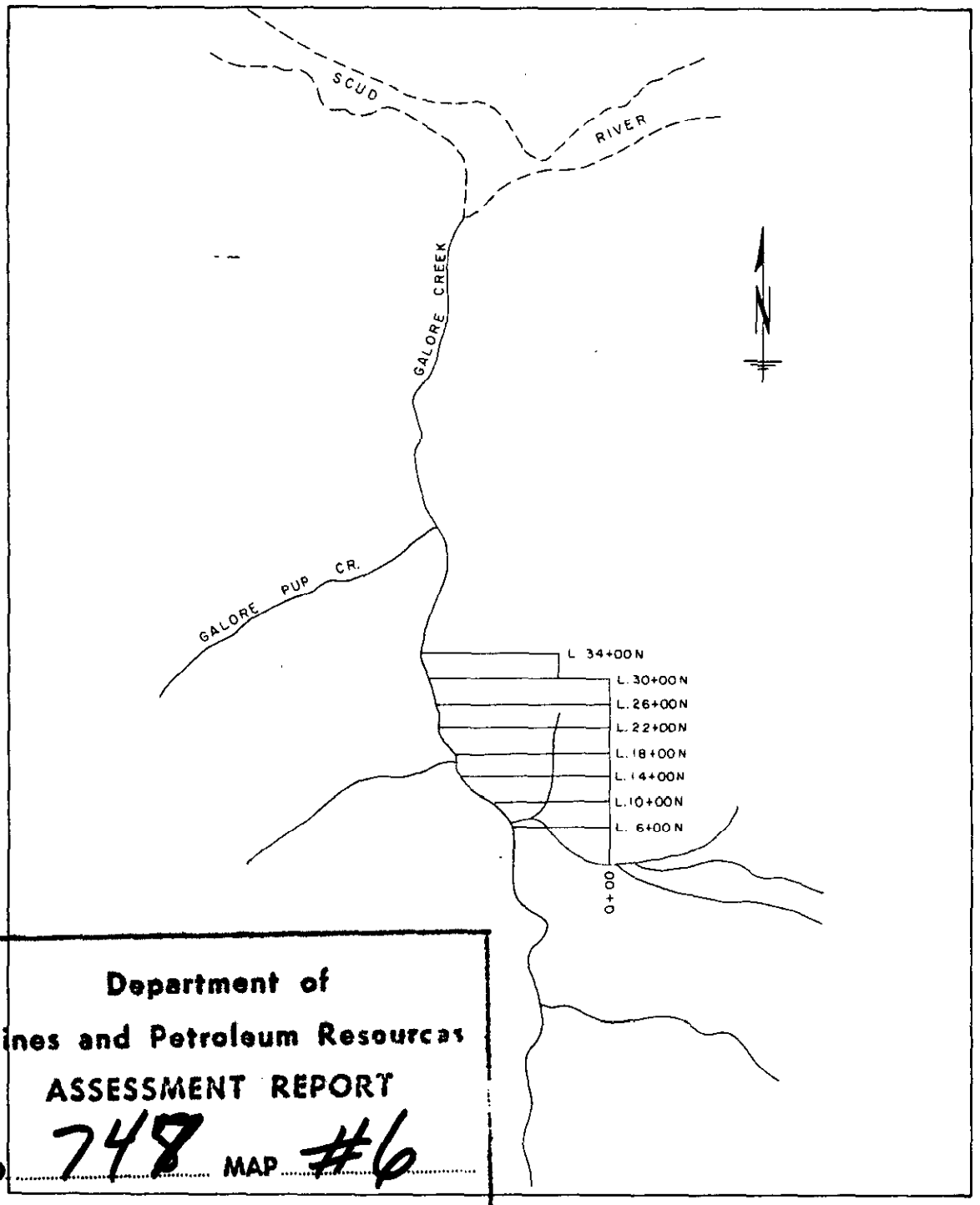
The magnetometer survey consisted of 3.10 miles of readings at 100-foot intervals.

Personnel employed on survey

Name	Occupation	Address	Dates
A. R. Dodds	Geophysicist	1450 O'Connor Dr. Toronto 16, Ont.	July 19 - 27, 1965 August 27-31, 1965
B. T. Howes	Geophysical Operator	"	July 19 - 27, 1965
G. Frank	Geophysical Helper	Conwest Exploration 85 Richmond St. West Toronto, Ont.	July 19 - 27, 1965

APPENDIX I (Cont'd)

Name	Occupation	Address	Dates
R. Quock	Geophysical Helper	Conwest Exploration 85 Richmond St. W. Toronto, Ont.	July 19 - 27, 1965
J. Marion	"	"	"
R. K. Watson	Geophysicist	1450 O'Connor Dr. Toronto 16, Ont.	September 17, 1965
J. Wilson	Drafting	"	Sept. 22-24, 1965
F. Egin	Typing	"	September 23, 1965



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SURVEY LINE LOCATION MAP

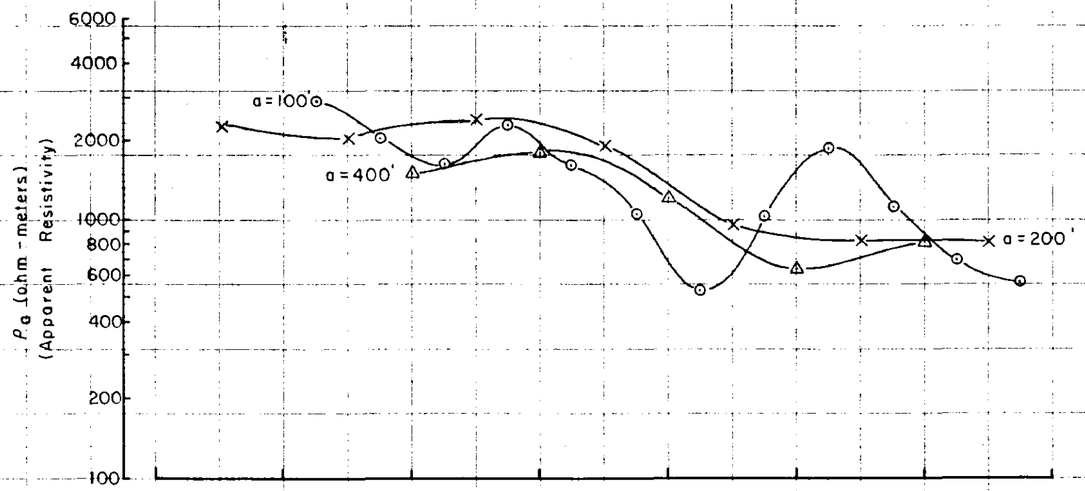
GALORE CREEK , STIKINE AREA , B.C.

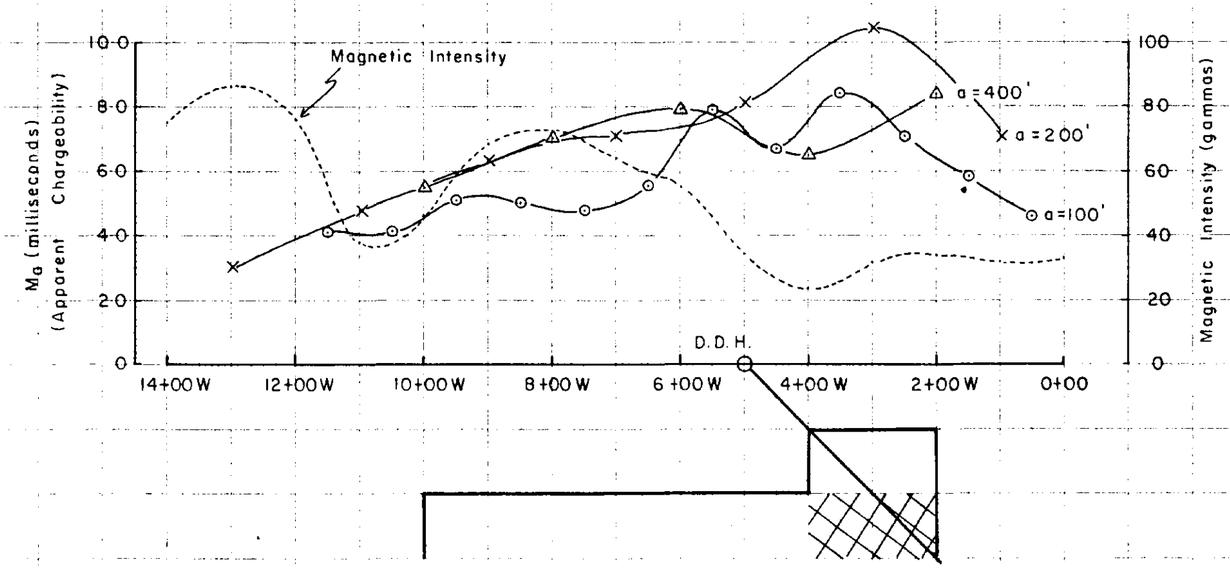
1 inch = 1320 feet approx.

ANOMALY B - LINE 22+00 N

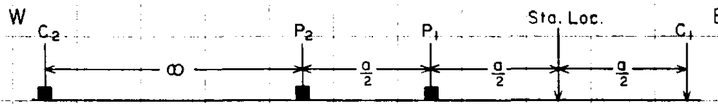
DETAIL PROFILES OF
APPARENT CHARGEABILITY, APPARENT RESISTIVITY,
& VERTICAL MAGNETIC INTENSITY
WITH INTERPRETATION

HORIZONTAL SCALE 1 inch = 200 feet





POLE - DIPOLE (or "abnormal 3- Electrode") ARRAY



INTERPRETATION LEGEND

Possible outline of main mineralization (greatest concentration cross-hatched)

D.D.H. . . . . Recommended location of diamond drill hole

747

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ASSESSMENT REPORT
NO. 748 MAP #1

HUNTEC LIMITED, Toronto, Canada - September, 1965

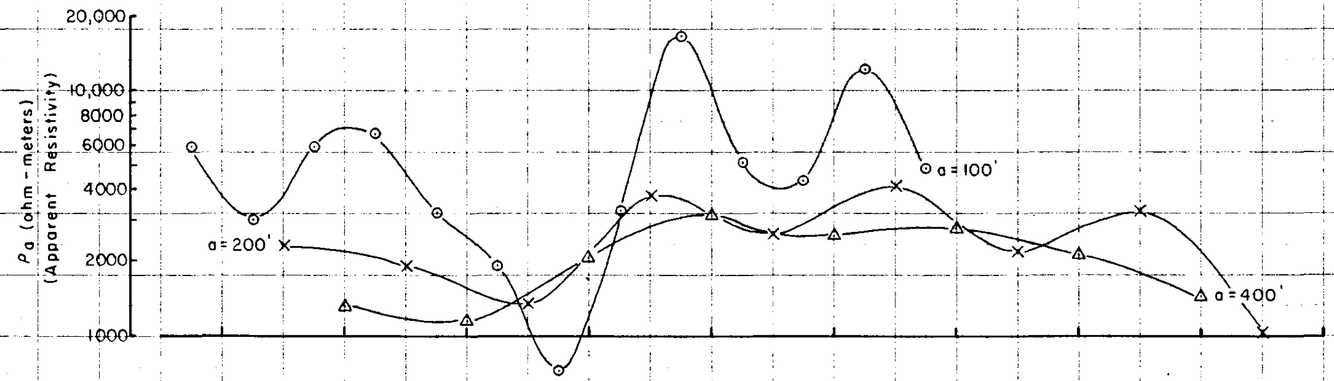
Andrew R. Dodds, B.Sc., Geophysicist

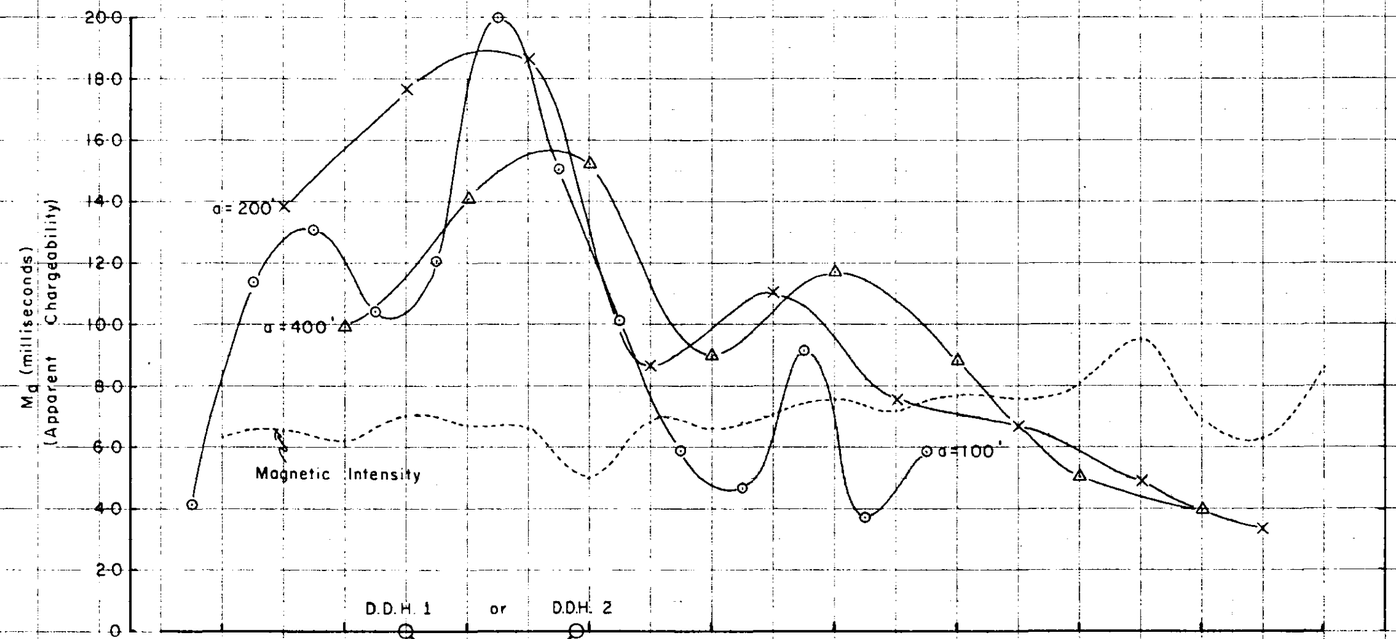
PH 250-3/65

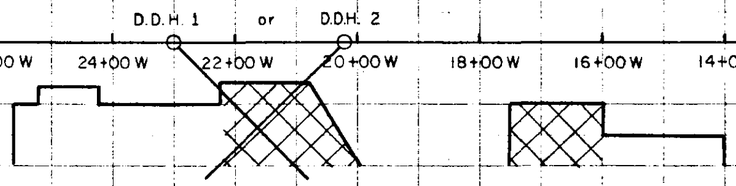
ANOMALY A - LINE 26+00 N

DETAIL PROFILES OF APPARENT CHARGEABILITY, APPARENT RESISTIVITY, & VERTICAL MAGNETIC INTENSITY WITH INTERPRETATION

HORIZONTAL SCALE : 1 inch = 200 feet

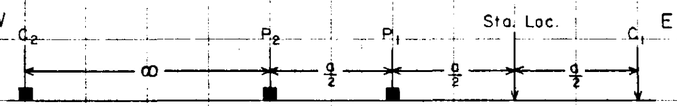






26+00 W | 24+00 W | 22+00 W | 20+00 W | 18+00 W | 16+00 W | 14+00 W | 12+00 W | 10+00 W | 8+00 W

POLE - DIPOLE (or "abnormal 3-electrode") ARRAY



INTERPRETATION LEGEND

Possible outline of main mineralization (greatest concentration cross-hatched)

D.D.H. .....Recommended location of diamond drill hole

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Andrew R. Dodds, B.Sc., Geophysicist

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CW 93 CW 95

30+00 W 28+00 W 26+00 W 24+00 W 22+00 W 20+00 W 18+00 W 16+00 W 14+00 W 12+00 W 10+00 W Base Line 8+50 W

L. 34+00 N

CW 94 CW 96

6+00 W 4+00 W 2+00 W Base Line 0+00

L. 30+00 N

ANOM. A

DETAIL SURVEY

L. 26+00 N

CW 139 CW 141 CW 143

Creek

DETAIL SURVEY

ANOM. B

L. 22+00 N

L. 18+00 N

L. 14+00 N

CW 142 CW 144

Creek

L. 10+00 N

L. 6+00 N

POLE - DIPOLE (or "abnormal 3 - Electrode") ARRAY

a = 200 feet

W C_2 P_2 P_1 Sta. Loc. C_1 E

∞ $\frac{a}{2}$ $\frac{a}{2}$ $\frac{a}{2}$

INTERPRETATION LEGEND

Zone of major interest

Outer limit of zone of interest

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INDUCED POLARIZATION SURVEY

GALORE CREEK, STIKINE AREA, B.C.

PLATE 1

APPARENT CHARGEABILITY CONTOURS

WITH INTERPRETATION

CONTOUR INTERVAL : 1·0 milliseconds

SCALE : 1 inch = 200 feet

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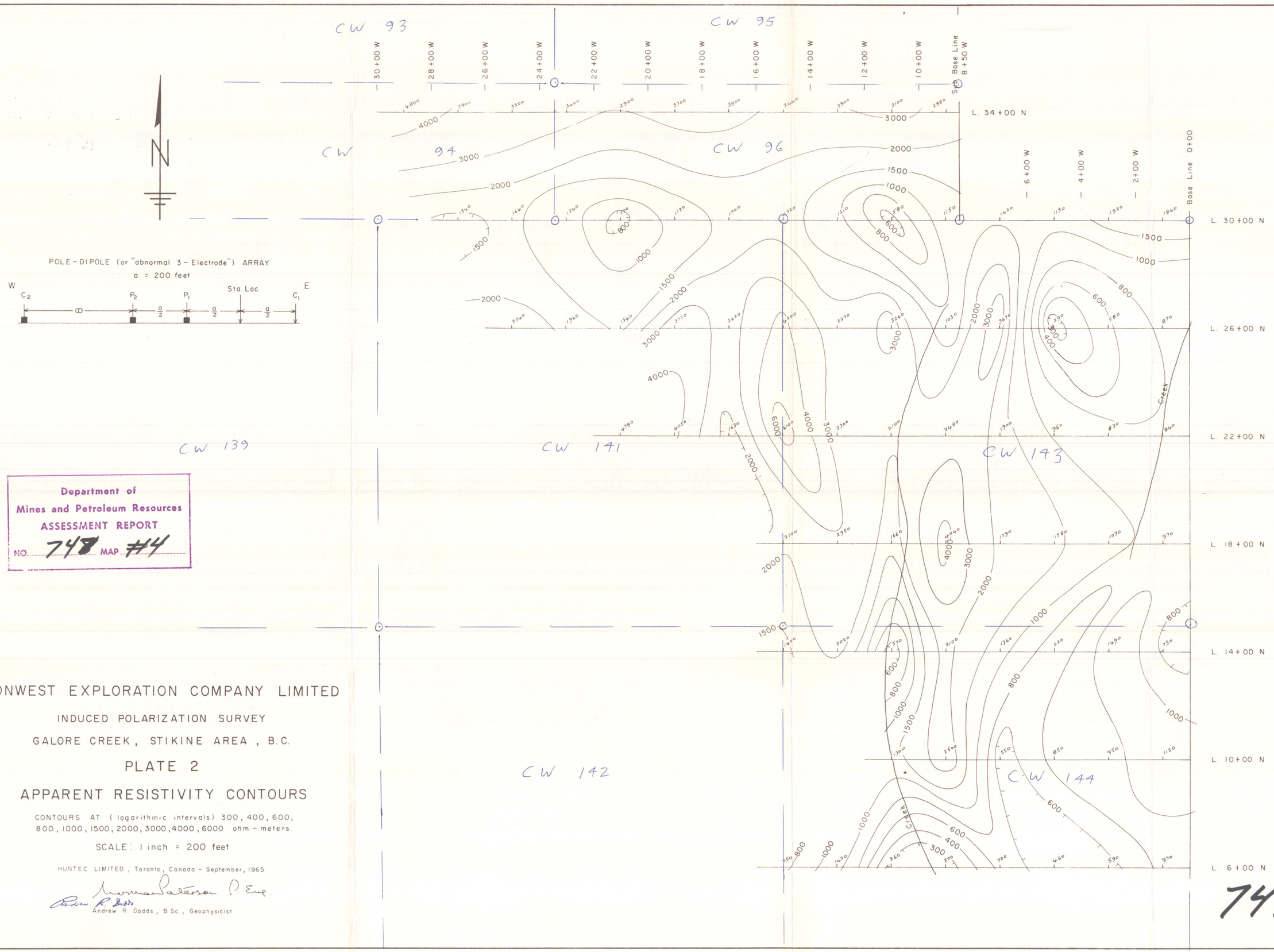
Andrew R. Dodds, B Sc., Geophysicist

PH 250-3/65



POLE - DIPOLE (or "abnormal 3 - Electrode") ARRAY

a = 200 feet

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INDUCED POLARIZATION SURVEY

GALORE CREEK, STIKINE AREA, B.C.

PLATE 2

APPARENT RESISTIVITY CONTOURS

CONTOURS AT (logarithmic intervals) 300, 400, 600, 800, 1000, 1500, 2000, 3000, 4000, 6000 ohm - meters.

SCALE: 1 inch = 200 feet

HUNTEC LIMITED, Toronto, Canada - September, 1965

Norman Paterson P. Eng.

Andrew R. Dodds, B.Sc., Geophysicist

CW 93

CW 95

CW 94

CW 96

CW 139

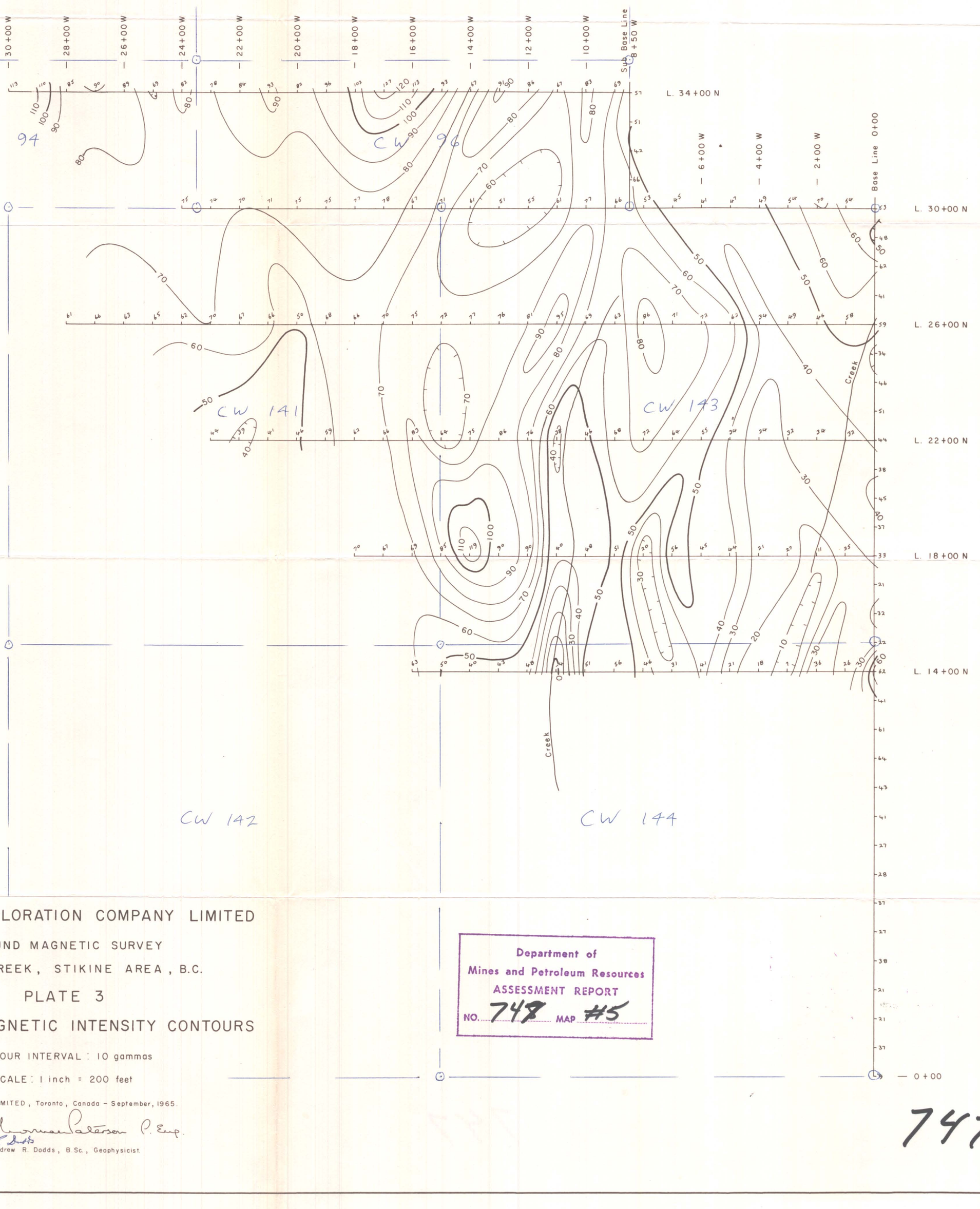
CW 141

CW 143

CW 140

CW 142

CW 144



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GROUND MAGNETIC SURVEY

GALORE CREEK, STIKINE AREA, B.C.

PLATE 3

VERTICAL MAGNETIC INTENSITY CONTOURS

CONTOUR INTERVAL : 10 gammas

SCALE : 1 inch = 200 feet

HUNTEC LIMITED, Toronto, Canada - September, 1965.

Norman Paterson P. Eng.

Andrew R. Dodds

Andrew R. Dodds, B.Sc., Geophysicist

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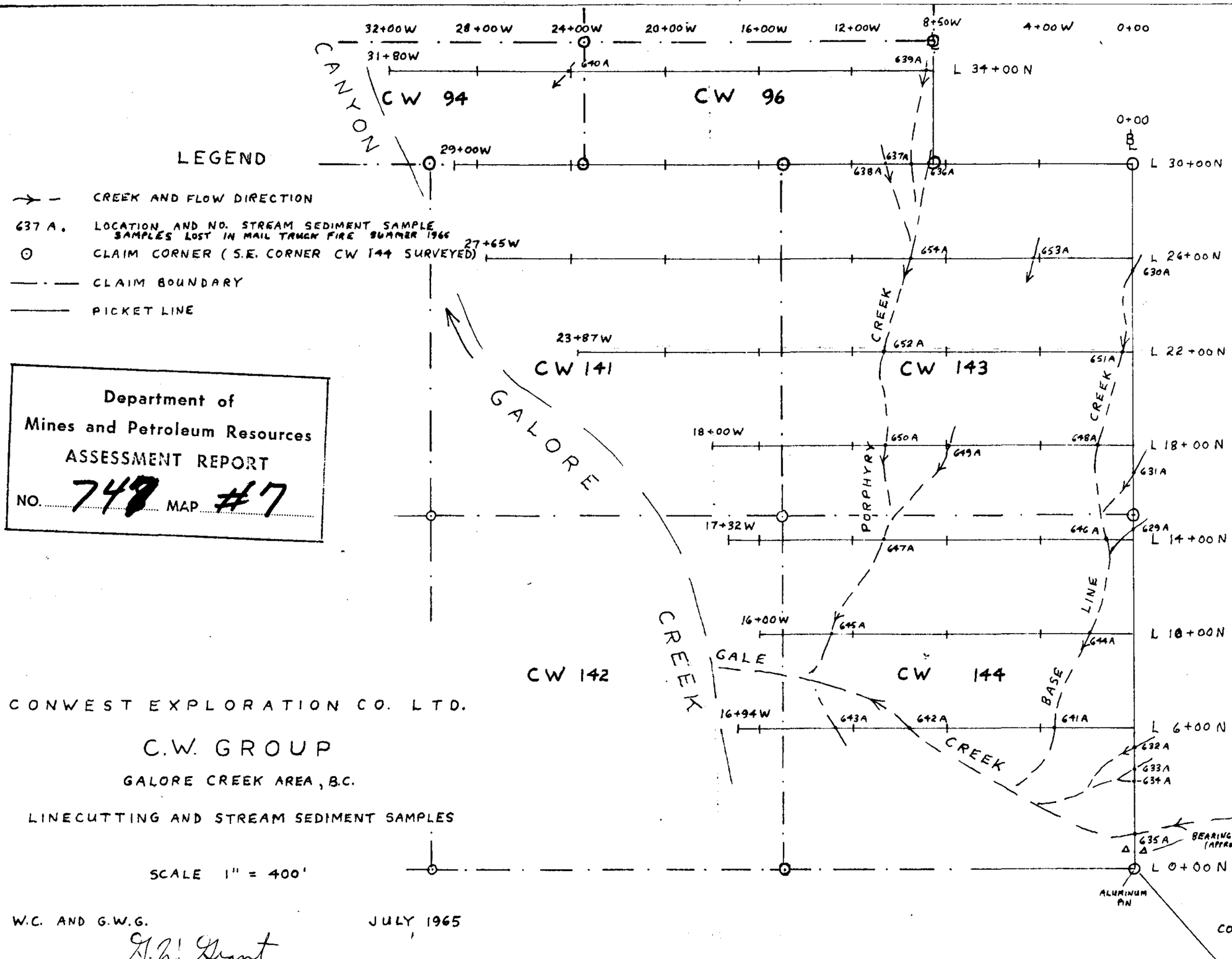
PH 250-3/65



LEGEND

- CREEK AND FLOW DIRECTION
- 637 A. LOCATION AND NO. STREAM SEDIMENT SAMPLE SAMPLES LOST IN MAIL TRUCK FIRE SUMMER 1966
- CLAIM CORNER (S.E. CORNER CW 144 SURVEYED)
- CLAIM BOUNDARY
- PICKET LINE

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 748 MAP #7

CONWEST EXPLORATION CO. LTD.

C.W. GROUP

GALORE CREEK AREA, B.C.

LINECUTTING AND STREAM SEDIMENT SAMPLES

SCALE 1" = 400'

W.C. AND G.W.G.

JULY 1965

747

M16