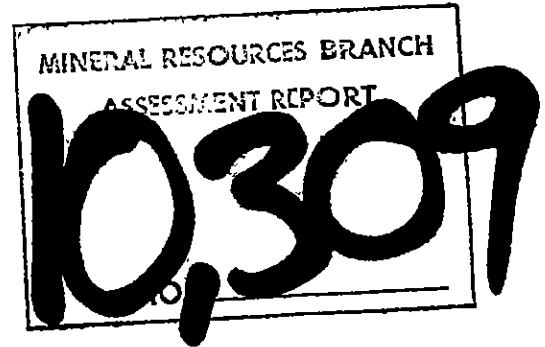


82-245-10309.

Geophysical Report
on the
Induced Polarization Survey
on the
Alamo Property, Kamloops M.D.

58°23'N. Lat.
120°58'W. Long.
N.T.S. 92I/7

On behalf of



SKYLARK RESOURCES LTD.

<u>Claim Name</u>	<u>Record No.</u>	<u>Anniversary</u>
Alamo 1	784	April
Alamo 2	785	April

By

NIELSEN GEOPHYSICS LTD.

Vernon, B.C.

March , 1982.

P.P. NIELSEN

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INTRODUCTION

During the period from July 13th to July 19th, 1981, an Induced Polarization Survey was carried out on a portion of the Alamo 1 and 2 claims on behalf of the owner, Skylark Resources Ltd.

The purpose of this survey was to determine the validity of two previous I.P. surveys, whose results conflicted, and to follow up on some subtle geochemical anomalies found as a result of a multi-sample survey carried out on the Alamo 2 claims previously.

The survey was performed by Phoenix Geophysics Ltd. under the supervision and direction of P. P. Nielsen, geophysicist of Nielsen Geophysics Ltd., Vernon, B.C.

The crew was based out of a motel in Merritt, B.C. and travelled each day to and from the property by four-wheeled drive truck. A total of 4.5 line kilometers was surveyed using from two to four dipole-dipole separations.

LOCATION & ACCESS:

The property is located 32 air kilometres NNW of Merritt, B.C. near the headwaters of Skuhun Creek, and 5 km SOUTH of Gnawed Mountain. Co-ordinates are 50°23'N. Latitude and 120°58'W. Longitude.

The claims are accessed normally by four-wheeled drive truck from the Skuhun Creek road turnoff which is about 30 km. from Spences bridge or 42 km from Merritt on Highway #8. The Chataway Lake Resort signs are followed for 15 km where the left fork is then taken for a distance of 6 km placing one roughly in the western center of the property.

CLAIMS

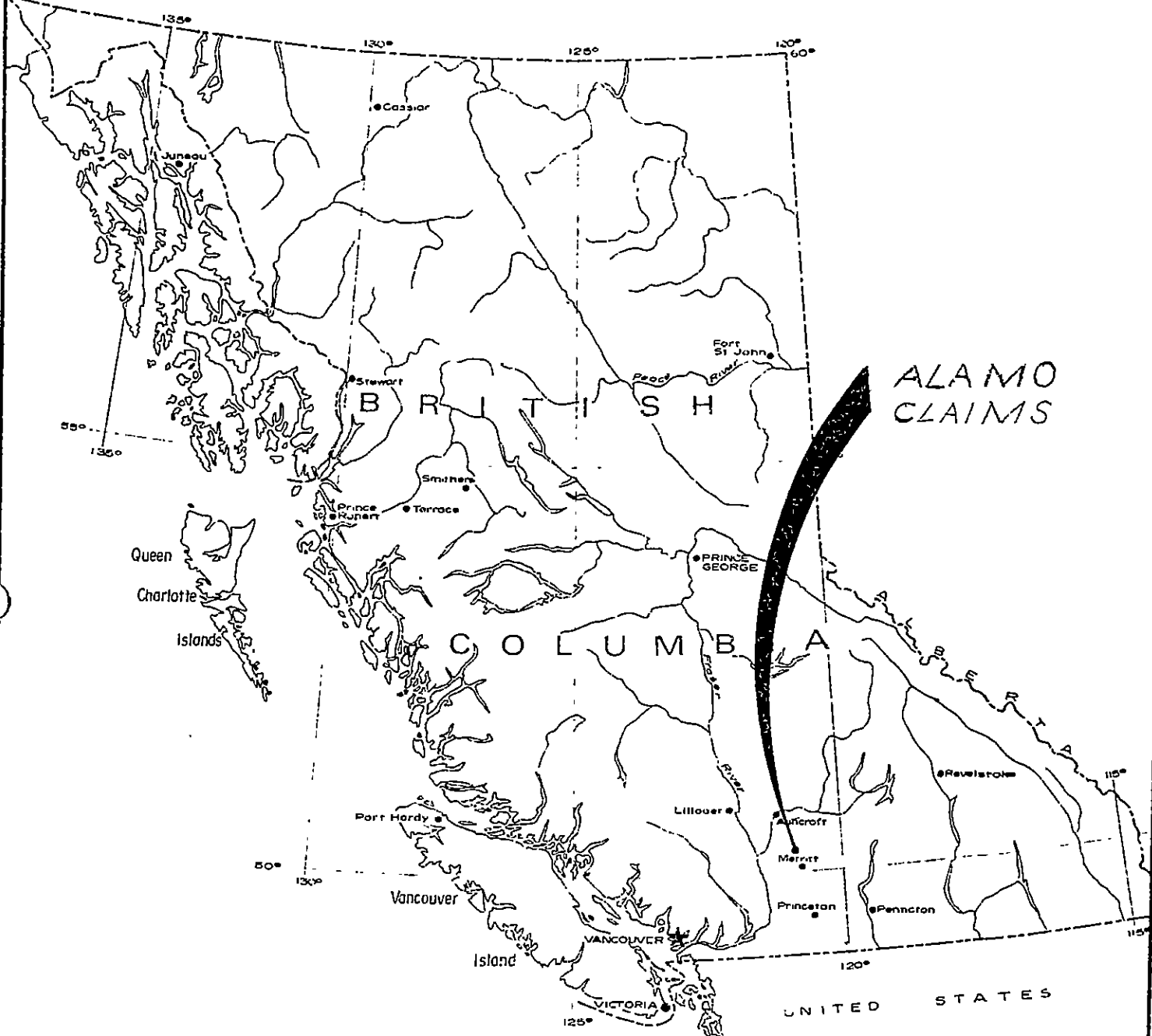
The following claims are located in the Kamloops M.D. and are owned by Skylark Resources of Vancouver, B.C. Each claim consists of 20 units.

<u>Claim Name</u>	<u>Record No.</u>	<u>Anniversary</u>
Alamo 1	784	April 28 th
Alamo 2	785	April 28

PREVIOUS WORK

Considerable work has been carried out over most of the property by various individuals and mining companies over the past 25 years. Much trenching and drilling is in evidence and at least two prior Induced Polarization surveys were carried out over portions of the present Alamo 1 claim. In 1980, the Alamo 2 claim was worked on which included the installation of grid lines and the execution of a mull sample survey.

The previous I.P. surveys yielded conflicting results in a low-sulphide environment coincident with swampy ground. The present I.P. survey was implemented to investigate these ambiguities and to test the subtle geochemical trends observed in the data derived from the mull sample survey.



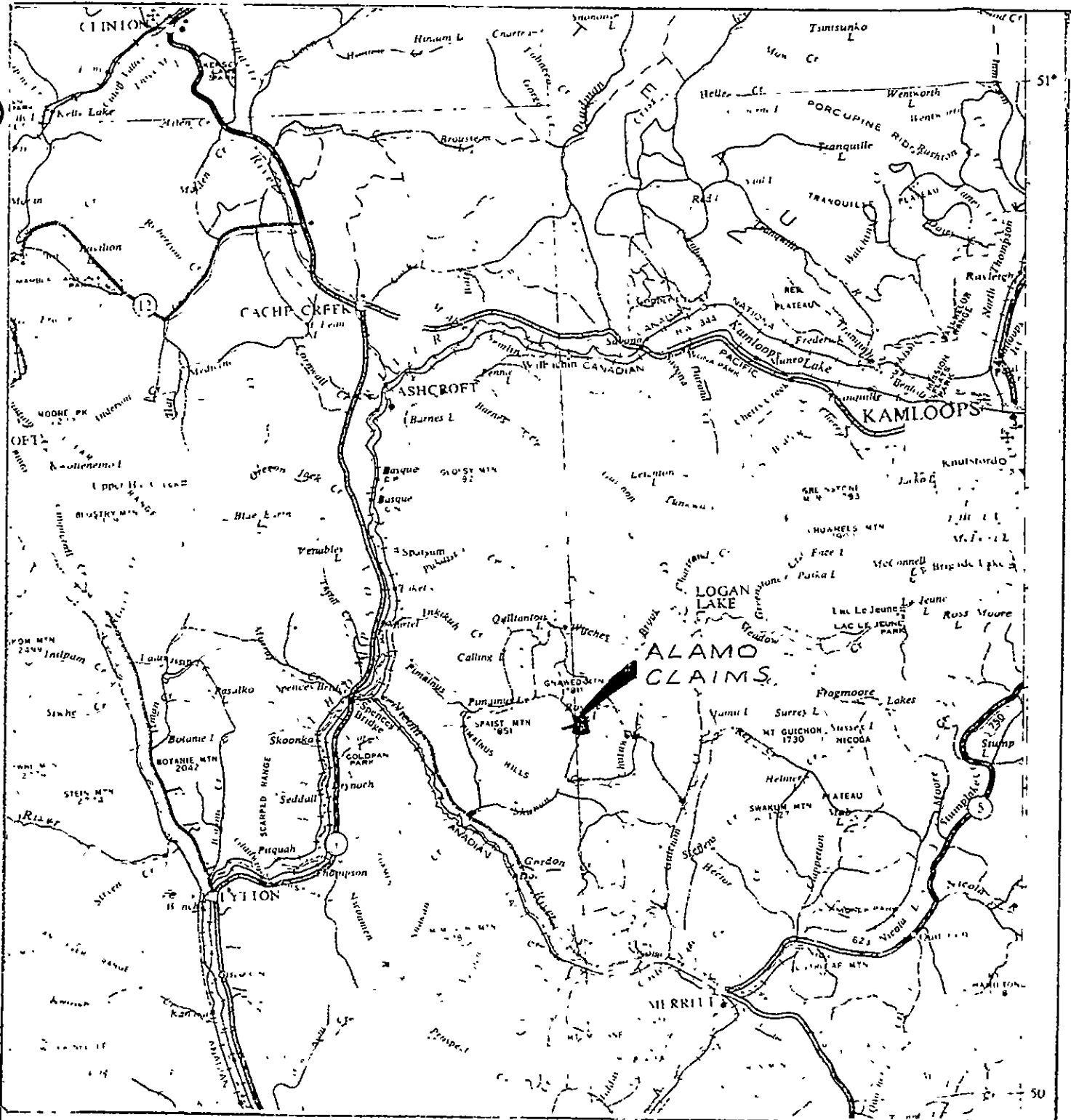
SKYLARK RESOURCES LTD.

ALAMO CLAIMS

LOCATION MAP

RON ✓

SCALE
1: 10,000,000



PROPERTY LOCATION MAP
SKYLARK RESOURCES LTD

KAMLOOPS MINING DIVISION

SCALE: 1:600,000

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GENERAL GEOLOGY

G.S.C. Memoir 249 - W. E. Cockfield (1961)

The Claims occur within the Guichon Creek Batholith which is Lower Jurassic in age.

The batholith west of Guichon Creek is a composite, upper mesozonal to epizonal, intrusive pluton consisting of several nearly concentric phases. There are a variety of contacts between phases including sharp intrusive contacts, intrusive contacts of dyke-like bodies and brecciated contacts.

Mineralization consists of bornite, chalcopyrite, chalcocite and molybdenite in veins and disseminations within the granodiorite and quartz-diorite host rocks.

The deposits to the north of the claims which include Highmont, Lornex, Valley Copper and Bethlehem, are of the unenriched, low sulphide "porphyry copper" type while the Craigmont mine is a copper-iron skarn deposit at the south edge of the same batholith.

THE GRID

The I. P. Survey was carried out over lines on two separate yet tied-in grids.

The first grid consisted of old, re-habilitated lines running east-west and spaced 200 feet apart. These lines were re-numbered in feet to conform with the old I.P. survey parameters in areas where possible anomalous readings were encountered.

The other grid, on the Alamo 2 claim was installed in 1980 to accommodate the mull sample survey. These lines were layed out using metric units. The lines were spaced 100 meters apart with a station interval of 50 meters. A crew was brought in to cut out windfalls and to extend some of the lines to the west.

The new Baseline 0+00 on the Alamo 2 grid was tied in to the old grid by chaining east from the legal corner posts of the Alamo 1 & 2 claims a distance of 750 meters. This point was designated B/L 0+00; 0+00 on the new grid.

TOPOGRAPHY & GROUND CONDITIONS

The property occurs on relatively flat to rolling terrain varying in elevation from 1500 metres to 1650 metres A.S.L. The claims are covered by glacial overburden with rock outcrops being confined primarily to knolls or knobs particularly over the north half of the Alamo 2 claim.

Vegetation consists mainly of lodgepole pine and fir. Underbrush is minimal.

At the time of the survey, ground conditions were quite favorable in that the water table was high precluding the necessity for any electrode site preparation.

THE INDUCED POLARIZATION SURVEYGeneral Comments

On the old grid (Alamo 1 Claim) segments of lines 4N, 6N, 8N, 10N and 12N were re-surveyed using identical parameters to those used with the previous two surveys. The dipole-dipole electrode configuration was maintained using a separation "a" of 200 feet and "n" values of 1,2,3, and 4.

On the new grid (Alamo 2 Claim) where metric units were used the dipole-dipole electrode configuration was used with an "a" spacing of 50 m. In the interest of expediency, L13N, 15N, 19N and 19N were surveyed using "n" values of 2 and 4. As no significant results were observed at these spacings, it was deemed unnecessary to do any further detail in this area.

Instrument & Survey Specifications

The induced Polarization unit consisted of a frequency domain receiver, transmitter and portable motor-generator manufactured by Phoenix Geophysics Ltd. of Willowdale, Ontario.

The transmitter (IPT-1) was powered by a 2 KVA, 400 Hz. motor-generator using operating frequencies of 0.25 and 4.0 Hz. Current was injected by wires from the transmitter into the ground at two steel electrodes C_1 and C_2 which were spaced a distance "a" apart called the electrode separation.

The motor-generator was mounted on a pack-frame me which could be easily transported from one set-up to another by one man. Total weight was 34 kg.

The receiver (IPV-1) is an extremely light-weight, stable, sensitive potentiometer which was tuned to the pre-selective transmitter frequencies and measured the voltages across the potential electrodes P1 and P2 which were also

spaced a distance 'a' apart.

As illustrated in the appendix, the array can be increased or decreased (usually in multiples of "a") called "n" values of 1,2,3, and 4, to provide for various depths of investigation.

Treatment of the Data

The data recorded in the field consisted of the current (I) flowing through C₁ & C₂, the voltage appearing across, P1 and P2 at the low frequency, and the "percentage apparent frequency effect" appearing between P1 and P2 which is directly measured by the receiver and displayed on a meter.

$$\% \text{ F.E.} = \frac{(\rho_a \text{ LOW} - \rho_a \text{ HIGH}) \times 100}{\rho_a \text{ HIGH}}$$

The apparent resistivity (ρ_a) is proportional to the ratio of the measured voltage at the receiver to the current observed at the transmitter. A proportionality constant (k) is used whose value is determined by the geometry of the array and the units (ohm-feet or ohm-metres) desired.

$$\rho_a = \frac{kV}{I}$$

A third parameter called the "metal factor" was calculated by dividing the apparent frequency effect by the apparent resistivity and multiplying by 1,000.

$$\text{M.F.} = \frac{\text{F.E.} \times 1,000}{\rho_a}$$

The values of ρ_a , F.E. and M.F. are plotted on three separate graphs, in a

two dimensional array for each survey line. These values from each measurement are plotted at the intersection of 45° lines from the centre point of C1-C2 and P1-P2. (See Appendix.) The horizontal row of values made with "n = 1" is made with a constant separation, and therefore represents a constant depth of detection. The other rows of values represent successively deeper zones. These two dimensional data plots, called "pseudo-sections", are contoured, and different patterns result from different geometries. However, they should not be considered vertical sections of the electrical properties of the ground as resistivities, geometries, etc. also affect the depth of investigation.

Interpretation of the contour patterns is made from experience, theoretical patterns and computer modelling.

In the case of the northerly survey lines on the Alamo 2 grid, where only "n" values of 2 and 4 were used, the results are shown in profile rather than in the "pseudo-section" format.

To conform with the grid units used, resistivity results on the old grid (Alamo 1) are calculated and plotted in $\rho_a/2\pi$ ohm.feet while the other lines are shown in terms of ρ_a ohm.meters.

DISCUSSION OF RESULTS & INTERPRETATIONNew Grid

The I.P. traverses on the new grid were carried out to test subtle trends observed in the geochemical data resulting from the mull sample survey.

Line 7N was run using four separations (n=1,2,3, & 4). The highest F.E. encountered was 1.7% at station 2+75W(n=3). This reading is supported by adjacent values of 1.1% at n=4 but are all considered to be of insufficient amplitude to be of economic interest even though there is a coincident Cu geochem value of 375 ppm at station 2W.

Lines 13N, 15N, 17N and 19N were executed using electrode separations of n=2 and 4 in the interest of expediency and efficiency. All F.E.'s were less than 2.0% except one reading of 2.2% F.E. at Line 15N, Stn. 2+00E. This single value is situated roughly in the centre of a Cu geochem contour above 200 ppm. Because of these low I.P. responses, no further coverage was deemed warranted on the new grid.

OLD GRID

Five lines were re-surveyed on the Alamo 1 claim in generally swampy areas. Frequency effects varied from 0.4% to 1.5%. All lines were surveyed using four electrode separations.

No anomalous conditions were observed over these lines. The higher F.E.'s i.e. 1.0% to 1.5% are interpreted due to swampy ground. These readings conform

with relatively low apparent resistivities yielding higher metal factors up to 8.0 at $n=1$ and 2.

CONCLUSIONS AND RECOMMENDATIONS

The present I.P. survey has shown that no anomalous conditions exist on the old grid (Alamo 1 claim) where previous run surveys suggested sub-anomalous to anomalous areas. Higher background responses appear to be caused by swamps only.

In the case of the new grid, the higher (but not necessarily anomalous) frequency effects do conform with Cu geochemical values in excess of 200 ppm. It is possible that these areas reflect Cu-Mo mineralization and could warrant drilling at some future date. This is supported by the realization that the Highland Valley camp is known to contain little pyrite with the Cu-Mo mineralization resulting in low yet significant I.P. response.

However, in light of present economic conditions, no further work is recommended on the property at this time.

Respectfully submitted,



P.P. Nielsen, B.Sc.,

Geophysicist.

STATEMENT OF QUALIFICATIONS

I DO HEREBY STATE THAT:

1. I am the author of this report and did supervise the geophysical survey described herein.
2. I have been actively and responsibly involved in all aspects of mining geophysics in Canada, the United States, Africa and Australia over the past sixteen years.
3. I graduated with a B.Sc. degree in Geophysics from the University of B.C. in 1969.
4. I am the President of Nielsen Geophysics Ltd. with business address at #205-2910-30th Avenue, Vernon, B.C.
5. I am a member of the S.E.G., C.I.I.M. and the B.C.G.S.

P.P. Nielsen

PERSONNEL

NIELSEN GEOPHYSICS LTD.

P.P. Nielsen, Geophysicist and Supervisor	4 field days
M. Letilly, Draftsperson	3 office days
S. Robatzek, Typist	1 office day

PHOENIX GEOPHYSICS LTD.

P. Gardiner, I.P. Receiver operator)	
I. Brogden, I.P. Transmitter operator)	19.5 field man.days
R. Klansjcek, I,P. I.P. Assistant)	

COSTS

NIELSEN GEOPHYSICS LTD.

Field supervision, report, transportation, accomodation,
and administration. \$2,220.00

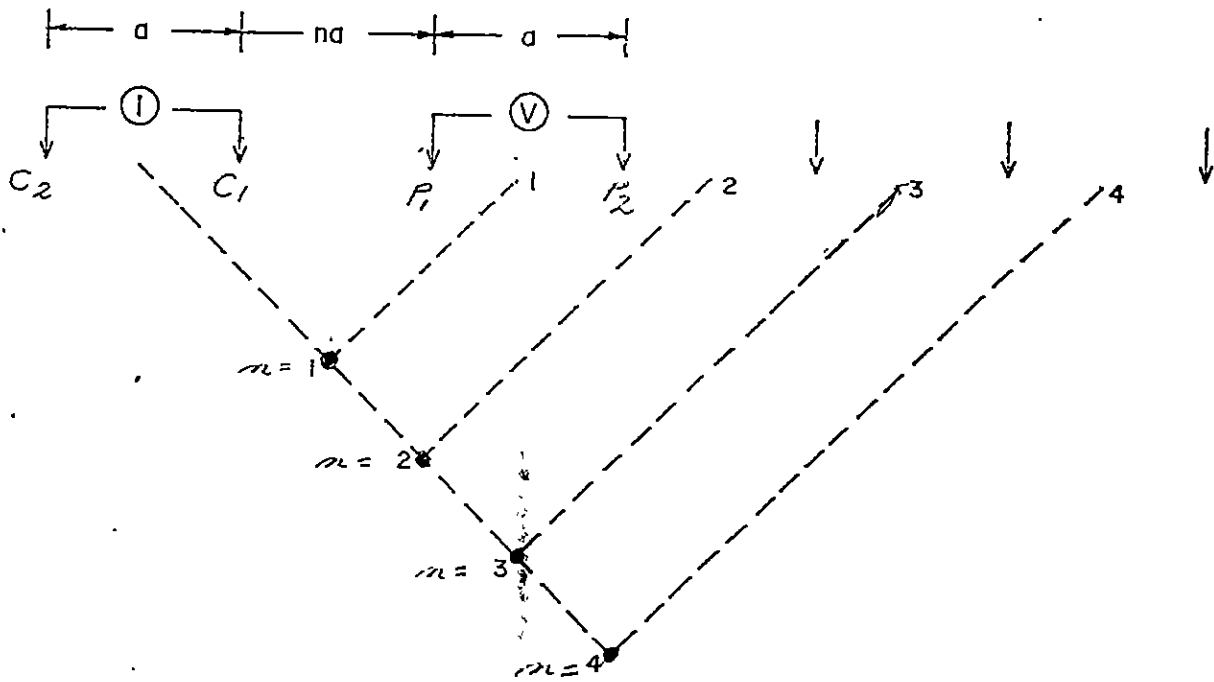
PHOENIX GEOPHYSICS LTD.

I.P. Survey including equipment , personnel, transportation,
and accomodation. \$6,300.00

TOTAL \$8,520.00
=====

A. P. Nielsen

DIPOLE - DIPOLE ARRAY

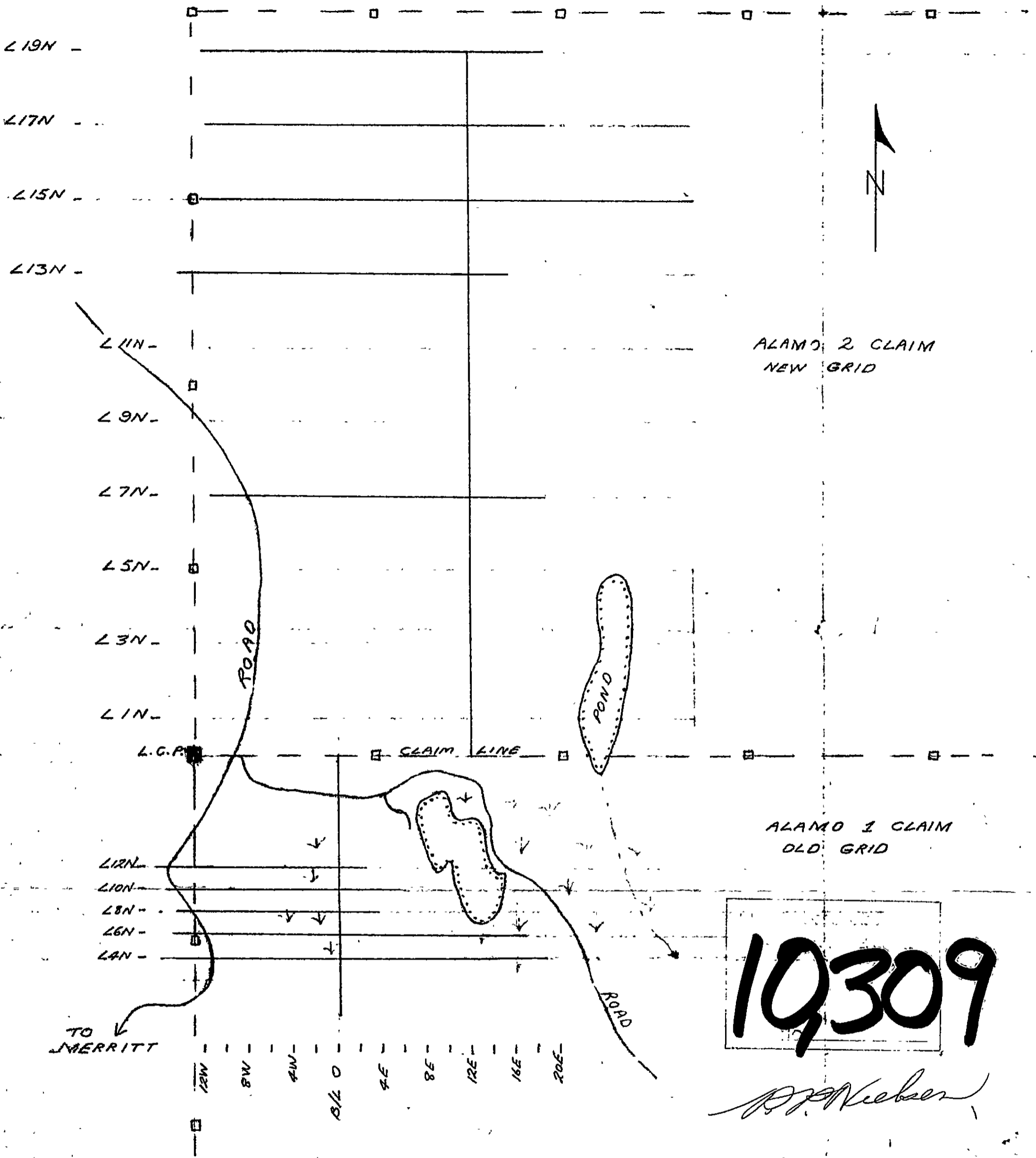


ANOMALOUS ZONE



POSSIBLE ANOMALOUS ZONE

10W 8W 6W 4W 2W B/0 2E 4E 6E



ALAMO 2 CLAIM
NEW GRID

ALAMO 1 CLAIM
OLD GRID

10309

P. Nielsen

NOTE
OLD GRID IN FEET &
NEW GRID IN METRES

SKYLARK RESOURCES LTD.		
ALAMO 1 & 2 CLAIMS		
GRID & CLAIM LOCATION MAP		
INDUCED POLARIZATION SURVEY		
KAMLOOPS M.D.	N.T.S. 92E/7	
NIELSEN GEOPHYSICS LTD.		
MAR. 1982	SCALE 1:10,000	BY: P.P.N.

FEET

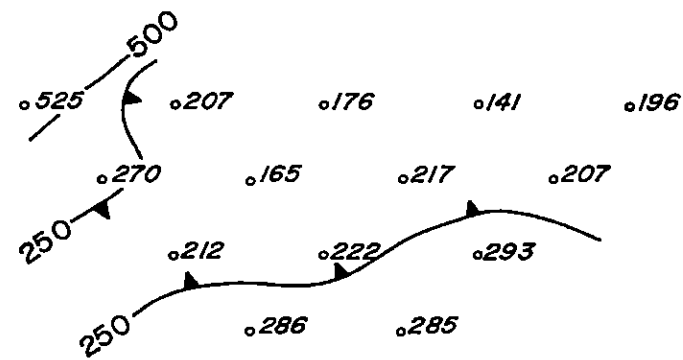
SKYLARK RESOURCES LTD.
INDUCED POLARIZATION SURVEY

ALAMO 1 CLAIM

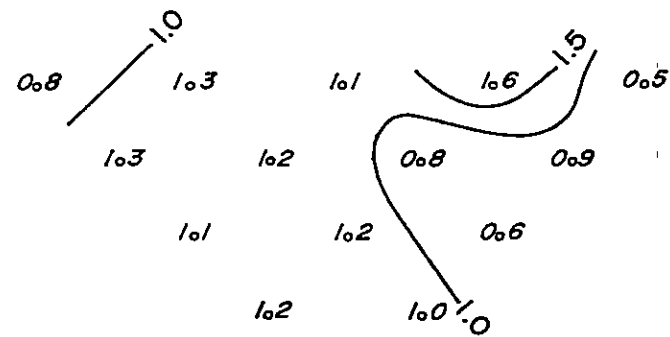
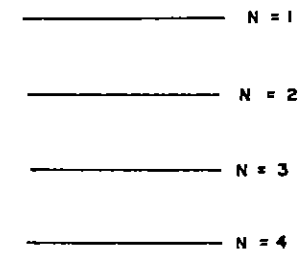
DIPOLE - DIPOLE ARRAY
 $a = 200$ FEET

Line 4 N
10309

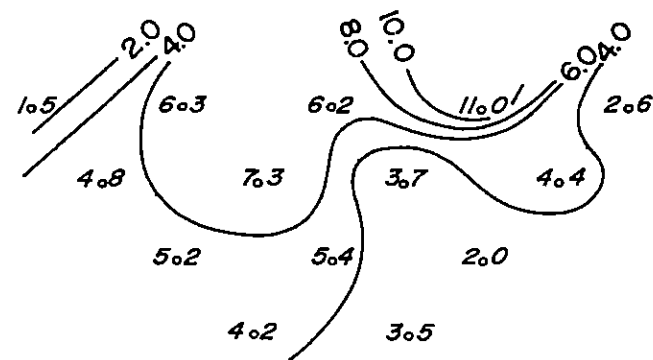
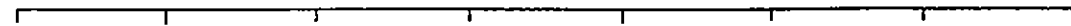
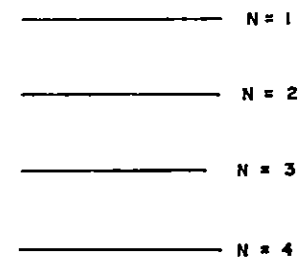
400E 600E 800E 1000E 1200E 1400E 1600E 1800E



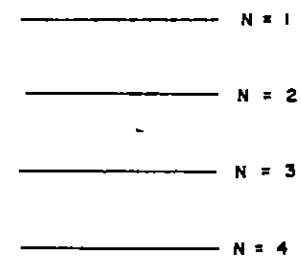
Pa/μr OHM - FEET



F. E.



M. F.



SKYLARK RESOURCES LTD.
INDUCED POLARIZATION SURVEY

ALAMO 1 CLAIM

DIPOLE - DIPOLE ARRAY
a = 200 FEET

L-6N
10,309

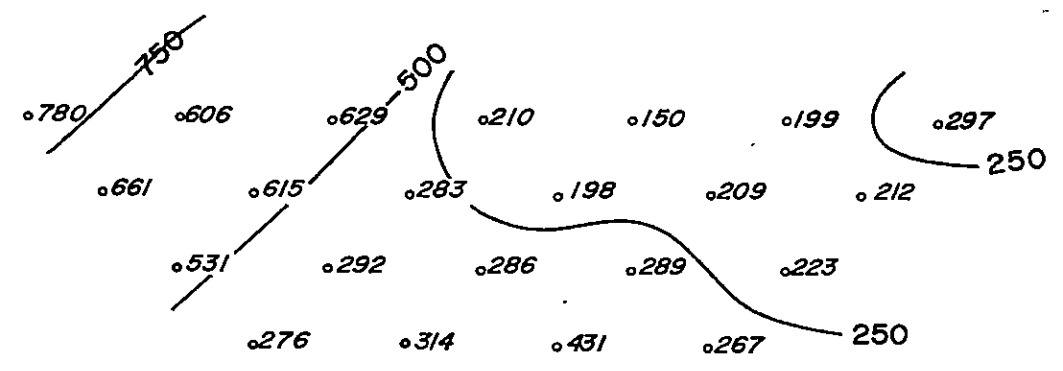
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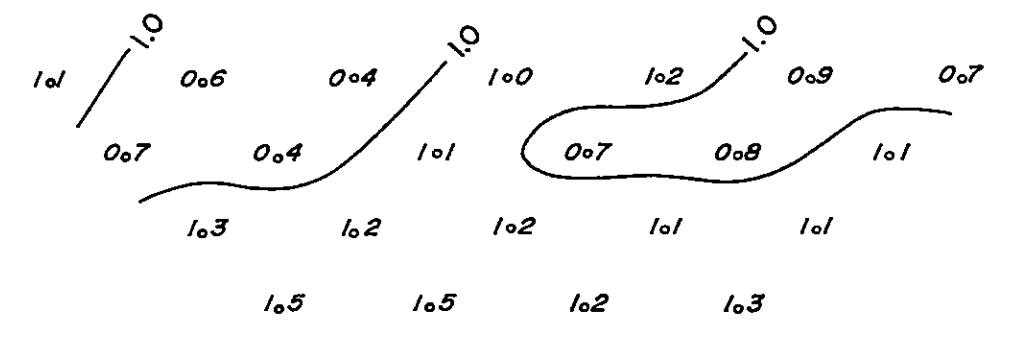
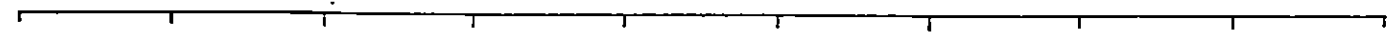
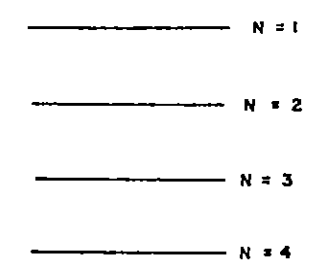
— Prepared by —
NIELSEN GEOPHYSICS LTD.
VERNON, B.C.

P. P. Nielsen

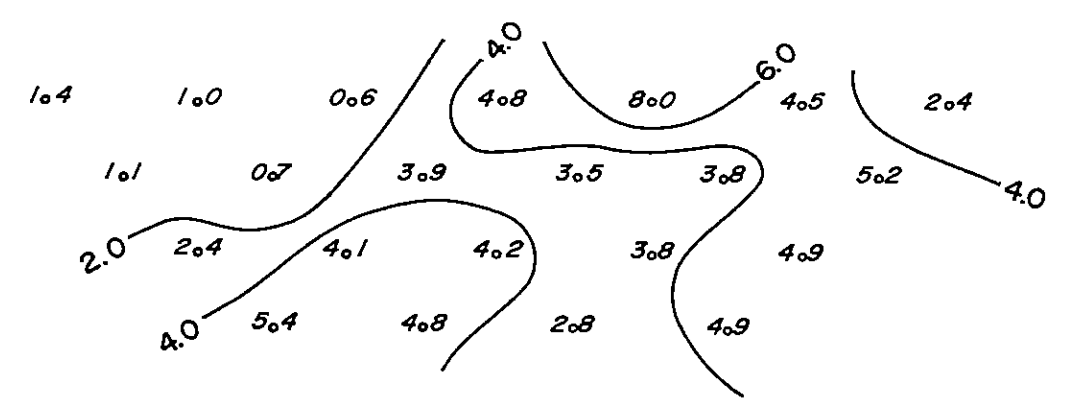
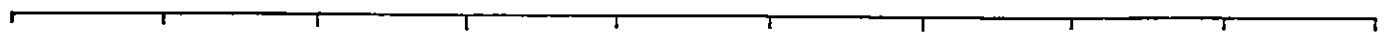
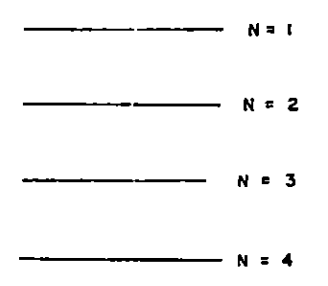
1500W 1300W 1100W 900W 700W 500W 300W 100W 100E 300E



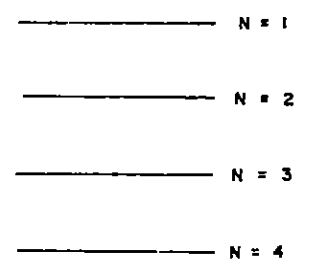
Pa/rr OHM - FEET



F.E.



M. F.



SKYLARK RESOURCES LTD.
INDUCED POLARIZATION SURVEY

ALAMO 1 CLAIM

DIPOLE - DIPOLE ARRAY
a = 200 FEET

L-10N
MINI
10,309

SCALE : 1 Cm. = 100 Ft.

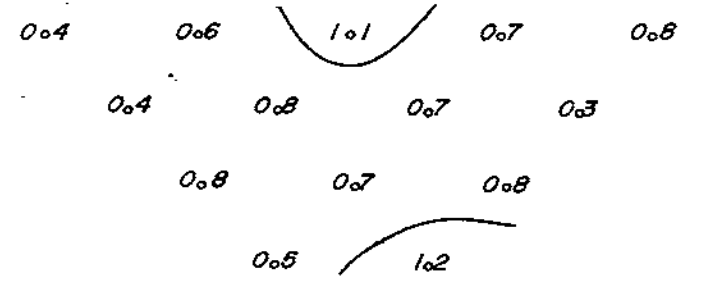
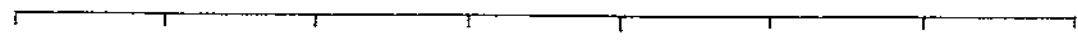


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VERNON, B.C.
P. Nielsen

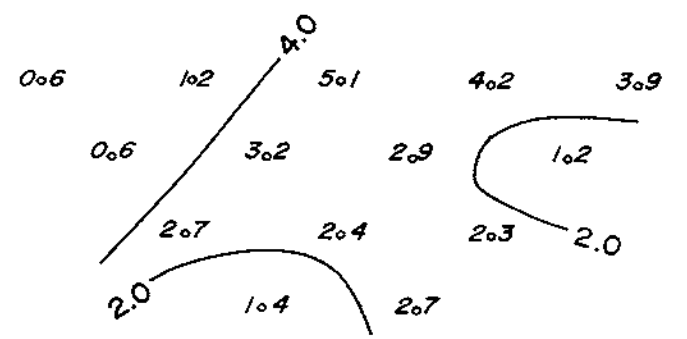
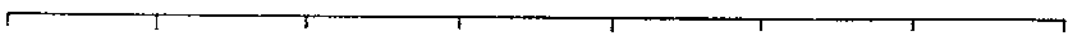
1200W 1000W 800W 600W 400W 200W 0 200E



Pa/yr OHM - FEET
 _____ N = 1
 _____ N = 2
 _____ N = 3
 _____ N = 4



F. E.
 _____ N = 1
 _____ N = 2
 _____ N = 3
 _____ N = 4



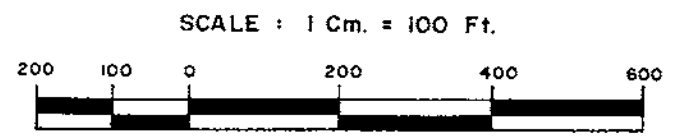
M. F.
 _____ N = 1
 _____ N = 2
 _____ N = 3
 _____ N = 4

SKYLARK RESOURCES LTD.
 INDUCED POLARIZATION SURVEY

ALAMO I CLAIM

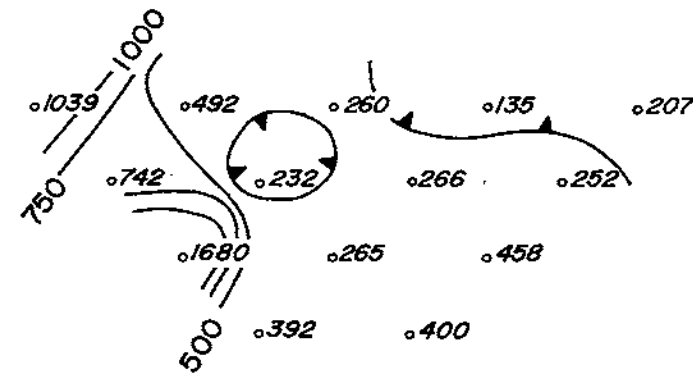
DIPOLE - DIPOLE ARRAY
 a = 200 FEET

L 8N
10,309



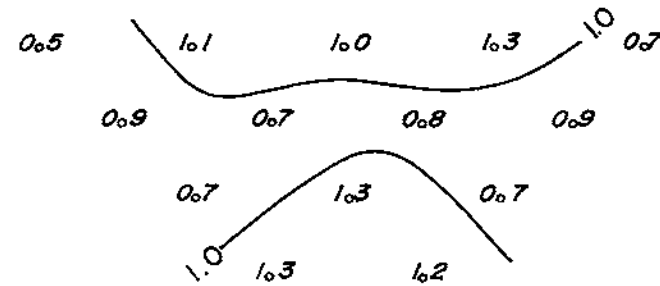
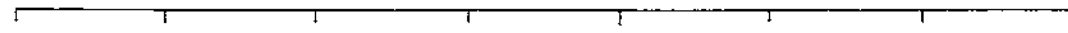
— Prepared by —
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 VERNON, B.C.
P. Nielsen

1400W 1200W 1000W 800W 600W 400W 200W 0



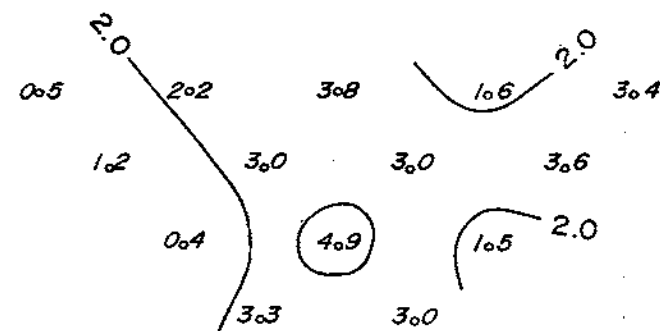
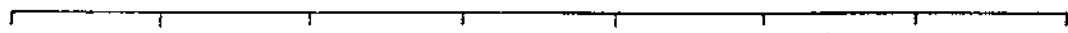
Pa/yr OHM - FEET

- _____ N = 1
- _____ N = 2
- _____ N = 3
- _____ N = 4



F. E.

- _____ N = 1
- _____ N = 2
- _____ N = 3
- _____ N = 4



M. F.

- _____ N = 1
- _____ N = 2
- _____ N = 3
- _____ N = 4

SKYLARK RESOURCES LTD.
INDUCED POLARIZATION SURVEY

ALAMO 1 CLAIM

DIPOLE - DIPOLE ARRAY
a = 200 FEET

L-12N
10,309

SCALE : 1 Cm. = 100 Ft.

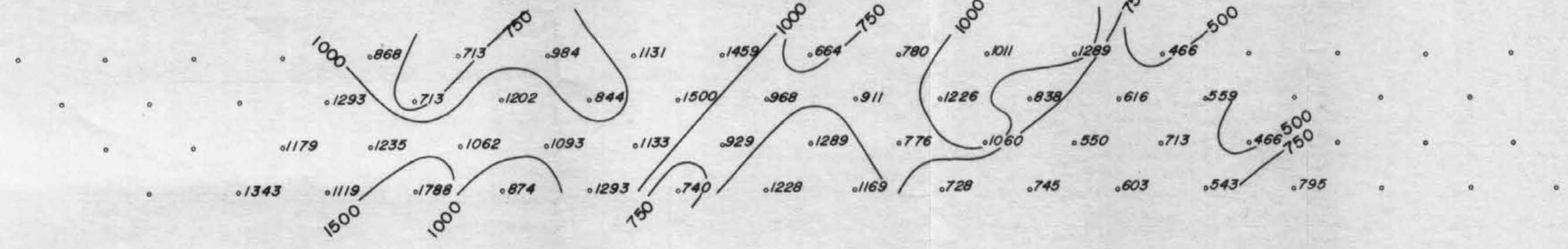


— Prepared by —
NIELSEN GEOPHYSICS LTD.
VERNON, B.C.

R. P. Nielsen

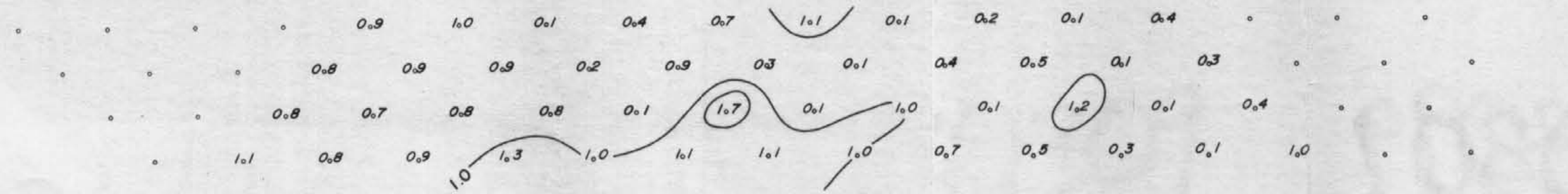
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Pa OHM - METRES



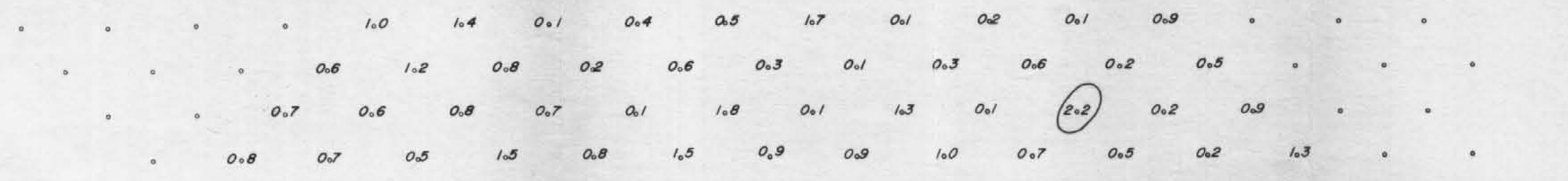
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N=2
N=3
N=4

F. E.



N=1
N=2
N=3
N=4

M. F.



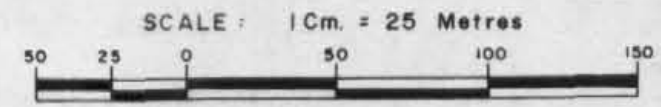
N=1
N=2
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N=4

SKYLARK RESOURCES LTD.
INDUCED POLARIZATION SURVEY

ALAMO 2 CLAIM

DIPOLE - DIPOLE ARRAY
a = 50 METRES

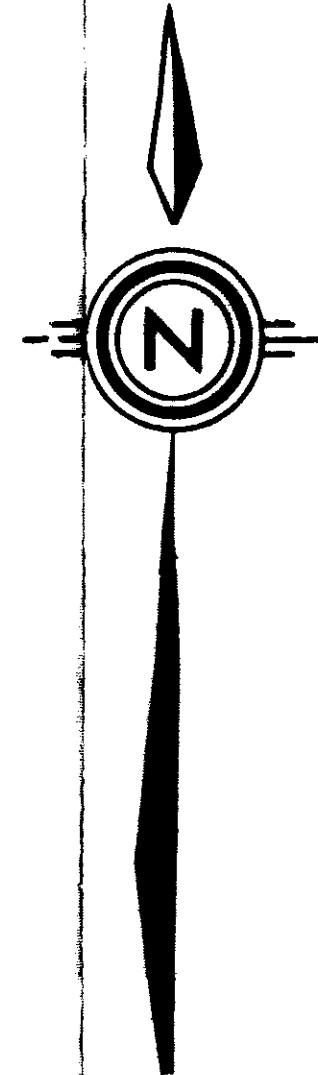
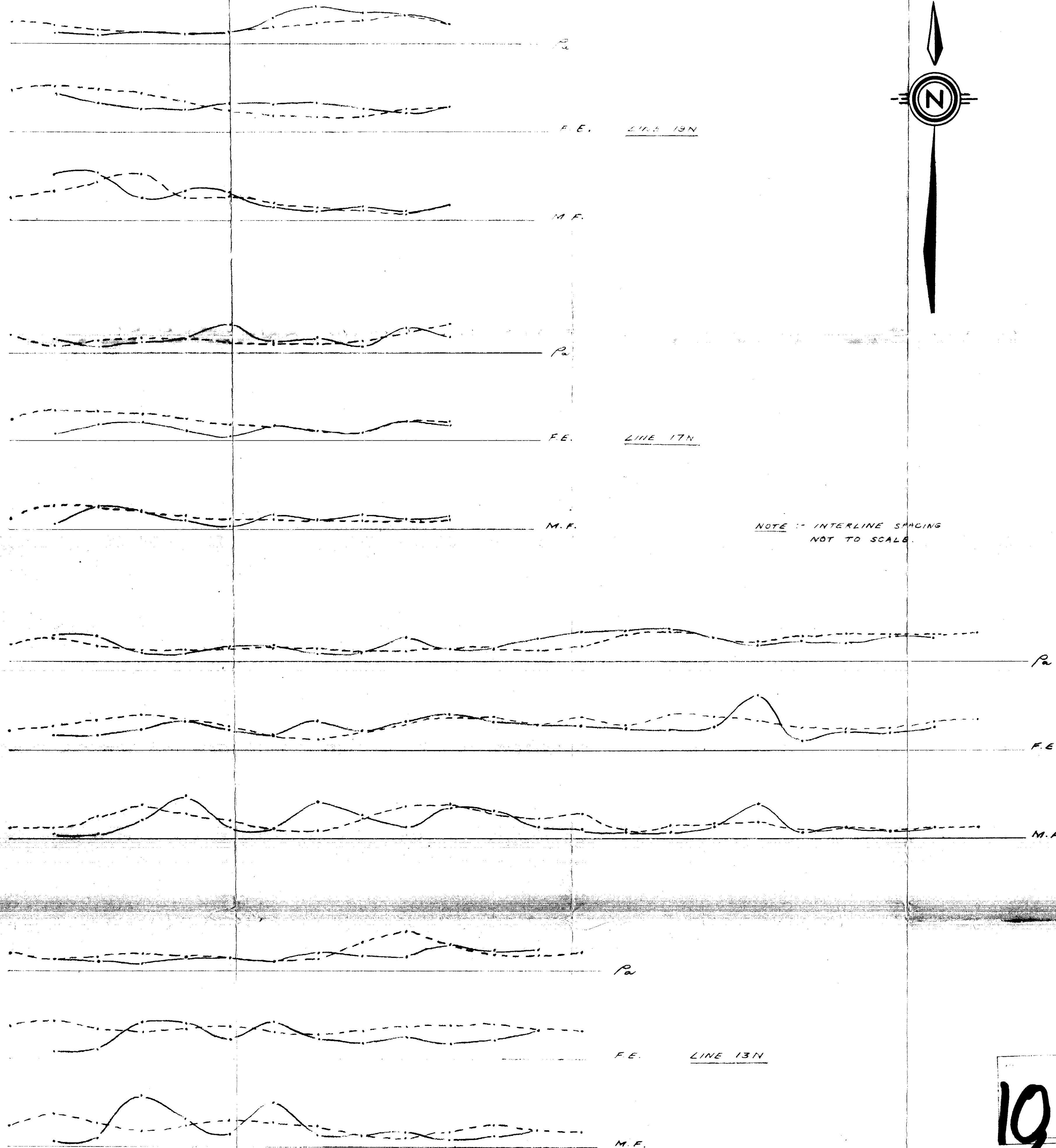
L-7N
10,309



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NIELSEN GEOPHYSICS LTD.
VERNON, B.C.

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6W 5W 4W 3W 2W 1W 0 1E 2E 3E 4E 5E

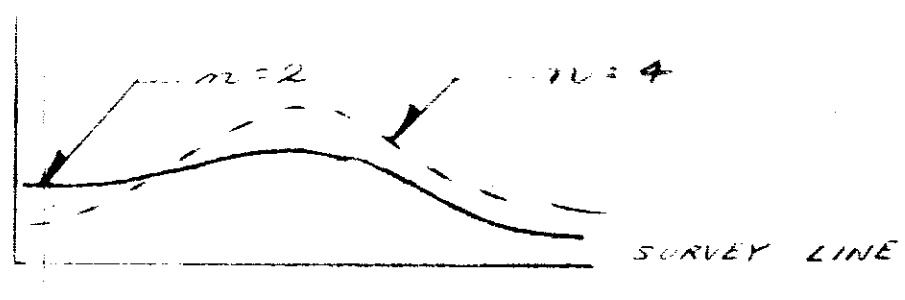


NOTE: INTERLINE SPACING NOT TO SCALE.

10309

LEGEND

VERTICAL SCALES
 Pa (APPARENT RESISTIVITY) 1CM = 1000 OHM METERS
 F.E. (FREQUENCY EFFECT) 1CM = 1.0 %
 M.F. (METAL FALTON) 1CM = 2.0 (FE x 1000)



INSTRUMENT USED
 PHOENIX FREQUENCY UNIT
 OP. FREQS. - 0.25 & 1.0 HZ.
 POWER - 2 KVA
 ELECTRODE ARRAY
 DIPOLE - DIPOLE
 M = 2 & 4
 a = 50 METERS

TO ACCOMPANY REPORT BY:-
P. Nielsen
 P. NIELSEN, M.Sc., GEOPHYSICIST.

SKYLARK RESOURCES LTD.
 ALAMO 2 CLAIM
 INDUCED POLARIZATION SURVEY
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 50 0 50 100 METERS
 HOR. SCALE