AGC AMERICAS GOLD CORP.

A GEOPHYSICAL REPORT
ON AN INDUCED POLARIZATION SURVEY
ON THE JD GOLD-SILVER PROPERTY
TOODOGGONE RIVER AREA
OMINECA MINING DIVISION
BRITISH COLUMBIA, CANADA

N.T.S. 94E/6E LATITUDE 57•26' LONGITUDE 127•09'

BY

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LLOYD GEOPHYSICS INC. VANCOUVER, BRITISH COLUMBIA

JANUARY 1996





SUMMARY

During the period of June 20 to July 16, 1995, Lloyd Geophysics Inc. carried out an induced polarization (IP) survey on the JD property, in the Toodoggone River area of B.C. for AGC Americas Gold Corporation.

The Finn zone, which was extensively drilled during 1995, gave a strong well-defined IP anomaly, whereas the IP data over the Gumbo zone did not locate the zone with any degree of certainty.

The source of the 200m long IP anomaly on the Creek zone grid is probably narrow, steeply dipping and is coincident with a gold in soils value of 1000ppb. A second IP anomaly in the northeast corner of this grid is large in areal extent and may be the edge of a porphyry system. A similar IP anomaly was also detected on the Eos zone grid.

Geological ground truthing is recommended for the IP anomalies which have not yet been trenched or drilled.



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Dwg. No. 95368-38 to 43

1.0 INTRODUCTION

During the period of June 20 to July 16, 1995, Lloyd Geophysics Inc. conducted an induced polarization (IP) survey on the JD property for AGC Americas Gold Corporation of Vancouver, B.C..

The purpose of the survey was to test for an IP response over the Gumbo, Finn, Creek and Eos epithermal gold-silver zones.

2.0 PROPERTY LOCATION AND ACCESS

The JD property is located in the Toodoggone River area of north-central British Columbia some 300 km north of Smithers (Figure 1).

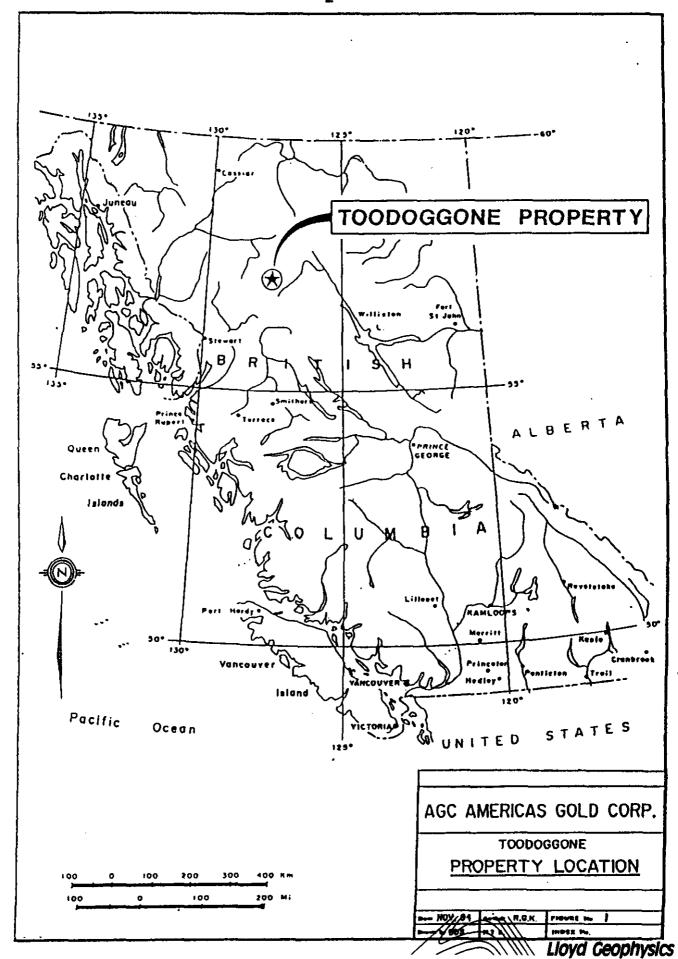
The property covers an area of approximately 50 square km, between 4 and 10 km north of the Toodoggone River. The geographic centre of the property is at latitude 57°26'N and 127°09'W. It is several miles north of the past producing Cheni Gold Mines mine which is 400 km by road from the south end of Williston Lake. A tote road off a spur road north from Cheni mine has been used to transport heavy equipment into the central and eastern parts of the property.

Access for the IP crew and equipment to the present campsite on the property was by helicopter.

The Toodoggone River area is on the eastern margin of the Spatsizi Plateau, an open, gently rolling upland surface dissected by broad, alluvium-filled valleys. Products of alpine glaciation are steep-walled cirques on north-facing slopes while southern slopes are gentle and rounded.

The JD property covers a prominent highland area between the broad valleys of Moosehorn Creek on the west, McClair Creek on the north and east, and Toodoggone River to the south. Topography is moderately rugged and elevations range from about 1400 metres above sea level on the valley floors to nearly 2000 metres in the eastern property area.





Locally dense alpine spruce and fir extend from the valley floors to about 1600 metres elevation above which is typical open alpine country featuring grasses and small shrubs. The valley floors are mainly open alpine and tundra, locally covered by buckbrush and willows.

Bedrock exposures are confined to drainages, steeper slopes and ridge crests. Abundant felsenmere is believed to be very close to bedrock.

3.0 CLAIM HOLDINGS

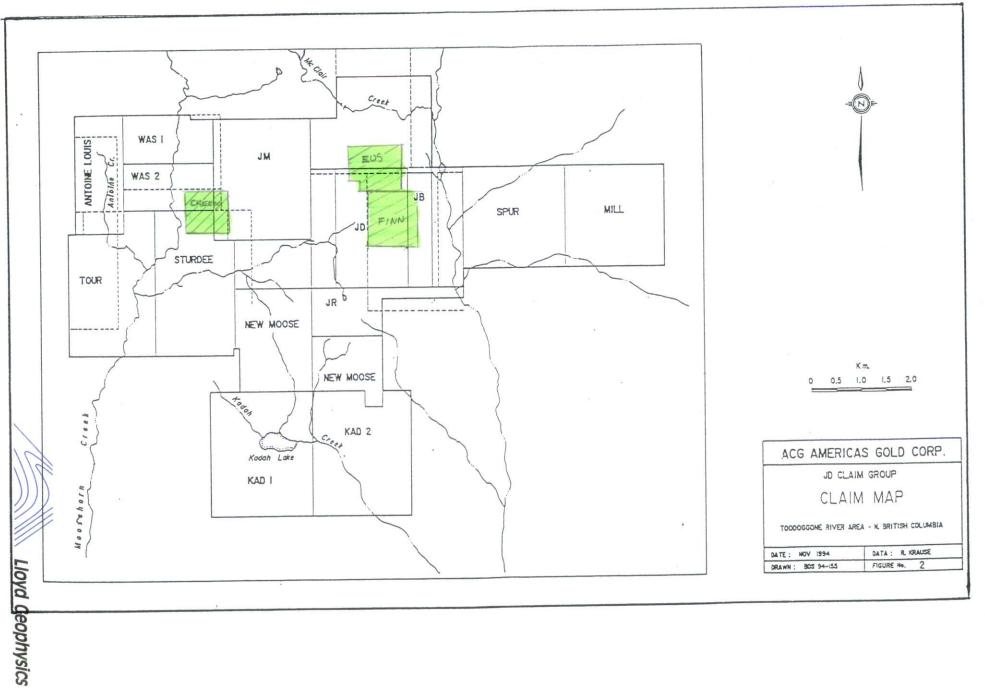
The JD property consists of 22 full and four fractional mineral claims totalling 222 units, the configuration of which is shown in Figure 2.

The essential claim data listed below is taken directly from reports provided by AGC Americas Gold Corp:

Claim Name	Record Number	No. of Units
JM	238126	20
1D	238127	20
JR	239295	6
McClair 1	238316	4
JK Fraction	238326	1
JC Fraction	238327	1
JU Fraction	238328	1
JS	238322	6
JВ	238333	20
Antoine Louise	238474	10
Furlong	238514	6
Tour	238515	18







Sturdee	239516	18
Big Bird	238517	6
Grover Fraction	238674	1
Gas 1	238675	20
Was 1	239025	8
Was 2	239026	8
New Moose 2A	303799	1
New Moose 2B	303800	1
New Moose 2C	303801	1
New Moose 2D	303802	1
New Moose 4	303823	15
New Moose 5	303824	9
KAD I	325956	20
KAD II	325957	20

4.0 REGIONAL AND PROPERTY GEOLOGY

The JD property is situated in the central part of a northwest trending belt of early Jurassic volcanic rocks, known as the Toodoggone formation. This belt of rocks is approximately 80 km long and 20 km wide.

The Toodoggone volcanic assemblage is host to a number of epithermal gold-silver deposits, which occur as fissure veins, quartz stockworks, breccia zones and areas of silification. Deposits of this nature have been mined at both the Baker and Cheni mines.

The JD property is underlain by a north to northwest striking, shallow to moderately northeast-dipping sequence of Toodoggone formation volcanic rocks. Two principal lithologic units are separated by a northwest-trending low angle fault with a known extent of 2 miles. Mafic and felsic dykes cut the older volcanic rocks.



Past work has identified a number of mineralized zones in the central property area. Most of these are within or proximal to the low angle fault structure (LAF) and are characterized by the presence of galena, sphalerite, chalcopyrite and variable native gold and silver. Several styles of mineralization include steeply-dipping quartz-carbonate-sulphide veins (Gasp, MVT, Eos zones), zones of silicification and clay mineral alteration within and adjacent to the LAF (Gumbo, JC, JD West zones), breccia zones developed at intersections between high-angle faults and the LAF (Schmitt, Ag-Carbonate, Woof zones) and structurally controlled silicified zones (Finn zone).

For a more comprehensive description of both the regional and property geology the reader is referred to the following two reports:

"1994 Geological and Geochemical Report on the JD Gold-Silver Property, Toodoggone River Area, Omineca Mining Division, British Columbia" by R.G. Krause, B.Sc., December 1994.

"JD Gold Property, Toodoggone River Area, British Columbia. Summary of 1994 Exploration Results and Recommendations for Additional Work" by N.C. Carter, PhD, P. Eng., February 17, 1995.

5.0 INSTRUMENT SPECIFICATIONS

The equipment used was a time domain measuring IP system consisting of a Wagner Leland/Onan motor generator set and a Mark II transmitter manufactured by Huntec Limited, Toronto, Canada and a 6 channel IP-6 receiver manufactured by BRGM Instruments, Orleans, France.

The Wagner Leland/Onan motor generator supplies in excess of 7.5 kilowatts of 3 phase power to the ground at 400 hertz via the Mark II transmitter.

The transmitter was operated with a cycle time of 8 seconds and the duty cycle ratio: [(time

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on)/(time on + time off)] was 0.5 seconds. This means the cycling sequence of the transmitter was 2 seconds current "on" and 2 seconds current "off" with consecutive pulses reversed in polarity.

The IP-6 receiver can read up to 6 dipoles simultaneously. It is microprocessor controlled, featuring automatic calibration, gain setting, SP cancellation and fault diagnosis. To accommodate a wide range of geological conditions, the delay time, the window widths and hence the total integration time is programmable via the keypad. Measurements are calculated automatically every 2 to 4 seconds from the averaged waveform which is accumulated in memory.

The instrument parameters chosen for this survey were as follows:

Cycle Time (T_c) = 8 seconds

Ratio (Time On) = 1:1 (Time Off)

Duty Cycle Ratio

 $\frac{\text{(Time On)}}{\text{(Time On)} + \text{(Time Off)}} = 0.5$

Delay Time (T_D) = 120 milliseconds

Window Width (t_p) = 90 milliseconds

Total Integration Time = 900 milliseconds

The window widths of the IP-6 receiver can be programmed arithmetically or logarithmically. For this particular survey the instrument was programmed arithmetically into 10 equal window



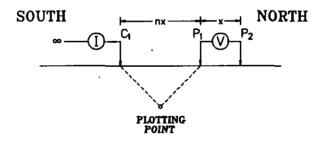
widths or channels, Ch_0 , Ch_1 , Ch_2 , Ch_3 , Ch_4 , Ch_5 , Ch_6 , Ch_7 , Ch_8 , Ch_9 (Figure 3). These may be recorded individually and summed up automatically to obtain the total chargeability. Similarly, the resistivity (ρ_a) in ohm-metres is also calculated automatically.

6.0 SURVEY SPECIFICATIONS

The IP data was collected using the pole-dipole array. In this array the dipole length (x), the distance between P_1 and P_2 determines mainly the sensitivity of the array, whereas the electrode separation (nx), the distance between C_1 and P_1 determines mainly the depth of penetration of the array.

The array was configured as follows for all of the north-south lines:

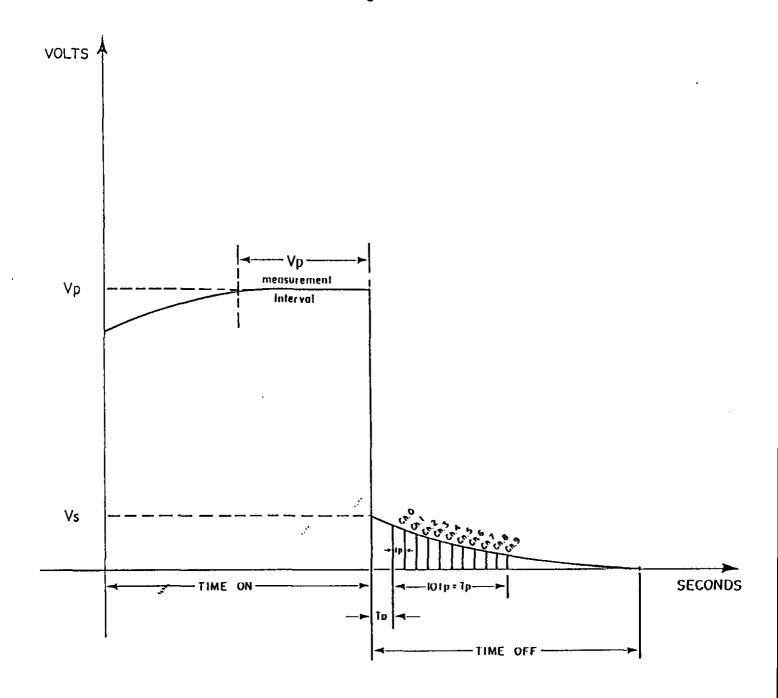
POLE-DIPOLE ARRAY



$$x = 25m$$
 $n = 1 - 6$

Current electrode C₁ south of potential dipole P₁P₂





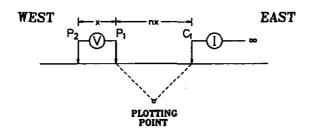
BRGM IP-6 RECEIVER PARAMETERS

Figure 3



The array was configured as follows for the one east-west tieline, 900N:

POLE-DIPOLE ARRAY



$$x = 25m$$
 $n = 1 - 6$

Current electrode C_1 east of potential dipole P_1P_2

The survey measurements were made with the current electrode C_1 , to the south of the potential measuring dipole P_1P_2 for all of the north-south lines and to the east of P_1P_2 for the east-west tieline, 900N.

7.0 DATA PROCESSING

IP data collected in the field was processed using a portable 486 Compaq Notebook and a Fujitsu colour printer. Using this system IP pseudosections and contour plan maps were generated and plotted at the end of each survey day.

In the office, using appropriate software, final data processing was completed, and the field data was transferred to mylar or colour prints (not included in this report) using a Pentium 586 desktop computer coupled to either a Hewlett Packard Draftsmaster II Plotter or a Hewlett Packard Design Jet 650C Colour Plotter.



8.0 DATA PRESENTATION

The data obtained from the IP survey described in this report is presented on 37 pseudo-sections and 6 contour plan maps as listed below:

Pseudo-Sections	(Scale 1:1000)		
Line No	Dwg No	Line No	Dwg No
3000W	95368-01	100E	95368-20
2900W	95368-02	200E	95368-21
2800W	95368-03	300E	95368-22
2700W	95368-04	400E	95368-23
2600W	95368-05	500E	95368-24
2500W	95368-06	600E	95368-25
2400W	95368-07	700E	95368-26
2300W	95368-08		
2200W	95368-09	200W	95368-27
2100W	95368-10	100W	95368-28
2000W	95368-11	0	95368-29
1900W	95365-12	100E	95368-30
1800W	95365-13	200E	95368-31
T.L.900N	95368-14	300E	95368-32
		400E	95368-33
400W	95368-15	500 E	95368-34
300W	95368-16	600E	95368-35
200W	95368-17	700E	95368-36
100W	95358-18	800E	95368-37
0	93568-19		



Plan Maps (Scale 1:5000)		
Finn/Gumbo Zones, Chargeability	N = 1	95368-38
Finn/Gumbo Zones, Resistivity	N = 1	95368-39
Creek Zone, Chargeability	N = 1	95368-40
Creek Zone, Resistivity	N = 1	95368-41
Eos Zone, Chargeability	N = 1	95368-42
Eos Zone, Resistivity	N = 1	95368-43

9.0 DISCUSSION OF RESULTS

An IP response depends largely on the following factors:

- the volume content of sulphide minerals
- the number of pore paths blocked by sulphide grains
- the number of sulphide faces that are available for polarization
- the absolute size and shape of the sulphide grains and the relationship of their size and shape to the size and shape of the available pore paths
- the electrode array employed
- the width, depth, thickness and strike length of the mineralized body and its location relative to the array
- the resistivity contrast between the mineralized body and the unmineralized host rock

The sulphide content of the underlying rocks is one of the critical factors that we would like to determine from the field measurements. Experience has shown that this is both difficult and unreliable because of the large number of variables, described above, which contribute to an IP response. The problem is further complicated by the fact that rocks containing magnetite, graphite, clay minerals and variably altered rocks produce IP responses of varying amplitudes.



A detailed study has been made of the pseudo-sections which accompany this report. These pseudo-sections are not sections of the electrical properties of the sub-surface strata and cannot be treated as such when determining the depth, width and thickness of a zone which produces an anomalous pattern. The anomalies are classified into 4 groups: definite, probable, and possible anomalies and anomalies which have a deeper source.

This classification is based partly on the relative amplitudes of the chargeability and to a lesser degree on the resistivity response. In addition the overall anomaly pattern and the degree to which this pattern may be correlated from line to line are of equal importance.

The Finn Zone (Dwg. Nos: 95368-19 to 26 and 38.39)

The Finn Zone produced a strong well-defined IP anomaly. It crosses six lines extending from about 625S on line 100E to about 425S on line 600E giving it a strike length of about 550 metres in an east-northeast direction. This zone is quite different in direction to the 3 km long west-northwest trending gold in soil geochemical anomaly, suggesting that the Finn Zone is, at least in part, structurally controlled.

Strong well-developed, resistivity highs (lines 200E and 300E) coincident with the high chargeability response of the zone is believed to indicate the silicified component of the zone.

At the northeast end of the zone, the nature of the IP response changes in character. On line 600E the anomaly still vaguely represents a narrow, confined source, whereas on line 700E, this component of the anomaly has disappeared and a much broader, deeper source is indicated.

The Gumbo Zone (Dwg. Nos. 95368-15 to 18 and 38,39)

The data over these four lines, 100W to 400W, which overlie the Gumbo zone does not establish its location with a great deal of certainty.



There is an anomaly on line 100W at about 600S which has been interpreted as either an extension of the Finn zone or the south end of the Gumbo zone. This anomaly is also present on line 200W, but dies out rapidly further to the west.

A broad anomaly, with poor shape, at about 225S on line 100W which carries over to 300S on line 200W may indicate the north end of the Gumbo zone.

Finally, an anomaly at about 200S on line 300W which continues over to line 400W at about 175S is believed to be caused by a fault.

The Creek Zone (Dwg. Nos. 95368-01 to 14 and 40,41)

Although this grid covers an area of slightly greater than 1 square km, it is characterized by only two good quality anomalies.

The first anomaly strikes east-northeast from about 925N on line 2800W to about 950N on line 2700W. The chargeability reaches a maximum of 10.1 milliseconds at 962.5N on line 2700W. The source of this anomaly is thought to be narrow, steeply-dipping and less than 200m long. It is interesting to note that the last geochemical soil sample on the north end of line 2700W at 950N with a value of 1000 ppb gold is coincident with the IP anomaly.

The second anomaly occupies the northeast corner of the grid (see Dwg. No. 95368-40) is large in lateral extent, fairly continuous with depth and appears more like the edge of a porphyry sulphide system.

The Eos Zone (Dwg. Nos. 95368-28 to 37 and 42,43)

There are no anomalies on this grid which represent narrow confined sources, like the Finn zone for example.



Centred at about 850N on lines 400E to 800E is an extremely uniform low amplitude chargeability response which covers an area 400m long by 100 to 400 m wide and is open along the eastern edge of the grid. The maximum chargeability response reaches about 15 milliseconds above a background of about 3 milliseconds. Within the anomaly itself the resistivities are less than 500 ohm-metres, whereas away from the anomaly resistivities are always greater than 1000 ohm-metres. If this anomaly represents porphyry style mineralization the sulphide content is not expected to be more than 1 to 2% by volume.

10.0 CONCLUSIONS AND RECOMMENDATIONS

From a study of the IP data described in this report it has been concluded that:

- A. The Finn zone produced a strong well-defined IP anomaly.
- B. The data over the Gumbo zone is complex and therefore it is not possible to pinpoint the exact location of the zone with a great deal of certainty.
- C. On the Creek zone grid a 200m long IP anomaly with possible coincident gold in soils was identified.
- D. The IP signature in the northeast corner of the Creek zone grid and on the eastern margin of the Eos grid may at best represent porphyry style mineralization, but could of course be the outline of an uneconomic geological formation.

It is recommended that ground truth be sought for the small two line anomaly on the Creek zone grid and for the two anomalies of large areal extent, one on the Creek zone grid and one on the Eos grid.

Respectfully submitted,

LLOYD GEOPHYSICS INC.

John Lloyd, M.Sc., P.Eng.

Senior Geophysicist

Lloyd Geophysics

APPENDICES



APPENDIX A

PERSONNEL EMPLOYED ON SURVEY

Name	Occupation	Address	Dates Worked
J. Lloyd	Geophysicist	#455-409 Granville Street Vancouver, B.C. V6C 1T2	Jan 08,09,17, 18&26/96
F. Dziuba	Geophysicist	#455-409 Granville Street Vancouver, B.C. V6C 1T2	Jun 20 to Jul 16/95
M. Cordiez	Instrument Operator	#455-409 Granville Street Vancouver, B.C. V6C 1T2	Jun 20 to Jul 16/95
B. Westerbe	rg Helper	#455-409 Granville Street Vancouver, B.C. V6C 1T2	Jun 20 to Jul 16/95
A. Kovacs	Helper	#455-409 Granville Street Vancouver, B.C. V6C 1T2	Jun 20 to Jul 16/95
M. Marek	Helper	#445-409 Granville Street Vancouver, B.C. V6C 1T2	Jun 20 to Jul 16/95



APPENDIX B

COST OF SURVEY AND REPORTING

Lloyd Geophysics Inc. contracted the IP data on a per diem basis. The Mobilization/demobilization, living and travelling expenses, truck charges, data processing, consumables, map reproduction, interpretation and report writing were additional costs. The breakdown of these costs are shown below:

Mobilization/Demobilization	5 man crew	\$ 5746.16
IP Data Acquisition		33925.00
Data Processing and Comput Consumables and Reprograph	——————————————————————————————————————	3508.55
Interpretation and Reporting		2125.00
	Subtotal	\$ 45304.71
	G.S.T.	_3171.32
	Total Cost:	\$ 48476.03



APPENDIX C

CERTIFICATION OF AUTHORS

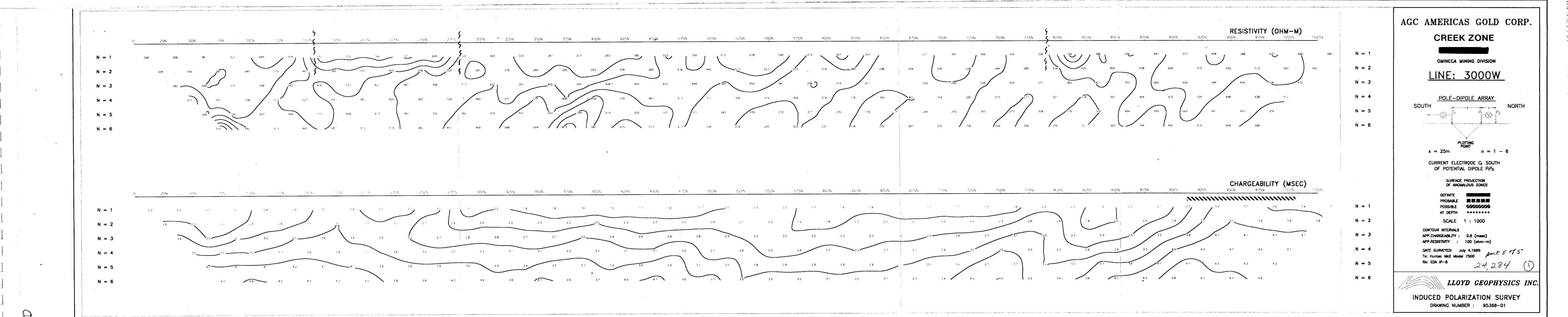
I, John Lloyd, of #455 - 409 Granville Street, in the City of Vancouver, in the Province of British Columbia, do hereby certify that:

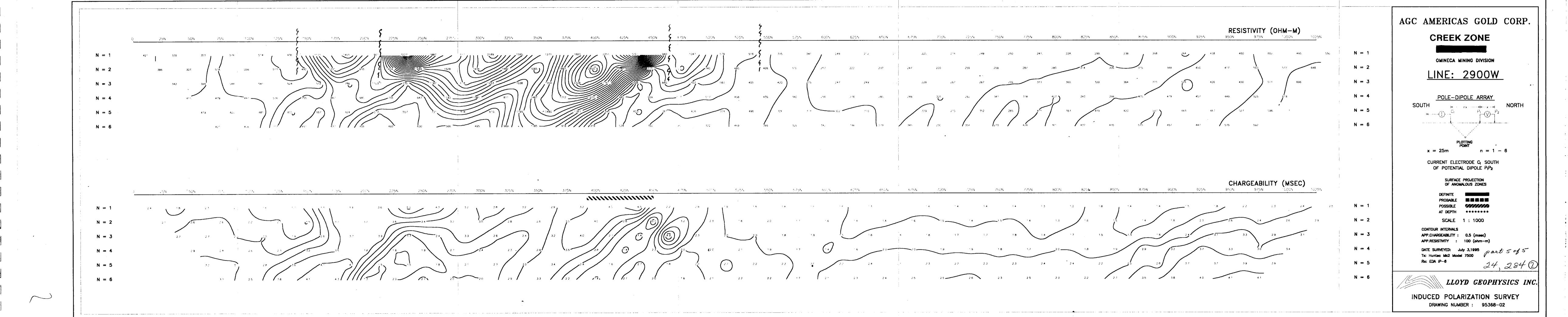
- 1. I graduated from the University of Liverpool, England in 1960 with a B.Sc. in Physics and Geology, Geophysics Option.
- 2. I obtained the diploma of the Imperial College of Science, Technology and Medicine(D.I.C.), in Applied Geophysics from the Royal School of Mines, London University in 1961.
- 3. I obtained the degree of M.Sc. in Geophysics from the Royal School of Mines, London University in 1962.
- 4. I am a member in good standing of the Association of Professional Engineers in the Province of British Columbia, the Society of Exploration Geophysicists of America, the European Association of Exploration Geophysicists and the Canadian Institute of Mining and Metallurgy.
- 5. I have been practising my profession for over thirty years.

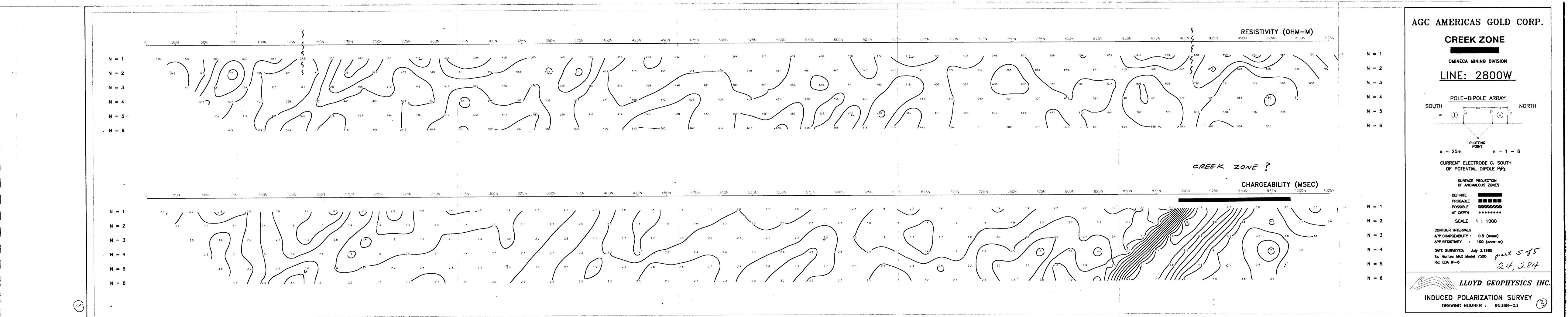
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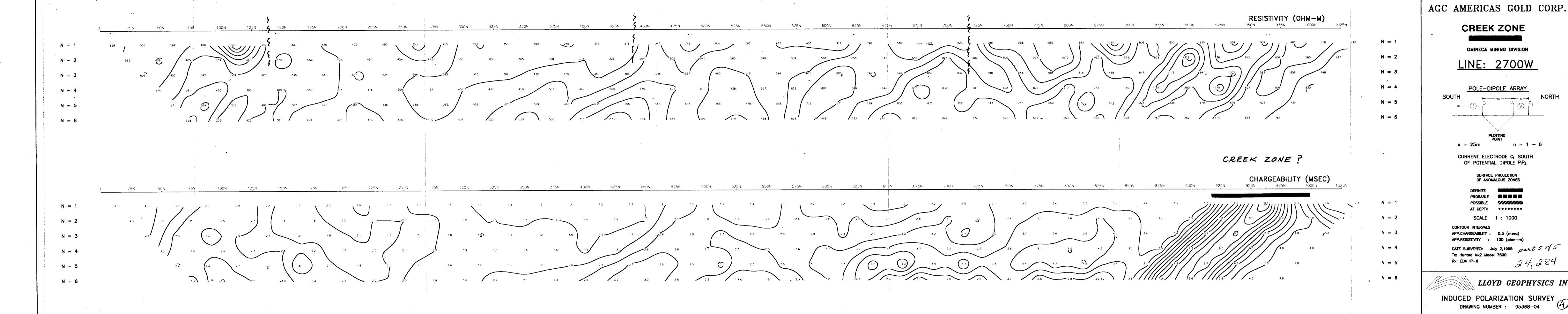
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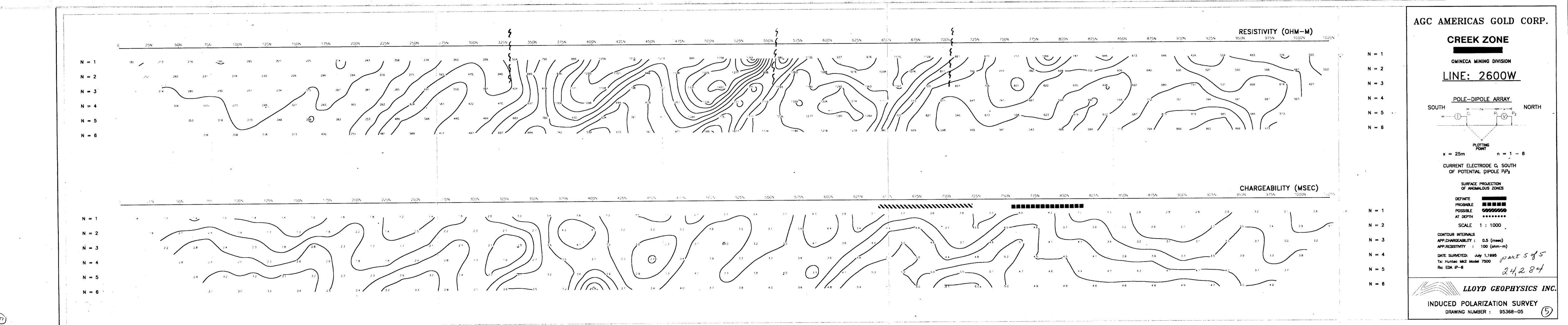




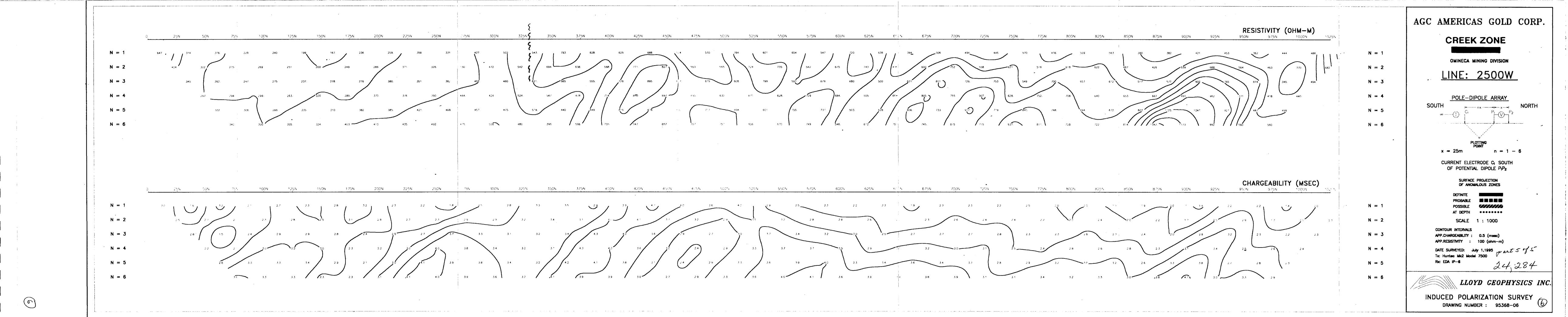


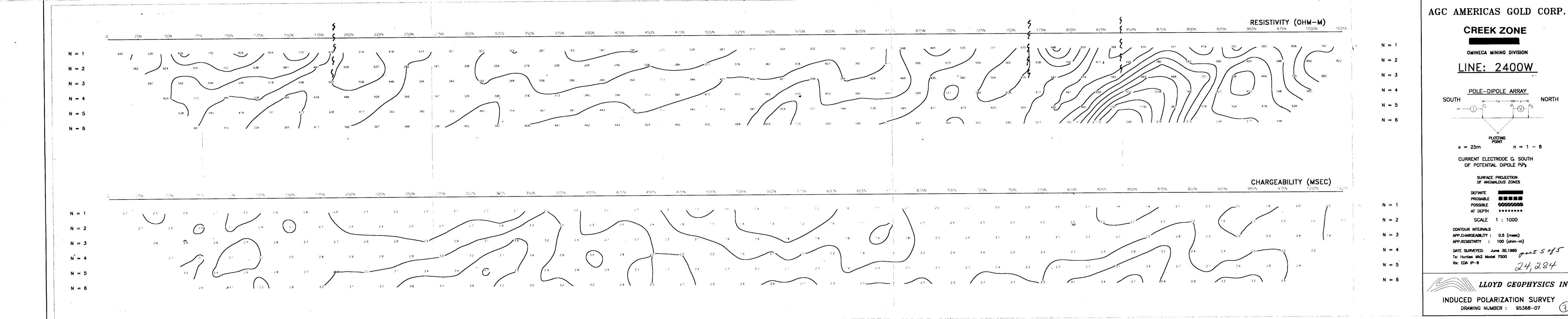




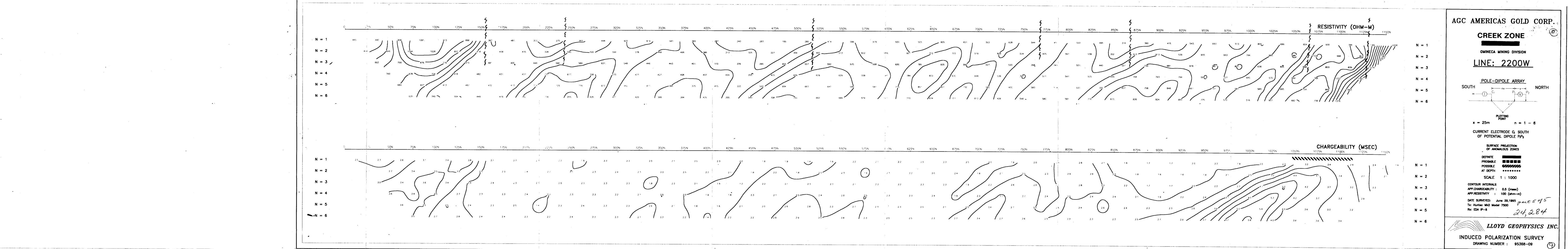


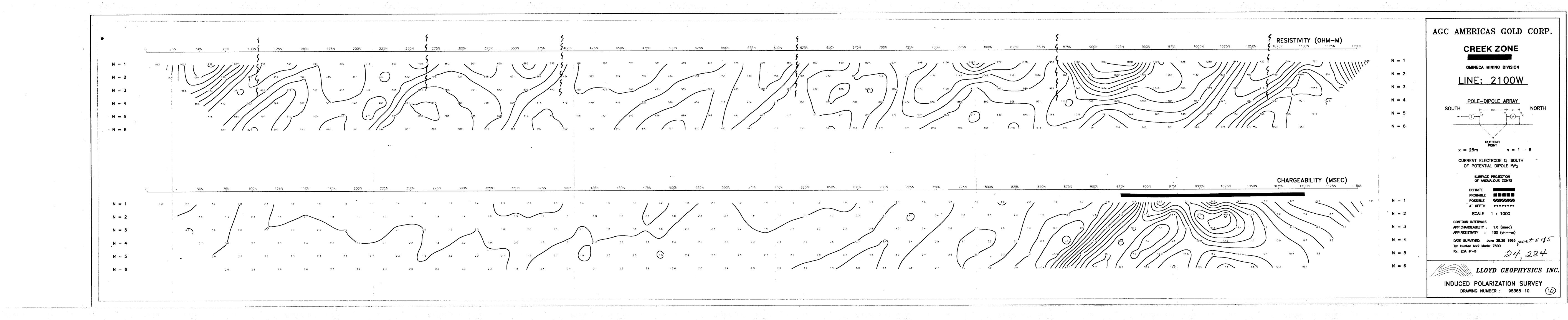
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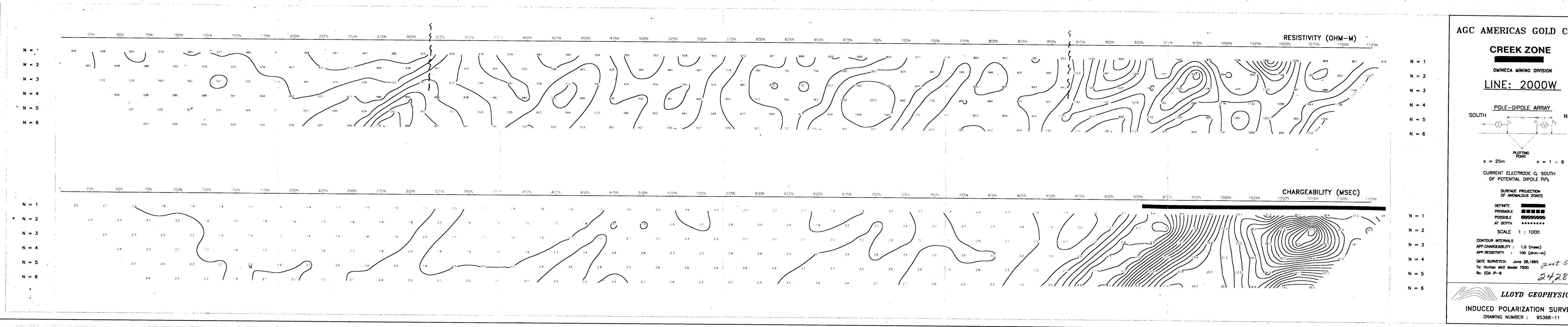


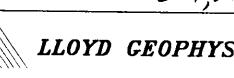


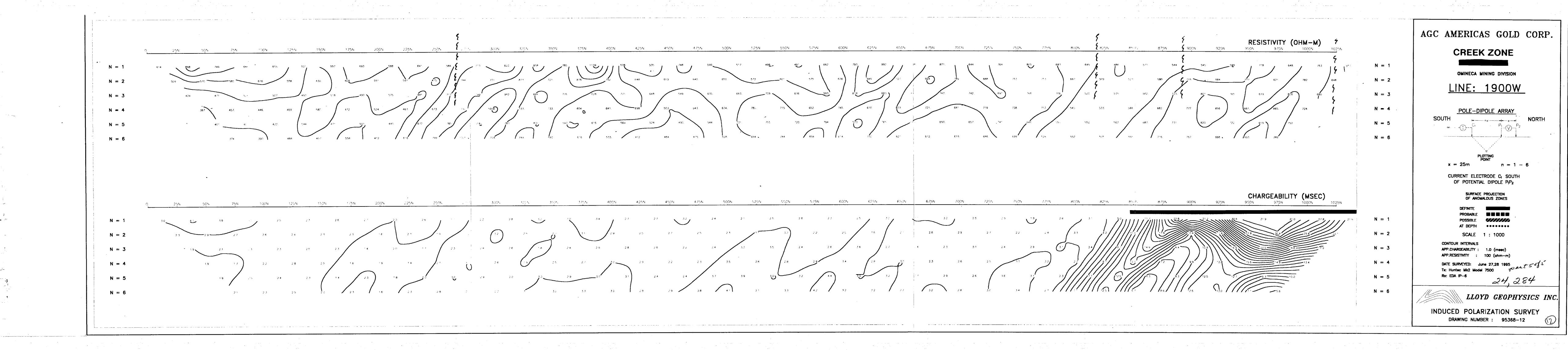


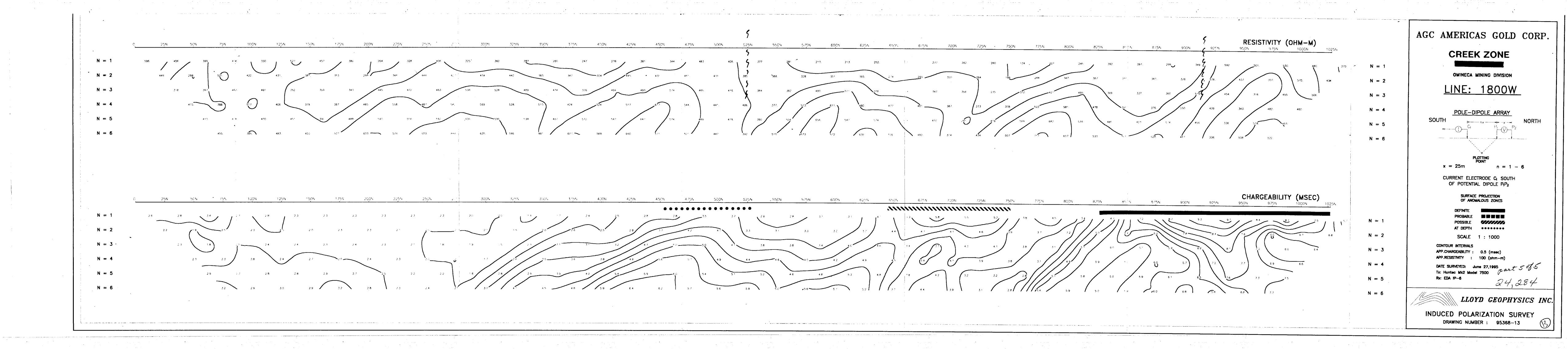


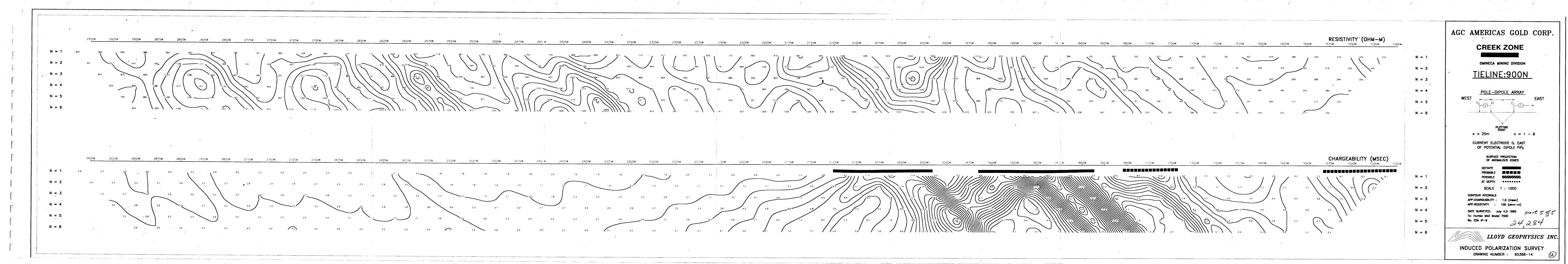


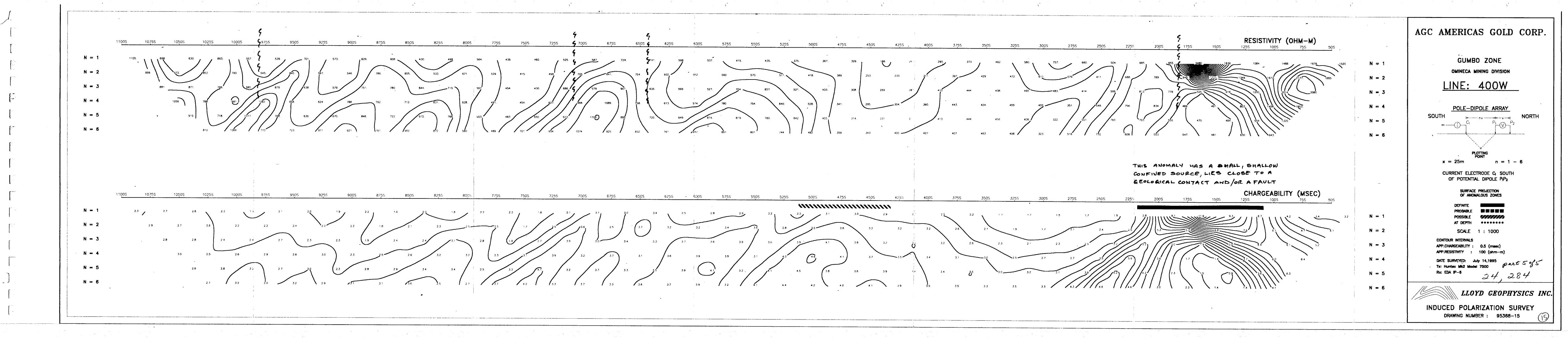


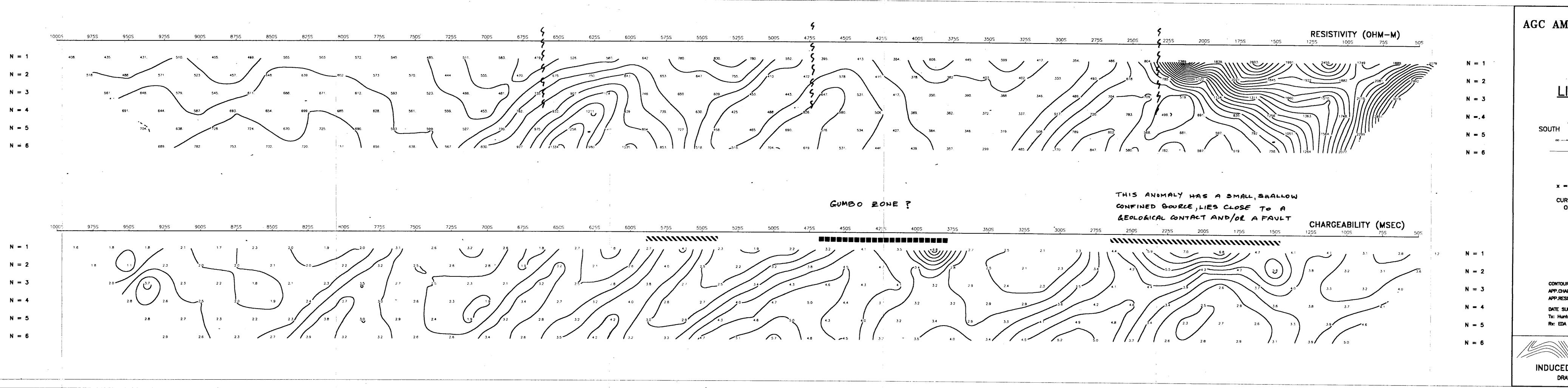




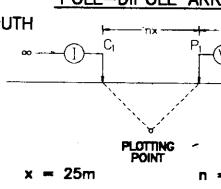




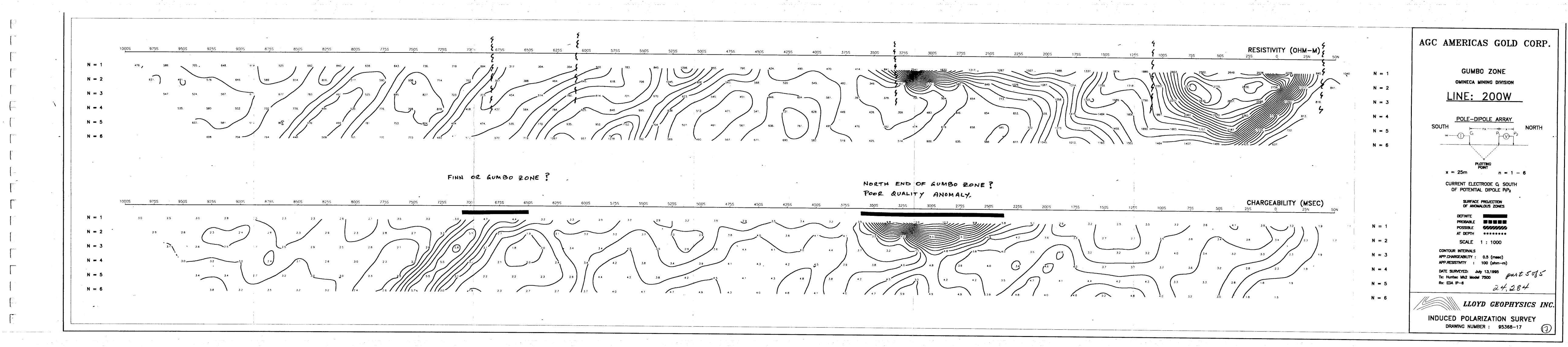


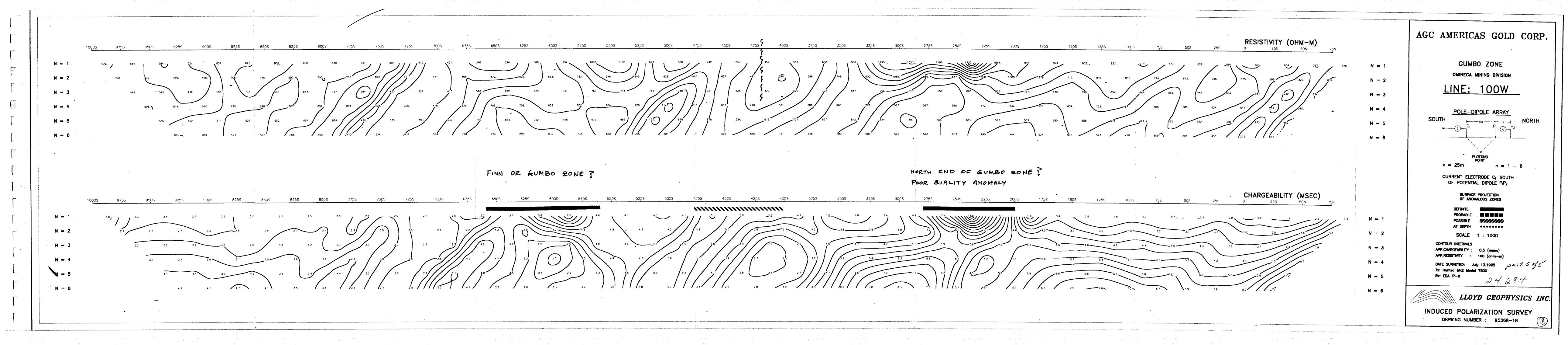


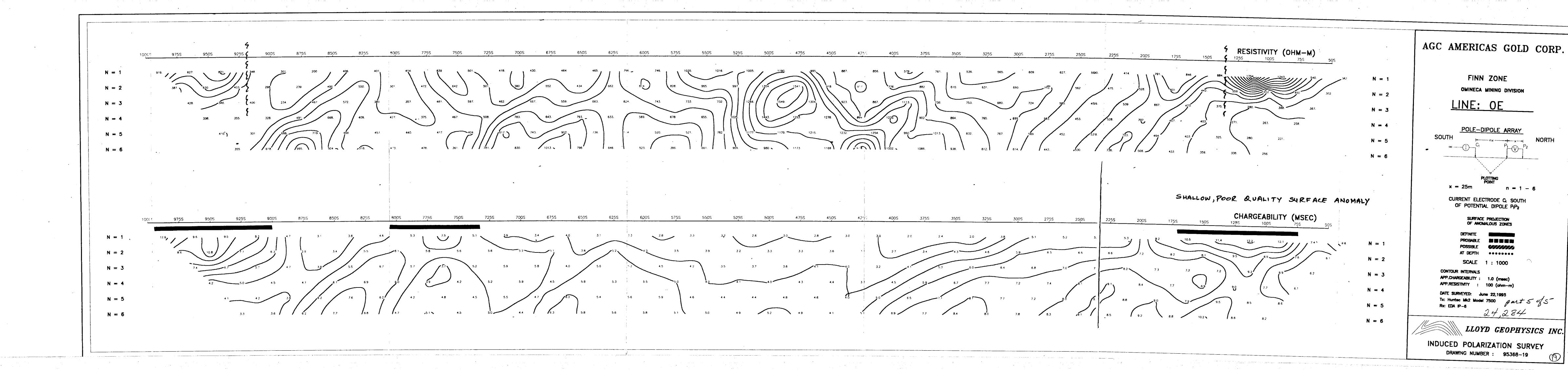
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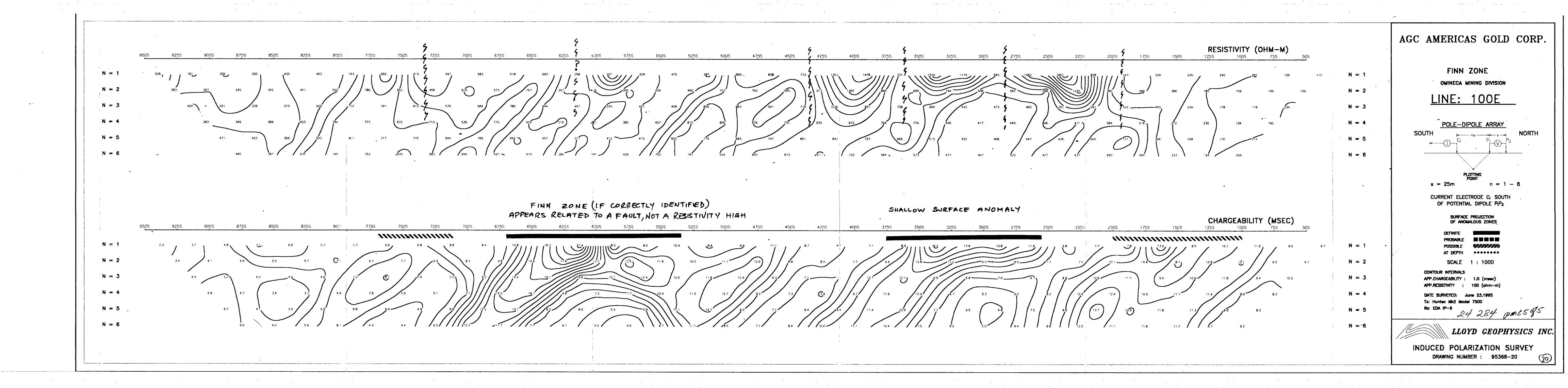


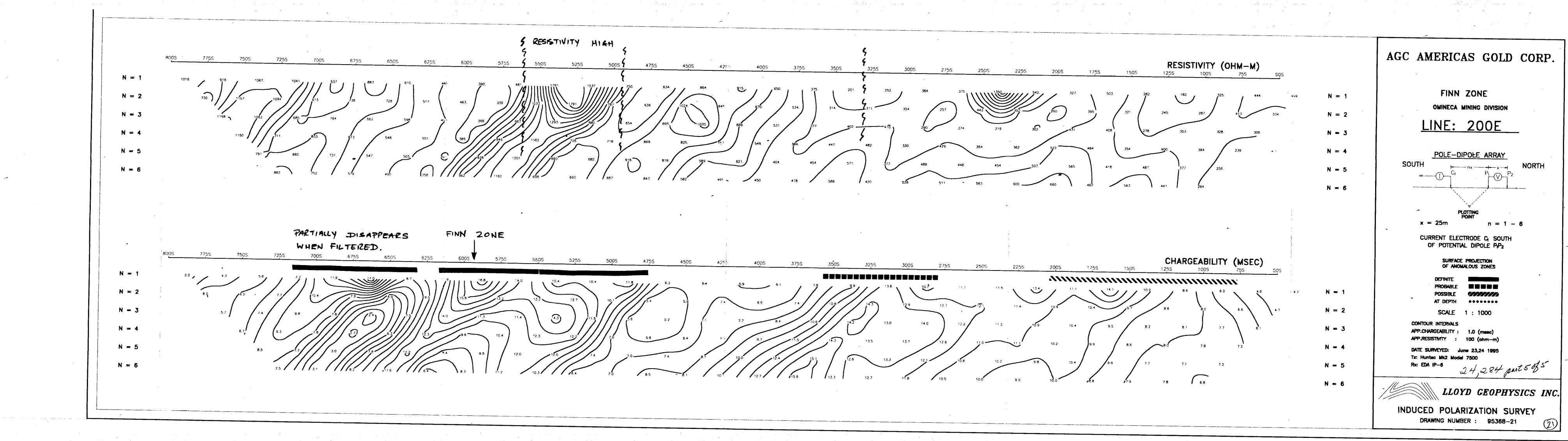
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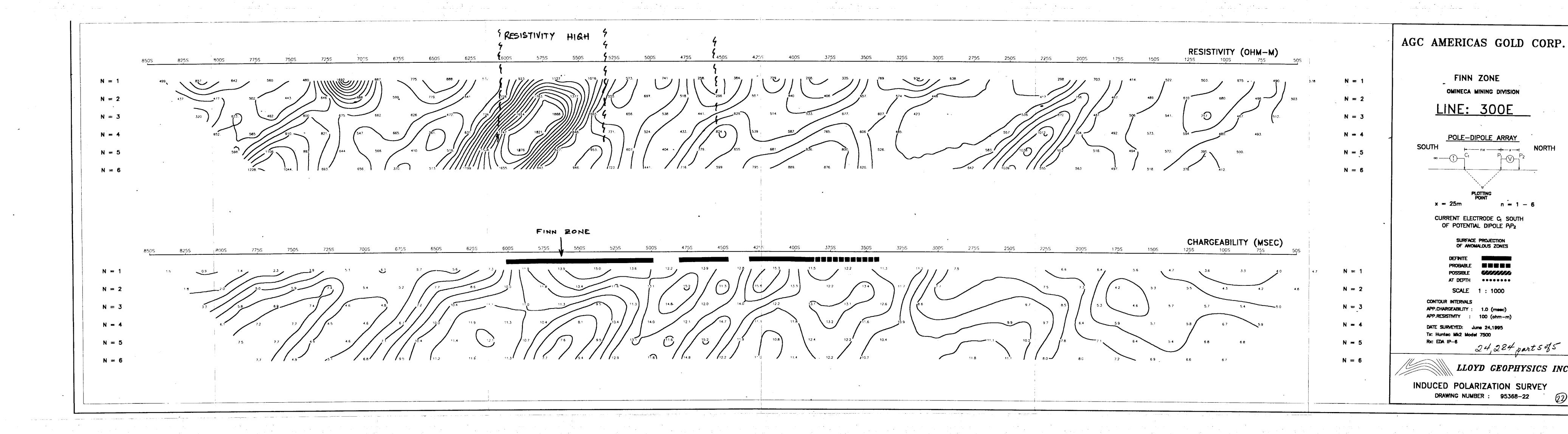


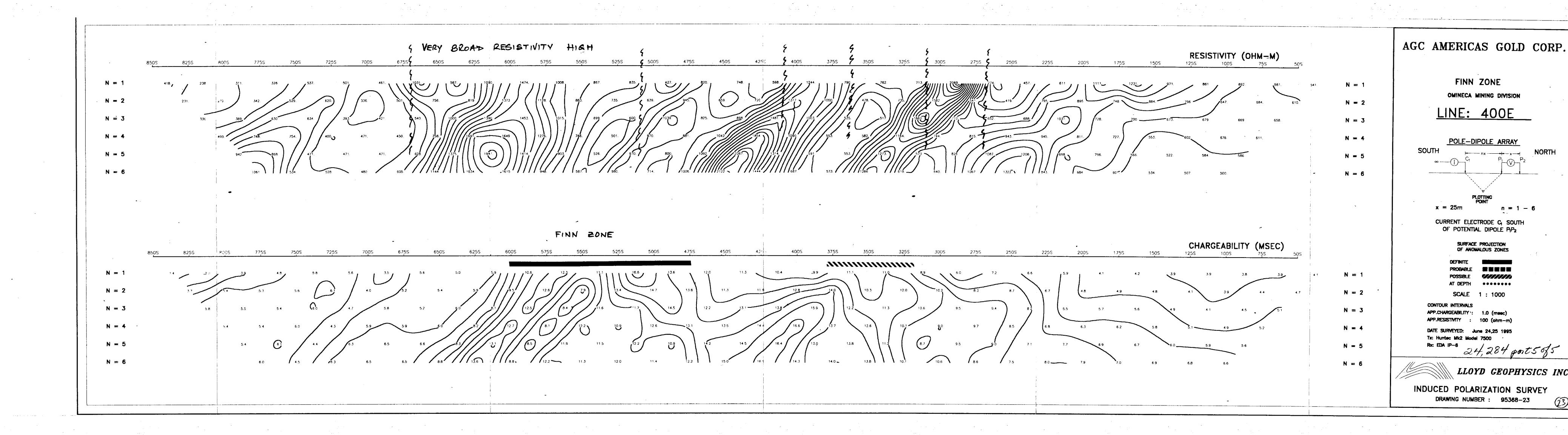


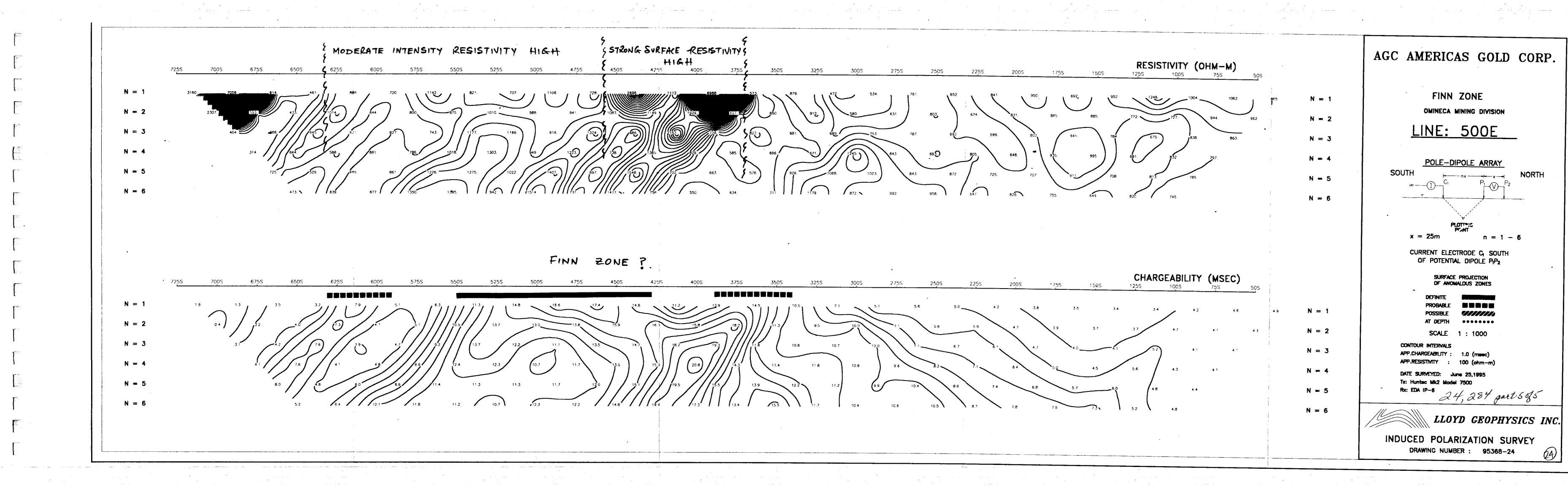


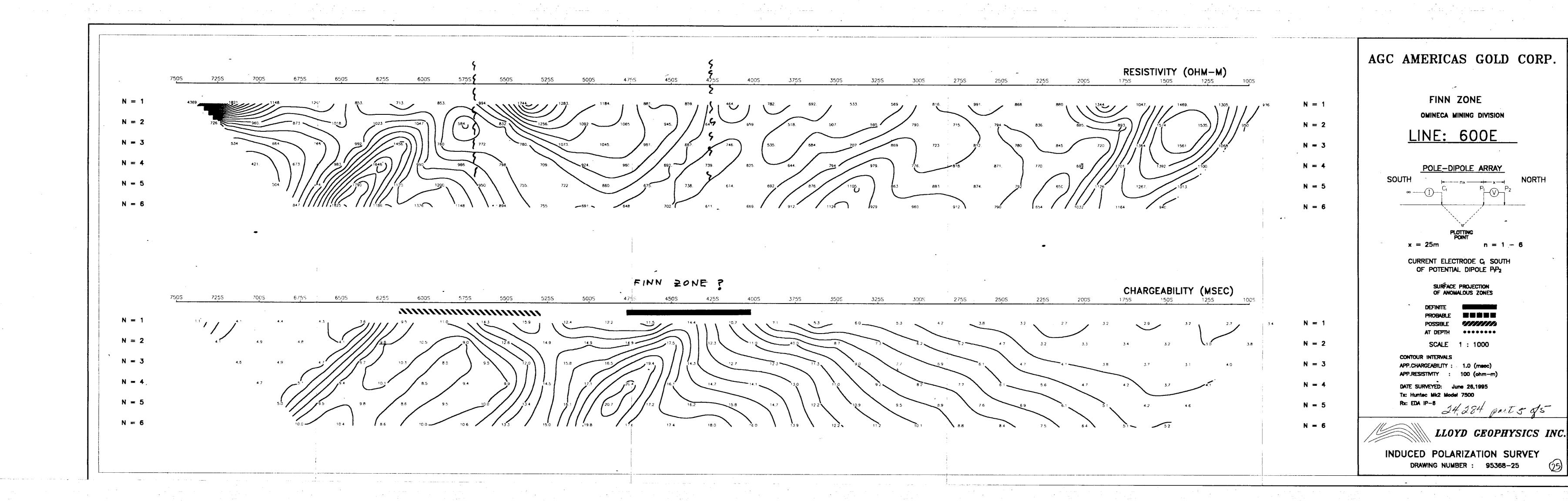


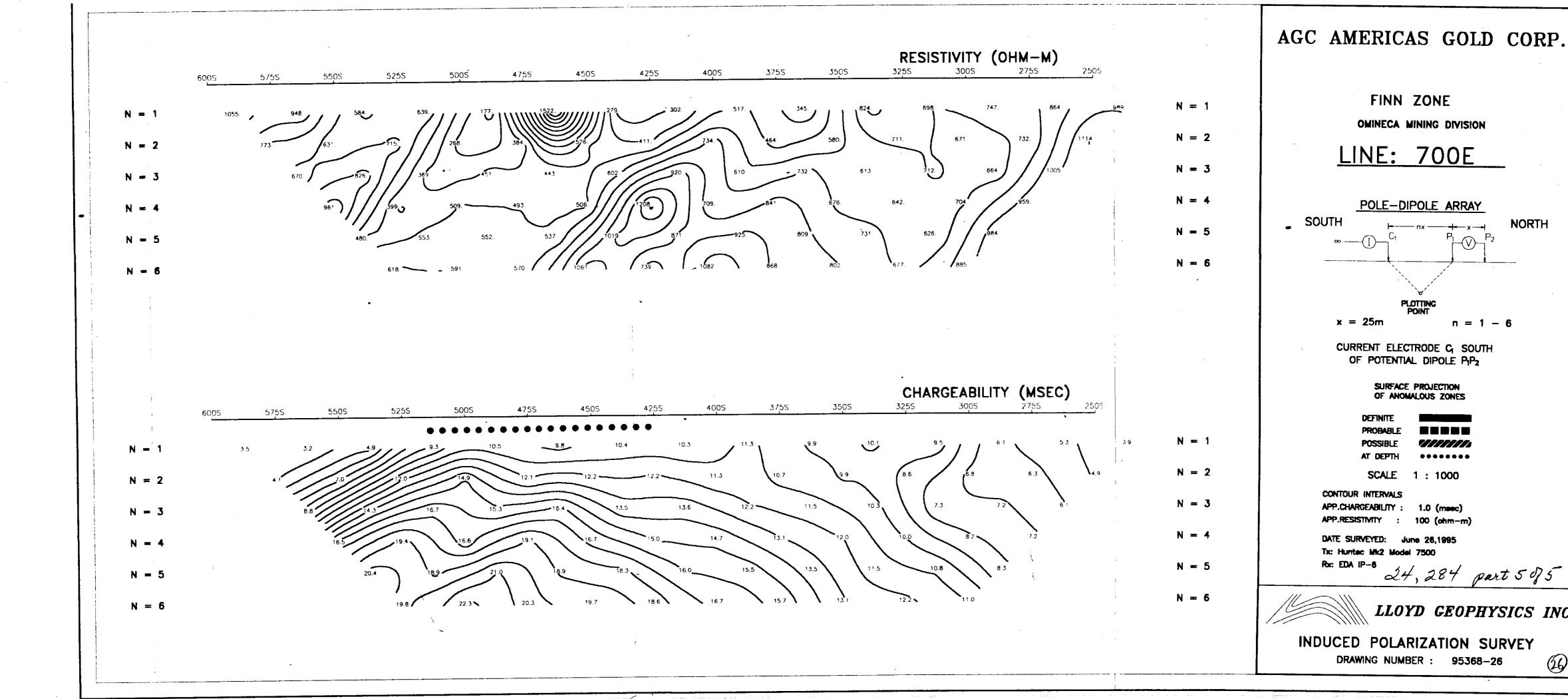


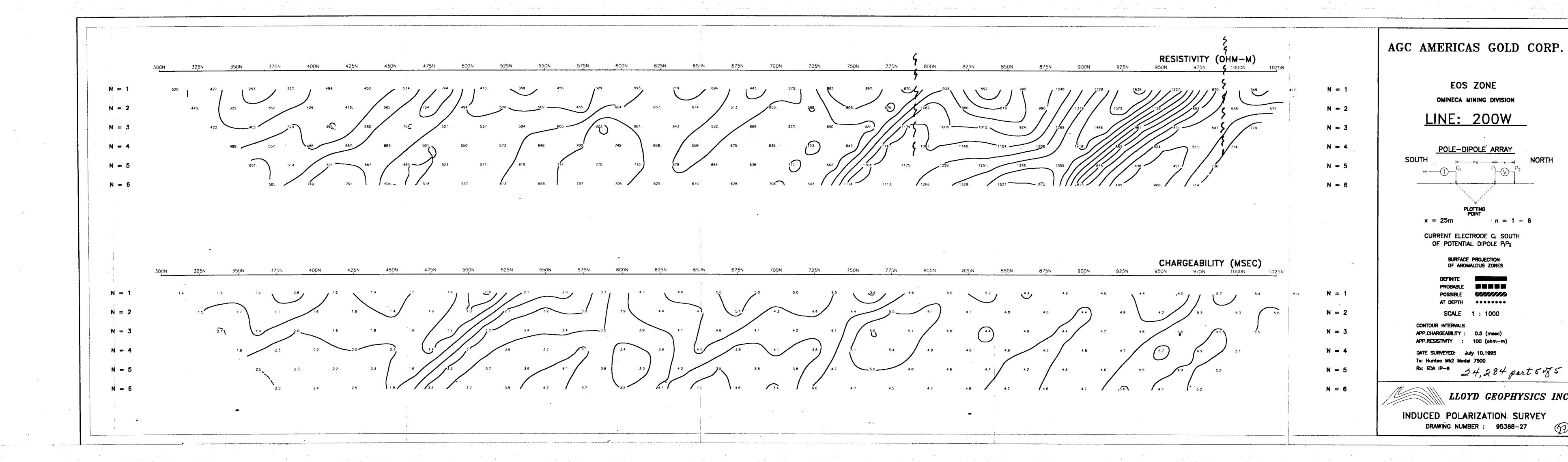


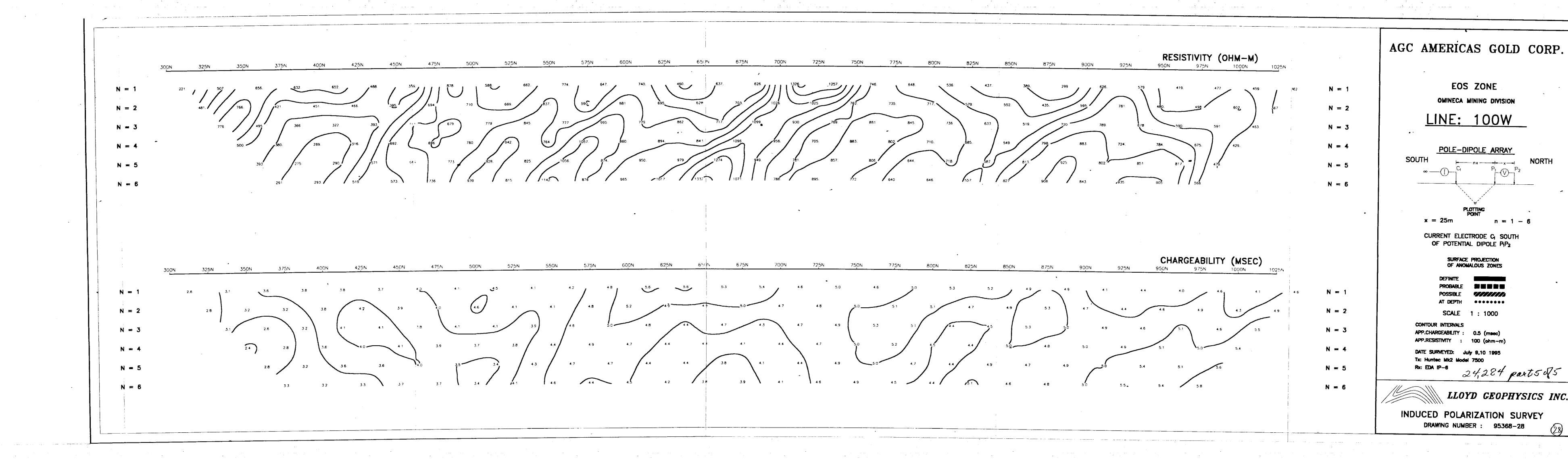


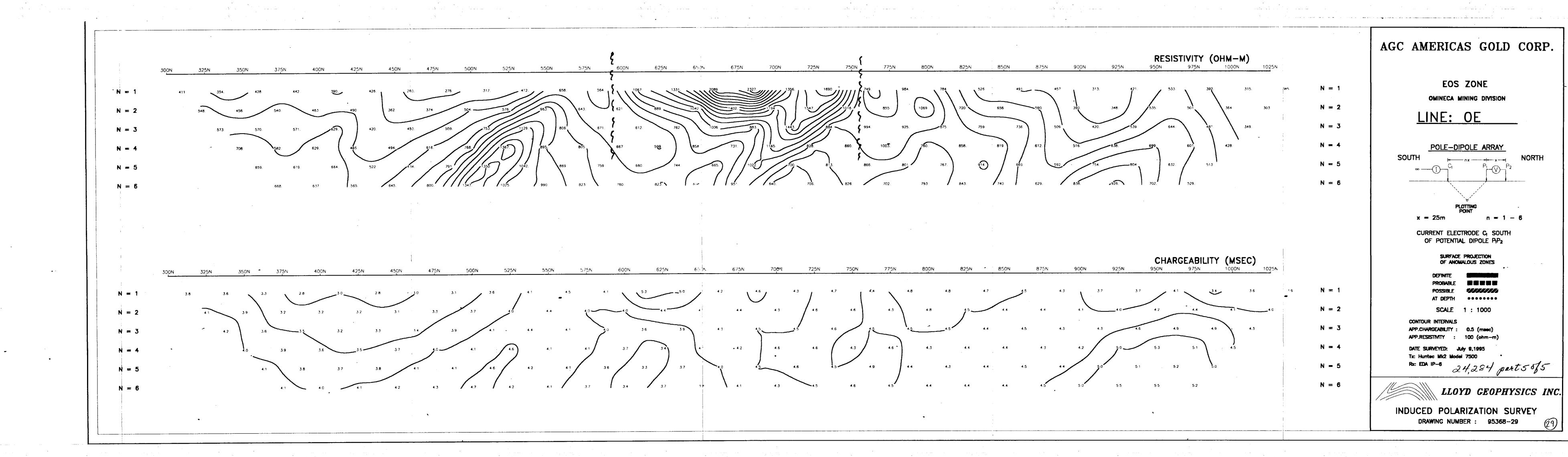


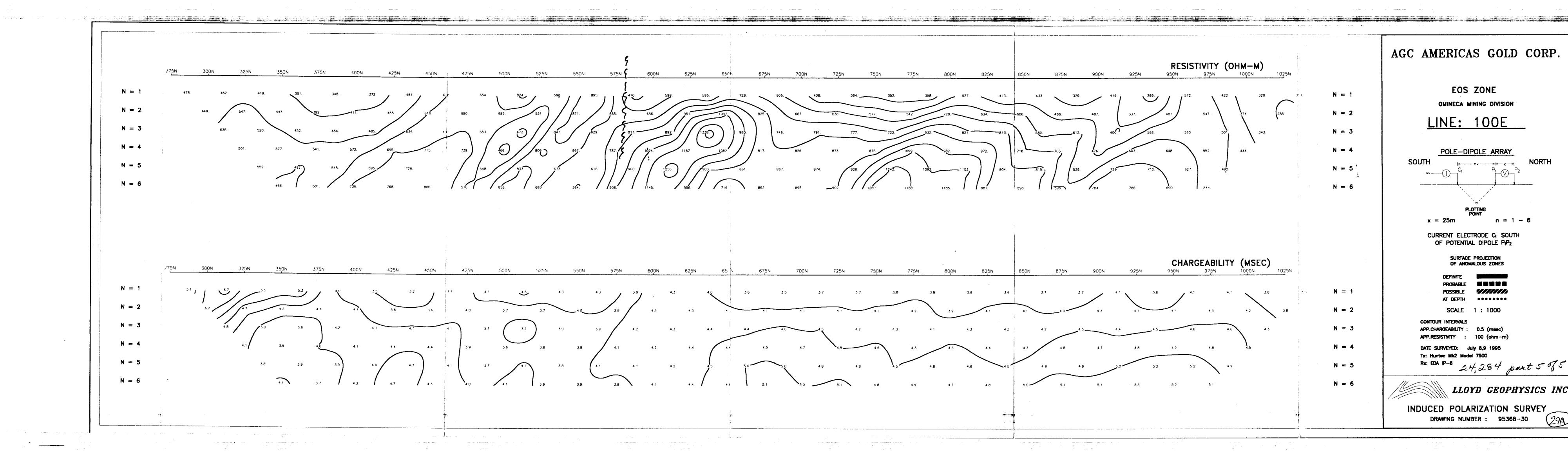


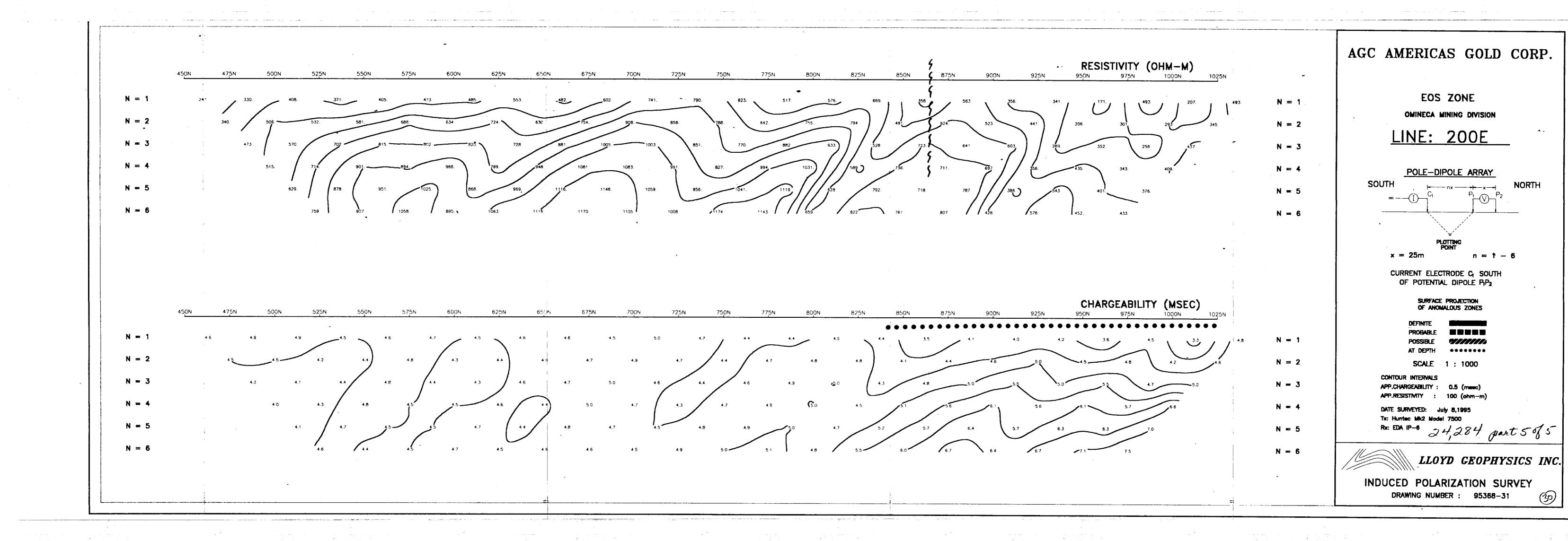


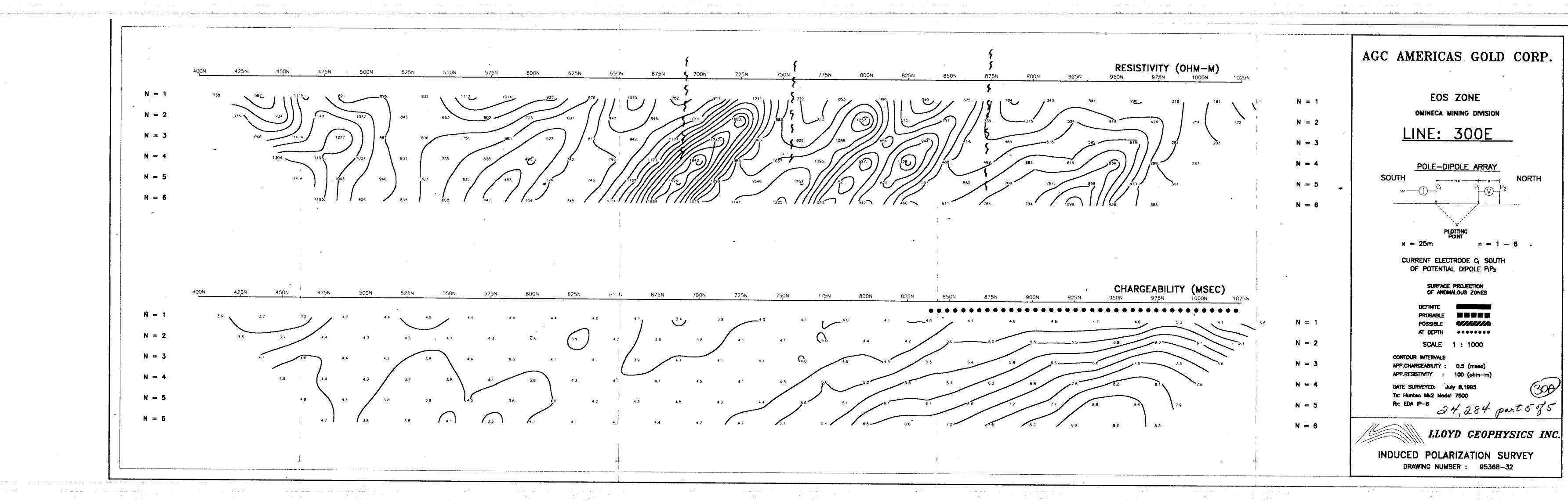


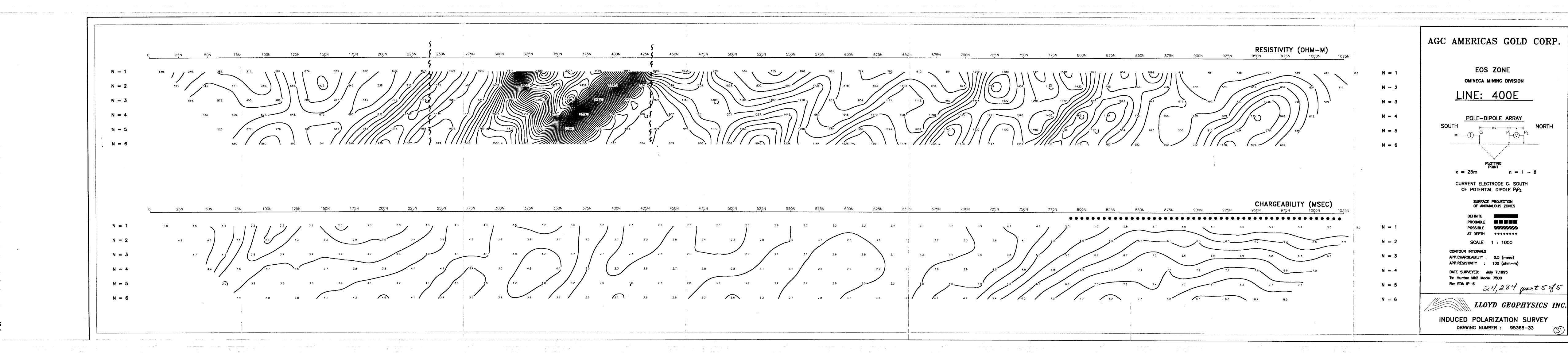


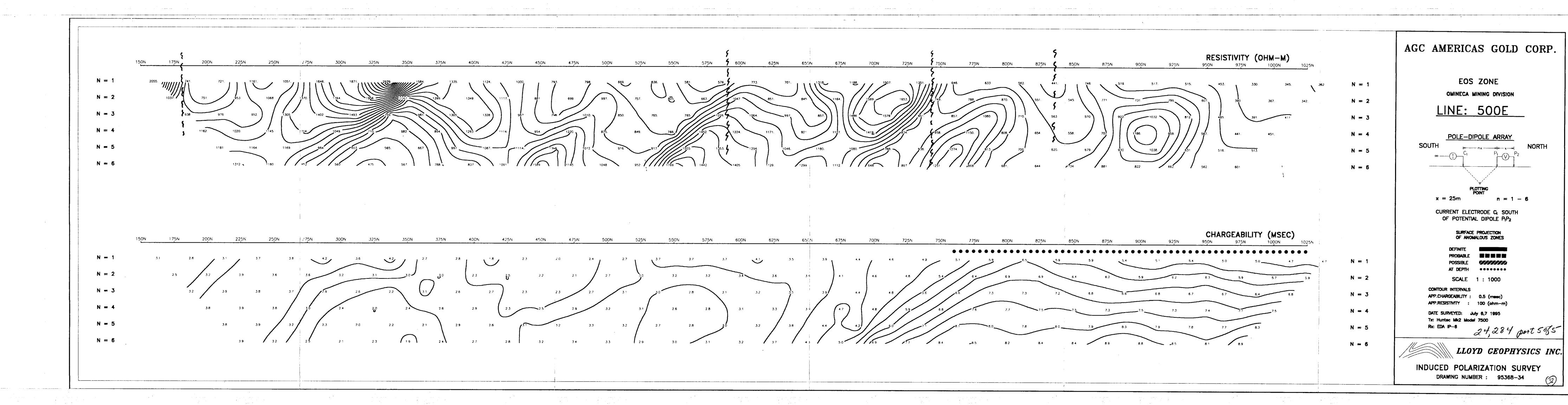


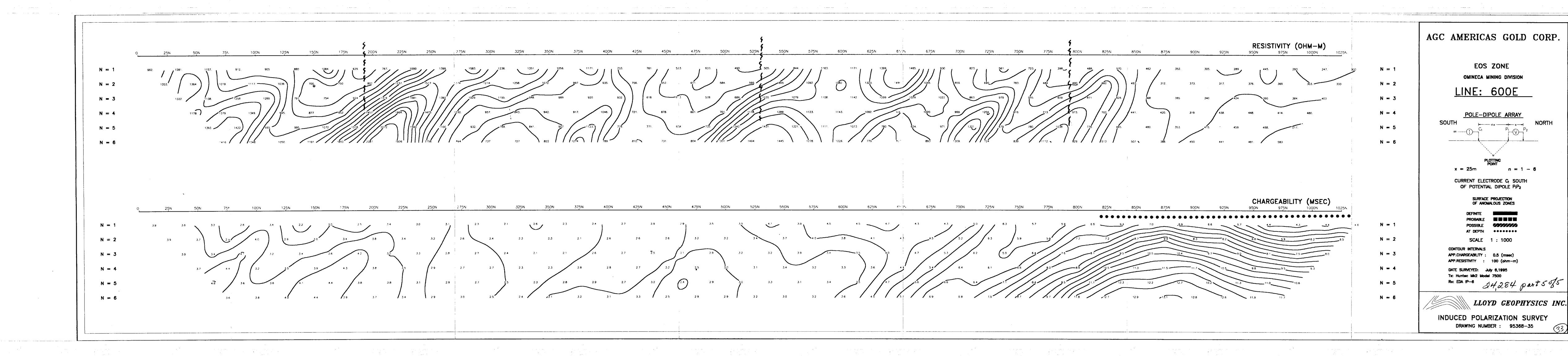


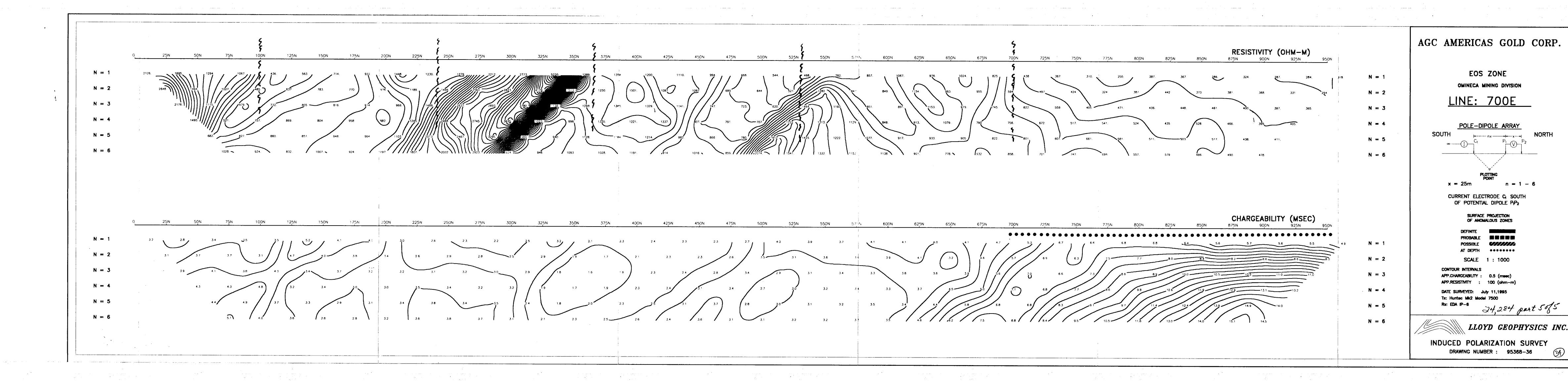


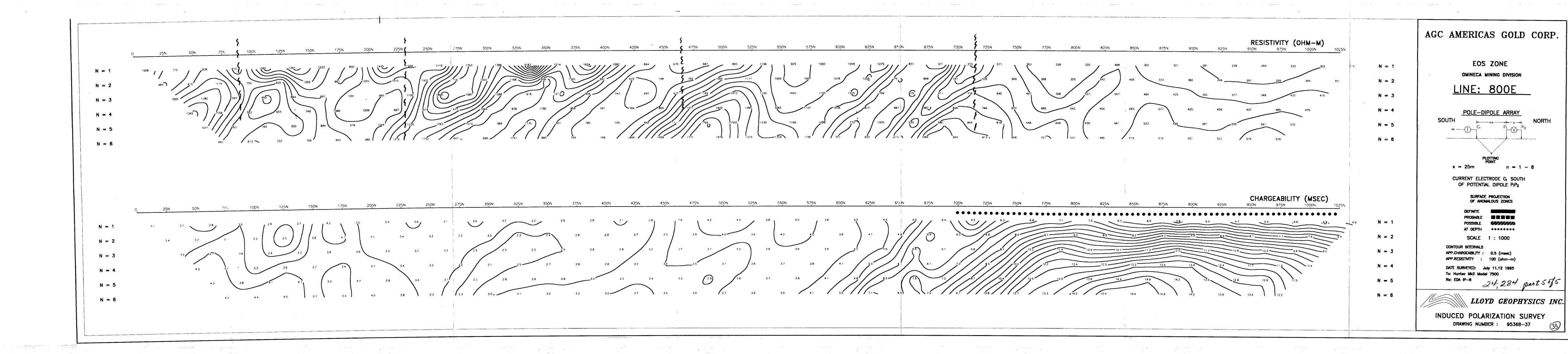


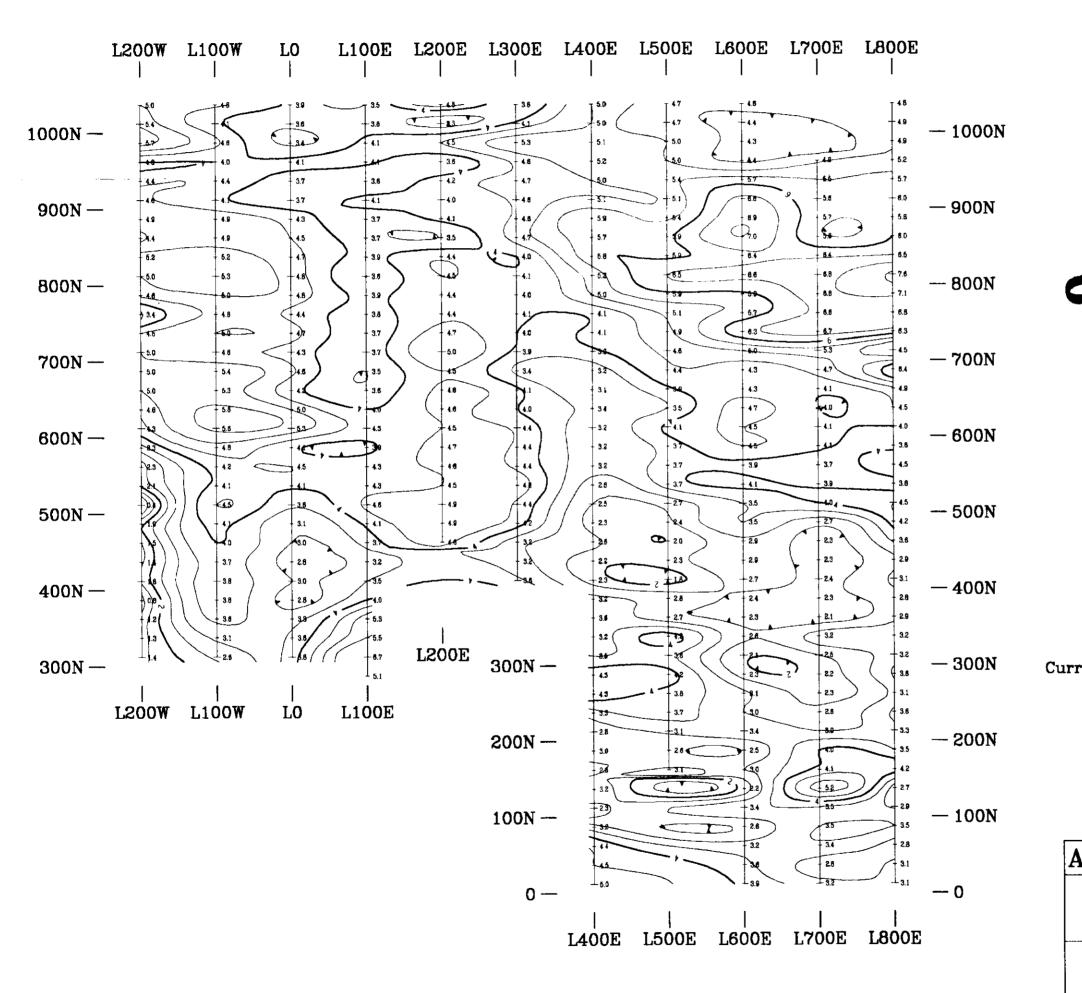


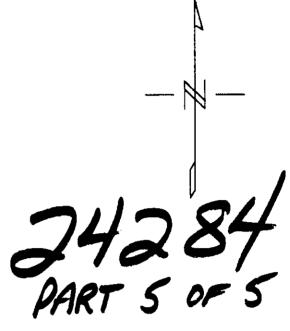












CONTOUR INTERVALS

0.5 msec

2.0 msec

- 10.0 msec

Station Interval: 25 metres

Current Electrode SOUTH of Potential Dipole

Scale 1:5000 50 0 50 100 150 200 250 300 (metres)

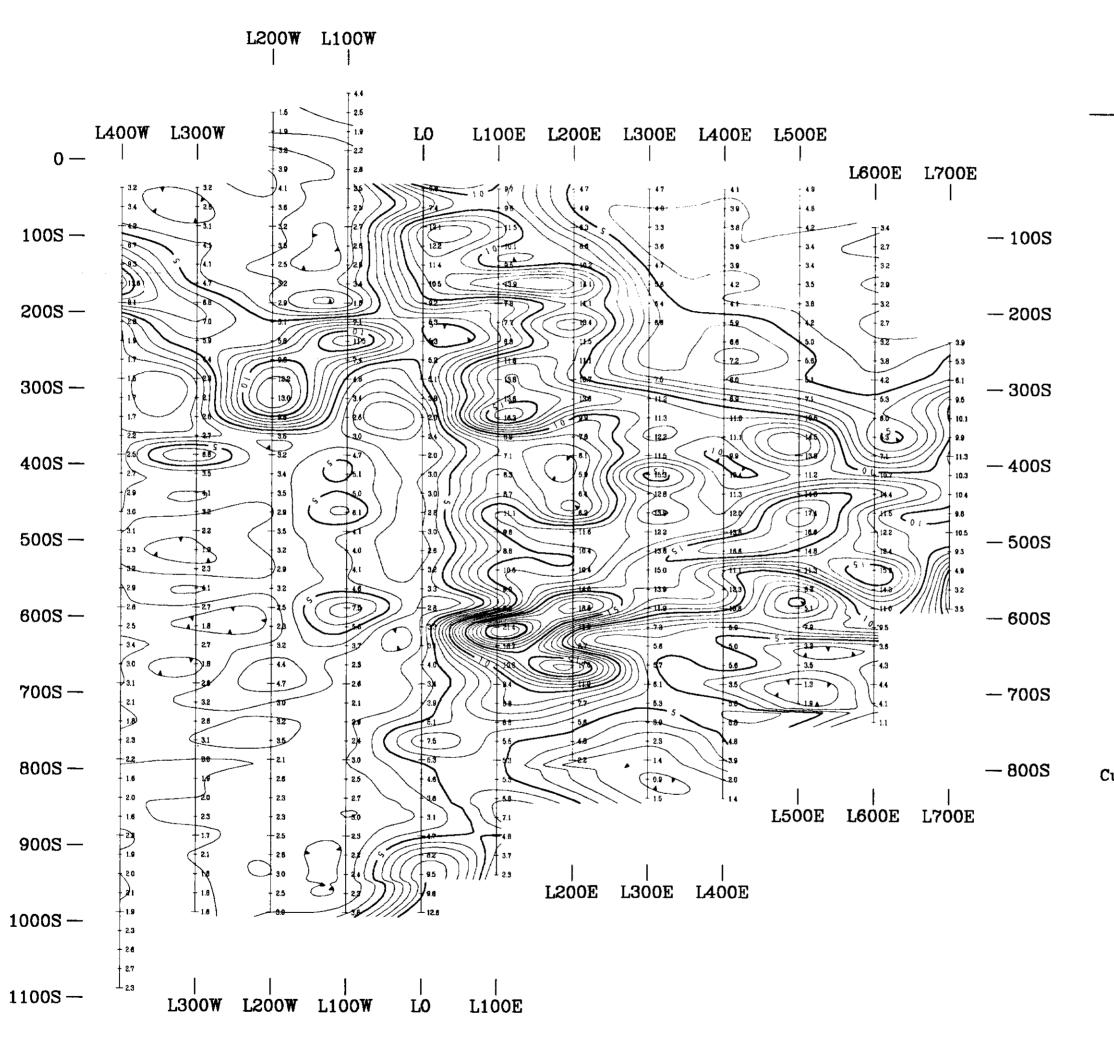
AGC AMERICAS GOLD CORP.

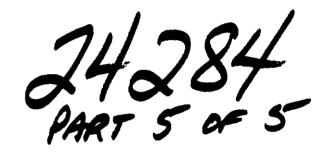
EOS Zone Toodoggone River Area Omineca Mining Division,British Columbia

CHARGEABILITY N=1

Scale 1:5000 Dwg. No.:95368-42







CONTOUR INTERVALS

1.0 msec

5.0 msec

-- 20.0 msec

Station Interval: 25 metres

Current Electrode SOUTH of Potential Dipole

Scale 1:5000

50 0 50 100 150 200 250 300 350

(metres)

AGC AMERICAS GOLD CORP.

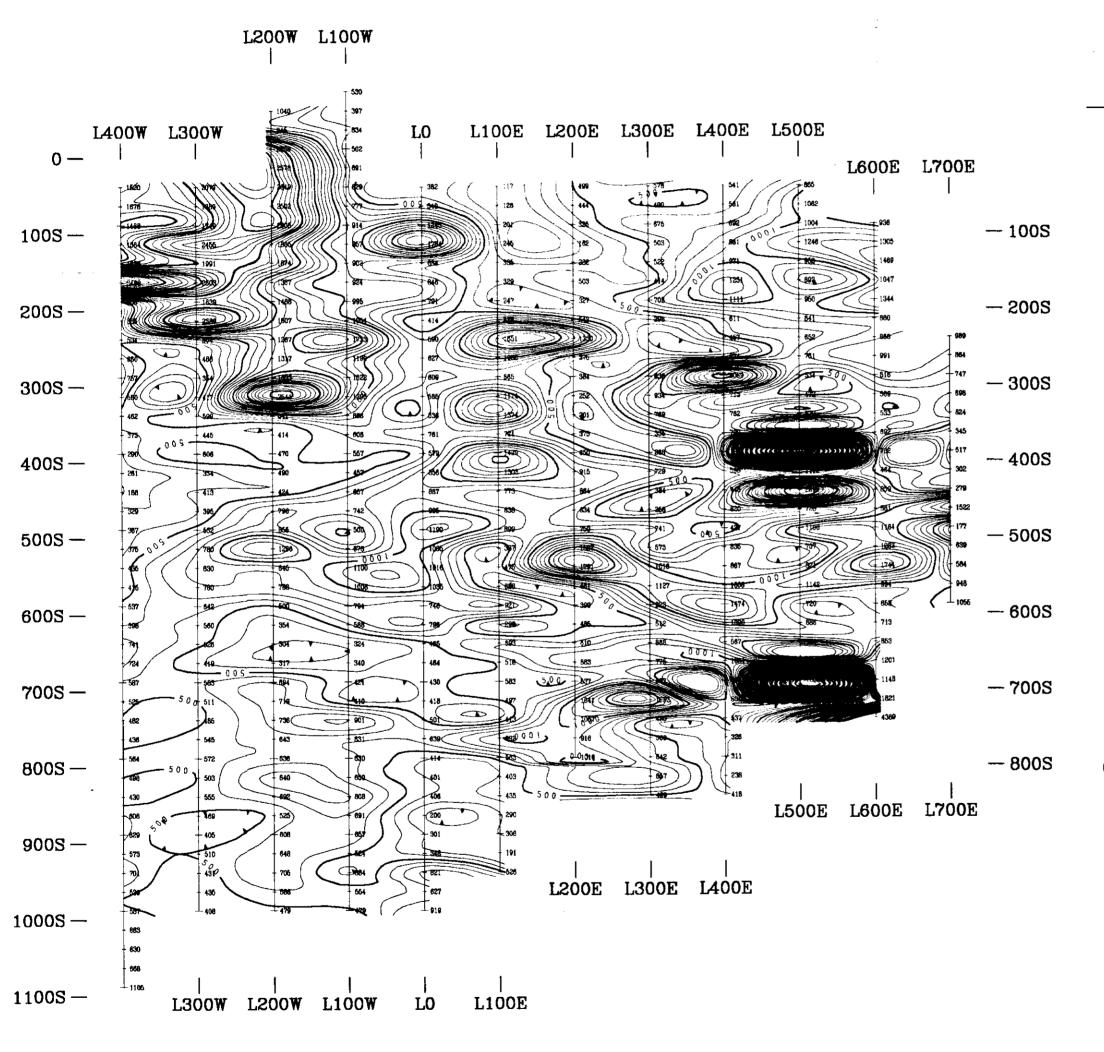
Finn/Gumbo Zone
Toodoggone River Area
Omineca Mining Division,British Columbia

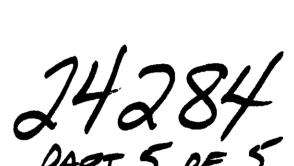
 $\begin{array}{c} CHARGEABILITY \\ N = 1 \end{array}$

Scale 1:5000

Dwg. No.: 95368-38







CONTOUR INTERVALS

_____ 100 ohm-m
500 ohm-m

2000 ohm-m

Station Interval: 25 metres

Current Electrode SOUTH of Potential Dipole

Scale 1:5000

50 0 50 100 150 200 250 300 350

(metres)

AGC AMERICAS GOLD CORP

Finn/Gumbo Zone

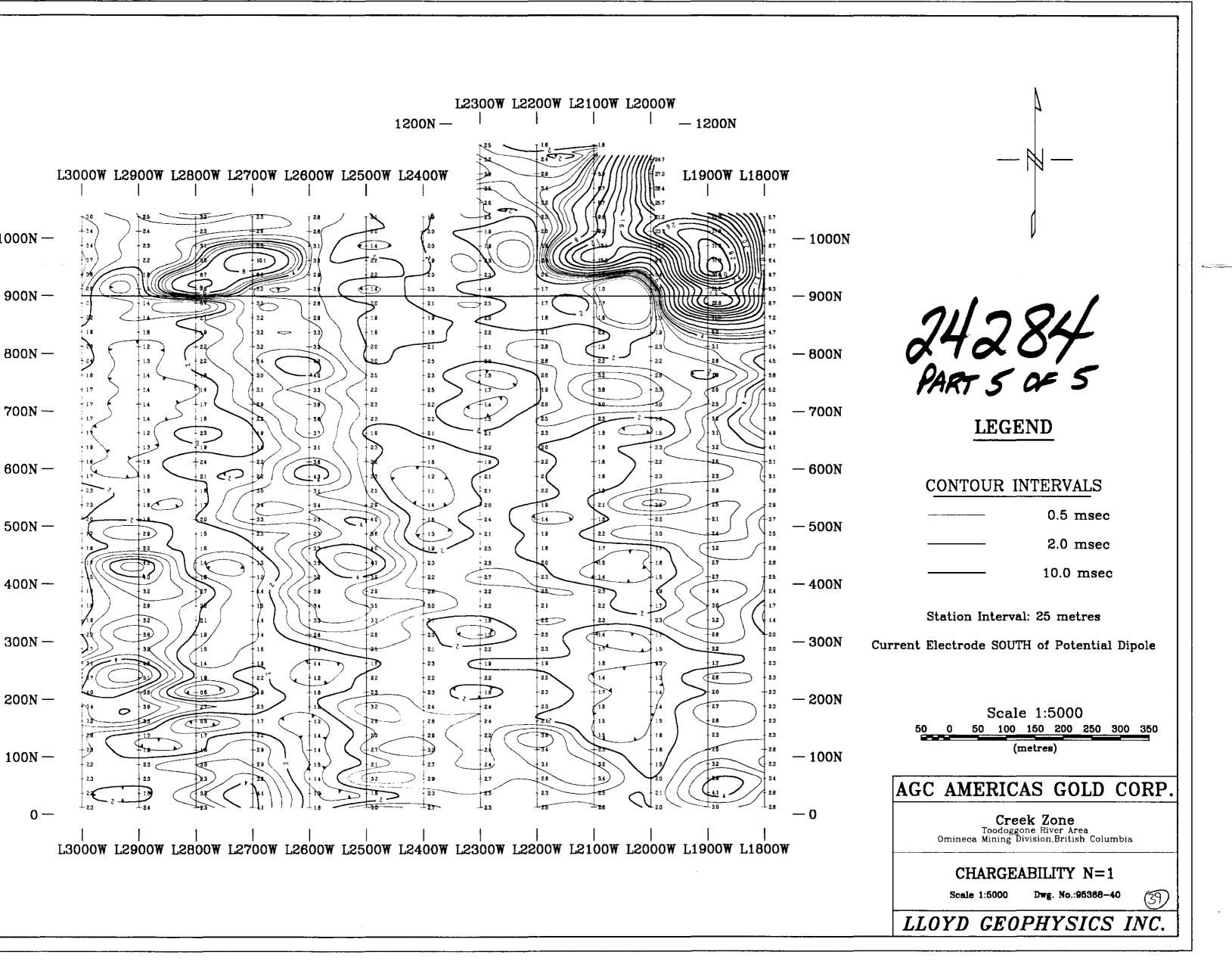
Toodoggone River Area Omineca Mining Division,British Columbia

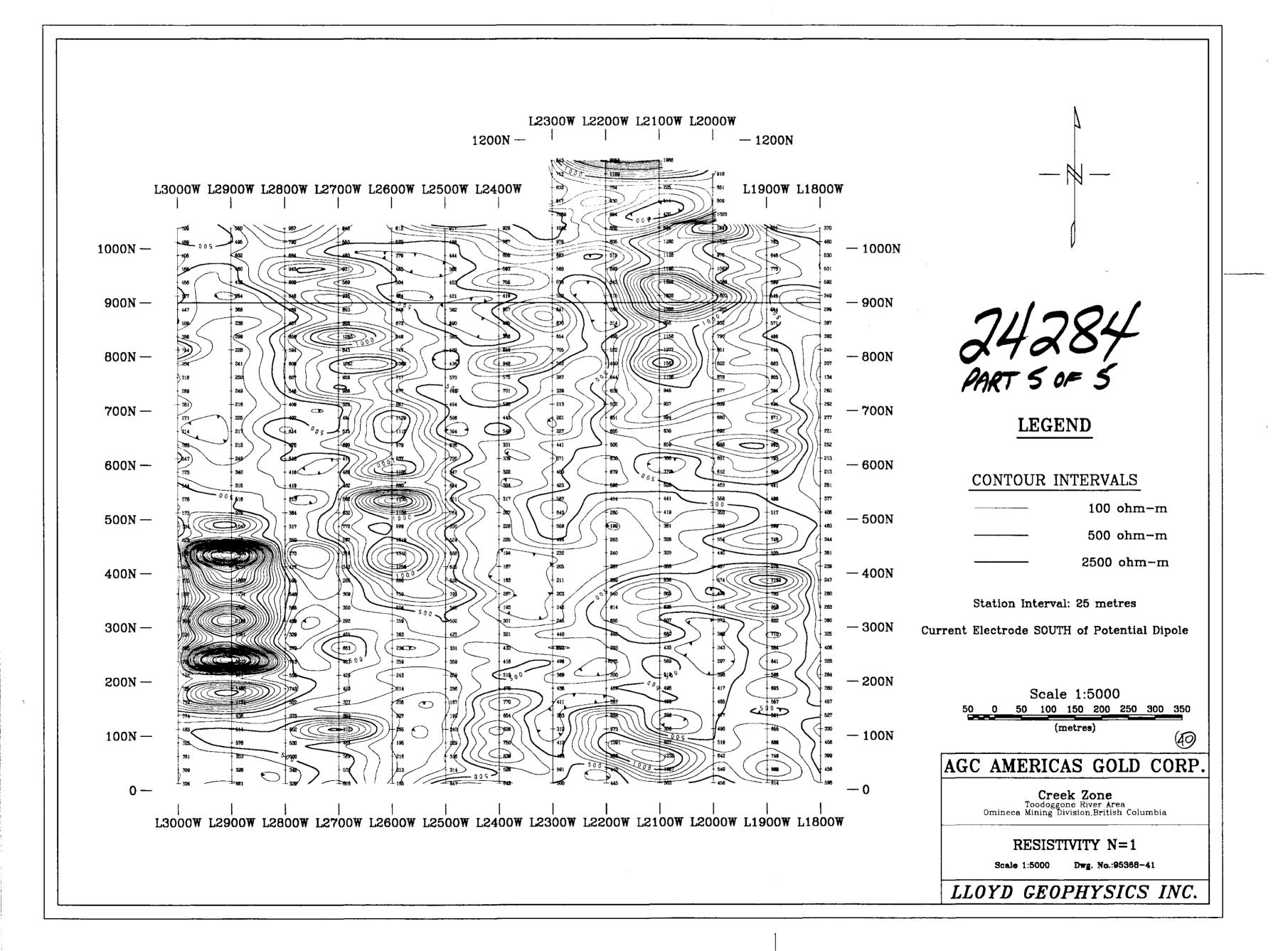
RESISTIVITY N = 1

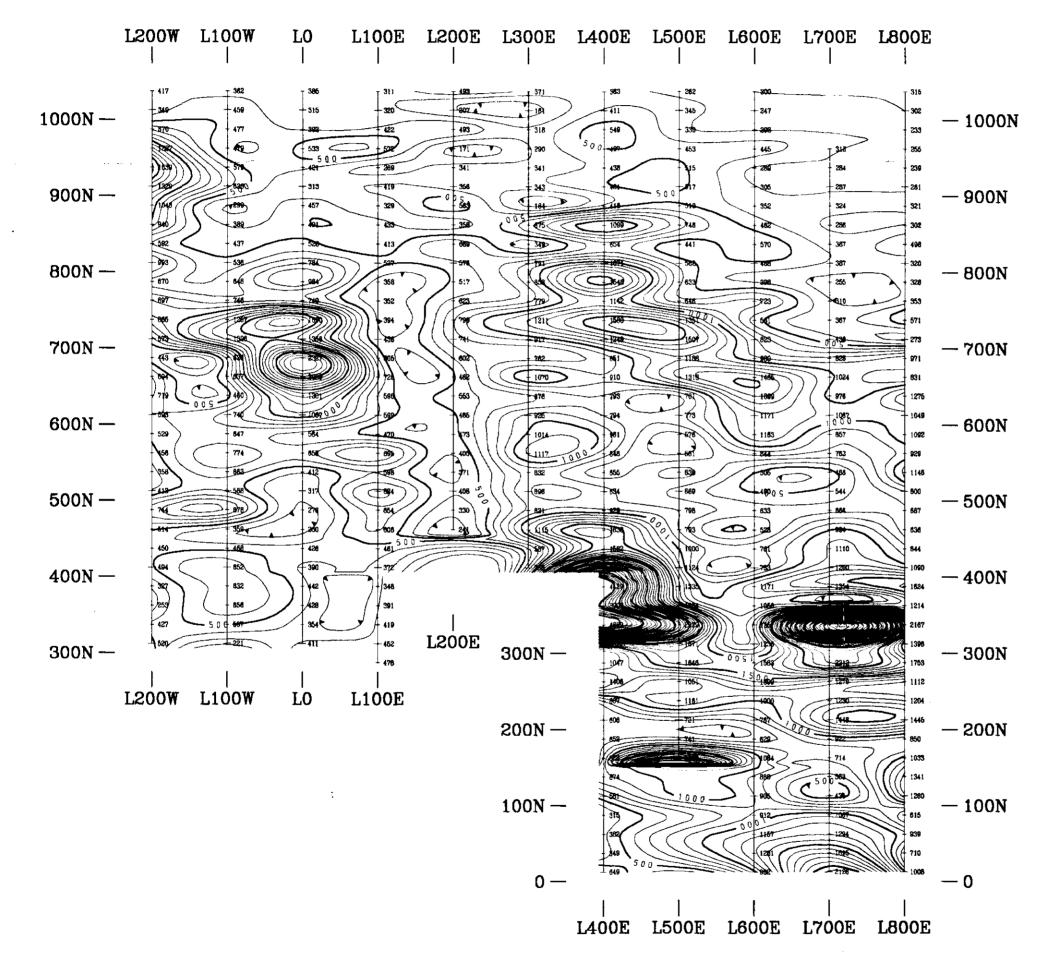
Scale 1:5000 D

Dwg. No.: 95368-39

(3)









CONTOUR INTERVALS

100 ohm-m

500 ohm-m

____ 2000 ohm-m

Station Interval: 25 metres

Current Electrode SOUTH of Potential Dipole

Scale 1:5000
50 0 50 100 150 200 250 300
(metres)

AGC AMERICAS GOLD CORP.

EOS Zone
Toodoggone River Area
Omineca Mining Division,British Columbia

RESISTIVITY N=1

Scale 1:5000 Dwg. No.:95368-43