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Jan 27,1994

Joint Venture OPAP93 REPORT John Ward and David Ward

Summary

Project #1 was successful in confirming the probable presence of Norlisk type copper nickel mineralization on the south contact of outcropping peridotite in lot 9 Concession VI, Mann Twp. This project entailed geophysical and geochemical prospecting along 4.8 kilometres strike length of the southern contact (foot wall) of a shallow dipping peridotite intrusive,lots 4 thru 9 concession VI Mann Twp.. This prospecting entailed 12 kilometres magnetic survey at 25 and 12 meter intervals and detailing at 6 meter intervals, 4 kilometres of gravity detail with optical leveling, 7 kilometres of line cutting and chaining, 5 kilometres of chaining and flagging compass lines,10days of induced polarization, 2 days of vertical coil EM., 130 humus soil samples.

18 new claim units were staked between April and October to protect this project area. In October and November, 1993, Westminer Canada , subsidiary off Western Mining of Australia,staked approximately 500 claim units completely surrounding the project #1 area.

Project #2 verified the probable presence of a polymetalic mineralized graphitic shear zone underlying 50 metres of Matheson till in lot 12, concession VI, Newmarket Twp.. This project involved 5 kilometres of magnetic surveying, 4 kilometres of gravity surveying with optical leveling, 6 days of induced polarization, 1 day of vertical coil EM., 5 kilometres of line cutting and chaining and 35 humus samples.

3 new claim units were staked in May 1993 to protect this project area.

REGISTERED PROFESSIONAL ENGINEER
J. T. WARD
PROVINCE OF ONTARIO

JAN 31/94

Project #1 Location & Access.

Project #1 area consists of 18 newly staked claim units in the southern half of concession VI, lots 4 thru 9, Mann Twp. jointly recorded in the name of John Ward and David Ward consisting of: claim nos P1180028 - 30, P1186760, P1186762, P1200683 - 4. These claims can be reached by driving southward from the community of Cochrane, Ont., 25 kilometres on highway 11, thence westward 12 kilometres on gravel road along concession 6 line in Newmarket and Mann Twp. The NTS sheet # 42A/14, latitude 48 degrees 52 minutes north and longitude 81 degrees 2 minutes west.

Geology and History of Project #1. The Zevely showing, lot 11 south half concession VI, Mann Twp., a nickeliferous pyrrhotite-chalcopyrite mineralized zone, is exposed for a width of 72 feet and a length of approximately 300 feet along the south contact of the east-west trending serpentinized peridotite. The mineralization lies entirely in pillowed andesites and within 100 feet of the peridotite contact and exhibits considerable similarity to the Alexo mine in Dundonald Twp. 30 kilometres to the southeast. The Zevely zone in 1949, following an electrical resistivity survey, was tested by 20,000 feet of diamond drilling (Timmins file T-173). Grab samples of the showing assayed between 1% and 6% copper and 2% and 5% nickel (reference Northern Miner Nov. 18, 1948).

The nickeliferous pyrrhotite, pentlandite and massive stringers along with irregular patches of chalcopyrite were encountered in andesite pillow lavas within 100 feet of the southern peridotite contact.

Age of the peridotite is 2710 MY (Neoarchean) as indicated in MNDM map# 2577.

In CIM bulletin (1966) vol.59 pp 489-497 A.J.Naldrett suggests sulphurization as being responsible for the formation of the Alexo mine. Sulphurization may therefore also be responsible for the mineralization of the Zevely showing and other nickel-copper mineralization to be found along the south contact of the peridotite. The Alexo mine and Zevely deposit both lie close to the Frederickhouse river Timiskiming rift fault and are therefore probably classifiable as Norlisk 'sk type Cu-Ni deposits.

Ground electromagnetic and magnetic surveys were carried out in Range VI by several companies covering the east-west trending peridotite from lot 12 thru lot 7 between 1948 and 1978 (Noranda file T-152, INCO file T-266, Rosario Resources file T-1827, and in lot 4 by Hollinger Gold Mines Ltd.. T-1656). The ground electromagnetic surveys were not successful in detecting the copper nickel sulfides but rather responded to northwest southeast trending graphitic volcanic interflow horizons and faulting. An airborne VLF and magnetometer survey was carried out by Shield Platinum in 1987 covering lots 10, 11, and 12 (file T-3147). No VLF response was attributable to the sulfide mineralization lying along the

south contact of the Peridotite, however, eddy current crowding could be identified within the serpentinized peridotite approximately 100 metres north of the contact.

Airborne INPUT electromagnetic surveying (OGS Map 81049) flown in 1987 does not show response to the Zevely showing or other sulfide mineralization lying along the south contact of the peridotite, except possibly in lot 9 and lot 6.

In 1965 INCO tested the south contact of the peridotite by diamond drilling in lot 9 at 350 metres west of the present project #1 line 00 OPAP 1993. In the same year INCO tested the south contact of the peridotite by diamond drilling in lot 8 at present OPAP 1993 coordinate 10·00 east. Logs of both holes by INCO simply indicated serpentine at the beginning of the holes and mafic volcanics at the end of the holes.

In 1965 INCO drilled 2 holes in the peridotite 100 to 300 metres north of the contact in lot 7 and encountered serpentinized peridotite and talc magnesite.

In 1948 INCO (file T-152) performed a ground magnetic survey and gravity survey in lots 7 thru 9. A 0.60 milligal anomaly with no magnetic correlation was noted to lie within 100 feet south of the magnetically interpreted peridotite contact throughout the 3.2 kilometer extent of the INCO survey area. INCO ignored this anomalous 0.60 milligal gravity anomaly horizon since they were primarily interested in locating magnetic nickel sulfides. It is the opinion of the applicants J.Ward and D.Ward that this gravity high horizon may well indicate the presence of chalcopyrite mineralization similar to the location and geology in the lot 11 Zevely showing. In particular the Max-Min horizontal loop electromagnetic survey by Rosario Resources Ltd. (file T-1827) in lots 8 and 9 in 1978 indicated that this INCO gravity high horizon was anomalously, though weakly, electrically conductive.

<u>Humus Geochemistry, Project #1</u> Humus samples were collected at 130 sites and multi-element assayed. 20 of these samples were gathered for background control purposes at accessible points throughout Newmarket, Mann, Duff, Reaume and Hanna Twp.. It was expected that the area was overlain by the Abitibi clay belt, however clear evidence in the assay results indicate the area is overlain by a fine sandy till with glacial movement south 20 degrees east.

Nickel, copper, gold and chromium assays were in general 4 times greater than background assays for humus in the Abitibi greenstone belt region, and reached assays of 10 times background in the humus geochemistry detail areas in lots 4, 7 and 9.

Reconnaissance humus geochemistry sample location and assays for gold, nickel, copper, zinc and lead are shown in fig. #2 at a scale of 1:20000. Humus

geochemistry detail results for lots 4, 7 and 9 Mann Twp. are shown at a scale of 1:2500.

Geophysics, Project #1 It was evident that the known mineralization of the Zevely prospect responds poorly to conventional electromagnetic induction methods. The electrical resistivity survey of the Zevely property in 1949 was successful in outlining the nickel/copper mineralization as a guide to 20,000 feet of diamond drilling in the same year (file # T-173). The same problem and same success was encountered with the Alexo property, Dundonald Twp. It was therefore proposed that induced polarization and concomitant resistivity survey be the primary geophysical method for prospecting the south contact of the peridotite. It was further proposed that gravity detail be used to detect the presence of potential economic tonnages at locations with electrical/geochemical anomalies. It was also proposed Vertical Coil EM will be used for reconnaissance and detail of INPUT anomalies in lot 6.

The IP survey was carried out using a Huntec 2.5 kilowatt system using a 428 millisecond delay to start of M1 integration. This along with dipole-dipole configuration, and overburden resistivities greater than 100 ohm metres, guaranteed electromagnetic coupling would be absolutely minimal.

Lot 9, Mann Twp. Large negative chargeabilities at the north end of IP pseudosections on line 00 east, lot 9, Mann Twp., indicate the presence of strongly chargeable mineralization at depth below nearer to surface weakly chargeable mineralization. The peridotite outcrops at chainage 175 metres N and the Bouguer gravity anomaly centers 50 metres south of the peridotite contact 0.40 milligals anomalous despite 30 metres increase in depth of overburden. Vertical coil EM checking with the assistance of Fred Ellgring in November verified the presence of a weak conductive zone at a depth of 40 metres below chainage 100 metres north on line 00. The copper nickel mineralization of the Zeverly showing 2 kilometres to the east lies 30 metres south of the peridotite contact. The 1993 gravity high, chargeability and vertical coil EM conductor are similarly located relative to the outcropping peridotite contact and therefore the site100 metres north on line 00 is considered by John Ward and David Ward to be a prime target area for diamond drilling as a nickel-copper prospect. Geophysical interpretation of magnetics, gravity, IP, and vertical coil EM indicates that this zone extends easterly for several hundred metres but at a greater depth subsurface. The westerly extent has not yet been tested.

The gravity survey was performed using a Sodin thermostated meter readable to .01 milligal. Elevations were carried by using an automatic self leveling optical level with closures 4 cm or better.

Vertical coil EM was read with 200 metre line to line spacing at frequency 1000 hertz.

Magnetics were read using a Geometric model G 816 total field magnetometer readable to 1 gamma.

Lot 8, Mann Twp. The INCO gravity survey in 1950 indicated a second gravity high zone striking eastwesterly and lying 200 metres further north than the lot 9 gravity anomaly. The 1993 OPAP gravity traverse on line 685 east verified the presence of a deeply sourced 0.5 milligal anomaly at chainage 275 metres north. An induced polarization traverse at [a = 50 metres] indicated that weak chargeability was associated with this deep gravity source.

Lot 6, Mann Twp. Prospecting by J Ward August 29 located a peridotite outcrop 50 metres east of the west boundary of lot 6, approximately 600 metres north of the concession VI concession-line. A grid was cut and chained on lot 6 and magnetic and vertical coil EM surveys were completed. The peridotite extending eastwesterly was indicated by magnetic field strengths as great as 69000 gammas. Three vertical coil EM traverses indicated a moderately weak conductor lying parallel to and immediately south of the magnetically interpreted peridotite contact. The vertical coil EM conductor coincided with three weak airborne INPUT survey anomalies indicated on OGS map #81049. It is believed by J. Ward and D. Ward that due to its indicated geological location this conductor on lot 6 is probably associated with copper-nickel mineralization.

Lot 4, Mann Twp. In 1975 Hollinger Gold Mines Ltd. drilled 2 diamond drill holes from a location central to lot 4 and 160 metres north of the concession VI line. These drill holes passed thru the south contact of the peridotite zone intersecting low grade nickel-copper sulfides for a few metres before both holes were lost at the same depth. As part of J. Ward's and D. Ward's 1993 OPAP project, a north-south line and a northeast-southwest line were cut and chained to pass nearby Hollinger's 1975 drill holes. Traverses were run with IP and gravity covering the north and south contact areas of the peridotite. A moderately chargeable IP anomaly was indicated to lie at a depth of 20 metres approximately 50 metres north of the concession VI concession line. This suggests that Hollingers' 2 drill holes were both lost 50 metres prior to intersecting the indicated anomaly.

The IP surveys on the north contact of the peridotite returned moderate chargeability at 50 metres depth associated with a 0.50 milligal gravity low. Vertical coil EM at 200 metre line spacing verified both IP anomalies north and south of the peridotite as weakly electrically conductive zones.

It is the opinion of J. Ward and D. Ward that the conductor south of the peridotite is explained by nickel-copper sulfides and the conductor north of the peridotite is explained by the probable presence of a graphitic shear zone.

Project #2 Location & Access.
This project area is reached by traveling 25 kilometers south on highway 11 from the community of Cochrane Ont. to the sixth concession line Newmarket Twp., thence westward 5 kilometers by gravel road along the concession line to lot 12.

Project #2 lies in the south half of concession VI Newmarket Twp. and consists of 3 newly staked claim units recorded as P1180031 and P1180032 and one existing claim # P1134115. Due to pre-existing agreement ownership of these claims is shared 50% by J.Ward, 25% by D.Ward and 25% by F. Ellgring of 17 Niven St., New Liskeard, Ont.

The NTS# is 42A/15 with latitude 48degrees 52 minutes north and longitude 80 degrees 59 minutes west.

Geology and History of Project #2. The project area was covered by ODM airborne INPUT and magnetic survey in 1988 (map # 81050). Two INPUT anomolies were indicated to be located in the northwest quarter of claim P1134115. The airborne magnetic survey indicated a strong magnetic low striking north 65 degrees east thru the center of the claim. This magnetic low coincides with a 4 kilometer dextral fault break, traceable from Kidd Twp. 80 kilometers to Marathon Twp northwest of lake Abitibi. Claim P1134115 was staked by J Ward in May 1990 following encouraging humus geochemistry assays on concession VI line to the south of the INPUT anomolies.

In June 1990 J Ward and F Ellgring verified with vertical coil EM the presence of a broad but weak conductive zone coinciding with the indicated airborne INPUT anomalies 3420N AR & 34340S A in the northwest quarter of the claim. In 1991 J Ward completed a magnetic survey on chained and flagged compass lines at 100 meter intervals verifying that the north 55 degrees east strong magnetic low passed centrally through the claim. J Ward also interpreted a north 20 degrees west Timiskiming rift fault associated with block faulting passing centrally through the claim.

In 1991 J Ward took 4 humus samples at 100 meter intervals in a north-south traverse of the claim. For the humus sample taken approximately 200 meters down-ice of the INPUT anomalies the assays returned 50 times background for gold including anomalous accessory assays for arsenic and antimony. Followup humus sampling in 1992 at 50 meter intervals on 100 meter interval grid lines were assayed in Dec 1992 and Jan 1993. Assaying indicated 2 clusters of significant anomalies for nickel, cobalt chromium, gold, arsenic, molybdenum, sodium, scandium, cerium, samarium and thorium; with coinciding minor anomaly levels for copper, zinc, silver, cadmium, lead, rubidium, bromine and uranium, all clustered directly over the INPUT anomalies in the north west quarter of the claim and, 100 to 200 meters down-ice of the INPUT anomalies. The clustering of the

humus anomalies directly above the INPUT anomalies were interpreted by J.Ward as due to vertical migration of metals from the bedrock, captured by humus. J.Ward also interpreted that the clustering of humus anomalies 200 meters glacially down-ice was due to vertical migration of the metals from anomalous near surface glacial till.

ODM geological map# 2205 indicates that project# 2 area lies within the west boundary of a 400 km^2 area of quartz monzonite. Outcropping of this interpreted quartz monzonite are extremely rare, however, in 1990, J.Ward discovered an extensive outcropping of megacrystic potash granodiorite 6 kilometers to the east of project #2 area. In 1991, J.Ward encountered extensive outcropping of syenite-monzonite near the east boundary of Mann Twp approximately 2 kilometers northwest of the current project area.

In 1964 Newrich Exploration Ltd. (T-818) completed magnetic and SE200 electromagnetic surveys in concession 5, lots 10 thru 12, Newmarket Twp.. No anomalies were encountered, however, 2 outcropping areas lying 600 meters southeast of project #2 area were mapped but not identified as to rock type.

Geophysics, Project #2:

Four Induced polarization survey traverses at 100 metre line spacing were completed on claims P1134115 and P1180031 using a Huntec 2.5 kilowatt IP system. Delay interval to the beginning of M1 integration was 428 milliseconds. Configuration was dipole dipole with "a" spacing 50 metres. The indicated resistivity of the overburden was greater than 100 ohm metres which is equivalent to that expected for sandy Matheson till. Four kilometres of gravity surveying with optical leveling on claim P1134115 and P1180031 indicated that the overburden located from 0 to 200 metres north of the sixth concession line is approximately 10 metres thick. From 100 metres northward the overburden is interpreted to thicken rapidly to a maximum depth of 70 metres thickness at 400 metres north of the concession line. A resistivity low in bedrock coincides with the strong magnetic low striking north 65 degrees east thru the center of claim P1134115. Four vertical coil EM traverses with line spacing 200 metres in November 1993 verified this resistivity low in bedrock to be weakly electromagnetically conductive. With the lack of significant chargeability and lack of coinciding positive Bouguer gravity anomaly response, it is the interpretation of J. Ward and D. Ward that this magnetic low associated bedrock conductor is due to chloritic shearing.

A parallel bedrock resistivity low at 400 metres north of the concession line and coinciding with the airborne INPUT anomaly in the northwest corner of claim P1134115, is interpreted to be overlain by 5.0 metres of glacial till. Weak but significant chargeability coinciding with a 0.10 milligal positive Bouguer gravity deviation within the broad gravity low suggests the presence of a possible

polymetalic mineralized occurrence consistent with the humus geochemistry of claim P1134115.

Total field magnetics were read at 12.5 metre intervals along 5 kilometres of newly cut and chained grid lines covering the project #2 area. These magnetics survey results were integrated with previous magnetics read in 1991 and are shown in fig # at a scale of 1:2500

Geochemistry, Project #2:

As part of the 1993 OPAP programme, 35 new humus samples were collected in Newmarket Twp. and multi-element assayed. The sample locations and their assays for gold, nickel, copper, zinc, lead, and chromium are shown in fig. # at a scale of 1:2500. The humus gold assay results indicate a glacial till movement south 20 degrees east. The gold anomalies in project 1 and 2 suggest anomalous down-ice extensions of more than a kilometre while nickel anomalous trains appear to extend no more than 500 metres. The down-ice gold anomalies show correlation with lanthanum and cerium and samarium, indicating felsic intrusive association.

Prospecting by J.Ward and D. Ward July 22nd and August 29th 600 metres southeast of claim P1134115 failed to locate an outcrop area indicated by Newrich Exploration in 1964.

Conclusions and Recommendations.

It is concluded that Norlisk type copper-nickel mineralization occurs 50 metres south of the peridotite contact on line 00, lot 9, Mann Twp. It is further concluded thru geophysical interpretation that the indicated mineralization extends several hundred metres eastward at increasing depth subsurface. It was noted that International Nickel in 1965 diamond drilled thru the peridotite contact 350 metres west of line 00 and did not report the presence of sulphides. No geophysical testing of the extension of the mineralization westward was attempted in 1993.

It was further concluded that the greater than 100 ohm-metre resistivity of the overburden indicated sandy till covering the project area rather than the expected pervasive Abitibi clay till.

It was also concluded that humus geochemistry gold anomalies extended in excess of a kilometer down-ice from source as opposed to nickel anomalies which extended for less than 500 metres. Glacial till movement was noted to be south 20 degrees east. A strong association of gold in humus with lanthanum, cerium and samarium suggests a felsic intrusive source for the gold. A strong association of nickel in humus with copper and chromium suggests an ultramafic source for the nickel.

It was concluded in project #2 area that the strong magnetic low traversing claim P1134115 is probably attributable to chloritic shearing. It was further concluded that the INPUT anomaly located in the northwest quarter of claim P1134115 is probably attributable to polymetalic mineralization.

It is recommended that the potential Norlisk type mineralization at the south contact of the peridotite in lot 9, Mann Twp., be tested by a 200 metre diamond drill hole, located on outcrop at coordinate 230 metres north, line 00 oriented southward at minus 50 degrees. Estimated cost of this diamond drilling test is approximately $14,000.

Respectfully submitted,

REGISTERED PROFESSIONAL ENGINEER
J. T. WARD
PROVINCE OF ONTARIO

JAN 31/94

John Ward, PEng

David Ward

OPAP 93 JOHN WARD AND DAVID WARD

FIGURES

#1 LOCATION MAP 1:20000

#1A LOCATION MAP 1:500,000

#2 HUMUS GEOCHEMISTRY PROJECT #1 AND #2 (SCALE 1:20,000) SHOWING SAMPLE LOCATIONS AND ASSAYS FOR Au Ni Cu Zn Pb.

#2A ASSAY REPORTS
XRAL #24100
XRAL #24524
XRAL #25440
XRAL #24426
TSL ASSAYERS LAB M2895

#3 TOTAL FIELD MAGNETICS WITH DETAIL HUMUS GEOCHEMISTRY LOT 9 AND LOT 8 MANN TWP (PROJECT #1) SCALE 1:2500

#4 MAGNETIC TOTAL FIELD SURVEY AND HUMUS GEOCHEMISTRY LOTS 6 & 7 CONCESSION VI MANN TWP SCALE 1:2500 (PROJECT #1)

#5 TOTAL FIELD MAGNETIC SURVEY WITH DETAIL HUMUS GEOCHEMISTRY LOT 4 MANN TWP SCALE 1:2500 (PROJECT #1)

#6 TOTAL FIELD MAGNETIC SURVEY NEWMARKET TWP OPAP 1993 (PROJECT #2) SCALE 1:2500

#7 NEWMARKET TWP. OPAP 1993 HUMUS GEOCHEMISTRY (PROJECT #2) SCALE 1:2500

#8 I.P. AND BOUGUER GRAVITY FOLIO PROJECTS #1 & #2

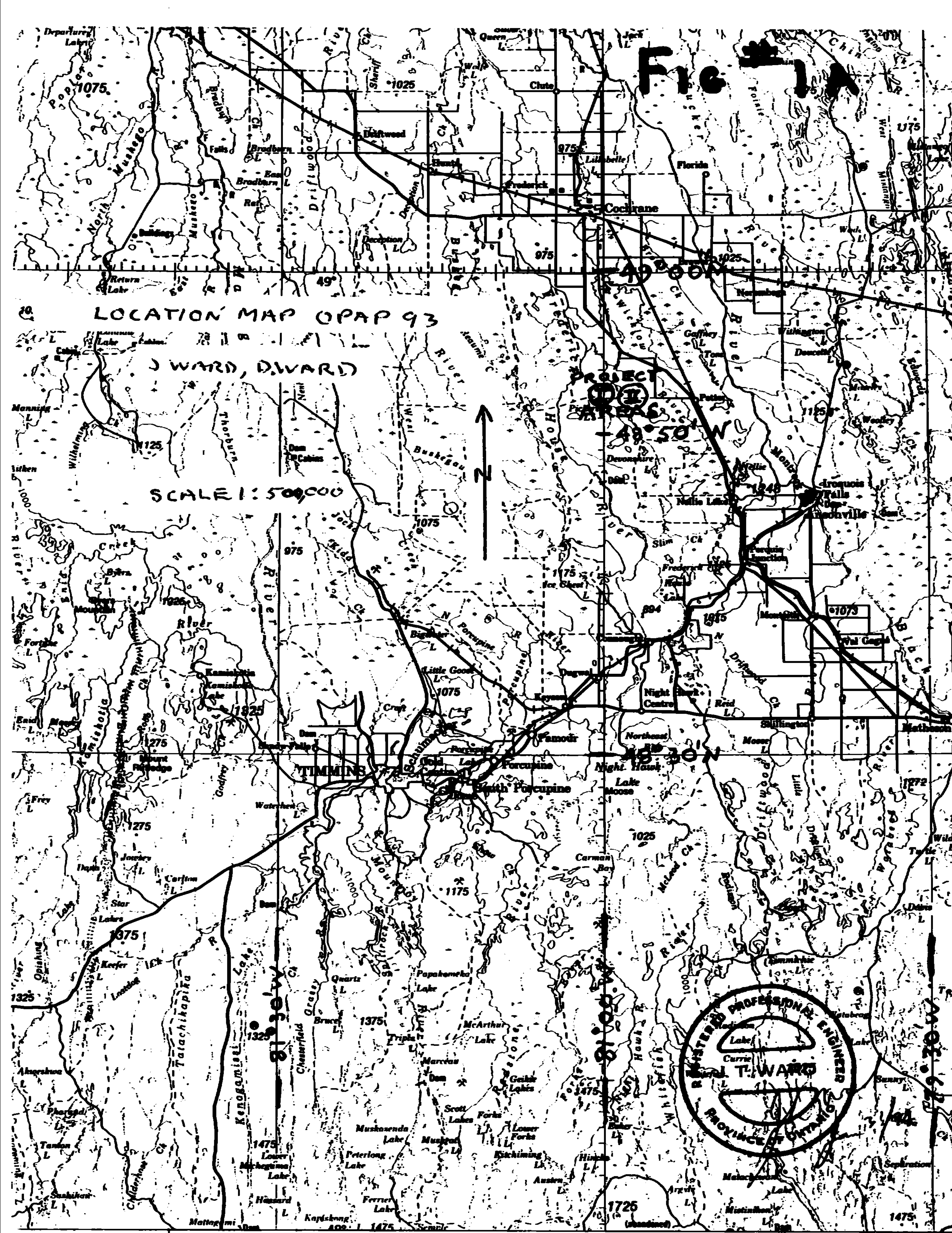
FIG #1A
LOCATION MAP OPAP 93
J WARD, D.WARD
SCALE 1:500,000
PROJECT AREAS
49°50'N
49°00'N
48°30'N
Cochrane
Timmins
Porcupine
South Porcupine
Iroquois Falls
Porquis Junction
Matheson
Night Hawk Lake
Kamiskotia Lake
Driftwood
Clute
Frederick House Lake
Pamour
Connaught
Nellie Lake
Monteith
J.T. WARD
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PROVINCE OF ONTARIO

FIG. 2A

JOHN WARD

3W-2647-RG1

TSL/ASSAYERS Laboratories

1270 FEWSTER DRIVE, UNIT 3 MISSISSAUGA,ONTARIO L4W-1A4
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REPORT No. : M2895
Page No. : 1 of 1
File No. : OC19RA
Date : OCT-15-1993

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium MetaBorate Fusion

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Ba ppm	Sr ppm	Zr ppm	Y ppm	Sc ppm	LOI %	TOTAL %
ROCK	38.40	2.58	12.40	1.46	34.01	<0.01	<0.02	0.13	0.15	<0.02	8	9	7	4	12	9.48	98.58

PERIDOTITE
OUTCROP
LOT 6 MANN TWP
CONCESSION VI
CO-ORDINATES 6+50N / 21.00E

SIGNED :

TSL/93

XRAL

XRAL LABORATORIES

A DIVISION OF SGS CANADA INC.
1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA
TEL: (416)445-5755 TELEX: 06-986947 FAX: (416)445-4152

CERTIFICATE OF ANALYSIS

FIG. 2A

REPORT 25440

TO: JOHN T. WARD
9 WILLAMERE DRIVE
SCARBOROUGH, ONTARIO
M1M 1W5

CUSTOMER No. 40

DATE SUBMITTED
25-Nov-93

REF. FILE 16852-

Total Pages 8

56 HUMUS

	METHOD	DETECTION LIMIT
AU PPB	NA	1.
NA PPM	NA	100.
CA %	NA	.5
SC PPM	NA	.2
CR PPM	NA	1.
FE %	NA	.05
CO PPM	ICP	1.
CO PPM	NA	1.
NI PPM	ICP	1.
NI PPM	NA	20.
CU PPM	ICP	.5
ZN PPM	ICP	.5
ZN PPM	NA	20.
AS PPM	NA	1.
SE PPM	NA	2.
BR PPM	NA	1.
RB PPM	NA	20.
MO PPM	ICP	1.

	METHOD	DETECTION LIMIT
MO PPM	NA	.5
AG PPM	ICP	.5
AG PPM	NA	2.
CD PPM	ICP	1.
CD PPM	NA	2.
SB PPM	NA	.1
BA PPM	NA	100.
LA PPM	NA	1.
CE PPM	NA	1.
SM PPM	NA	.1
TA PPM	NA	.5
W PPM	NA	1.
IR PPB	NA	10.
HG PPM	NA	.5
PB PPM	ICP	2.
TH PPM	NA	.5
U PPM	NA	.1

*** UNLESS INSTRUCTED OTHERWISE WE WILL DISCARD PULPS IN 90 DAYS ***
AND REJECTS IN 30 DAYS FROM THE DATE OF THIS REPORT

DATE 15-Dec-93

CERTIFIED BY .....
Jean H.L. Ondeboeck, General Manager

SAMPLE	AU PPB	NA PPM	CA %	SC PPM	CR PPM	FE %	CO PPM	CO PPM	NI PPM	NI PPM
130	4	4400	1.7	2.9	28	1.06	7	10	11	<20
131	3	1900	1.8	2.0	20	.78	6	9	12	<20
132	2	700	3.0	.4	4	.19	<1	2	5	<20
133	5	5200	2.7	2.5	28	.75	4	6	8	<20
134	2	1400	3.5	.7	7	.52	3	6	16	<20
135	4	500	3.4	.3	5	1.27	2	4	7	<20
136	7	500	3.2	.5	6	.57	2	4	7	<20
137	3	2900	2.3	4.1	37	1.48	5	8	16	<20
138	2	7600	1.0	5.8	56	2.10	10	16	21	<20
139	3	700	2.8	.2	2	.11	<1	2	4	<20
140	2	1400	2.1	.7	8	.32	3	4	5	<20
141	4	800	2.7	.3	4	.14	<1	2	5	<20
142	4	2000	2.5	2.1	21	.80	4	6	9	<20
143	3	800	2.5	.7	6	.30	<1	2	5	<20
144	2	4500	1.1	3.1	31	1.16	11	15	14	<20
145	2	1700	.8	3.7	27	1.26	6	8	15	<20
146	<1	3200	2.8	3.6	36	1.32	5	7	12	<20
147	<1	1300	.9	1.4	13	.50	5	2	17	<20
148	2	3600	1.5	2.4	26	.89	5	7	11	<20
149	<1	4100	3.0	4.0	39	1.65	10	14	15	<20
150	2	600	4.2	1.5	13	.70	3	5	9	<20
151	2	300	2.6	.2	3	.14	<1	2	4	<20
152	2	300	2.5	.2	3	.16	1	2	4	<20
153	<1	5200	1.6	3.4	35	2.03	20	24	16	<20
154	4	2100	2.0	1.5	17	1.66	13	15	10	<20
155	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
156	4	400	1.7	.3	4	.46	8	9	4	<20
157	3	400	1.4	.5	5	.57	4	5	5	<20
158	3	500	1.6	.7	7	.60	4	5	5	<20
159	1	500	3.1	.9	8	.53	2	3	4	<20
160	2	700	3.8	1.5	11	.70	2	4	5	<20
161	2	2700	2.8	5.0	47	1.74	4	7	10	<20
162	2	2100	2.3	4.7	44	1.54	5	7	10	<20
163	3	500	4.5	.5	4	.47	2	4	4	<20
164	4	500	2.2	.6	5	.57	1	3	5	<20
165	14	600	1.5	.2	4	.29	NSS	3	NSS	<20
99	<1	800	3.5	2.2	18	.89	--	3	-	<20
100	5	1600	2.5	2.0	20	.84	--	5	-	<20
101	2	200	1.9	.2	3	.25	--	1	--	<20
102	2	1900	2.8	2.6	23	.89	--	4	--	<20
103	4	400	3.8	.7	6	.27	--	4	--	<20
104	6	2000	2.7	1.2	13	.48	--	4	--	<20
105	2	300	2.0	.2	3	.10	--	2	--	<20
106	2	400	1.9	.8	6	.33	--	2	--	<20
107	6	400	3.4	.4	5	.47	--	4	--	<20

NSS - NOT SUFFICIENT SAMPLE
SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

SAMPLE	AU PPB	NA PPM	CA %	SC PPM	CR PPM	FE %	CO PPM	CO PPM	NI PPM	NI PPM
108	2	2900	2.5	2.6	26	1.02	--	6	--	<20
109	3	400	2.9	.4	5	.18	--	2	--	<20
110	2	400	2.9	.4	5	.20	--	2	--	<20
111	6	500	2.3	.5	5	.34	--	7	--	<20
112	3	400	4.6	.7	7	.57	--	10	--	<20
113	3	900	3.0	1.0	10	.41	--	4	--	<20
114	2	900	2.7	2.0	19	.68	--	6	--	<20
115	4	1100	2.1	1.4	15	.59	--	5	--	<20
116	<1	2600	2.1	6.6	60	2.84	--	17	--	<20
117	<1	800	1.9	2.4	16	.67	--	8	--	<20
118	<1	1000	2.2	2.1	21	.88	--	5	--	<20
D 130	2	3300	.9	2.2	22	.80	6	7	10	<20
D 142	--	--	--	--	--	--	5	--	10	--
D 154	<1	600	2.5	1.6	13	.68	13	2	10	<20
D 111	3	300	1.3	.3	3	.20	--	4	--	<20

D - QUALITY CONTROL DUPLICATE

SAMPLE	CU PPM	ZN PPM	ZN PPM	AS PPM	SE PPM	BR PPM	RB PPM	MO PPM	MO PPM
130	26.6	126	140	4	<2	9	70	1	<.5
131	30.4	225	210	3	<2	7	50	<1	1.3
132	25.9	249	260	2	<2	10	<20	<1	<.5
133	19.9	179	200	4	<2	12	40	<1	2.4
134	36.1	27.7	20	3	<2	49	<20	1	.5
135	18.4	23.0	20	4	<2	58	<20	<1	.6
136	19.2	39.5	40	4	<2	26	<20	<1	1.3
137	28.3	81.0	90	6	<2	15	60	<1	1.1
138	24.2	184	230	6	<2	12	120	<1	.5
139	31.3	226	210	1	<2	10	<20	<1	.7
140	31.8	242	230	2	<2	8	<20	<1	<.5
141	22.0	109	110	2	<2	12	<20	1	1.1
142	22.8	101	110	4	<2	11	30	<1	1.0
143	13.4	57.3	60	4	<2	11	<20	<1	.6
144	23.5	87.6	90	4	<2	7	80	<1	.5
145	20.4	54.8	40	3	<2	15	40	<1	.9
146	22.2	43.0	30	3	<2	14	40	<1	1.6
147	18.8	41.3	<20	1	<2	6	<20	<1	<.5
148	24.8	87.4	70	4	<2	10	40	<1	<.5
149	20.1	87.8	80	6	<2	18	50	<1	3.5
150	22.6	36.1	30	4	<2	28	<20	<1	<.5
151	16.3	38.7	40	2	<2	13	<20	2	2.1
152	16.1	71.7	70	2	<2	16	<20	2	1.6
153	19.4	146	130	8	<2	17	50	<1	.6
154	19.6	94.7	90	11	<2	22	20	1	.7
155	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
156	16.7	52.8	50	4	<2	15	<20	<1	1.0
157	18.1	34.2	30	3	<2	13	<20	<1	1.1
158	15.9	37.2	40	3	<2	14	<20	<1	1.0
159	8.2	7.5	<20	2	<2	17	<20	<1	<.5
160	6.6	6.4	<20	3	<2	21	<20	<1	.5
161	15.2	34.7	50	3	<2	19	50	<1	1.2
162	10.5	34.9	30	3	<2	19	50	<1	<.5
163	10.4	25.1	30	4	<2	31	<20	<1	1.6
164	9.2	37.3	40	5	<2	20	<20	<1	1.5
165	NSS	NSS	50	4	<2	27	<20	NSS	.8
99	--	--	20	4	<2	23	<20	--	.9
100	--	--	90	5	<2	13	20	--	.9
101	--	--	30	1	<2	10	<20	--	<.5
102	--	--	30	3	<2	14	20	--	.8
103	--	--	90	4	<2	27	<20	--	1.6
104	--	--	130	4	<2	9	20	--	.8
105	--	--	240	1	<2	6	<20	--	<.5
106	--	--	50	3	<2	14	<20	--	<.5
107	--	--	50	5	<2	25	<20	--	1.2

NSS - NOT SUFFICIENT SAMPLE
SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

SAMPLE	CU PPM	ZN PPM	ZN PPM	AS PPM	SE PPM	BR PPM	RB PPM	MO PPM	MO PPM
108	--	--	90	5	<2	21	30	--	.7
109	--	--	180	2	<2	10	<20	--	.6
110	--	--	150	2	<2	9	<20	--	<.5
111	--	--	70	7	<2	18	<20	--	2.3
112	--	--	30	4	<2	31	<20	--	.9
113	--	--	100	2	<2	17	<20	--	<.5
114	--	--	120	3	<2	13	20	--	.6
115	--	--	80	4	<2	11	20	--	<.5
116	--	--	120	6	<2	15	80	--	<.5
117	--	--	80	2	<2	13	<20	--	<.5
118	--	--	60	3	<2	11	30	--	.6
D 130	25.9	134	110	3	<2	5	50	<1	.5
D 142	23.5	106	--	--	--	--	--	<1	--
D 154	18.3	94.1	<20	3	<2	18	<20	<1	<.5
D 111	--	--	40	4	<2	11	<20	--	1.1

D - QUALITY CONTROL DUPLICATE

SAMPLE	AG PPM	AG PPM	CD PPM	CD PPM	SB PPM	BA PPM	LA PPM	CE PPM
130	<.5	<2	1	<2	.7	400	22	28
131	<.5	<2	2	4	.6	200	18	31
132	<.5	<2	1	2	.4	200	3	5
133	<.5	<2	2	<2	.7	400	15	20
134	<.5	<2	<1	<2	.8	300	17	16
135	<.5	<2	<1	<2	.4	100	3	5
136	<.5	<2	1	2	.7	100	3	6
137	<.5	<2	1	<2	.7	300	41	36
138	<.5	<2	2	<2	.6	500	45	49
139	<.5	<2	2	2	.3	100	3	4
140	<.5	<2	2	4	.5	200	4	7
141	<.5	<2	1	<2	.6	<100	3	4
142	<.5	<2	1	<2	.7	200	18	25
143	<.5	<2	<1	2	.8	100	11	17
144	<.5	<2	1	4	.9	300	19	34
145	<.5	<2	<1	<2	.5	200	34	59
146	<.5	<2	<1	<2	.5	200	32	51
147	<.5	<2	<1	<2	.1	100	12	13
148	<.5	<2	1	<2	.8	200	14	22
149	<.5	<2	1	<2	.8	300	39	49
150	<.5	<2	<1	<2	.6	100	29	36
151	<.5	<2	<1	<2	.4	<100	3	4
152	<.5	<2	<1	<2	.4	<100	2	3
153	<.5	<2	<1	<2	.3	400	22	38
154	<.5	<2	<1	<2	.4	200	13	24
155	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
156	<.5	<2	1	<2	.6	<100	4	7
157	<.5	<2	1	<2	.5	<100	6	10
158	<.5	<2	<1	<2	.6	100	7	12
159	<.5	<2	<1	<2	.3	100	10	16
160	<.5	<2	<1	<2	.3	100	14	22
161	<.5	<2	<1	<2	.3	300	32	52
162	<.5	<2	<1	<2	.4	00	30	47
163	<.5	<2	<1	<2	.8	100	5	9
164	<.5	<2	<1	<2	1.0	100	5	8
165	NSS	<2	NSS	<2	.3	200	2	2
99	--	<2	--	<2	.3	100	39	50
100	--	<2	--	<2	1.0	00	25	36
101	--	<2	--	<2	.3	200	8	11
102	--	<2	--	<2	.4	00	21	32
103	--	<2	--	4	1.0	100	6	9
104	--	<2	--	2	.8	00	6	10
105	--	<2	--	2	.2	00	2	2
106	--	<2	--	<2	.6	00	11	14
107	--	<2	--	<2	.8	00	4	6

NSS - NOT SUFFICIENT SAMPLE
SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

SAMPLE	AG PPM	AG PPM	CD PPM	CD PPM	SB PPM	BA PPM	LA PPM	CE PPM
108	--	<2	--	<2	.6	200	19	31
109	--	<2	--	<2	.4	<100	4	5
110	--	<2	--	<2	.3	<100	3	5
111	--	<2	--	<2	1.3	100	3	6
112	--	<2	--	<2	.9	100	12	17
113	--	<2	--	<2	.5	100	12	17
114	--	<2	--	<2	.4	100	16	24
115	--	<2	--	4	.7	100	14	18
116	--	<2	--	<2	.7	400	84	96
117	--	<2	--	<2	.6	100	53	62
118	--	<2	--	<2	.5	100	32	38
D 130	<.5	<2	1	<2	.5	200	15	25
D 142	<.5	--	<1	--	--	-	--	--
D 154	<.5	<2	<1	<2	.2	100	29	37
D 111	--	<2	--	<2	.7	<100	2	4

D - QUALITY CONTROL DUPLICATE

SAMPLE	SM PPM	TA PPM	W PPM	IR PPB	HG PPM	PB PPM	TH PPM	U PPM
130	2.0	<.5	<1	<10	<.5	46	2.5	.7
131	2.0	<.5	<1	<10	<.5	42	2.0	.6
132	.3	<.5	<1	<10	<.5	33	.5	.1
133	1.5	<.5	<1	<10	<.5	42	2.3	.7
134	1.9	<.5	<1	<10	<.5	36	1.2	2.4
135	.5	<.5	<1	<10	<.5	35	<.5	1.1
136	.4	<.5	<1	<10	<.5	55	.7	.5
137	3.6	<.5	<1	<10	<.5	34	4.9	1.4
138	3.9	<.5	<1	<10	<.5	32	6.0	1.4
139	.4	<.5	<1	<10	<.5	31	<.5	.1
140	.5	<.5	<1	<10	<.5	40	.8	.3
141	.4	<.5	<1	<10	<.5	42	<.5	.2
142	1.8	<.5	<1	<10	<.5	38	2.7	.8
143	1.2	<.5	<1	<10	<.5	28	1.0	.4
144	2.4	<.5	<1	<10	<.5	54	2.7	.8
145	4.0	<.5	1	<10	<.5	25	4.5	.9
146	3.5	<.5	1	<10	<.5	16	4.8	2.6
147	1.2	<.5	<1	<10	<.5	19	1.9	1.7
148	1.5	<.5	<1	<10	<.5	44	2.3	.6
149	3.6	<.5	1	<10	<.5	32	4.9	1.5
150	3.0	<.5	<1	<10	<.5	23	2.5	4.0
151	.3	<.5	<1	<10	<.5	27	<.5	.2
152	.2	<.5	<1	<10	<.5	31	<.5	.1
153	2.1	<.5	<1	<10	<.5	19	3.2	.9
154	1.5	<.5	<1	<10	<.5	36	1.9	.6
155	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS	SMP MISS
156	.4	<.5	<1	<10	<.5	30	<.5	.2
157	.7	<.5	<1	<10	<.5	21	.6	.3
158	.8	<.5	<1	<10	<.5	22	.9	.4
159	1.2	<.5	<1	<10	<.5	9	1.6	1.1
160	1.6	<.5	<1	<10	<.5	9	2.4	1.6
161	3.6	<.5	1	<10	<.5	12	7.0	2.0
162	3.3	<.5	1	<10	<.5	13	6.8	1.9
163	.7	<.5	<1	<10	<.5	15	.8	1.3
164	.6	<.5	<1	<10	<.5	28	.8	.4
165	.2	<.5	<1	<10	<.5	NSS	<.5	.1
99	4.0	<.5	1	<10	<.5	-	3.9	1.8
100	2.6	<.5	<1	<10	<.5	-	2.3	.5
101	.8	<.5	<1	<10	<.5	-	<.5	.9
102	2.4	<.5	<1	<10	<.5	-	4.1	1.3
103	.7	<.5	<1	<10	<.5	-	1.0	.6
104	.7	<.5	<1	<10	<.5	-	1.2	.3
105	.2	<.5	<1	<10	<.5	-	<.5	.1
106	1.1	<.5	<1	<10	<.5	-	1.3	.5
107	.5	<.5	<1	<10	<.5	-	.5	.3

NSS - NOT SUFFICIENT SAMPLE
SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

SAMPLE	SN PPM	TA PPM	W PPM	IR PPB	HG PPM	PB PPM	TH PPM	U PPM
108	2.3	<.5	<1	<10	<.5	-	3.6	1.8
109	.4	<.5	<1	<10	<.5	-	.5	.1
110	.4	<.5	<1	<10	<.5	-	.5	.1
111	.4	<.5	<1	<10	<.5	-	.6	.2
112	1.4	<.5	<1	<10	<.5	-	1.1	1.2
113	1.3	<.5	<1	<10	<.5	-	1.3	2.3
114	1.8	<.5	<1	<10	<.5	-	3.2	1.1
115	1.4	<.5	1	<10	<.5	-	1.6	.4
116	7.1	<.5	<1	<10	<.5	-	8.0	2.1
117	5.1	<.5	1	<10	<.5	-	2.5	.8
118	3.0	<.5	1	<10	<.5	-	2.4	.6
D 130	1.6	<.5	<1	<10	<.5	44	1.9	.6
D 142	--	--	--	--	--	37	--	--
D 154	3.0	<.5	<1	<10	<.5	38	2.7	1.3
D 111	.2	<.5	<1	<10	<.5	-	<.5	.1

D - QUALITY CONTROL DUPLICATE

XRAL

X-RAY ASSAY LABORATORIES

A DIVISION OF SGS CANADA INC.

1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA

TEL: (416)445-5755 TELEX: 06-986947 FAX: (416)445-4152

CERTIFICATE OF ANALYSIS

REPORT 24426

TO: JOHN T. WARD
9 WILLAMERE DRIVE
SCARBOROUGH, ONTARIO
M1M 1W5

CUSTOMER No. 40

DATE SUBMITTED
20-Sep-93

REF. FILE 16182-RO

Total Pages 1

5 ROCKS

	METHOD	DETECTION LIMIT
AU-1AT PPB	FADCP	1.
PT-1AT PPB	FADCP	10.
PD-1AT PPB	FADCP	1.

DATE 30-Sep-93

CERTIFIED BY .....

Jean H.L. Opdebeeck, General Manager

XRAL

30-Sep-93 REPORT 24426 REF.FILE 16182-RO

SAMPLE	AU-1AT PPB	PT-1AT PPB	PD-1AT PPB	
1001	<1	<10	<1	PERIDOTITE O.C. LOT 9 MANN TWP L00E 1+75N
1002	1	<10	<1	PERIDOTITE O.C. LOT 9 MANN TWP L2+00W 3+50N
1003	<1	<10	<1	PERIDOTITE O.C. LOT 9 MANN TWP L4+00W 3+00N
1004	<1	<10	<1	" " " " "
1005	<1	<10	<1	" " " " "
D 1001	<1	<10	<1	

AU-1AT PPB - ASSAY PERFORMED ON 30 GRAM ALIQUOT
PT-1AT PPB - ASSAY PERFORMED ON 30 GRAM ALIQUOT
PD-1AT PPB - ASSAY PERFORMED ON 30 GRAM ALIQUOT
D - QUALITY CONTROL DUPLICATE

X-RAY ASSAY LABORATORIES 1885 Leslie Street Don Mills Ontario M3B 3J4 (416)445-5755 Fax (416)445-4152 Tlx 06-986947
Member of the SGS Group (Société Générale de Surveillance)

XRAL

X-RAY ASSAY LABORATORIES

A DIVISION OF SGS CANADA INC.

1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA

TEL: (416)445-5755 TELEX: 06-986947 FAX: (416)445-4152

CERTIFICATE OF ANALYSIS

FIG 2A

REPORT 24524

TO: JOHN T. WARD
9 WILLAMERE DRIVE
SCARBOROUGH, ONTARIO
M1M 1W5

CUSTOMER No. 40

DATE SUBMITTED
20-Sep-93

REF. FILE 16184-

Total Pages 2

46 HUMUS

	METHOD	DETECTION LIMIT
CO PPM	ICP	1.
NI PPM	ICP	1.
CU PPM	ICP	.5
ZN PPM	ICP	.5
MO PPM	ICP	1.
AG PPM	ICP	.5
CD PPM	ICP	1.
PB PPM	ICP	2.

DATE 18-Oct-93

CERTIFIED BY .....

Jean H.L. Opdebeeck, General Manager

SAMPLE	CO PPM	NI PPM	CU PPM	ZN PPM	MO PPM	AG PPM	CD PPM	PB PPM
84	7	19	22.3	52.9	1	<.5	1	19
85	5	8	30.2	175	2	<.5	2	55
86	5	11	31.7	137	<1	<.5	2	22
87	<1	2	15.6	44.5	<1	<.5	1	40
88	1	<1	14.1	36.2	<1	<.5	<1	23
89	6	<1	15.9	48.2	<1	<.5	1	20
90	3	7	26.3	129	1	<.5	2	46
91	2	4	30.8	75.4	<1	<.5	1	28
92	4	7	32.3	95.7	<1	<.5	2	43
93	11	22	22.8	99.7	<1	<.5	1	38
94	3	7	16.4	46.0	<1	<.5	<1	23
95	2	1	29.9	115	<1	<.5	2	18
96	2	8	24.4	68.0	2	<.5	2	35
97	2	8	16.3	32.8	<1	<.5	<1	37
98	3	7	21.3	123	<1	<.5	2	59
99	3	7	20.1	26.3	<1	<.5	<1	11
100	5	11	20.1	106	<1	<.5	1	55
101	1	3	20.5	34.6	<1	<.5	<1	11
102	4	7	15.7	32.6	<1	<.5	1	10
103	3	6	15.6	87.9	1	<.5	3	45
104	5	8	22.8	130	<1	<.5	2	44
105	2	3	39.1	242	<1	<.5	2	23
106	1	1	11.4	38.0	<1	<.5	<1	13
107	3	3	12.7	37.7	2	<.5	<1	27
108	4	9	14.3	82.6	<1	<.5	1	21
109	2	2	26.6	157	<1	<.5	1	28
110	2	1	22.6	126	1	<.5	1	30
111	5	2	11.9	62.6	3	<.5	1	48
112	8	5	11.8	29.0	1	<.5	2	29
113	3	9	70.4	93.0	1	<.5	2	49
114	1	2	19.2	66.8	<1	<.5	2	16
115	4	10	20.7	76.1	<1	<.5	1	43
116	13	30	38.2	116	<1	<.5	2	34
117	7	11	25.0	63.9	<1	<.5	1	30
118	4	12	25.1	73.2	<1	<.5	1	36
119	4	9	21.7	141	<1	<.5	1	43
120	8	26	26.2	69.7	<1	<.5	<1	21
121	5	21	30.7	43.1	<1	<.5	<1	18
122	5	12	20.0	127	<1	<.5	1	38
123	3	7	29.0	238	<1	<.5	2	42
124	6	13	22.8	49.5	<1	<.5	<1	36
125	9	20	25.3	79.2	<1	<.5	1	38
126	7	16	21.9	177	<1	<.5	2	48
127	12	16	21.2	76.4	<1	<.5	1	26
128	7	16	18.7	65.5	<1	<.5	<1	38

SAMPLE	CO PPM	NI PPM	CU PPM	ZN PPM	MO PPM	AG PPM	CD PPM	PB PPM
129	3	14	23.2	349	<1	<.5	5	7
D 84	6	18	22.1	53.2	<1	<.5	1	20
D 96	2	7	22.8	64.3	1	<.5	2	31
D 108	3	9	14.0	80.2	<1	<.5	1	19
D 120	8	26	27.5	68.8	<1	<.5	<1	19

D - QUALITY CONTROL DUPLICATE

XRAL

X-RAY ASSAY LABORATORIES

A DIVISION OF SGS CANADA INC.

1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA

TEL: (416)445-5755 TELEX: 06-986947 FAX: (416)445-4152

CERTIFICATE OF ANALYSIS FIG 2A

REPORT 24100

TO: JOHN T. WARD
9 WILLAMERE DRIVE
SCARBOROUGH, ONTARIO
M1M 1W5

CUSTOMER No. 40

DATE SUBMITTED
9-Aug-93

REF. FILE 15653-

Total Pages 12

83 HUMUS

	METHOD	DETECTION LIMIT
AU PPB	NA	1.
NA PPM	NA	100.
CA %	NA	.5
SC PPM	NA	.2
CR PPM	NA	1.
FE %	NA	.05
CO PPM	ICP	1.
CO PPM	NA	1.
NI PPM	ICP	1.
NI PPM	NA	20.
CU PPM	ICP	.5
ZN PPM	ICP	.5
ZN PPM	NA	20.
AS PPM	NA	1.
SE PPM	NA	2.
BR PPM	NA	1.
RB PPM	NA	20.
MO PPM	ICP	1.

	METHOD	DETECTION LIMIT
MO PPM	NA	.5
AG PPM	ICP	.5
AG PPM	NA	2.
CD PPM	ICP	1.
CD PPM	NA	2.
SB PPM	NA	.1
BA PPM	NA	100.
LA PPM	NA	1.
CE PPM	NA	1.
SM PPM	NA	.1
TA PPM	NA	.5
W PPM	NA	1.
TR PPB	NA	10.
DY PPM	NA	.5
HF PPM	ICP	2.
TH PPM	NA	.5
U PPM	NA	.1

DATE 14-Sep-93

CERTIFIED BY .....

Jean H.L. Opdebeeck, General Manager

SAMPLE	AU PPB	NA PPM	CA %	SC PPM	CR PPM	FE %	CO PPM	CO PPM	NI PPM	NI PPM
1	9	2100	1.8	2.0	22	.81	4	5	10	<20
2	2	600	2.6	1.4	10	.68	2	4	8	<20
3	3	400	2.7	.7	7	.55	5	6	7	<20
4	3	1400	1.8	1.7	17	1.27	11	12	9	<20
5	5	300	<.5	.3	3	.15	<1	1	2	<20
6	2	1700	2.0	4.1	26	1.04	5	7	9	<20
7	4	400	<.5	.4	4	.14	<1	1	2	<20
8	2	4600	2.3	2.9	28	.97	11	14	13	<20
9	<1	1200	2.4	1.9	17	.64	7	9	10	<20
10	<1	7400	1.5	1.5	32	.42	4	5	14	<20
11	<1	10000	1.8	2.9	55	.71	3	6	25	<20
12	3	500	1.4	.5	7	.21	1	2	7	<20
13	<1	2000	1.7	4.6	43	1.81	7	9	23	<20
14	4	400	.8	.4	5	.17	<1	1	1	<20
15	2	500	.8	.5	4	.22	<1	1	1	<20
16	1	600	1.7	.7	6	.19	<1	1	4	<20
17	3	300	.8	.2	3	.14	<1	1	2	<20
18	1	3000	1.3	2.1	22	.55	<1	2	7	<20
19	11	2500	1.3	1.8	20	.70	4	5	10	<20
20	<1	2900	1.9	3.4	32	1.23	4	6	12	<20
21	3	400	1.9	.7	7	.38	2	5	6	<20
22	<1	5700	2.2	6.6	65	2.80	12	15	30	<20
23	<1	4500	2.2	5.4	52	2.21	11	14	22	<20
24	1	800	1.9	1.9	16	.63	2	3	7	<20
25	3	400	2.2	.6	5	.30	<1	1	5	<20
26	3	300	2.8	.4	4	.28	1	3	8	<20
27	2	1000	2.3	2.2	21	.89	2	4	12	<20
28	<1	2000	3.7	3.3	23	1.40	3	5	14	<20
29	4	400	3.1	.7	6	.32	2	3	6	<20
30	3	400	2.7	.4	4	.45	<1	3	2	<20
31	<1	6800	1.5	6.6	67	2.86	10	14	26	<20
32	4	300	1.3	.4	4	.15	<1	1	2	<20
33	8	3200	2.9	4.3	35	1.43	4	9	11	<20
34	6	400	2.3	.4	5	.36	<1	2	4	<20
35	1	15000	2.6	6.9	85	2.50	7	13	27	<20
36	3	8500	2.7	3.3	77	1.50	7	11	34	<20
37	6	3000	4.5	4.1	36	1.67	5	9	15	<20
38	4	2400	1.5	2.0	17	.80	3	5	9	<20
39	2	400	1.1	.8	6	.16	<1	1	<1	<20
40	7	1400	1.8	.9	10	.29	1	3	6	<20
41	5	5200	1.7	2.9	32	1.05	4	8	16	<20
42	4	3500	1.8	3.0	28	1.18	10	12	18	<20
43	3	400	1.8	.5	5	.33	3	4	6	<20
44	1	300	2.5	.4	4	.29	<1	2	5	<20
45	4	200	2.7	.2	3	.46	6	5	7	<20

SAMPLE	AU PPB	NA PPM	CA %	SC PPM	CR PPM	FE %	CO PPM	CO PPM	NI PPM	NI PPM
46	1	400	2.7	.7	6	.31	<1	3	9	<20
47	4	200	<.5	.2	2	.07	<1	1	1	<20
48	1	300	1.9	.4	3	.17	<1	1	2	<20
49	1	300	2.4	.4	4	.18	<1	1	2	<20
50	3	200	.7	.3	3	.14	<1	1	1	<20
51	4	1300	1.7	3.0	25	1.17	5	6	16	<20
52	<1	400	2.2	1.1	6	.51	<1	1	5	<20
53	9	500	1.8	.7	6	.31	<1	2	6	<20
54	6	200	<.5	.2	3	.15	<1	1	2	<20
55	3	200	<.5	<.2	2	.14	<1	1	2	<20
56	2	800	1.5	2.2	16	.77	4	5	13	<20
57	1	4000	2.0	3.3	35	1.31	7	10	19	<20
58	5	2400	1.5	3.6	27	1.16	5	6	20	<20
59	<1	4200	2.2	7.0	71	2.81	14	16	31	<20
60	<1	3100	2.2	2.3	22	.82	3	4	11	<20
61	4	200	1.3	.3	3	.13	<1	1	2	<20
62	2	400	2.6	.7	6	.63	7	8	3	<20
63	1	500	3.2	.8	8	.38	<1	3	2	<20
64	3	300	2.6	.3	3	.25	<1	3	7	<20
65	2	300	3.5	.3	3	.17	<1	2	2	<20
66	2	300	3.1	.4	4	.29	3	5	5	<20
67	<1	4100	2.7	4.6	44	1.67	6	10	18	<20
68	1	3300	2.2	4.7	39	1.31	4	7	14	<20
69	2	3000	3.5	5.9	54	2.27	14	18	18	<20
70	<1	1300	2.1	1.8	15	.60	<1	3	8	<20
71	4	600	3.2	.7	7	.39	<1	2	12	<20
72	2	2300	1.2	2.5	25	.88	1	4	11	<20
73	<1	900	3.0	2.4	22	.93	4	5	14	<20
74	6	1900	1.7	2.7	20	.95	5	7	15	<20
75	2	900	2.4	1.1	10	.42	<1	2	5	<20
76	4	1400	2.7	.8	12	.36	3	5	8	<20
77	6	900	1.4	.9	10	.36	<1	3	7	<20
78	<1	2000	3.5	4.1	34	1.52	3	7	17	<20
79	<1	2000	3.2	3.1	26	.96	2	5	11	<20
80	3	300	2.5	.3	2	.15	<1	1	<1	<20
81	4	400	2.1	.5	5	.43	<1	3	5	<20
82	4	3500	2.6	4.8	50	1.93	6	9	21	<20
83	<1	6800	.7	7.4	63	1.69	4	8	17	<20
D 1	4	1900	1.4	1.8	19	.72	4	4	11	<20
D 13	--	--	--	--	--	-	7	--	20	--
D 25	2	400	2.2	.6	6	.30	<1	1	5	<20
D 37	--	--	--	--	--	-	5	--	16	--
D 47	--	--	--	--	--	-	<1	--	<1	--
D 49	3	300	2.7	.4	3	.17	--	1	--	<20
D 59	--	--	--	--	--	-	13	--	31	--

D - QUALITY CONTROL DUPLICATE

SAMPLE	AU PPB	NA PPM	CA %	SC PPM	CR PPM	FE %	CO PPM	CO PPM	NI PPM	NI PPM
D 71	--	--	--	--	--	--	<1	--	12	--
D 73	<1	900	3.0	2.4	23	.95	--	5	--	<20
D 83	--	--	--	--	--	--	4	--	19	--

D - QUALITY CONTROL DUPLICATE

SAMPLE	CU PPM	ZN PPM	ZN PPM	AS PPM	SE PPM	BR PPM	RB PPM	MO PPM	MO PPM
1	16.7	63.9	60	4	<2	10	30	<1	.8
2	18.1	18.5	<20	4	<2	21	<20	<1	<.5
3	21.8	80.4	70	4	<2	18	<20	<1	1.0
4	20.5	57.2	40	7	<2	16	20	<1	1.2
5	21.1	25.7	20	3	<2	13	<20	<1	<.5
6	16.4	53.8	40	4	<2	20	20	<1	<.5
7	8.1	45.6	40	4	<2	11	<20	<1	<.5
8	19.9	199	180	3	<2	9	70	<1	.5
9	28.6	110	90	3	<2	13	<20	<1	<.5
10	28.0	236	200	1	<2	6	30	<1	<.5
11	17.6	154	120	2	<2	3	70	<1	1.2
12	20.1	79.4	60	3	<2	9	<20	<1	<.5
13	25.2	83.8	80	4	<2	15	50	<1	<.5
14	9.9	39.4	40	4	<2	18	<20	<1	.7
15	7.1	39.8	30	3	<2	19	<20	<1	.7
16	5.3	19.5	20	2	<2	17	<20	<1	1.1
17	6.1	30.5	20	4	<2	13	<20	<1	1.1
18	12.2	34.7	20	3	<2	12	20	<1	.7
19	22.0	129	100	3	<2	8	20	<1	<.5
20	17.1	57.3	70	4	<2	14	30	<1	<.5
21	13.1	31.1	20	5	<2	20	<20	<1	<.5
22	24.4	116	120	4	<2	10	110	<1	<.5
23	24.4	119	100	5	<2	10	80	<1	<.5
24	13.3	19.6	<20	3	<2	17	<20	<1	.6
25	11.1	42.2	30	3	<2	15	<20	<1	.9
26	15.4	36.5	30	2	<2	20	<20	<1	<.5
27	20.1	25.3	<20	2	<2	10	20	<1	.6
28	19.0	23.4	30	3	<2	21	30	<1	<.5
29	14.3	37.5	30	5	<2	19	<20	<1	.7
30	7.5	22.1	20	3	<2	20	<20	<1	<.5
31	27.8	75.7	70	6	<2	8	110	<1	<.5
32	8.6	73.6	60	6	<2	15	<20	<1	1.2
33	16.4	45.7	60	6	<2	27	40	<1	<.5
34	10.1	32.4	30	4	<2	30	<20	<1	1.7
35	16.6	92.9	110	4	<2	19	110	<1	3.6
36	21.0	68.0	70	4	<2	19	20	<1	.5
37	20.7	41.8	40	4	<2	17	40	<1	.6
38	14.3	45.1	60	5	<2	19	<20	<1	.8
39	4.9	18.3	20	2	<2	31	<20	<1	.9
40	25.9	180	150	2	<2	7	20	<1	.8
41	26.6	264	230	5	<2	8	50	<1	1.8
42	23.2	155	150	4	<2	10	60	<1	1.6
43	25.1	56.3	40	2	<2	10	<20	<1	<.5
44	11.2	42.6	30	3	<2	19	<20	<1	.6
45	14.0	31.6	20	5	<2	25	<20	<1	1.1

SAMPLE	CU PPM	ZN PPM	ZN PPM	AS PPM	SE PPM	BR PPM	RB PPM	MO PPM	MO PPM
46	18.1	35.9	20	4	<2	14	<20	<1	.8
47	9.2	62.0	60	4	<2	12	<20	<1	<.5
48	8.8	71.4	40	3	<2	12	<20	<1	<.5
49	13.5	47.3	30	3	<2	18	<20	<1	1.0
50	7.9	26.9	30	4	<2	17	<20	<1	<.5
51	22.6	90.9	80	5	<2	13	30	<1	<.5
52	10.1	19.1	<20	4	<2	14	<20	<1	<.5
53	14.4	45.6	40	4	<2	11	<20	<1	.6
54	7.3	46.9	50	4	<2	18	<20	<1	<.5
55	8.6	63.5	50	3	<2	12	<20	<1	<.5
56	23.8	78.8	60	3	<2	9	20	<1	<.5
57	25.8	152	130	3	<2	11	70	<1	.8
58	29.0	52.8	30	3	<2	20	40	<1	<.5
59	29.4	102	90	4	<2	15	90	<1	<.5
60	19.8	94.1	90	3	<2	10	30	<1	<.5
61	6.7	38.1	30	3	<2	10	<20	<1	.8
62	8.5	61.7	50	8	<2	21	<20	<1	1.2
63	10.3	41.8	30	3	<2	18	<20	<1	1.3
64	11.0	71.7	60	3	<2	20	<20	<1	1.6
65	10.4	40.4	30	2	<2	20	<20	2	2.5
66	11.9	54.1	50	4	<2	19	<20	<1	3.0
67	25.0	90.7	90	3	<2	25	50	<1	<.5
68	19.3	66.3	70	3	<2	15	60	<1	<.5
69	23.0	58.5	60	3	<2	30	60	<1	<.5
70	23.0	32.3	30	2	<2	12	<20	<1	<.5
71	30.3	26.8	20	2	<2	26	<20	<1	<.5
72	14.3	45.4	30	3	<2	9	30	<1	<.5
73	19.9	66.1	40	3	<2	19	20	<1	.7
74	22.6	59.3	150	5	<2	15	<20	<1	.9
75	12.1	59.1	50	4	<2	13	<20	<1	.8
76	25.5	139	120	3	<2	23	<20	<1	.5
77	18.2	56.4	50	7	<2	14	<20	<1	1.0
78	25.1	29.3	40	2	<2	18	30	<1	<.5
79	18.6	46.0	50	2	<2	18	<20	<1	.5
80	10.2	54.4	40	2	<2	12	<20	4	3.9
81	11.7	83.3	80	3	<2	19	<20	<1	1.0
82	23.7	58.6	50	3	<2	12	70	<1	1.1
83	18.8	31.8	30	3	<2	11	90	<1	<.5
D 1	15.5	64.2	60	4	<2	10	30	<1	.7
D 13	24.2	77.0	--	--	--	-	--	<1	--
D 25	11.6	42.7	30	3	<2	15	<20	<1	.6
D 37	20.8	40.3	--	--	--	-	--	<1	--
D 47	8.7	57.9	--	--	--	-	--	<1	--
D 49	--	--	40	3	<2	19	<20	--	.6
D 59	28.3	94.8	--	--	--	-	--	<1	--

D - QUALITY CONTROL DUPLICATE

SAMPLE	CU PPM	ZN PPM	ZN PPM	AS PPM	SE PPM	BR PPM	RB PPM	MO PPM	MO PPM
D 71	30.8	26.7	--	--	--	--	--	<1	--
D 73	--	--	40	3	<2	20	20	--	.8
D 83	18.4	32.9	--	--	--	--	--	<1	--

D - QUALITY CONTROL DUPLICATE

SAMPLE	AG PPM	AG PPM	CD PPM	CD PPM	SB PPM	BA PPM	LA PPM	CE PPM
1	<.5	<2	1	<2	.6	100	11	19
2	<.5	<2	1	<2	.7	100	21	30
3	<.5	<2	1	<2	.8	100	10	17
4	<.5	<2	1	<2	.6	100	14	27
5	<.5	<2	1	<2	.6	<100	2	3
6	<.5	<2	1	<2	.6	100	25	26
7	<.5	<2	2	<2	.7	<100	2	5
8	<.5	<2	2	<2	.8	100	17	21
9	<.5	<2	1	<2	.6	100	32	35
10	<.5	<2	2	<2	.4	100	10	12
11	<.5	<2	2	<2	.5	100	18	21
12	<.5	<2	1	<2	.6	<100	5	8
13	<.5	<2	1	<2	.6	100	54	58
14	<.5	<2	1	<2	.7	<100	3	4
15	<.5	<2	<1	<2	.5	<100	3	5
16	<.5	<2	<1	<2	.3	<100	4	7
17	<.5	<2	<1	<2	.7	<100	1	3
18	<.5	<2	<1	<2	.5	100	13	23
19	<.5	<2	1	<2	1.0	100	10	16
20	<.5	<2	1	<2	.6	100	31	33
21	<.5	<2	1	<2	.6	<100	13	18
22	<.5	<2	<1	<2	.6	100	42	46
23	<.5	<2	1	<2	.8	100	38	42
24	<.5	<2	<1	<2	.5	100	15	22
25	<.5	<2	<1	<2	.5	100	8	11
26	<.5	<2	<1	<2	.6	<100	9	10
27	<.5	<2	<1	<2	.4	100	21	31
28	<.5	<2	<1	<2	.4	100	43	45
29	<.5	<2	<1	<2	.8	100	11	16
30	<.5	<2	<1	<2	.5	100	7	10
31	<.5	<2	1	<2	.4	100	48	51
32	<.5	<2	<1	<2	.8	<100	3	4
33	<.5	<2	1	<2	.9	100	33	36
34	<.5	<2	<1	<2	.9	<100	3	5
35	<.5	<2	<1	<2	.5	100	52	58
36	<.5	<2	<1	<2	.3	100	27	37
37	<.5	<2	<1	<2	.7	100	63	59
38	<.5	<2	<1	<2	.8	100	17	19
39	<.5	<2	<1	<2	.3	<100	5	8
40	<.5	<2	2	<2	.6	100	5	9
41	<.5	<2	3	<2	.9	100	18	22
42	<.5	<2	2	<2	.7	100	26	35
43	<.5	<2	1	<2	.4	<100	9	14
44	<.5	<2	1	<2	.4	100	8	11
45	<.5	<2	1	<2	.6	100	3	4

SAMPLE	AG PPM	AG PPM	CD PPM	CD PPM	SB PPM	BA PPM	LA PPM	CE PPM
46	<.5	<2	1	<2	.6	100	7	11
47	<.5	<2	1	<2	.6	<100	1	2
48	<.5	<2	1	<2	.6	100	3	5
49	<.5	<2	1	<2	.6	<100	5	6
50	<.5	<2	<1	<2	.5	<100	2	3
51	<.5	<2	1	<2	1.2	200	49	44
52	<.5	<2	<1	<2	.6	100	29	38
53	<.5	<2	<1	<2	1.3	300	7	11
54	<.5	<2	<1	<2	.4	<100	1	2
55	<.5	<2	2	<2	.4	<100	1	2
56	<.5	<2	<1	<2	.4	100	65	64
57	<.5	<2	1	<2	.4	100	26	32
58	<.5	<2	1	<2	.8	200	59	60
59	<.5	<2	<1	<2	.4	100	74	74
60	<.5	<2	<1	<2	.4	100	15	19
61	<.5	<2	<1	<2	.7	<100	2	3
62	<.5	<2	1	<2	.6	100	5	9
63	<.5	<2	<1	<2	.5	100	7	11
64	<.5	<2	1	<2	.7	100	3	4
65	<.5	<2	<1	<2	.7	<100	3	5
66	<.5	<2	2	<2	.8	200	3	7
67	<.5	<2	<1	<2	.4	100	36	39
68	<.5	<2	1	<2	.5	100	37	44
69	<.5	<2	<1	<2	.3	100	46	49
70	<.5	<2	<1	<2	.3	100	20	30
71	<.5	<2	1	<2	.8	100	15	15
72	<.5	<2	<1	<2	.7	100	15	23
73	<.5	<2	<1	<2	.5	100	22	31
74	<.5	<2	1	<2	1.0	100	55	59
75	<.5	<2	<1	<2	.6	100	7	11
76	<.5	<2	2	<2	.6	100	8	11
77	<.5	<2	1	<2	1.3	100	5	9
78	<.5	<2	<1	<2	.3	100	39	35
79	<.5	<2	<1	<2	.4	100	27	30
80	<.5	<2	<1	<2	.8	<100	3	4
81	<.5	<2	<1	<2	.7	100	6	9
82	<.5	<2	<1	<2	.5	100	32	38
83	<.5	<2	<1	<2	.6	100	45	54
D 1	.5	<2	<1	<2	.6	100	10	18
D 13	<.5	--	1	--	--	--	--	--
D 25	<.5	<2	<1	<2	.6	100	8	12
D 37	<.5	--	1	--	--	--	--	--
D 47	<.5	--	1	--	--	--	--	--
D 49	--	<2	--	<2	.6	<100	5	6
D 59	<.5	--	<1	--	--	--	--	--

D - QUALITY CONTROL DUPLICATE

SAMPLE	AG PPM	AG PPM	CD PPM	CD PPM	SB PPM	BA PPM	LA PPM	CE PPM
D 71	<.5	--	<1	--	--	--	--	--
D 73	--	<2	--	<2	.5	700	23	31
D 83	<.5	--	<1	--	--	--	--	--

D - QUALITY CONTROL DUPLICATE

SAMPLE	SN PPM	TA PPM	W PPM	IR PPB	HG PPM	PB PPM	TH PPM	U PPM
1	1.3	<.5	<1	<10	<.5	26	2.2	.7
2	2.2	<.5	<1	<10	<.5	25	2.1	1.2
3	1.0	<.5	<1	<10	<.5	46	.9	.4
4	1.6	<.5	<1	<10	<.5	35	2.0	.9
5	.2	<.5	<1	<10	<.5	25	<.5	.1
6	2.3	<.5	<1	<10	<.5	26	4.7	3.1
7	.3	<.5	<1	<10	<.5	26	.5	.2
8	1.6	<.5	<1	<10	<.5	45	2.5	.8
9	2.8	<.5	<1	<10	<.5	29	2.4	.9
10	.9	<.5	<1	<10	<.5	41	1.4	.4
11	1.7	<.5	<1	<10	<.5	35	2.7	.8
12	.6	<.5	<1	<10	<.5	35	.6	.3
13	4.8	<.5	<1	<10	<.5	26	5.4	1.6
14	.3	<.5	<1	<10	<.5	28	<.5	.2
15	.4	<.5	<1	<10	<.5	26	.6	.3
16	.5	<.5	<1	<10	<.5	10	1.0	.4
17	.2	<.5	<1	<10	<.5	22	<.5	.1
18	1.5	<.5	<1	<10	<.5	23	2.8	1.1
19	1.1	<.5	<1	<10	<.5	63	1.7	.4
20	2.7	<.5	<1	<10	<.5	23	3.5	1.1
21	1.3	<.5	<1	<10	<.5	25	1.0	1.0
22	3.8	<.5	<1	<10	<.5	23	6.9	1.4
23	3.3	<.5	<1	<10	<.5	51	5.5	1.5
24	1.8	<.5	<1	<10	<.5	16	2.9	2.6
25	.9	<.5	<1	<10	<.5	35	.9	.6
26	.9	<.5	<1	<10	<.5	24	.6	.6
27	2.1	<.5	<1	<10	<.5	21	3.1	.7
28	3.7	<.5	<1	<10	<.5	7	4.8	1.7
29	1.0	<.5	<1	<10	<.5	31	.9	.4
30	.8	<.5	<1	<10	<.5	8	.6	.8
31	4.1	<.5	<1	<10	<.5	16	6.5	1.8
32	.3	<.5	<1	<10	<.5	25	.5	.2
33	3.1	<.5	<1	<10	<.5	19	4.4	2.6
34	.3	<.5	<1	<10	<.5	19	.5	.2
35	5.1	<.5	<1	<10	<.5	9	7.5	3.2
36	2.5	<.5	<1	<10	<.5	18	3.6	1.6
37	4.9	<.5	<1	<10	<.5	18	4.6	1.5
38	1.5	<.5	<1	<10	<.5	5	2.0	.5
39	.5	<.5	<1	<10	<.5	9	1.1	.6
40	.5	<.5	<1	<10	<.5	14	.9	.3
41	1.6	<.5	<1	<10	<.5	20	2.6	1.0
42	2.4	<.5	<1	<10	<.5	14	2.5	.7
43	.9	<.5	<1	<10	<.5	14	.6	.6
44	.8	<.5	<1	<10	<.5	18	.6	.4
45	.3	<.5	<1	<10	<.5	27	<.5	.2

SAMPLE	SN PPM	TA PPM	W PPM	IR PPB	HG PPM	PB PPM	TH PPM	U PPM
46	.8	<.5	<1	<10	<.5	26	1.0	.4
47	.2	<.5	<1	<10	<.5	25	<.5	.1
48	.4	<.5	<1	<10	<.5	33	.6	.5
49	.5	<.5	<1	<10	<.5	27	.5	.5
50	.3	<.5	<1	<10	<.5	29	<.5	.2
51	4.0	<.5	<1	<10	<.5	60	3.4	1.0
52	2.9	<.5	<1	<10	<.5	10	1.5	1.2
53	.8	<.5	<1	<10	<.5	50	.9	.4
54	.2	<.5	<1	<10	<.5	15	<.5	.2
55	.1	<.5	<1	<10	<.5	16	<.5	.1
56	5.1	<.5	<1	<10	<.5	34	2.6	.7
57	2.4	<.5	<1	<10	<.5	29	3.1	.6
58	5.4	<.5	<1	<10	<.5	23	4.3	1.2
59	6.8	<.5	<1	<10	<.5	20	9.2	2.6
60	1.5	<.5	<1	<10	<.5	22	2.4	.5
61	.3	<.5	<1	<10	<.5	22	<.5	.1
62	.6	<.5	<1	<10	<.5	32	1.1	.5
63	.8	<.5	<1	<10	<.5	16	1.2	.9
64	.3	<.5	<1	<10	<.5	35	<.5	.2
65	.3	<.5	<1	<10	<.5	26	.5	.4
66	.4	<.5	<1	<10	<.5	14	.6	.2
67	3.5	<.5	<1	<10	<.5	9	6.0	4.7
68	3.5	<.5	<1	<10	<.5	22	5.9	3.2
69	4.4	<.5	1	<10	<.5	10	7.9	6.5
70	2.2	<.5	<1	<10	<.5	12	2.9	2.6
71	2.0	<.5	<1	<10	<.5	12	1.1	13.2
72	1.6	<.5	<1	<10	<.5	32	2.7	.6
73	2.4	<.5	<1	<10	<.5	19	3.7	2.0
74	4.8	<.5	2	<10	<.5	13	2.5	.7
75	.8	<.5	<1	<10	<.5	14	1.3	.4
76	.8	<.5	<1	<10	<.5	60	.9	.3
77	.6	<.5	<1	<10	<.5	15	.9	.4
78	4.7	<.5	<1	<10	<.5	4	5.6	27.8
79	2.6	<.5	<1	<10	<.5	13	4.4	1.7
80	<.1	<.5	<1	<10	<.5	16	<.5	.2
81	.7	<.5	<1	<10	<.5	26	.6	.3
82	3.1	<.5	<1	<10	<.5	18	5.5	3.3
83	4.0	<.5	<1	<10	<.5	14	7.6	2.1
D 1	1.2	<.5	<1	<10	<.5	26	2.1	.6
D 13	--	--	--	--	--	13	--	--
D 25	.9	<.5	<1	<10	<.5	15	.8	.7
D 37	--	--	--	--	--	19	--	--
D 47	--	--	--	--	--	17	--	--
D 49	.5	<.5	<1	<10	<.5		.5	.6
D 59	--	--	--	--	--	17	--	--

D - QUALITY CONTROL DUPLICATE

SAMPLE	SN PPM	TA PPM	W PPM	IR PPB	HG PPM	PB PPM	TH PPM	U PPM
D 71	--	--	--	--	--	12	--	--
D 73	2.5	<.5	<1	<10	<.5	-	3.7	2.1
D 83	--	--	--	--	--	23	--	--

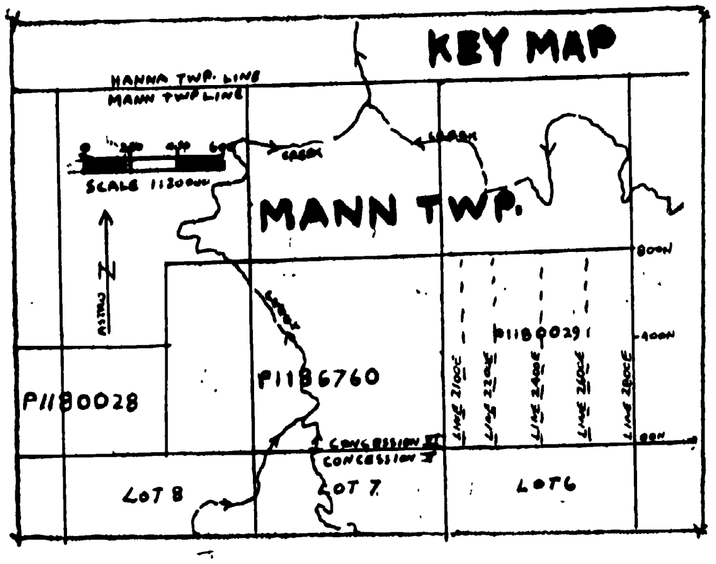
D - QUALITY CONTROL DUPLICATE

OP 93

VERTICAL COIL EM MANN TWP.

PROJECT #1 J. WARD + D. WARD

(OP 93-517) JOINT SUBMISSION (OP 93-529)



LEGEND

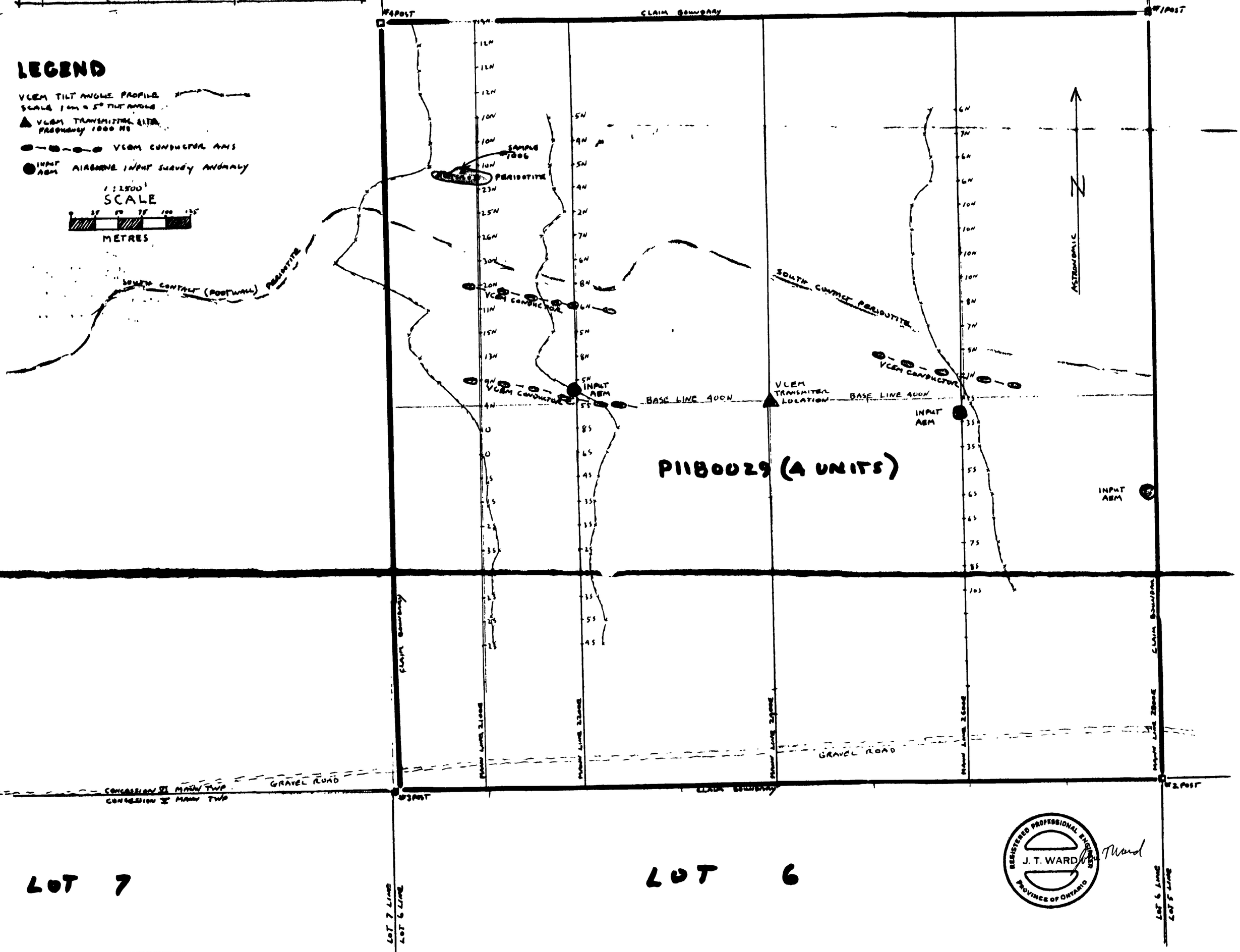
VLEM TILT ANGLE PROFILE
SCALE 1 cm = 5° TILT ANGLE

▲ VLEM TRANSMITTER LOCATION FREQUENCY 1000 HZ

VLEM CONDUCTOR AXIS

INPUT AEM — AIRBORNE INPUT SURVEY ANOMALY

1:2500
SCALE
0 25 50 75 100 125
METRES



REGISTERED PROFESSIONAL ENGINEER
J. T. WARD
PROVINCE OF ONTARIO

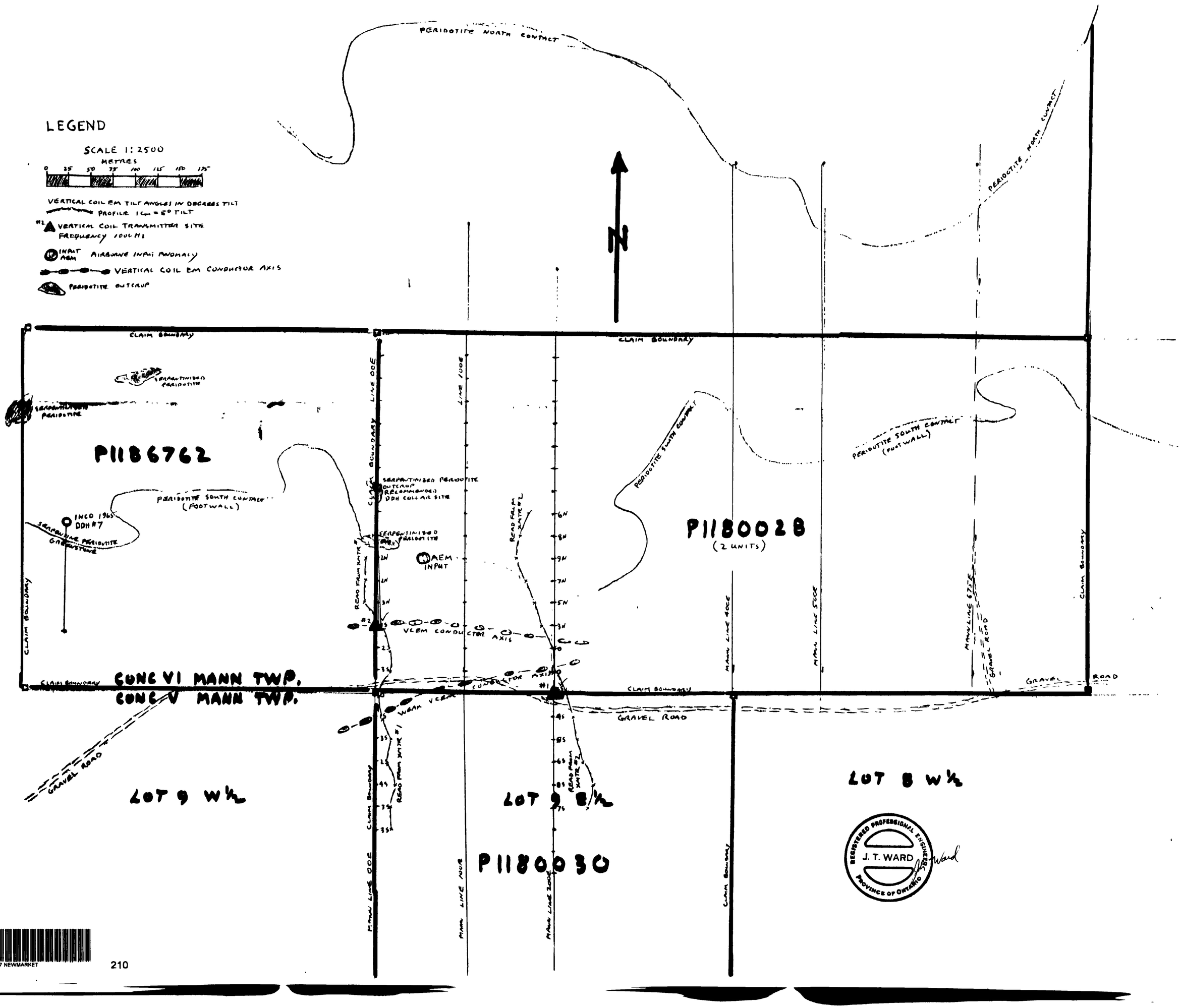
VCEM FIG "B"

OPAP 1993 VERTICAL COIL EM DETAIL

(OP93-517) (OP93-529)

J. WARD + D. WARD JOINT SUBMISSION

PROJECT #1



VCEM FIG "C"

OPAP 1993 TOTAL FIELD MAGNETIC SURVEY WITH VERTICAL COIL ELECTROMAGNETICS AND WITH DETAIL HUMUS GEOCHEMISTRY LOCATIONS LOT 4 MANN TWP.

42A15NW0018 OP93-517 NEWMARKET

42A15NW0018 OP93-517 NEWMARKET

230

Ministry of Natural Resources / Ministère des Richesses naturelles

Map base by Surveys, Mapping and Remote Sensing Branch. Air photography 1984. Published 1989

Carte de base préparée par la Direction des levés de la cartographie et de la télédétection. Photographie aérienne 1984. Publiée en 1989

Scale 1:20 000 Echelle

Contour interval 10 metres — Équidistance des courbes 10 mètres

DIGITAL MAPPING — CARTOGRAPHIE NUMÉRIQUE

NOTES

North American Datum 1927

Universal Transverse Mercator (6°) projection Zone 17. Central Meridian 81° W

Grid interval 1000 metres

Legend and explanatory notes obtainable from Public Information Centre, Ministry of Natural Resources, Queen's Park, Toronto

NOTES

Système de référence géodésique nord-américain 1927

Projection transverse universelle de Mercator (6°) Zone 17. Méridien central 81° O

Intervalle de quadrillage 1000 mètres

On peut obtenir la légende et les notes explicatives au Centre d'information du ministère des Richesses naturelles, Queen's Park, Toronto

Sheet / Coupure

20 17 4900 54100

42A15NW0018 OP93-517 NEWMARKET

240

Ministry of Natural Resources / Ministère des Richesses naturelles

Sheet / Coupure

20 17 5000 54100

FIG #2

HUMUS GEOCHEMISTRY
OPAP 1993

SCALE 1 : 20000

*O HUMUS SAMPLE NUMBER AND LOCATION

FOR DETAIL AREAS REFER TO ACCOMPANYING 1:2500 SCALE MAPS
LOT 9 MANN TWP
LOT 6-7 MANN TWP
LOT 4 MANN TWP
LOT 12 NEWMARKET TWP

REAUME TWP.
MANNA TWP.
HANNA TWP
ST JOHN TWP
DUFF TWP.
MANN TWP.
MANN TWP
NEWMARKET TWP.

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31/94

Ministry of Natural Resources / Ministère des Richesses naturelles
Ontario

Sheet Coupure
20 17 4900 54100

Map base by Surveys, Mapping and Remote Sensing Branch
Air photography 1984
Published 1989

Carte de base préparée par la Direction des levés, de la cartographie et de la télédétection
Photographie aérienne 1984
Publiée en 1989

Scale 1 20 000 Echelle
1000 0 1000 2000 Metres
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 Feet Pieds

Contour interval 10 metres
Equidistance des courbes 10 metres

DIGITAL MAPPING
CARTOGRAPHIE NUMERIQUE

NOTES
North American Datum 1927
Universal Transverse Mercator (6°) projection
Zone 17 Central Meridian 81° W
Grid interval 1000 metres.
The 1989 magnetic bearing approximately 1°00' W of grid north. Annual change increasing 3' W
Legend and explanatory notes obtainable from Public Information Centre, Ministry of Natural Resources, Queen's Park, Toronto

NOTES
Système de référence géodésique nord-américain 1927
Projection transverse universelle de Mercator (6°)
Zone 17 Méridien centrale 81° O
Intervalle de quadrillage 1000 mètres.
Relèvement magnétique approximatif en 1989 1°00' O par rapport au nord. Variation annuelle croissante de 3' O
On peut obtenir la légende et les notes explicatives au Centre d'information du ministère des Richesses naturelles, Queen's Park, Toronto

Ministry of Natural Resources / Ministère des Richesses naturelles
Ontario

Sheet Coupure
20 17 5000 54100

42A15NW0018 OPAS-517 NEWMARKET

FIG #3

OPAP 1993 TOTAL FIELD MAGNETIC SURVEY WITH DETAIL HUMUS GEOCHEMISTRY LOT 9 AND 8 MANN TWP. (PROJECT #1)

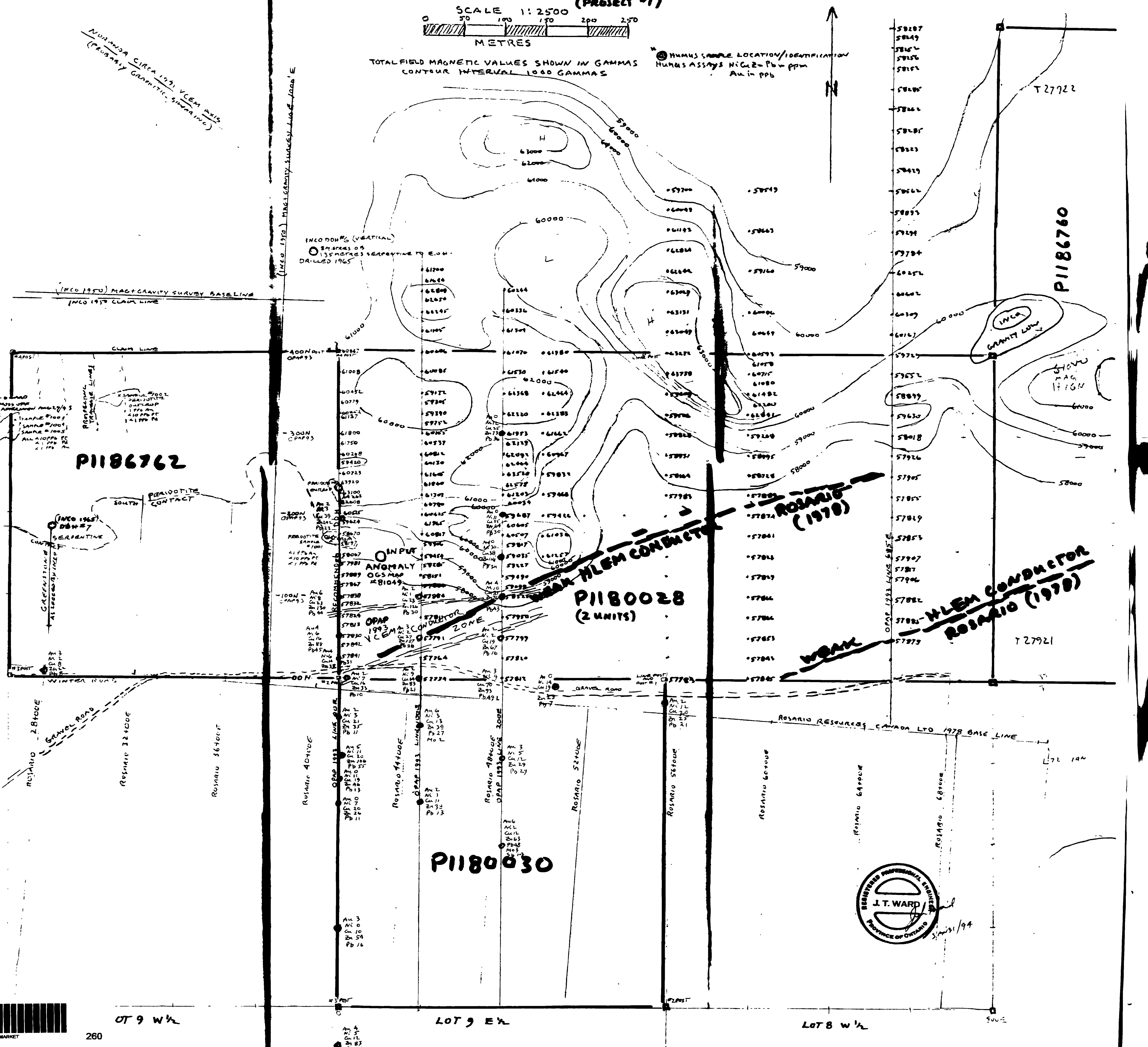
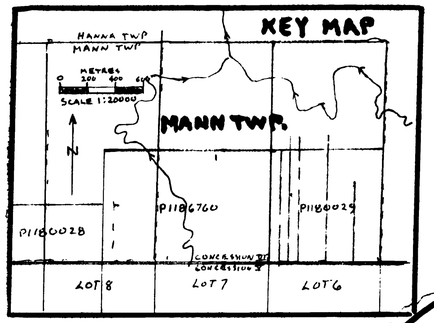


FIG. #4

OPAP 1993 MAGNETIC TOTAL FIELD SURVEY AND HUMUS GEOCHEMISTRY

LOTS 6 & 7 CONCESSION VI MANN TOWNSHIP

(PROJECT #1)



METRES 0 25 75 100 125
SCALE 1 2500

TOTAL FIELD MAGNETIC VALUES IN GAMMAS
CONTOUR INTERVAL 1000 GAMMAS
HUMUS ASSAYS IN PPM

O HUMUS SAMPLE LOCATION AND IDENTIFICATION NUMBER

INPUT AEM ● AIRBORNE EM INPUT ANOMALIES OGS MAP # 81049

PERIDOTITE

CLAIM BOUNDARY

P1186760 (6 UNITS)

P1180029 (4 UNITS)

P1180028

INCO GRAVITY HIGH

INCO DOM

INCO DOM MAGNETIC HIGH GRAVITY HIGH

(1946) INCO CLAIM LINE

CONTACT

OPEN

CIRCA 1950

FORMER INCO CLAIM T 27921

ROSARIO RESOURCES CANADA LIMITED VERY WEAK HORIZONTAL LOOP EM CONDUCTOR

VLEM CONDUCTOR

OPAP 1993

BASELINE 400N

CONCESSION V

CONCESSION VI

GRAVEL ROAD

CREEK

LINE 2000E

LINE 2200E

LINE 2400E

LINE 2600E

LINE 2800E

LOT 8 MANN TWP

LOT 7 MANN TWP.

LOT 6 MANN TWP.

REGISTERED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO J. T. WARD

OPAP 1993 TOTAL FIELD MAGNETIC SURVEY

WITH DETAIL HUMUS GEOCHEMISTRY LOT 4 MANN TWP. (PROJECT #1)

FIG #5

FIG #6

TOTAL FIELD MAGNETIC SURVEY
NEWMARKET TWP.
OPAP 1993
(PROJECT #2)

SCALE 1:2500

METRES

TOTAL FIELD MAGNETIC VALUES IN GAMMAS 3 METRES ABOVE TERRAIN
USING GEOMETRICS MODEL G-816 S/N 979 MAGNETOMETER
REDUCED TO 1991 BASE STATION VALUE OF 58,400γ
(ACTUAL CURRENT VALUE IN 1993 ~58,200γ)
CONTOUR INTERVAL 100 GAMMAS

⊕ OPAP PROGRAM HOLE SAMPLE LOCATIONS 1993
① OPAP PROGRAM HOLE SAMPLE LOCATIONS 1990
INPUT ⊕ AIRBORNE SURVEY EM ANOMALY LOCATION OGS MAP #81050

P1180032
(2 UNITS)

KEY MAP
SCALE 1:20,000
METRES
ST JOHN TWP
NEWMARKET TWP
MANN TWP
NEWMARKET TWP
LOT 12
LOT 11
LOT 10
CONCESSION VII
CONCESSION VI
CONCESSION V
RANGE VII
RANGE VI
RANGE V
LATITUDE 44°52'30"
LATITUDE 44°52'
P1180032
P1134115
OLD HIGHWAY #11 (ABANDONED)
TRANS CANADA PIPELINE
CREEK
ASTRONOMIC
MAGNETIC NORTH 10°W

AIRMAG SURVEY LOW
OGS MAP # 81050

AIRMAG SURVEY MAGNETIC HIGH OGS MAP # 81050

AIRMAG SURVEY HIGH OGS MAP # 81050

AIRMAG SURVEY MAGNETIC HIGH OGS MAP # 81050

AIRMAG SURVEY
MAGNETIC LOW
OGS-MAP 81050

AIRMAG SURVEY
MAGNETIC HIGH
OGS MAP # 81050

AIRMAG SURVEY
WEAK
MAGNETIC HIGH
OGS MAP # 81050

OPAP 1989
0.7 MILLIGAL
GRAVITY HIGH
AIRMAG SURVEY
WEAK
MAGNETIC HIGH
OGS MAP 81050

OPAP 1989
0.9 MILLIGAL
GRAVITY HIGH

AIRMAG SURVEY
SMALL
MAGNETIC HIGH
OGS # 81050

AIRMAG SURVEY OGS # 81050

AIR MAGNETIC SURVEY LINEAR FEATURE 100 METRES SINISTRAL SHEAR ZONE

SMALL MAGNETIC HIGH

MAGNETIC SURVEY BASE ENDING 3+43.5 POST 5+00 (1991) — LINE 4 — CUT AND CHAINED

CUT AND CHAINED — LINE 6 —
CUT AND CHAINED — LINE 5 —
CUT AND CHAINED — LINE 3 —
CUT AND CHAINED — LINE 2 —
CUT AND CHAINED — LINE 1 —

BEAVER POND
BEAVER DAM
MARSHY CONDITIONS
GRAVEL ROAD
CLAIM BOUNDARY
#4 POST
#1 POST
#2 POST
#3 POST
RANGE VI NEWMARKET TWP.
RANGE V NEWMARKET TWP.
MANN TWP LOT 1
NEWMARKET TWP LOT 12
LOT 11 NEWMARKET TWP
LOT 10 NEWMARKET TWP

BAD DRAINAGE LINE
BOG MILES IN OLD ROAD
DANGEROUS ON FOOT IN SUMMER

POPLAR
TAMARACK
SPRUCE
MINOR SPRUCE
INDICATED OUTCROP AREA

TRAVERSE LINES SHOWN
FOR INDICATED OUTCROP SEARCH
HOWEVER NO OUTCROP WAS LOCATED

TALL POPLAR
POPLAR AND SPRUCE

ROAD TO RANGE LINE III-S MANN TWP

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31/94

[redacted]
42A15NW0018 OP93-517 NEWMARKET

GRAVITY SURVEY

OPAP - 93

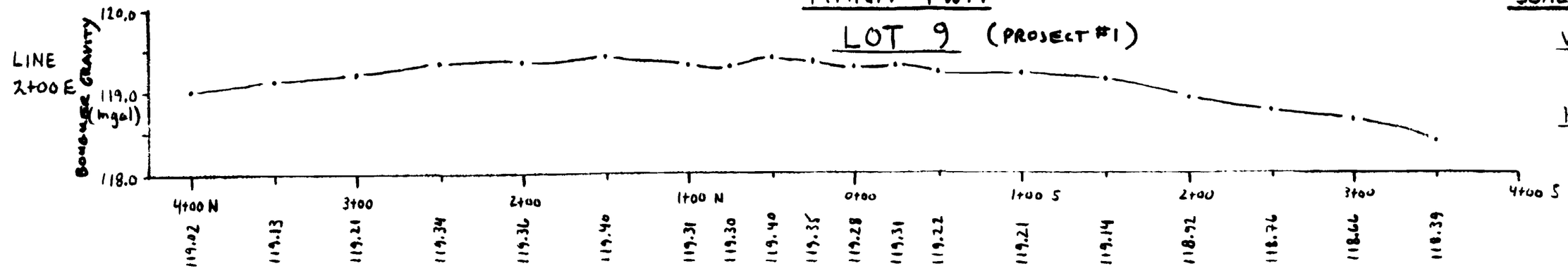
MANN TWP.

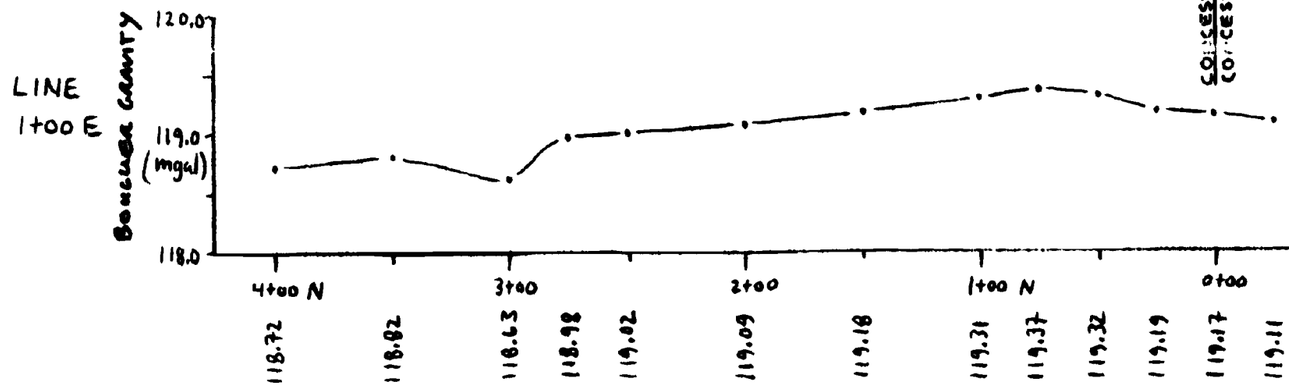
LOT 9 (PROJECT #1)

SCALE:

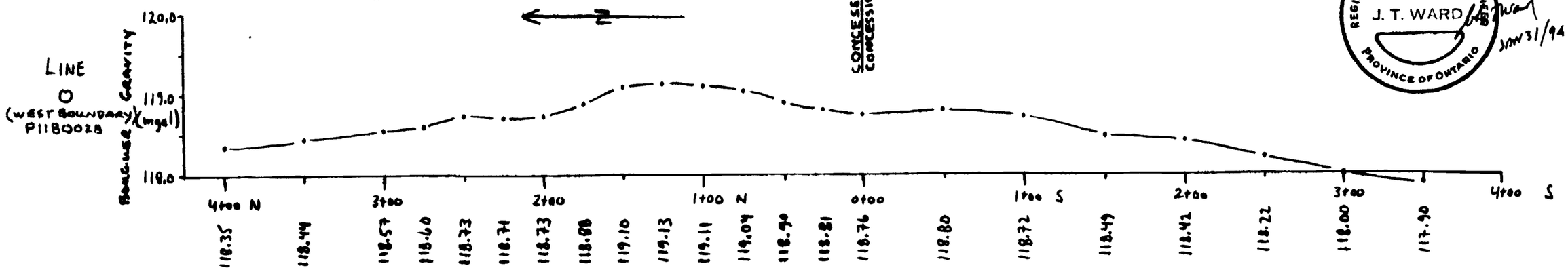
VERTICAL — 1 cm = 0.5 mgal

HORIZONTAL — 1 cm = 25 m.





310



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JAN 31/94

GRAVITY SURVEY

NEWMARKET TWP.

(PROJECT #2)

OPAP - 93

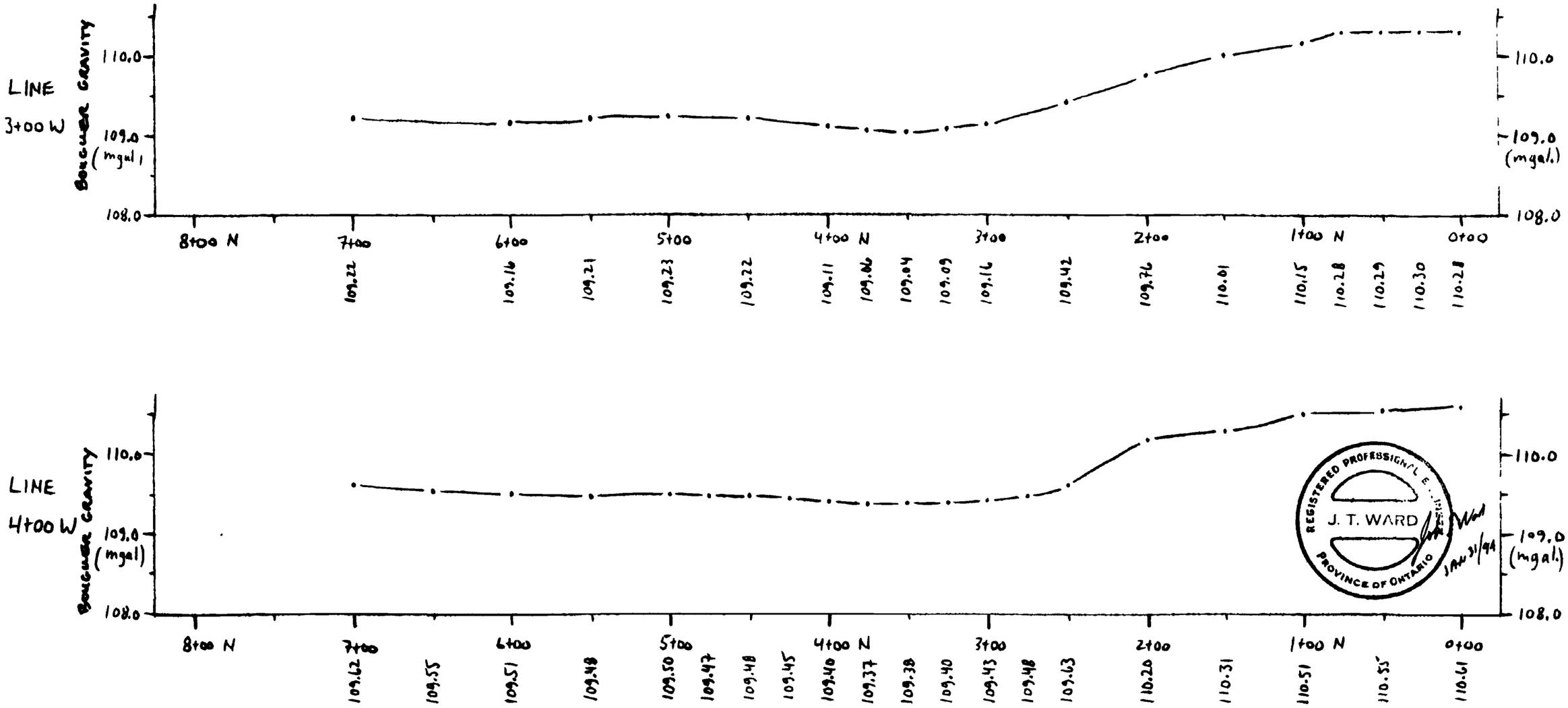
SCALE:

VERTICAL -

1 cm = 0.5 mgal

HORIZONTAL -

1 cm = 25 m



REGISTERED PROFESSIONAL ENGINEER
J. T. WARD
PROVINCE OF ONTARIO
JAN 31/94

GRAVITY SURVEY

NEWMARKET TWP.

(PROJECT #2)

OPAP - 93

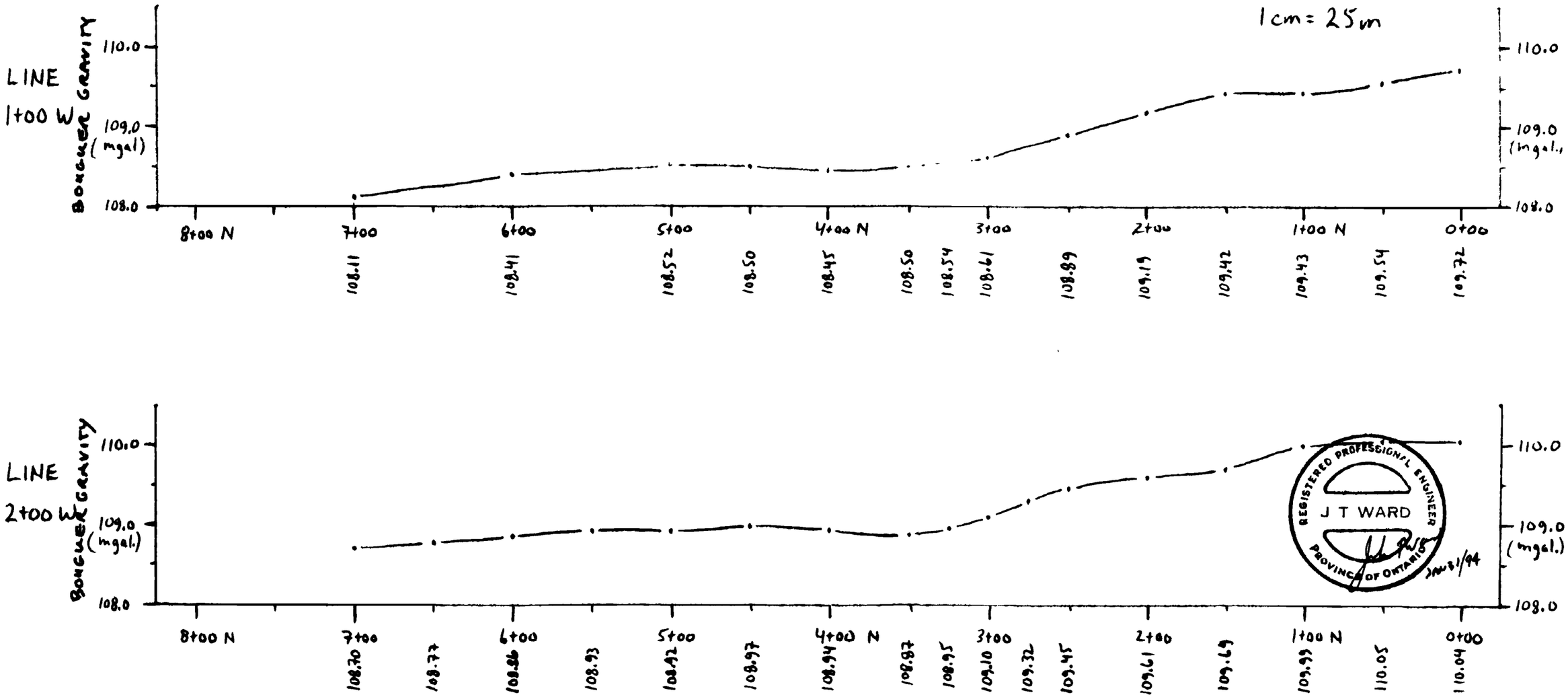
SCALE:

VERTICAL -

1 cm = 0.5 mgal.

HORIZONTAL -

1 cm = 25m



GRAVITY SURVEY

OPAP. - 93

MANN TWP.

LOT 4 (PROJECT #1)

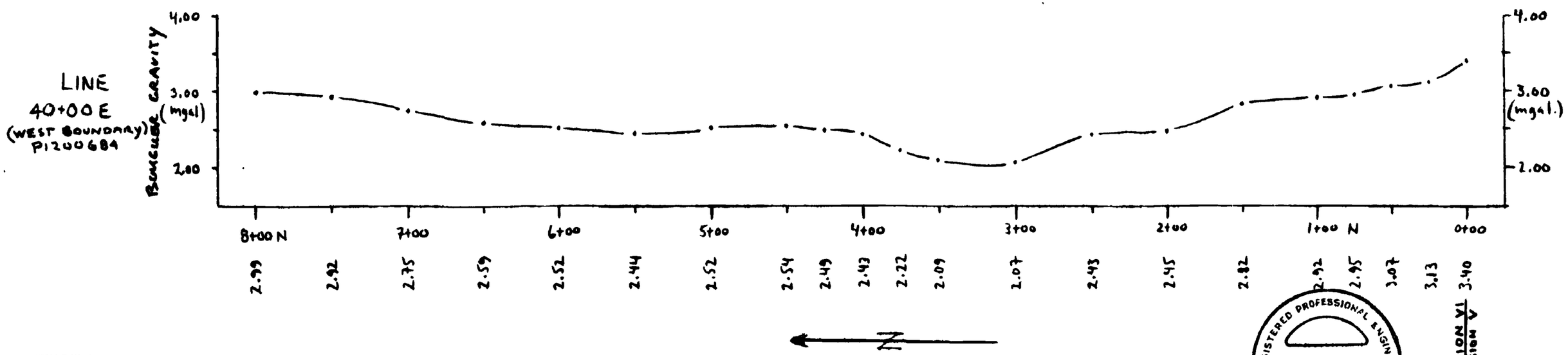
SCALE :

VERTICAL -

1 cm = 0.5 mgal.

HORIZOTAL -

1 cm = 25 m.



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PROVINCE OF ONTARIO
Jan 31/94

GRAVITY SURVEY

MANN TWP.

LOT 8

(PROJECT #1)

OPAP. - 93

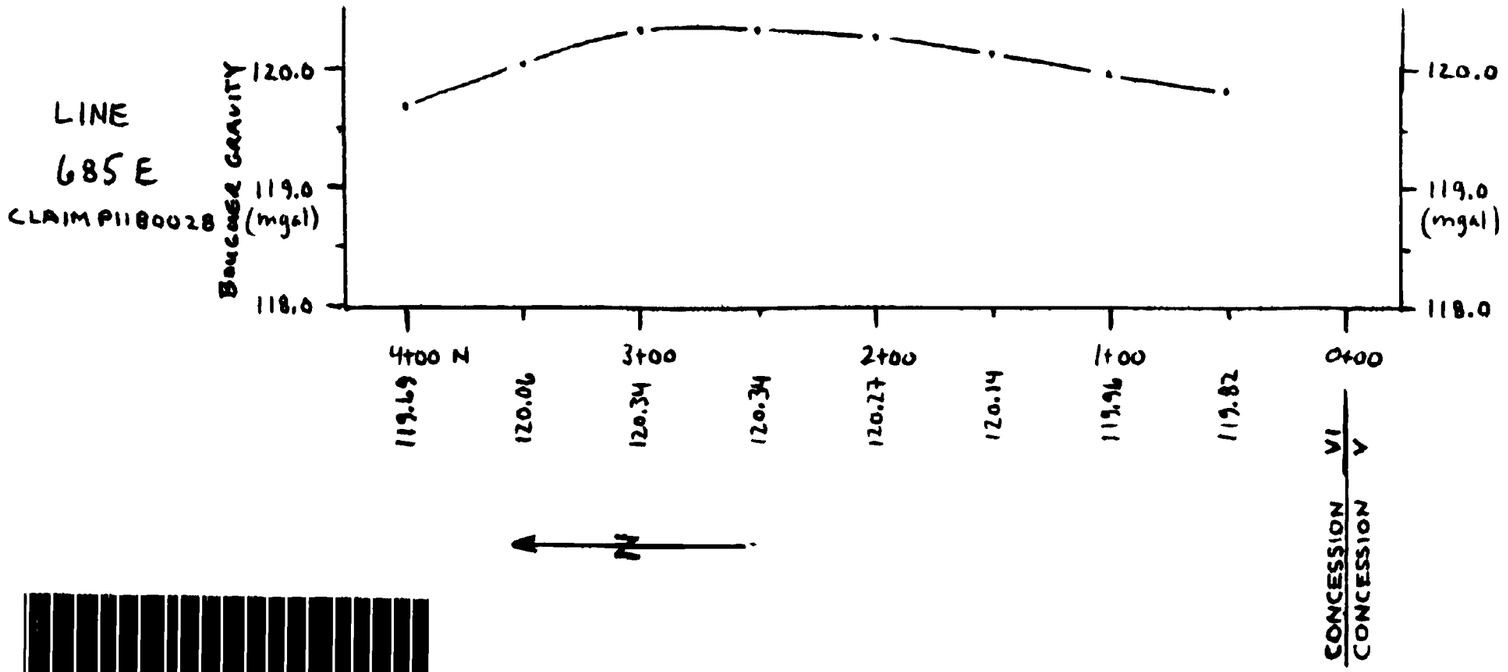
SCALE:

VERTICAL -

1 cm = 0.5 mgal.

HORIZONTAL -

1 cm = 25 m.



C

600 N 350 300 250 200 150 100 0+50 N 0+00 50 S 00 150 200 250 300 S

CONTOUR INTERVAL LOGARITHMIC

-232 4861 645 650 265 1484 2405 2800 745 771 408 798 3750 240 949 712 1116 3219 371 281 618 866 258 378 523 541

600 N 350 300 250 200 150 100 0+50 N 0+00 50 S 100 150 200 250 300 S

CONTOUR INTERVAL: 5 m-sec

-14.1 6.7 3.9 2.0 0.7 -4.9 -3.5 9.8 4.0 1.5 -6.1 2.5 -0.3 11.2 1.8 -0.2 4.8 3.5 10.2 2.5 4.9 4.9 1.4 10.2 5.4 8.5 2.1 8.4

Apparent Resistivity (ohm-m)

Chargeability (m-sec)

DATE _____

LINE 0+00

SPACING 50m

DIPOLE-DIPOLE I.P.

OPAP-93

PROJECT MANN TWP. LOT 9 PROJECT #1

CONCESSION VI
CONCESSION V

360

OP93-517 NEWMARKET

42A15NW0018 OP93-517 NEWMARKET

370

CONCESSION VI
CONCESSION V

N

OP93-93

MANN TWP. LOT 9 PROJECT #1

DIPOLE-DIPOLE 1.P

DATE

LINE 00 E (WEST BOUNDARY)

STAKED 25 m. BEARING N-S

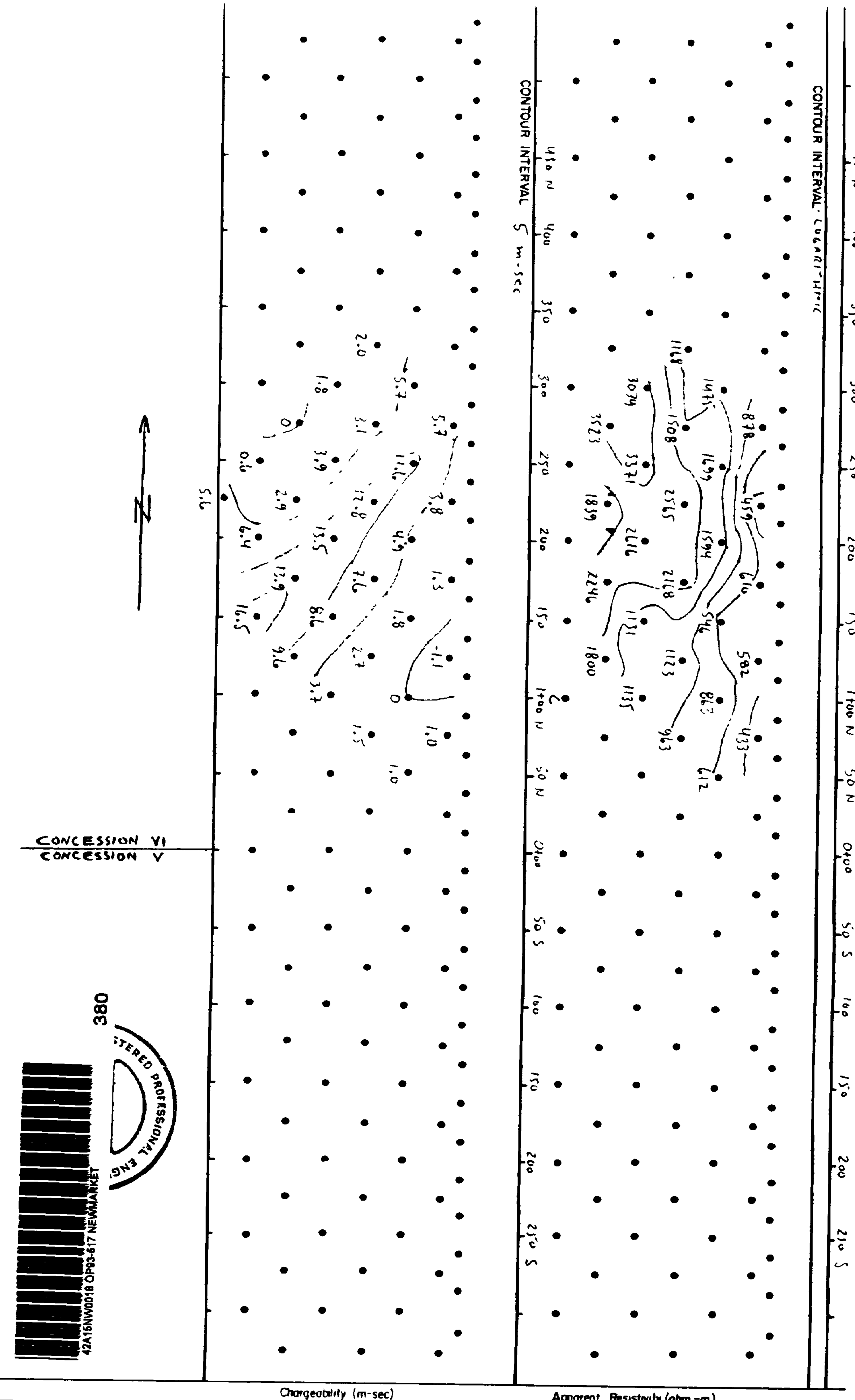
Chargeability (m-sec)

Apparent Resistivity (ohm-m)

CONTOUR INTERVAL 2 m-sec.

CONTOUR INTERVAL LOGARITHMIC.

22.5' N 20.0 17.5' 15.0 12.5' 10.0 7.5' 5.0 2.5' S 0+50 N 2.5' N 0+00 2.5' S 5.0 7.5' 10.0 12.5' S



OP93-?3

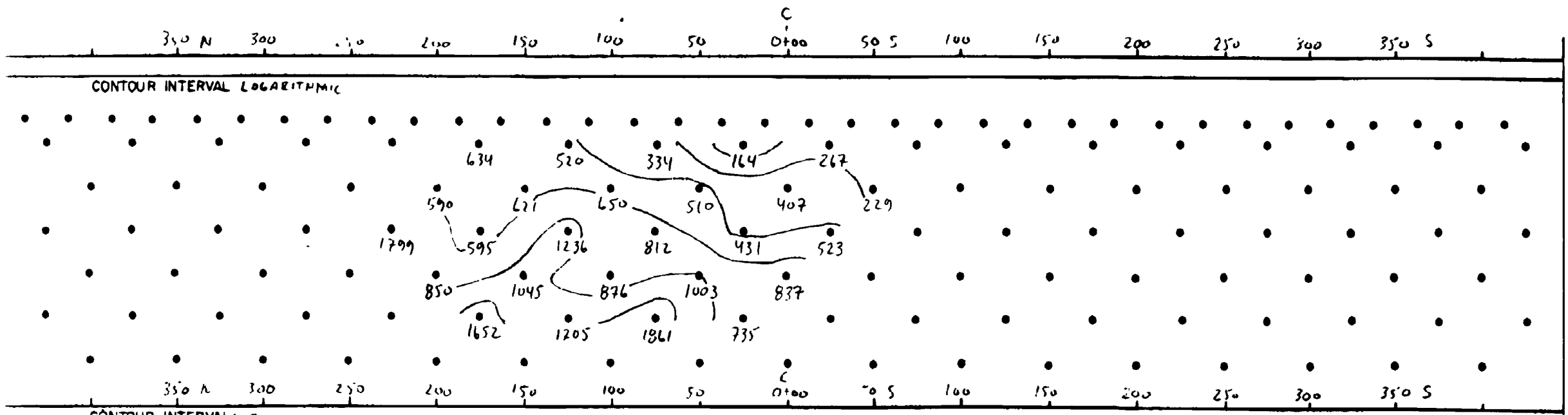
DIPOLE - DIPOLE I.P.

PROJECT MANN TWP. LOT 9 PROJECT #1

DATE ____

LINE 1+00 E

SPREAD 50 m BEARING N-S



Apparent Resistivity (ohm-m)

Chargeability (m-sec)

DATE
LINE 2+00 E

STREAM 50m BEARING N-S

DIPOLE - DIPOLE I.P.

OPAP-93

PROJECT

MANN TWP. LOT 9

CONCESSION VI
CONCESSION V

REGISTERED PROFESSIONAL ENGINEER

390

42A15NW0018 OP93-617 NEWMARKET

OPAP-93

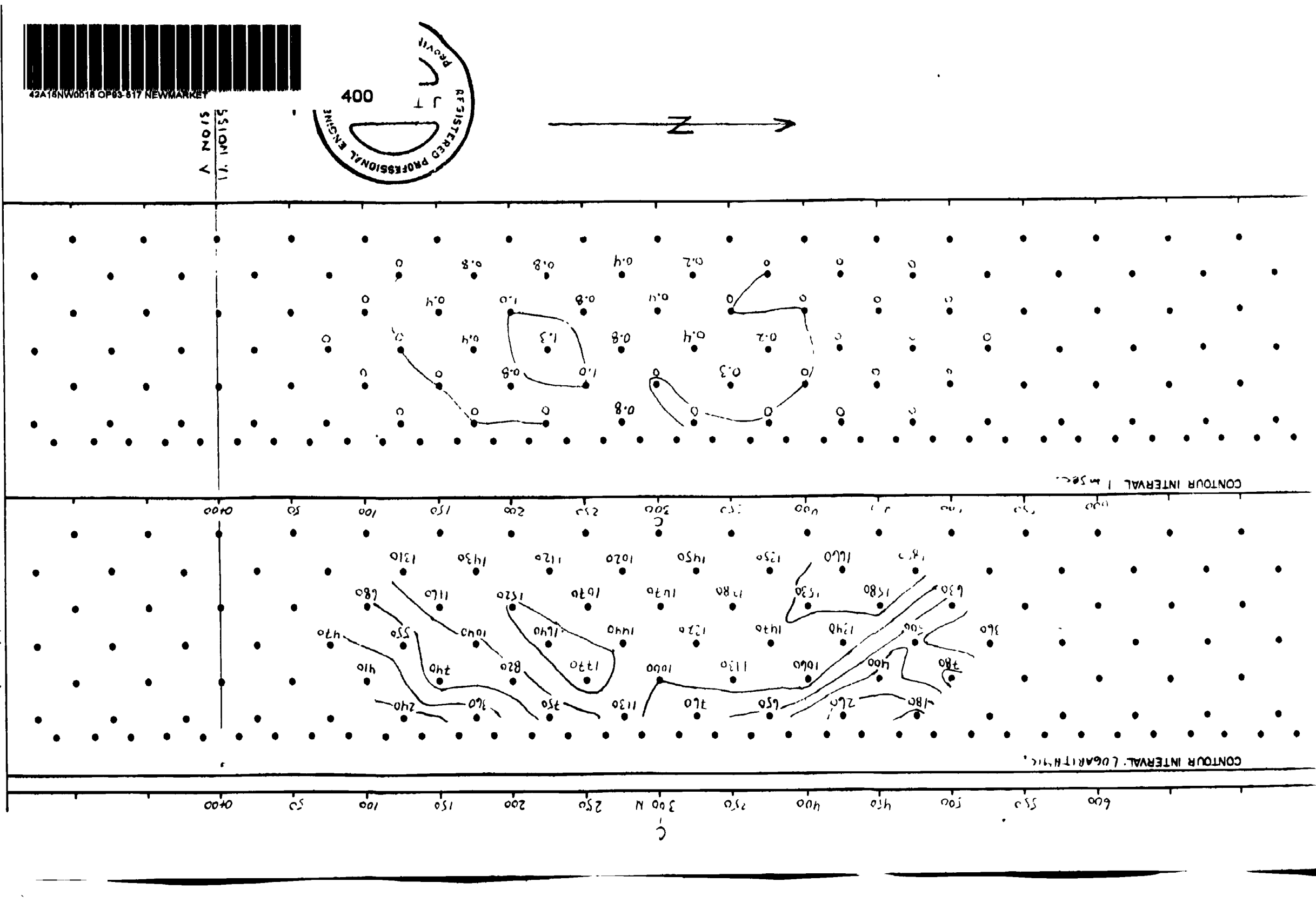
DIPOLE-DIPOLE I.P.

PROJECT MANN TWP. LOT 8

DATE _____

LINE 6+85E MANN TWP LOT 8

SPACING 50m BEARING N-S



410

CONCESSION VI
CONCESSION V

Chargeability (m-sec)

Apparent Resistivity (ohm-m)

CONTOUR INTERVAL LOGARITHMIC

CONTOUR INTERVAL: 1 m-sec.

OPA [illegible]

NAAW TWP. LOT 4. PROJECT #1

DIPOLE-DIPOLE I.P.

DATE

LINE 0+00 N (4000E)

50 m

N-S

CONTOUR INTERVAL LOGARITHMIC.

CONTOUR INTERVAL 1 m. sec

Apparent Resistivity (ohm-m)

Chargeability (m-sec)

DATE _____

LINE C+00 AIE

SPREAD 25m DIPOLE N-E

DIPOLE - DIPOLE I.P.

Cpy. - 93

PROJECT #1

PROJECT MANN TWP. LOT 4

N 45°E

420

430

N

45° NE

Apparent Resistivity (ohm-m)

Chargeability (m-sec)

CONTOUR INTERVAL 1 m-sec

CONTOUR INTERVAL LOGARITHMIC

DIPOLE - DIPOLE I.P.

PROJECT #1

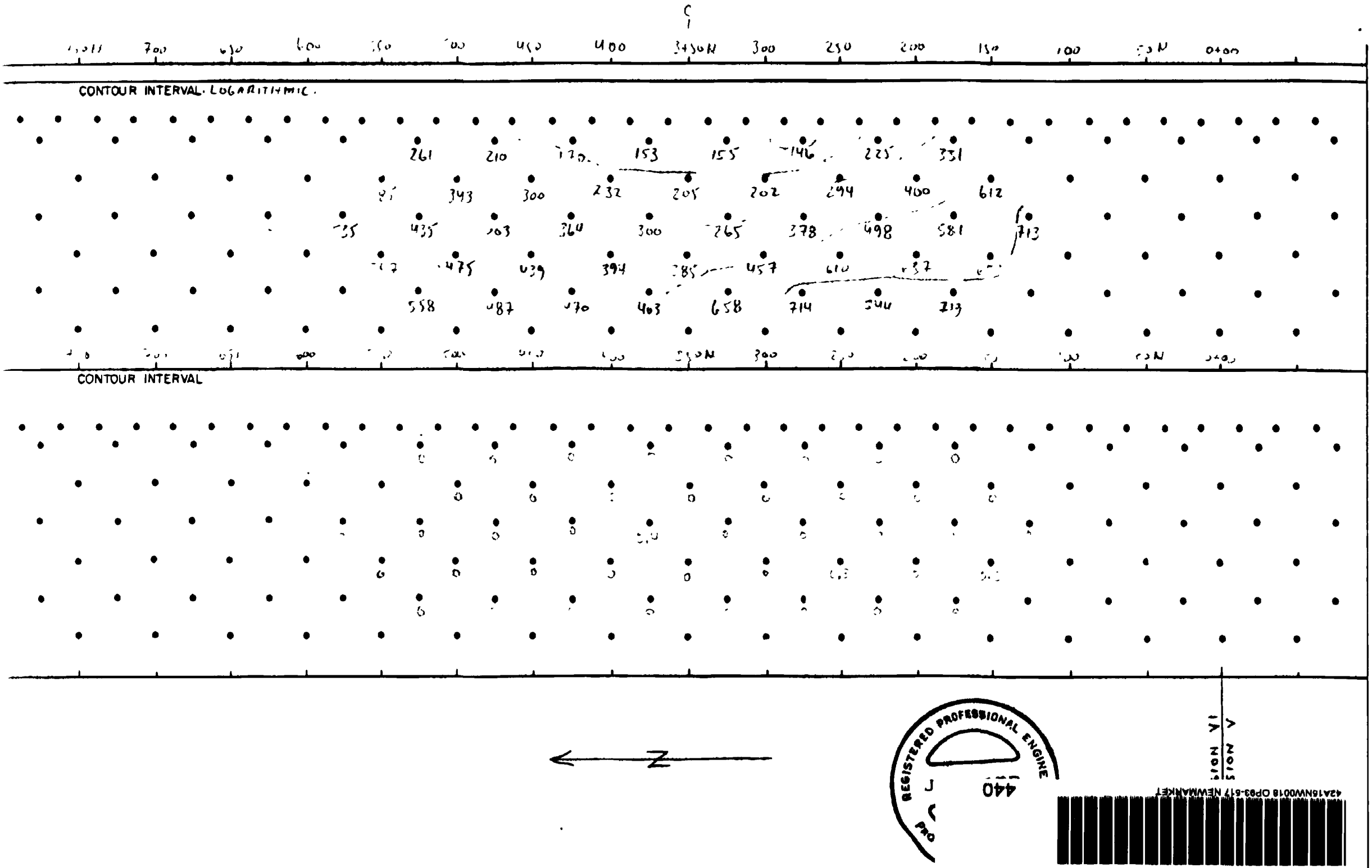
TOWNSHIP MANN TWP. LOT 4

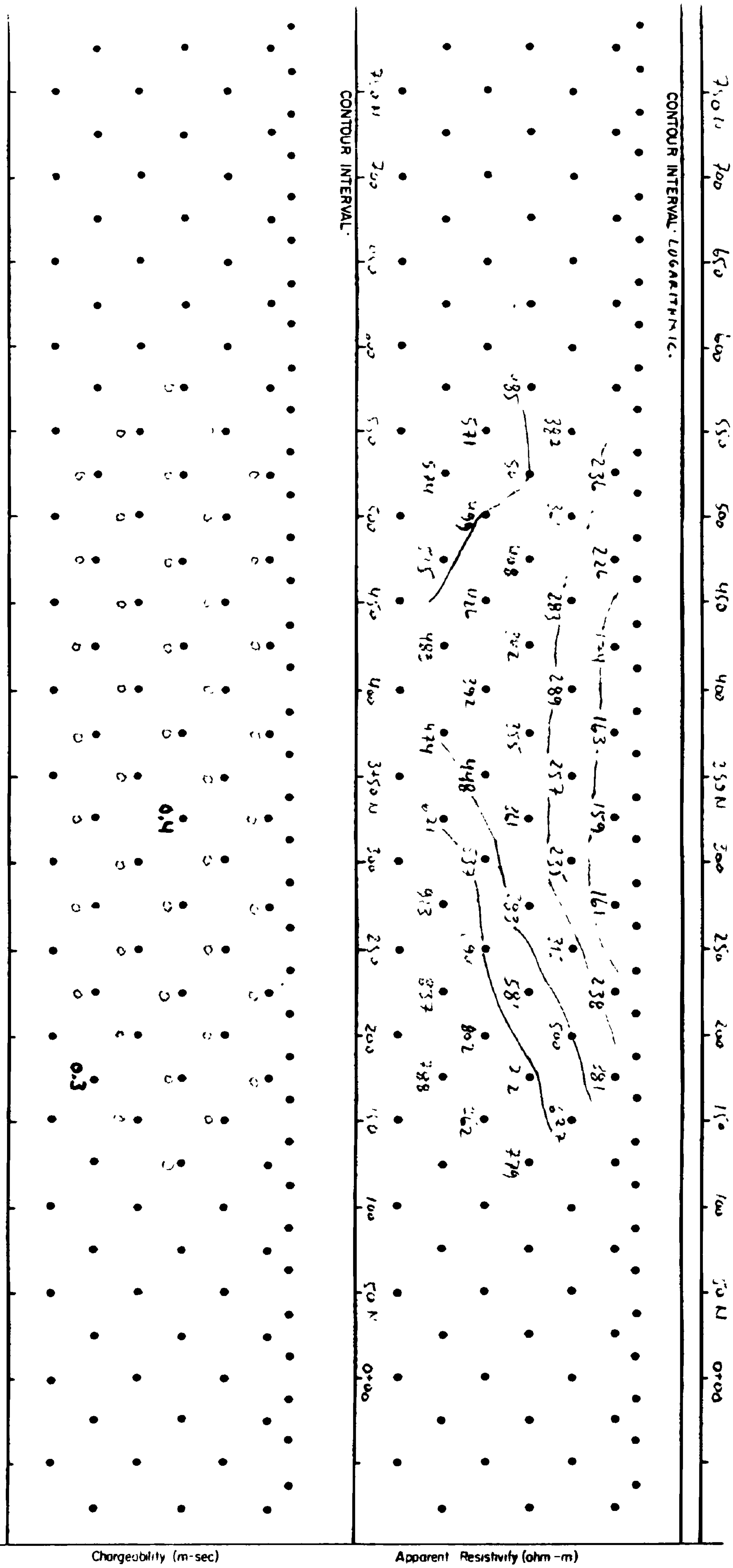
LINE AZIMUTH 45° ASTRONOMIC

DATE

LINE 0+00 N-E

STREAM 25m BEARING N-E


CONTOUR INTERVAL- LOGARITHMIC
CONTOUR INTERVAL
Apparent Resistivity (ohm-m)
Chargeability (m-sec)
DATE
LINE 4700 W
DIPOLE - DIPOLE I.P.
NEWMARKET TWP. (PROJECT #2)
424SNW0018 OP83-517 NEWMARKET
REGISTERED PROFESSIONAL ENGINEER
440
N



REGISTERED PROFESSIONAL ENGINEER
J.T. WARD
PROVINCE OF ONTARIO

450

42A15NW0018 OP93-617 NEWMARKET

…ION VI
…ION V

OPAP-93

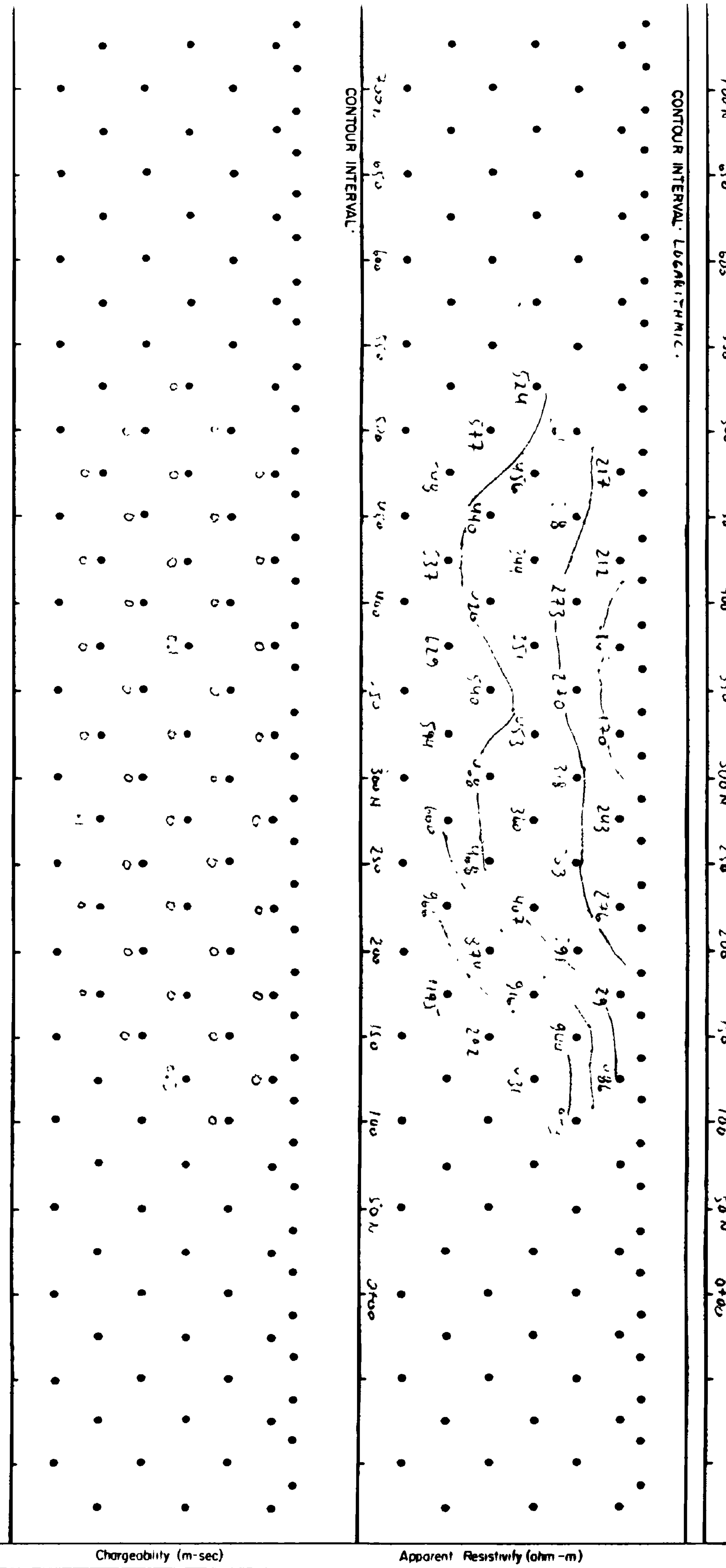
DIPOLE - DIPOLE I.P.

…ECT NEWMARKET TWP. (PROJECT #2)

DATE ____________

LINE 3+00 W LOT 12

SPREAD 50 m BEARING N-S



ION VI
SION V

OPAP-93

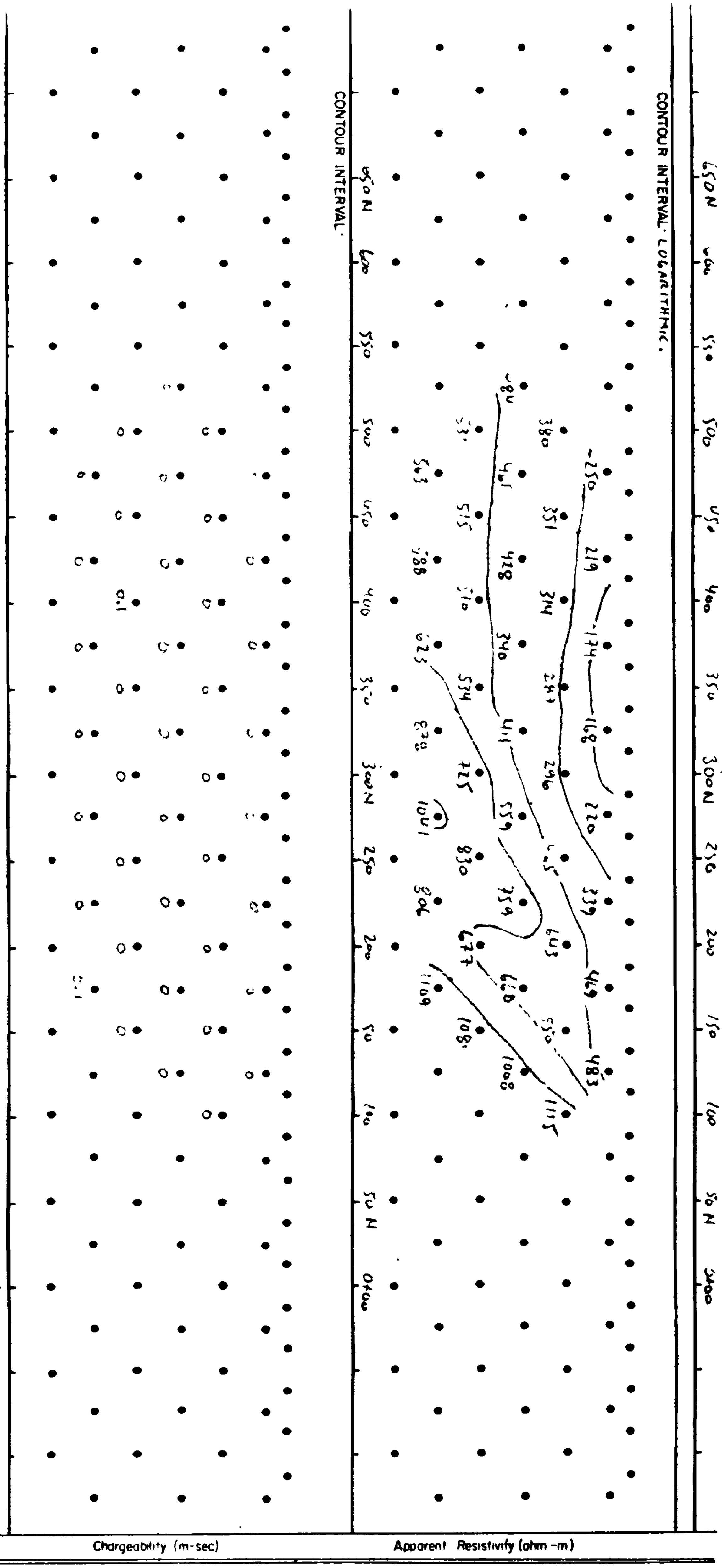
DIPOLE- DIPOLE I.P.

DATE ____________

JECT NEWMARKET TWP. (PROJECT #2)

LINE 2100 W LOT 12

SPREAD 50m BEARING N-S



REGISTERED PROFESSIONAL ENGINEER
J. T. WAF
PROVINCE OF O
470

42A15NW0018 OP93-617 NEWMARKET

OPAP. - 93

DIPOLE - DIPOLE I.P

DATE ____________

ECT NEWMARKET TWP. (PROJECT #2)

LINE 1+00 W LOT 12

SPREAD 50 m BEARING N-S