GEOPHYSICAL REPORT
ON
MAGNETIC AND ELECTROMAGNETIC SURVEYS
ON
GENOA 62
GENOA TOWNSHIP
NTS - 41-O-16

February, 1976

Donald E. Tremblay

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LOCATION:

Genoa Township is located approximately 25 miles northwest of Gogama and thirty-two miles southeast of Foleyet. The Genoa 62 group consists of twenty-two (22) claims, stretching approximately 3 ¼ miles east-west across the north end of Genoa Township, on the north tip of Rush Lake.

PREVIOUS WORK:

This area has been worked several times to various extents, but the only work done covering our holdings was done by G.P.L. in November, 1971, who flew an airmag survey over the extreme west portion of the present group and Rush Lake Explorations Limited, who in June, 1972 did geological mapping, mag and V.L.F. surveys. No previous horizontal loop work was done. Rush Lake Explorations drilled four (4) holes but tested only one of the anomalies as outlined by Texasgulf.

ACCESS:

The quickest access to date is by fixed wing or helicopter out of Gogama. There is road access to the southwest tip of Rush Lake, but this still leaves a 7 mile boat or ski doo ride to the property.

GENERAL GEOLOGY:

The Genoa 62 group lies on the east extension of the Woman River Iron Formation and it consists of inter-banded cherty horizons with occurrences of magnetite, pyrite and pyrrhotite. North of this formation, the main rock type is a massive but sheared basalt which occurs in altered varieties near intrusions.

South of the iron formation lies an intrusive granite batholith which cuts the iron formation in several places.

INTRODUCTION:

After a reconnaissance geological survey of a 36 claim group (Genoa 62) in north Genoa Township, it was decided to cut a twenty-two (22) claim block, covering a prominent east-west iron formation which had some interesting and encouraging Cu and Zn occurrences. A 300 foot grid with north-south lines was cut and detailed geological, electromagnetic and vertical field magnetic surveys were

carried out. All except the most easterly four (4) claims over Northcott Bay were covered in this first stage. These latter claims were covered in late January when ice conditions were suitable for continuing the geophysical surveys.

SURVEY RESULTS:

Magnetics:

The overall magnetic trend seems to be slightly northwest, and this is mainly evident from a strong magnetic zone which is representative of the iron formation. This zone starts in the very northwest area of the group around L 102 W at 15 N and continues to the very east side to Line L 15 E at 12 S, and into Northcott Bay (Zone 1,2,3). There are some gaps in this trend, and from previous geological work, these appear to be due to granitic intrusions cutting the zone in several spots. The most noticeable gap appears from L 48 W at the 00 Baseline extending to L 12 W at 6 S.

Weaker isolated magnetic highs are probably due to remnants of the iron formation, left in the granite. However, the gap to the east of Zone 1, on Line 78 W, L 75 W and L 72 W could possibly be caused by a fault trending northeast-southwest and is supported by a weak magnetic trend along that projection. Previous ground magnetic work (Rush Lake Explorations, April, 1972) and a previous airmag survey (G.P.L., Nov. 1971) would tend to confirm this theory. Another anomaly, Zone 4, starts around L 57 W, 13 N and strikes southeast to L 15 W, 8 N.

This anomaly is also believed to be an iron formation.

All of these zones show typical magnetite responses as high as 17,000 gammas, but are inconsistent from line to line. This is probably due to lenses of magnetite in the iron formation with the weaker sections having disseminated magnetite or pyrrhotite. Some trenching has shown the pyrrhotite to be massive in places.

With the extension of the Mag and E.M. coverage on Northcott Bay, the Zone 3 iron formation was shown to continue along the southern claim boundary. The magnetic expression however, is much weaker than the west anomaly, and is probably more representative of pyrrhotite than magnetite.

There are gabbro and diabase occurrences seen in outcrop, but it is impossible to correlate any trends for these, due to the strong influence of the iron formations.

Horizontal Loop

E.M. coverage was done reading two frequencies (1400 Hz and 444 Hz) with a 300 foot coil separation.

Although the magnetics indicate a continuous zone of mineralization, the horizontal loop anomalies are generally isolated to one line. This is probably an indication that sulphides are mainly disseminated and at some places, form large enough and massive enough zones to cause an E.M. response.

An isolated anomaly on L 99 W, 7+77 N falls just south of a weak magnetic low. This conductor is probably a part of the Zone 1 iron formation and could be a very local concentration of non-magnetic sulphides or graphite. Dip appears to be steeply south and there is little or no width indicated.

Another anomaly occurs just north of this and has direct association to the Zone 1 magnetics and iron formation. However, because the anomaly lies partially on the north boundary of the property it has incomplete coverage. Responses are too intermittent and erratic to properly assess this anomaly.

L 60 W at 2+50 N has another isolated narrow response and directly coincides with the Zone 2 mag anomaly and iron formation. The dip again, appears to be steeply south. This conductor has been drilled by Rush Lake Explorations Limited, and the hole had stringer and disseminated magnetite and disseminated pyrrhotite.

The most interesting E.M. anomaly begins on L 9 W at 8 S and extends out into Northcott Bay. The conductor axis is coincident with the Zone 3 anomaly and plots directly on top of the magnetic peaks which run from 10,000 to 16,000 gammas. Both L 6 W and L 9 W indicated good widths (50-70') and although it does appear to be caused by magnetite, the conductor should be given a high rating as a possible drill target. This is supported by previous trench work which turned up massive pyrite, pyrrhotite and magnetite with stringers of chalcopyrite. Dips still appear to be steeply south. Coverage is again incomplete due to its proximity to the shoreline on Rush Lake.

As E.M. coverage was completed on Northcott Bay, the conductor was found to continue along the south claim boundary. Most lines gave erratic responses over the mag anomaly and are not uniform enough to determine any one conductor.

However, L 21 E has an anomalous zone at approximately 8 + 50 - 9 + 50 S and shows a possible zone width of 100 feet. It seems to have a direct coincidence with a weak mag high, which could be pyrrhotite mineralization in the iron formation, and dips, again appear to be steeply to the south.

Line 24 E at 11 + 80 S and 27 E at 10 + 70 S mark the axis of another anomaly which has little or no width and its relation to the magnetics is unclear, due to the lack of mag coverage in that area. The dip of this conductor is also steeply south.

RECOMMENDATIONS:

On the basis of E.M., magnetics, geology and trench work, I would strongly recommend the E.M. anomaly on either L 9 W or L 6 W be drilled to determine the extent of some encouraging Cu mineralization which was found in occurrance with Po and magnetite. This anomaly should be drilled from the south in anticipation of a south dip and shallow overburden.

The anomaly on L 21 E on Northcott Bay is also eligible due to nearby sphalerite showings, with Py and Po.

It too should be drilled from the south side and allowing for shallow water depths of about 15 feet.

Depending on the results obtained in this latter hole, E.M. and mag work should be extended to the east and south of Northcott Bay so that the continuation of this zone can be better outlined.

Don E Tremblay.

February , 1976

Donald E. Tremblay

2.2053

Ministry of

Ontario

GEOPHYSICAL – GEO TECHNICAL

41016SE0027 2.2053 GENOA

900

MAR 2 1976

PROJECTS UNIT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geophysical

Township or Area Genoa

Claim Holder(s) Texasgulf Canada Limited

P.O. Box 175, Suite 5000, Commerce Court, Toronto

Survey Company As above

Author of Report Donald E. Tremblay

Address of Author Box 1140, Timmins, Ontario

Covering Dates of Survey June 1975 - January 1976 (linecutting to office)

Total Miles of Line Cut

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

Geophysical	DAYS per claim
--Electromagnetic	20
–Magnetometer	40
–Radiometric	
–Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____ (enter days per claim)

DATE: Feb. 25/76 SIGNATURE: Don E Tremblay
Author of Report or Agent

L. D. New

Res. Geol. _____ Qualifications On this file

Previous Surveys

File No.	Type	Date	Claim Holder
63.2	105	[illegible]	[illegible] Limited
2.10	Mag & Elec	[illegible]	[illegible]
2.7	Mag & Elec	[illegible]	[illegible]
2.896	MAG & E.M	1972	Rush Lake Expl. Ltd

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

MAG E.M

(prefix)	(number)	
P	419688	
P	419689	
P	419690	
P	419691	
P	419692	1/3 N.C
P	419693	
P	419694	
P	419695	
P	419696	
P	419697	1/3
P	419698	
P	419699	
P	419700	
P	419701	
P	419702	
P	419703	
P	419704	
P	419705	
P	414976	
P	414977	
P	419686	1/2
P	419687	

If space insufficient, attach list

TOTAL CLAIMS 22

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS -- If more than one survey, specify data for each type of survey

Number of Stations E.M.-1217 Mag - 1356 Number of Readings EM - 1217 Mag 1452

Station interval 100 foot Line spacing 300 foot

Profile scale EM - 1" = 20%

Contour interval 100 gammas

MAGNETIC

Instrument McPhar M-700 Fluxgate Magnetometer

Accuracy -- Scale constant ± 5 gammas

Diurnal correction method Magnetic field strength set up on baseline by reading 100' loop with 100' stations. All raverses corrected to to these values.

Base Station check-in interval (hours)

Base Station location and value Main Base Station at L 3900 W on 00 Baseline. 775 gammas.

ELECTROMAGNETIC

Instrument Apex Parametrics Max Min II

Coil configuration Horizontal Loop

Coil separation 300 foot

Accuracy ± 1%

Method: ☐ Fixed transmitter ☐ Shoot back ☒ In line ☐ Parallel line

Frequency 1777 Hz and 444 Hz (specify V.L.F. station)

Parameters measured Real and Imaginary components of secondary field measured as a percent of the transmitted field.

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters -- On time Frequency

-- Off time Range

-- Delay time

-- Integration time

Power

Electrode array

Electrode spacing

Type of electrode

2.2053

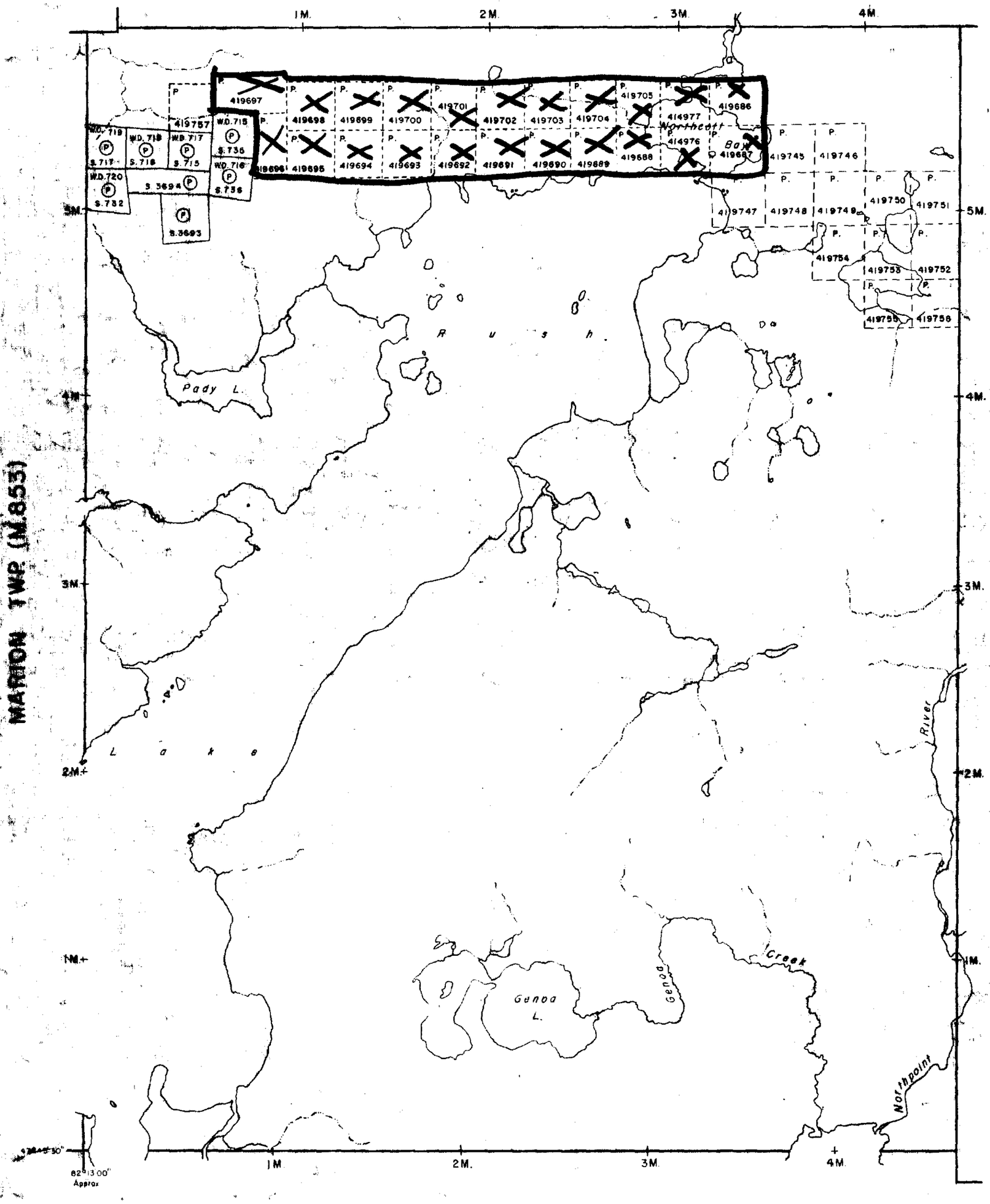
THE TOWNSHIP OF GENOA

DISTRICT OF
SUDBURY

PORCUPINE
MINING DIVISION

SCALE: 1-INCH - 40 CHAINS

McOWEN TWP.



MARION TWP. (M.855)

DESROSIERS TWP. (M.759)

ERIC TWP. (M.789)

LEGEND

PATENTED LAND	
CROWN LAND SALE	C.L.S.
LEASES	L
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

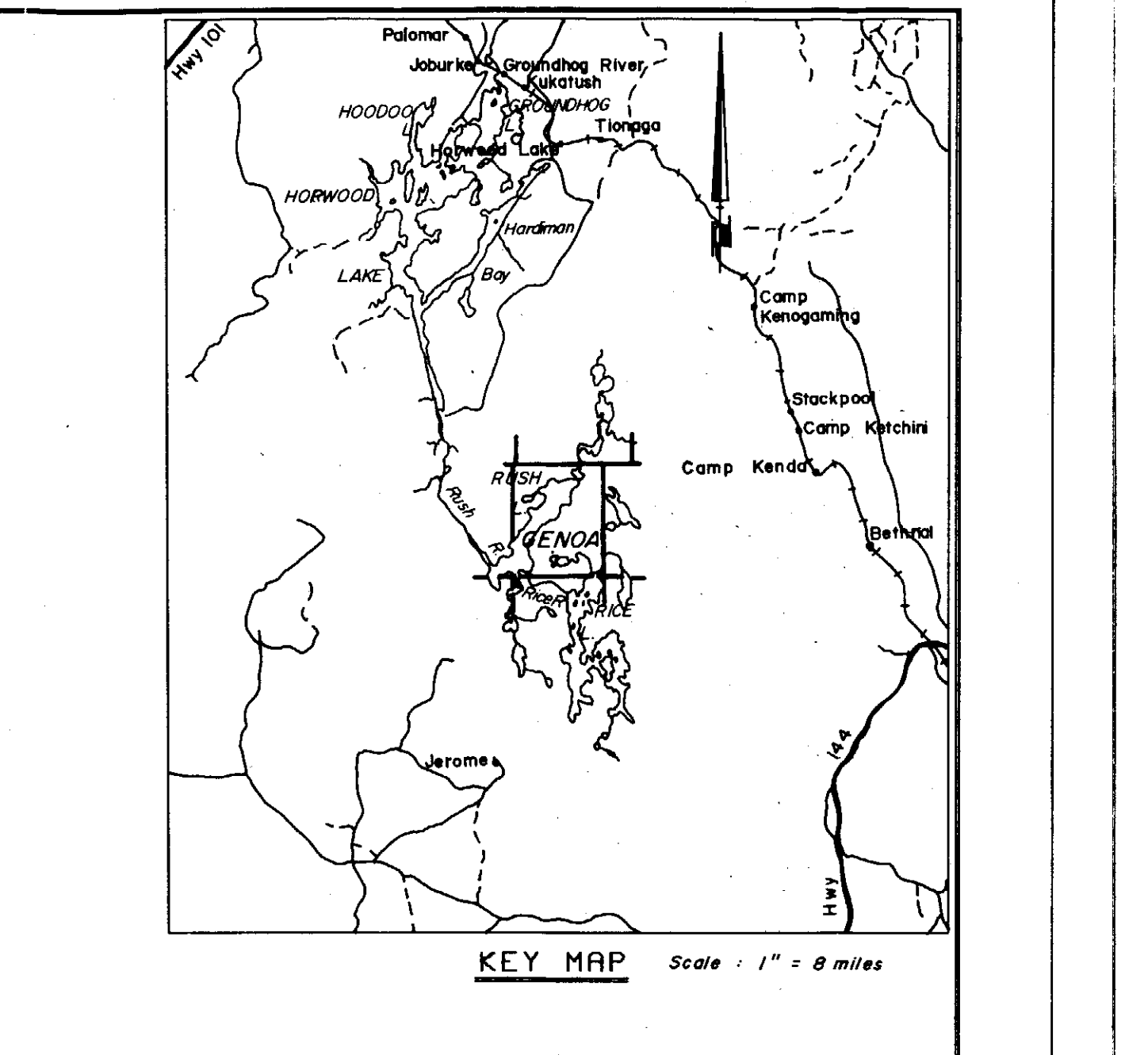
DATE OF ISSUE
MAR - 4 1976
SURVEYS AND MAPPING BRANCH

PLAN NO. M.833

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

41016SE0027 2.2053 GENOA

200



LEGEND

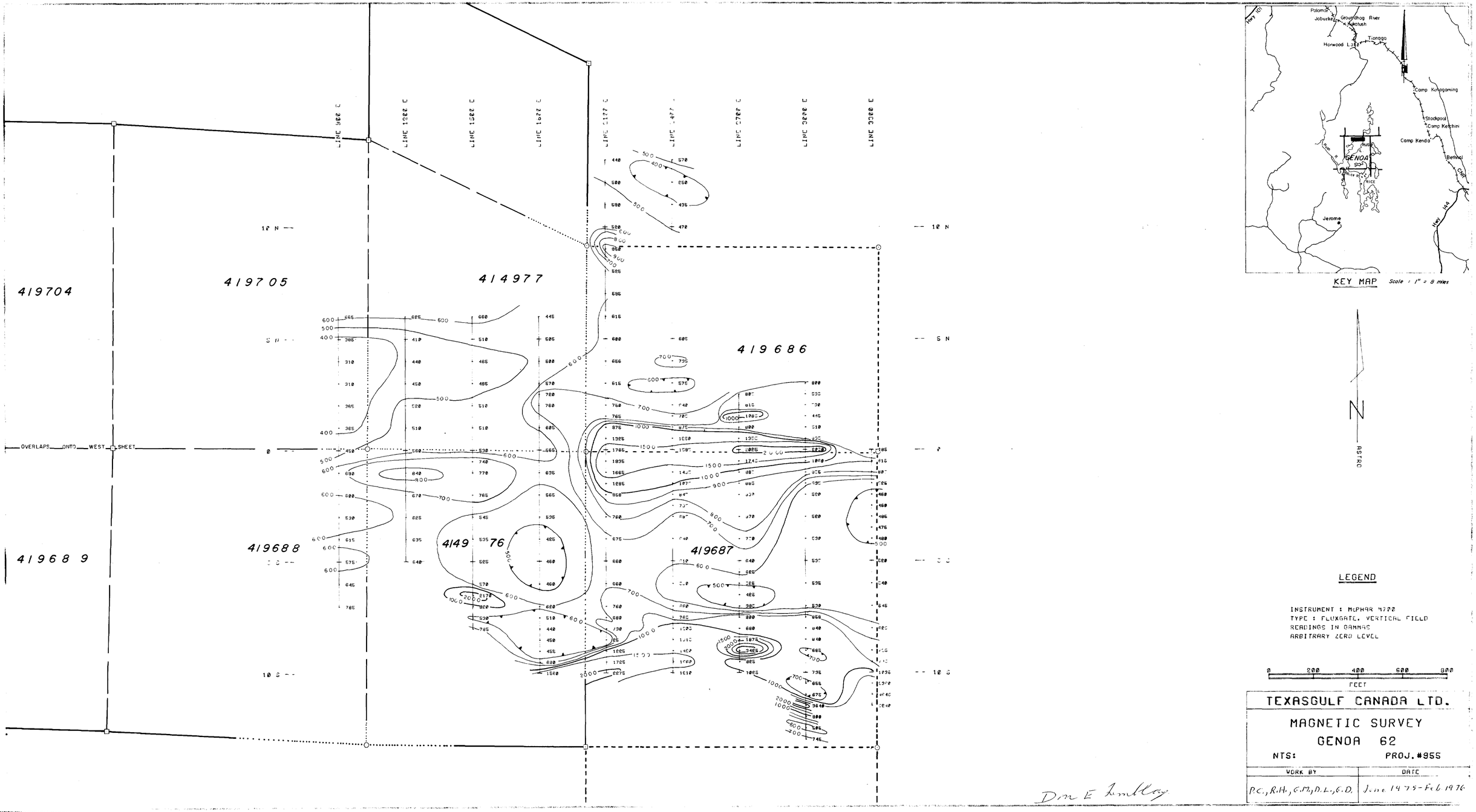
INSTRUMENT : McPHAR M700
TYPE : FLUXGATE. VERTICAL FIELD
READINGS IN GAMMAS
ARBITRARY ZERO LEVEL

▲ Main base station

0 200 400 600 800
FEET

TEXASGULF CANADA LTD.	
MAGNETIC SURVEY GENOA 62	
NTS:41016	PROJ. #955
WORK BY	DATE
P.C., R.H., G.M., D.L., G.D.	June 1975-Feb. 1976.

Don E Handley



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TYPE : FLUXGATE, VERTICAL FIELD
READINGS IN GAMMAS
ARBITRARY ZERO LEVEL

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FEET

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MAGNETIC SURVEY
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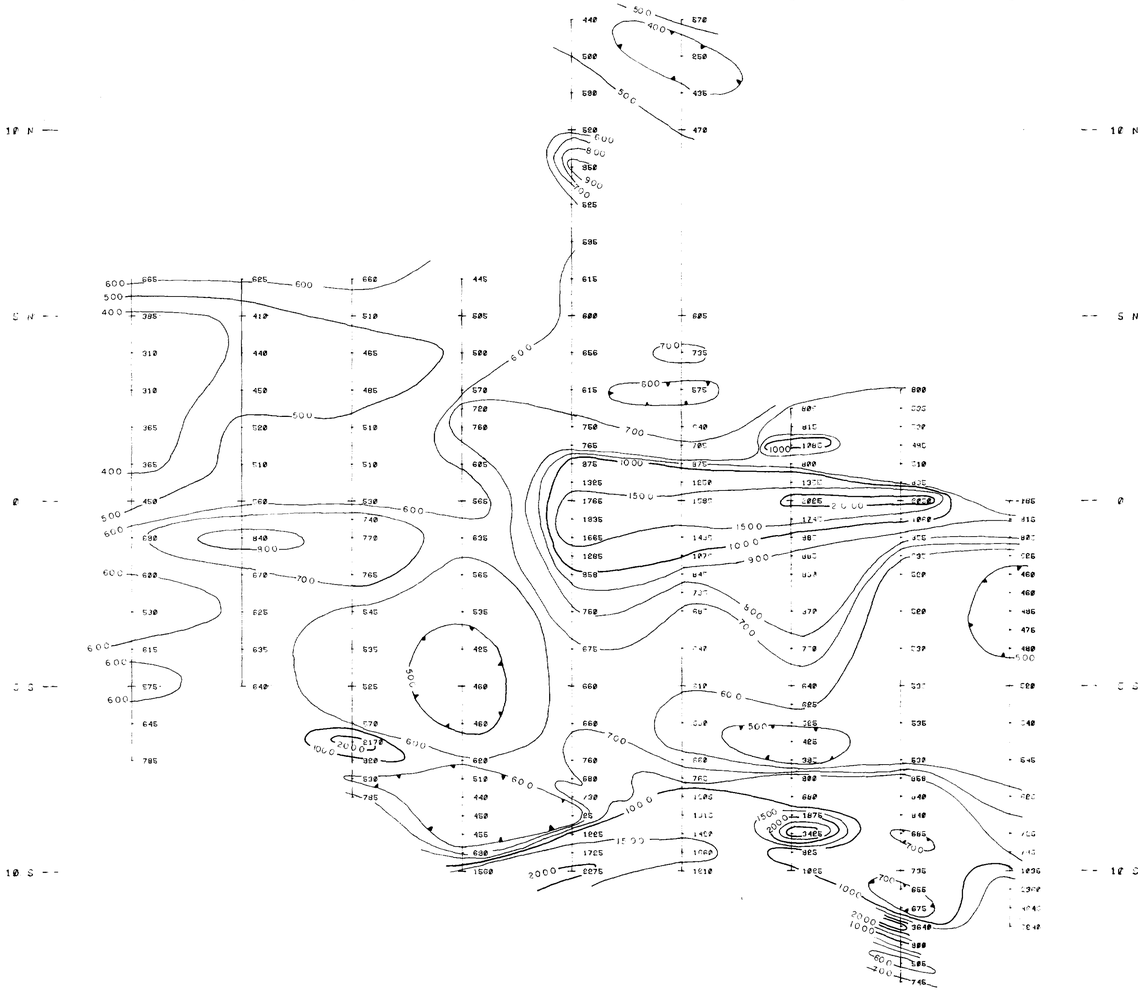
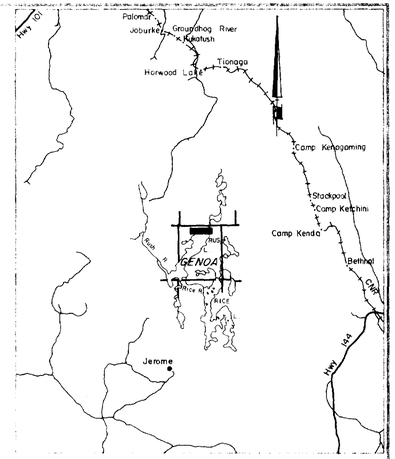


OVERLAPS ONTO WEST SHEET



KEY MAP Scale : 1" = 8 miles

N

LEGEND

INSTRUMENT : MAPHAR M700
TYPE : FLUXGATE, VERTICAL FIELD
SCALING IN GAMMAS
ARBITRARY ZERO LEVEL

0 200 400 600 800
FEET

TEXASGULF CANADA LTD.

MAGNETIC SURVEY

GENOA 62

NTS: PROJ. #955

WORK BY DATE

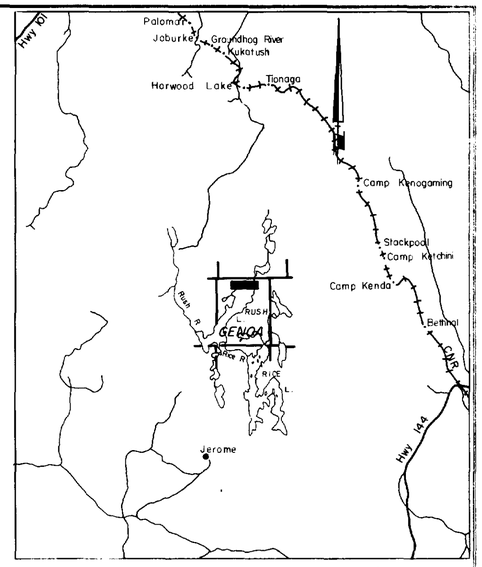

LINE 10500 W
LINE 10200 W
LINE 9900 W
LINE 9600 W
LINE 9300 W
LINE 9000 W
LINE 8700 W
LINE 8400 W
LINE 8100 W
LINE 7800 W
LINE 7500 W
LINE 7200 W
LINE 6900 W
LINE 6600 W
LINE 6300 W
LINE 6000 W
LINE 5700 W
LINE 5400 W
LINE 5100 W
LINE 4800 W
LINE 4500 W
LINE 4200 W
LINE 3900 W
LINE 3600 W
LINE 3300 W
LINE 3000 W
LINE 2700 W
LINE 2400 W
LINE 2100 W
LINE 1800 W
LINE 1500 W
LINE 1200 W
LINE 900 W
LINE 600 W
LINE 300 W
LINE 0
LINE 300 E
LINE 600 E
LINE 900 E
LINE 1200 E
LINE 1500 E
15 N
10 N
5 N
0
5 S
10 S
POOR
419697
419698
419696
419695
419699
419694
419700
419693
419701
419692
419702
419691
419703
419690
419704
419689
419705
419688
414977
414976
SEE EAST SHEET FOR EXTENSION OF WORK
KEY MAP
ASTRO
N
LEGEND
444 Hz
1777 Hz
IN-PHASE READINGS
QUADRATURE READINGS
INSTRUMENT : APEX PARAMETRICS MAXMIN II
FREQUENCY : 1777 Hz AND 444 Hz
COIL SPACING : 300 FEET
PROFILE SCALE : 1" = 20%
+ READINGS
− READINGS
0
200
400
600
800
FEET
TEXASGULF CANADA LTD.
HORIZONTAL LOOP SURVEY
GENOA 62
NTS:41016
PROJ. #955
WORK BY
DATE
P.C., R.H., G.M., D.L., G.D.
June 1975 – Feb 1976

LINE 900 E
LINE 1200 E
LINE 1500 E
LINE 1800 E
LINE 2100 E
LINE 2400 E
LINE 2700 E
LINE 3000 E
LINE 3300 E
LINE 3600 E
LINE 3900 E

10 N
5 N
0
5 S
10 S

419705
414977
419686
4149 76
41968 7
419688

OVERLAPS ONTO WEST SHEET



KEY MAP Scale : 1" = 8 miles

ASTRO

LEGEND

444 Hz 1777 Hz

IN-PHASE READINGS

QUADRATURE READINGS

INSTRUMENT : APEX PARAMETRICS MAXMIN II
FREQUENCY : 1777 Hz AND 444 Hz
COIL SPACING : 300 FEET
PROFILE SCALE : 1" = 20% (1777 Hz)
1" = 20% (444 Hz)

← + READINGS − READINGS →

0 200 400 600 800
FEET

TEXASGULF CANADA LTD.

HORIZONTAL LOOP SURVEY
GENOA 62

NTS: PROJ. #955

WORK BY	DATE
P.C., R.H., G.M., D.L., G.D.	June 1975 - Feb 1976

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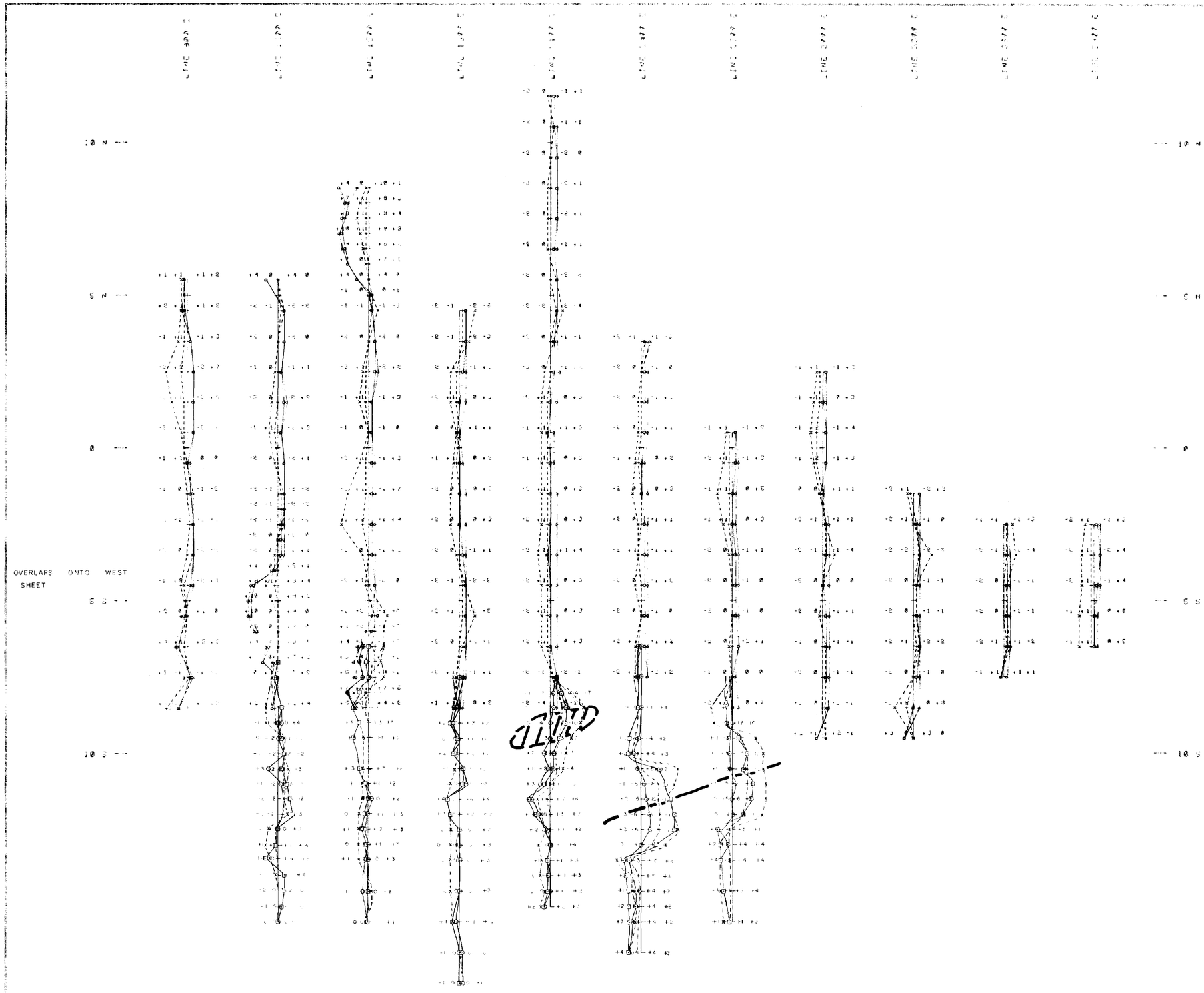
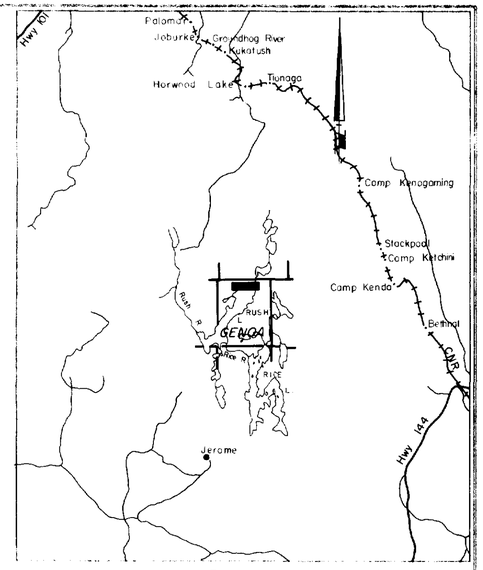
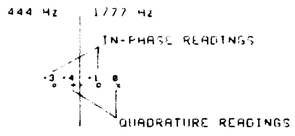




KEY MAP Scale : 1" = 8 miles

LEGEND



INSTRUMENT : APEX PARAMETRICS MAXMIN II
FREQUENCY : 1777 Hz AND 444 Hz
COIL SPACING : 300 FEET
PROFILE SCALE : 1" = 20% (1777 Hz)
1" = 20% (444 Hz)

+ READINGS — READINGS

0 200 400 600 800
FEET

TEXASGULF CANADA LTD.

HORIZONTAL LOOP SURVEY

GENOA 62

NTS: PROJ. #955

WORK BY	DATE

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