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REPORT ON

THE GEOPHYSICAL INVESTIGATIONS

of

THE "RUGGED" CLAIM GROUP

TODD TOWNSHIP

RED LAKE MINING DIVISION

for

COCHENOUR EXPLORATIONS LIMITED

by

L.C. Chastko

August, 1975

TABLE OF CONTENTS

Appendaged:
- Technical Data Statement
- Manufacture's Brochures - H.L.E.M. & Magnetometer

Accompanying Plans:
- H.L.E.M. Survey Plan 1" = 300'
- H.L.E.M. Profiles (working copy)
- Magnetometer survey Plan 1" = 300'

Summary of Work

	Grid #1	Grid #2	Grid #3	Total
Line Cutting				
Base Line	800'	5,600'	2,100'	8,500' or 1.6 mi
Picket Lines	26,800'	31,200'	26,800'	84,800' or 16.1 mi
Total	27,600'	36,800'	28,900'	93,300'
	5.2 mi	7.0 mi	5.5 mi	17.7 mi
Geophysics				
H.L.E.M.	26,800'	31,200'	26,800'	84,800'
	5.1 mi	5.9 mi	5.1 mi	
Magnetometer	26,800'	31,200'	26,800'	84,800'
	5.1 mi	5.9 mi	5.1 mi	

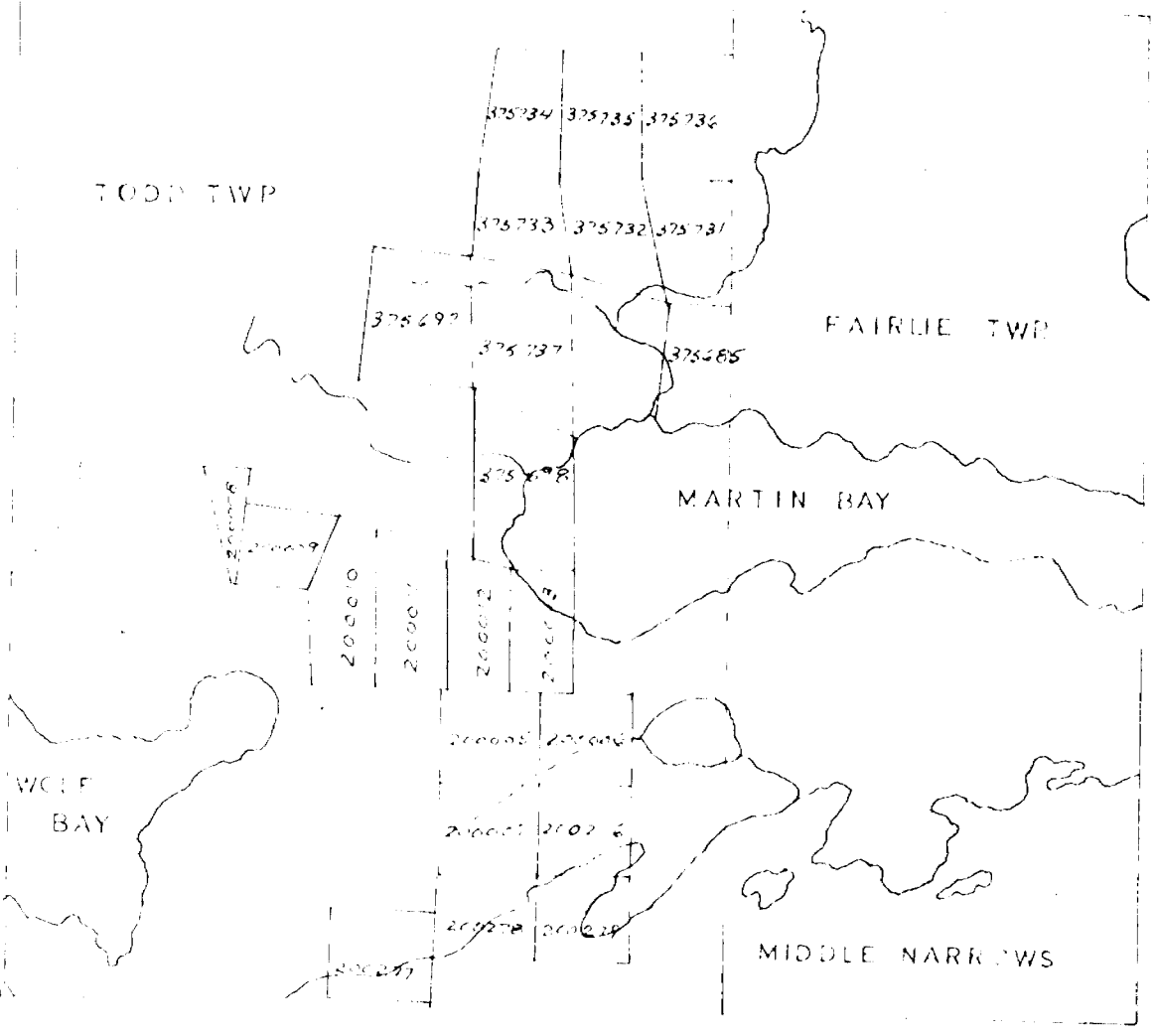
COCHENOUR EXPLORATION LIMITED

Financial Statement

Rugged Claim Group

December 31st, 1974

Labour - Line Cutting & Staking	$2,080.54
Recording Fees	141.00
Contract - H.L.E.M. Survey	1,357.11
Radio & E.M.	350.00
Total:	$3,928.65



CLAIM LOCATION SKETCH

RUGGED GROUP

TODD TWP

O.D.M. CLAIM MAP - 2211

RED LAKE MINING DIVISION

SCALE 1" = 20.40'

INTRODUCTION

This report has been compiled and written to summarize the exploration work conducted on this claim group in 1974.

The base metals exploration of this claim group was undertaken as a part of a regional program to examine selected areas of the Red Lake green stone belt. An Airborn Input Electro Magnetic survey indicated the presence of anomalous electro magnetic conductivity on the property.

In June 1974, an additional ten claims were staked and added to the existing group of thirteen (13) claims. In summer through fall of 1974, line cutting and geophysics were carried out on the property. A number of interesting electro-magnetic anomalies were outlined. These have not been tested to date, although the geophysical crew have noted the presence of iron formation along several E.M. trends.

DESCRIPTION, LOCATION & ACCESS TO PROPERTY

The "Rugged" claim group is comprised of twenty three (23) contiguous, unpatented mining claims, all located in Todd Township of the Red Lake Mining Division (Patricia Portion) of Ontario.

The claims are recorded under the numbers as follows:

KRL	200005	KRL	200013	KRL	375731
"	200006	"	200276	"	375732
"	200007	"	200277	"	375733
"	200008	"	200278	"	375734
"	200009	"	200279	"	375735
"	200010	"	375685	"	375736
"	200011	"	375697	"	375737
"	200012	"	375698		

Access to the claim group is via waters of Red Lake.

The twenty three (23) mining claims listed above are all recorded in the name of Cochenour Willans Gold Mines, Limited; Licence No. A 33564.

GEOPHYSICAL SURVEY DETAILS

For geophysical survey details see attached "Technical Data Statements".

PRESENTATION OF RESULTS

The results of the H.L.E.M. and Magnetometer surveys are presented on separate plans at a scale of 1 inch - 300 feet.

DISCUSSION OF RESULTS

General Geology

A map and report covering the geology of the claim group area has been published by the Ontario Department of Mines: This being:

Forty-Ninth Annual Report of the Ontario Department of Mines, Volume XLIX, Part II, 1940;
Geology and Mineral Deposits of the Red Lake Area by H.C. Horwood; accompanying plan, Map 49 a, Red Lake Area, West Sheet at a scale of 1 inch - 2,640 feet.

According to Horwoods map the claim group is located on east west striking, steeply dipping, isoclinally folded, mafic meta volcanics and meta sediments. The meta sediments generally occupying the southern portion of the claim group.

Previous Work

The property was extensively explored by surface trenching and diamond drilling largely directed toward discovering gold mineralization. A number of lead - zinc silver, gold occurances have been encountered in trenching and diamond drilling.

Most recently the property had been held by Rugged Red Lake Mines Limited. The claims were allowed to lapse and were aquired by Cochenour Willans Gold Mines, Limited by staking.

Discussion of Results

A previously submitted work report covering claims KRL 63669 and 63670 has H.L.E.M. conductive trends labelled Zones A to J. The conductive trends covered in the present survey are labeled Zones K to R to facilitate discussion.

GRID 1

Zone P

Location: Lines 2+00, 4+00, and 8+00 W approximately 1600 feet north of base line.

Strike Length: Minimum 600 feet, maximum 1200 feet.

This is a relatively strong electro magnetic conductor. The strongest point appears to be on line 2+00 W where the in-phase to out-of-phase readings are in the order of -31 -8. A moderate magnetic low is associated with this conductive trend.

Several old trenches are located in the vicinity of the conductive trend. These have not been examined to see if cause of conductivity could be explained.

GRID 2

Zone K

Location: Line 35+00 W, 1000 feet north of base line.

Strike Length: One line anomaly but may continue between grids 1 and 2.

This is a relatively strong conductive trend, with in-phase to out-of-phase readings in the order of -31 -15. A magnetic high of approximately 1300 gammas above background.flanks this conductive trend.

Cause of conductivity is unknown.

Zone L

Location: Line 29+00 W to line 41+00 W

Strike Length: Minimum 1400 feet, open to N.E. & S.W.

This electro magnetically conductive trend is strong on lines 29+00 and 32+00 W with in-phase to out-of-phase readings in the order of -31 -18. This trend appears to weaken to the S. W.

Magnetically, response is relatively flat over this Zone.

An old trench is located in the vicinity of the conductive trend on line 29+00 W. It has not been cleaned or examined to cause of conductivity.

Zone M

Location: Line 35+00 W, 850 feet south of base line.

Strike Length: One line conductor but open to west.

This is a weird type of conductor with in-phase to out-of-phase responses in the order of +114 -19. Magnetically this area is relatively flat.
Cause of conductivity is unknown.

Zone N

Location: Lines 17+00 W to 35+00 W.

Strike Length: Minimum 2000 feet and open to west.

This zone consists of two parallel conductors. This trend shows very strong conductivity. Magnetic highs of 10 - 15000 gammas above background are associated with this trend.

Outcrops of chert-magnetite iron formation were noted along this trend. These are believed to be the cause of conductivity.

Zone O

Location: Lines 32+00 and 35+00 W, approximately 1900 feet south of base line.
Strike Length: Minimum 300 feet and open to east and west.
This is a very strong conductive trend with in-phase to out-of-phase readings in the order of -71 -6. A high magnetic anomaly, approximately 36,000 gammas above background is associated with this trend.

An outcrop of chert-magnetite iron formation located near this zone is believed to be the cause of conductivity.

GRID 3

Zone Q

Location: Line 12+00 W, approximately 600 feet north of base line.
Strike Length: One line anomaly limited to maximum strike length of 600 feet.

This conductive trend is moderately strong with in-phase to out-of-phase responses in the order of -16 -8. A high magnetic response appears to cross cut the regional trends at an angle of approximately 60°. Cause of conductivity is not known.

Zone R

Location: Lines 3+00 and 6+00 W, approximately 1400 feet south of base line.

Strike Length: Minimum 600 feet and open to the west.

This conductive trend is weak to moderately strong with maximum in-phase to out-of-phase readings of -11 -9 on line 3+00 W. Magnetically this area is flat.

Cause of conductivity is unknown.

SUMMARY & CONCLUSIONS

The electro magnet and magnetic surveys outlined eight (8) electro magnetically conductive trends.
Zones P and L appear to have been trenched previously. These trenches should be examined to see if cause of conductivity is discovered.
Zones N and O are most likely due to the chert-magnetite unit exposed along this trend.

Zone M is a weird type of conductive zone and is not rated very highly.
Zones K,Q, and R present interesting targets for further exploration.

RECOMMENDATIONS

1) Zones P and L, trenches along these zones should be examined. If conductivity is not explained these zones should be drilled.

2) Zones K,Q, and R, present interesting targets and should be tested further by diamond drilling.

Respectfully submitted,

L.C. Chastko
Chief Geologist

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GEOPHYSICAL – GEOLO
TECHNICAL DA

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

Type of Survey Geophysical Magnetometer

Township or Area Todd Twp.

Claim holder(s) Cochenour Willans Gold Mines, Limite
COCHENOUR, Ontario

Author of Report L.C. Chastko

Address COCHENOUR, Ontario

Covering Dates of Survey October, 1974
(linecutting to office)

Total Miles of Line cut 17.7 miles

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
--Electromagnetic
--Magnetometer ~~40~~ 20
--Radiometric
--Other
Geological
Geochemical

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

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

DATE: ____ SIGNATURE: L.C. Chastko
Author of Report or Agent

PROJECTS SECTION

Res. Geol. ____ Qualifications 63.2591

Previous Surveys ____

Checked by ____ date ____

GEOLOGICAL BRANCH ____

Approved by ____ date ____

GEOLOGICAL BRANCH ____

Approved by ____ date ____

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

If space insufficient, attach list

	(prefix)	(number)	
KRL		200005	1/4 not covered
KRL		200006	
KRL		200007	1/2
KRL		200008	
KRL		200009	
KRL		200010	
KRL		200011	
KRL		200012	
KRL		200013	1/3
KRL		200276	
KRL		200277	
KRL		200278	
KRL		200279	
KRL		375685	1/2
KRL		375697	
KRL		375698	1/2
KRL		375731	
KRL		375732	1/2
KRL		375733	
KRL		375734	
KRL		375735	
KRL		375736	1/4
KRL		375737	1/4

TOTAL CLAIMS 23

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 1648 Number of Readings 1648

Station interval 50 Feet

Line spacing 300 Feet

Profile scale or Contour intervals 500 gammas

(specify for each type of survey)

MAGNETIC

Instrument Jalander Fluxgate Model #5785

Accuracy - Scale constant Scale 1 = 11, 2 = 33, 3 = 107

Diurnal correction method Base station readings established along base line.

Base station location See plan

ELECTROMAGNETIC

Instrument

Coil configuration

Coil separation

Accuracy

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

Frequency

(specify V.L.F. station)

Parameters measured

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION – RESISTIVITY

Instrument

Time domain Frequency domain

Frequency Range

Power

Electrode array

Electrode spacing

Type of electrode

File 2.1891

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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: Geophysical H.L.E.M.

Township or Area: Todd Twp.

Claim holder(s): Cochenour Willans Gold Mines, Limited
COCHENOUR, Ontario

Author of Report: L.C. Chastko

Address: COCHENOUR, Ontario

Covering Dates of Survey: October 23rd - 28th, 1974
(linecutting to office)

Total Miles of Line cut: 17.7 miles

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
--Electromagnetic: 40
--Magnetometer: ~~20~~
--Radiometric:
--Other:
Geological:
Geochemical:

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

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

DATE: _____ SIGNATURE: _____
Author of Report or Agent

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
KRL	200005
KRL	200006
KRL	200007 1/2
KRL	200008
KRL	200009
KRL	200010
KRL	200011
KRL	200012
KRL	200013 1/3
KRL	200276
KRL	200277
KRL	200278
KRL	200279
KRL	375685 1/2
KRL	375697
KRL	375698 1/2
KRL	375731
KRL	375732 1/2
KRL	375733
KRL	375734
KRL	375735
KRL	375736 1/4
KRL	375737 1/4

TOTAL CLAIMS: 23

If space insufficient, attach list

PROJECTS SECTION

Res. Geol. _____ Qualifications: 63.2591

Previous Surveys: 63.2316 Mag & Geological (1968) - different instrument

Checked by _____ date _____

63.2288 Mag (1968) - different instrument

GEOLOGICAL BRANCH

Approved by _____ date _____

LD

GEOLOGICAL BRANCH

Approved by _____ date _____

OFFICE USE ONLY

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 747 Number of Readings 747

Station interval 100 feet

Line spacing 300 feet

Profile scale or Contour intervals Direct readings plotted
(specify for each type of survey)

MAGNETIC

Instrument

Accuracy - Scale constant

Diurnal correction method

Base station location

ELECTROMAGNETIC

Instrument Geonics E.M. 17

Coil configuration Co - planar

Coil separation 300'

Accuracy ± 1%

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

Frequency 1600 Hz
(specify V.L.F. station)

Parameters measured In phase & out of phase components

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION -- RESISTIVITY

Instrument

Time domain Frequency domain

Frequency Range

Power

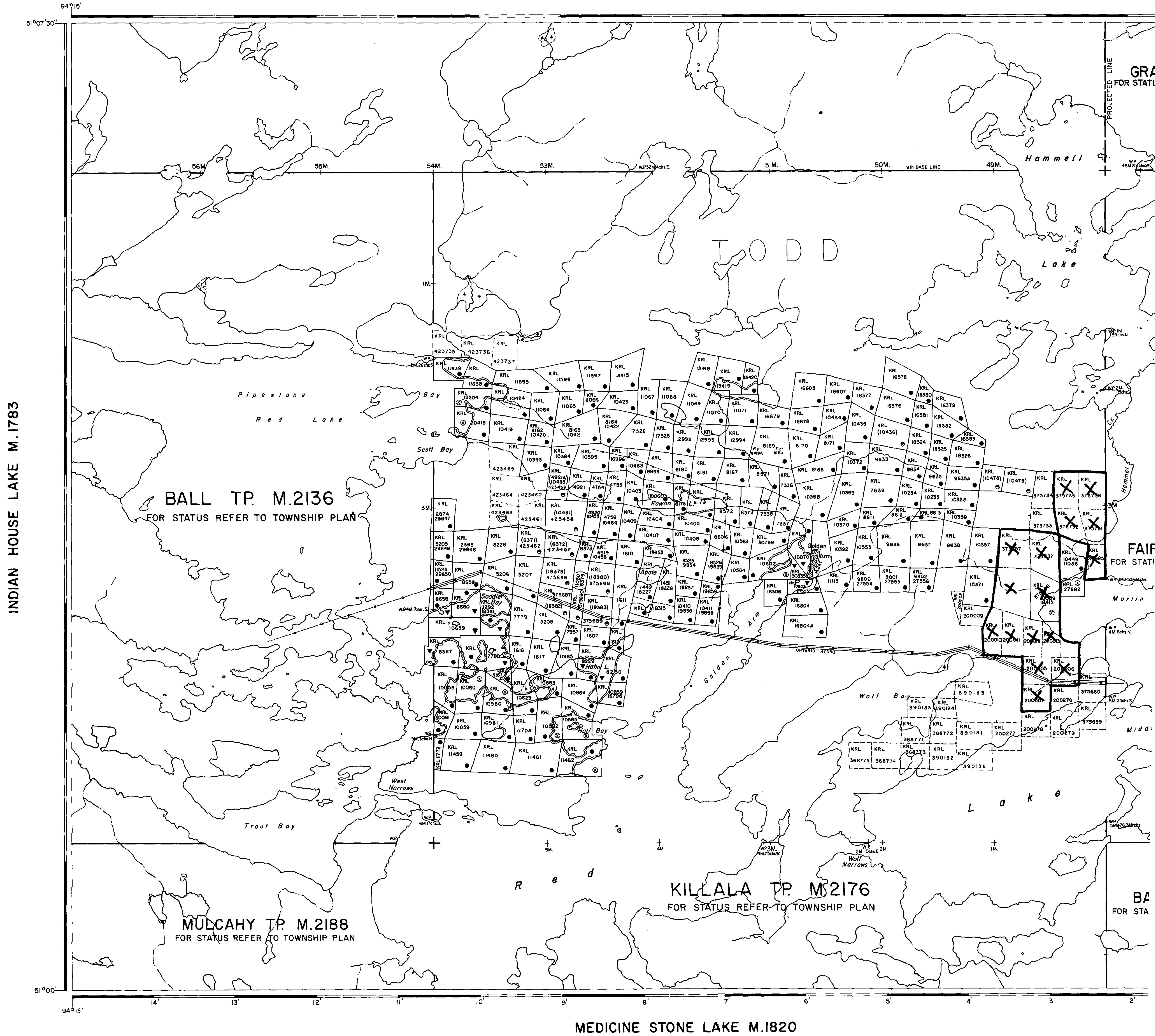
Electrode array

Electrode spacing

Type of electrode

NOTES

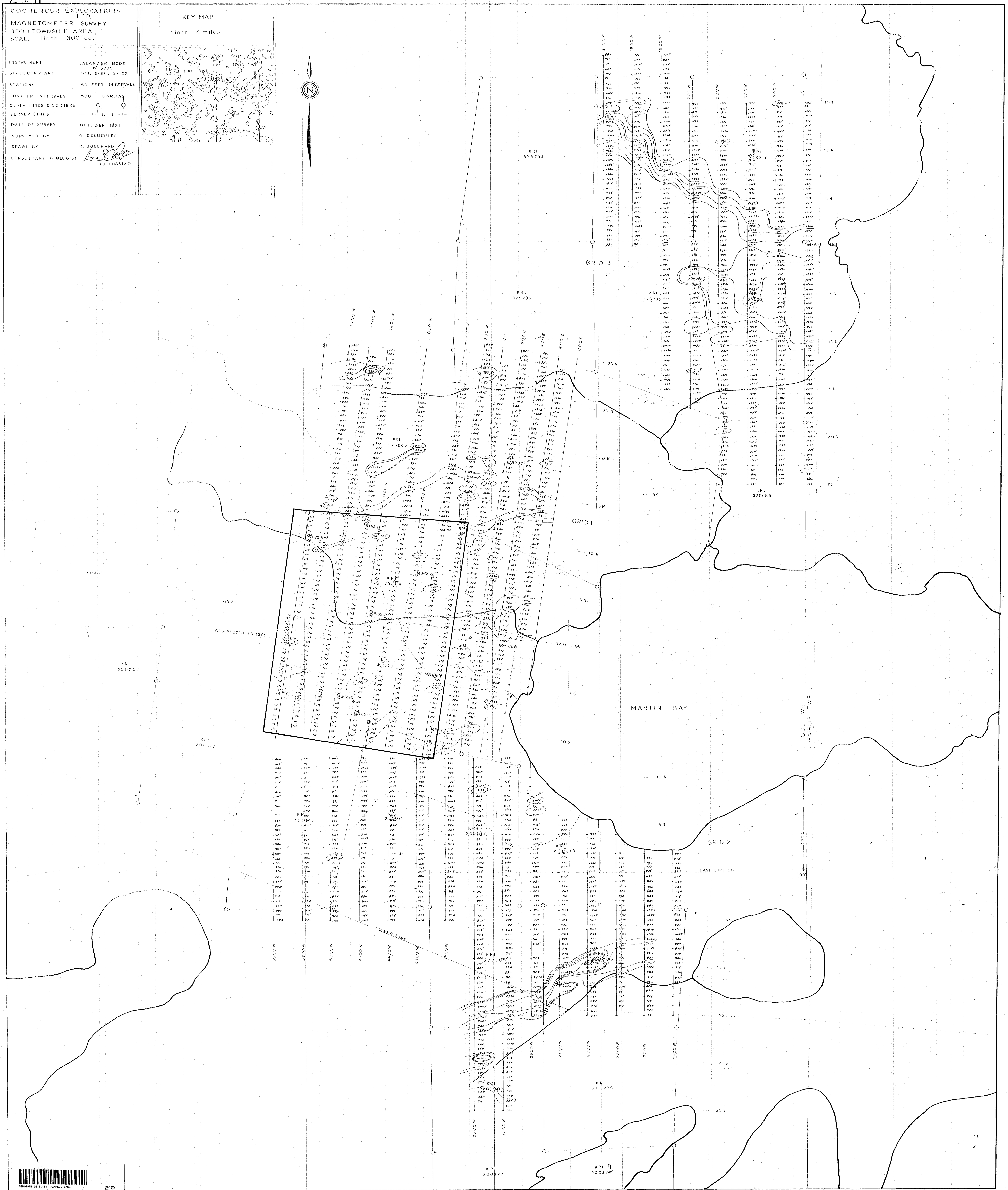
400' surface rights reservation along the shores of all lakes and rivers.



52M01SE0122 2.1891 HAMMELL LAKE

200

2.1891



2.1891

COCHENOUR EXPLORATIONS LTD.

HORIZONTAL LOOP E.M. SURVEY

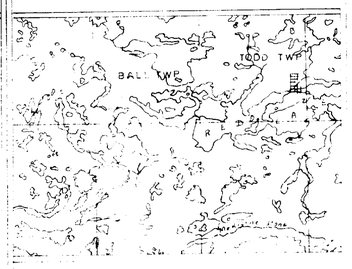
TODD TOWNSHIP AREA

SCALE 1inch = 300feet

INSTRUMENT	GEONICS E.M.-17
METHOD	IN LINE
FREQUENCY	1600 Hz
CURRENT	2.5 WATT 24 at-m^2
COIL SEPERATION	300 FEET
STATIONS	100 FEET
METHOD OF READING	INITIAL NULLING AT START OF SURVEY
PICKET LINES	right / left
OUT OF PHASE PLOTTED	RIGHT OF LINE
IN PHASE PLOTTED	LEFT OF LINE
CONDUCTORS	
DIAMOND DRILL HOLES	
BASE & CROSS LINES	
CLAIM LINES & CORNERS	
DATE OF SURVEY	OCTOBER 23-28, 1974
SURVEYED BY	C.D. HUSTON - G. DUVAL - P. MURRAY
DRAWN BY	R. BOUCHARD
CONSULTANT GEOLOGIST	L.C. CHASTKO

KEY MAP

1inch 4 miles



KRL 375734

KRL 375735

KRL 375736

KRL 375733

KRL 375731

GRID 3

BASE LINE

KRL 375697

KRL 375573

KRL 375685

GRID 1

KRL 375698

MARTIN BAY

TODD TWP.
FAIRLIE TWP.

KRL 200010

KRL 200011

KRL 200012

KRL 200013

GRID 2

BASE LINE 00

KRL 200005

KRL 200006

KRL 200007

KRL 200276

KRL 200278

KRL 200279

MB-69-1
MB-69-2
MB-69-3
MB-69-4
MB-69-5
MB-69-6
MB-69-7
MB-69-8

KRL 63669

KRL 63670

200' CABLE
COMPLETED IN 1969

300' CABLE

POWER LINE

Tr. I.F.

Tr.

10441

10371

11088