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42A11NW0564 2.398 KIDD

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MZ - 4

GEOMAGNETIC SURVEY

KIDD #1 GROUP

KIDD TOWNSHIP

RECEIVED

MAY 6 1971

PROJECTS
SECTION

May 4, 1971

Hollinger Mines Limited

GEOMAGNETIC SURVEY
KIDD #1 GROUP
HOLLINGER MINES LIMITED

Introduction:

During the period April 13 to 15, 1971 a geomagnetic survey was performed over the Kidd #1 Group in Kidd Township. The instrument used was an A.B.E.M. MZ-4 torsion magnetometer. The property consists of four claims, numbered P-255743-746 inclusive occupying the south half of Lot 2 Con. 11.

Location and Access:

The claim is located approximately thirteen miles north of Timmins in southeastern Kidd Township. Access is via Highway 655 to a winter road approximately two miles east of the property by snowmobile. The winter road is impassable during the summer months, warranting helicopter transport to the grid.

Topography:

The group is situated in a topographic low, an open, muskeg type swamp. As a result of lumbering operations in the area no trees remain, only low shrubs. Depths of overburden in this area are usually greater than 150 feet.

Geology:

The Ontario Department of Mines Preliminary map of Kidd Township infers that the property is underlain by Keewatin sediments. The group is located in the northwest portion of a large sedimentary basin which covers parts of Kidd, Wark, Murphy and Jessop Townships. The basin expands to the southeast, containing siltstone, greywacke, graphitic and argillaceous sediments. North of the property in Concession 111, the basin ends, in contact with massive volcanic flows and pyroclastics. The volcanics range in composition from acidic tuffs to intermediate and basic flows and pyroclastics.

Due to the lack of outcrop in the area, geologic information is sketchy, and no overall trend of the rocks appears to be established. This is further complicated by the normal structural attributes of a sedimentary basin, making it very difficult to establish a consistent trend. A general east to southeast trend is indicated by geophysics, which corresponds with the trend of the sedimentary basin. An east-west trend of the rocks, with a northerly dip may be adopted upon reviewing of previous information.

Previous Work:

In 1964, Bruce Presto Mines Limited filed one diamond drill hole on their four claims southwest of the Hollinger property. The hole encountered greywacke and dacitic tuff with some graphite. Mineralization was confined to pyrite and pyrrhotite with locally some chalcopyrite.

In 1964, Kirkland Minerals Corporation Limited drilled four holes into ~~three~~ conductors, in the north $\frac{1}{2}$ of Lot 5 con. 1. Although the geophysical method employed was not released in the drill report, the conductors appear to strike north to northeast. The first conductor was drilled in two directions, both southeast and northwest, encountering siltstone and greywacke. The conductor consists of a shear zone containing some graphite, pyrite and pyrrhotite. The southeast hole intersected the conductor at 321 feet while the northeast hole intersected the conductor at 112 feet, indicating that the zone was dipping steeply to the northwest. The second conductor, further north, was found to be essentially the same as the previous conductor. The hole was characterized by greywacke, siltstone and slate sediments with a weakly mineralized, conductive shear zone. The third conductor is again attributed to a mineralized shear zone. The rocks encountered in this hole are somewhat more interesting. Dr. H. D. Carlson relogged the hole, changing the andesitic volcanics of Kirkland Mines to sheared sediments. The description follows:

'light, greyish green, aphanitic, slightly schistose, rather soft rock with an abundance of small black spots up to 1/16 inches in diameter which oxidize to a reddish brown on the outside of the drill core,' 1.

In 1964, Chance Mining and Exploration worked on the eight claim Hamcon #1 Group, north of the Hollinger property. After an airborne electromagnetic survey, ground magnetic (MZ-4) and electromagnetic

1. Resident Geologist File, T-1433, Kirkland Mines - Kidd Township.

(Turam) surveys were conducted. A one hundred gamma magnetic anomaly trending east-west along the central part of the claim group is outlined, followed by an electromagnetic conductor a bit further south. Two holes were drilled into the conductor. The first encountered andesite, argillite, greywacke and acid tuff - all sections containing some graphitic bands. The second hole, drilled in 1967, intersected greywacke, argillite and rhyolite. In both holes the conductor was attributed to a zone containing pyrite and graphite.

In 1965, Texas Gulf Sulphur Company Limited performed airborne and ground electromagnetic surveys on four claims further north. A two thousand foot long, east-west trending conductor was outlined and two holes were drilled. The first hole was abandoned due to the great depth of overburden. The second hole encountered mostly graphitic tuff, some andesite and andesitic tuff with minor pyrite mineralization.

In 1966, Conduc Mines Limited held ^{three,} four claim groups in southeast Kidd Township, one of which is the present Hollinger property. The two southern groups were surveyed with airborne magnetics and electromagnetics, later ground work consisting of magnetic (MF-1) and electromagnetic (SE 200 and McPhar SS15) surveys. The magnetics showed a poor northeasterly trend, with two very weak electromagnetic conductors. No drilling was recorded. Magnetic (MF-1) and electromagnetic (SE 200) surveys were conducted over the present Hollinger property in 1966. A 150 gamma magnetic anomaly, trending east-west was outlined which turned northwest at the west boundary. No electromagnetic conductors were found, hence no diamond drilling.

Personnel:

The field survey was performed by R. Collins of Timmins, on a contract basis with Hollinger Mines Limited. Drafting of the plans was done by W. B. Caughell and interpretation by the author. The latter are employed by Hollinger Mines Limited.

Instrument Used:

The survey was conducted using an MZ-4 torsion wire magnetometer (serial number 4539) manufactured by the A.B.E.M. Company of Stockholm Sweden. This Magnetometer is a variometer for measuring the vertical component of the earth's magnetic field, at a sensitivity of 9.9 gammas per scale division.

The readings are taken by rotating a micrometer screw until the torque applied to a torsion wire, which holds a magnet, is sufficient to return the magnet to a zero position. Graduations on the micrometer drum are noted during an observation.

At every station it is necessary to level the tripod-mounted instrument and orient it in a constant direction to minimize the effects of improper levelling adjustments.

Survey Method:

All of the instrument readings were obtained along cut and measured picket lines, spaced 400 feet apart, striking at 333 degrees. Individual stations were taken at one hundred foot intervals along the picketed lines. The data was organized such that the readings were converted from scale divisions to gammas and then

plotted on a grid system. Due to the low magnetic susceptibility, a contour interval of twenty gammas was chosen and then the plotted data was contoured to establish the magnetic trend.

A total of 281 readings were obtained from 237 stations over 4.47 miles of picketed lines. This 4.47 miles of line includes the 2960 foot Base Line which was surveyed and used as a control for drift calculations.

Results of the Survey:

The geomagnetic survey conducted does not reveal any anomalous magnetic zones over the majority of the property. There are two anomalous zones, however, in the southeast and southwest portions of the group. These two zones show approximately 150 gammas of relief and neither are completely contained on the property, nor do they show any electromagnetic correlation.

The general trend of the magnetics (northeast-southwest) coincides with the electromagnetic trend and probably indicates the strike of the rocks. The magnetic responses are very similar to other areas containing sediments with minor pyrrhotite - as mentioned in the drill logs. The two anomalous zones may represent a greater concentration of pyrrhotite, but evidently not enough to affect electromagnetics.

Conclusions:

The geomagnetic survey provides very little information about the property and radio frequency electromagnetics has outlined numerous weak conductors. A more sensitive electromagnetic survey should be conducted over the property, before a final assessment.

Bibliography:

1. Ontario Department of Mines Preliminary Map P.486
"Kidd Township"; 1968; 1 inch = $\frac{1}{4}$ mile

Compiled by P. T. George and E. J. Leahy

2. Assessment files - Resident Geologist.

Dan R. Alexander
HOLLINGER MINES LIMITED
TIMMINS, ONTARIO



ASSESSA

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900

KIDD #1 GROUP

CLAIMS TRAVERSED

List numerically

Township or Area Kidd Township

Type of Survey Geophysical Mag.
A separate form is required for each type of survey

Chief Line Cutter _____
or Contractor _____ Name _____

Address _____

Party Chief R. Collins Name _____

26 Maple St. South, Timmins Address _____

Consultant _____ Name _____

Address _____

COVERING DATES

Line Cutting _____

Field April 13-15, 1971
Instrument work, geological mapping, sampling etc.

Office April 26-27, 1971

INSTRUMENT DATA

Make, Model and Type ABEM MZ-4 Serial #4539

Scale Constant or Sensitivity 9.9 gamma scale division
Or provide copy of instrument data from Manufacturer's brochure.

Radiometric Background Count _____

Number of Stations Within Claim Group 237

Number of Readings Within Claim Group 281

Number of Miles of Line cut Within Claim Group _____

Number of Samples Collected Within Claim Group _____

CREDITS REQUESTED

20 DAYS
per claim

40 DAYS
per claim

Includes
(Line cutting)

Geological Survey

Geophysical Survey

Geochemical Survey

Show
Check

DATE April 28, 1971

SIGNED W. H. Hansen

TOTAL 4 Claims

Send in duplicate to:

FRED W. MATTHEWS
SUPERVISOR-PROJECTS SECTION
DEPARTMENT OF MINES &
NORTHERN AFFAIRS
WHITNEY BLOCK
QUEEN'S PARK
TORONTO, ONTARIO

If space insufficient, attach list

**SUBMISSION OF GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL SURVEYS
AS ASSESSMENT WORK**

In order to simplify the filing of geological, geochemical and ground geophysical surveys for assessment work, the Minister has approved the following procedure under Section 84 (8a) of the Ontario Mining Act. This special provision does not apply to airborne geophysical surveys.

If, in the opinion of the Minister, a ground geophysical survey meets the requirements prescribed for such a survey, including:

- (a) substantial and systematic coverage of each claim
- (b) line spacing not exceeding 400 foot intervals
- (c) stations not exceeding 100 foot intervals or
- (d) the average number of readings per claim not less than 40 readings

it will qualify for a credit of 40 assessment work days for each claim so covered. It will not be necessary for the applicant to furnish any data or breakdown concerning the persons employed in the survey except for the names and addresses of those in charge of the various phases (linecutting contractor, etc.). It will be assumed that the required number of man days were spent in producing the survey to qualify for the specified credit.

Each additional ground geophysical survey using the same grid system and otherwise meeting these requirements will qualify for an assessment work credit of 20 days.

A geological survey using the same grid system, and meeting the requirements for submission of geological surveys for maximum credits will qualify for an assessment work credit of 20 days. If line cutting has not previously been reported with any other survey and is reported in conjunction with the geological survey a credit of 40 days per claim will be allowed for the survey.

Similarly, a geochemical survey using the same grid system with the average number of collected samples per claim being not less than 40 samples, and meeting the requirements for the submission of geochemical surveys for maximum credits, will qualify for an assessment work credit of 20 days. If line cutting has not previously been reported with any other survey and is reported in conjunction with the geochemical survey a credit of 40 days per claim will be allowed for the survey.

Credits for partial coverage or for surveys not meeting requirements for full credit will be granted on a pro-rata basis.

If the credits are reduced for any reason, a fifteen day Notice of Intent will be issued. During this period, the applicant may apply to the Mining Commissioner for relief if his claims are jeopardized for lack of work or, if he wishes, may file with the Department, normal assessment work breakdowns listing the names of the employees and the dates of work. The survey would then be re-assessed to determine if higher credits may be allowed under the provisions of subsections 8 and 9 of section 84 of the Mining Act.

If new breakdowns are not submitted, the Performance and Coverage credits are confirmed to the Mining Recorder at the end of the fifteen days.



ONTARIO

DEPARTMENT OF MINES AND NORTHERN AFFAIRS
RETURN TO POINT OF MAILING

Mr. E. G. Bright,
Resident Geologist,
60 Wilson Avenue,
Timmins, Ontario.

CARNEGIE TWP. - M.44I

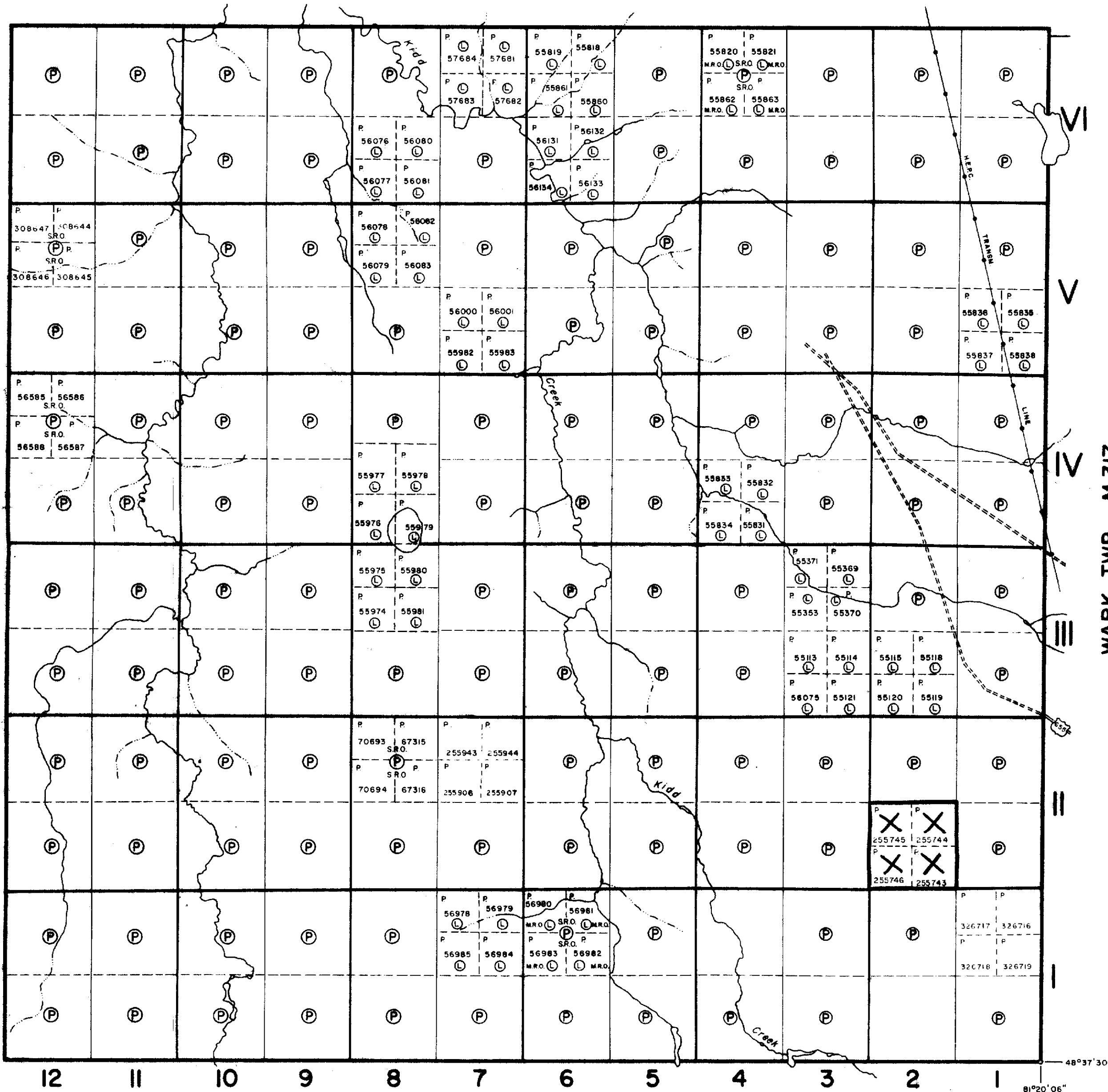
THE TOWNSHIP
OF
"Claim Map"
KIDD

DISTRICT OF
COCHRANE

PORCUPINE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

MACDIARMID TWP. - M.294



WARK TWP. - M.317

JESSOP TWP. - M.289

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S
LEASES	Ⓛ
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	C.

NOTES

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

DATE OF ISSUE

NOV 3 1911

ONT. DEPT. OF MINES
AND NORTHERN AFFAIRS

PLAN NO. M.291

ONTARIO
DEPARTMENT OF MINES
AND NORTHERN AFFAIRS

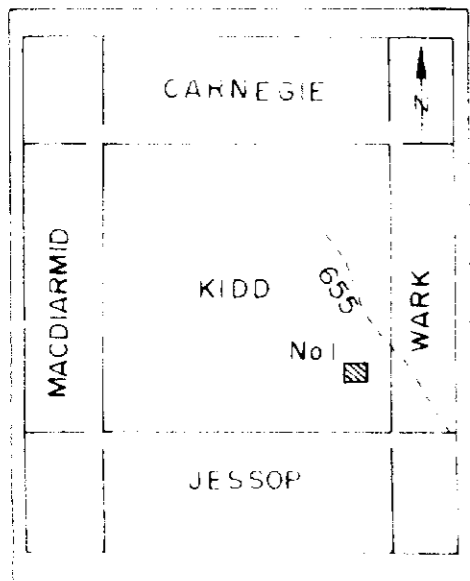


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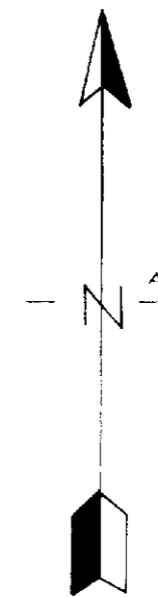
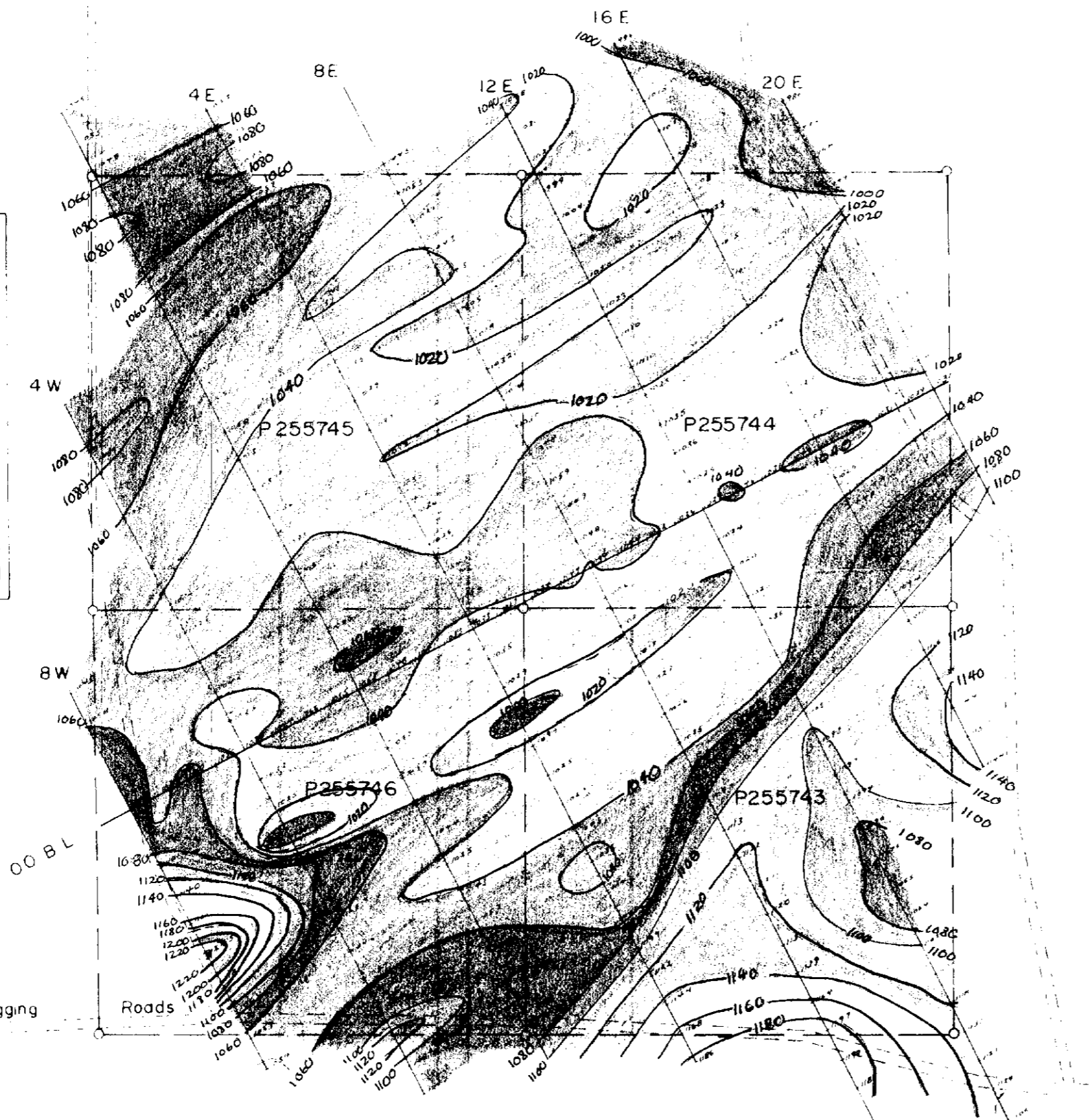
LOT 3

LOT 2

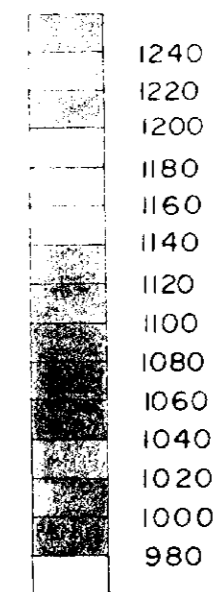
LOT 1



Scale 1 inch = 4 miles



LEGEND



Contoured every 20 gammas

Dave R. Alexander
HOLLINGER MINES LIMITED
TIMMINS, ONTARIO

CON II
CON I

KIDD TWP
WARK TWP



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210

KIDD No. 1 GROUP
 KIDD TWP. ONT.
 GEOMAGNETIC SURVEY
 Scale : 1 inch to 400 feet