ELECTROMAGNETIC SURVEY
POLYGON POND PROPERTY
BEAR PASS AREA B & C PROJECT
DISTRICT OF RAINY RIVER
FORT FRANCES MINING DIVISION
ONTARIO

PROPERTY LOCATION:

The property is located in the Reed Lake Area, District of Rainy River, Fort Frances Mining Division, Ontario.

The claim group consists of eleven contiguous unpatented mining claims numbered as follows: FF15917 to FF15925 inclusive, and FF16302, FF16303.

ACCESSIBILITY:

The mining claims lie 1½ miles northeast of the C.N.R. flagstop, town of Glenorchy. Driving north from Highway 11 to this town is possible except for a locked gate on patented ground ½ a mile from the railroad crossing. A good logging road subsidized by the government runs north of the private crossing at Glenorchy from which access by means of a muskeg tractor or foot trail in summer months is possible. In winter months, driving within the claim block area with a four wheel drive is possible, as many winter bush roads traverse the area.

TOPOGRAPHY:

The majority of the terrain within the claim group is typical of the Precambrian Shield, being somewhat rolling with

undulations seldum exceeding 30 feet. An exceptionally large hill lies to the south of the claim group and is known locally as Blue Mountain.

GENERAL GEOLOGY OF THE PROPERTY:

The entire claim group lies within a basic gabbro or diorite stock, which, in most places, is sheared and altered to hornblende and chlorite schists. To the north of the group lies biotite schist and to the south andesite. The trend of the strike of the formations is northwest with the diorite enclosed in a trough.

Mineralization:

Low grade copper mineralization (chalcopyrite) has been found on the property; however, the most outstanding mineral occurrence on the claim group is a pyrite-pyrrhotite sulphide zone which was intersected in the 1958 drilling programme. The sulphide zone depicts a strike length of approximately 2,550 feet and an average true thickness of 50 feet.

Linecutting:

A N45°W baseline, comprising two subbase lines, was established on the property. Parallel lines at right angles to the baseline were run at 400 foot intervals, these in conjunction with the baseline were marked and picketed at 100 foot intervals. A total of 11¾ miles of baseline and traverse lines were cut, chained and picketed on this group of eleven claims.

Electromagnetic Survey:

The geophysical survey was conducted during break-up and ice conditions on the ponds prevented J.E.M. coverage.

The J.E.M. survey was conducted by Noranda Exploration Company, Limited personnel under the field direction of Mr. Don Cross, geological engineer. An interpretation of the said survey by Mr. D.K.Fountain, geophysicist, follows hereafter.

Instrument:

The electromagnetic survey was carried out utilizing the portable Junior Electromagnetic Unit (J.E.M.) manufactured by Crone Geophysics Limited for Noranda Exploration Company, Limited under licence of Patent No. 631506. The dual frequency unit operates on frequencies of 1800 and 480 cycles per second and is normally operated in the shoot back manner, in which each coil acts alternately as a transmitter and receiver, with transmitter receiver separation of 200 or 300 feet. The resultant sum of the dip angles measured at the two stations is plotted at the mid-point between the two coils. Where no conductors are present this resultant value is zero.

General;

A J.E.M. Survey was carried out on the Polygon Pond Property in Northwestern Ontario in May, 1966. The survey was carried out employing 200 foot spreads along survey lines running approximately northeast-southwest. Several conductive zones are indicated by the work. These zones are discussed separately below and indicated on the accompanying plan map. Previous work,

both geophysics and drilling, had been carried out on this property. The purpose of the present E.M. survey was to determine if there is a pattern to the sulphide mineralization obtained in the previous drilling. The location of the previous drill holes is only approximate.

Zone "A"

A long conductive zone is indicated with axis trending approximately east-west across the north parts of mining claims FF15922 and FF15924. The survey lines cross this zone at an angle of approximately 45° thus making interpretation of possible dip and exact location of the axis difficult. The E.M. results suggest good conductivity and a dip to the north. The results of the previous drilling suggest that the source of the anomaly is graphite.

Zone "B"

This is a long, good conductivity zone with conductor axis trending southeast-northwest from 15+50S, Line 44+00W, to 11+50S, Line 28+00W, for an overall strike length of at least 2100 feet.

Zone "C"

This zone is parallel to and approximately 350 feet south of Zone "B". The results of the survey indicate a strong response and good conductivity. The zone trends from approximately 18+00S, Line 40+00W to approximately 12+50S, Line 16+00W for an overall strike length of at least 3000 feet.

Zone "D"

This shorter zone lies to the west of Zone "C" and may be related to it. The E.M. survey results however, suggest a possible, almost north-south strike of the conductor axis. If this is the case, then the previous D.D.H. #1 may not have intersected the source of the anomaly. It should be noted here, that the E.M. results in the area of claim FF16302 south and west of the beaver pond indicate multiple, and perhaps interelated anomaly sources. Further detail E.M. work employing the Vertical Loop configuration, and appropriate transmitter set-ups would be required to sort out the various conductors.

Zone "E" and Zone "F"

These short zones lie off the east end of Zone "B" and may be related to it. Further detail Vertical Loop E.M. work is required to determine the exact relationship of these two zones.

There are several weak anomalies occurring only on one line. Further detail E.M. employing the Vertical Loop configuration would be required to establish any relationship between them.

Summary and Recommendations

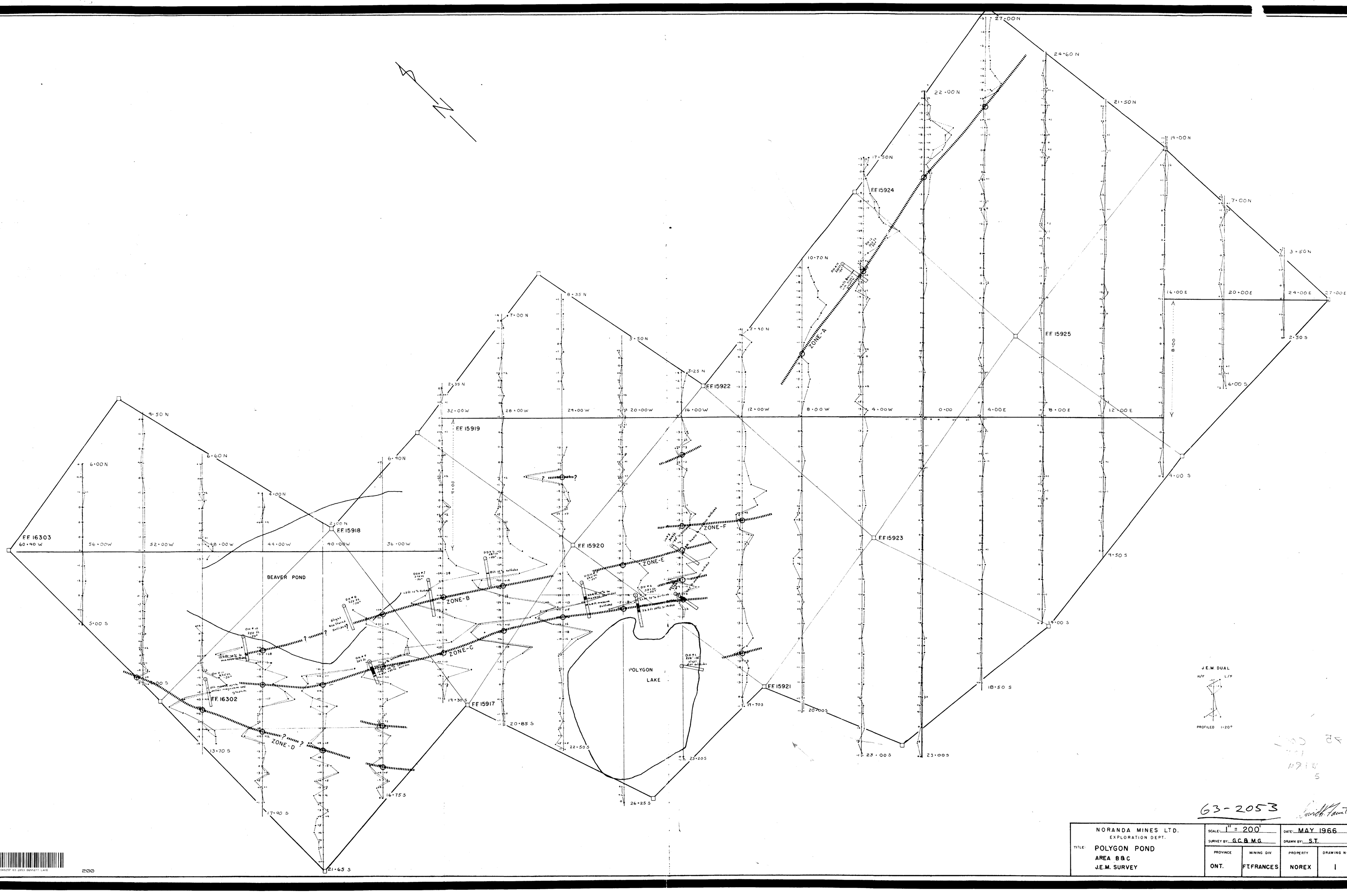
Several distinct conductive zones, as well as many weak isolated anomalies have been indicated by the J.E.M. survey. Zone "A" appears to have been explained as due to graphite, and does not warrent further work at this time. Drilling in the area of Zones "B" through "F" and their related anomalies have indicated massive sulphides, as yet, none economic. However, the J.E.M. results indicate the source of these anomalies to be

multiple complex and perhaps interelated. In light of the recent favourable geochemical results and surface showings, further detail E.M. surveying employing Vertical Transmitting Loop, and appropriate transmitter location should be carried out to sort out these conductive zones and establish any relationship between them. Depending upon the results of this work, a drill programme could be planned.

Geophysical Interppetation by:

David K. Fountain

David K. Fountain P.Eng.,
Geophysicist.



G3-2053

NORANDA MINES LTD. EXPLORATION DEPT.	SCALE: 1" = 200'		DATE: MAY 1966
TITLE: POLYGON POND AREA B&C J.E.M. SURVEY	SURVEY BY: G.C.&M.G.		DRAWN BY: S.T.
	PROVINCE: ONT.	MINING DIV: FT.FRANCES	PROPERTY: NOREX
			DRAWING NO.: 1

200