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I.P. SURVEY,
RECUERDO CLAIM GROUP AREA...
EMPIRE MOUNTAINS, PIMA CO., ARIZ.

For

NORTH AMERICAN MINES - Lynch



Erassale Orionochva

259-60709-60709

**INDUCED POLARIZATION SURVEY
RECUERDO CLAIM GROUP AREA
EMPIRE MOUNTAINS
PIMA COUNTY, ARIZONA**

For

North American Mines, Inc.

November 1967

By

**Heinrichs Geoelectricity Company
P. O. Box 5671 Tucson, Arizona 85703
Phone: 623-0578 Area Code: 602**

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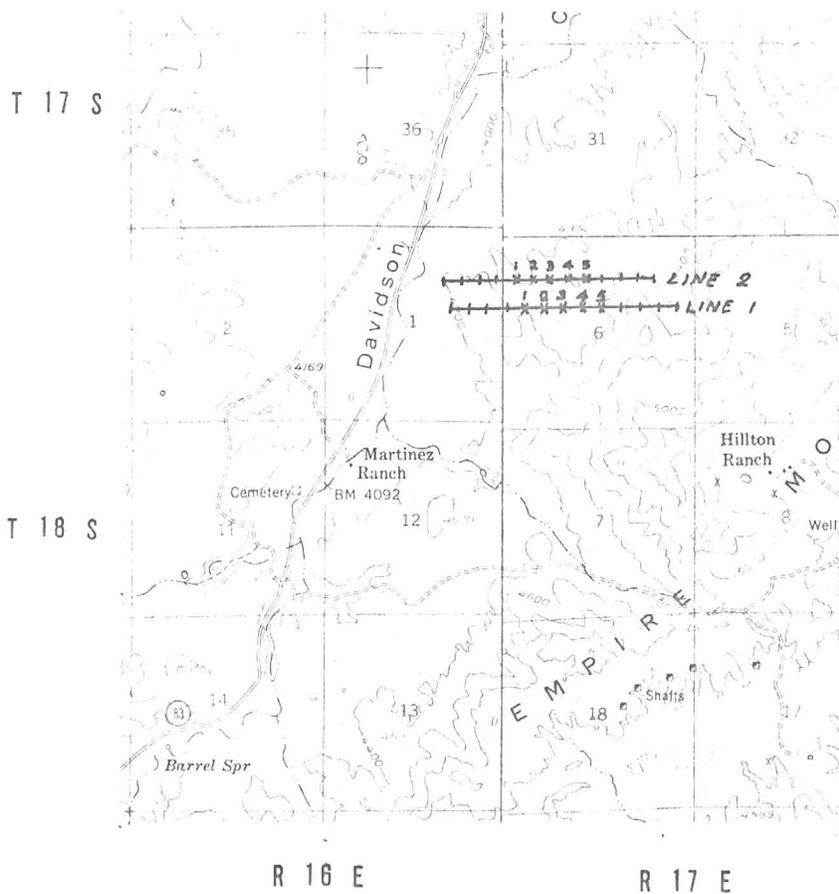
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GENERAL LOCATION OF
RECUERDO CLAIM GROUP AREA

ARIZONA



INDUCED POLARIZATION LOCATION PLAN
of
RECUERDO CLAIM GROUP AREA
for
NORTH AMERICAN MINES, INC.



SCALE
1:62500

HEINRICHS GEOEXPLORATION COMPANY		
	BOX 5671 TUCSON, ARIZONA 85703 PH: 602/623-0578 CABLE: GEOEX, TUCSON	
GEOPHYSICAL ENGINEERS	SYDNEY	VANCOUVER

INTRODUCTION

At the request of Mr. H. G. Lynch of North American Mines, Inc., Heinrichs Geoexploration Company conducted and completed a reconnaissance induced polarization survey in the Recuerdo Claim Group Area, Empire Mountains, Pima County, Arizona. This field work was done in the interim November 20 to November 22, 1967.

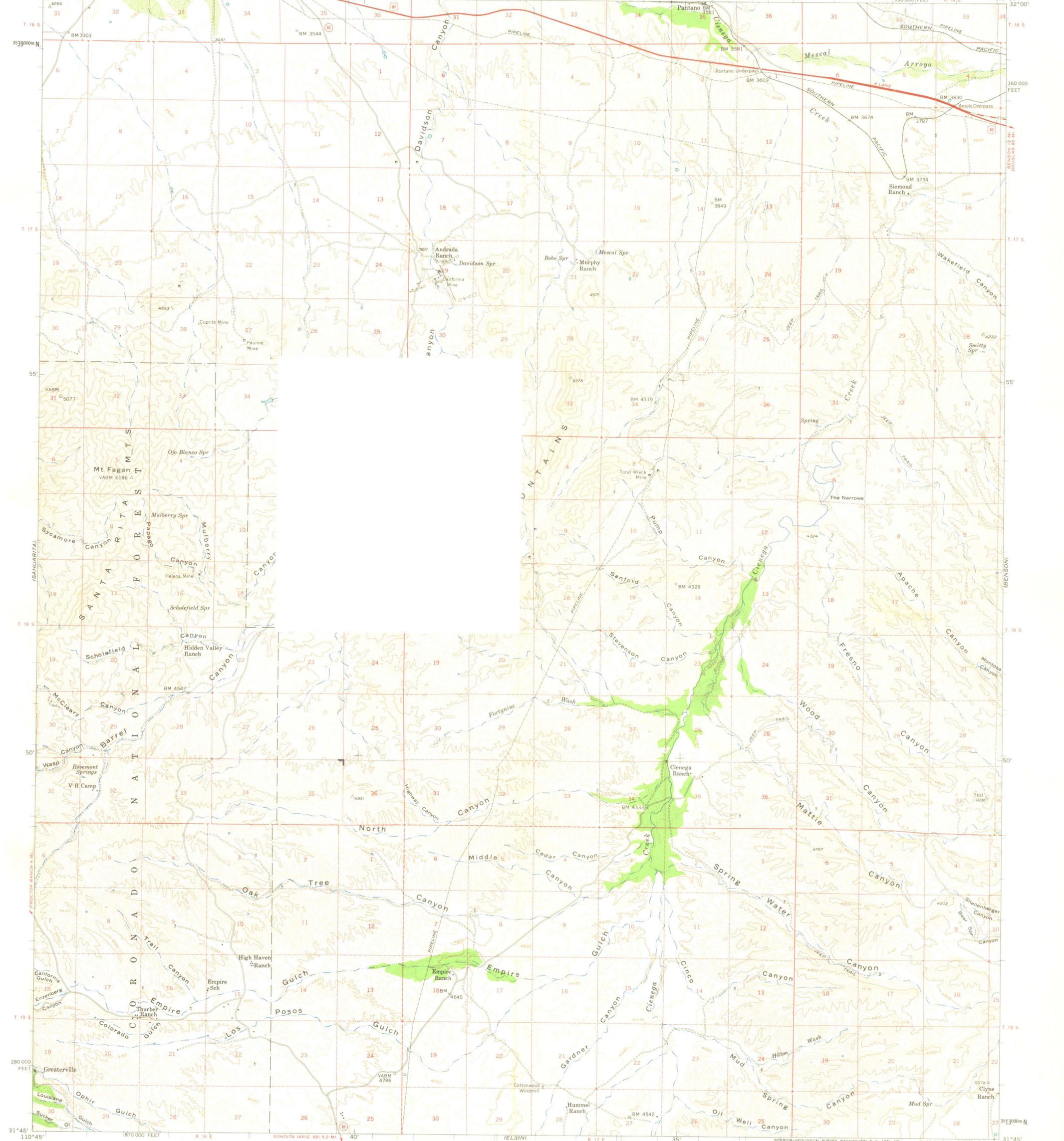
Two lines were surveyed, both on a 500 foot dipole spacing and bearing E-W. This gives a total surface coverage of 12,000 feet of which 7,000 feet is "subsurface" plotted data. For details of location, see the attached plan.

The induced polarization data were taken with the dual frequency system utilizing sending frequencies of 0.05 and 3.0 Hz. The conventional collinear dipole-dipole array was the electrode configuration used, which for a 500 foot dipole spacing gives resolvable penetration within the zone from about 150 feet to at least 600 feet below surface.

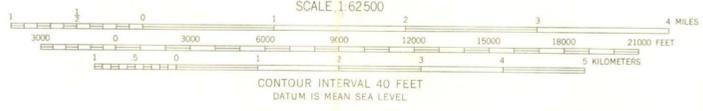
The purpose of the survey was to detect any sulfide zone related to a surface copper show in a contact metamorphic zone.

Data are presented on sectional data sheets, one for each line showing resistivity, percent frequency effect (PFE) and metallic conduction factor (MCF) contoured in section with self potential (SP) in profile form. For additional details of interpretation, theory and presentation, see the Basis of the Induced Polarization Method appended herewith.

Heinrichs personnel involved in the field work were R. Fedelchak, geophysical crew chief, M. Fraker, D. Pitpitan,



Mapped, edited, and published by the Geological Survey
 Control by USGS, USC&GS and USCE
 Topography from aerial photographs by ER-55 plotter
 Aerial photographs taken 1955. Field check 1958
 Polyconic projection. 1927 North American datum
 10,000-foot grid based on Arizona coordinate system, central zone
 1000-meter Universal Transverse Mercator grid ticks,
 zone 12, shown in blue
 Dashed land lines indicate approximate locations
 Unchecked elevations are shown in brown



ROAD CLASSIFICATION

Heavy-duty	Light-duty
Medium-duty	Unimproved dirt
U.S. Route	State Route

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
 FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D. C.
 A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

EMPIRE MOUNTAINS, ARIZ.
 N3145-W11030/15
 1958

and R. Elliott, technical assistants. Report and interpretation by Chris S. Ludwig, Senior Geophysicist with the assistance of the Geox staff.

CONCLUSIONS, RECOMMENDATIONS AND INTERPRETATION

No anomalous induced polarization response was seen on either line thereby showing a lack of any significant quantity of sulfide mineralization (say greater than 0.5% by volume) in the vicinity of the lines down to at least 600 feet.

The background polarization decreases with depth and therefore any minor quantity of sulfide, if present, probably lessens with depth.

The resistivity is fairly homogeneous but quite high, suggestive of a tight, massive rock type with very little moisture. There could possibly be a rock type change east of about 15E on both lines as the resistivity shows a minor flexure there.

Self potentials show only typical background variations suggestive of a lack of any significant quantity of oxidizing sulfide within several hundred feet of the surface - in accord with the induced polarization results.

No further electrical work is recommended here unless of a more broad reconnaissance nature. We believe the Empire Mountain Area to have considerable potential and a regional geologic-geophysical program could be fruitful.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

Chris S. Ludwig

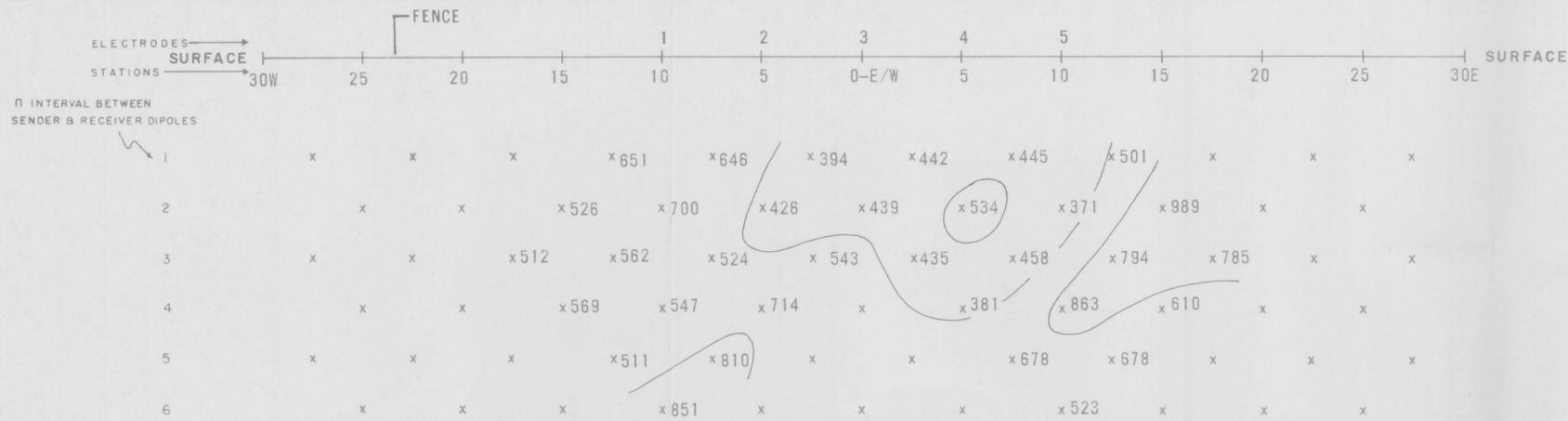
Chris S. Ludwig
Senior Geophysicist

APPROVED:

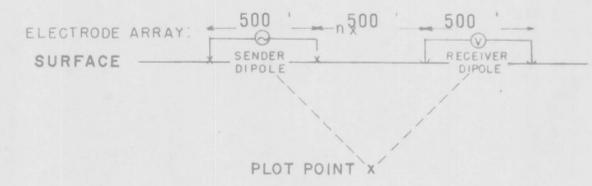
E. Grover Heinrichs

E. Grover Heinrichs
Vice President

Tucson, Arizona
December 1, 1967



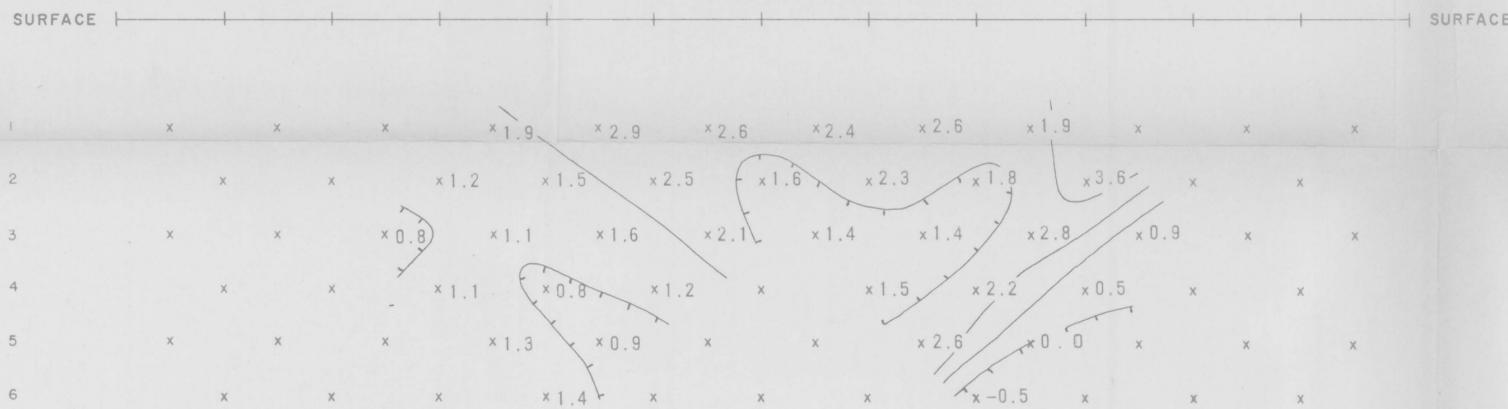
EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING NORTH



RECUERDO CLAIM GROUP AREA

SECTIONAL DATA SHEET

LINE NO. 1

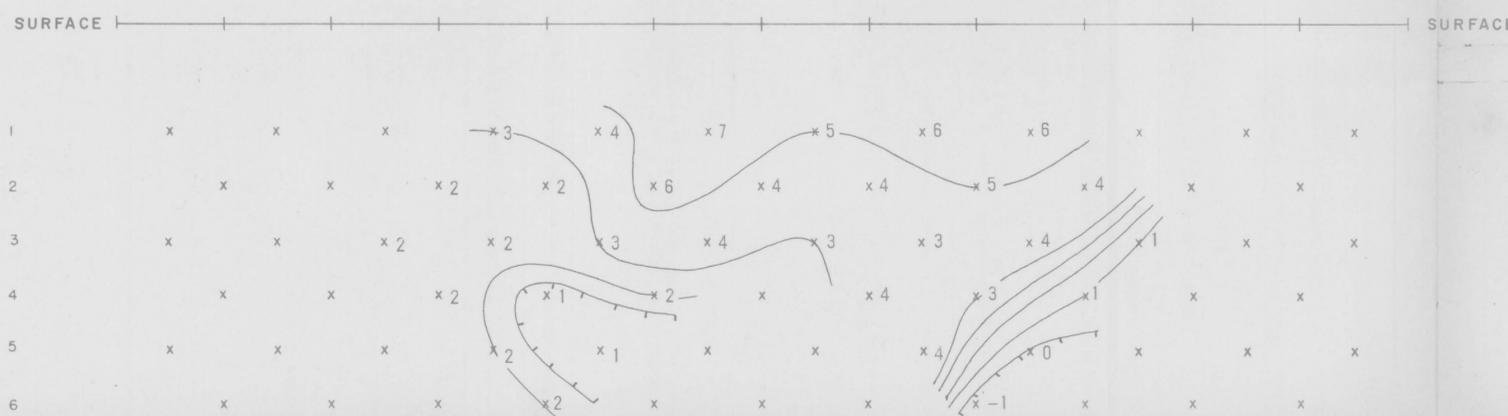
INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 500' DATE: NOV 1967

FOR

NORTH AMERICAN MINES, INC.



SELF POTENTIAL

