CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the Walter E. Heinrichs, Jr. Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

NORTH AMERICAN MINES, INC.

QUINCY A. SHAW, JR., PRESIDENT
H. L. TALBOT, VICE-PRESIDENT & SEC.-TREAS.

60 STATE STREET
BOSTON, MASS. 02109

TELEPHONE
AREA CODE 617
523-8110

H. GRATTAN LYNCH, WESTERN REPRESENTATIVE

501 W. CONGRESS STREET
TUCSON, ARIZONA

TELEPHONE
AREA CODE 602
623-9431

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MT. PERKINS QUADRANGLE
ARIZONA–NEVADA
15 MINUTE SERIES (TOPOGRAPHIC)

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography from aerial photographs by photogrammetric methods
Aerial photographs taken 1954. Field check 1959

Polyconic projection. 1927 North American datum
10,000-foot grids based on Arizona coordinate system,
west zone and Nevada coordinate system, east zone
1000-meter Universal Transverse Mercator grid ticks,
zone 11, shown in blue

Dashed land lines indicate approximate locations
Land lines unsurveyed in Ts. 27 and 28 S.–R. 66 E.,
and parts of T. 25 N.–R. 22 W. and Ts. 26 and 27 N.–R. 21 W.

TRUE NORTH
MAGNETIC NORTH
15½°
APPROXIMATE MEAN DECLINATION, 1959

SCALE 1:62 500

1 ½ 0 1 2 3 4 MILES

3000 0 3000 6000 9000 12000 15000 18000 21000 FEET

1 .5 0 1 2 3 4 5 KILOMETERS

CONTOUR INTERVAL 80 FEET
DATUM IS MEAN SEA LEVEL

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

ARIZONA
QUADRANGLE LOCATION

ROAD CLASSIFICATION

Medium-duty — Light-duty

Unimproved dirt

U. S. Route — State Route

The west half of this area also covered by
1:24 000-scale maps of Fire Mountain and Mt. Davis,
7.5 minute quadrangles, surveyed 1959

MT. PERKINS, ARIZ.–NEV.
N3530—W11430/15

1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MT. PERKINS QUADRANGLE
ARIZONA–NEVADA
15 MINUTE SERIES (TOPOGRAPHIC)

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography from aerial photographs by photogrammetric methods
Aerial photographs taken 1954. Field check 1959

Polyconic projection. 1927 North American datum
10,000-foot grids based on Arizona coordinate system, west zone and Nevada coordinate system, east zone
1000-meter Universal Transverse Mercator grid ticks, zone 11, shown in blue

Dashed land lines indicate approximate locations
Land lines unsurveyed in Ts. 27 and 28 S.–R. 66 E., and parts of T. 25 N.–R. 22 W. and Ts. 26 and 27 N.–R. 21 W.

15½°
TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1959

SCALE 1:62500

1 ½ 0 1 2 3 4 MILES

3000 0 3000 6000 9000 12000 15000 18000 21000 FEET

1 .5 0 1 2 3 4 5 KILOMETERS

CONTOUR INTERVAL 80 FEET
DATUM IS MEAN SEA LEVEL

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

ARIZONA
QUADRANGLE LOCATION

ROAD CLASSIFICATION

Medium-duty — Light-duty

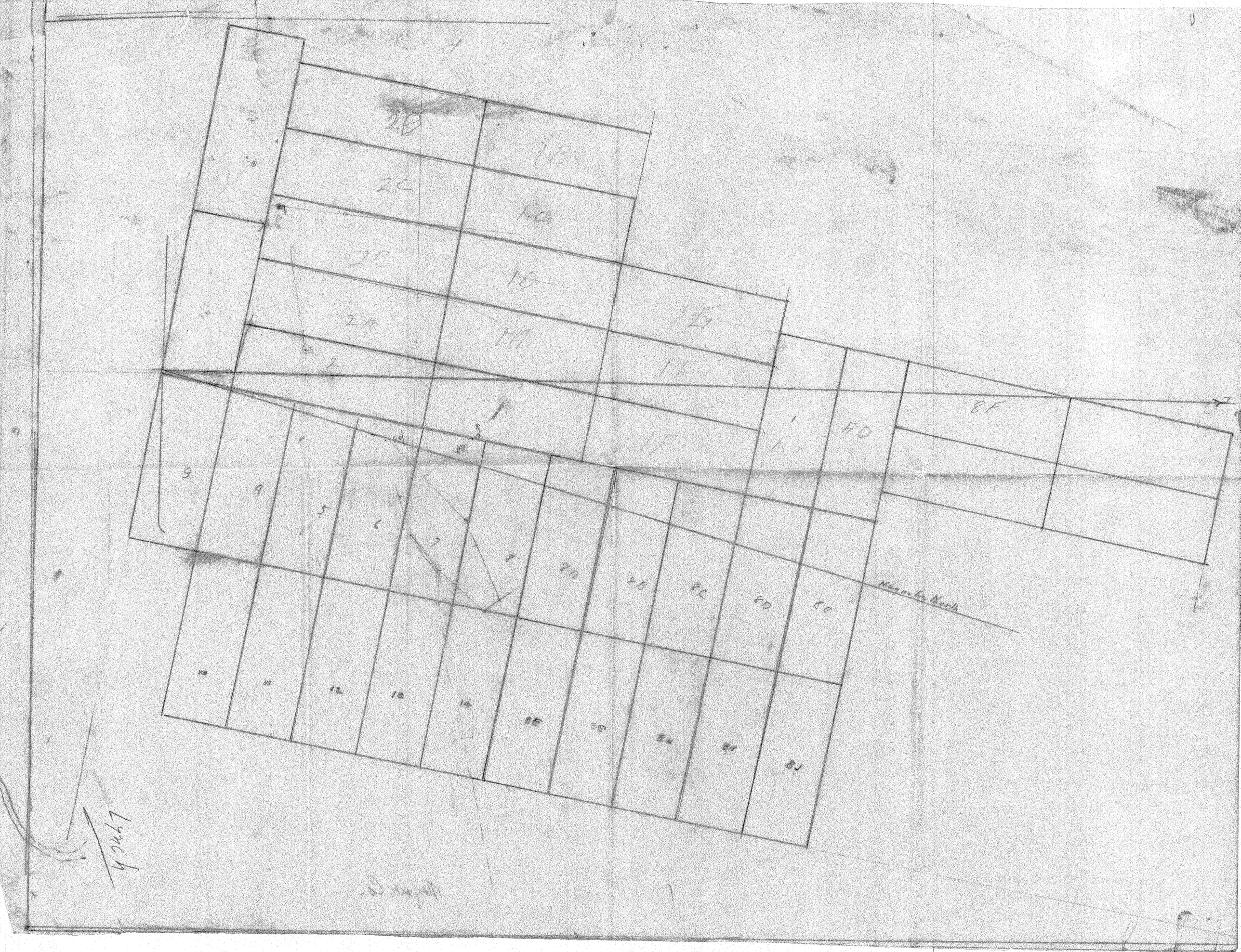
Unimproved dirt

U. S. Route — State Route

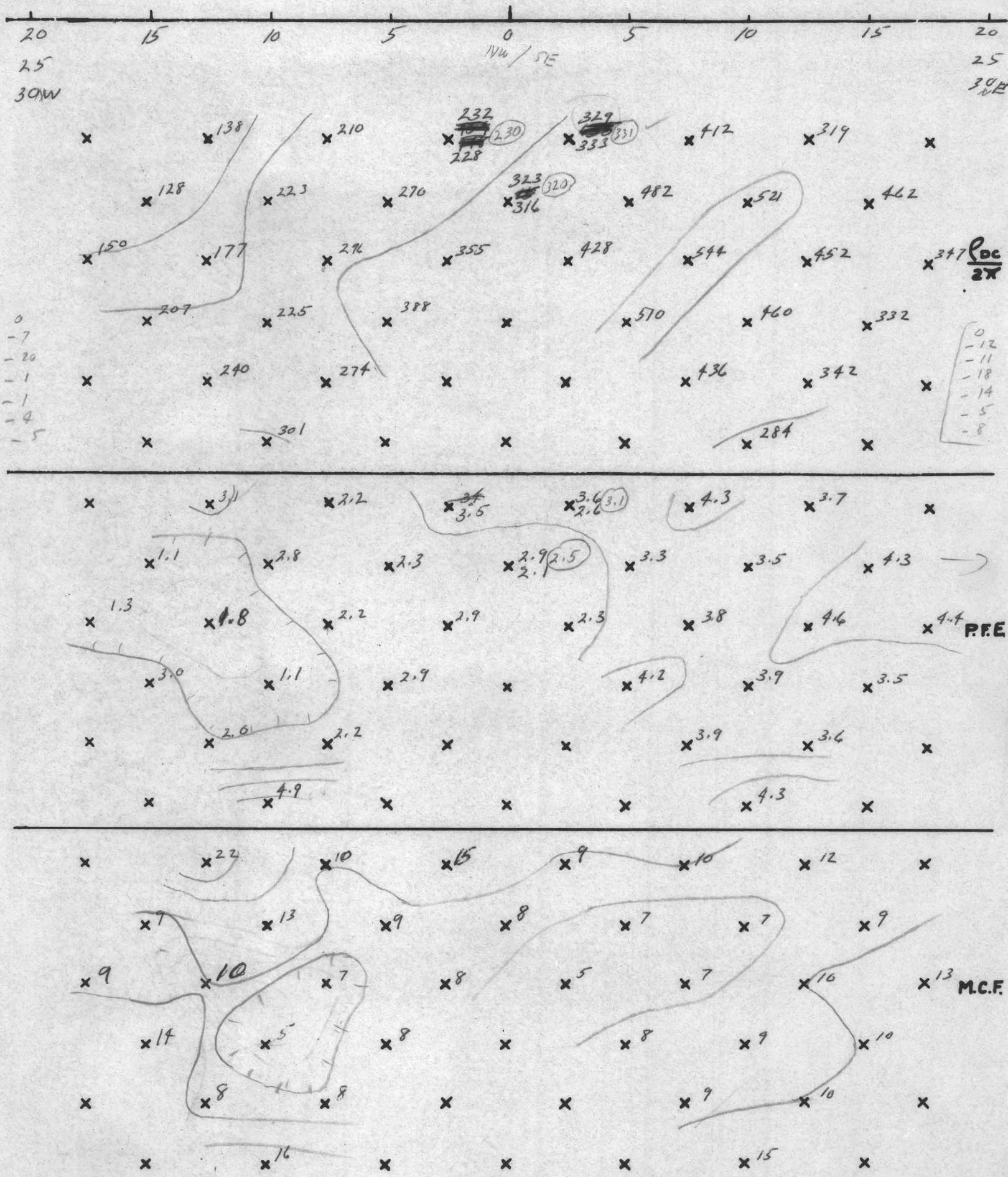
The west half of this area also covered by 1:24 000-scale maps of Fire Mountain and Mt. Davis, 7.5 minute quadrangles, surveyed 1959

MT. PERKINS, ARIZ.–NEV.
N3530—W11430/15

1959

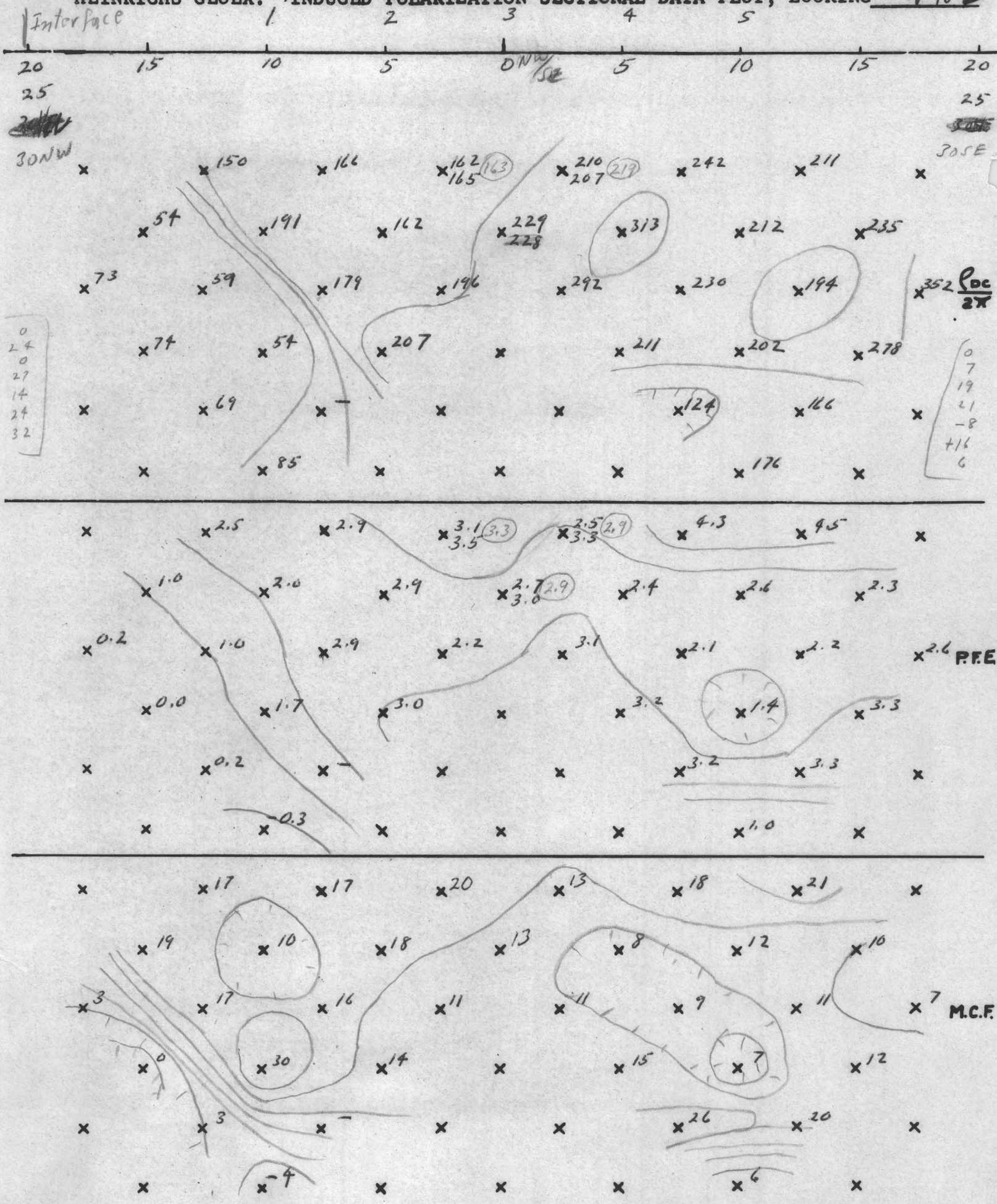

Magnetic North

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING N27°E



AREA North American Mines LINE 1 a = 520' SCALE: DATE: Nov 29 67

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING N 48° E



Lazy 3 Area

AREA North American Minps LINE 2 a = 500' SCALE: _____ DATE: Nov 30

INDUCED POLARIZATION SURVEY

LAZY 3 AREA

BLACK MOUNTAINS, MOHAVE COUNTY, ARIZONA

For

North American Mines, Inc.

November 1967

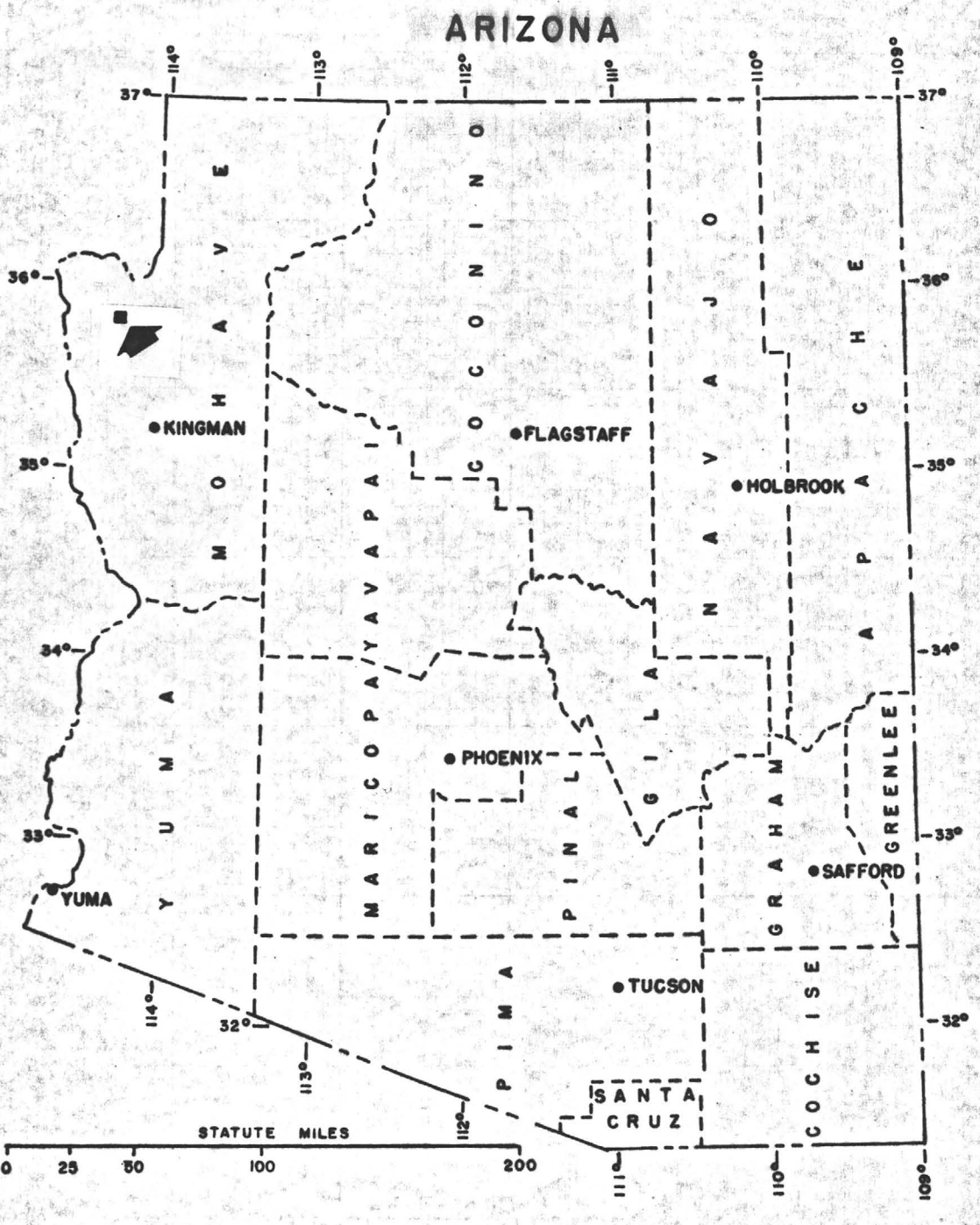
By

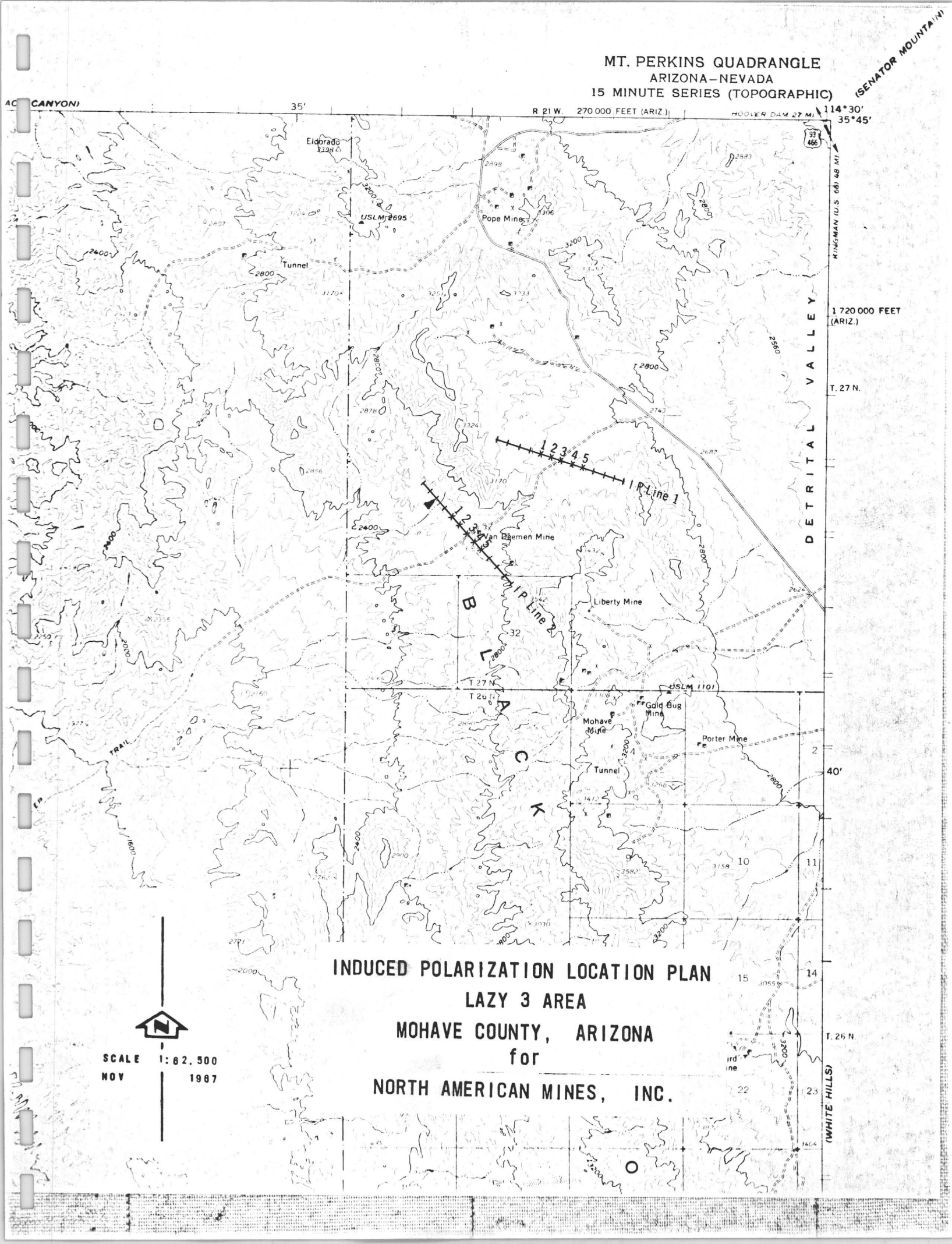
Heinrichs Geoexploration Company
P. O. Box 5671 Tucson, Arizona 85703
Phone: 623-0578 Area Code: 602

TABLE OF CONTENTS

	PAGE
GENERAL LOCATION	
INDUCED POLARIZATION LOCATION PLAN	
INTRODUCTION	1
CONCLUSIONS, RECOMMENDATIONS, AND INTERPRETATION	2
BASIS OF THE INDUCED POLARIZATION METHOD	1a
IN MAP POCKET: (Total: 2 pieces)	
Sectional Data Sheets	
Line 1 (a=500')	
Line 2 (a=500')	

GENERAL LOCATION OF
LAZY 3 AREA
MOHAVE COUNTY, ARIZONA




MT. PERKINS QUADRANGLE
ARIZONA–NEVADA
15 MINUTE SERIES (TOPOGRAPHIC)
(SENATOR MOUNTAIN)
CANYON)
35'
R 21 W.
270 000 FEET (ARIZ.)
HOOVER DAM 27 MI.
114°30'
35°45'
93
466
KINGMAN (U.S. 66) 48 MI.
Eldorado
USLM 2695
Pope Mine
Tunnel
1 720 000 FEET
(ARIZ.)
T. 27 N.
DETRITAL VALLEY
1 2 3 4 5
IP Line 1
1 2 3 4 5
IP Line 2
Van Deemen Mine
Liberty Mine
BLACK
T 27 N
T 26 N
USLM 1101
Gold Bug Mine
Mohave Mine
Porter Mine
Tunnel
40'
TRAIL
T. 26 N.
(WHITE HILLS)
INDUCED POLARIZATION LOCATION PLAN
LAZY 3 AREA
MOHAVE COUNTY, ARIZONA
for
NORTH AMERICAN MINES, INC.
SCALE 1:62,500
NOV 1987

INTRODUCTION

At the request of Mr. H. G. Lynch of North American Mines, Inc., Heinrichs Geoexploration Company conducted and completed an initial reconnaissance induced polarization survey over parts of the Lazy 3 Area near the Van Deeman Mine, Black Mountains, Mohave County, Arizona. The field work was surveyed during the interim November 27 to December 1, 1967.

Two lines were run, both on a 500 foot dipole spacing giving a total of 12,000 feet of surface coverage of which 7,000 feet is "subsurface" plotted data. Line 2 was oriented N42W and centered just west of the Van Deeman Mine. Line 1 was centered about one mile northeast of Line 2 and oriented N73W.

The dual frequency system was employed in obtaining the induced polarization data and with sending frequencies of 0.05 and 3.0 Hz. The electrode configuration used was the conventional collinear dipole-dipole array which on a dipole spacing of 500 feet should give resolvable penetration in the zone from 150 to 600 feet below surface.

The purpose of this survey was to locate any sulfide bodies possibly related to an oxidized copper-gold show and to map any electrically responsive structures.

The data are presented on Sectional Data Sheets, one for each line with resistivity, percent frequency effect (PFE) and metallic conduction factor (MCF) contoured in section and self potential (SP) in profile form. An Induced Polarization Location Plan is presented to show the line locations relative to the old workings and topography using a portion of the U.S.G.S. 15 minute Mt. Perkins Quadrangle as a base. For additional details concerning theory, interpretation, and presentation, see the Basis of the Induced Polarization Method appended to this report.

Heinrichs personnel involved in the field work were R. Fedelchak, geophysical crew chief, R. Elliott and D. Pitpitan, technical assistants. Report and interpretation by Chris S. Ludwig, Senior Geophysicist with the assistance of the Geoex staff.

CONCLUSIONS, RECOMMENDATIONS, AND INTERPRETATION

No concentrations of sulfides are indicated on either line. The background response is somewhat higher than average but total sulfide content over the zones surveyed is likely less than 0.5% by volume down to at least 600 feet depth.

This background response appears to diminish with depth and could be due to clay resulting from surface weathering. However, the resistivity suggests a fairly uniform material except for a decrease to the northwest.

The sharp decrease in resistivity northwest of 20NW, Line 2 is interpreted as a rock change (contact or fault perhaps) near 20NW and correlating with an arroyo as seen on the topographic map. The material northwest of this interface is very low in polarization response and is therefore not of interest except perhaps structurally.

The background polarization response shows a slight increase to the southeast although not enough to warrant extending the lines unless there is supporting and encouraging geology in that direction.

The self potentials show only typical background variation suggesting a lack of significant quantities of oxidizing sulfides within several hundred feet of the surface, in support of the I.P. data.

No further work is recommended here unless new, encouraging geological evidence is presented or a more regional survey is desired.

Very truly yours,

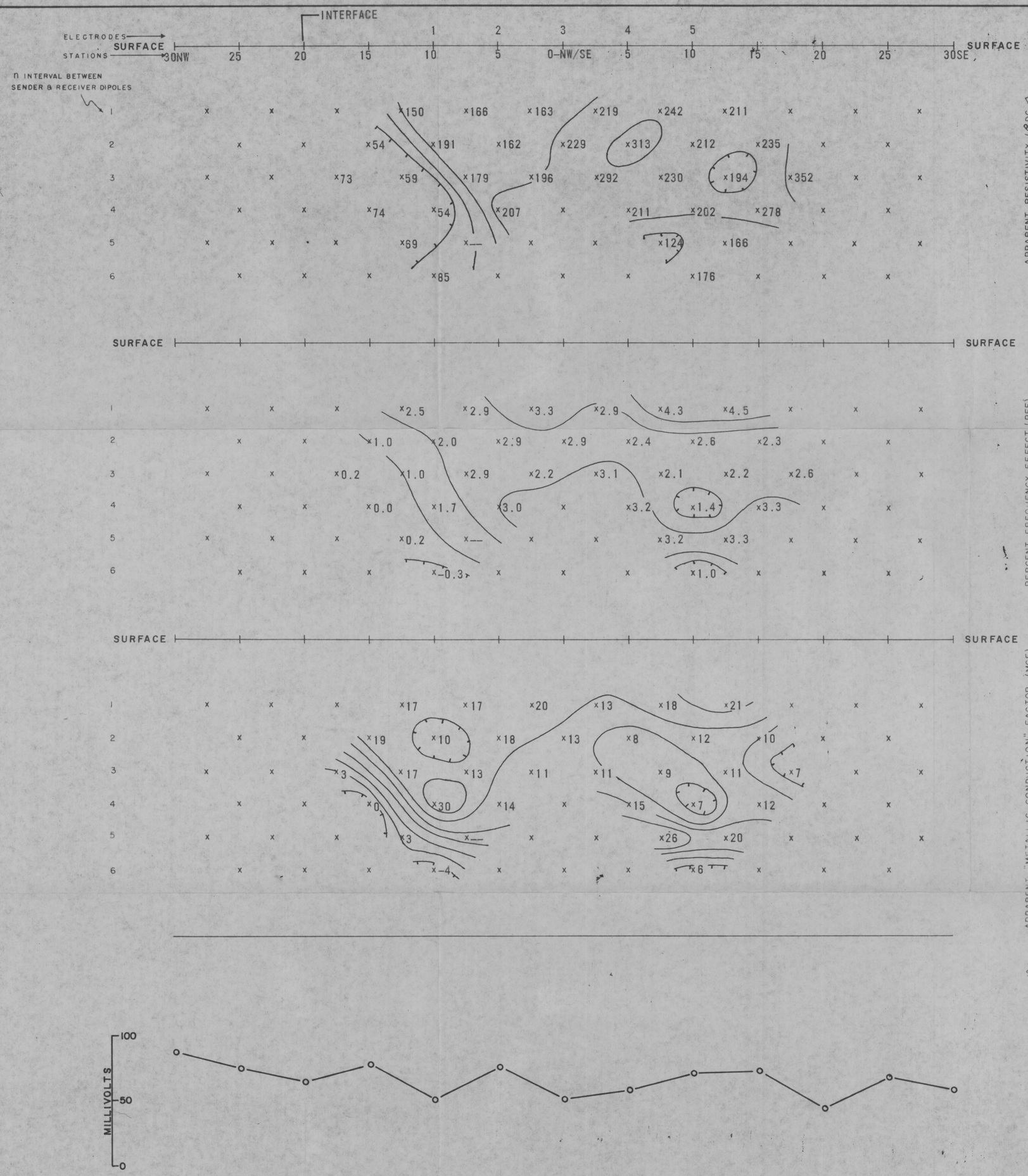
HEINRICHS GEOEXPLORATION COMPANY

Chris S. Ludwig

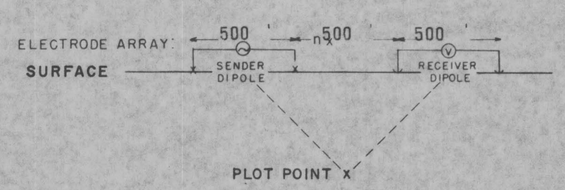
Chris S. Ludwig
Senior Geophysicist

APPROVED: _____
E. Grover Heinrichs
Vice President

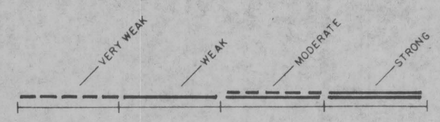
December 21, 1967
Tucson, Arizona



EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING N48°E

LAZY 3 AREA.

SECTIONAL DATA SHEET

LINE NO. 2

INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

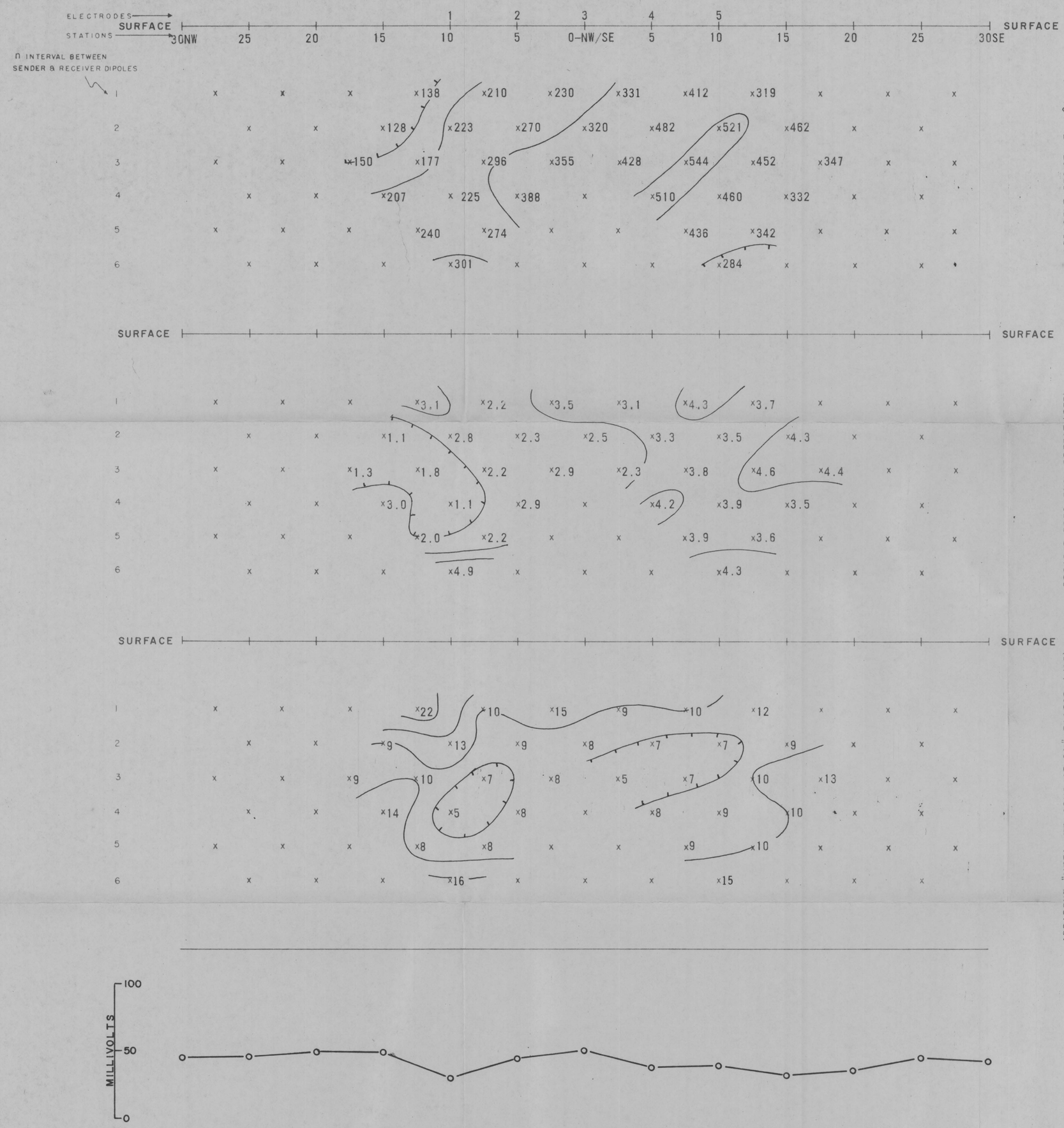
SCALE: 1" = 500' DATE: NOV 1967

FOR

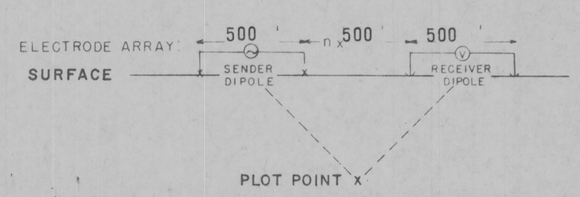
NORTH AMERICAN MINES, INC

SELF POTENTIAL

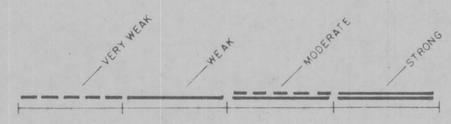
HEINRICHS
GEOEXPLORATION COMPANY
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
Phone: 602/623-0578 Cable: GEOEX, Tucson
vancouver
sydney
geophysical engineers



EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING N27°E

LAZY 3 AREA

SECTIONAL DATA SHEET

LINE NO. 1

INDUCED POLARIZATION TRAVERSE

HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 500' DATE: NOV 1967

FOR

NORTH AMERICAN MINES, INC.

HEINRICHS
GEOEXPLORATION COMPANY
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
Phone: 602/623-0578 Cable: GEOEX, Tucson
geophysical engineers
vancouver
sydney