

LEGEND

- ▲ Oil Well Converted To Water Injection
- Tract Number
- Unit Boundary
- Initial Participating Area
- Federal Land
- Navajo Tribal Land
- Ute Mountain Tribal Land
- State of New Mexico Land
- Navajo Allotted Land
- Commitment in Tracts by Working Interests

EXHIBIT NO. 3
 TRACT MAP
 HORSESHOE-GALLUP UNIT
 SAN JUAN COUNTY, NEW MEXICO

SCALE

0 1000 2000 3000 4000
 0 1 2 3 4
 0 1 2 3 4
 FT. METERS

T. 8 N
 T. 9 N
 T. 10 N
 T. 11 N
 T. 12 N
 T. 13 N
 T. 14 N
 T. 15 N

R. 17 W.

R. 16 W.

RESERVATION

NAVAJO INDIAN RESERVATION
 UTE INDIAN RESERVATION

UTE INDIAN RESERVATION

- LEGEND**
- ▲ Oil Well Converted To Water Injection
 - Tract Number
 - Unit Boundary
 - Initial Porting Area
 - Federal Land
 - Navajo Tribal Land
 - Ute Mountain Tribal Land
 - State of New Mexico Land
 - Navajo Allotted Land
 - Committed in Tracts by Royalty Interests

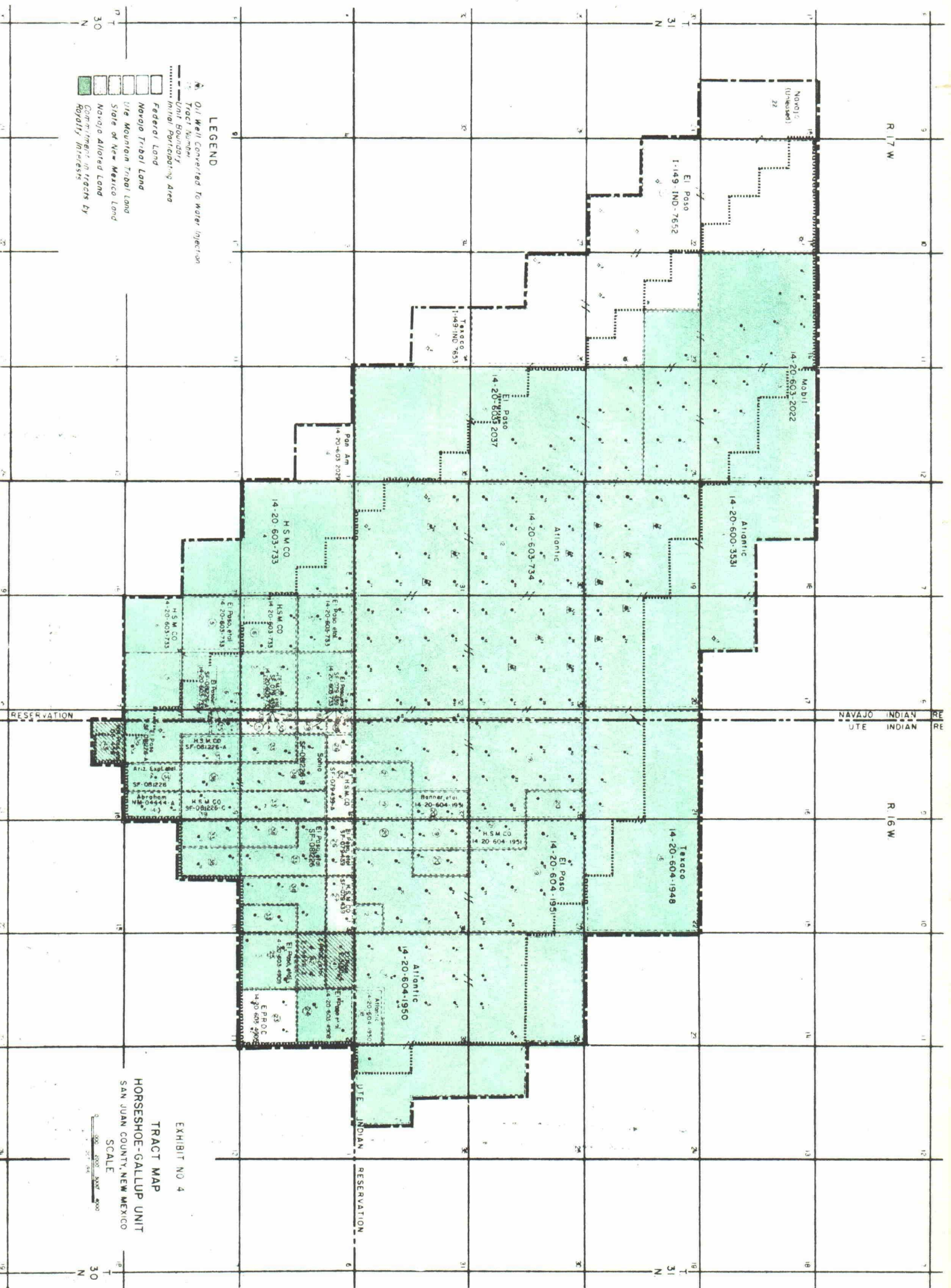


EXHIBIT NO 4
 TRACT MAP
 HORSESHOE-GALLUP UNIT
 SAN JUAN COUNTY, NEW MEXICO



T 31 N
 R 17 W
 R 16 W
 T 31 N

SCHLUMBERGER WELL SURVEYING CORPORATION



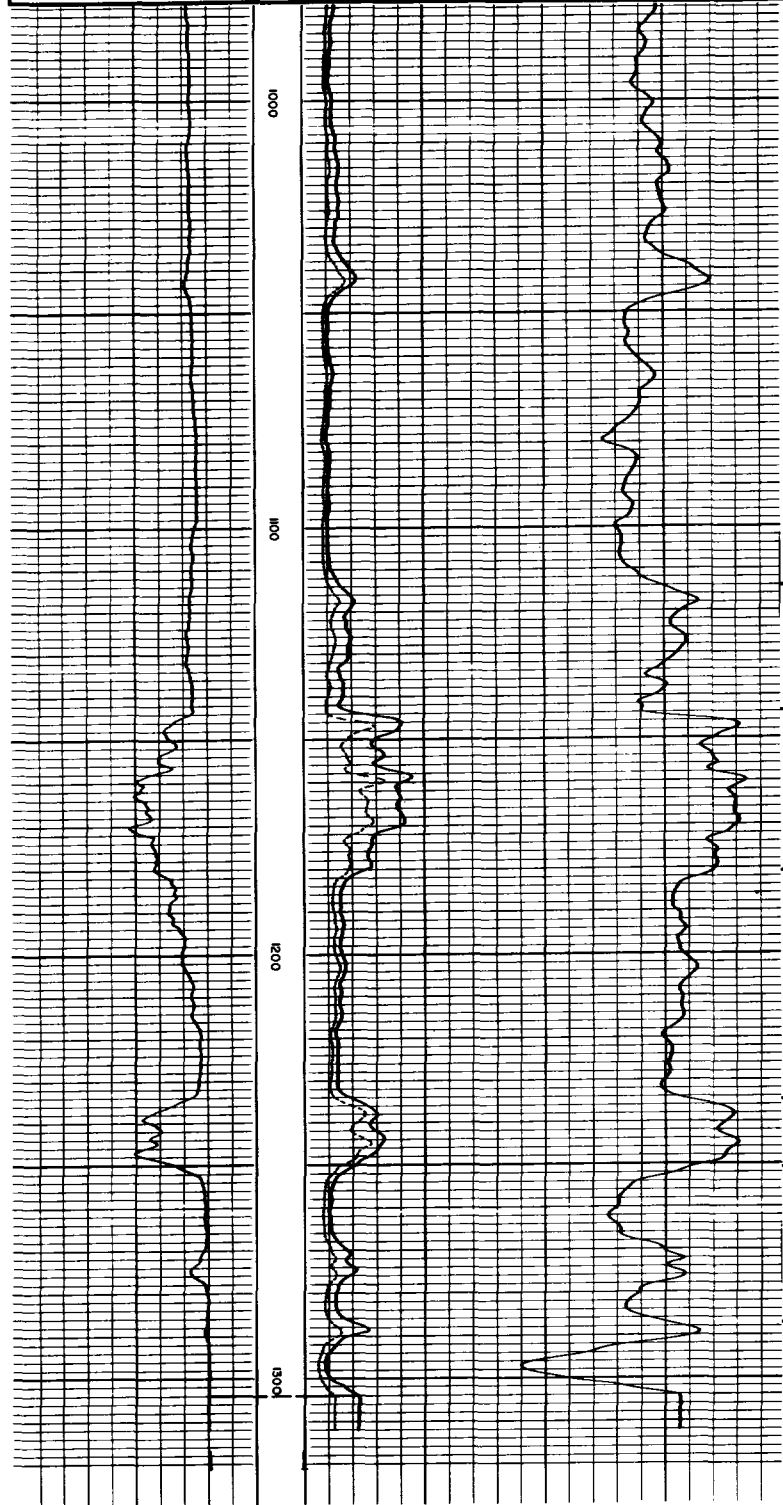
Geophysical Logging

COUNTY SAN JUAN, N.M. FIELD LOCATION HORSESHOE CANYON WELL NAVAJO #17		COMPANY ATLANTIC REFINING COMPANY COMPANY ATLANTIC REFINING COMPANY WELL NAVAJO #17 FIELD HORSESHOE CANYON LOCATION SEC. 31-31N-16W COUNTY SAN JUAN STATE NEW MEXICO		Other Surveys SL <input type="checkbox"/> Location of Well 660' FR N/L 1280' FR W/L SEC. 31-31N-16W	
BIN No. ONE Date 12-3-58 First Reading 1304 Last Reading 97 Log. Measured 1207 Cdr. Schum. Cdr. Diller Depth Measured 1110 Depth Other 1210 Mud No. 12 Mud Vol. 12 Mud Wt. 12 Mud Visc. 12 Mud Resist. 12 Ref. BH 12 Ref. 12 Ref. 12 pH 12 Wt. Loss 12 Bit Size 12 Sp. AM 12 MN 12 IND 12 Op. Rig Time 12 Tract No. 12 Recorded By 12 Witness 12		Elevation D.E. 5457' K.A. 5457' or G.L. 5450' FILING No.		MR. SIEBELS - MR. BAKER	

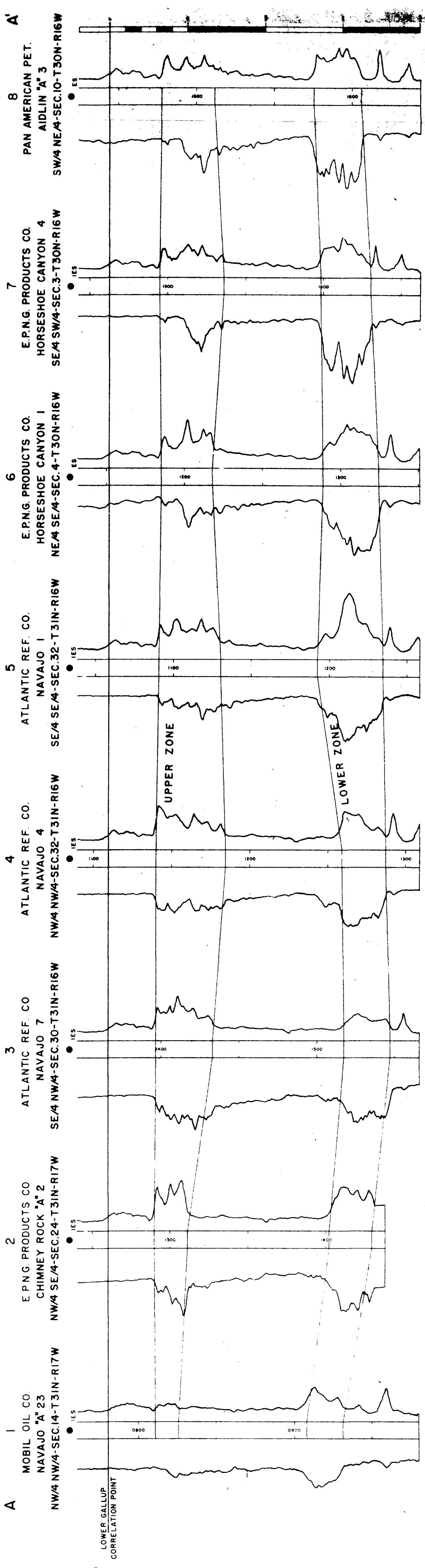
THE ATLANTIC REFINING CO.
 EXHIBIT NO. 5
 TYPE LOG
 HORSESHOE - GALLUP UNIT

DETAIL LOG
 5" = 100'

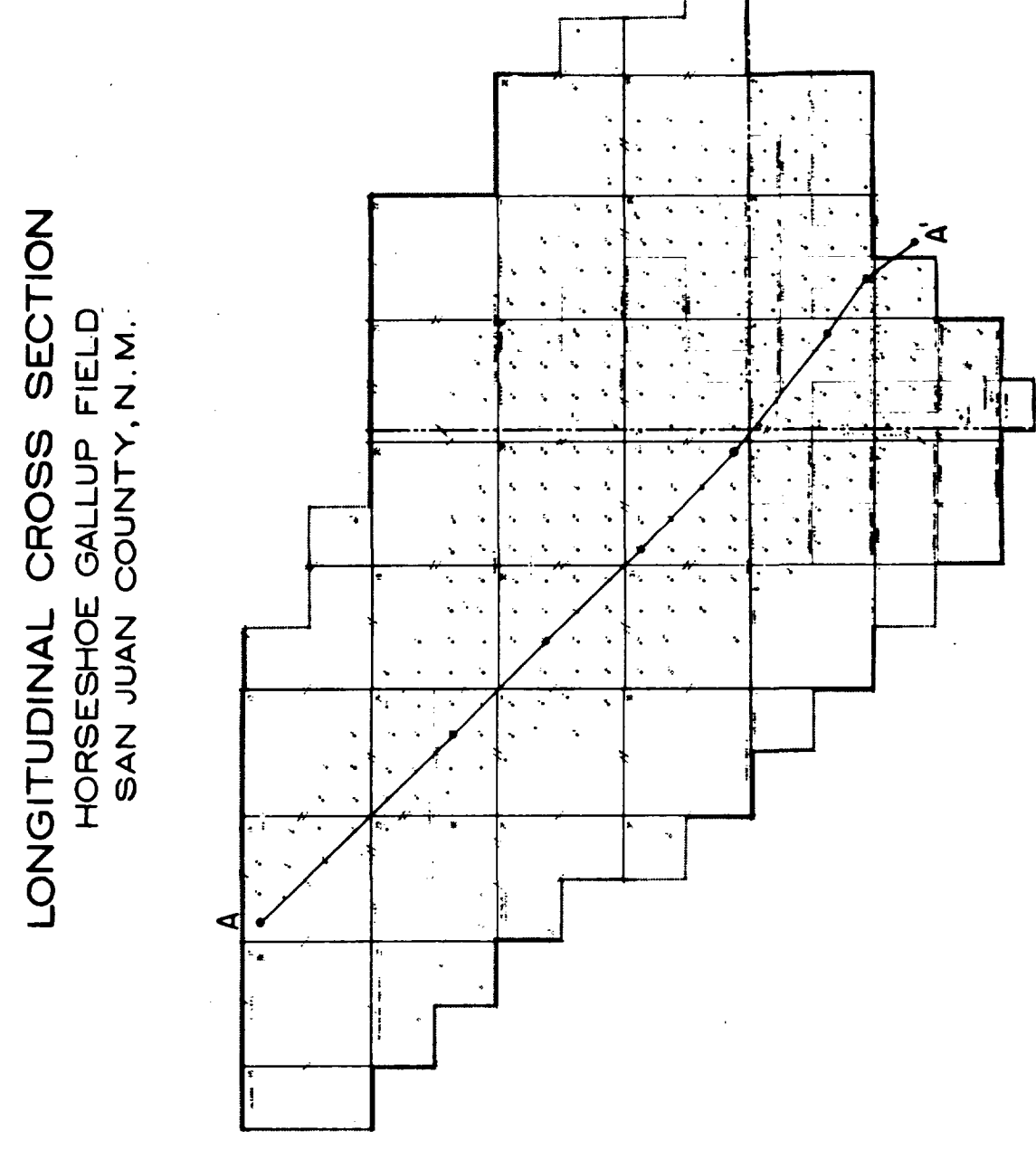
SPONTANEOUS-POTENTIAL millivolts	CONDUCTIVITY millimhos/m	
	$\frac{1000}{\text{ohms. m}^2/\text{m}}$	
	INDUCTION	0
	200	400
	600	400
	400	0
RESISTIVITY ohms. m ² /m		
16" NORMAL		
0	100	
0	1000	
INDUCTION		
0	100	
0	1000	



- LOWER GALLUP CORRELATION POINT
- TOP UPPER TOCITO
- BASE UPPER TOCITO
- TOP LOWER TOCITO
- BASE LOWER TOCITO
- TOP OF JUANA LOPEZ



THE ATLANTIC REFINING COMPANY
 HORSESHOE GALLUP FIELD
 SAN JUAN COUNTY, N.M.
 EXHIBIT NO. 6



A

LOWER GALLUP
CORRELATION POINT

UPPER ZONE

LOWER ZONE

1
MOBIL OIL CO.
NAVAJO "A" 23
NW/4 NW/4-SEC.14-T31N-R17W

2
E.P.N.G. PRODUCTS CO.
CHIMNEY ROCK "A" 2
NW/4 SE/4-SEC.24-T31N-R17W

3
ATLANTIC REF. CO.
NAVAJO 7
SE/4 NW/4-SEC.30-T31N-R17W

4
ATLANTIC REF. CO.
NAVAJO 4
NW/4 NW/4-SEC.32-T31N-R16W

5
ATLANTIC REF. CO.
NAVAJO 1
SE/4 SE/4-SEC.32-T31N-R16W

6
E.P.N.G. PRODUCTS CO.
HORSESHOE CANYON 1
NE/4 SE/4-SEC.4-T30N-R16W

7
E.P.N.G. PRODUCTS CO.
HORSESHOE CANYON 4
SE/4 SW/4-SEC.3-T30N-R16W

8
PAN AMERICAN PET.
AIDLIN "A" 3
SW/4 NE/4-SEC.10-T30N-R16W

A'

LONGITUDINAL CROSS SECTION
 HORSESHOE GALLUP FIELD
 SAN JUAN COUNTY, N.M.

THE ATLANTIC REFINING COMPANY
 HORSESHOE GALLUP FIELD
 SAN JUAN COUNTY, N. M.

B
 1 ATLANTIC REF. CO. NAVAJO 31 SE/4 SW/4-SEC.31-T3IN-R16W
 2 ATLANTIC REF. CO. NAVAJO 28 NW/4 SE/4-SEC.31-T3IN-R16W
 3 ATLANTIC REF. CO. NAVAJO 16 SE/4 NE/4-SEC.31-T3IN-R16W
 4 ATLANTIC REF. CO. NAVAJO 4 NW/4 NW/4-SEC.32-T3IN-R16W
 5 ATLANTIC REF. CO. NAVAJO 12 SE/4 SW/4-SEC.29-T3IN-R16W
 6 ATLANTIC REF. CO. NAVAJO 22 NW/4 SE/4-SEC.29-T3IN-R16W
 7 ATLANTIC REF. CO. NAVAJO 25 SE/4 NE/4-SEC.29-T3IN-R16W
 8 E.P.N.G. PRODUCTS CO. HORSESHOE-UTE 40 NE/4 NW/4-SEC.28-T3IN-R16W
 9 TEXACO, INC. NAVAJO UTE MTN. TRIBAL "B"2 SW/4 SE/4-SEC.21-T3IN-R16W

