[redacted]

N-P

ARKLA EXPLORATION NMA CORE TEST No. 17
SW/NE Sec 9-T16N-R23E, Navajo 9-15

County NAVAJO

Area

Lease No.

Well Name ARKLA EXPLORATION CO. NMA CORE TEST NO. 17 W.S. #2

Location SW NE Sec 9 Twp 16N Range 23E Footage 1980 FNL 1980 FEL

Elev 5444 Gr 5452 KB Spud Date 5-16-65 Completed Abandon 5-24-65 Total Depth 1420

Contractor Navajo Drilling Co.

Drilled by Rotary
Cable Tool

Casing Size	Depth	Cement

Production Horizon

Initial Production

REMARKS

Elec Logs GRN-7

Applic. to Plug Plugging Record Completion Report

Sample Log
Sample Descript.
Sample Set
Core Analysis
DSTs

Water well accepted by

Bond Co. & No.

Bond Am't $ Cancelled Date Organization Report

Filing Receipt Dated Well Book Plat Book

API No. 02-017-00259 Loc. Plat Dedication

Permit Number NONE Date Issued

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WELL NAME: AEC CORE TEST #17

LOCATION:

ELEVATION

SPUD MAY 16, 1965 - 10% @ 52' w/35 SACKS.

0-10'	CLY ST, WH-GREEN-MAROON 10%.
10-20'	AA AA AA 20%.
20-30'	AA AA LAVENDER AA TRC SD GYP.
30-40'	SAME - VERIGATED IN PART.
40-50'	AA, 30% LAV & RAROON TRC GYP.
50-60'	SH, GRY GEEEN-BRN.
60-70'	GREEN-LAV SH.
70-80'	SH-GRY GREEN-LAV.
80-90'	SH LAV & LIGHT GREEN WXY.
90-00'	SH BRN SLTY.
100-10'	SAME CONGLOMERATIC.
10-20'	AA W/ORNG CH.
20-30'	COLORED SH-CONG SD.
30-40'	AA.
40-50'	SH WH-PURP GREEN VERIGATED.
50-60'	SH-YELLOW PURP-RED-WH-VERIGATED IN PT.
60-70'	SAME.
70-80'	SLT ST RED.
80-90'	AA.
90-00'	SLT ST BRN CONG.
200-10'	LARGE GRN CONG SUB RD-SUB ORG, FROSTED-CLEAR-(50% COLORED CHERT).
10-20'	AA W/CONG BRN SLT (AA).
20-30'	INC IN CONG SLT SD CONSOLIDATED IN PT, (AA).
30-40'	SAME.
40-50'	SAME 40%, SLT ST RED.
50-60'	SH-LIGHT BLUE GREEN 70%.

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60-70'	SLT ST & SH RED-GREEN PCS CGS.
70-80'	SAME - BEC SDY & CONGLOMERATIC.
80-90'	SLT ST REDDISH BRN-CONG IN PT-SD-GREEN SLTY 20%.
90-00'	AA & SH AA AA, (BLK MIN FLECKS) TRS TAN LMY SLT ST.
300-10'	SD-RED-VFG-MICA SLT GLAVCONITIC-INT STL CLY ARG.
10-20'	SAME BEC MORE CONG PCS PURPLE SH, SH-SBY-LT GREEN 15% PCS DRK SMOKEY CH.
20-25'	SAME-BEC MORE ARG CONG-TRACE LM-GREEN VF XYLN PCS COLORED CHERT (COVERING?).
25-30'	AA 30%-BRN SH.
30-35'	AA GREEN & GRN CG SD (80% AA).
35-40'	70% BRN CONG SD-ARG, 30% CONG SD-GREEN-M GRAIN GLOW, RED SUB RD.
40-45'	CONG SD-COARSE GRAIN-YELLOW-BIN-GRN BLK MIN FLECKS.
45-50'	20% AS ABOVE - SD CONG GREEN.
50-55'	SH-RED SLTY-70%, AA.
55-60'	AA 100%.
60-65'	AA 50%, CONG SD RED GRN MICA.
65-70'	AA 40% AA AA AA & WH, 60%.
70-75'	AA, TRC GYP.
75-80'	WH CONG SD CG-GLAV-BLK MIN FLECKS, 20% AA.
80-85'	SH-RED & GREEN 70% CONG SD AS ABOVE.
85-90'	AA.
90-95'	AA.
95-00'	GYP.
400-05'	AA.
05-10'	GYP-RED & GRN SLT ST PCS PURP SH.
10-15'	SH-RED-GREEN GYP.
15-20'	AA CONG-CG YELLOW BRN- MC M GYP.
20-25'	AA.
25-30'	AA.
30-35'	AA.

35-40'	SH BEC BRN.
40-45'	LS?
45-50'	INC GREEN SH-PK SD PCS GREEN LS.
50-55'	PCS GREEN LS, PURP SH.
55-60'	SH BRN.
60-65'	SAME W/GREEN SH 20%.
65-70'	AA, AA, & LIGHT GREEN SLTY VFG SD.
70-75'	INC IN GYP AA.
75-80'	SH BRN SLTY.
80-85'	TRC BRN LS, SH AS ABOVE, 30% SD-GREEN VFG SLTY-CONG IN PT.
85-90'	SH BRN 90% INC IN LM & SDY DOL.
90-95'	AA.
95-00'	AA.
500-05'	SLT & SH REDDISH BRN PCS RED SAND-PCS GRY TRC SDY DOLO.
05-10'	SD-REDDISH ORG RED SUB RD-FG INT STL CLY.
10-15'	AA 40% GRY CLY ST 10%-SH RED, 50% PCS GRY DOLO SDY DNSE.
15-20'	INCREAS IN REDDISH ORG SD 60%, TRC SH SD-WELL CEMENTED W/INT STL DY, SH RED 40%, GYPY.
20-25'	SH & SLT ST-REDDISH BRN 90%, SD & DOLO AS ABOVE.
25-30'	AA 60%, DOL-BRN DNSE F XYLN-40%, TRC SH SD-FG INSTL CLY.
30-35'	COCONINO SAND.
35-40'	AA SD CG-CLEAR-RED-SUB RD WH PYRITIC CONSOLIDATED.
CIRC 10 MIN	AA SAME.
40-45'	SAME.
45-50'	AA SLIGHTLY PYRITIC MORE CGED BEC GYPY.
CIRC 10 MIN	AA.
945-970'	SD & SLT ST.
70-80'	SD-REDDISH ORG M-CG ARG, SLT ST RED SDY 20%.
80-90'	60% AA, TRC TAN DOLO SD VFG, SLT ST RED SDY 30%, 10% WH SD.
90-95'	30% AA, TRC GREEN VF XYLN DOLO-TRC S& P SAND DOLO, SH RED AA SLTY, SD 50%, 20% WH SD.
95-00'	30% AA, SH RED V SLTY SDY 50%, 30% WH SD.

1000-05' 70% SD ORG VERY SLTY (MUD STARTING TO BALL) DOLO GRY GRN-VF XYLN LMY 20%, 10% WH SH.

05-10' 90% SLT ST RED - SDY IN PT TRC TAN DOLO AA 10%.

10-15' AA.

15-20' DOLO BRN-VF XYLN-ANHY-WH & ANHY DOLO.

20-30' SH & SLT ST RED-90%-ANHY 10% PCS SOL AS ABOVE.

30-40' AA 85%, AA 15% TRC GRN SH.

40-45' AA 60%, AA 40% AA.

CIRC AA 70%, AA 30% AA.

CORRECTION 1045= 1048

48-50' SAME.

50-55' ANHY WH.

55-60' AA.

60-65' AA, TRC PK ANHY.

65-70' AA, AA TRC SILT STONE.

CIRC SLTY RED SH 90%, ANHY 10%.

70-75' AA 100%.

75-80' AA W/20% GREEN SLTY SH (30% ANHY).

80-85' AA 30%, ANHY-PK-WH 70%.

85-90' ANHY 100%.

90-95' AA, ANHY DULL GRY-BRN 70%.

95-98' SALT & SH.

WHIPSTOCK #1, CORE #1, 1098-1124 REC: 25'5"

1098-98½ SALT WHITE; 98½-04 70% SALT XYLN WH-30% RED SH IMP; 04-07½ 95% SALT WH-LARGE SALT XYLS-5% SH RED IMP; 07½-09½ 80% SALT WH, 20% RED SH IMP; 09½-14 90% SALT-10% RED SH IMP SCATTERED ANHY STRINGERS; 14-16½ SALT WH-PK-GRY-SCATTERED HAIRLINE FRACS FILLED W/ANHY; 16½-19 SALT 90% REDDISH COLOR-10% IMP; 19-20 SALT 100% 20-21½ REDDISH PK SALT W/ORG SALT BLOBS; 21½-22½ SALT-MILKY WXY LOOKING GRY W/ SCATTERED ORG BLEBS; 22½-23'5" ORANGE AND GRY SALT W/SCATTERED ORG BLEBS TRC GREEN SH INCL.

WHIPSTOCK #1 CORE #1, 1124-1150 RED: 26'3½"

1124-25 SH RED 90% SALT ORANGE INCL 10%; 25-30 AA 80% AA WH-20%; 30-40' SALT PK-95%, 5% RED SH IMPURITIES (38-40 ORANGE BLEBS); 40-42 SALT MILKY WHITE SLTGHT ORANGE TINT; 42-48 SH 90%-10% SALT

48-50' 3½" SALT 95%-5% IMPURITIES.

WHIPSTOCK #2, CORE #1, 1108-

1108-13 SALT WH 90%-10% SH RED IMP; 13-16 SALT PK & WH W/SCATTERED BANDS OF ANHY, 5% IMP; 16-18 AA WH 80%, 20% IMPS; 18-19½ SALT AS ABOVE W/BANDED ORG SALT; 19½-21 ORANGE SALT W/DRK ORG BLEBS-SYLVITE BLEBS; 21-23 MILKY SALT W/ORG BLEBS, 23 BISQUIT; 23-29½ SALT 20% SH RED 80%; 29½-35'3" SALT-WH PKISH ORG 95%, 5% IMP.

SH CORE #1, REC 50' 1105-1155

1105-08 SALT WH-LARGE XYLS, 95%-5% IMP; 08-10' SALT AA 80%, 20% IMP; 10-12 AA WH-PK 95% - 5% IMP; 12-16 SALT BANDED WH PK STINGERES ANHY; 16-17 SALT MILKY WH-DNSE WXY LOOKING; 17-19 SALT INCL 20%- SH RED SLTY W/GREEN SH BLEBS; 19-21½ SALT PK-W/ORANGE BLEBS-SYLVITE BLEBS; 21½-23 SALT MILKY WH-LARGE ORANGE BLEBS WH SYLVITE BLEBS; 23-24 DNSE SALT PK & WH SCATT ORG BLEBS-BISQUIT @ 1123.9; 24-28½ SALT 20% SHALE RED 80%; 28½-41 AA WH-PK, 90%, 10% SH IMP RED; 41-47 AA AA 20%, 80% SH IMP RED; 47-55 SALT PK-WH 95% - 5% SH IMP.

1155-60' SALT 80%, RED SLT 20%.

60-70' AA, AA.

70-80' AA 60%, AA 30%, ANHY 10%.

80-90' AA 75%, ANHY 25%.

90-00' AA 90%, RED SLT 10%, TRC ANHY.

1200-10' AA 90% AA 10%.

10-20' AA 40%. AA 50%, 10% ANHY.

20-30' AA 50%, AA 30%, 20% AA.

30-40' AA 70%, AA 30%.

40-50' AA 70%, AA 30%.

50-60' AA 90%, AA 10%, TRC ANHY.

60-70' AA 80%, AA 20%.

70-80' AA,70%, 30% ANHY.

80-90' AA 90%, 10% RED SLT.

90-00' SALT 70%, SLT ST RED 30%.

1300-10' AA, 90%, AA 10%.

10-20' AA 80%, AA 20%.

20-30' AA 70%, AA 30%.

30-40' AA 70%, AA 30%.

40-50'	SALT 80%, SLT ST RED 20%.
50-60'	AA 30% AA 60%, 10% ANHY.
60-70'	SLT ST RED 60%, 40% ANHY.
70-80'	DOLO BRN DNSE-SLTY VF XYLN 30%, 70% ANHY.
80-90'	AA 70%, GRN SLTY SOFT SD 30%.
90-00'	SLT ST RED 10%, AA 90%.
1400-05'	45% SALT, 45% RED SLT ST, 10% ANHY.
CIRC	SALT 30%, 70% RED SLT.

TEST COMPLETED & LOGGED 5:00A.M. MAY 24, 1965

DETAILED CORE DESCRIPTION

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WELL NAME: AEC #17 NMA CORE TEST

LOCATION:

ELEVATION:

CORE WS #1

1098-03.5-5.8	4" SALT CLEAR-22" SALT 50% SH-11" SALT 30% SH-14" SH 30% SALT-17" SALT 30% SH.
03.5-09.3-5.10	5" SALT 30% SH-39" SALT 20% SH-26" SALT 30% SH.
09.3-15-5.9	3" SALT 30% SH-26" SALT 10% IMP-23" SALT 30% SH-4" SALT 20% SH & ANHY-13" SALT VLT ORNG 10% ANHY.
15-20.8-5.9	21" SALT VLT ORNG TO CLEAR (TRS SYLVITE)-25" SALT 20% SH-23" SALT 10% IMP (SYLVITE & CARNALITE 1120.8).
20.8-27-5.7	31" SALT-SYLVITE & CARNALITE-1124-(BISCUIT THIN-HOT 1124)-36" SALT 50% SH.
27-32.7-5.8	27" SALT 40% SH-7" SALT 20% SH-34" SALT 10% IMP-TRS KCL-1132-1141 SYLVITE & CARNALITE.
32.7-38.3-5.7	44" SALT 10% IMP-23" SALT-TRS IMP VLT ORNG.
38.3-44-5.11	12" SALT 10% IMP-33" SALT VLT ORNG TRS KCL-9" SH 20% SALT-17" SALT 40% SH.
44-50-6	9" SALT 30% SH-14" SH 20% SALT-6" SALT 40% SH-43" SALT 30% SH.

CORE WS #2

1108-13.6-5.9	12" SALT 30% SH-24" SALT TRS IMP-18" SALT 20% SH-15" SALT 10% SH.
13.6-19.3-5.7	31" SALT VLT ORNG TRS ANHY, SYLVITE 1115-16-K_2O 16.3-23" SALT 20% SH-13" SALT 10% SH TR K_2O 1118.6.
19.3-24.8-5.7	4" SALT 20% SH-41" SALT-SYLVITE & CARNALITE 1120-1123-1" ANHY-(TWIN BISCUITS HOT V THIN-1123.1 & 1123.5)-21" SALT 50% SH.
24.8-30.5-5.10	25" SALT 30% SH TRC KCL (BISCUIT-HOT-CLEAR V THIN-1126.11)-14" SH 30% SALT-8" SALT 20% SH-CARNALITE & SYLVITE-9" SH 30% SALT-14" SALT 20% IMP CARNALITE & SYLVITE.
30.5-35.3-	21" SALT 20% IMP-8" SALT 10% IMP-10" SALT VLT ORNG CLEAR TR KCL-9" SALT 10% IMP-10" SALT 20% SH & ANHY.
1105-10.6-5.9	4" SALT, CLEAR-5" SALT 30% SH-7" SALT, CLEAR-8" SALT 20% SH-10" SALT 10% SH-1" SH (BISCUIT VV THIN-SL HOT 1107.10)-23" SALT 50% SH-7" SALT 30% SH-4" SALT VLT ORNG CLEAR TRS IMP.
10.6-16-5.5	15" SALT CLEAR TRS IMP-10" SALT 40% SH-7" SALT 20% SH-33" SALT VLT ORNG 5% ANHY PTNGS & INCLS.
16-21.1-5.4	11" SALT VLT ORNG TO CLEAR TR SYLVITE & RED-8" SALT 10% SH & ANHY-11" SALT 20% SH TR SYL-24" SALT 20% SH & ANHY TRS SYL-10" SALT 10%

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IMP TRS SYL & RED.

21.1-26.5-5.5½ 11" SALT TRS IMP & SYL-20% SALT 10% IMP TRS SYL & RED-VERY POOR SECTION. ½" ANHY (BISCUIT-VV THIN HOT-1123.10)-34" SALT 50% SH

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ARKLA EXPLORATION COMPANY

Drilling Record

WELL NAME: NMA Core Test #17

WELL LOCATION: 1980 FN & EL
Sec 9-16N-23E

WELL ELEVATION: 5452 ' KB

CONTRACTOR: Sojourner Drilling Company

SPUD DATE: 5-16-65 6:00PM

SIZE HOLE DRILLED: 13¾ " to 55 '

TYPE DRILLING FLUID: Gel

SURFACE CASING:
Size 10¾ ", Wt. 32.75 #, No. Sacks Cement 35
Cementing Depth: 52 '

SIZE HOLE DRILLED: 8¾ "

TYPE DRILLING FLUID: Flo Sol (A)

INTERMEDIATE CASING:
Size 7 ", Wt. 20 #, No. Sacks Cement 30
Cementing Depth 1020

SIZE HOLE DRILLED OR CORED:
6¾ " from 1021 ' to 1420 ' See below (B)
" from ' to '
" from ' to '
" from ' to '

DRILL STEM TESTS:
None

NO. BITS USED: 2

ELECTRIC LOGS RAN:
Type McCullough from ' to 0 '
from ' to '

ABANDONMENT PLUGS:
No. Sacks Cement 100 from 1420 ' to 920 '
from ' to '

WAS CASING RECOVERED?
Depth Shot ', ', '
No. Feet Recovered '
No. Feet Not Recovered 1020 '

DATE DRILLING RIG RELEASED: 5-24-65 11:00AM

COMPANY REPRESENTATIVE: James S. Baldry

SPECIAL NOTES: Unusual drilling problems encountered, etc.
(A) Lost mud while drilling from 655 to 1021.
(B) Drilled hole to 1045 & set whipstock #1 and drilled & cored to 1150' straighted hole and drilled to 1070-set whipstock #2 ~~@ 1045~~ and drilled & cored to 1136' straightened hole @ 1070 and cored and drilled to 1420' TD.

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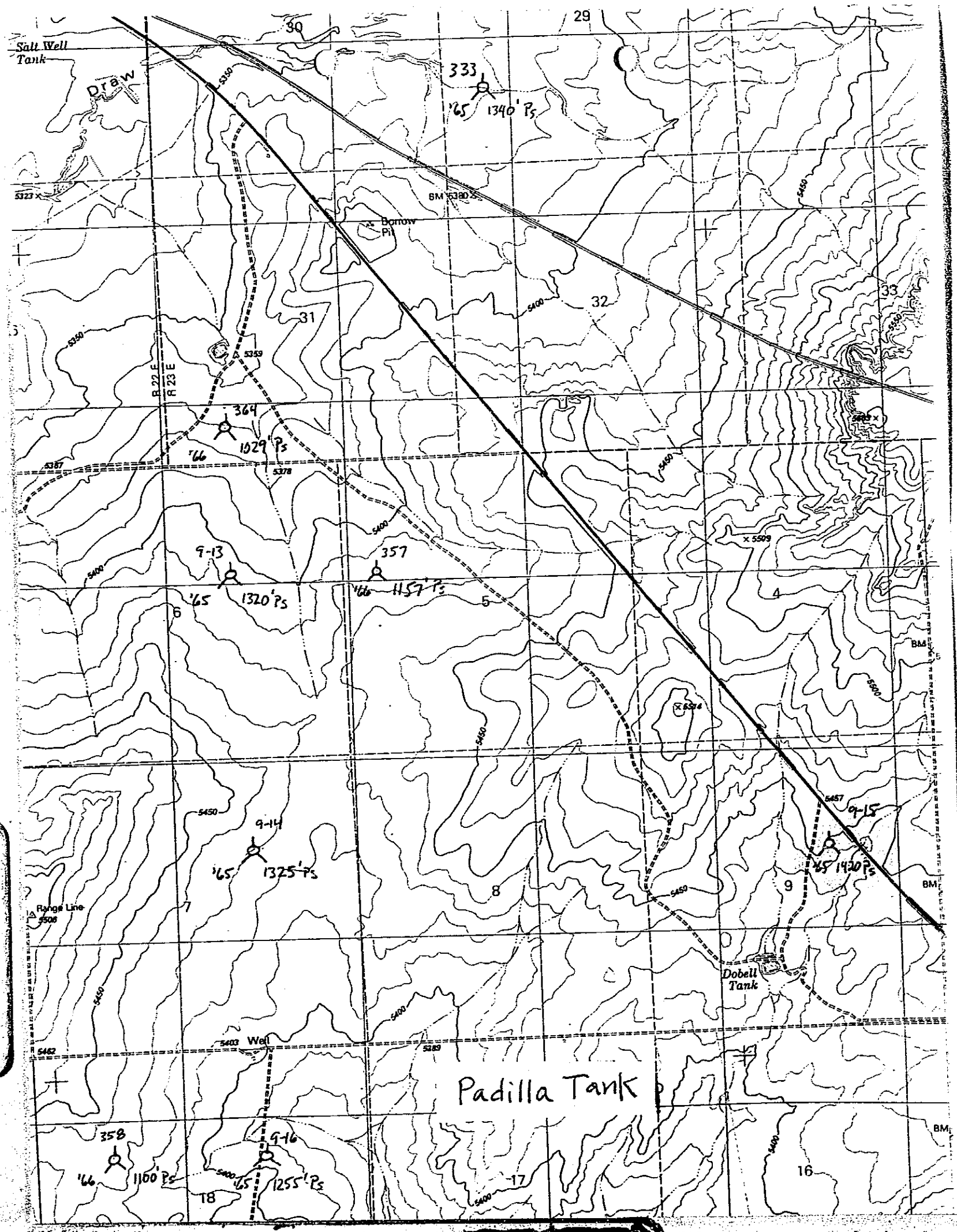
Salt Well Tank
Draw
333
'65 1340' Ps
Borrow Pit
R 22 E
R 23 E
364
'66 1029' Ps
9-13
'65 1320' Ps
357
'66 1157' Ps
9-14
'65 1325' Ps
9-15
'65 1420' Ps
Range Line
Dobell Tank
Well
Padilla Tank
358
'66 1100' Ps
9-16
'65 1255' Ps

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File #9-15

SYMBOL OF SERVICE

SURVEY REPORT

#17

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EASTMAN OIL WELL SURVEY COMPANY

DIRECTIONAL DRILLING • TOOLS • INSTRUMENTS • TECHNIQUES

Consult The Yellow Pages For Your Nearest Eastman Office

LONG BEACH • HOUSTON • ODESSA

DIRECTIONAL DRILLING
EASTMAN
INSTRUMENTATION

"Symbol of Service"

REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY

ARKLA EXPLORATION COMPANY
COMPANY

N.M.A. CORE TEST NO. 17
WELL NAME

NAVAJO COUNTY, ARIZONA
LOCATION

JOB NUMBER	TYPE OF SURVEY	DATE
WT-52665	SINGLE SHOT	MAY 21, 1965 thru MAY 23, 1965

SURVEY BY	OFFICE
R.B. VICKERS	ODESSA, TEXAS

FORM D-302 R1

ARKLA EXPLORATION COMPANY

CLOSURES BETWEEN HOLES @ 1110'

HOLE NO. 1 to HOLE # 2 - 4.51' SOUTH 35° 31' WEST

HOLE NO. 1 to HOLE NO. 3 - 4.18' SOUTH 0° 41' WEST

HOLE NO. 3 to HOLE NO. 2 - 2.62' NORTH 78° 47' WEST

CLOSURES BETWEEN HOLES @ T.D.

HOLE NO. 1 to HOLE NO. 2 - 6.98' SOUTH 39° 22' WEST

HOLE NO. 1 to HOLE NO. 3 - 6.64 SOUTH 01° 02' WEST

HOLE NO. 3 to HOLE NO. 2 - 4.48' NORTH 73° 57' WEST

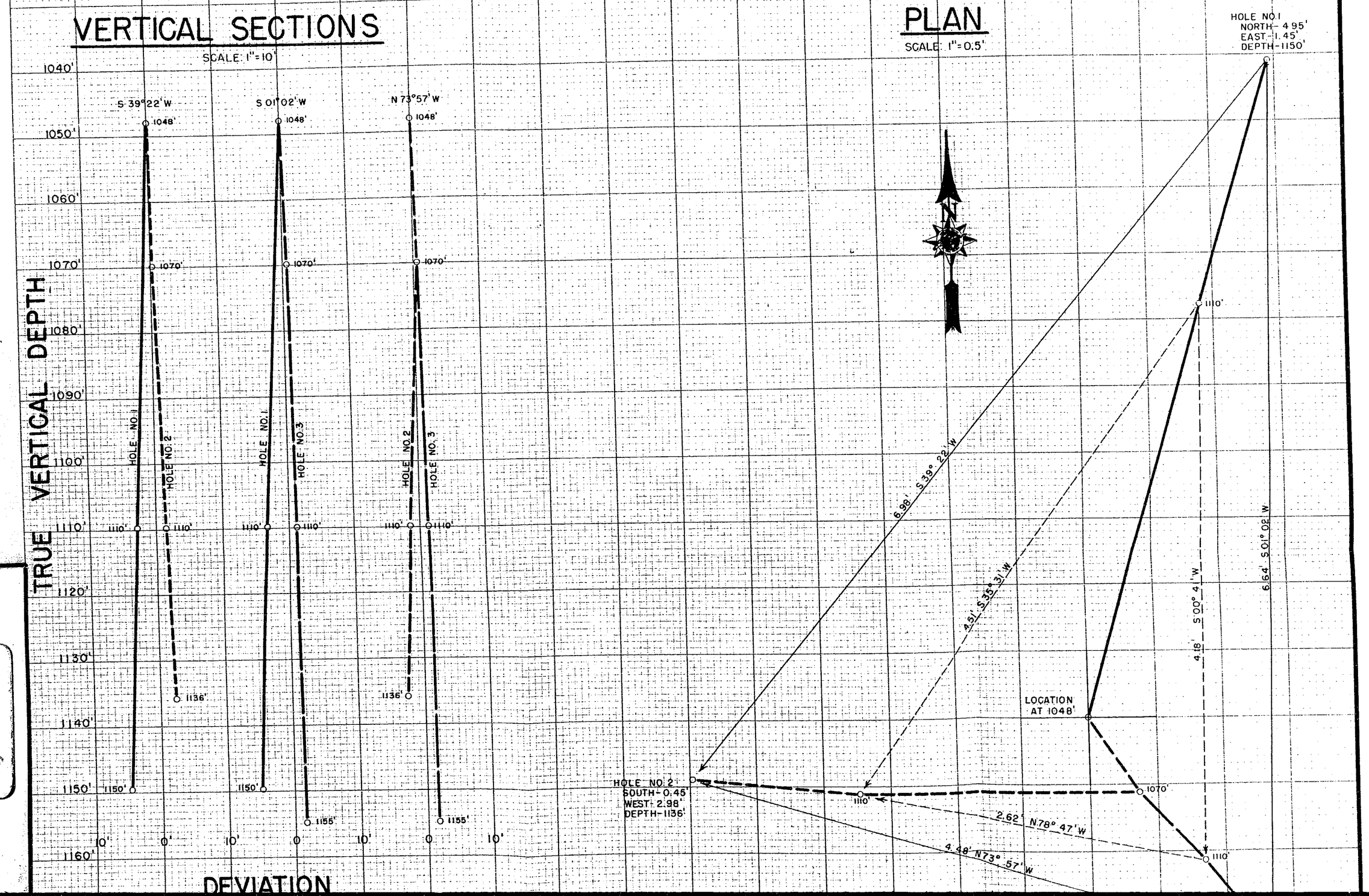
RECORD OF SURVEY

CHECKED BY Assumed Location at 1048 JOB NO. WT-52665 DATE May 21, 1965 thru May 23, 1965

STATION	MEASURED DEPTH	DRIFT ANGLE	TRUE VERTICAL DEPTH	VERTICAL SECTION	COURSE DEVIATION	DRIFT DIRECTION	RECTANGULAR COORDINATES NORTH	SOUTH	EAST	WEST
					HOLE NO. 1					
KOP	1048.00	1°45'	1048.00		0.00	S 33 E	0.00		0.00	
1	1110.00	3°00'	1109.87		3.13	N 16 E	3.11		0.89	
2	1150.00	2°45'	1149.82		1.92	N 17 E	4.95		1.45	
					HOLE NO. 2					
	1048.00	1°45'	1048.00		0.00	S 33 E		0.00	0.00	
KOP	1070.00	1°45'	1069.99		0.67	S 33 E		0.56	0.36	
1	1110.00	3°00'	1109.94		2.09	WEST		0.56		1.73
2	1136.00	2°45'	1135.91		1.25	N 85 W		0.45		2.98
					HOLE NO. 3					
	1048.00	1°45'	1048.00		0.00	S 33 E		0.00	0.00	
1	1070.00	1°45'	1069.99		0.67	S 33 E		0.56	0.36	
2	1110.00	1°00'	1109.98		0.70	S 43 E		1.07	0.84	
3	1155.00	1°00'	1154.97		0.79	S 38 E		1.69	1.33	

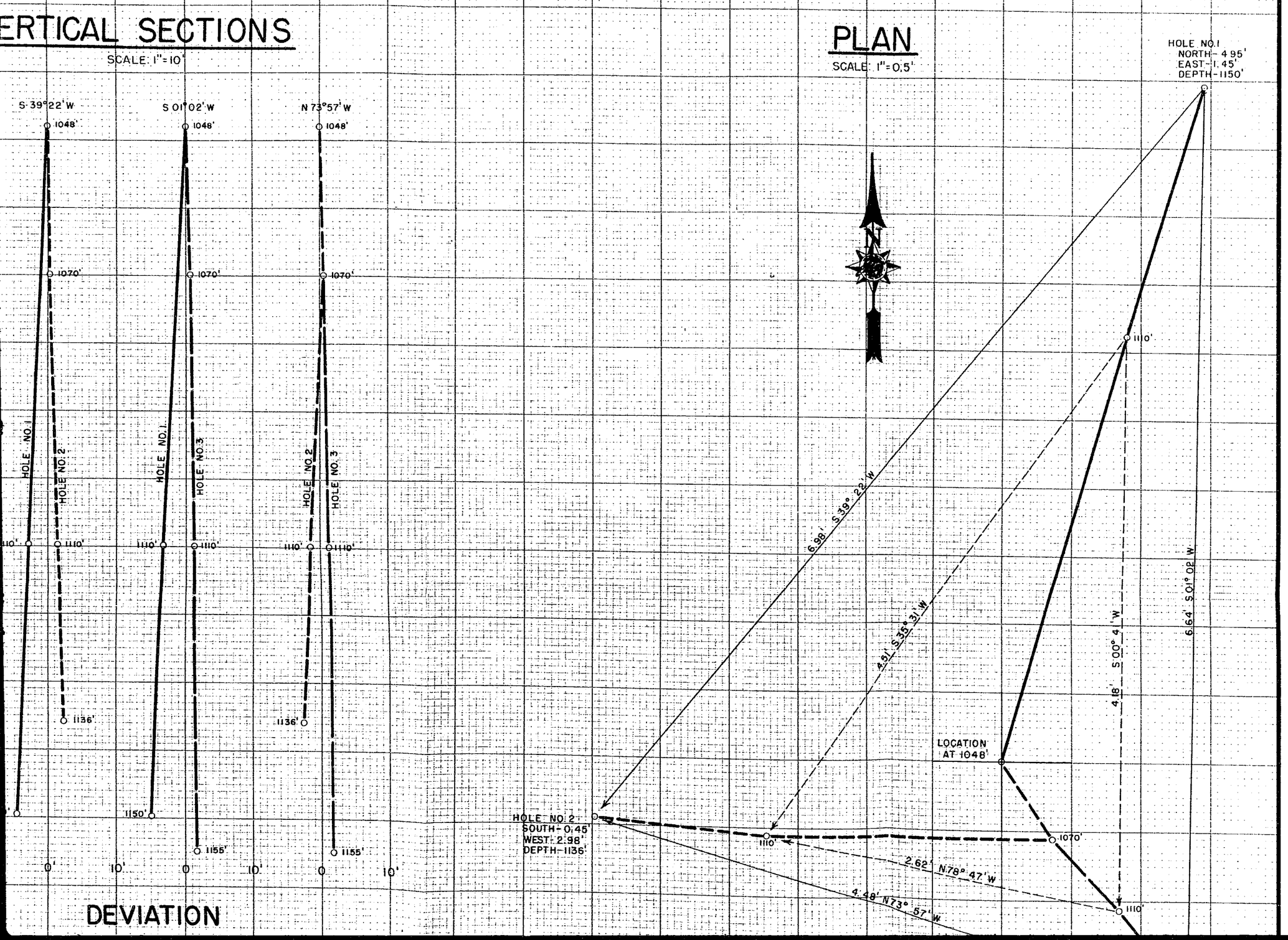
FORM NO. D—303P

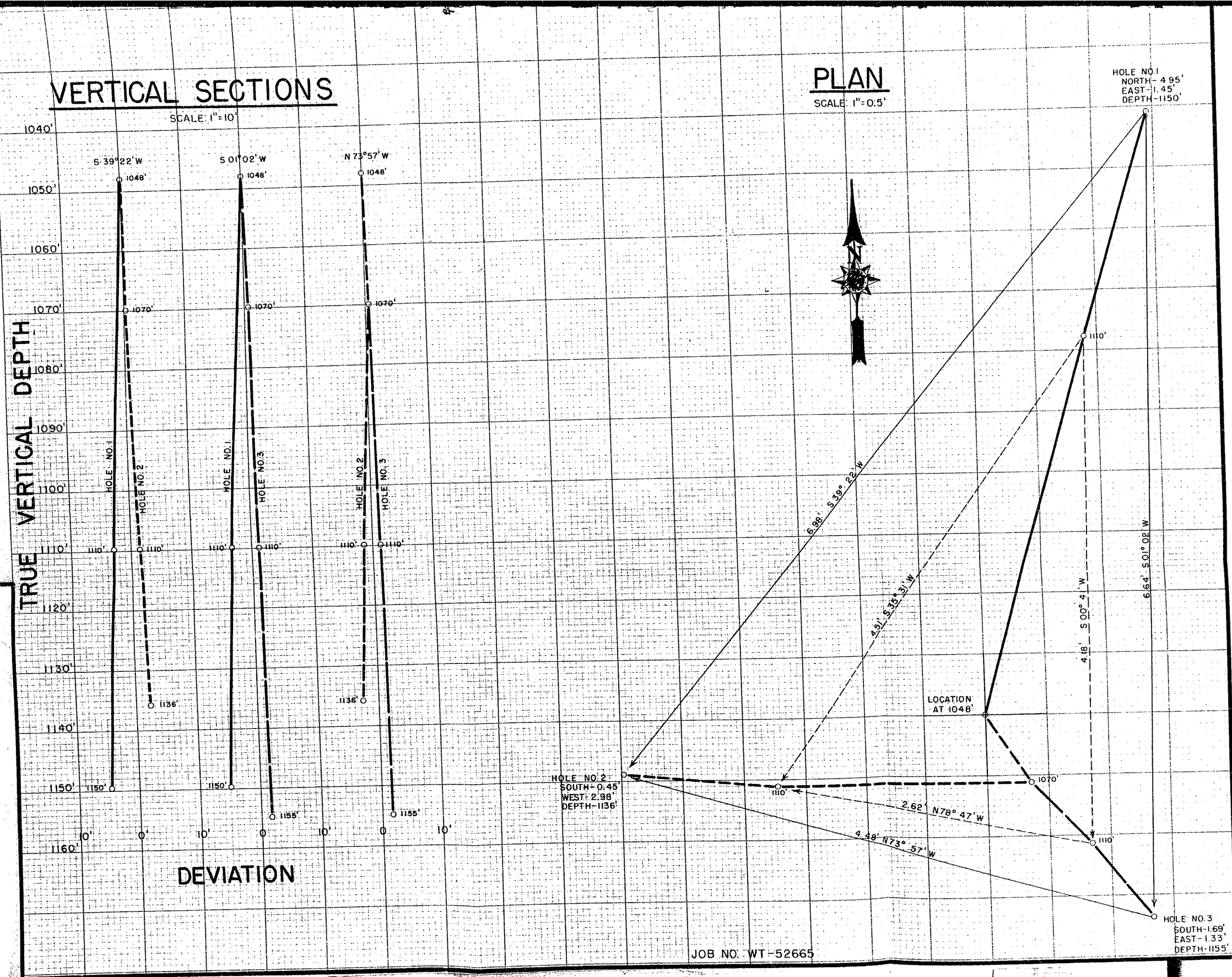
COMPLETION REPORT



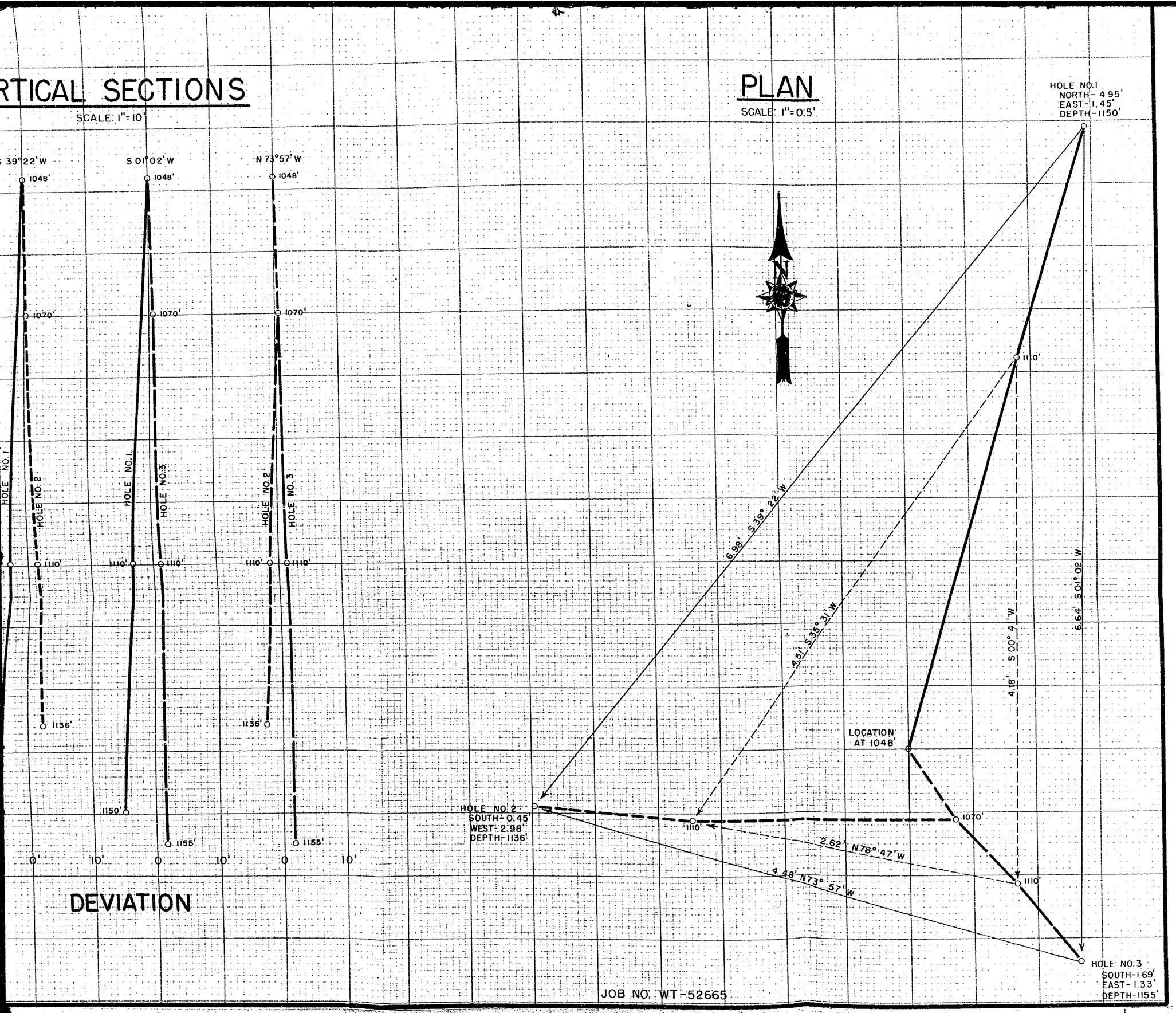
EXPLORATION NMA CORE TEST No. 17

COMPLETION REPORT





EXPLORATION NMA CORE TEST No. 17



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