[redacted]

P-M

ARKLA EXPLORATION NMA CORE TEST #42
NW/NE Sec 29-T15N-R24E, Apache 1-8

120

County Apache

Area

Lease No.

Well Name ARKLA EXPLORATION CO. NMA CORE TEST #42

Location NW/NE Sec 29 Twp 15N Range 24E Footage 454' FNL 1544' FEL

Elev Gr 5458' KB Spud Date 1-25-65 Completed Abandon 2-1-65 Total Depth 1410'

Contractor Sojourner Drilling

Drilled by Rotary
Cable Tool

Casing Size	Depth	Cement

Production Horizon

Initial Production

REMARKS

Elec Logs McCullough Gamma Ray Neutron, Formation Analysis

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

Loc. Plat Dedication

API No. 02-001-00069

Permit Number Date Issued

File No 1-8

12

ARKLA EXPLORATION COMPANY

Drilling Record

WELL NAME: NMA Core Test #42

WELL LOCATION: NW/NE SEC 29-15N-24E

WELL ELEVATION: 5458 ' K.B.

CONTRACTOR: SOJOURNER DRG. CO.

SPUD DATE: 1-25-65 1:00AM

SIZE HOLE DRILLED: 13¾ " to 105 '

TYPE DRILLING FLUID: GEL

SURFACE CASING:
Size 10¾ ", Wt. 32.75 #, No. Sacks Cement 50
Cementing Depth: 103 '

SIZE HOLE DRILLED: 8¾ "

TYPE DRILLING FLUID: GEL

INTERMEDIATE CASING:
Size 7 ", Wt. 20 #, No. Sacks Cement 25
Cementing Depth 659

SIZE HOLE DRILLED OR CORED:
6¼ " from 960 ' to 1410 ' SEE BELOW
" from ' to '
" from ' to '
" from ' to '

DRILL STEM TESTS:
NONE

NO. BITS USED: 3

ELECTRIC LOGS RAN:
Type McCULLOUGH GRN from 1410 ' to 0 '
from ' to '

ABANDONMENT PLUGS:
No. Sacks Cement 40 from 1100 ' to 900 '
from ' to '

WAS CASING RECOVERED?
Depth Shot LEFT IN HOLE, TO BE RECOVERED LATER. '
No. Feet Recovered '
No. Feet Not Recovered '

DATE DRILLING RIG RELEASED: 2-1-65 2:00PM

COMPANY REPRESENTATIVE: JAMES S. BALDRY

SPECIAL NOTES: Unusual drilling problems encountered, etc.
960-1030 DRILLED; 1030-1238 CORED; 1238-1410 DRILLED.
LOST CIRCULATION @ 670' MIXED LOST CIRCULATION MATERIAL AND REGAINED CIRCULATION.

DO NOT REMOVE FROM FILE

LITHOLOGIC DESCRIPTION

WELL NAME: ARKLA EXPLORATION CO FAIN CORE TEST #42

LOCATION: NW NE 29-15-24

ELEVATION:

0-70'	SURFACE SAND.
70-80'	PETRIFIED WOOD, PCS COLORED SHALE.
80-90'	AA, AA, SHALE GREEN.
90-00'	10¾" CASING SET @ 93' C 102KB W/50 SACKS OF CEMENT. 2:30 PM JAN 25th PLUGGED DOWN.
100-05'	60% SHALE RED, LT GRY 40% GRAVEL.
05-10'	80% SHALE COLORED 20% GRAVEL.
10-20'	80% AA, AA, AA,
20-30'	100% CONG SLTST RED.
30-40'	AA, AA, RED & PURPLE.
40-50'	AA, AA.
50-60'	40% SD GRN MG ANG WELL CEMENTED (60% SLT).
60-70'	AA, AA.
70-80'	70% SD UNCONL, CONG SLT 30%.
80-90'	80% AA, M C GRAIN UNCONSOL AA, 20%.
90-00'	50% AA, SHALE 50% RED & PURPLE.
200-10'	50% CONG GRAVEL, 50% SH BRN PURP GREEN.
10-20'	90% SHALE, 10% CONG TRC RED SLT.
20-30'	80% AA, 20% AA.
30-40'	80% AA, 20% RED AND GREEN CONG SLT.
40-50'	100% SLT ST RED GREEN.
50-60'	AA.
60-70'	AA, SDY SLT.
70-80'	80% SHALE 20% SD GREEN BRN, F G W/CLAY.
80-90'	AA, AA.
90-00'	CONG SH, BRN MICA, CONG SD, GREEN, TRC PURP SH.

DO NOT REMOVE FROM FILE

300-10'	SAME ./RED SANE, SH GRN 10%.
10-20'	CONG SD SEC RED, SH RED S[illegible].
20-30'	/A, GREEN SH GREEN SD PCS GRY WH.
30-40'	CONG SD, WH GREEN BLK IRON MINERAL FLECKS 40%, SH CONG 60% TRC GYP.
40-50'	AA, 20% SH RED & CONGLOMERATIC 80%, TRC GYP.
50-60'	AA, 10% AA, SH & SD VFG GREEN 10%, TRC GYP.
60-70'	AA, AA, AA, AA, 60% AA, 30%.
70-80'	ANHY 70% SLTY SHALE DEEP RED 30%.
80-90'	AA, 20% AA, 80% TRC GREEN SH AND SD.
90-00'	AA, AA, AA, 70% A[illegible], 10%.
400-10'	SLTST, RED, GREEN 100% TRC GYP TRC SLTY SD GREEN.
10-15'	AA, AA, 90% GYP 10% A[illegible].
15-20'	AA, PCS VUFF LM & SLTY GRY DOL AA, INCREASE IN GREEN SLTY SD.
20-25'	SLT ST SEC SANDY DOLO AS ABOVE 20% AA.
25-30'	SAME SLT ST SOY GREEN MICACEOUS 20%.
30-35'	SLT ST AS ABOVE, LIME VFXYLN CREAM 20%.
35-40'	AA, BEC CONGLOMERATIC A[illegible], 30% TRACE DOL.
40-45'	SLT ST [illegible] BEC SANDY 90% CREAM 10% AA.
45-50'	SD RED SLTY FFC GRAIN TRC DOLO.
50-55'	SD ORANGE FG SUB ROUND, INTSTL CLY TRC WH SD SAME TRC DOL GRY SLTY.
CIRC 10 MIN	@457 SAME W/REDDISH BRN SH. FOR NEW BIT.
55-60'	AA, 10% GREEN SHALE.
60-65'	AA,
CIRC 10 MIN	@65 AA, RED SLT ST, 30%.
65-70'	SLT ST REDDISH TO BRN TRC ABOVE.
70-73'	SLT ST GRY, DOLO, PCS FLECKED W/MICA PCS DOLO SD WH POSSIBLE COCONINO.
73-75'	DOL SLTY.
75-80'	COCONINO SAND.
CIRC 10 MIN	@ 81' AA.
80-85'	AA.

85-90'	SAND AS ABOVE PYRITIC, 20% SH RED PURP SHY.
CIRC 10 MIN	AA.
90-95'	SD, WH MED COARSE GRAIN CLEAR SUB ROUND INTSTL CLY TRC GYP 10% SHALE AS ABOVE.
CIRC 10 MIN.	@ 98 SAME PYRITIC IN PART.
95-00'	SAND AS ABOVE.
500-05'	AA, STILL CARRING CONSIDERABLE COLORED SH.
CIRC 10 MIN	@ 06' AA, BEC MORE PK, WELL CONSOLIDATED SLT INC IN GYP.
05-10'	SAND AS ABOVE.
10-20'	AA.
20-30''	AA.
30-40'	AA.
40-50'	AA.
50-60'	SD WH WELL CEMENTED F MG SUB ROUND CLEAR GRAIN PYRITIC INPT TRC TYP.
60-70'	SAME BEC MORE COURSE GRAIN.
70-80'	SAME MORE PYRITIC.
80-90'	AA, SH RED 10%.
90-00'	SAND SAME, MORE PYRITIC (VERIGATED SH PROB CAVING).
600-10'	AA, (10% MAROON SH).
10-20'	AA, (SH AA, LAV 10%).
20-30'	AA, (20% SH AS ABOVE 80%).
30-40'	SAME.
40-50'	AA.
50-60'	50-50 SD & SH.
60-70'	SAME.
70-80'	SD, MED COURSE GRAIN UNCONSOLIDATED TRC GYP.
80-90'	AA, AA.
90-00'	AA, AA.
700-10'	SAND SAME BEC PINK.
10-20'	AA, AA.

20-30'	SD WH COARSE GRAIN ROUND CLEAR WELL CONSOLIDATED FRIABLE.
30-40'	AA, AA.
40-50'	AA, AA.
50-60'	SD UNCONSOLIDATED.
60-70'	AA.
70-80'	SAME, TRC PURP SH.
80-90'	AA, SD BEC PINK.
90-00'	AA, SH 10% RED.
800-10'	SD BEC MORE CONSOL 70% (SH RED, SLT RED 30%).
10-20'	AA, LIGHT ORANGE MED COARSE GRAIN WELL CONSOL 90% (SH RED GRN 10%).
20-30'	SAME AS ABOVE TRC GYP.
30-40'	AA, BEC DARKER ORG INSTL CLY.
40-50'	AA,
50-60'	AA.
60-70'	AA, SD ORANGE TRC GYP.
70-80'	SD SAME, SH RED 20%.
80-90'	AA, AA, 10%.
90-00'	SD DRK ORG, AA, 10% TRC GYP.
900-10'	SD DEEP BRANGE 90% MED GRAIN ROUND SUB ROUND CLEAR GRAIN(SD WH 10%).
10-20'	SD ORG WH 90% SH RED PURP 10%.
20-25'	AA, 20% SLTST RED SOFT 80%.
25-30'	SLT ST RED 100% MUD STARTING TO BALL UP.
30-35'	AA.
35-40'	AA, TRACE DOL, SLTY SANDY GRY TRC GYP.
40-45'	AA, BEC MORE SANDY SLT INC IN DOL. AA.
45-50'	AA, AS ABOVE & SHALE RED DOL 20% AA.
50-55'	AA, DOL GRY V SLTY PCS INCREASE IN GYP PC ANHY.
55-60'	ABUNDANT GYP & SLT ST RED 7" SET @ 959 W/SX.
60-70'	SLT ST RED GREEN 90% GYP 10%.
70-80'	ANHY, 100%.

80-90' AA, 30% SH GREEN 70%.

90-00' AA, 10% SLT ST RED 90%.

1000-10' AA, AA, SLT ST & SH RED 90%.

10-20' AA, 70% SLT ST & SH RED 30%.

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

CORE #1 REC. 52'.
1030-1082 1030-31½ ANHY GRY; 31½-34 SH RED GREEN FEW ANHY INCL; 34-48½ LIGHT GRY ANHY; 48½-50½ DRK GRY ANHY; 50½-56 SH OR CLY ST RED; 56-57½ ANHY GRY; 57½-58 ANHY RED SH 50-50; 58-62 CLY ST RED; 62-66½ CLY ST & ANHY 50-50; 66½-71 ANHY GRY DENSE HARD; 71-72 SLT ST W PODS SALT INCL; 72-75 CLY ST RED; 75-82 BAND OF PK SALT, 20% SALT 80% SHALE.

CORE #2 REC. 52'
1082-1134 1082-83 90% SH, 10% SALT; 83-84 SALT XYLN WH; 84-84½ SALT 50% RED GREEN SLT 50%; 84½-87 AA, RED SH IMPURITIES 50%; 87-93 SALT WHITE 100%; 93-94½ AA, PINK 100%; 94½-98½ SALT WH 70% RED SH IMP 30%; 98½-101½ AA, PK 100% W/THIN LAMINATION OF ANHY; 01½-02 SLT ST GREEN CRUMBLY W/SALT INCL; 02-07 SALT 80% WH W/PK BLEBS IMPURITIES 20% (1006 GREEN SH BAND TRC ANHY, BAND V PK SALT); 07-12½ SALT 90% AA ANHY INCL IMPURITIES 10%; 12½-21½ AA, PK ORG BLEBS THROUGHOUT (FEW GREEN SH IMP @ 18); 21½-25 AA, 40% VERY CRUMBLY; 25-34 AA 90% SH RED IMP 10%.

CORE #3 REC. 48'
1134-1186 1134-38 SALT 80% SH RED 20%; 38-41 SALT PK 100% ANHY IN FRAG 41; 41-42 CLY ST RED 100%; 42-43 AA 90% SALT 10%; 43-48 SALT 90% FEW ORG BLEBS SH IMP 10% (RED GREEN) FEW ANHY STRINGERS); 48-49 SAME VERY CRUMBLY; 49-53 XYLN SALT WHITE; 53-54½ BANDED PK SALT SALT & PK ANHY; 54½-55½ ANHY PK & WH W/SALT BANDS; 55½-60½ PURE WH SALT NO XYLN STRUCTURE; 60½-61 ANHY GRY; 61-64 SH 80% SALT IN HIGH PINK BANDS 20%; 64-66 SALT 90% PK & WH SH RED IMP 10%; 66-68 SALT & ANHY INTERMIXED 50-50; 68-69 ANHY LT GREY; 69-73 SALT PK WH TRC IMPURITIES; 73-76 ANHY & SALT INTERMIXED 50-50; 76-82 SH 80% 90% SALT 10-20%;

CORE #4 REC. 52'
1186-1238 1186-89½ 60% SH RED GREEN (40% SALT); 89½-90½ 90% AA RED SALT 10%; 90½-95 90% SALT IMPURITIES 10% SCATTERED ANHY INCL; 95-98 10% AA, SHALE RED CLYEY 90%; 98-1201 SH SLTY RED & GREEN; 01-07½ SALT 90% IMPURITIES 10%; 07½-14½ SALT PK WH (5% IMPURITIES ON SURFACE) SCATTERED ANHY INCL. ANHY BAND @ 1214; 14½-18 SALT 10-20% SHALE 80-90%; 18-22½ SALT PINKISH RED 95% (5% IMPURITIES); 22½-25 SH & SLT ST RED 90% 10% SALT INCLUSIONS; 25-29 SALT 90% PKISH RED W/10% SCATTERED RED SHALE IMPURITIES BAND OF ANHY 2" THICK BASE OF 29 & TOP OF 30; 29-33 SALT PINKISH RED 80% SHALE 20%; 33-36 PK AND ORANGE SALT TRC IMPURITIES; 36-38 SALT WH 90% 10% REDDISH BRN IMPURITIES 2" BANDS OF ANHY TOP OF 37'.

38-40' SAME.

40-50' SALT 40% SHALE 60% RED SLTY. TRACE ANHY.

50-60'	AA, 100%.
60-70'	(AA, 80%) (SLTST RED GREEN 60%) (20% ANHY).
70-80'	(AA, 30%) (70% ANHY).
80-90'	AA, 10% (SLTST SH 60%) (30% AA).
90-00'	AA, 50% AA, 40% (10% AA).
1300-10'	SALT 100%.
10-20'	AA, 40% SLT ST RED GREEN 30% ANHY 30%.
20-30'	AA, 50% PINK AA, 30% AA, 20%.
30-40'	AA, 10% AA, SLTST GRN 60% AA, 30%.
40-50'	SALT 50% PINKISH RED SLT ST RED 50%.
50-60'	AA, 45% AA RED GREEN 45% ANHY 10%.
60-70'	AA, 40% SLTST GREEN 60%.
70-80'	DOL BRN 20% ANHY 80%.
80-90'	AA, 80% W/DRK SH LAMINATIONS SLTST GREEN 20%.
90-00'	SLT ST GREEN 100%.
1400-10'	AA, AA, TRC ANHY.

DETAILED CORE DESCRIPTION

DO NOT REMOVE FROM FILE

WELL NAME: # 10 NMA

LOCATION:

ELEVATION:

1031-1035'7"-55"- 12" ANHY-XLY (SELENITE) & M XLN, 2" RED SH-4" XLN ANHY-ORANGE& CLEAR SEL.-20" RED SH W/ANHY INCLS-20" ANHY SEL. & MXLN-GRA-BR GRAY.

35'7"-41'-65"- 8" ANHY SEL-24" ANHY-MXLN-FG ANHY-MXLN-FG-SEL. TO WHT AMORPHOOS.

41-46'8"-68"- ANHY MXLN TO FG TO WHT AMOPHOUS-SEL-1043½'-1044½' SL DOLO.

46'8"-52'8"-72"- 36" ANHY-MXLN-FG-SEL,----@1049'8"-1" RED SH-9" ANHY-26" RED ANHY-DRITIC SH-W/ANHY INCLS.

52'8"-58'6"-70"- 37" RED SH W/ANHY & GRN SLT INCLS , 22" ANHY W/10% RED SH IMP,-7" ANHY W/30% RED SH INCLS, 4" RED SH.

58'6"-64'-66"- 66" RED WH W/ANHY & GRN SLT INCLS & SELENITE.

64-69'7"-67"- 4" RED SH W/ANHY INCLS-15" ANHY-SEL-10% RED SH-38" ANHY MXLN-FG-SEL.

69'7"-75'5"-70"- 24" ANHY VFG-EG & SEL W/INCLS DOLO SLT, 10" ANHY DNS-W/INCLS DOLO SILT & RED & GRN ANHY, SLT, 23" RED ANHY SH, 6" RED SH 40% ANHY & FEW SALT XLS-3" ANHY DNS W/SALT XLS & SHINCLS-2" VLT ORNG, SALT-2" ANHY-SH & SALT.

75'5"-81'-67"- 34" SALT 30% SH-INCLS & PARTINGS 10" SALT 20% SH IMP-23" SALT 50% SH INCL ST PTNGS.

81-86'9"-69"- 11" RED SH-30% SALT -14" SALT 20% SH IMP-12" SALT 10% SH IMP. 9" SALT 50% RED & GRN SH-5" RED SH W/WHT FG ANHY INCLS & 40% SALT-12" SALT 40% RED SH-6" SALT 30% RED SH.

86'9"-92'3"-66"- 28" SALT 10% SH IMP & ANHY INCLS-35" SALT CLEAR-3" SALT W/ANHY INCLS.

92'3"-98'-69"- 4" SALT W/SH & ANHY INCLS-23" SALT W/ANHY INCLS & TR SH IMP-12" SALT 30% SH-19" SALT 20% SH IMP-11" SALT 10% SH. TMP.

98-04'-72"- 7" SALT 10% SH IMP-34" VLT ORNG SALT W/TRS SH IMP & ANHY INCLS IN LAST 17"-31" SALT 30% SH IMP.

04'-9'9"-69"- 19½ SALT 30% SH-1½" REB & GRN SH, ANHY INCL- 1½" POTASSIUM OXIDE-½" ANHY & SH-17" SALT W/TRK20 30% SH-16" SALT 20% SH IMP-13" SALT 10% RED & GRN SH & ANHY IMP.

09'9"-15'6"-69"- 34" SALT 10% SH IMP-35" SALT VLT ORNG & CARRYING TRS-XLS-U NO WAT.

15'6"-21'8"-74"- 20" SALT CLEAR-TRS-XLS-K20-54" SALT W/INCLS TRS ANHY & GRN SH Y TRS & XLS K20 (TO 1121'8"-15'8").

21'8"-26'7"-57"- ½" ANHY 1½" RED & GRN SH-25" SALT 30% SH IMP-30" SALT 10% SH IMP.

26'7"-32'3"-67"- 36" SALT 10% SHLTMP-29" SALT 35% SH IMP-2" SALT 30% RED SH.

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1-8

32'3"-38'6"-72"- 52" SALT 20% SH TR ANHY INCLS-20" SALT 10% SH IMP. TR ANHY INCLS.

38'6"-42'3"-69"- 32" SALT 10% SH IMP, TR ANHY INCLS-19"RED SH 20% SALT-18" SALT 20% SALT-18" SALT 20% SH IMP.

42'3"-49'9"-68"- 14" SALT 10% GRN SH & ANHY INCLS-36" SALT 10% RED SH IMP & ANHY INCLS-18" SALT 5% SH IMP. TO CLEAR.

49'9"-55'5"-68"- 25" CLEAR VLT AMBER TO CLEAR WHT W/ANHY PTNGS IN LAST 5"-14" SALT VLT AMBER W/ANHY PTNGS-15" OF ALTERNATING 1"TO2" LAYERS OF SALT & ANHY. 14" ANHY W/4"SALT PTNGS & SALT XLS.

55'5"-60'6"-61"- 1" GRAY ANHY-60" CLEAR VCSE XLN SALT.

60'6"-66'6"-72"- 5" ANHY DNS TO SHLY-15" RED SH W/GRN SH & SALT INCLS-5" SALT 30% RED SH-8" SALT 50% RED SH-29" SALT 10% SH IMP-10" SALT 10%, ANHY INCLS.

66'6"-72'-66"- 18" SALT 10% ANHY & RED & GRN SH IMP-11" GY DNS ANHY W/RED SH INCLS-13" SALT 10% RED SH & ANHY IMP-24" CLEAR SALT W/TR ANHY & GRN SH IMP.

72-77'5"-65"- 18" SALT 10% RED & GRN SH & ANHY-2" ANHY DNS-28" SALT 5% ANHY-6" SALT 20% GRN SLT IMP-6" SALT 10% SH-5" SALT 20% SH INCLS & PTNGS.

77'5"-87'-68"- 2" RED SH-9" SALT 30% SH INCLS & PTNGS-27" SALT 20% SH-17" SALT 30% SH-9" SALT 40% SH-4" SALT 20% SH.

87-92'8"-68"- 32" SALT 20% SH-7" SALT 30% SH-4" SH 30% SALT-25" SALT 10% SH TR ANHY.

92'8"-98'2"-66"- 4" SALT 10% SH-24" SALT 5% SH TR ANHY-1" ANHY-26" SALT 40% SH-2" SALT LT ORNG-9" SALT 30% SH.

98'2"-03'7"-65"- 33" RED SH W/GRN SLT & SALT INCLS-32" SALT 10% SH IMP.

03'7"-09'6"-71"- 43" SALT 10% SH-28" SALT 10% SH & ANHY IMP.

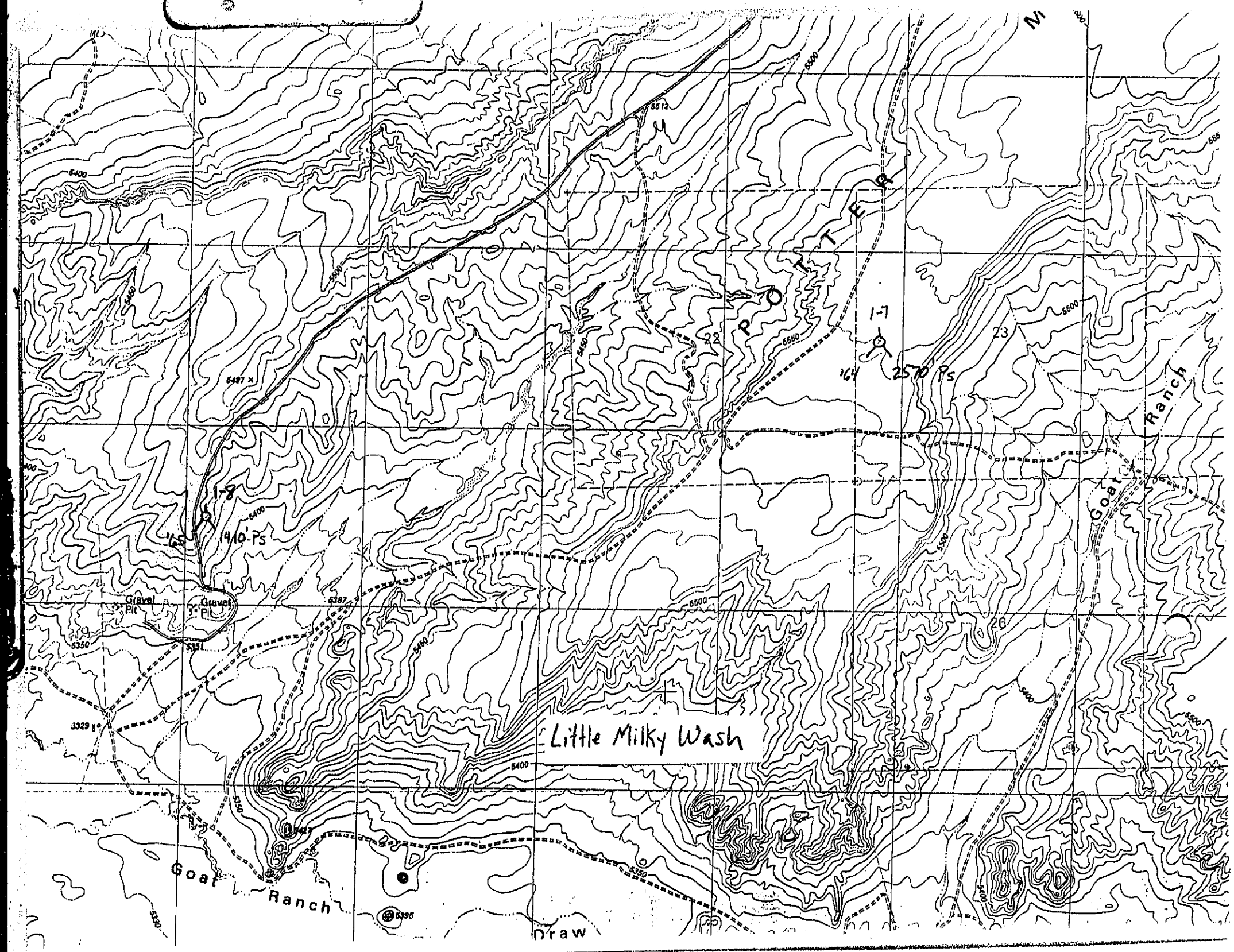
09'6"-16'3"-69"- 50" SALT 10% SH & ANHY INCLS & PTNGS-19" SALT 20% SH.

16'3"-21'9"-69"- 24" SALT 30% SH-45" SALT 10% SH & ANHY.

21'9"-27'7"-70"- 9" SALT 10% SH & ANHY-27" SALT 40% SH-8" SALT 20% SH-24" SALT 10% SH.

27'7"-33'5"-70"- 17" SALT 10% ANHY & SH-3" ANHY-7" SALT 40% SH-24" SALT 20% SH-19" SALT 10% SH.

33'5"-38'-66"- 14" SALT 10% SH & ANHY-18" SALT CLEAR-2" ANHY-32" SALT 10% SH & ANHY.



POTTER
1-7
164
2570' Ps
1-8
165
1410' Ps
Gravel Pit
Gravel Pit
Goat Ranch
Goat Ranch
Draw
Little Milky Wash
22
23
26
5400
5500
5600
5350
5330
5512
5497
5387
5351
5329
5395

Chapman, Inc.

FORMATION ANALYSIS

DAILY LOG

1-8

COMPANY ARKANSAS LOUISIANA GAS CO. 2
WELL NMA CORE TEST NO. 42
SEC. 29 T. 15N R. 24E
COUNTY APACHE STATE ARIZONA
SUPERVISOR W. D. ROBERTSON
UNIT 7 DATE 1-26-65

ABBREVIATIONS

LAT - Logged after trip
CO - Circulated Out
NR - No Returns
NB - New Bit
NCB - New Core Bit
UCB - Used Core Bit
DST - Drill Stem Test

LITHOLOGY

Sand
Lime
Shale
Anhydrite
Siltstone
Salt
Dolomite

MUD GAS ANALYSIS
Per Cent Gas By Mud Volume

4 — Butanes .025% / Div.
3 — Propane .025% / Div.
2 — Ethane .1% / Div.
Methane .5% / Div.
20 Units / Div. Total Gas

GAS

HELIUM .1%/DIV
Methane
Ethane
Propane
Butane

SHOW VALUE

2 - Very Poor
5 - Poor
10 - Fair
15 - Good
20 - Very Good

DRILLING RATE
Min./Ft. Ft./Hour
2 4 6 8 10

Per Cent In Samples
75 50 25

Depth & Core Record
000
50
100
150
200
250
300
350
400

Oil Gas Value

1% 2% 3% 4%
20 40 60 80 100

REMARKS

BIT #1 SEC RERUN
SURFACE SD-M.G.
Y ELLOW, CLEAR,
& COLORED

CONGLOMERATIC SD
SD-CONG., GRAVEL,
& BROKEN PET WOOD

SH-RED, LT GRY &
YELLOW

RED CONG SLTST
W/GRN SLTST

SD-GRN MG ANGULAR
WELL CEM w/GYP
CHOCK BRN & RED
CONG SH & GRN SLT
SD-UNCON CONG

SD MG ANG UNCON
CONGLOMERATE-CLEAR
& COLORED SH-RED
& PURP
RED & GRN SLTST

RED & GRN SLTST

BRN SDY SLTST
GRN & BRN VFG SD
w/SILT

WHT & GRN CONG SLT
SD w/BLK MIN FLCKS
RED & GRN SLTST &
RED, GRY, GRN, PURP
& YELLOW SOFT SH

SD-GRN w/BLK MICA
VARI-COLORED SH
WHT GYP

EXPLORATION NMA CORE TEST #42
T15N-R24E Apache Co. Ariz.

Chapman, Inc.

FORMATION ANALYSIS

DAILY LOG

1-8

COMPANY ARKANSAS LOUISIANA GAS CO.
WELL NEA CORE TEST NO. 42
SEC. _____ T. ____ R. ____
COUNTY APACHE STATE ARIZONA
SUPERVISOR W. D. ROBERTSON
UNIT 7 DATE 1-28-65

ABBREVIATIONS

LAT - Logged after trip
CO - Circulated Out
NR - No Returns
NB - New Bit
NCB - New Core Bit
UCB - Used Core Bit
DST - Drill Stem Test

LITHOLOGY

Sand
Lime
Shale
Anhydrite
Silt stone
Salt
Dolomite

MUD GAS ANALYSIS
Per Cent Gas By Mud Volume

4 — Butanes .025% / Div.
3 — Propane .025% / Div.
2 — Ethane .1% / Div.
Methane .5% / Div.
20 Units / Div. Total Gas

GAS

HELIUM .1%/DIV
Methane
Ethane, Propane, Butane

SHOW VALUE

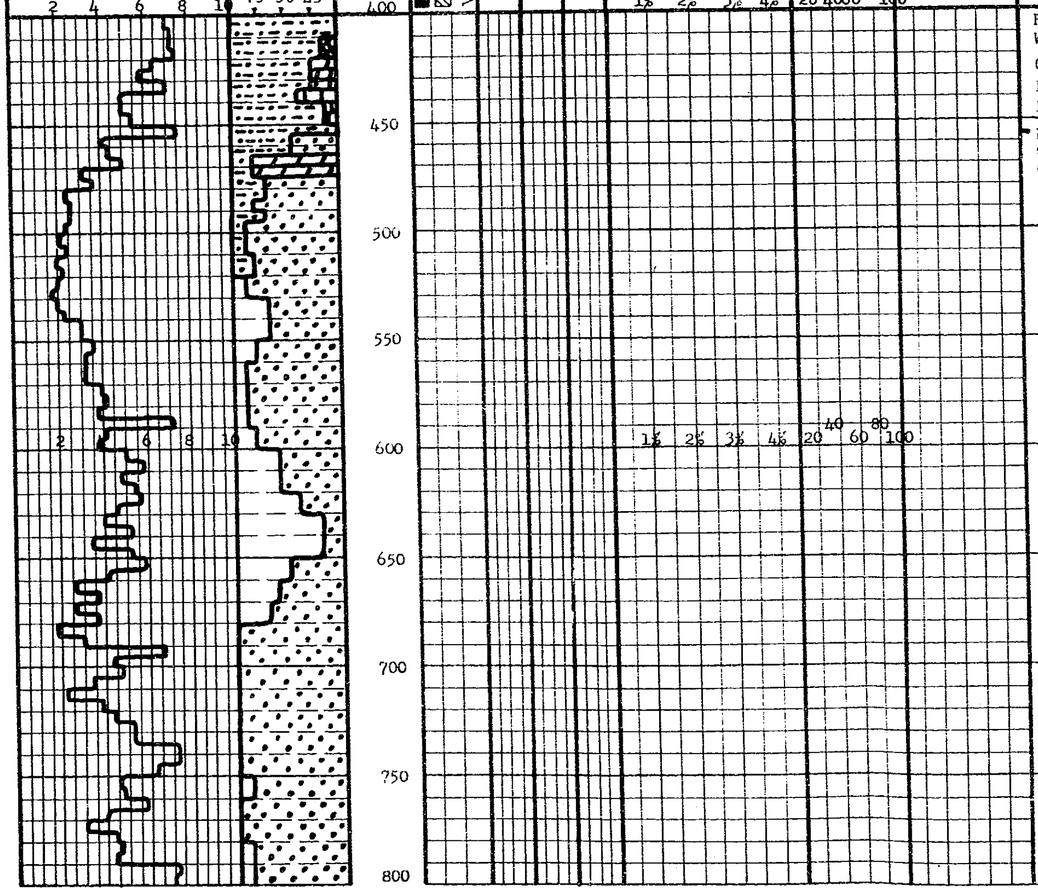
2 - Very Poor
5 - Poor
10 - Fair
15 - Good
20 - Very Good

DRILLING RATE Min./Ft. Ft./Hour — 2 4 6 8 10

Per Cent In Samples — 75 50 25

Depth & Core Record — 400, 450, 500, 550, 600, 650, 700, 750, 800

Oil / Gas / Value



REMARKS

RED & GRN SILTSTONE
WHT GYP
GRY DOLOMITE
LIME-XLYN, BUFF
LIME XLYN, BUFF

NB#2 SEC H7 T
ORANGE SD & RED SLT
GRY XLYN DOLO
SD-WHT, VFG, WELL SORTED, SUB-RND

SLTST-BRN & GRN
TR PYR
TR GYP
SD-WHT w/RED INST CLY SH-RED & LAV

RED & LAV SHALE
TR GYP & PYR
SD-WHT, WELL SORTED, FG, SUB-RND, w/CLY

RED HD SILTY SH &
LAVENDER & GRN SOFT SH TR LIG

RED, PURP, GRY, &
GRN SOFT SH
SD-WHT FAIR PORO FRI TO UNCONSOL

SD-UNCONSOL
SD-FRI TO WELL CEM

GRN & RED SOFT SH
SD-WHT MG WELL SOR CLEAN SUB-RND
GRN & RED SOFT SH

Chapman, Inc.

FORMATION ANALYSIS

DAILY LOG

1-8

COMPANY ARKANSAS LOUISIANA GAS CO.
WELL NMA CORE TEST NO. 42
SEC. _____ T. _____ R. _____
COUNTY APACHE STATE ARIZONA
SUPERVISOR W. D. ROBERTSON
UNIT 7 DATE 1-29-65

ABBREVIATIONS

LAT - Logged after trip
CO - Circulated Out
NR - No Returns
NB - New Bit
NCB - New Core Bit
UCB - Used Core Bit
DST - Drill Stem Test

LITHOLOGY

Sand
Lime
Shale
Anhydrite
Siltstone
Salt
Dolomite

MUD GAS ANALYSIS
Per Cent Gas By Mud Volume

4 — Butanes .025% / Div.
3 — Propane .025% / Div.
2 — Ethane .1% / Div.
Methane .5% / Div.
20 Units / Div. Total Gas
1% 2% 3% 4%
20 40 60 80 100

GAS

HELIUM .1%/DIV
Methane
Ethane
Propane
Butane

SHOW VALUE

2 - Very Poor
5 - Poor
10 - Fair
15 - Good
20 - Very Good

DRILLING RATE
Min./Ft. Ft./Hour
2 4 6 8 10

Per Cent In Samples
75 50 25

Depth & Core Record
800
850
900
950

Oil Gas Value

REMARKS

SD-ORANGE SH-RED
WHT GYP
SD-ORNG FRI TO CEM
WHT GYP SD-FRI TO UNCONSOL

SD-ORNG, F. TO MG
FRI TO UNCONSOL

SILTST-RED, LAV, GRN

SD-DEEP ORNG MG
RND TO SUB-RND
RED & PURP SILTST

SILTSTONE-ORNG TO RED LG TR GYP & DOL

GRY ANHY w/WHT GYP
C.O. TO SET 7" @ 960'

EXPLORATION NMA CORE TEST #42
T-11N-R24E Apache Co.