Case No
3206

Large Exhibits

W.N.M.C.F. MICROGRAPHICS

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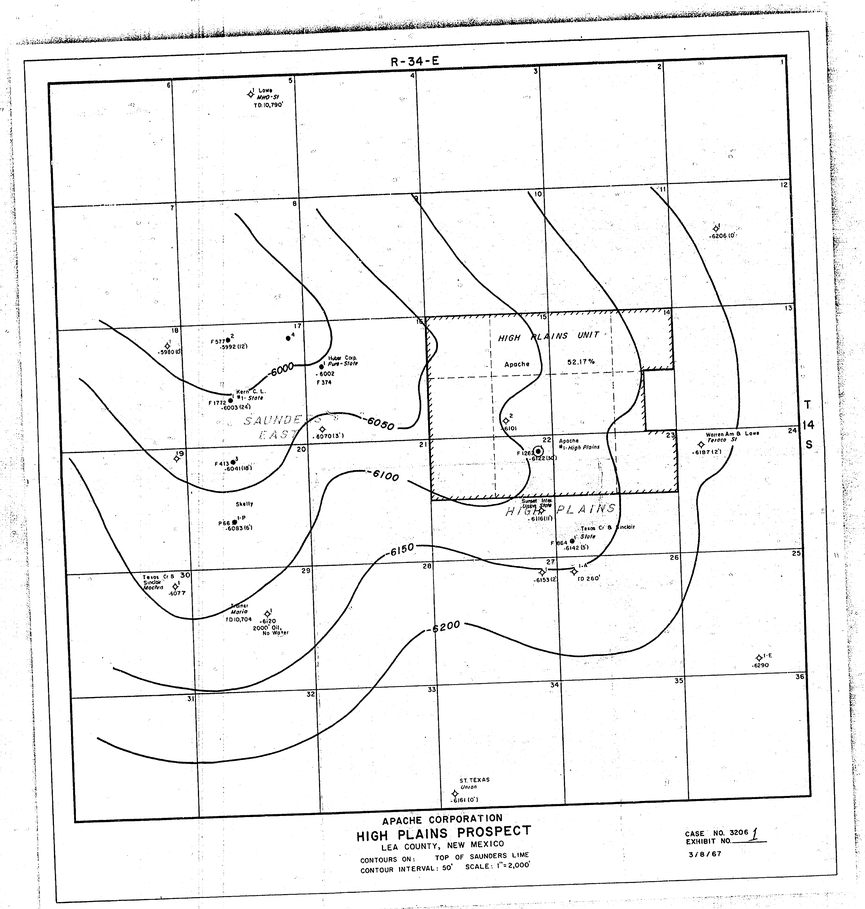

APACHE CORPORATION

HIGH PLAINS PROSPECT

LEA COUNTY, NEW MEXICO

CONTOURS ON: TOP OF SAUNDERS LIME

CONTOUR INTERVAL: 50' SCALE: 1"=2,000'

CASE NO. 3206
EXHIBIT NO. 1

3/8/67

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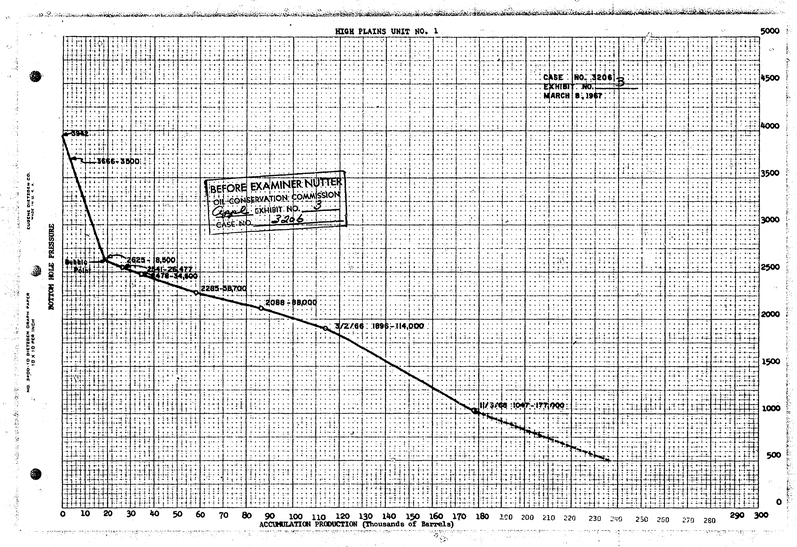

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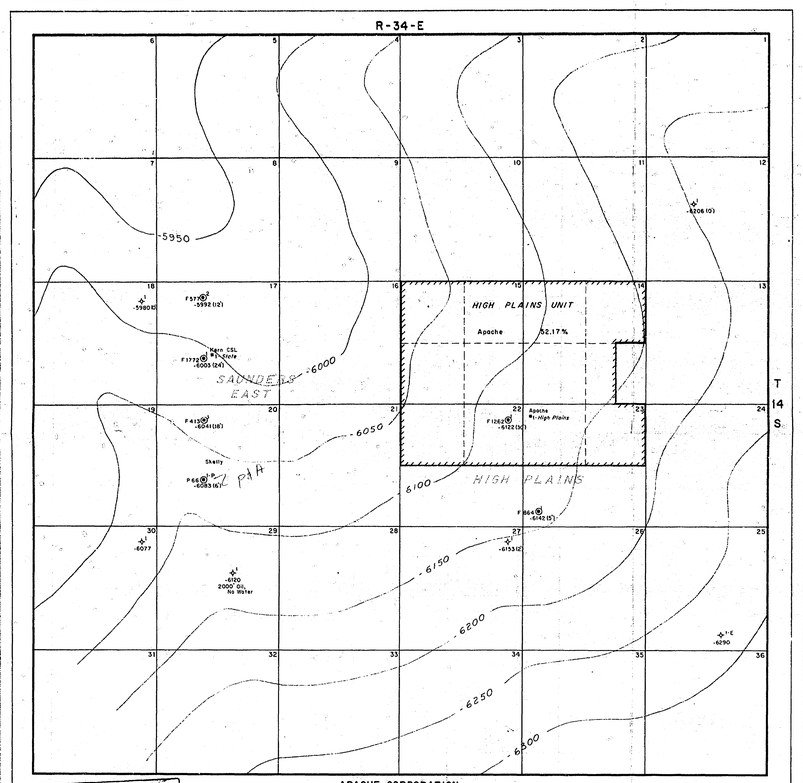

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Apache EXHIBIT NO. 3
CASE NO. 3206

APACHE CORPORATION
HIGH PLAINS PROSPECT
LEA COUNTY, NEW MEXICO
CONTOURS ON: TOP OF SAUNDERS LIME
CONTOUR INTERVAL: 50' SCALE: 1"=2,000'

CASE #3206
EXHIBIT # 3

N.M.M.C.F. MICROGRAPHICS
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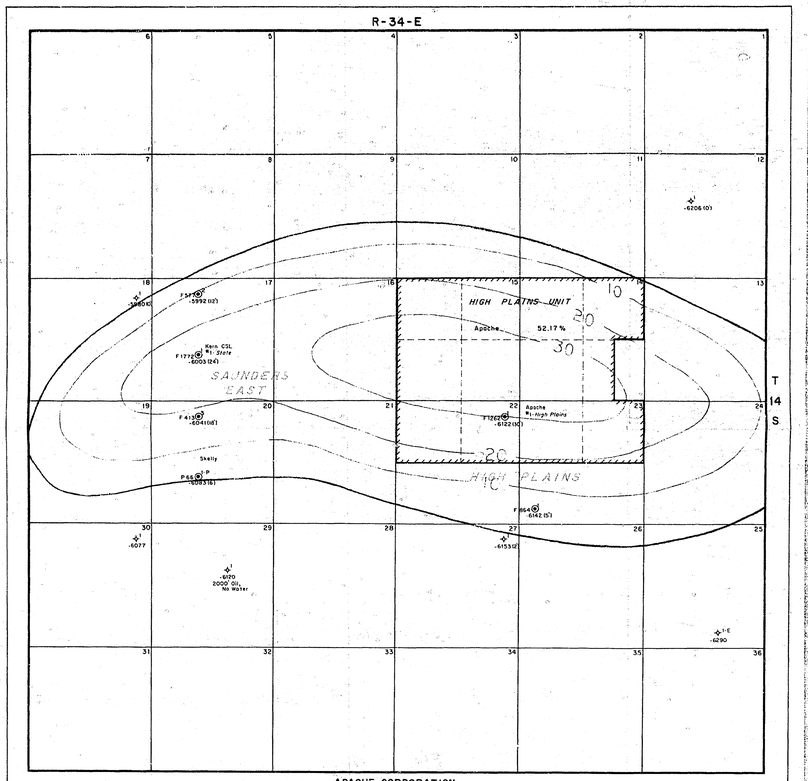
R-34-E



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APACHE CORPORATION
HIGH PLAINS PROSPECT
LEA COUNTY, NEW MEXICO
ISOPACH OF SAUNDERS LIME PAY
CONTOUR INTERVAL 10

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 3206

BEFORE E. NUTTER
OIL CONSERV. AMISSION
EXHIBIT NO.
CASE NO.

CASE #3206
EXHIBIT # 4

N.M.O.C.D. MICROGRAPHICS
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SCHLUMBERGER — SONIC LOG

COUNTY LEA — FIELD OR LOCATION (TECHNEVERRY PROSPECT) — WELL STATE #1 — COMPANY KERN COUNTY LAND COMPANY, ET AL

COMPANY KERN COUNTY LAND COMPANY, ET AL
WELL STATE - 1
FIELD W.C. (TECHNEVERRY PROSPECT)
LOCATION SEC. 17-14S-34E
COUNTY LEA
STATE NEW MEXICO

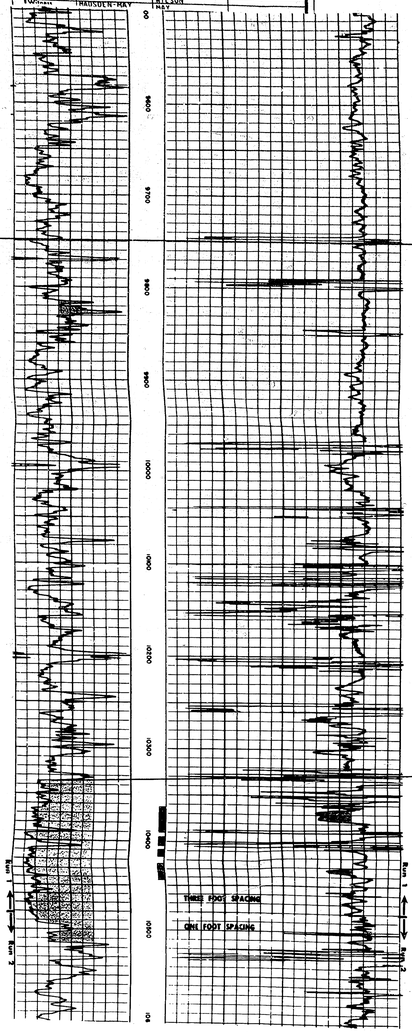
Other Surveys: RL, IFE LL

Location of Well: 1980' FROM S/L, 1980' FROM W/L

Elevation: K.B. 4162, D.F. 4161, or G.L. 4148

Log Depths Measured From KB, 19 Ft. above GL

RUN No.	ONE	TWO		
Date	3-17-62	3-16-62		
First Reading	10514	12514		
Last Reading	4511	10514		
Feet Measured	6001	2000		
Csg. Schlum.	4517			
Csg. Driller	4517	4517		
Depth Reached	10517	12520		
Bottom Driller	10516	12520		
Mud Nat.	CHEMICAL DRISCOSE CAUSTIC			
Dens. | Visc.	9.2 | 38			
Mud Resist.	.52 @ 78 °F	.44 @ 70 °F	@ °F	@ °F
Res. BHT	.14 @ 140 °F	.26 @ 156 °F	@ °F	@ °F
pH	9.0 @ °F	9.0 @ °F	@ °F	@ °F
Wtr. Loss	10.0 CC 30 min	9.6 CC 30 min		CC 30 min
Rmf	.78 °F (.70(M) @ 70 °F		@ °F	@ °F
Bit Size	8 3/4" & 7 7/8" (1864')	8 7/8"		
Spacing				
1st R.I. ft.	10350 To TD	10500 To 12514	To	
2nd R.I. ft.	4511 To TD	To	To	
Opr. Rig Time	16 HOURS			
Truck No.	33 HOBBS			
Recorded By	1551-ARTESIA	2526-HOBBS		
Witnessed By	MR. HAUSDEN-MKY	WILSON		



IPF 1772 BOPD
PERFS. 10,363-10,443

SCHLUMBERGER — SONIC LOG GAMMA RAY

COUNTY LEA — FIELD OR LOCATION WILDCAT HIGH PLAINS — WELL — COMPANY DELAWARE APACHE

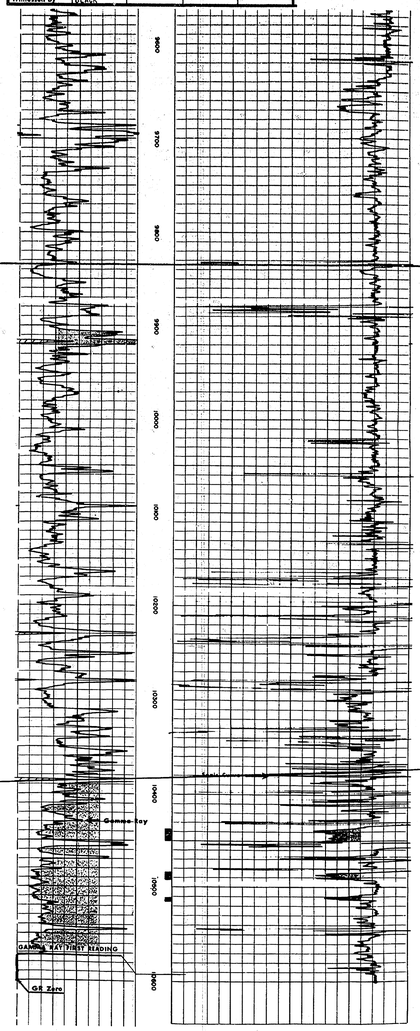
COMPANY DELAWARE APACHE CORPORATION
WELL HIGH PLAINS UNIT # 1
FIELD WILDCAT
COUNTY LEA STATE NEW MEXICO
LOCATION 660' FN & EL
Sec. 22 Twp. 14S Rge. 34E

Other Services: IES, ML

Permanent Datum GL, Elev. 4104
Log Measured from KB, 14 Ft. Above Perm. Datum
Drilling Measured from KB

Elev.: K.B. 4118, D.F. 4117, G.L. 4104

Date	1-10-65					
Run No.	ONE					
Depth—Driller	10600					
Depth—Logger	10599					
Btm. Log Interval	10592					
Top Log Interval	0					
Casing—Driller	8 5/8" @ 450	@	@	@		
Casing—Logger	-					
Bit Size	7 7/8"					
Type Fluid in Hole	GEL CAUSTIC SODA ASH					
Dens. | Visc.	8.9 | 41					
pH | Fluid Loss	9.5 | 7.6 ml	ml	ml	ml	ml	
Source of Sample	DS					
R_m @ Meas. Temp.	1.08 @ 58 °F	@ °F	@ °F	@ °F	@ °F	
R_{mf} @ Meas. Temp.	0.82 @ 58 °F	@ °F	@ °F	@ °F	@ °F	
R_{mc} @ Meas. Temp.	1.38 @ 58 °F	@ °F	@ °F	@ °F	@ °F	
Source R_{mf} R_{mc}	M M					
R_m @ BHT	0.41 @ 142 °F	@ °F	@ °F	@ °F	@ °F	
Time Since Circ.	4 HOURS					
Max. Rec. Temp.	142 °F		°F	°F	°F	
Equip. Location	2551 HOBBS					
Recorded By	BROWN					
Witnessed By	BLACK					



IPF 1262 BOPD
PERFS. 10,438-10,512

SCHLUMBERGER — SONIC LOG

COUNTY LEA — FIELD OR LOCATION WILDCAT — WELL SEC. 23-14S-38E — COMPANY TEXAS CRUDE OIL CO. & SINCLAIR OIL & GAS

COMPANY TEXAS CRUDE OIL CO. & SINCLAIR OIL & GAS
WELL STATE 23-1
FIELD WILDCAT
LOCATION SEC 23-14S-38E
COUNTY LEA
STATE NEW MEXICO

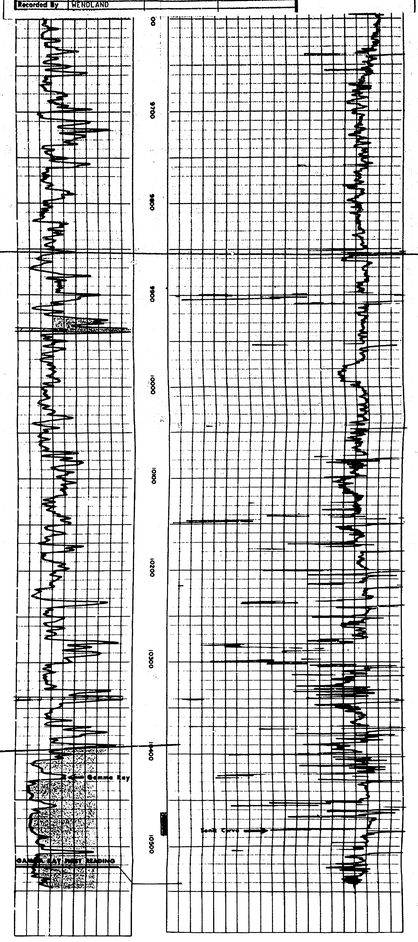
Other Surveys: IES, ML

Location of Well: 660' FROM S/L, 660' FROM W/L

Elevation: K.B. —, D.F. 3608, or G.L. —

Log Depths Measured From KB, 11.50 Ft. above GL

RUN No.	ONE			
Date	4-6-63			
First Reading	10542			
Last Reading	100			
Feet Measured	10442			
Csg. Schlum.				
Csg. Driller	4550			
Depth Reached	10548			
Bottom Driller	10551			
Mud Nat.	CAUSTIC, QUEBRACHO, GEL			
Dens. | Visc.	8.9 | 48			
Mud Resist.	.57 @ 71 °F	@ °F	@ °F	@ °F
Res. BHT	.12 @ 151 °F	@ °F	@ °F	@ °F
pH	@ °F	@ °F	@ °F	@ °F
Wtr. Loss	5 CC 30 min	CC 30 min		CC 30 min
Rmf	@ °F	@ °F	@ °F	@ °F
Bit Size	7 7/8"			
Spacing				
1st R.I. ft.	4550 To TD	To	To	
2nd R.I. ft.	To	To	To	
Opr. Rig Time	5 HOURS			
Truck No.	3701-HOBBS			
Recorded By	NEWLAND			



IPF 864 BOPD
PERFS. 10,463-10,486

STRATIGRAPHIC DATUM

TOP SAUNDERS LIME

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 3206

W.N.M.C.P. MICROGRAPHICS
BEST AVAILABLE COPY

CASE # 3206
EXHIBIT # 5

CROSS-SECTION

EAST SAUNDERS FIELD - DELAWARE APACHE - HIGH PLAINS FIELD
HIGH PLAINS UNIT WELL #1

SCHLUMBERGER · SONIC LOG

COUNTY LEA | FIELD OR LOCATION WILDCAT (FEICHELBERG PROSPECT) | WELL STATE #1 | COMPANY KERN COUNTY LAND COMPANY, ET AL

COMPANY KERN COUNTY LAND COMPANY, ET AL
WELL STATE - 1
FIELD W.C. (FEICHELBERG PROSPECT)
LOCATION SEC 17-14S-34E
COUNTY LEA
STATE NEW MEXICO

Other Surveys: ML, IEL, LL
Location of Well: 1980' FROM S/L, 1980' FROM W/L
Elevation: K.B. 4162, D.F. 4165, or G.L. 4148

Log Depths Measured From KB, 19 Ft. above GL

RUN No.	ONE	TWO		
Date	12-17-62	1-16-62		
First Reading	10514	12514		
Last Reading	10511	10514		
Feet Measured	6001	2000		
Cog. Schlum.	4517			
Cog. Driller	4517	4517		
Depth Reached	10517	12520		
Bottom Driller	10516	12520		
Mud Mat.	CHEMICAL DRISCOSE-CAUSTIC			
Dens. / Visc.	9.2 / 38	9.3 / 44		
Mud Resist.	59 @ 78 °F	54 @ 70 °F	@ °F	
" Res. BHT	39 @ 140 °F	26 @ 156 °F	@ °F	@ °F
" pH	9.0 @ °F	9 @ °F	@ °F	@ °F
" Wtr. Loss	10.0 cc 30 min	9.6 cc 30 min	cc 30 min	
" Rmf	.43 @ 78 °F	.40(M) @ 70 °F	@ °F	@ °F
Bit Size	8-7/8" 13216C (184761)	8"		
Spacing				
Type Fluid in Hole				
Max. Rec. Temp.	10250 To 10	10500 To 12514	To	
Equip. Location	1515 To 10	To	To	
Recorded By	6 HOURS	3 HOURS		
Witnessed By	3555-APTESTA	2526-HOBBS		
Run No.	MADSUEN-HAY	WILSON-HAY		

SCHLUMBERGER · SONIC LOG · GAMMA RAY

COUNTY LEA | FIELD OR LOCATION WILDCAT (HIGH PLAINS) | WELL HIGH PLAINS UNIT #1 | COMPANY DELAWARE APACHE CORPORATION

COMPANY DELAWARE APACHE CORPORATION
WELL HIGH PLAINS UNIT # 1
FIELD WILDCAT
COUNTY LEA STATE NEW MEXICO
LOCATION 660' FN & EL
Sec. 22 Twp. 14S Rge. 34E
Other Services: IES, ML

Permanent Datum: GL, Elev. 4104
Log Measured From KB, 14 Ft. Above Perm. Datum
Drilling Measured From KB
Elev.: K.B. 4118, D.F. 4117, G.L. 4104

Date	1-10-65					
Run No.	ONE					
Depth—Driller	10600					
Depth—Logger	10599					
Btm. Log Interval	10592					
Top Log Interval	0					
Casing—Driller	8 5/8" @ 4450	@		@		@
Casing—Logger	-					
Bit Size	7 7/8"					
Type Fluid in Hole	GEL CAUSTIC SODA ASH					
Dens. / Visc.	8.9 / 41					
pH / Fluid Loss	9.5 / 7.6 ml		ml		ml	ml
Source of Sample	CIRC.					
Rm @ Meas. Temp.	1.08 @ 58 °F	@ °F		@ °F		@ °F
Rmf @ Meas. Temp.	0.82 @ 58 °F	@ °F		@ °F		@ °F
Rmc @ Meas. Temp.	1.18 @ 58 °F	@ °F		@ °F		@ °F
Source Rm / Rmf	M / M					
Rm @ BHT	0.43 @ 142 °F	@ °F		@ °F		@ °F
Time Since Circ.	6 HOURS					
Max. Rec. Temp.	142 °F		°F		°F	°F
Equip. / Location	3503 HOBBS					
Recorded By	BROWN					
Witnessed By	BLACK					

SCHLUMBERGER · SONIC LOG

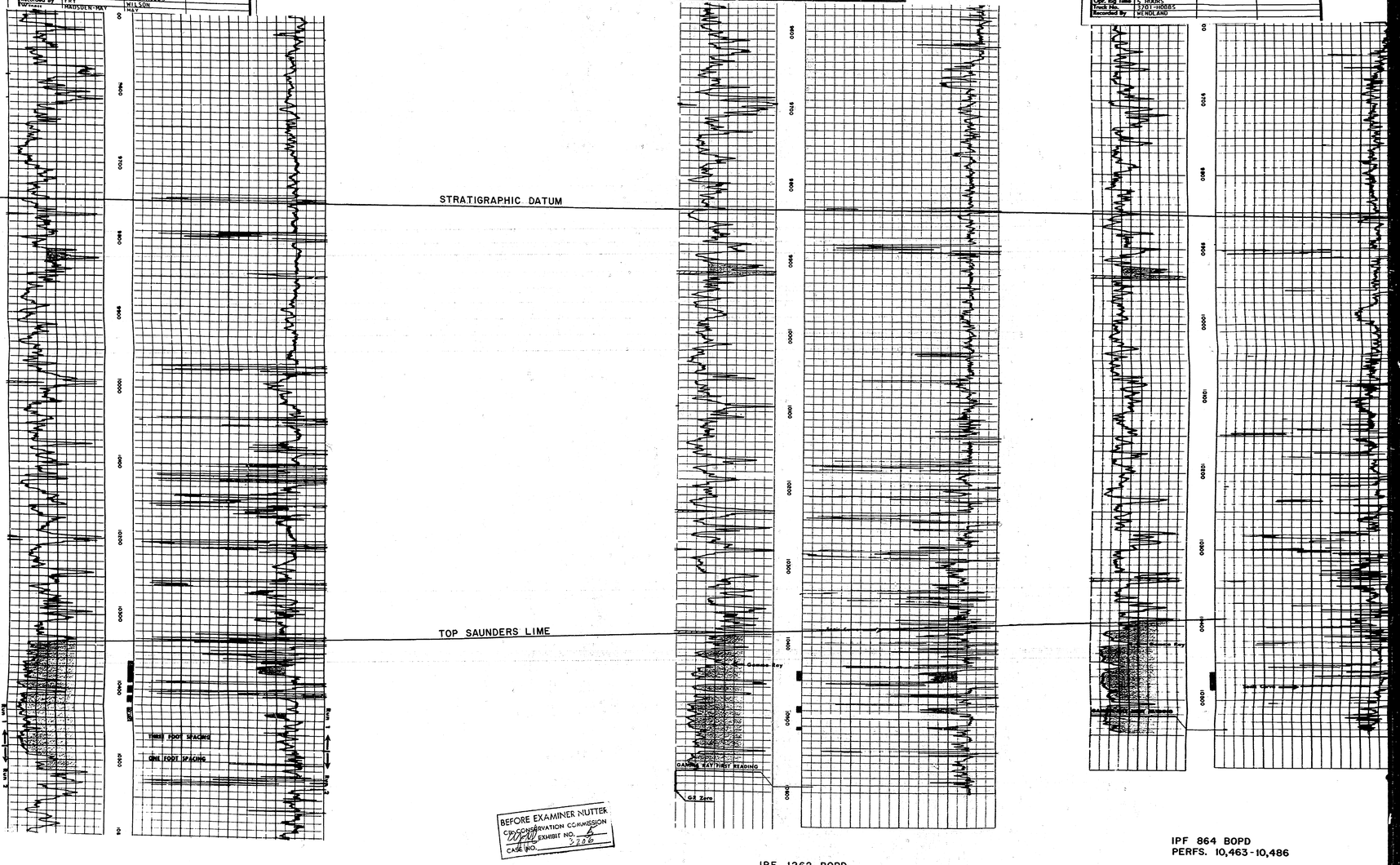
COUNTY LEA | FIELD OR LOCATION WILDCAT | WELL STATE 23-1 | COMPANY TEXAS CRUDE OIL CO & SINCLAIR OIL & GAS

COMPANY TEXAS CRUDE OIL CO & SINCLAIR OIL & GAS
WELL STATE 23-1
FIELD WILDCAT
LOCATION SEC 23-14S-34E
COUNTY LEA
STATE NEW MEXICO

Other Surveys: IES, ML
Location of Well: 660' FROM S/L, 660' FROM W/L
Elevation: K.B. D.F. G.L. 4168

Log Depths Measured From KB, 11 SG Ft. above GL

RUN No.	ONE					
Date	4-6-63					
First Reading	10542					
Last Reading	100					
Feet Measured	10442					
Cog. Schlum.						
Cog. Driller	4558					
Depth Reached	10508					
Bottom Driller	10543					
Mud Mat.	CAUSTIC QUEBRACHO GEL					
Dens. / Visc.	8.8 / 48					
Mud Resist.	.52 @ 75 °F	@ °F		@ °F		@ °F
" Res. BHT	12 @ 141 °F	@ °F		@ °F		@ °F
" pH	@ °F	@ °F		@ °F		@ °F
" Wtr. Loss	cc 30 min	cc 30 min		cc 30 min		
" Rmf	@ °F	@ °F		@ °F		@ °F
Bit Size	7 7/8"					
Spacing						
Type Fluid in Hole						
Max. Rec. Temp.		To	To	To	To	
Equip. Location		To		To		To
Recorded By						
Witnessed By						
Run No.						
Date	6 HOURS					
Time Rec.	3701-HOBBS					
Recorded By	WEHOLAND					



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 3206

IPF 1772 BOPD
PERFS. 10,363-10,443

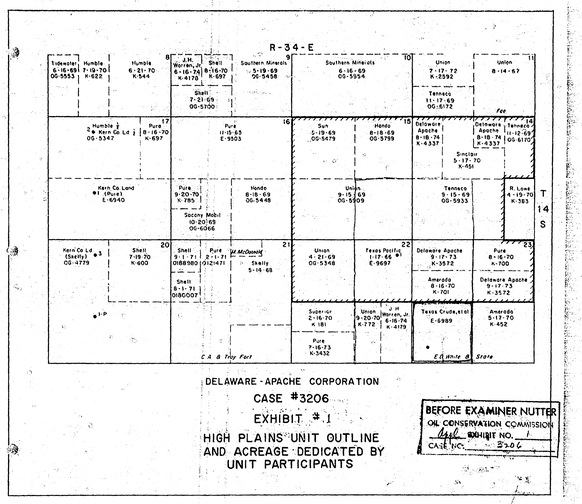
IPF 1262 BOPD
PERFS. 10,438-10,512

IPF 864 BOPD
PERFS. 10,463-10,486

CASE # 3206
EXHIBIT # 5

CROSS-SECTION

EAST SAUNDERS FIELD - DELAWARE APACHE - HIGH PLAINS FIELD
HIGH PLAINS UNIT WELL #1



DELAWARE - APACHE CORPORATION

CASE #3206

EXHIBIT #1

HIGH PLAINS UNIT OUTLINE AND ACREAGE DEDICATED BY UNIT PARTICIPANTS

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 3206

W.N.M.C.F. MICROGRAPHICS
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Case No. 3306
Exhibit # 2
2/10/65

UNIT OPERATING INTERESTS

HIGH PLAINS UNIT

LEA COUNTY, NEW MEXICO

Working Interest Owner	Percentage of Working Interest
Delaware-Apache Corporation	52.1739%
Union Oil Company of California	13.0435%
Tenneco Oil Company	8.6957%
Sinclair Oil & Gas Company	6.6957%
Sun Oil Company	4.3478%
Hondo Oil & Gas Company	4.3478%
Texas Pacific Oil Company	4.3478%
Amerada Petroleum Corporation	4.3478%
Pure Oil Company	2.1739%
	100.0000%

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Gulf EXHIBIT NO. 7
CASE NO. 3306

N.M.O.C.C. MICROGRAPHICS
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Case No. 3206
Exhibit # 6
2/10/65

WELL HISTORY

HIGH PLAINS UNIT WELL NO. 1

UNDESIGNATED POOL

Location: 660' FNL and 660' FEL of Section 22, T-14-S, R-34-E, Lea County, New Mexico.

Total Depth: 10,600 feet.

Production String: 4½-inch casing set at 10,600 feet.

Drill Stem Tests: Test No. 1, 10,422-10,480, tool open 2½ hrs, gas to surface in 5 minutes, oil to surface in 21 minutes, flowed to pits for 9 minutes, then flowed 148 barrels of oil in 2 hours, surface press 410 to 480 psi, unloaded 61 barrels of oil after tool was closed, reversed out 20 barrels of oil.
ISIP (35") - 3942 IFP - 2814
FSIP (120") - 3923 FFP - 3414

Test No. 2, 10,475-10,525, tool open 1 1/3 hrs, gas to surface in 5 minutes, oil to surface in 17 minutes, flowed to pits for 3 minutes, then flowed 71 barrels of oil in 1 hour, surface pressures - 480 psi, unloaded 35 barrels of oil after tool was closed, reversed out 10 barrels of oil.
ISIP (30") - 3869 IFP - 2852
FSIP (90") - 3687 FFP - 3159

Perforations: 2 jet shots per foot at the following intervals: 10,438-439, 10,444-445, 10,449-450, 10,486-487, 10,490-491, 10,511-512, total of 12 holes.

Stimulation Treatment: 250 gallons of mud clean-up acid.

Potential Test: On January 14, 1965, well flowed 631 barrels of oil, no water, in 12 hours, ½ - inch choke, tubing pressure - 660 psig, GOR - 1188, oil gravity 44.1° @ 60°F, gas gravity - 0.87, calculated rate of 1262 barrels per 24 hour day.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Uphike EXHIBIT NO. 6
CASE NO. 3206

W.R.M.C.F. MICROGRAPHICS
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Case No. 3206
Exhibit 7
2/10/65

RESERVOIR ROCK AND FLUID PROPERTIES

HIGH PLAINS UNIT WELL NO. 1

UNDESIGNATED POOL

Depth to top of formation, feet		10,437
Gross pay, feet		103
Net effective pay, feet		25
Porosity, per cent (from Sonic Log)		10
Water saturation, per cent (assumed)		32
Original reservoir pressure, PSIG		3962
Saturation pressure, PSIG	Measured from BH sample	2625
Reservoir Temperature, °F	" "	154
Original solution gas-oil ratio, cuft per barrel	"	1125
Formation volume factor, bbl/bbl	"	1.653
Oil gravity, °API @ 60°F	"	44.1
Specific gravity of gas (air = 1.00)	Measured	0.87

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 3206

N.M.O.C.C. MICROGRAPHICS
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Case No. 3206
Exhibit # 8
2/10/65

COMPARISON OF ROCK AND FLUID PROPERTIES

EAST SAUNDERS POOL VERSUS HIGH PLAINS UNIT WELL NO. 1

February 10, 1965	East Saunders (Permo-Penn) Pool	High Plains Unit Well #1 Undesignated
Depth to top of producing formation	10,366 to 10,396	10,437
Net pay, feet	18.3	25
Porosity, per cent	8.1	10
Water saturation, per cent	32.1	32
Permeability, md	46.2 (core)	103 (DST)
Original reservoir pressure, psig	3914	3942
Saturation pressure, psig	2366	2625
Original gas in solution, cuft/bbl.	939	1125
Reservoir temperature, °F	155	154
Formation volume factor, Bbl/Bbl	1.527	1.653
Oil gravity, °API @ 60°F	44.4	44.1
Specific gravity of gas (Air = 1.00)		0.87

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Case No. EXHIBIT NO. 8
CASE NO. 3206

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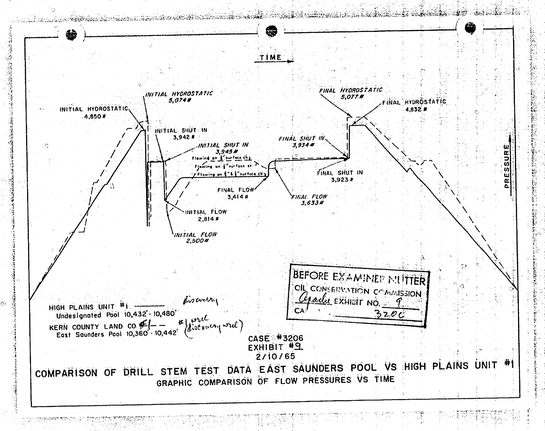

CASE #3206
EXHIBIT #9
2/10/65

COMPARISON OF DRILL STEM TEST DATA EAST SAUNDERS POOL VS HIGH PLAINS UNIT #1
GRAPHIC COMPARISON OF FLOW PRESSURES VS TIME

N.M.O.C.C. MICROGRAPHICS
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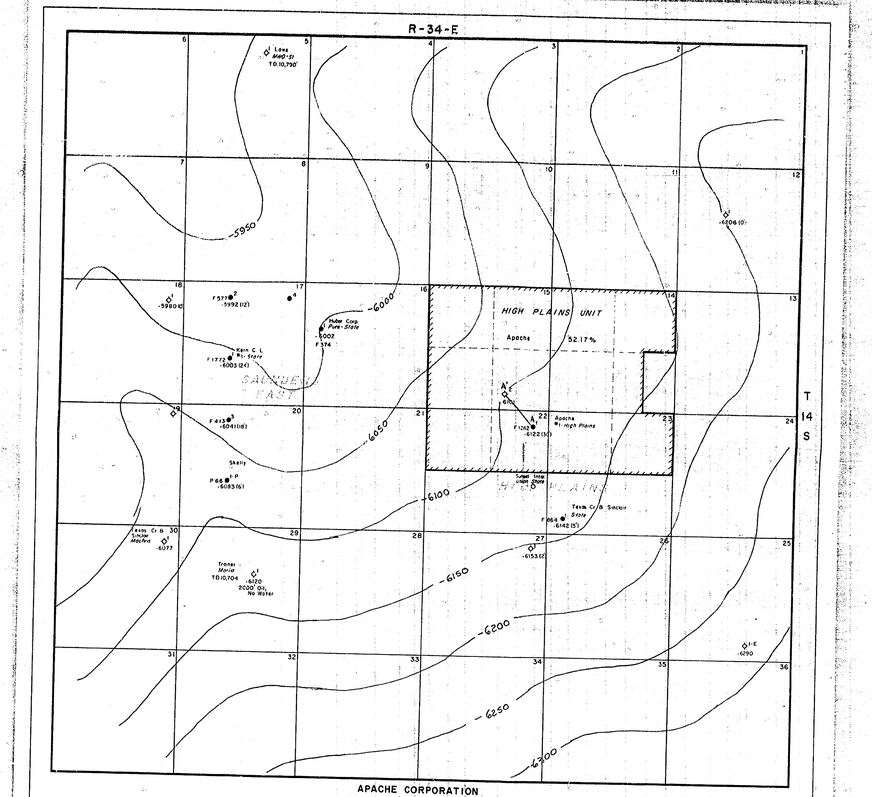


APACHE CORPORATION

HIGH PLAINS PROSPECT

LEA COUNTY, NEW MEXICO

CONTOURS ON: TOP OF SAUNDERS LIME

CONTOUR INTERVAL 50' SCALE: 1"=2,000'

CASE NO. 3206
EXHIBIT NO. 4

MARCH 9, 1966

N.M.M.C.F. MICROGRAPHICS

BEST AVAILABLE COPY

SCHLUMBERGER

SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COUNTY LEA
LOCATION HIGH PLAINS PENN.
WELL HIGH PLAINS UNIT
COMPANY DELAWARE APACHE

COMPANY DELAWARE APACHE CORPORATION

WELL HIGH PLAINS UNIT # 2

FIELD HIGH PLAINS PENN.

COUNTY LEA STATE NEW MEXICO

LOCATION SW/4 OF SEC

Sec. 15 Twp. 14S Rge. 34E

Other Services: IES

Permanent Datum: GL Elev.: 4111
Log Measured From KB 14 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 4125
D.F. 4124
G.L. 4111

Date	4-10-65							
Run No.	ONE							
Depth—Driller	10660							
Depth—Logger	10664							
Btm. Log Interval	10655							
Top Log Interval	0							
Casing—Driller	8 5/8@4530	@		@		@		
Casing—Logger	4528							
Bit Size	7 7/8"							
Type Fluid in Hole	GEL-CAUSTIC, SODA ASH							
Dens. | Visc.	8.9 47							
pH | Fluid Loss	10.4		ml		ml		ml	
Source of Sample	PIT							
R_m @ Meas. Temp.	.72 @ 60 °F	@	°F	@	°F	@	°F	
R_{mf} @ Meas. Temp.	.56 @ 58 °F	@	°F	@	°F	@	°F	
R_{mc} @ Meas. Temp.	1.1 @ 60 °F	@	°F	@	°F	@	°F	
Source: R_{mf} R_{mc}	M	M						
R_m @ BHT	.265 @ 167 °F	@	°F	@	°F	@	°F	
Time Since Circ.	4 HOURS							
Max. Rec. Temp.	167		°F		°F		°F	
Equip. | Location	1722 HOBBS							
Recorded By	WILSON-LEFLER							
Witnessed By	MR. BLACK							

SCHLUMBERGER

SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COUNTY LEA
LOCATION WILDCAT
WELL HIGH PLAINS UNIT
COMPANY DELAWARE APACHE

COMPANY DELAWARE APACHE CORPORATION

WELL HIGH PLAINS UNIT # 1

FIELD WILDCAT

COUNTY LEA STATE NEW MEXICO

LOCATION 660' FN & EL

Sec. 22 Twp. 14S Rge. 34E

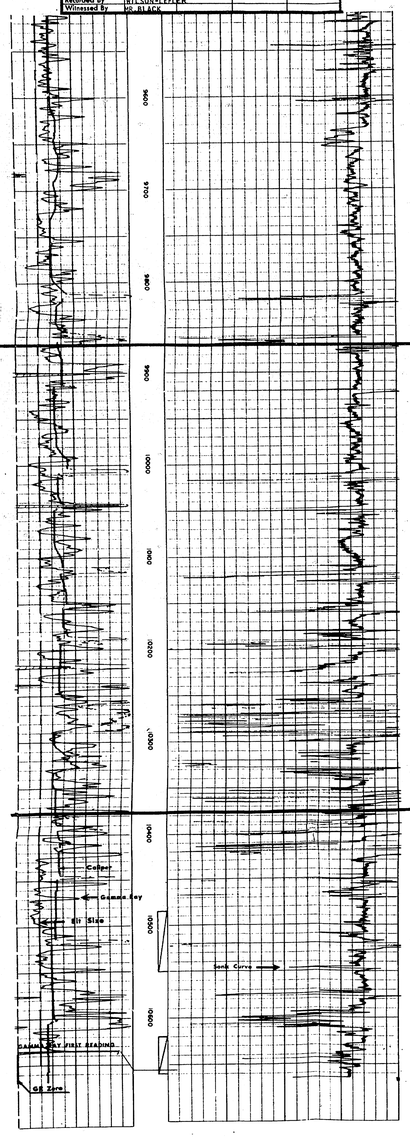
Other Services: IES, ML

Permanent Datum: GL Elev.: 4104
Log Measured From KB 14 Ft. Above Perm. Datum
Drilling Measured From KB

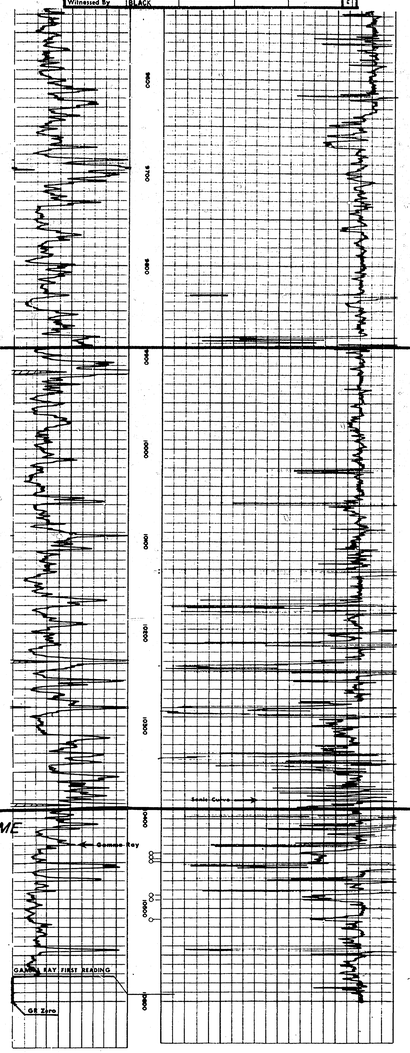
Elev.: K.B. 4118
D.F. 4117
G.L. 4104

Date	1-10-65							
Run No.	ONE							
Depth—Driller	10600							
Depth—Logger	10599							
Btm. Log Interval	10592							
Top Log Interval	0							
Casing—Driller	8 5/8@4450	@		@		@		
Casing—Logger	-							
Bit Size	7 7/8"							
Type Fluid in Hole	GEL, CAUSTIC, SODA ASH							
Dens. | Visc.	8.9 41							
pH | Fluid Loss	8.2 7.6		ml		ml		ml	
Source of Sample	CIRC							
R_m @ Meas. Temp.	1.08@55 °F	@	°F	@	°F	@	°F	
R_{mf} @ Meas. Temp.	0.82@58 °F	@	°F	@	°F	@	°F	
R_{mc} @ Meas. Temp.	1.38@58 °F	@	°F	@	°F	@	°F	
Source: R_{mf} R_{mc}	M	M						
R_m @ BHT	0.43@142 °F	@	°F	@	°F	@	°F	
Time Since Circ.	4 HOURS							
Max. Rec. Temp.	142		°F		°F		°F	
Equip. | Location	2503 HOBBS							
Recorded By	BROWN							
Witnessed By	BLACK							

A STRATIGRAPHIC DATUM A'



TOP SAUNDERS LIME



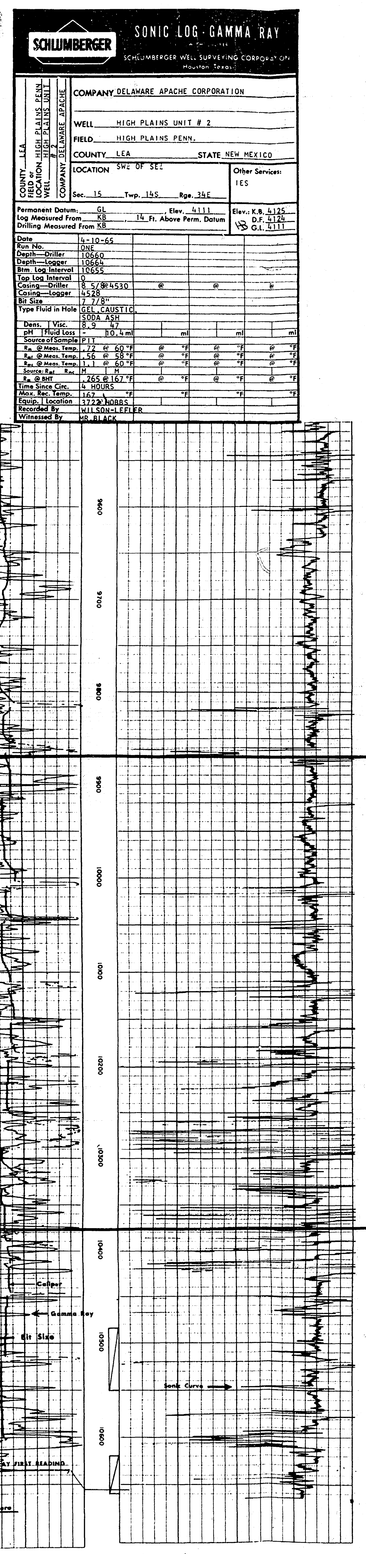
DST 10,485-10,550' REC. 120' MUD
DST 10,620-10,660' REC. 5525 SW
FSIP 3912

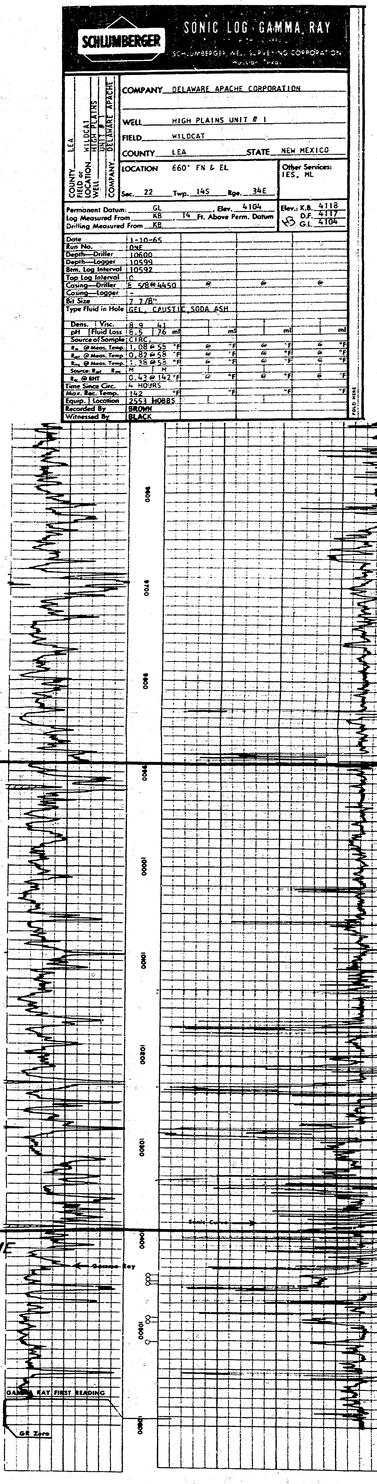
IP 1262 BOPD
PERFS 10,438-10,512'

APACHE

CROSS-SECTION
HIGH PLAINS FIELD
Lea Co., New Mexico

CASE NO. 3206
EXHIBIT NO. 2
MARCH 9, 1966





A STRATIGRAPHIC DATUM A'

TOP SAUNDERS LIME

DST 10,485 - 10,550' REC. 120' MUD
DST 10,620 - 10,660' REC. 5525 SW
FSIP 3912

IP 1262 BOPD
PERFS 10,438 - 10,512'

APACHE

CROSS - SECTION
HIGH PLAINS FIE
Lea Co., New Mex

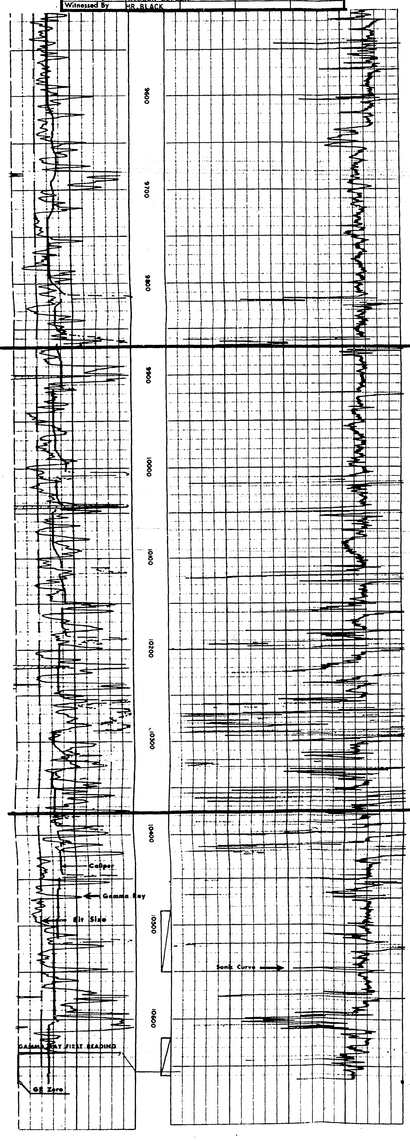
CASE NO.
EXHIBIT N
MARCH 9,

SCHLUMBERGER — SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COMPANY	DELAWARE APACHE CORPORATION
WELL	HIGH PLAINS UNIT # 2
FIELD	HIGH PLAINS PENN.
COUNTY	LEA STATE NEW MEXICO
LOCATION	SWC OF SEC
Other Services:	IES
Sec. 15	Twp. 14S Rge. 34E
Permanent Datum:	GL Elev. 4111
Log Measured From	KB 14 Ft. Above Perm. Datum
Drilling Measured From	KB
Elev.: K.B.	4125
D.F.	4124
G.L.	4111

Date	1-10-65						
Run No.	ONE						
Depth—Driller	10660						
Depth—Logger	10664						
Btm. Log Interval	10655						
Top Log Interval	0						
Casing—Driller	8 5/8@4530	@		@		@	
Casing—Logger	4528						
Bit Size	7 7/8"						
Type Fluid in Hole	GEL CAUSTIC SODA ASH						
Dens. | Visc.	8.9 47						
pH | Fluid Loss	- 10.4 ml		ml		ml		ml
Source of Sample	PIT						
R_m @ Meas. Temp.	.72 @ 60 °F	@	°F	@	°F	@	°F
R_{mf} @ Meas. Temp.	.56 @ 58 °F	@	°F	@	°F	@	°F
R_{mc} @ Meas. Temp.	1.1 @ 60 °F	@	°F	@	°F	@	°F
Source: R_{mf} R_{mc}	M M						
R_m @ BHT	.265 @ 167 °F	@	°F	@	°F	@	°F
Time Since Circ.	4 HOURS						
Max. Rec. Temp.	167 °F		°F		°F		°F
Equip. | Location	1772 | HOBBS						
Recorded By	WILSON-LEFLER						
Witnessed By	Mr. BLACK						

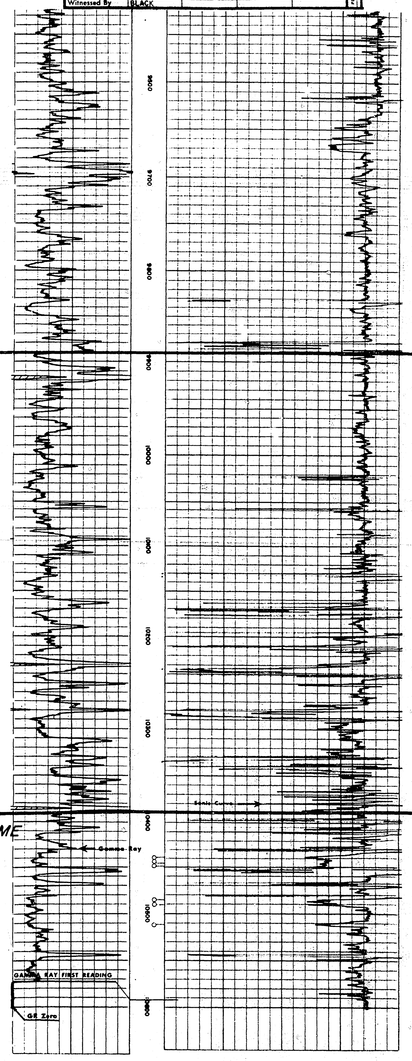


SCHLUMBERGER — SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COMPANY	DELAWARE APACHE CORPORATION
WELL	HIGH PLAINS UNIT # 1
FIELD	WILDCAT
COUNTY	LEA STATE NEW MEXICO
LOCATION	660' FN & EL
Other Services:	IES, ML
Sec. 22	Twp. 14S Rge. 34E
Permanent Datum:	GL Elev. 4104
Log Measured From	KB 14 Ft. Above Perm. Datum
Drilling Measured From	KB
Elev.: K.B.	4118
D.F.	4117
G.L.	4104

Date	1-10-65						
Run No.	ONE						
Depth—Driller	10600						
Depth—Logger	10599						
Btm. Log Interval	10592						
Top Log Interval	0						
Casing—Driller	8 5/8@4450	@		@		@	
Casing—Logger	-						
Bit Size	7 7/8"						
Type Fluid in Hole	GEL. CAUSTIC SODA ASH						
Dens. | Visc.	8.9 41						
pH | Fluid Loss	8.5 7.6 ml		ml		ml		ml
Source of Sample	CIRC						
R_m @ Meas. Temp.	1.08 @ 58 °F	@	°F	@	°F	@	°F
R_{mf} @ Meas. Temp.	0.82 @ 58 °F	@	°F	@	°F	@	°F
R_{mc} @ Meas. Temp.	1.18 @ 58 °F	@	°F	@	°F	@	°F
Source: R_{mf} R_{mc}	M M						
R_m @ BHT	0.43 @ 142 °F	@	°F	@	°F	@	°F
Time Since Circ.	4 HOURS						
Max. Rec. Temp.	142 °F		°F		°F		°F
Equip. | Location	2561 | HOBBS						
Recorded By	BROWN						
Witnessed By	BLACK						



A'

TOP SAUNDERS LIME

IP 1262 BOPD

PERFS 10,438 - 10,512'

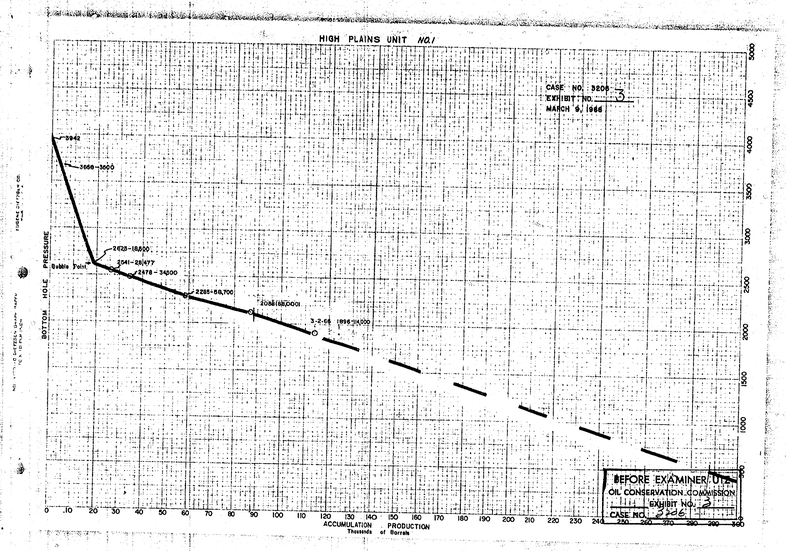
DST 10,485 - 10,550' REC. 120' MUD
DST 10,620 - 10,660' REC. 5525 SW
FSIP 3912

APACHE

CROSS - SECTION
HIGH PLAINS FIELD
Lea Co., New Mexico

CASE NO. 3206
EXHIBIT NO. 2
MARCH 9, 1966

LAND DEPARTMENT ROSWELL, NEW MEXICO



N.M.S.C.F. MICROGRAPHICS
BEST AVAILABLE COPY

Case Number 3206
Exhibit Number 4
March 9, 1966

AREA DRAINAGE COMPUTED FROM PROJECTED RECOVERY

HIGH PLAINS UNIT WELL NO. 1
HIGH PLAINS PENN POOL

Reservoir Volume Calculations

Porosity (Sonic Log)	10%
Water Saturation (Calculated)	32%
Net Effective Pay	25 feet
Recovery Factor (Assumed)	27%
Formation Volume Factor	1.653
Ultimate Recovery (Projected from Pressure versus Cumulative Production)	286,000 barrels

Oil in Place, Barrels per Acre-Foot

(7758)(.10)(1.00-0.32)(1/1.653) = 319 bbls/ac-ft

Recoverable Oil, bbls per acre-foot

(319) x (0.27) = 86 bbls/ac-ft

Oil in Place, Barrels per Acre

(110) x (25) = 7950 bbls/acre

Recoverable Oil, Barrels per Acre

(7950) x (0.27) = 2140 bbls/acre

	40 Acres	80 Acres	160 Acres
Oil in Place, Barrels	318,000	635,000	1,270,000
Recoverable Oil, Barrels	85,000	170,000	340,000
Recoverable Gas, MMCF	153	306	612

(4 2,110 Bbls-Est)

Actual Area Drained from the Subject Well

$X = \frac{286,000}{2140} = 134$ Acres

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 3206

W.N.M.C.F. MICROGRAPHICS
BEST AVAILABLE COPY

Case Number 3006
Exhibit Number 5
March 9, 1966

ECONOMIC EVALUATION

HIGH PLAINS UNIT WELL NO. 1
HIGH PLAINS PENN POOL
(Revised)

BASIC DATA

1.	Oil Value	$3.01 per barrel less $0.14 per barrel trucking
2.	Oil Purchaser	McWood Corporation
3.	Gas Value	$0.12 per MCF
4.	Gas Purchaser	Atlantic Refining Company within sixty days
5.	Net Interest	87.5%
6.	Production Taxes	6.1%
7.	Lifting Costs	$0.20 per barrel
8.	Per Well Investment Costs	$145,000 for flowing well
		15,000 for artificial lift
		$160,000 Total Costs

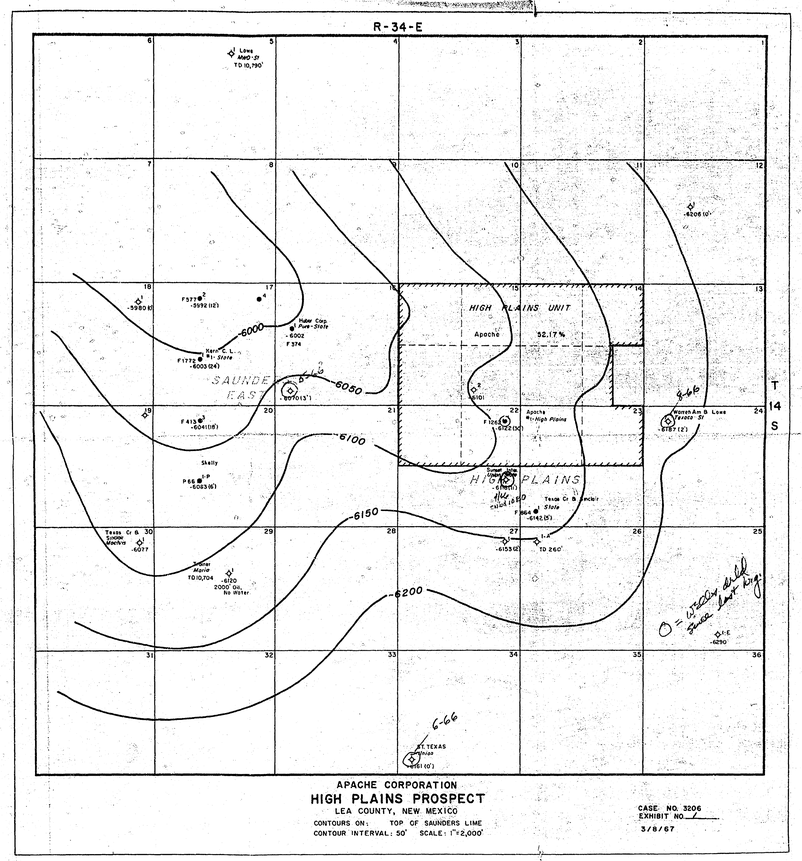
ECONOMICS FOR ONE WELL

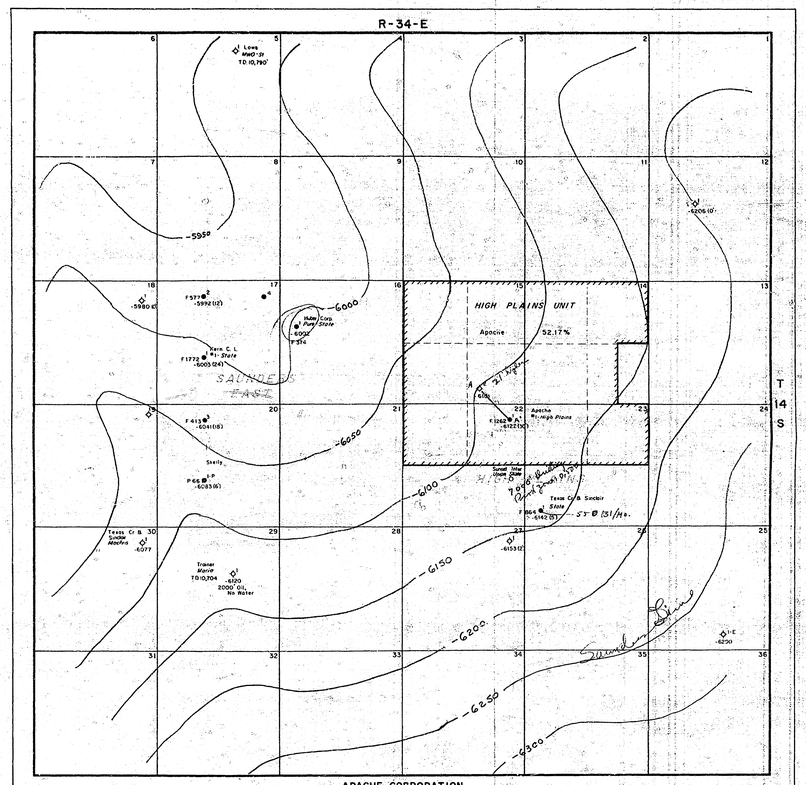
		Well Spacing		
		40 Acre	80 Acre	160 Acre
1.	Recoverable Oil, Barrels	71,500	143,000	286,000
2.	Recoverable Gas, MMCF	128	258	515
3.	Oil Revenue	$ 205,000	$ 411,000	$ 820,000
4.	Gas Revenue	15,400	30,900	61,800
5.	Total Revenue	220,400	441,900	881,800
6.	Net Revenue after Royalty and Taxes	181,000	362,500	724,000
7.	Operating Costs	14,300	28,600	57,200
8.	Net Income	166,700	333,900	666,800
9.	Investment	160,000	160,000	160,000
10.	Profit	6,700	173,900	506,800
11.	Profit-to-Investment Ratio	0.042 to 1	1.08 to 1	3.17 to 1

*The High Plains Unit No. 1 well has already drained more than is recoverable under forty acre spacing.

N.M.O.C.C. MICROGRAPHICS

BEST AVAILABLE COPY


R-34-E
T 14 S
HIGH PLAINS UNIT
Apache
52.17%
SAUNDERS EAST
HIGH PLAINS
-6000
-6050
-6100
-6150
-6200
Lowe Mack-St TD 10,790'
Hunt Oil Co. Pure-State
Texas Cr. & Sinclair State
Texas Cr. & Sinclair State
Skelly
Texas Cr. & Sinclair State
Shell Marie TD 10,704
-6120 2000' Gas, No Water
T.A.
TD 260'
Lowe Mack-St
Texas Cr. & Sinclair State
Apache Ft. High Plains
Apache Ft. High Plains
Apache Ft. High Plains



APACHE CORPORATION

HIGH PLAINS PROSPECT

LEA COUNTY, NEW MEXICO

CONTOURS ON: TOP OF SAUNDERS LIME

CONTOUR INTERVAL 50' SCALE: 1"=2,000'

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 3206

CASE NO. 3206 EXHIBIT NO. 1

MARCH 19, 1986

V.N.M.C.P. MICROGRAPHICS

BEST AVAILABLE COPY

SCHLUMBERGER

SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COMPANY DELAWARE APACHE CORPORATION

WELL HIGH PLAINS UNIT # 2

FIELD HIGH PLAINS PENN.

COUNTY LEA STATE NEW MEXICO

LOCATION SW/C OF SEC.

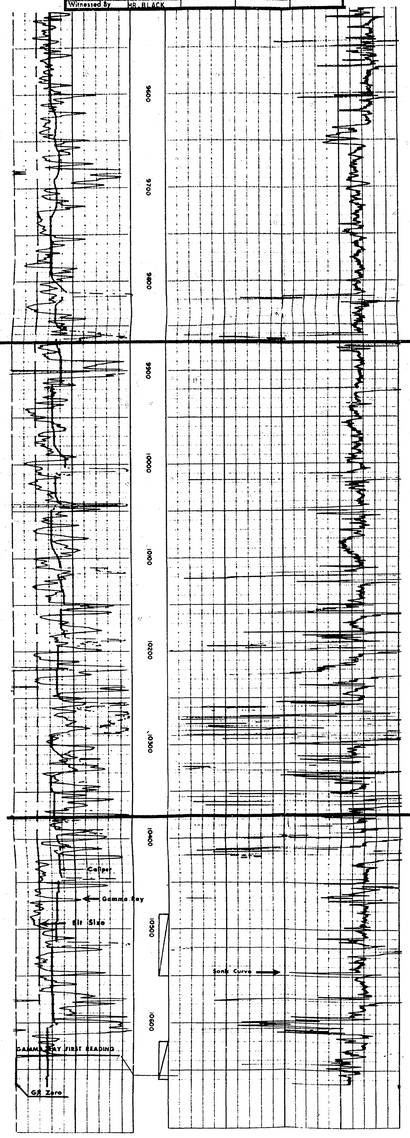
Other Services: IES

Sec. 15 Twp. 15S Rge. 36E

Permanent Datum: GL Elev. 4111
Log Measured From: KB 14 Ft. Above Perm. Datum
Drilling Measured From: KB

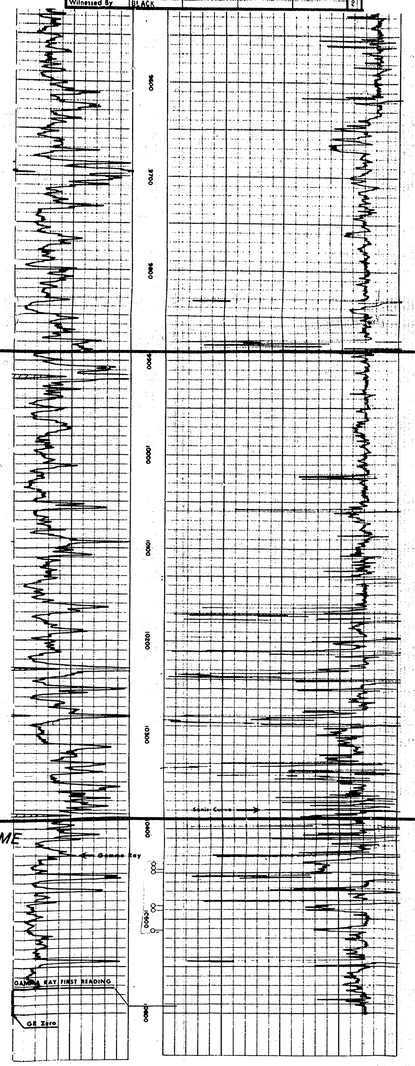
Elev.: K.B. 4125
D.F. 4124
G.L. 4111

Date	4-10-65				
Run No.	ONE				
Depth—Driller	10660				
Depth—Logger	10664				
Btm. Log Interval	10655				
Top Log Interval	0				
Casing—Driller	8 5/8@4530	@	@	@	
Casing—Logger	4528				
Bit Size	7 7/8"				
Type Fluid in Hole	GEL. CAUSTIC SODA ASH				
Dens. Visc.	8.9 47				
pH Fluid Loss	9.7 10.4 ml		ml	ml	ml
Source of Sample	PIT				
Rm @ Meas. Temp.	.72 @ 60°F	@ °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.56 @ 58°F	@ °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	1.1 @ 60°F	@ °F	@ °F	@ °F	@ °F
Source Rm Rmf Rmc	IN IN				
Rm @ BHT	265 @ 162°F	@ °F	@ °F	@ °F	@ °F
Time Since Circ.	4 HOURS				
Max. Rec. Temp.	162 °F	°F	°F	°F	°F
Equip. Location	3722 HOBBS				
Recorded By	WILSON-LEFLER				
Witnessed By	MR BLACK				



A STRATIGRAPHIC DATUM

TOP SAUNDERS LIME



A'

DST 10,485 - 10,550' REC. 120' MUD
DST 10,620 - 10,660' REC. 5525 SW
FSIP 3912

IP 1262 BOPD
PERFS 10,438 - 10,512'

SCHLUMBERGER

SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COMPANY DELAWARE APACHE CORPORATION

WELL HIGH PLAINS UNIT # 1

FIELD WILDCAT

COUNTY LEA STATE NEW MEXICO

LOCATION 660' FN & EL

Other Services: IES, ML

Sec. 22 Twp. 14S Rge. 34E

Permanent Datum: GL Elev. 4104
Log Measured From: KB 14 Ft. Above Perm. Datum
Drilling Measured From: KB

Elev.: K.B. 4118
D.F. 4117
G.L. 4104

Date	1-10-65				
Run No.	ONE				
Depth—Driller	10600				
Depth—Logger	10599				
Btm. Log Interval	10592				
Top Log Interval	0				
Casing—Driller	8 5/8@4450	@	@	@	
Casing—Logger					
Bit Size	7 7/8"				
Type Fluid in Hole	GEL. CAUSTIC SODA ASH				
Dens. Visc.	8.9 41				
pH Fluid Loss	8.5 7.6 ml		ml	ml	ml
Source of Sample	CIRC				
Rm @ Meas. Temp.	.09 @ 95°F	@ °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.08 @ 68°F	@ °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	.35 @ 68°F	@ °F	@ °F	@ °F	@ °F
Source Rm Rmf Rmc	CALC CALC				
Rm @ BHT	.076 @ 162°F	@ °F	@ °F	@ °F	@ °F
Time Since Circ.	4 HOURS				
Max. Rec. Temp.	162 °F	°F	°F	°F	°F
Equip. Location	2553 HOBBS				
Recorded By	BROWN				
Witnessed By	BLACK				

APACHE

CROSS - SECTION
HIGH PLAINS FIELD
Lea Co., New Mexico

CASE NO. 3206
EXHIBIT NO. 2
MARCH 9, 1966

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
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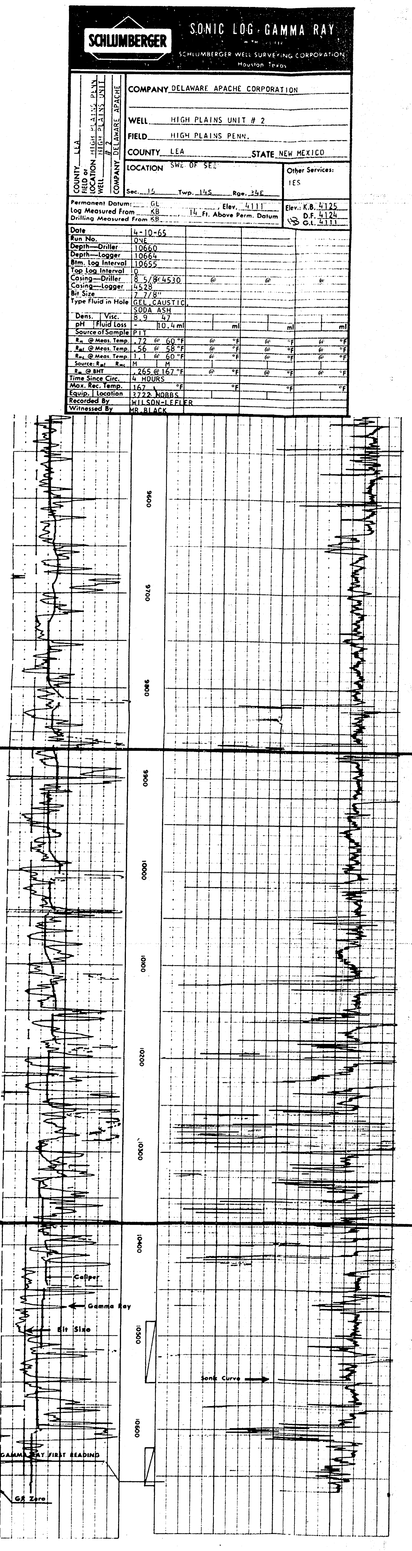

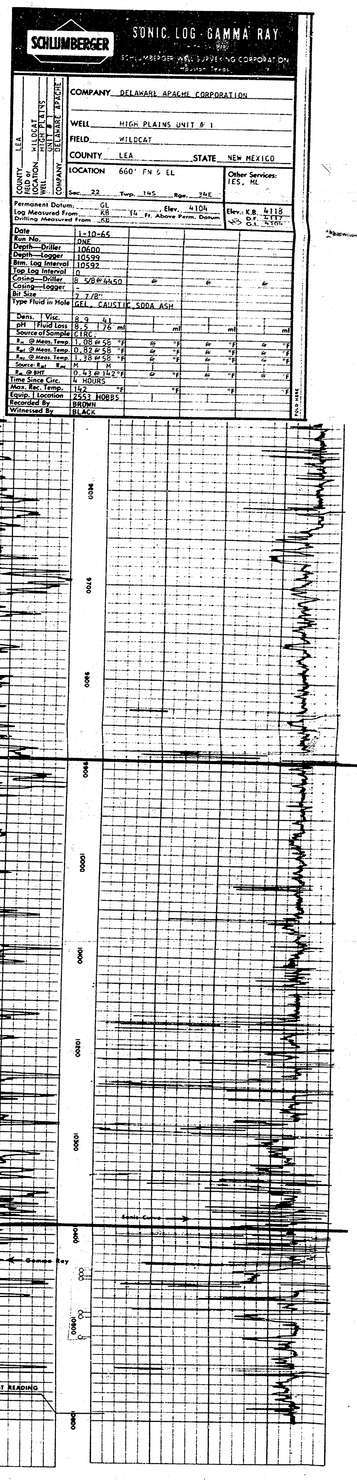

A STRATIGRAPHIC DATUM — A´

TOP SAUNDERS LIME

DST 10,485 - 10,550' REC. 120' MUD
DST 10,620 - 10,660' REC. 5525 SW
FSIP 3912

IP 1262 BOPD
PERFS 10,438 – 10,512'

APACHE

CROSS-SECTION
HIGH PLAINS FI
Lea Co., New Me

CASE NO.
EXHIBIT
MARCH 9

SCHLUMBERGER

SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COUNTY LEA
FIELD OR LOCATION HIGH PLAINS PENN.
WELL HIGH PLAINS UNIT # 2
COMPANY DELAWARE APACHE

COMPANY DELAWARE APACHE CORPORATION
WELL HIGH PLAINS UNIT # 2
FIELD HIGH PLAINS PENN.
COUNTY LEA STATE NEW MEXICO
LOCATION SWL OF SEL
Sec. 15 Twp. 14S Rge. 34E
Other Services: IES

Permanent Datum: GL Elev. 4111
Log Measured From KB 14 Ft. Above Perm. Datum
Drilling Measured From KB
Elev.: K.B. 4125 D.F. 4124 G.L. 4111

Date	4-10-65					
Run No.	ONE					
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Btm. Log Interval	10655					
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Dens. | Visc.	8.9 47					
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Source of Sample	PIT					
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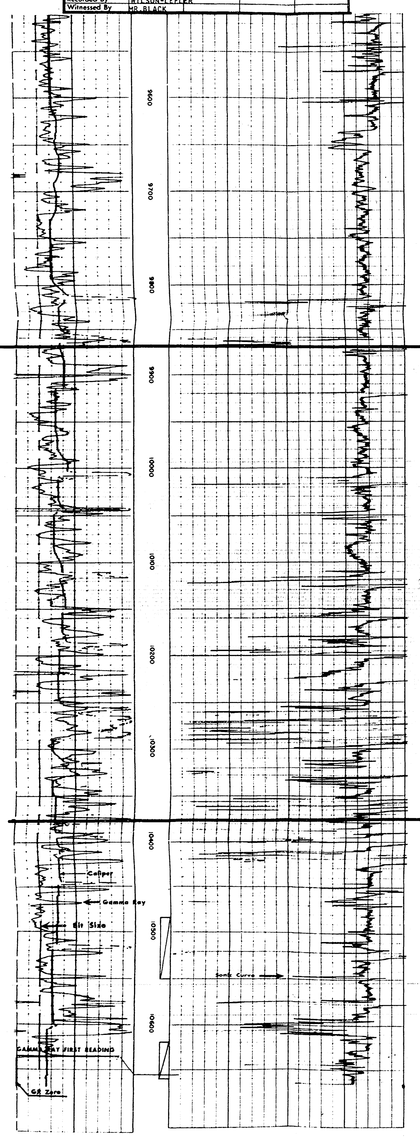
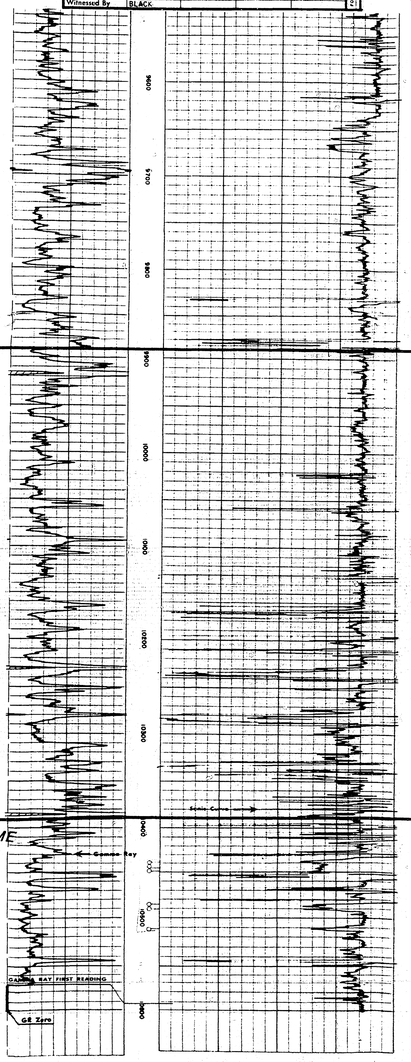
R_{mf} @ Meas. Temp.	.56 @ 58 °F	@ °F	@ °F	@ °F	@ °F	
R_{mc} @ Meas. Temp.	1.1 @ 60 °F	@ °F	@ °F	@ °F	@ °F	
Source R_{mf} R_{mc}	M | M					
R_m @ BHT	.265 @ 167 °F	@ °F	@ °F	@ °F	@ °F	
Time Since Circ.	4 HOURS					
Max. Rec. Temp.	167 °F		°F	°F		°F
Equip. | Location	1722 | HOBBS					
Recorded By	WILSON-LEFLER					
Witnessed By	MR. BLACK					





SCHLUMBERGER

SONIC LOG - GAMMA RAY

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

COUNTY LEA
FIELD OR LOCATION WILDCAT
WELL HIGH PLAINS UNIT # 1
COMPANY DELAWARE APACHE

COMPANY DELAWARE APACHE CORPORATION
WELL HIGH PLAINS UNIT # 1
FIELD WILDCAT
COUNTY LEA STATE NEW MEXICO
LOCATION 660' FN & EL
Sec. 22 Twp. 14S Rge. 34E
Other Services: IES, ML

Permanent Datum: GL Elev. 4104
Log Measured From KB 14 Ft. Above Perm. Datum
Drilling Measured From RD
Elev.: K.B. 4118 D.F. 4117 G.L. 4104

Date	1-10-66					
Run No.	ONE					
Depth—Driller	10600					
Depth—Logger	10598					
Btm. Log Interval	10592					
Top Log Interval	0					
Casing—Driller	8 5/8" @ 4450	@	@	@		
Casing—Logger						
Bit Size	7 7/8"					
Type Fluid in Hole	GEL CAUSTIC SODA ASH					
Dens. | Visc.	8.9 41					
pH | Fluid Loss	8.5 7.6 ml	ml		ml		ml
Source of Sample	CIRC					
R_m @ Meas. Temp.	1.08 @ 58 °F	@ °F	@ °F	@ °F	@ °F	
R_{mf} @ Meas. Temp.	0.82 @ 58 °F	@ °F	@ °F	@ °F	@ °F	
R_{mc} @ Meas. Temp.	1.39 @ 58 °F	@ °F	@ °F	@ °F	@ °F	
Source R_{mf} R_{mc}	M | M					
R_m @ BHT	0.43 @ 142 °F	@ °F	@ °F	@ °F	@ °F	
Time Since Circ.	4 HOURS					
Max. Rec. Temp.	152 °F		°F	°F		°F
Equip. | Location	2553 | HOBBS					
Recorded By	BROWN					
Witnessed By	BLACK					

A

TOP SAUNDERS LIME

APACHE

CROSS-SECTION
HIGH PLAINS FIELD
Lea Co., New Mexico

CASE NO. 3206
EXHIBIT NO. 2
MARCH 9, 1966

IP 1262 BOPD
PERFS 10,438 - 10,512'

DST 10,485 - 10,550' REC 120' MUD
DST 10,620 - 10,660' REC. 5525 SW
FSIP 3912

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 3206

Case Number 3206
Exhibit Number 4
March 8, 1907

AREA DRAINAGE COMPUTED FROM PRODUCTION ECONOMY

(20% Recovery)

HIGH PLAINS UNIT WELL NO.
HIGH PLAINS PENN POOL

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Gomez EXHIBIT NO. 4
CASE NO. 3206

Reservoir Volume Calculations

Porosity (Sonic Log)	10 %
Water Saturation (Calculated)	32 %
Net Effective Pay	25 feet
Recovery Factor (Assumed)	20 %
Formation Volume Factor	1.653
Ultimate Recovery (Projected from Pressure versus Cumulative Production)	231,000 barrels

Oil in Place, Barrels per Acre-Foot

(7758)(.10)(1.00-0.32)(1/1.653) = 319 bbls/ac-ft

Recoverable Oil, bbls per Acre-Foot

(319) x (0.20) = 64 bbls/ac-ft

Oil in Place, Barrels per Acre

(319) x (25) = 7,980 bbls/acre

Recoverable Oil, Barrels per Acre

(7980) x (0.20) = 1,600 bbls/acre

	40 Acres	80 Acres	160 Acres
Oil in Place, Barrels	319,000	639,000	1,280,000
Recoverable Oil, Barrels	64,000	128,000	256,000
Recoverable Gas, MMCF	115	230	460

Actual Area Drained from the Subject Well

$X = \frac{231,000}{1,600} = 148$ Acres

W.N.M.C.P. MICROGRAPHICS
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Case Number 3206
Exhibit Number 5
March 8, 1967

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Gulf EXHIBIT NO. 5
CASE NO. 3026

ECONOMIC EVALUATION

(80% Recovery)

HIGH PLAINS UNIT WELL NO. 1
HIGH PLAINS PENN POOL
(Revised)

BASIC DATA

1.	Oil Value	$3.06 per barrel less $0.14 per barrel trucking
2.	Oil Purchaser	Permian Corporation
3.	Gas Value	$0.12 per MCF
4.	Gas Purchaser	Atlantic Refining Company
5.	Net Interest	87.5%
6.	Production Taxes	6.1%
7.	Lifting Costs	$0.20 per barrel
8.	Per Well Investment Costs	$145,000 for flowing well 20,000 for artificial lift $165,000 Total Costs

ECONOMICS FOR ONE WELL

		Well Spacing		
		40 Acre	*80 Acre	**160 Acre
1.	Recoverable Oil, Barrels	64,000	128,000	237,000
2.	Recoverable Gas, MMCF	115	230	426
3.	Oil Revenue	$187,000	$376,000	$692,000
4.	Gas Revenue	13,800	27,600	51,100
5.	Total Revenue	200,800	401,600	743,100
6.	Net Revenue after Royalty and Taxes	164,500	330,000	610,000
7.	Operating Costs	12,800	25,600	47,400
8.	Net Income	151,700	304,400	562,600
9.	Investment	165,000	165,000	165,000
10.	Profit (-Loss)	(-13,300)	139,400	397,600
11.	Profit-to-Investment Ratio		0.84 to 1	2.40 to 1

* The High Plains Unit No. 1 well has already drained more than is recoverable under eighty acre spacing.

** Recoveries adjusted to anticipated recoveries as determined by production history.

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