

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
 Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 7-27-81		660 FSL	
Company SANTA FE ENERGY				Connection AIR - NEW WELL		660 FWL	
Pool SAUNDERS REEF				Formation MORROW		Unit M	
Completion Date		Total Depth 13,535		Plug Back TD 12,358		Elevation 4291 KB	
Farm or Lease Name STATE NEW MEXICO "2"							
Csg. Size 5.5	Wt. 20	d 4.778	Set At 12,358	Perforations: From 12,240 To 12,278		Well No. 1	
Thq. Size 2,875	Wt. 6.5	d 2.441	Set At 12,122	Perforations: From OPEN To ENDED		Unit Sec. Twp. Rge. M 2 15S 32E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At 12,100		County LEA	
Producing Thru TUBING		Reservoir Temp. °F 172 @ 12,078		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
State NEW MEXICO							
L 12259	H 12259	Gg .6745	% CO ₂ .687	% N ₂ 1.940	% H ₂ S	Prover	Meter Run Taps 4" FLANGE

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	B.H.P. p.s.i.g.		Temp. °F
SI							3980	80	6270		81 HOURS
1.	4"	X	1.25	440	1.3	86	3458	77	5750		1
2.	4"	X	1.25	450	4.0	83	3176	78	5333		1
3.	4"	X	1.25	453	7.8	76	2905	80	4941		1
4.	4"	X	1.25	465	16.3	76	2442	80	4311		1
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor Fpv	Rate of Flow Q, Mcfd
1	7.6610	24.27	453.2	.9759	1.2172	1.0398	230
2	7.6610	43.04	463.2	.9786	1.2172	1.0414	409
3	7.6610	60.30	466.2	.9850	1.2172	1.0443	578
4	7.6610	88.29	478.2	.9850	1.2172	1.0448	847
5.							

NO.	P _t	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.		
1.	.68	546	1.46	.925	A.P.I. Gravity of Liquid Hydrocarbons 49.7 _____ Deg.		
2.	.69	543	1.45	.922	Specific Gravity Separator Gas .6750 _____		
3.	.70	536	1.43	.917	Specific Gravity Flowing Fluid X X X X X _____		
4.	.71	536	1.43	.917	Critical Pressure 669 _____ P.S.I.A.		
5.					Critical Temperature 374 _____ R		

P _c 6283.2 P _c ² 39478.6			
NO.	P _t ²	P _w	P _w ²
1		5763.233214	.5
2		5346.228581	.9
3		4954.224544	.1
4		4324.218698	.7
5			

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.8998$$

$$Q_{OF} = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.609.2$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.8998$$

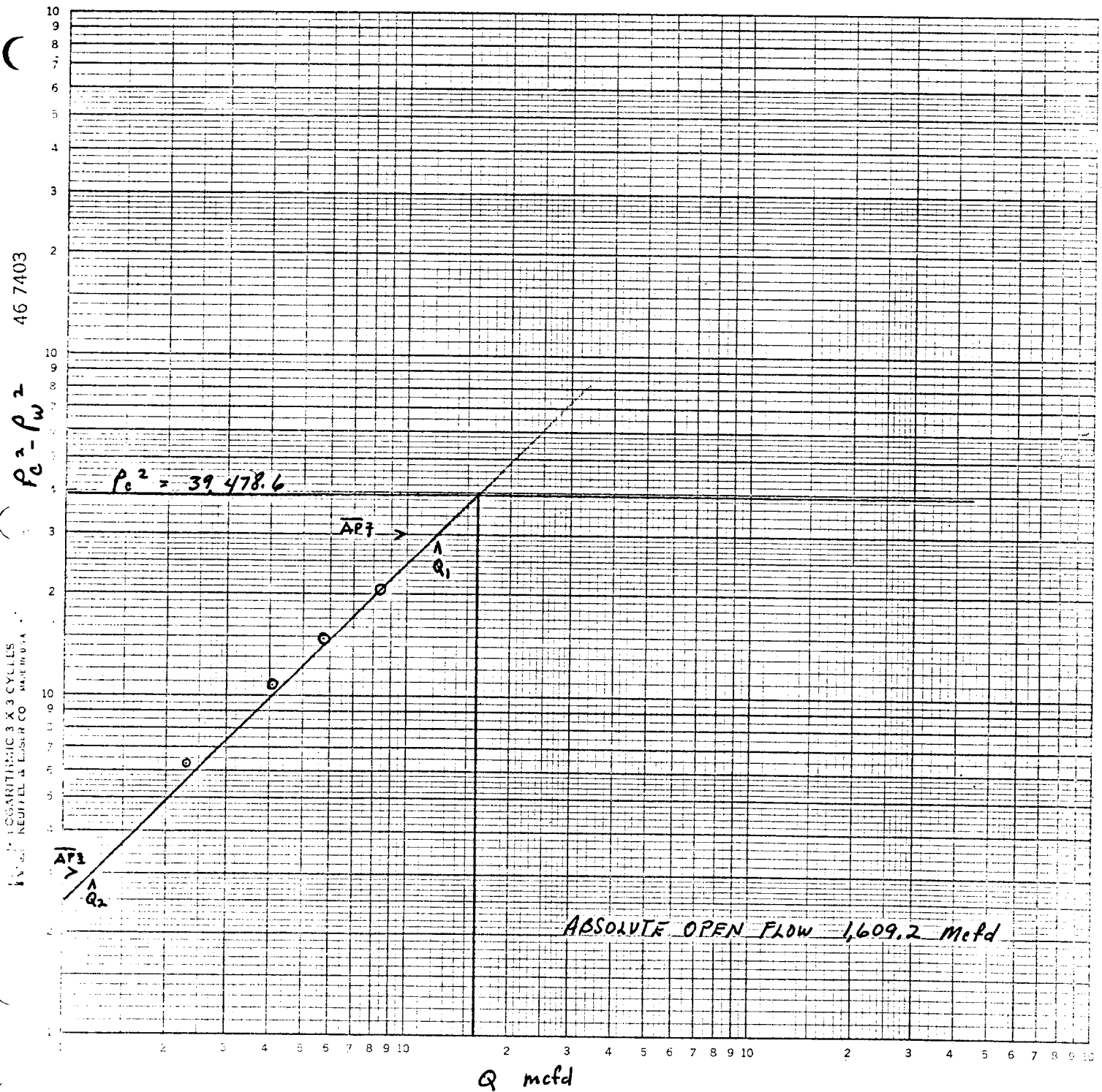
Absolute Open Flow 1609.2 _____ Mcfd @ 15.025	Angle of Slope θ 45 _____	Slope, n 1.000 _____
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Remarks: **AMERADA BOTTOM HOLE PRESSURE ELEMENTS USED TO OBTAIN BOTTOM HOLE PRESSURES.**

Approved By Commission: 	Conducted By: DON BENNETT	Calculated By: WOHLFORD & JENKINS	Checked By:
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WITNESS BY JAMES MOORE & PATRICK GAIME

Santa Fe Energy Company
 State New Mexico "2" Well No 1
 Lea County, New Mexico
 July 27, 1981



$\Delta P_i \quad P_c^2 - P_w^2 = 3,000$

$\Delta P_i \quad P_c^2 - P_w^2 = 30,000$

$Q_1 = 1240 \text{ mcf/d}$

$Q_2 = 124 \text{ mcf/d}$

$\log Q_1 = 3.0934$

$\log Q_2 = 2.0934$

$n_i = 1.0000 = 1.00$

TEST DATE: 7-27-81
TEST DEPTH: 12,078 FEET

ELEMENT NO.: RPG3#46632 & RPG3#46950
RANGE: 0-7,000 LBS. & 0-7,000 LBS.

CLOCKS: 1935 & 83443
RANGE: 12 HOURS & 12 HOURS

OPERATOR: BO F.

Note: See Attached Sheet for Tabulation of Pressure
And Time.

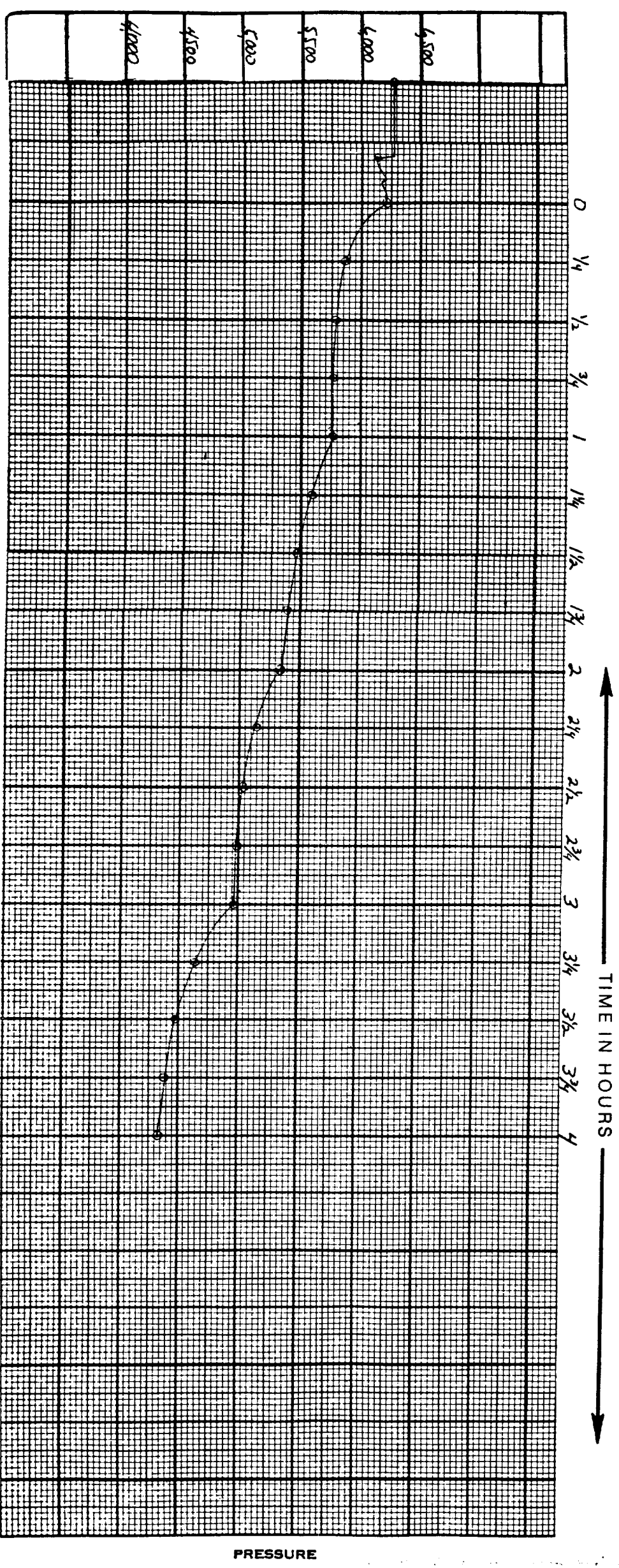
PATRICK GAUME

SANTA FE ENERGY COMPANY
STATE NEW MEXICO "2" #1

BENNETT-CATHEY WIRE LINE SERVICE
Box 787
Artesia, N.M. 88210

Drawn By Scale: As Shown

BENNETT-
CATHEY
WELL SERVICES



OKLAHOMA CORPORATION COMMISSION - OIL & GAS CONSERVATION DIVISION
380 Jim Thorpe Building-Oklahoma City Oklahoma 73105
BACK - PRESSURE TEST FOR NATURAL GAS WELLS

Lease Name: NEW MEXICO STATE 2 #1 OTC No.:
Well No.: 1 SEC: 2 TWP: 15S RGE: 32E County: LEA
State: NEW MEXICO Type test: FOUR POINT-INITIAL Test date: 7-27-81
Company: SANTA FE ENERGY Connection: AIR-NEW WELL
Field: SAUNDERS REEF Pool No.: Reservoir: MORROW
Location: UNIT M Compl date: 7-27-81 Tot depth: 13535 Plug back: 12358
Elev.: 4291 KB Type compl: SINGLE Packer set at: 0
Prod. thru: TUBING BHT: 172.0 F Atm temp: 80 F Baro press.: 13.2 PSI
Size: METER RUN 4.026 in Taps: FLANGE L: 12259 H: 12259 Gg: .675
%CO2: .69 %N2: 1.94 %H2S: 0 API WELL NO.:
Casing Size(in) Wt(#/Ft) Set at ***** Perforation *****
Tubing 5.500 20.00 12358 from 12240 to 12278
2.8/5 6.50 12122 from 0 to 0

***** FLOW DATA *****					** TUBING **		** CASING **		* DURATION *
No.	Orifice Size	Press PSIG	Diff in/RTS	Temp F	Press PSIG	Temp F	Press PSIG	Temp F	Dur. of Flow(hrs)
1	1.2500	440.0	1.30	86	3980.0	80.0	6270.0	80.0	81.00
2	1.2500	450.0	4.00	83	3458.0	77.0	5750.0	.0	1.00
3	1.2500	453.0	7.80	76	3176.0	78.0	5333.0	.0	1.00
4	1.2500	465.0	16.30	76	2905.0	80.0	4941.0	.0	1.00
					2442.0	80.0	4311.0	.0	1.00

***** RATE OF FLOW CALCULATION *****							
No.	Coeff. (24hrs)	SQRT (Hw*Pw)	Press Pm	Flow Temp (Ft)	Gravity (Fg)	Compress (Fpv)	Rate of Flow(Q)
1	7.6610	24.27	453.2	.9759	1.2172	1.0398	230.
2	7.6610	43.04	463.2	.9786	1.2172	1.0414	409.
3	7.6610	60.30	466.2	.9850	1.2172	1.0443	578.
4	7.6610	88.29	478.2	.9850	1.2172	1.0448	847.

***** **GAS LIQUID HYDROCARBON CALCULATION** *****				
No.	Pr	Temp. R	Tr	Z
1	.68	546.	1.46	.925
2	.69	543.	1.45	.922
3	.70	536.	1.43	.917
4	.71	536.	1.43	.916

Ratio ***** MCF/BBL
API Gravity 49.7 DEG.
Specific Gravity:
Separator Gas .6750
Flowing Fluid .7969
Critical Press 669 PSIA 664 PSIA
Critical Temp 374 R 414 R

Pc 6283.2 (Pc)2 39478.6

No. Pw (Pw)2 (Pc)2-(Pw)2
1 5/63.2 33214.5 6264.0
2 5346.2 28581.9 10897.0
3 4954.2 24544.1 14935.0
4 4324.2 18698.7 20780.0

$$(Pc)^2 / ((Pc)^2 - (Pn)^2) = 1.8998$$

$$((Pc)^2 / ((Pc)^2 - (Pw)^2))n = 1.8998$$

$$WHAOF = Q * ((Pc)^2 / ((Pc)^2 - (Pw)^2))n$$

$$= 1609.2 \setminus 1461.5$$

Calculated Well Head Open Flow: 1609.2 MCFPD Slope: 1.0000 Angle: 45.0 Deg.
~~1461.5~~ MCFPD ~~8500~~ ~~49.6~~ Deg.

REMARKS

APPROVED BY COMMISSION CONDUCTED BY CALCULATED BY CHECKED BY
Wohlford & Jenkins
Gas Consultants

3126491-40100000

WILLIAMS AND JENKINS COMPUTER PROGRAM
IOCC TEST PROCEDURE - OK, YOMA

Company: SANTA FE ENERGY

Reference No.: 3126491

Lease Name: NEW MEXICO STATE 2 #1

Zone No.: 40100000

FLOW	THEATA	SLOPE	INTERCEPT	STD DEV
-Slope exceeded 1.000				
1234	42.7	1.0842	.0174	.0114
234	41.6	1.1280	.0114	.0040

WOLFORD AND JENKINS COMPUTED PROGRAM
IOCC TEST PROCEDURE - OKLAHOMA

Company: SANTA FE ENERGY

Reference No.: 3126491

Lease Name: NEW MEXICO STATE 2 #1

Zone No.: 40100000

FLOW	THEATA	SLOPE	INTERCEPT	STD DEV
NIKURADSE EQUATION with absolute roughness of 0.0001 In. used-Slope exceeded 1.00				
1234	42.7	1.0842	.0174	.0114
234	41.6	1.1280	.0114	.0040

COPLICATE	
REFERENCE	NUMBER
STATE NO.	TICKET NO.
1	1
2	2
3	3
4	4
5	5
6	6
7	7

forward

```

PRODUCING THROUGH
1-1 TUNING
2-2 ANNUUS
3-3 CASING

TYPE INSTRUMENT
1-1 PROVER
2-2 METER RUN
3-3 MORE MIPPLE

TYPE TAPS
1-1 FLANGE
2-2 PIPE

P-1-1 IF  $P^2$  VALUE  $\neq 0$  TO
BE CALCULATED FROM
SHUT IN PRESSURE
M2=NO OF 10 DESCRIPTIONS
M3=NO OF 00 DESCRIPTIONS

3-1-1 IF THE LAST SET OF
DATA IS A CALCULATION OF
STABILIZED OPEN FLOW,
BE LEFT BLANK

1-1 IF THE SLOPE GIVEN
IS TO BE USED IN
SUBROUTINE

D-1 IF DUMMY PACKER
DEPTH GOOD TO
ALLOW TEST TO RUN

L-1 IF L-10 CHARTS USED.
PRESSURE AND
DIFFERENTIAL INDICATED

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no further

[illegible]

Artesia, New Mexico 88210

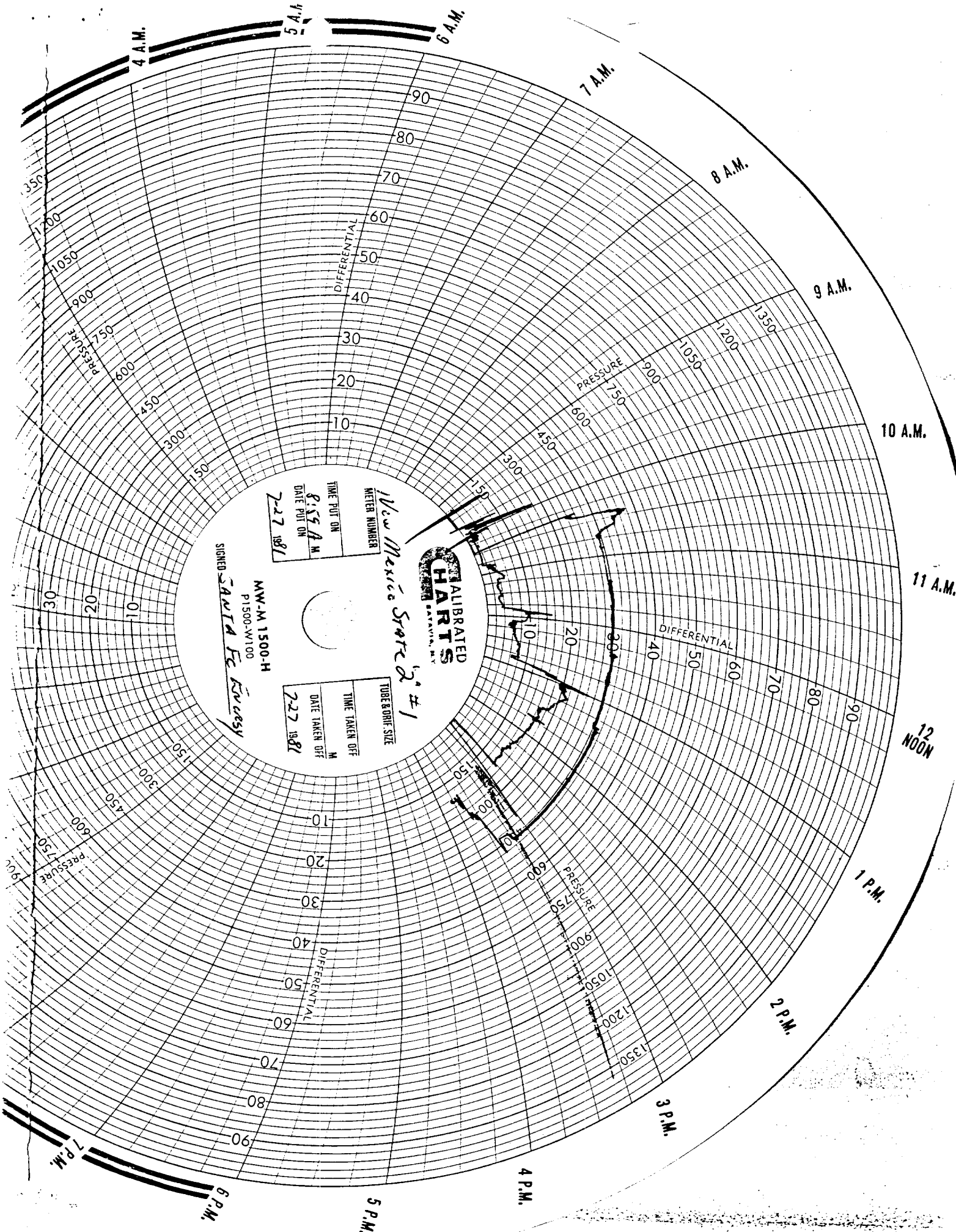
FORMATION

PAGE 1 OF 1

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

DEAD WEIGHT AT THE END OF _____ HOURS _____ MINUTES _____ SECONDS _____ °F.

[illegible]



METER NUMBER
TIME PUT ON
8:55 A.M.
DATE PUT ON
7-27 1981

Tube & Right Size
TIME TAKEN OFF
DATE TAKEN OFF
M
7-27 1981

NEW Mexico State #1
CALIBRATED CHARTS
NEW YORK, N.Y.
MW-M 1500-H
P1500-W100
SIGNED SANTA Fe Energy

NEW-TEX LAB

P. O. BOX 1161
HOBBS, N.M. 88240

CERTIFICATE OF ANALYSIS

No. 5327
Run No. _____
Date of Run 7-28-81
Date Secured 7-27-81

A Sample of Santa Fe Energy New Mexico State 2 #1
Secured from Bennett Wireline
At Box 787
Artesia, NM 88210 Secured by _____
Time _____ Date _____
Sampling conditions _____ Press _____
Temp. _____

First Flow Rate

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	LIQ. %	G.P.M.
Carbon Dioxide	.655		
Air			
Nitrogen	2.162		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	81.660		
Ethane	9.364	2.495	
Propane	4.061	1.115	
Butanes			
Iso-Butane	.389	.127	
N-Butane	.826	.250	
Pentanes			
Iso-Pentane	.378	.138	
N-Pentane	.357	.129	
Hexanes	.094	.039	
Heptanes	.064	.029	
Octanes			
TOTAL	100.000	4.332	

Calc. Sp. Gr. 0.6897
Calc. A.P.I. _____
Calc. Vapor Press. _____ PSIA
Sp. Gr. _____
Mol. Wt. 19.98

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M. 1.115
Butanes Calc. G.P.M. .377
Pentanes Plus. G.P.M. .335
Ethane Calc. G.P.M. 2.495
*RVP Gasoline G.P.M. _____

B.T.U./Cu. Ft. @ 14.696 P.S.I.A.
Dry Basis 1170
Wet Basis 1150
Sulfur Analysis by Titration
Gr./100 Cu. Ft.
Hydrogen Sulfide _____
Mercaptans _____
Sulfides _____
Residual Sulfur _____
Total Sulfur _____

Run by Deane Simpson Checked by _____ Approved by Deane Simpson
Additional Data and Remarks

NEW-TEX LAB

P. O. BOX 1161
HOBBS, N.M. 88240

CERTIFICATE OF ANALYSIS

No. 5328
Run No. _____
Date of Run 7-28-81
Date Secured 7-27-81

A Sample of Santa Fe Energy New Mexico State 2 #1
Secured from Bennett Wireline
At Box 787 Secured by _____
Artesia, NM 88210 Time _____ Date _____
Sampling conditions _____ Press _____
Temp. _____
4th Flow Rate

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	LIQ. %	G.P.M.
Carbon Dioxide	.687		
Air			
Nitrogen	1.940		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	82.271		
Ethane	9.937		2.650
Propane	3.921		1.076
Butanes			
Iso-Butane	.367		.120
N-Butane	.615		.193
Pentanes			
Iso-Pentane	.094		.034
N-Pentane	.078		.028
Hexanes	.055		.023
Heptanes	.035		.016
Octanes			
TOTAL	100.000		4.140

Calc. Sp. Gr. 0.6745
Calc. A.P.I. _____
Calc. Vapor Press. _____ PSIA
Sp. Gr. _____
Mol. Wt. 19.55

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M. 1.076
Butanes Calc. G.P.M. .313
Pentanes Plus. G.P.M. .101
Ethane Calc. G.P.M. 2.650
*RVP Gasoline G.P.M. _____
B.T.U./Cu. Ft. @ 14.696 P.S.I.A.
Dry Basis 1149
Wet Basis 1129
Sulfur Analysis by Titration
Gr./100 Cu. Ft. _____
Hydrogen Sulfide _____
Mercaptans _____
Sulfides _____
Residual Sulfur _____
Total Sulfur _____

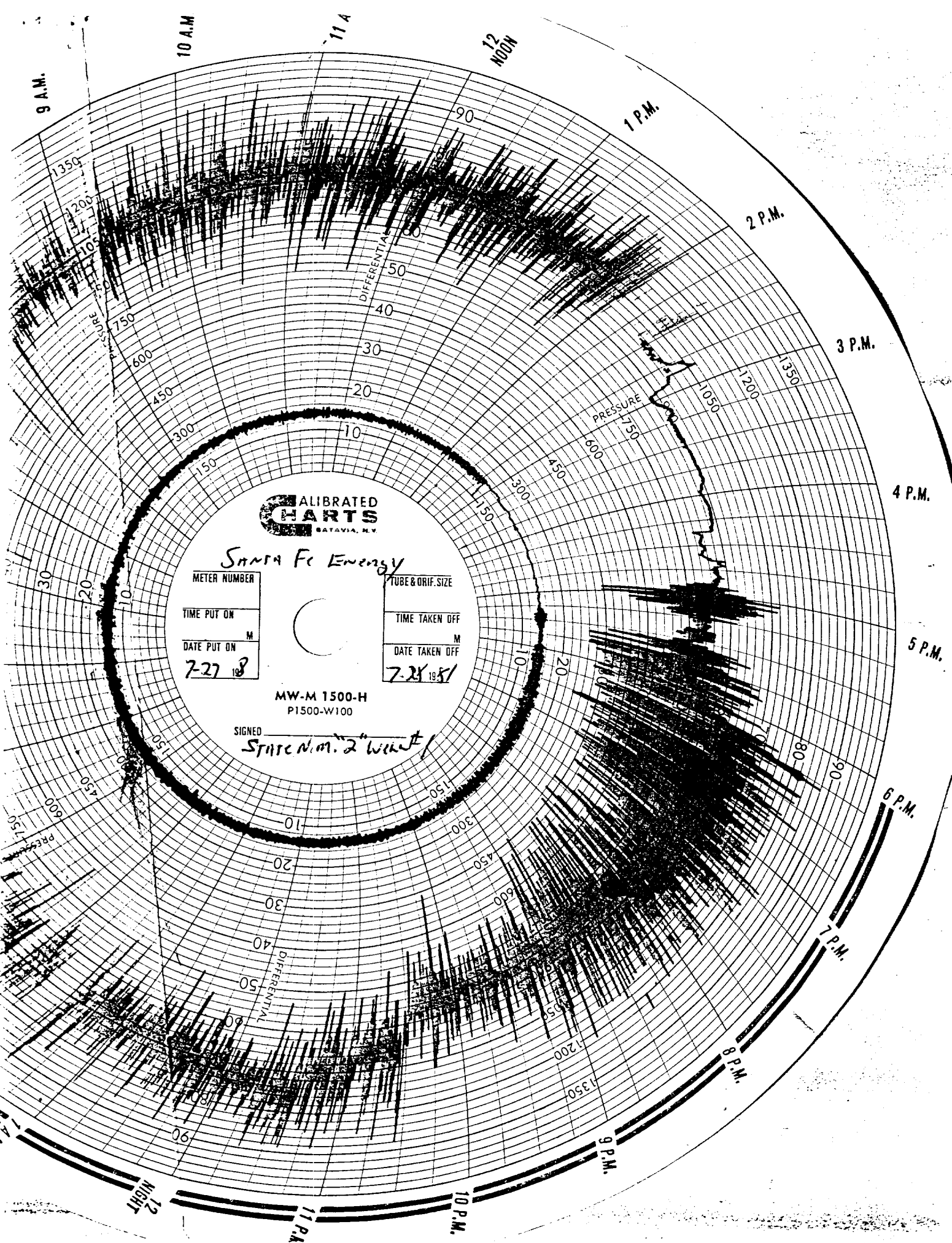
Run by Deane Simpson Checked by _____ Approved by Deane Simpson

Additional Data and Remarks

SUGGESTED FIELD DATA SHEET (Not Required To File)

Type Test		24 HR. FLOW Initial		☐ Annual		☒ Special		Test Date		7-27-81		Lease No. or Serial No.	
Company		SANTA FE ENERGY		Connection		AIR		Allottee					
Field		Reservoir		Location				Unit					
Completion Date		Total Depth		Plug Back TD		Elevation		Farm or Lease Name		STATE NEW MEXICO "2			
Csg. Size		Wt.		d		Set At		Perforations: From		To		Well No.	
Tbg. Size		Wt.		d		Set At		Perforations: From		To		1	
Type Completion (Describe)								Packer Set At		Sec.		Twp.-Blk. Age.-Sur.	
Producing Thru		Reservoir Temp. F		Mean Annual Temp. F		Baro. Press. - P _a		County or Parish		LEA			
L		H		G _g		% CO ₂		State		NEW MEXICO			
DATE		ELAP.		Wellhead Working Pressure		Prover		Meter Run		Taps			

[illegible]



CALIBRATED
CHARTS
BATAVIA, N.Y.

Santa Fe Energy

METER NUMBER

TUBE & ORIF. SIZE

TIME PUT ON

TIME TAKEN OFF

DATE PUT ON

DATE TAKEN OFF

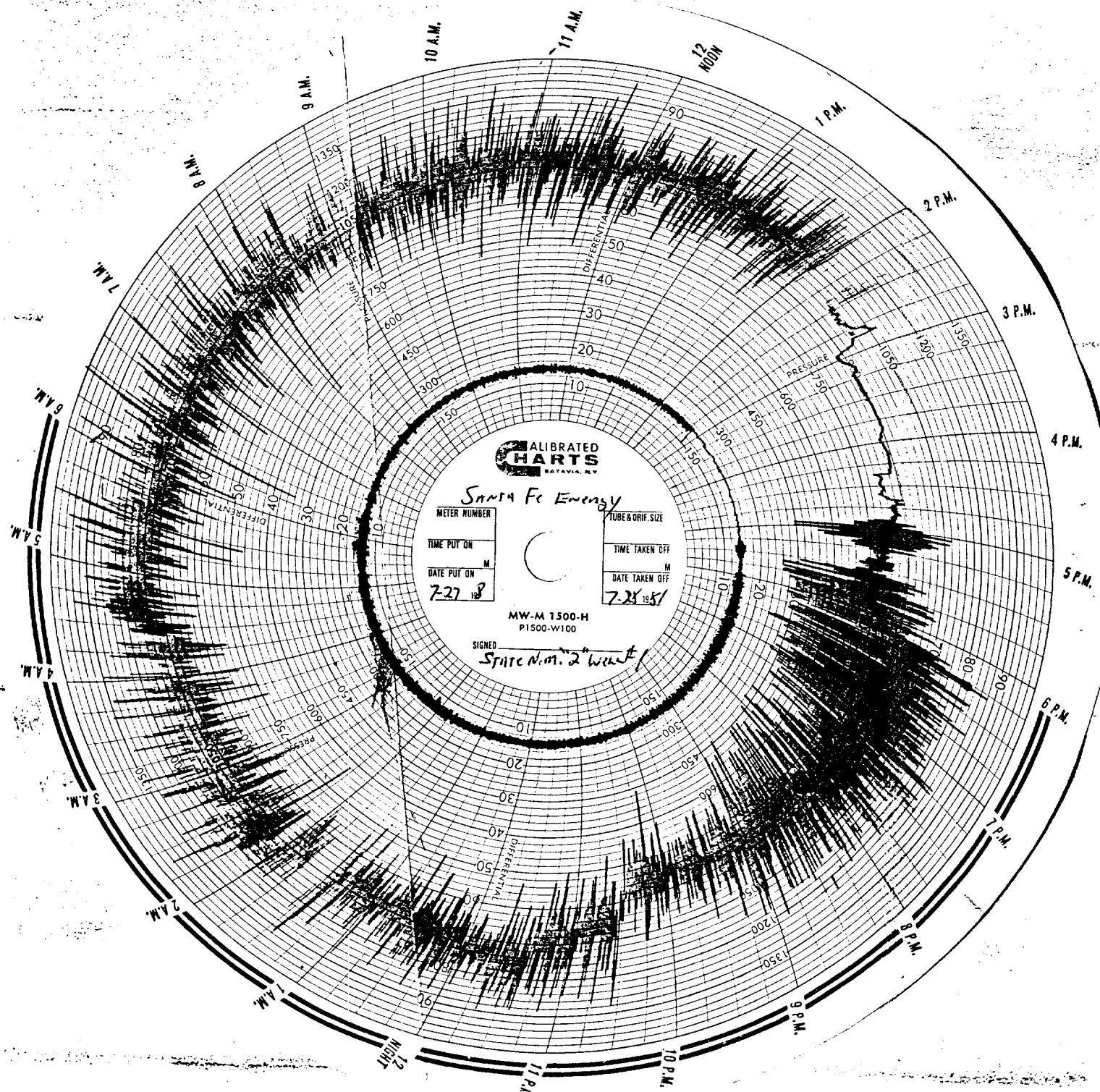
7-27 1988

7-28 1988

MW-M 1500-H
PI500-W100

SIGNED

State N.M. 2" WWT #1



GAS-OIL RATIO TESTS

Country

Lea

Specimen

8-21-81

Type Of Report - ()	
Initial Configuration	
Revised	X
General Survey	

Date 8-20-81

Column 7: 2000-79669

All depths, plus or minus sea level, all resources plus Bomb shall be calculated frequently enough against a steel weight tester to ensure an accuracy of one per cent; sea gravity shall be determined by analyzer; liquid level shall be fed above datum plane. SEE ROUTING.

$\int$
 $|$
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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease	
State ☒	Fee ☐
5. State Oil & Gas Lease No.	

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT --" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL ☒ GAS WELL ☐ OTHER ☐		7. Unit Agreement Name Saunders Reef
2. Name of Operator Santa Fe Energy Co.		8. Farm or Lease Name State NM 2
3. Address of Operator One Security Park, 7200 I-40 West, Amarillo, TX 79106		9. Well No. 1
4. Location of Well UNIT LETTER <u>M</u> , <u>660</u> FEET FROM THE <u>south</u> LINE AND <u>660</u> FEET FROM THE <u>west</u> LINE, SECTION <u>2</u> TOWNSHIP <u>15S</u> RANGE <u>32 E</u> NMPM.		10. Field and Pool, or Wildcat Wildcat
15. Elevation (Show whether DF, RT, GR, etc.) 4276 GR		12. County LEA

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☐
PULL OR ALTER CASING ☐	OTHER ☐	CASING TEST AND CEMENT JOB ☒	OTHER ☐

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Surface Casing - Ran 13 3/8", 54.5#, K-55, ST&C and set at 420'. Cement with 450 sacks Class "C" containing 2% CaCl₂ and 1/4 lb/sack Flocele. Circulated cement to the surface. Plug down 2 p.m. March 27, 1981.

Intermediate Casing - Ran 8 5/8" 28# S-80 ST&C and set at 4120'. Cemented with 1100 sacks HOWCO Lite containing 10# salt, 1/4 lb/sack Flocele and 3 lb/sack Gilsonite. Tail-in with 300 sacks Class "C" containing 2% CaCl₂. Circulated cement to the surface. Plug down 2 p.m. April 5, 1981.

Open Hole Plug @ TD - Spot 35 sacks Class "G" plug at TD (13,535') back to 13,435'. June 11, 1981.

Production Casing - Ran 5 1/2" casing as follows:

0-9892' 17# N-80 LT&C

9892'-12,434' 20# N-80 LT&C

Cement with 1230 sacks Class "H" 50/50 POZ containing 6% Halad 22A. Plug down 11:30 a.m. June 12, 1981. Calculated cement top @ 6800'.

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED Sammy M. Morgan TITLE Drilling Engineer DATE September 25, 1981

APPROVED BY [Signature] TITLE [Signature] DATE [Signature]

CONDITIONS OF APPROVAL, IF ANY:

NO. OF COPIES RECEIVED	
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U.S.G.S.	
LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

30-025-27241

Form C-101
Revised 1-1-65

Change of Location

5A. Indicate Type of Lease STATE ☒ FEE ☐	
5. State Oil & Gas Lease No.	
7. Unit Agreement Name	
8. Farm or Lease Name State NM "2"	
9. Well No. 1	
10. Field and Pool, or Wildcat Tulch-Devonian	
12. County Lea	
19. Proposed Depth 13,600'	19A. Formation Devonian
20. Rotary or C.T. Rotary	
21. Elevations (Show whether DP, RT, etc.) 4295 GL	21A. Kind & Status Plug. Bond Blanket/Current
21B. Drilling Contractor Landis	
22. Approx. Date Work will start March 15, 1981	

1a. Type of Work	
b. Type of Well DRILL ☒ DEEPEN ☐ PLUG BACK ☐ OIL WELL ☒ GAS WELL ☐ OTHER ☐ SINGLE ZONE ☐ MULTIPLE ZONE ☐	
2. Name of Operator Santa Fe Energy Company	
3. Address of Operator 7200 I-40 West Amarillo, Texas 79106	
4. Location of Well UNIT LETTER M LOCATED 660 FEET FROM THE South LINE AND 660 FEET FROM THE West LINE OF SEC. 2 TWP. 15 S RGE. 32 E NMPM	
23.	

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17 1/2"	13 3/8"	54.5#	400'	450 sx	Surface
12 1/4"	9 5/8"	40.5#	4400'	Est. 950 sx	300' from surface
7 5/8"	5 1/2"	17#	Est. 13,500'	Est. 900 sx	Est. 9000'

1. Drill a 17 1/2" hole to 400' & set 13 3/8" casing, circulating cement to the surface. WOC 10-12 hrs. Nipple up BOP's and test to full working pressure.
2. Drill a 12 1/4" hole to 4400'. Run and cement 9 5/8" casing. Estimated cement top of 300' from ground level. Nipple up BOP's and pressure test to full working pressure.
3. Drill a 7 7/8" hole to TD with sufficient mud weight to control formation pressures.
4. Either run and cement 5 1/2" production casing or plug and abandon as directed by the New Mexico Oil Conservation Commission.

APPROVAL VALID FOR 180 DAYS
PERMIT EXPIRES 8/26/81
UNLESS DRILLING UNDERWAY

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM; IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Sammy H. Morgan Title Drilling Engineer Date February 20, 1981
(This space for State Use)

APPROVED BY Jerry Lester TITLE SUPERVISOR DISTRICT DATE _____
CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

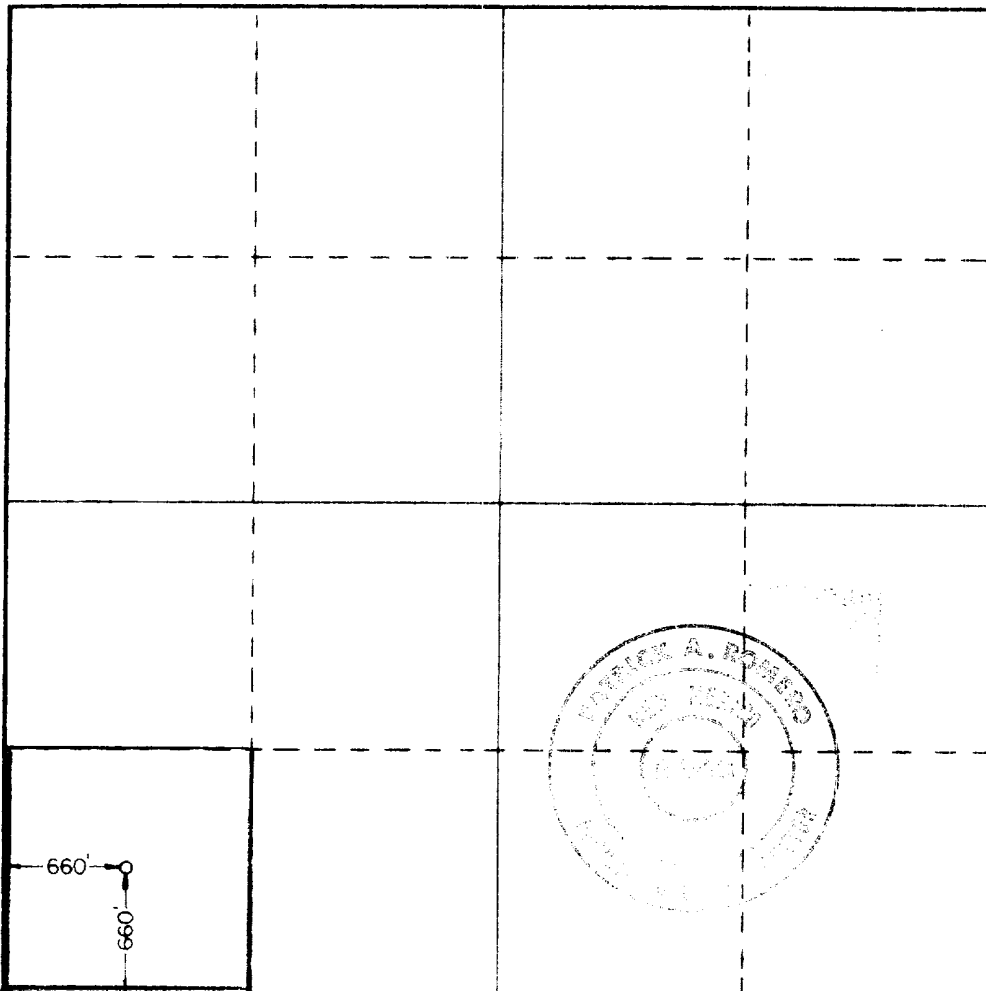
Operator Santa Fe Energy Co.		Lease State NM 2		Well No. 1
Unit Letter M	Section 2	Township 15 South	Range 32 East	County Lea
Actual Footage Location of Well: 660 feet from the south line and 660 feet from the west line				
Ground Level Elev. 4295.0	Producing Formation Devonian	Pool Tulk-Devonian	Dedicated Acreage: 40 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name
Sammy H. Morgan
Position
Drilling Engineer
Company
Santa Fe Energy Company
Date
February 20, 1981

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
January 13, 1981

Registered Professional Engineer and/or Land Surveyor

Patrick A. Romero
Certificate No. **JOHN W. WEST 676**
PATRICK A. ROMERO 6863
Ronald J. Eidson 3239

30-025-27241

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LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101
Revised 1-1-65

5A. Indicate Type of Lease	
STATE ☒	FEE ☐
5. State Oil & Gas Lease No.	

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work		7. Unit Agreement Name	
b. Type of Well DRILL ☒ DEEPEN ☐ PLUG BACK ☐ OIL WELL ☒ GAS WELL ☐ OTHER ☐ SINGLE ZONE ☐ MULTIPLE ZONE ☐		8. Farm or Lease Name State NM "2"	
2. Name of Operator Santa Fe Energy Co.		9. Well No. 1	
3. Address of Operator 7200 I-40 West - Amarillo, TX 79106		10. Field and Pool, or Wildcat Talk - Devonian	
4. Location of Well UNIT LETTER M LOCATED 990 FEET FROM THE South LINE AND 660 FEET FROM THE West LINE OF SEC. 2 TWP. 15S RGE. 32E NMPM		12. County Lea	
21. Elevations (Show whether DF, RT, etc.) 4295' GL		19. Proposed Depth 13,600'	19A. Formation Devonian
21A. Kind & Status Plug, Bond Blanket/current		21B. Drilling Contractor Landis	20. Rotary or C.T. Rotary
23.		22. Approx. Date Work will start March 15, 1981	

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17 1/2"	13 3/8"	54.5#	400'	450 sx	Circ
12 1/4"	9 5/8"	40.5#	4400'	Est. 950 sx	300' form surface
7 5/8"	5 1/2"	17#	Est. 13,500'	Est. 900 sx	Est. 9,000

1. Drill a 17 1/2" hole to 400' & set 13 3/8" casing, circulating cement to the surface. WOC 10-12 hrs. Nipple up BOP's and test to full working pressure.
2. Drill a 12 1/4" hole to 4400'. Run and cement 9 5/8" casing. Estimated cement top of 300' from ground level. Nipple up BOP's and pressure test to full working pressure.
3. Drill a 7 7/8" hole to TD with sufficient mud weight to control formation pressures.
4. Either run and cement 5 1/2" production casing or plug and abandon as directed by the New Mexico Oil Conservation Commission.

APPROVAL VALID FOR 180 DAYS
PERMIT EXPIRES 7/23/81
UNLESS DRILLING CONTINUED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Sammy N. Morgan Title Drilling Engineer Date January 20, 1981
(This space for State Use)

APPROVED BY [Signature] TITLE SUPERVISOR DISTRICT 1 DATE JAN 23 1981
CONDITIONS OF APPROVAL, IF ANY:

N MEXICO OIL CONSERVATION COMMISS
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
 Supersedes C-128
 Effective 1-1-65

All distances must be from the outer boundaries of the Section.

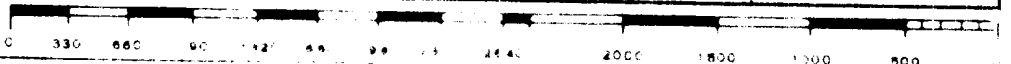
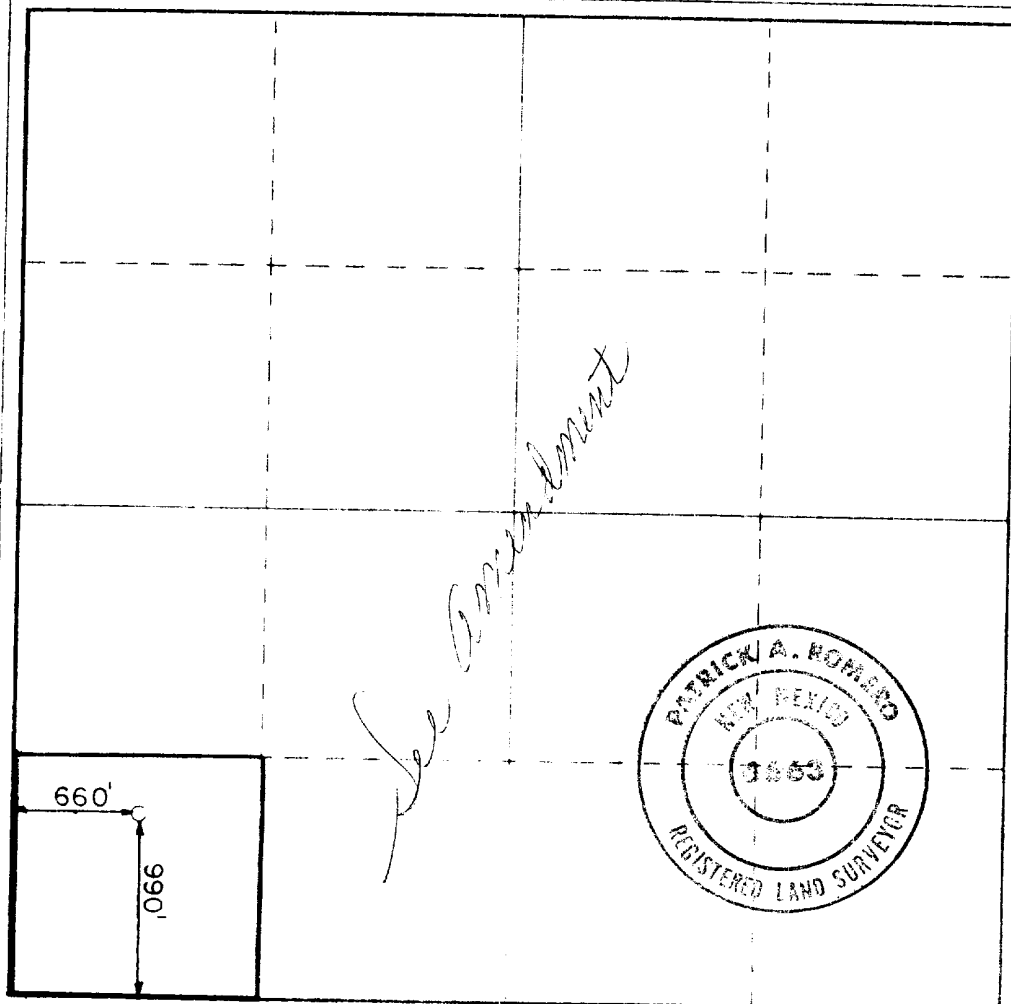
Operator Santa Fe Energy Company			Lease State N M 2		Well No. 1
Unit Letter M	Section 2	Township 15 South	Range 32 East	County Lea	
Actual Plotage Location of Well: 990 feet from the South line and 660 feet from the West line					
Ground Level Elev 4295.0	Producing Formation Devonian		Pool Tulk-Devonian		Dedicated Acreage: 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Name	<i>Sammy N. Morgan</i>
Position	Drilling Engineer
Company	Santa Fe Energy Company
Date	January 20, 1981
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.	
Date of Survey	January 13, 1981
Registered Professional Engineer and Land Surveyor	<i>Patrick A. Romero</i>
Certificate No.	JOHN W. WEST 676 PATRICK A. ROMERO 6488 Ronald J. Eidson 3239

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JAN 22 1961

CH. 1000-1040-1000

173

COUNTY LEA FIELD Wildcat STATE NM
 OPR SANTA FE ENERGY CO. API 30-025-27241
 NO 1 LEASE State of New Mexico #2 MAP
Sec 2, T15S, R32E COORD
660 FSL, 660 FWL of Sec 12-1-26 NM
24 mi S/Caprock SPD 3-26-81 CMP 7-27-81

CSC
 12 3/8-450-450 sx
 8 5/8-4120-1400 sx
 5 1/2-12,434-1230 sx

WELL CLASS. INIT		FIN	WFD	LSE	CODE
FORMATION	DATUM	FORMATION	DATUM		
1013,535 (DVNN)		PRD	12,358		

IP (Morrow) Perfs 12,240-278 F 111 BOPD + 55 BW. Pot based on
 24 hr test thru 1 1/4 ch. GOR 11,027; gty 54.8; CP 500; TP
 1700

CONTR Landis #2 PROPERTIES 4290 GL, 4303 KB sub-s 11

F.R. 2-2-81
 PD 13,600 RT (Morrow)
 12-5-81 AMEND FIELD ZONE & LOCATION: Formerly reported
 as Tulk (Devonian) & 660 FNL, 660 FWL of Sec
 3-2-81 AMEND LOCATION: Formerly reported as 990 FSL,
 660 FWL of Sec
 4-8-81 Drlg 5325
 4-14-81 Drlg 7175
 4-21-81 Drlg 9505 dolo & lm
 4-29-81 Drlg 10,263
 DST (Wolfcamp) 9839-88, op 1 hr 15 mins, rec 3
 FT MUD (Sampler rec 1800 CC MUD), 1 hr ISIP 110,
 FP 66-66, 2 hr 30 min FSIP 44, HP 4523-4501
 Drlg break 9913-20 w/NS
 Drlg break 10,058-074
 DST (Pennsylvanian) 10,037-088, op 41 mins,
 RO 5851 FT HCCW w/SO (Sampler rec 1.36 CFT GAS
 + 600 CC OIL) + 1300 CC WTR @ 110), 1 hr ISIP
 12-1-26 NM

LEA
SANTA FE ENERGY CO.

Wildcat
1 State of New Mexico "2" Page #2
Sec 2, T15S, R32E

NM

4-29-81 Continued
3718, FP 1417-2500, 2 hr FSIP 3718, HP
4650-4650, BHT 165 deg
5-4-81 Drlg 10,673 sh, 1m cht
5-13-81 Drlg 11,945 1m & sk
Drlg break 11,501-560
5-19-81 TD 12,261; Prep Drill
DST (Atoka) 12,135-261, op 40 mins, GTS in 8
mins on FFP, rec 3000 FT WCUSH + 651 FT GCM
w/TR OIL, 1 hr ISIP 6256, FP 1593-1724, 5 hr
30 min FSIP 6325, HP 5617-6525
5-27-81 Drlg 12,645
DST (Atoka) 12,140-261, op 2 hrs 45 mins, rec
422 FT GCM + 2000 FT WCUSH + 603 FT GCM
12-1-26 NM

5-27-81 w/tr OIL (Sampler rec 7.1 CFT GAS + 255 CC COND
w/tr MUD @ 1380#), 1 hr ISIP 62-9, FP 0-1847, 10
hr 30 min FSIP 6315, HP 6537-6470
Drlg break 12,285-295 w/NS
5-4-81 Drlg 13,330
6-11-81 TD 13,535; Rng DST-SP 10,165-243
DST (Devonian) 13,385-504, op 1 hr, rec 3000
FT WCUSH + 20 FT MUD (Sampler rec 1660 CC MUD
@ 45), 1 hr ISIP 1660, FP 1374-1374, 1 hr FSTP
1448, HP 6920-6920, BHT 168 deg
6-16-81 TD 12,535; PBD 12,434; WOCU
DST-SP (Pennsylvanian) 10,165-243, op 1 hr rec
1000 FT WCUSH + 1325 FT SGSULW w/SSO, 1 hr ISIP
3790, FP 577-1079 3 hr FSIP 3790 HP 5445-5341
6-22-81 TD 13,535; WOCU
7-13-81 TD 13,535; PBD 12,358; Prep Perf
12-1-26 NM

LEA

SANTA FE ENERGY CO.

Wildcat

1 State of New Mexico "2"
Sec 2, T15S, R32E

NM

Page #3

7-21-81 TD 13,535; PBD 12,358; Flwg
Perf (Morrow) 12,240-254, 12,270-278
Acid (12,240-278) 6384 gals
7-27-81 TD 13,535; PBD 12,358; Flwg
8-11-81 TD 13,535; PBD 12,358; WO PLC
Flwd 1200 MCFGPD + 111 bbl cond w/tr wtr
(12,240-278)
8-31-81 TD 13,535; PBD 12,358; SI
9-15-81 TD 13,535; PBD 12,358; WO PLC
11-30-81 TD 13,535; PBD 12,358; Complete
Morrow discovery for the now established
Sowell Field
LOG TOPS: Rustler 1502, Salt 1599, Base Salt
2542, Seven Rivers 2776, Queen 3126, San Andres
12-1-26 NM

11-30-81

Continued

4023, Glorieta 5451, Paddock 5779, Blinbrv
6249, Tubb 6894, Drinkard 7022, Abo 7562,
Wolfcamp 8945, Pennsylvanian 10,040, Canyon
10,493, Strawn 11,168, Atoka 11,439, Mississippian
12,745, Devonian 13,177
LOGS RUN: CNL, FDC, GRL, DILL, CBND
Rig Released 6-12-81

12-5-81

COMPLETION ISSUED

2-27-82

RE-ISSUE TO AMEND FIELD & FINAL CLASS: Formerly
reported as Saunders & DO

12-1-26 NM

IC 30-025-70035-81

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**NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

Form C-105
Revised 11-1-76

5a. Indicate Type of Lease
State ☒ Fee ☐

5. State Oil & Gas Lease No.

7. Unit Agreement Name

Saunders Reef

8. Farm or Lease Name

State NM 2

9. Well No.

1

10. Field and Pool, or Wildcat

Wildcat

12. County

Lea

1. TYPE OF WELL

OIL WELL ☒

GAS WELL ☐

DRY ☐

OTHER

2. TYPE OF COMPLETION

NEW WELL ☒

WORK OVER ☐

DEEPEN ☐

PLUG BACK ☐

DISF. RESVR. ☐

OTHER

3. Name of Operator

Santa Fe Energy Company

4. Address of Operator

One Security Park, 7200 I-40 West, Amarillo, Texas 79106

5. Location of Well

UNIT LETTER **M** LOCATED **660** FEET FROM THE **South** LINE AND **660** FEET FROM

THE **West** END OF SEC. **2** TWP. **15S** RGE. **32E**

15. Date Spudded

3-26-81

16. Date T.D. Reached

6-7-81

17. Date Compl. (Ready to Prod.)

7-27-81

18. Elevations (DF, RKB, RT, GR, etc.)

4291 DF

19. Elev. Casinghead

4276 GR

20. Total Depth

13,535'

21. Plug back T.D.

12,358'

22. If Multiple Compl., How Many

23. Intervals Drilled By

Rotary Tools

Cable Tools

A11

24. Producing Interval(s), of this completion - Top, Bottom, Name

12,240'-12,278' (-7949 to -7987 sub sea) Morrow

25. Was Directional Survey Made

No

26. Type Electric and Other Logs Run

DRILL & CNL/FDC/GR to 4000' & from 13,517' to 4000'

27. Was Well Cored

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB. FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
12 3/8"	54.5	420	17 1/2"	450 sx cmt circ	None
8 5/8"	28	4120	11 "	1400 sx cmt circ	None
5 1/2"	17 & 20	12,434	7 7/8"	1230 sx	

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET

30. TUBING RECORD

31. Perforation Report (Interval, size and number)

12,240', 42', 44', 46', 48', 50', 52', 54', 70', 71', 72', 74', 76' & 12,278' w/4" Hollow Steel Carrier & Premium charges. .5" hole. 14 shots total.

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED
12,000'-12,278' 7 1/2% NE FE HCL 150 bbls.

33. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping - Size and type pump)					Well Status (Prod. or Shut-in)	
7-16-81	Flowing					Shut-In	
Date of Test	Hours Tested	Choke Size	Prod'n. Per Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
7-27-81	24	1.250	→	111	1,224	55	11,027
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)	
1700	500	→	111	1224	55	54.8	

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

Vented

Test Witnessed By

James Moore

35. List of Attachments

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED **J. J. Moore**

TITLE **Production Engineer**

DATE **November 4, 1981**

um

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than _____ days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico				Northwestern New Mexico			
T. Anhy <u>Rustler</u>	<u>1502</u>	T. Canyon	<u>10,493</u>	T. Ojo Alamo	_____	T. Penn. "B"	_____
T. Salt	<u>1599</u>	T. Strawn	<u>11,168</u>	T. Kirtland-Fruitland	_____	T. Penn. "C"	_____
B. Salt	<u>2542</u>	T. Atoka	<u>11,439</u>	T. Pictured Cliffs	_____	T. Penn. "D"	_____
T. Yates	<u>2542</u>	T. Miss	<u>12,745</u>	T. Cliff House	_____	T. Leadville	_____
T. 7 Rivers	<u>2776</u>	T. Devonian	<u>13,477</u>	T. Menefee	_____	T. Madison	_____
T. Queen	<u>3126</u>	T. Silurian	_____	T. Point Lookout	_____	T. Elbert	_____
T. Grayburg	_____	T. Montoya	_____	T. Mancos	_____	T. McCracken	_____
T. San Andres	<u>4023</u>	T. Simpson	_____	T. Gallup	_____	T. Ignacio Qtzite	_____
T. Glorieta	<u>5451</u>	T. McKee	_____	Base Greenhorn	_____	T. Granite	_____
T. Paddock	<u>5779</u>	T. Ellenburger	_____	T. Dakota	_____	T. _____	_____
T. Blinbry	<u>6249</u>	T. Gr. Wash	_____	T. Morrison	_____	T. _____	_____
T. Tubb	<u>6894</u>	T. Granite	_____	T. Todilto	_____	T. _____	_____
T. Drinkard	<u>7022</u>	T. Delaware Sand	_____	T. Entrada	_____	T. _____	_____
T. Abo	<u>7562</u>	T. Bone Springs	_____	T. Wingate	_____	T. _____	_____
T. Wolfcamp	<u>8945</u>	T. _____	_____	T. Chinle	_____	T. _____	_____
T. Penn.	<u>10,040</u>	T. _____	_____	T. Permian	_____	T. _____	_____
T. Cisco (Bough C)	<u>10,040</u>	T. _____	_____	T. Penn. "A"	_____	T. _____	_____

OIL OR GAS SANDS OR ZONES

No. 1, from <u>12,240</u> to <u>12,278</u>	No. 4, from _____ to _____
No. 2, from _____ to _____	No. 5, from _____ to _____
No. 3, from _____ to _____	No. 6, from _____ to _____

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from _____ to _____	_____ feet.
No. 2, from _____ to _____	_____ feet.
No. 3, from _____ to _____	_____ feet.
No. 4, from _____ to _____	_____ feet.

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	8700	8700	Sample descriptions not recorded.				
8700	9130	430	Dolomite				
9130	9780	650	Limestone				
9780	8950	70	Shale				
9850	10056	206	Limestone				
10056	10195	139	Dolomite				
10195	10870	675	Limestone				
10870	11280	410	Sand w/Interbedded Shale				
11280	11455	155	Limestone				
11455	12060	605	Sand, Interbedded Shale & Limestone stringers.				
12060	12250	190	Limestone				
12250	12290	40	Sandstone w/Shale (Pay Zone)				
12290	12770	480	Limestone w/Shale stringers				
12770	13180	410	Cherty Limestone				
13180	13410	230	Limestone				
13410	13490	80	Shale				

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NOV 10 1981

CONSERVATION DIV

LANDIS DRILLING COMPANY
POST OFFICE BOX 3579
MIDLAND, TEXAS 79702

OPERATOR Santa Fe Energy Company ADDRESS 7200 I-40 West
Amarillo, TX 79106
LEASE NAME State NM "2" #1 WELL NO. 1 FIELD
LOCATION 660' FSL & 660' FWL, Sec. 2, T15S, R32E, Lea County, N. M.

DEPTH	ANGLE INCLINATION DEGREES	DISPLACEMENT	DISPLACEMENT ACCUMULATED
420	1/2	3.67	3.67
912	1/2	4.30	7.97
1,470	1	9.74	17.71
2,007	1/4	2.35	20.06
2,391	2-3/4	18.42	38.48
2,502	2	3.87	42.35
2,625	2	4.29	46.64
2,768	1-1/4	2.68	49.32
3,027	3/4	3.65	52.97
3,494	3/4	6.11	59.08
3,816	3/4	4.87	63.95
4,104	1/2	2.25	66.20
4,601	1/2	4.16	70.36
5,112	1/2	4.29	74.65
5,762	1/2	4.10	78.75
6,189	1	9.20	87.95
6,737	1	4.33	92.28
7,541	1	8.79	101.07
7,727	1	6.21	107.28
7,823	1/4	2.17	109.45
8,148	1-1/4	10.80	120.25
8,778	2-1/4	15.31	135.56
8,960	2	6.35	141.91
8,919	1-1/4	3.47	145.38
9,740	1-1/4	4.82	150.20
9,771	1-1/2	4.74	154.94
9,716	1	2.70	157.64
9,758	1/2	3.60	161.24
9,759	3/4	2.62	163.86
9,714	2	19.06	182.92
9,754	2	7.68	190.60
9,900	2	5.10	195.70
9,976	2-3/4	27.64	223.34
9,981	3	26.43	249.77
9,981	3	9.42	259.19
9,991	6	35.54	294.73
9,955	6	5.64	300.37
9,912	5-3/4	5.71	306.08

13,534	5	2.68	336.76
13,534	4-1/2	1.52	371.28
13,535	4-1/2	2.43	373.71

I hereby certify that the above data as set forth is true and correct to the best of my knowledge and belief.

LANDIS DRILLING COMPANY

Fred Landis
 TITLE Fred Landis, President

BEFORE:

Wherefore, the undersigned authority, appeared Fred Landis known to me to be a person whose name is subscribed herebelow, who on making deposition, under oath states that he is acting for and in behalf of the Operator of the well identified above, and that to the best of his knowledge and belief such well was not intentionally deviated from the vertical whatsoever.

Andy Smith
 AFFIDANT'S SIGNATURE

and subscribed to in my presence on this the 15th day of June, 1981

Smith A. H.

Artesia, New Mexico 88210

COMPANY SANTA FE ENERGY

WELL NAME STATE NEW MEXICO "2" #1

DATE OF TEST 7-16-81 TO 7-22-81

1 LOCATION

PAGE 2 OF 2

[illegible]

BENNETT - CATHEY

Artesia, New Mexico 88210

PAT GAUME

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY SANTA FE ENERGY

WELL NAME STATE NEW MEXICO "2" #1

DATE OF TEST 7-16-81 TO 7-22-81

FORMATION MORROW

PAGE 1 OF 2

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER RPG3#46632 RANGE 0-7,000
 CLOCK NUMBER 63179 RANGE 144 HOURS
 TIME WELL SHUT IN 1500 HOURS
 TIME CLOCK STARTED 1321 HOURS
 DEAD WEIGHT ELEMENT ON SURFACE 2448 LBS.
 TIME ELEMENT REACHED BOTTOM 1425
 DEAD WEIGHT ELEMENT ON BOTTOM 2738 LBS.
 ELEMENT SET AT 12,078 FEET.
 TEMPERATURE 12,078 °F.
 4007 PSIA DEAD WEIGHT AT THE END OF 150 FT. 172 °F.
HOURS 17 MINUTES.

DATE	. HOUR	TIME	DEFLECTION in/inches	CALCULATED PRESSURE psig	CORRECTION P ± PC psig	CORRECTED PRESSURE psia	PRESSURE AT MID-POINT OF PERFORATIONS psia
7-16-81							
START FLOWING WELL		1427		4,998	13.2	5,011	
SHUT WELL	0	1500		3,448	13.2	3,461	
IN	1/4	1515		3,847	13.2	3,860	
	1/2	1530		3,984	13.2	3,997	
	3/4	1545		4,205	13.2	4,218	
	1	1600		4,542	13.2	4,555	
	1 1/4	1615		4,784	13.2	4,797	
	1 1/2	1630		5,018	13.2	5,031	
	1 3/4	1645		5,245	13.2	5,258	
	2	1700		5,316	13.2	5,329	
	2 1/4	1715		5,468	13.2	5,481	
	2 1/2	1730		5,633	13.2	5,646	
	2 3/4	1745		5,710	13.2	5,723	
	3	1800		5,845	13.2	5,858	
	3 1/4	1815		5,911	13.2	5,924	
	3 1/2	1830		5,977	13.2	5,990	
	3 3/4	1845		6,002	13.2	6,015	
	4	1900		6,024	13.2	6,037	
	4 1/2	1930		6,050	13.2	6,063	
	5	2000		6,076	13.2	6,089	
	5 1/2	2030		6,109	13.2	6,122	
	6	2100		6,127	13.2	6,140	
	6 1/2	2130		6,141	13.2	6,154	
	7	2200		6,160	13.2	6,173	
	7 1/2	2230		6,178	13.2	6,191	
	8	2300		6,189	13.2	6,202	
	8 1/2	2330		6,199	13.2	6,212	
	9	2400		6,207	13.2	6,220	
7-17-81	9 1/2	2430		6,215	13.2	6,228	
	10	0100		6,219	13.2	6,232	
	11	0200		6,226	13.2	6,239	
	12	0300		6,227	13.2	6,240	
	13	0400		6,229	13.2	6,242	
	14	0500		6,232	13.2	6,245	
	15	0600		6,233	13.2	6,246	
	16	0700		6,237	13.2	6,250	
	18	0900		6,240	13.2	6,253	
	20	1100		6,241	13.2	6,254	

TEST DATE: 7-16-81 TO 7-22-81
TEST DEPTH: 12,078 FEET

ELEMENT NO.: RPG3#46632 & RPG3#46951
RANGE: 7,000 LBS & 7,000 LBS

CLOCKS: G3179 & G2522
RANGE: 144 HOURS & 144 HOURS

OPERATOR: BO F.

Note: See Attached Sheet for Tabulation of Pressure
And Time.

JAMES MOORE & PAT GAUME

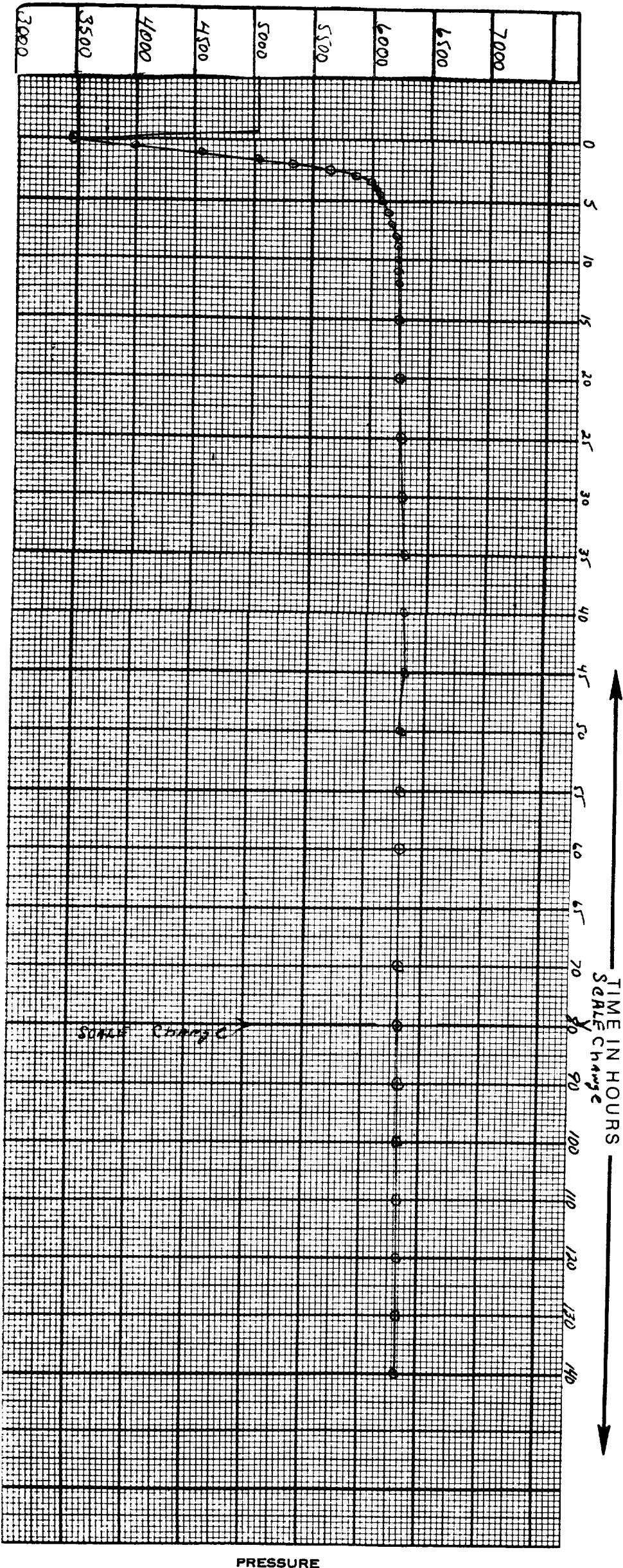
SANTA FE ENERGY
STATE NEW MEXICO "2" #1

BENNETT-CATHEY WIRE LINE SERVICE
Box 787
Artesia, N.M. 88210
505/746-3281

Drawn By

Scale: As Shown

BENNETT-
CATHEY
WELL SERVICES





BENNETT-CATHEY WIRE LINE SERVICE

P. O. BOX 787
ARTESIA, NEW MEXICO 88210
Phone 746-3281



PAT GAUME

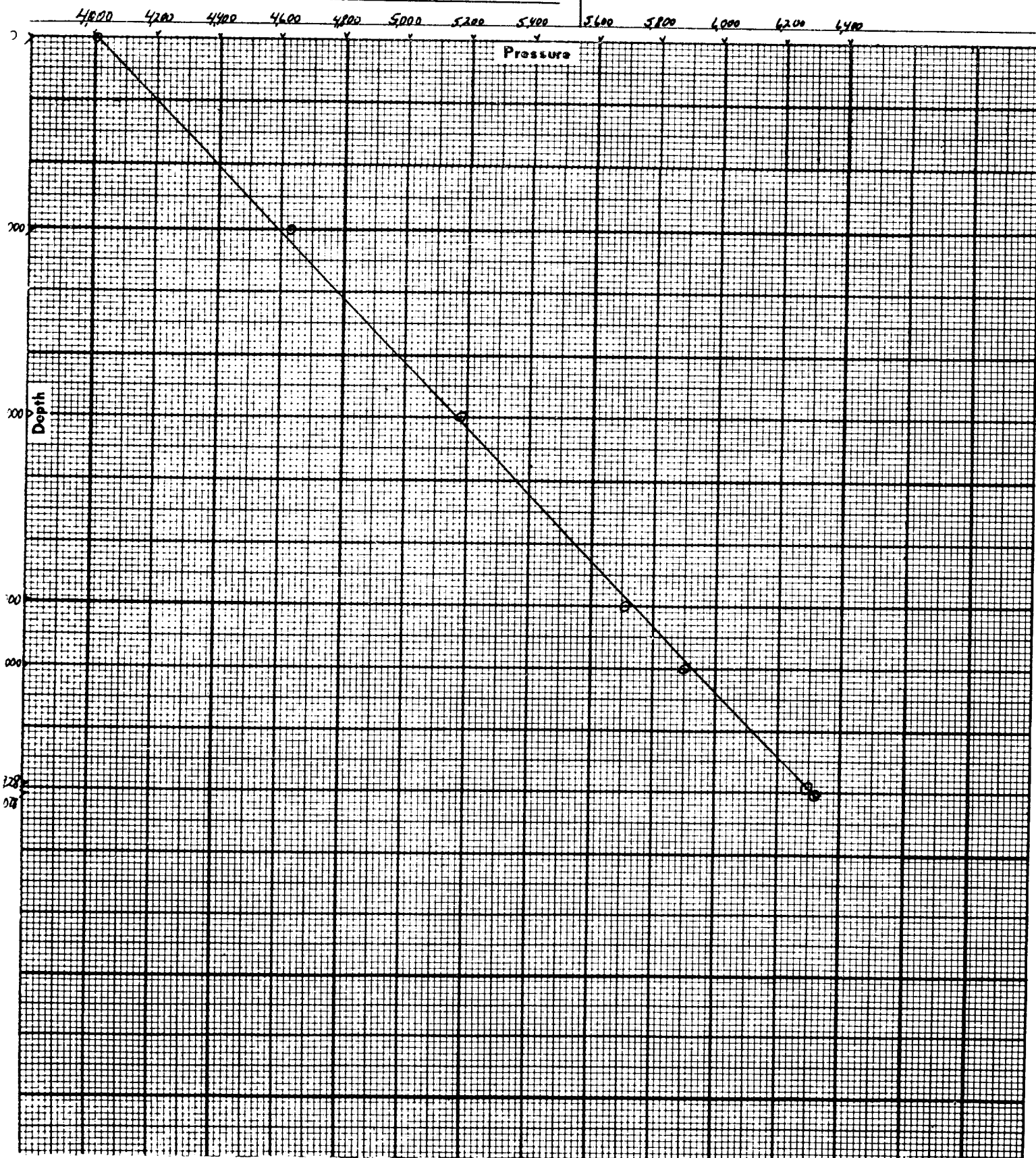
BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR SANTA FE ENERGY
LEASE STATE NEW MEXICO "2"
WELL NO. 1
POOL FORMATION
DATE 7-22-81 TIME 2117 HOURS
STATUS SHUT IN TEST DEPTH 12,078
TIME S.I. 1500 HRS LAST TEST DATE
7-16-81 BHP LAST TEST
TUB. PRES. 4,007 BHP CHANGE
ELE. FLUID TOP
DATUM PLANE WATER TOP
DATUM PSIA 6,323 RUN BY BO F.
TEMP 172 PRESSURE RANGE 0-7,000
CLOCK NO.
ELEMENT NO. RPG3#46632

DEPTH	PRESSURE	GRADIENT
0	4,007	
3,000	4,632	20.8
6,000	5,181	18.3
9,000	5,715	17.8
10,000	5,907	19.2
11,928	6,294	20.1
12,078	6,323	19.3

TIME B.H.P. MEASURED - 2117 HOURS

LENGTH OF TIME WELL SHUT IN -
150 HOURS, 17 MINUTES



NEW MEXICO OIL CONSERVATION COMMISSION
REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Form C-104
Supersedes Old C-104 and C-110
Effective 1-1-65

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
TRANSPORTER	OIL GAS
OPERATOR	
PRORATION OFFICE	

I. Operator
Santa Fe Energy Company
Address
One Security Park, 7200 I-40 West, Amarillo, Texas 79106
Reason(s) for filing (Check proper box)
New Well ☒ Change in Transporter of:
Recompletion ☐ Oil ☐ Dry Gas ☐
Change in Ownership ☐ Casinghead Gas ☐ Condensate ☐
Official Seal: OIL AND GAS MUST NOT BE
EXCEPTED FROM 2/1/82
EXCEPTION TO R-4000
IS OBSERVED.

If change of ownership give name
and address of previous owner

II. DESCRIPTION OF WELL AND LEASE

Lease Name: State New Mexico "2"
Lease No.: 1
Well No.: 1
Pool Name, Including Formation: Widcat - Atoka Morrow
Kind of Lease: State, Federal or Fee State
Location: Unit Letter M; 660 Feet From The South Line and 660 Feet From The West
Line of Section 2 Township 15 South Range 32 East, NMPM, Lea County

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil ☒ or Condensate ☐
The Permian Corporation
Address (Give address to which approved copy of this form is to be sent)
P.O. Box 1183, Houston, Texas 77001
Name of Authorized Transporter of Casinghead Gas ☐ or Dry Gas ☐
Warren Petroleum Company
Address (Give address to which approved copy of this form is to be sent)
P.O. Box 1589, Tulsa, Oklahoma 74102
If well produces oil or liquids, give location of tanks. Unit M Sec. 2 Twp. 15 Rge. 32
Is gas actually connected? No When
Est. December 1981

If this production is commingled with that from any other lease or pool, give commingling order number:

IV. COMPLETION DATA

Designate Type of Completion - (X)	Oil Well ☒	Gas Well ☐	New Well ☒	Workover ☐	Deepen ☐	Plug Back ☐	Same Res'v. ☐	Diff. Res'v. ☐
Date Spudded	Date Compl. Ready to Prod.	Total Depth	P.B.T.D.					
3-26-81	7-27-81	13,535'	12,358'					
Elevations (DF, RKB, RT, GR, etc.)	Name of Producing Formation	Top Oil/Gas Pay	Tubing Depth					
4291 DF	Morrow	12,240'	12,122'					
Perforations (14 shots total)	12,240', 42', 44', 46', 48', 50, 52, 54, 70, 71, 72, 74, 76, & 12,278'		Depth Casing Shoe					
				12,434'				
TUBING, CASING, AND CEMENTING RECORD								
HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT					
17 1/2"	13 3/8"	420	450					
11 "	8 5/8"	4120	1400					
7 7/8"	5 1/2"	12,434	1230					

V. TEST DATA AND REQUEST FOR ALLOWABLE OIL WELL

(Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours)

Date First New Oil Run To Tanks	Date of Test	Producing Method (Flow, pump, gas lift, etc.)	
7-24-81	7-27-81	Flowing	
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
24 hours	2000	500	1.250
Actual Prod. During Test	Oil-Bbls.	Water-Bbls.	Gas-MCF
	111	55	1,224

GAS WELL

Actual Prod. Test-MCF/D	Length of Test	Bbls. Condensate/MMCF	Gravity of Condensate
Testing Method (pitot, back pr.)	Tubing Pressure	Casing Pressure	Choke Size

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Commission have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

P. J. Burns
(Signature)
Production Engineer
(Title)
November 4, 1981
(Date)

OIL CONSERVATION COMMISSION

APPROVED JAN 1982, 19
BY [Signature]
TITLE [Signature]

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.

Separate Forms C-104 must be filed for each pool in multiply completed wells.

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

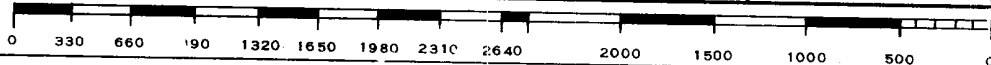
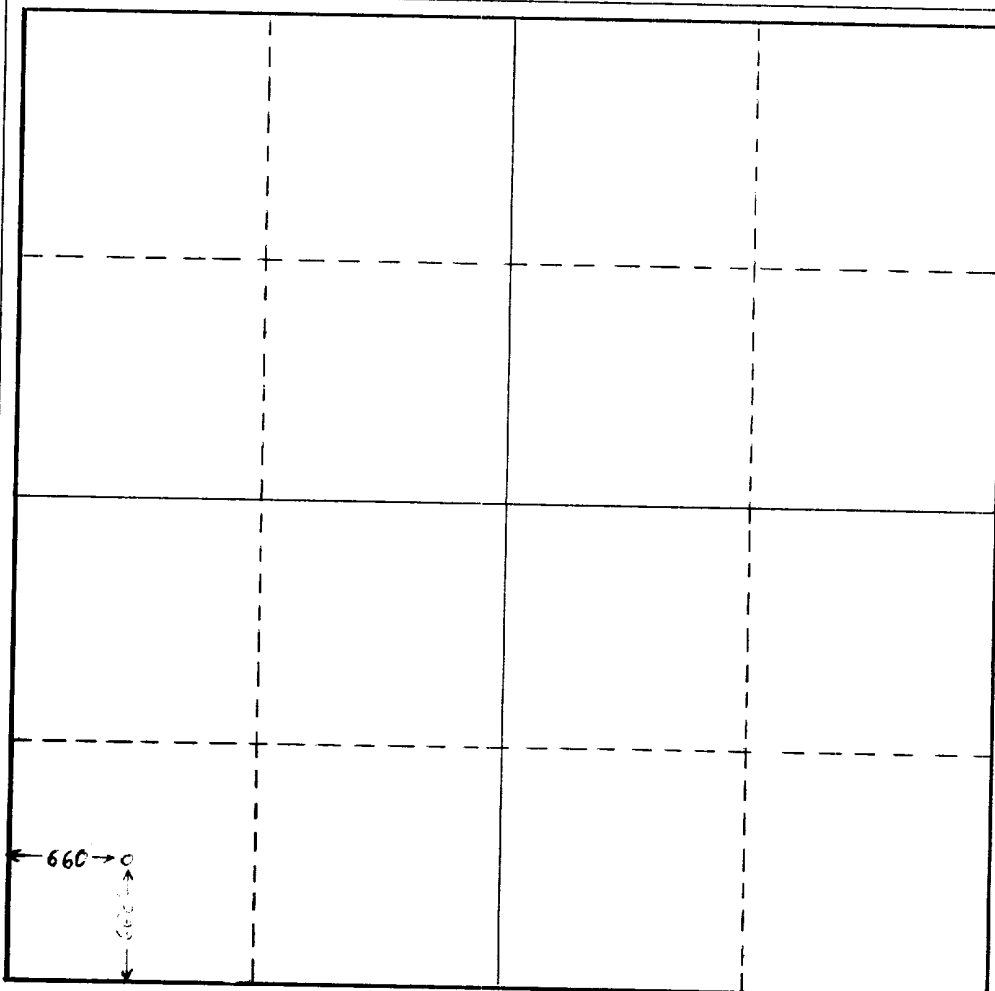
Operator Santa Fe Energy Company			Lease State NM 2		Well No. 1
Unit Letter M	Section 2	Township 15 South	Range 32 12 east	County Lea	
Actual Footage Location of Well:					
660		feet from the South		line and 660	feet from the West
Ground Level Elev. 4276	Producing Formation Morrow		Pool Wildcat		Dedicated Acreage; 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Patrick Jay Gaume

Name

Patrick Jay Gaume

Position

Production Engineer

Company

Santa Fe Energy Company

Date

8-20-81

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer
and/or Land Surveyor

Certificate No.