

OIL CONSERVATION DIVISION

2040 South Pacheco

Santa Fe, NM 87505

WELL API NO.

30-~~065~~-35833

5. Indicate Type of Lease

STATE ☒ FEE ☐

State Oil & Gas Lease No.

VO-6465

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well:

OIL WELL ☐ GAS WELL ☒ DRY ☐ OTHER ☐

b. Type of Completion:

NEW ☒ WORK ☐
WELL OVER DEEPEN ☐ PLUG ☐
BACK RESVR. ☐ OTHER ☐

2. Name of Operator

Nadel and Gussman Permian, L.L.C.

7. Lease Name or Unit Agreement Name

Santo State

8. Well No.

1

3. Address of Operator

601 N Marienfeld, Suite 508, Midland, Texas 79701

9. Pool name or Wildcat

Osudo Morrow

4. Well Location

Unit Letter **K** : **4290'** Feet From The **South** Line and **1980'** Feet From The **West** Line

Section **5** Township **21 S** Range **35 E** NMPM **Lea** County

10. Date Spudded

5-08-02

10. Date T.D. Reached

6-19-02

11. Date Compl. (Ready to Prod.)

7-03-02

12. Elevations (DF& RKB, RT, GR, etc.)

3672' GL, 3700' KB

13. Elev. Casinghead

3672'

14. Total Depth

11,897'

15. Plug Back T.D.

11,743'

16. If Multiple Compl. How Many Zones?

18. Intervals Drilled By

100%

Rotary Tools

Cable Tools

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

11,586' - 11,596', Morrow

20. Was Directional Survey Made

No

21. Type Electric and Other Logs Run

Halliburton: LDT/CNL/SGR/, DLL/ML: Black Warrior CBL/CCL

21. Was Well Cored

no

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

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	48#, H-40	524'	17-1/2"	160 sx, cement circulated	
9-5/8"	40#, J-55, S-95	4500'	12-1/4"	4100 sx, cement circulated	
5-1/2"	17#, N80 & P110	11,863'	7-7/8"	265 sx, TOC ~ 10,040'	

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					2-7/8", N-80	11,480'	11,480'

25. TUBING RECORD

26. Perforation record (interval, size, and number)

11,586'-11,596': 10' - 60 x 0.41" holes w/ tubing conveyed guns

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

DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED

12,586'-12,596' None

28. PRODUCTION

Date First Production 7/03/02		Production Method (Flowing, gas lift, pumping - Size and type pump) Flowing			Well Status (Prod. or Shut-in) Shut in w/o connection		
Date of Test 7/05/02	Hours Tested 8	Choke Size 20/64	Production For Test Period	Oil - Bbl 32	Gas - MCF 145	Water - Bbl. 0	Gas-Oil Ratio 138
Flow Tubing Press. 425 psi	Casing Pressure 0	Calc. 24-Hour Rate	Oil - Bbl. 96	Gas - MCF 435	Water - Bbl. 0	Oil Gravity - API - (Corr.) 548	

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

flared

Test Witnessed By

Ernie Little

30. List Attachments

Deviation survey, wellbore schematic and 4-point gas test.

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

Signature *Kem E. McCready* Printed Name

Kem E. McCready

Title Operations Engineer

Date 7/23/02

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 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 25 through 29 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_____.	T. Canyon_____.	T. Ojo Alamo_____.	T. Penn. "B"_____.
T. Salt_____.	T. Strawn_____.	T. Kirtland-Fruitland_____.	T. Penn. "C"_____.
B. Salt 3175'_____.	T. Atoka Lime_____.	T. Pictured Cliffs_____.	T. Penn. "D"_____.
T. Yates_____.	T. Miss_____.	T. Cliff House_____.	T. Leadville_____.
T. 7 Rivers_____.	T. Devonian_____.	T. Menefee_____.	T. Madison_____.
T. Queen 4645'_____.	T. Silurian_____.	T. Point Lookout_____.	T. Elbert_____.
T. Grayburg_____.	T. Montoya_____.	T. Mancos_____.	T. McCracken_____.
T. San Andres_____.	T. Simpson_____.	T. Gallup_____.	T. Ignacio Otzte_____.
T. Glorieta_____.	T. McKee_____.	Base Greenhorn_____.	T. Granite_____.
T. Paddock_____.	T. Ellenburger_____.	T. Dakota_____.	T. _____.
T. Blinebry_____.	T. Gr. Wash_____.	T. Morrison_____.	T. _____.
T. Tubb_____.	T. Delaware Sand_____.	T. Todilto_____.	T. _____.
T. Drinkard_____.	T. Bone Springs 7632_____.	T. Entrada_____.	T. _____.
T. Abo_____.	T. Morrow lime 11,330'_____.	T. Wingate_____.	T. _____.
T. Wolfcamp XX 10,390'_____.	T. Morrow Clastics_____.	T. Chinle_____.	T. _____.
T. Penn_____.	T. Atoka Clastics 10,868'_____.	T. Permian_____.	T. _____.
T. Cisco (Bough C)_____.	T. Strawn Lime 10,600'_____.	T. Penn "A"_____.	T. _____.

OIL OR GAS SANDS OR ZONES

No. 1, from..... 11,586'..... to..... 11,596'.....
 No. 2, from..... to.....
 No. 3, from..... to.....
 No. 4, from..... to.....

IMPORTANT WATER SAND

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

No. 1, from.....NONE.....to.....feet.....
No. 2, from.....to.....feet.....

LITHOLOGY RECORD

DRILL STEM TESTS

From	To	Thickness In Feet	Lithology
3500	4180		Anhy, dol, sh
4180	5820		Dol
5820	6260		Dol, ss
6260	7390		Dol, ss, sh
7390	7770		Ls, dol, ss, sh
7770	8238		Ls, ss
8238	9600		Ls, sh, chrt, ss
9600	10,400		Ls, sh
10,400	10,646		Ls
10,646	10,870		Ls, sh, chrt
10,870	11,897		Ls, sh, ss, chrt

DST			Results

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-1991

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Nadel & Gussman Permian				Lease or Unit Name Santo State			
Test Type ☒ Initial ☐ Annual ☐ Special				Test Date 07/11/2002		Well No. 1	
Completion Date		Total Depth 11897		Plug Back TD 11743' WL		Elevation 3672', 3700' KB	
Csg. Size 5.500		Wt. 17.000		d 5.000		Set At 11863	
Tbg. Size 2.875		Wt. 6.500		d 2.441		Set At 11480	
Type Well-Single-Bradenhead-G.G. o.G.O. Multiple new				Packer Set At 11480'		Formation 4290'FSL,1980'FEL,Unit K,	
Producing Thru tubing		Reservoir Temp.F 200		Mean Annual Temp.F 70		Baro. Pressure 13.20	
L 11551		H 11551		Gg .687		% CO ₂ .24	
				% N ₂ .42		% H ₂ S Prover	
						Meter Run flange	

Flow Data						Tubing Data		Casing Data		SIP/Flow Duration (HRS.)
	(Prover)		Press.	Diff.	Temp.	Press.	Temp.	Press.	Temp.	
No.	Line Size	Orifice Size	PSIG	h _w	F	PSIG	F	PSIG	F	
Shut-in Pressure						2500	110			1440
1.	4.03	x .09	400.00	.50	60	2240	100			120
2.	4.03	x .13	400.00	2.00	60	2020	100			120
3.	4.03	x .14	400.00	3.50	60	1650	100			120
4.	4.03	x .19	400.00	8.00	60	1210	100			60

RATE OF FLOW CALCULATIONS

No.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. FACTOR F _t	Gravity FACTOR F _g	Super Compress. FACTOR F _{pv}	Rate of Flow (Q) MCFD
1.	6.293	14.374	413.2	1.0000	1.2065	1.0453	114.1
2.	6.293	28.747	413.2	1.0000	1.2065	1.0453	228.2
3.	6.293	38.029	413.2	1.0000	1.2065	1.0453	301.8
4.	6.293	57.494	413.2	1.0000	1.2065	1.0453	456.3

No.	P _r	TEMP.	T _r	Z
1.	.618	520	1.360	.9151
2.	.618	520	1.360	.9151
3.	.618	520	1.360	.9151
4.	.618	520	1.360	.9151

Gas-Liquid Hydrocarbon Ratio	229.2	Mcf/bbl
API Gravity of Liquid Hydrocarbons	48.0	Deg.
Specific Gravity Separator Gas	.687	
Specific Gravity Flowing Fluid	.701	
Critical Pressure	668 PSIA	667 PSIA
Critical Temperature	382 R	386 R

$$P_C = 2513.2 \quad P_C^2 = 6316.2$$

No.	P _w	P _w ²	P _C ² - P _w ²
1.	2253.3	5077	1238.921
2.	2033.5	4135	2181.080
3.	1663.8	2768	3547.934
4.	1225.0	1500	4815.507

$$(1) \quad \frac{P_C^2}{P_C^2 - P_W^2} = 1.312 \quad (2) \quad \left[\frac{P_C^2}{P_C^2 - P_W^2} \right]^n = 1.309$$

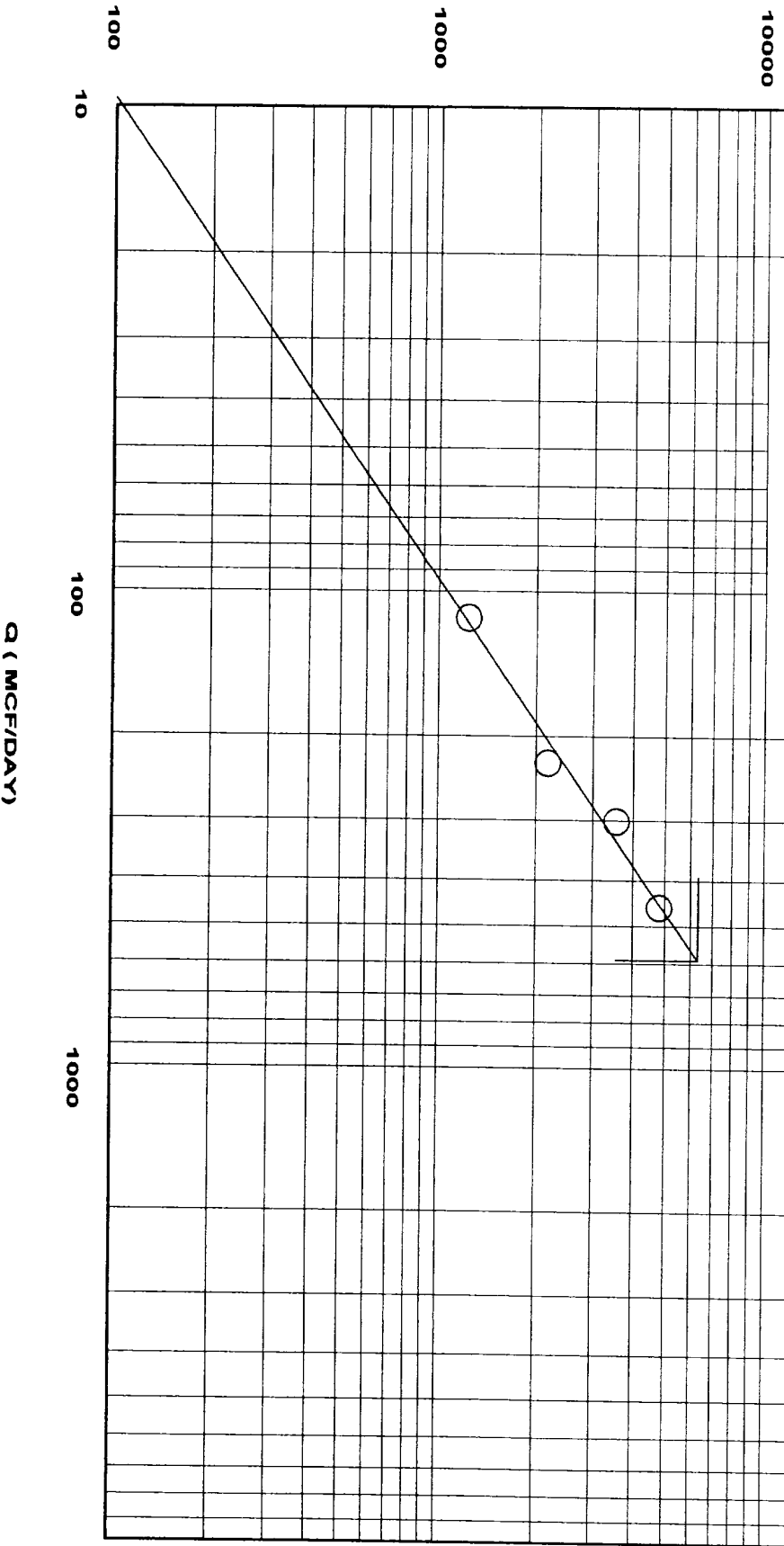
$$AOF = Q \left[\frac{P_C^2}{P_C^2 - P_W^2} \right]^n = 597$$

Absolute Open Flow 597		Mcf/d @ 15.025		Angle of Slope - 45.2		Slope, n .993	
Remarks							
Approved By Division:		Conducted By:		Calculated By: BPT System		Checked By:	

GAS WELL BACK PRESSURE CURVE

WELL TESTER:
TEST DATE: 07/11/2002

Nadel & Gussman Permian
Santo State 1
4290'FSL, 1980'FEL, U
Lea
Exponent n: 0.9925 .NM.



JADEL AND GUSSMAN PERMIAN

Santo State No. 1

4290' FSL, 1980' FEL, Unit K, Sec 5, 21S, 35E, Lea County, NM
API # 30 - 025 - 35833

Elev: 3672', KB: 3700'

Current Status Completing

13-3/8", 48#, H-40 @ 524'
160 sx, cement circulated
17-1/2" hole

8-5/8" DV tool @ 4007

8-5/8", 32#, J-55 0'-4300' STC
S-80 4300-5800' LTC
4100 sx, cement circulated
12-1/4" hole

5-1/2", 17#, P-110 @ 9863-11863'
N-80 0'-9863'
265 sx, TOC @ 10,040' CBL 6/27/02
7-7/8" hole

Arrowset 1-X 10-K packer @ 11480
2.25" ID "F" nipple in on/off tool

Morrow perfs: '11,586' - 11,596 HES OH Log 6/19/02
@ 6 SPF, 60 holes.

PBTD @ 11,743 WL(6/27/02)
TD @ 11,897'

JUN 25 2002

OPERATOR: NADEL & GUSSMAN
WELL/LEASE: SANTO ST. #1
COUNTY: LEA

K-5-215-350 003-0010
4290/5 + 1980/W
30-025-35833

STATE OF NEW MEXICO
DEVIATION REPORT

524	1/2	8,302	3
943	1/2	8,397	2
1,374	1/2	8,492	3 1/2
1,722	3/4	8,555	3
1,881	1/2	8,621	2 3/4
2,387	3/4	8,713	3 3/4
2,889	3/4	8,779	3 1/2
3,111	3/4	8,840	2 1/2
3,300	1/2	8,934	3 1/2
3,551	1/2	8,966	3 1/2
3,648	1	9,034	3
3,743	2	9,097	3 1/4
3,838	2 3/4	9,181	2 3/4
3,933	2 3/4	9,226	2 3/4
4,027	1 3/4	9,288	2 1/2
4,122	3	9,351	2
4,185	2 3/4	9,405	2
4,280	3	9,543	2
4,344	3 1/2	9,639	1 3/4
4,407	3 1/4	9,797	1 1/4
4,471	2	9,923	2
4,534	3	10,018	1 3/4
4,597	2 1/2	10,208	2
4,661	2 1/4	10,366	2 1/4
4,724	2 3/4	10,461	2 1/4
4,787	2 1/2	10,587	1 3/4
4,881	2 3/4	10,840	1 3/4
4,945	2 3/4	11,092	1 1/2
5,008	1 3/4	11,250	1 3/4
5,072	2 1/2	11,890	2 1/2
5,166	2 1/2		
5,230	2 1/2		
5,270	1 1/2		
5,325	2 1/4		
5,420	1 3/4		
5,547	1/2		
5,760	2 1/2		
5,874	2		
6,063	1 1/2		
6,253	1		
6,569	1		
6,833	1/2		
7,200	1/2		
7,516	1/2		
7,831	1 1/4		
8,020	3 1/4		
8,114	3 3/4		
8,208	3 1/4		

By: Steve Moore

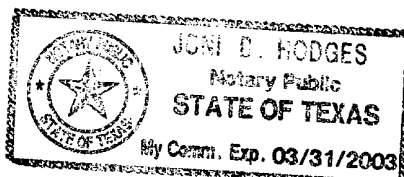
STATE OF TEXAS

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on this 24th day of June, 2002, by Steve Moore on behalf of Patterson-UTI Drilling Company LP, LLLP.

My Commission Expires: 3/31/2003

Joni D. Hodges
Notary Public for Midland County, Texas



K2