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Form C-105
Revised 11-4-88

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

DEC 22 '88

O. C. D.
ARTESIA, OFFICE

5a. Indicate Type of Lease
State ☐ Fee ☐

5. State Oil & Gas Lease No.

1a. TYPE OF WELL
OIL WELL ☐ GAS WELL ☐ DRY ☐ OTHER _____

b. TYPE OF COMPLETION
NEW WELL ☐ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☒ DIFF. RESVR. ☐ OTHER _____

2. Name of Operator
OXY USA Inc.

3. Address of Operator
P. O. Box 50250, Midland, Texas 79710

4. Location of Well
UNIT LETTER B LOCATED 660 FEET FROM THE North LINE AND 2310 FEET FROM THE East LINE OF SEC. 17 TWP. 23S RGE. 28E EDDY

15. Date Spudded _____ 16. Date T.D. Reached _____ 17. Date Compl. (Ready to Prod.) 1-7-88 18. Elevations (DF, RAB, RT, CR, etc.) _____ 19. Elev. Casinghead _____

20. Total Depth 12574' 21. Plug Back T.D. 11085' 22. Multiple Compl., How Many _____ 23. Intervals Drilled By _____ Rotary Tools _____ Cable Tools _____

24. Producing Interval(s), of this completion - Top, Bottom, Name
11596' - 11680'

25. Was Directional Survey Made _____

26. Type Electric and Other Logs Run _____ 27. Was Well Cored _____

28. 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	400'	17-1/2"	400 sacks	None
9-5/8"	36 & 40	5500'	12-1/4"	3050 sacks	None
7"	23 & 26	11001'	8-3/4"	800 sacks	None

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
5"	10652	12574	150		2-3/8"	11505'	11503'

31. Perforation Record (Interval, size and number)
11596', 97', 98', 99, 11600', 01, 47, 48', 49, 50, 51, 52, 78, 79 & 11680' w/2 SPF

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.
DEPTH INTERVAL 11596 - 11680 AMOUNT AND KIND MATERIAL USED 3000 gallons 7-1/2" % NeFe w/1000 SCF per bbl.

33. PRODUCTION
Date First Production _____ Production Method (Flowing, gas lift, pumping - Size and type pump) Flowing Well Status (Prod. or Shut-in) Shut-in WOPLC

Date of Test 1-7-88 Hours Tested 4 Choke Size various Prod'n. Per Test Period _____ Oil - Bbl. _____ Gas - MCF _____ Water - Bbl. _____ Gas - Oil Ratio _____

Flow Tubing Press. _____ Casing Pressure _____ Calculated 24-Hour Rate _____ Oil - Bbl. _____ Gas - MCF 289 Water - Bbl. None Oil Gravity - API (Corr.) _____

34. Disposition of Gas (Sold, used for fuel, vented, etc.) _____ Test Witnessed By _____

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 F. J. Vitano TITLE Dist. Oper. Mgr. - Prod. DATE 12-19-88

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state 1 ind. 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 _____	T. Atoka 11441'	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 _____	T. Silurian _____	T. Point Lookout _____	T. Elbert _____
T. Grayburg _____	T. Montoya _____	T. Mancos _____	T. McCracken _____
T. San Andres _____	T. Simpson _____	T. Gallup _____	T. Ignacio Qtzite _____
T. Glorietta _____	T. McKee _____	Base Greenhorn _____	T. Granite _____
T. Paddock _____	T. Ellenburger _____	T. Dakota _____	T. _____
T. Blinbry _____	T. Gr. Wash _____	T. Morrison _____	T. _____
T. Tubb _____	T. Granite _____	T. Todilto _____	T. _____
T. Drinkard _____	T. Delaware Sand _____	T. Entrada _____	T. _____
T. Abo _____	T. Bone Springs _____	T. Wingate _____	T. _____
T. Wolfcamp _____	T. _____	T. Chinle _____	T. _____
T. Penn. _____	T. _____	T. Permian _____	T. _____
T. Cisco (Bough C) _____	T. _____	T. Penn. "A" _____	T. _____

OIL OR GAS SANDS OR ZONES

No. 1, from to 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

okf
File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		RECEIVED 11-7-88	
Company OXY USA, INC.		Connection FLARE WELL	
Pool North Loving Atoka		Formation Atoka	
Completion Date 10-30-88	Total Depth 12574	Plug Back TD 11085	Elevation 5027
Csg. Size 5		Wt. 23	Set At 12574
Perforations: From 11596 To 11680		Well No. #1	
Thq. Size 2.375		Wt. 4.6	Set At 11505
Perforations: From OPEN To ENDED		Unit Sec. Twp. Rge. 17 23S 28E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE		Packer Set At 11497	
Producing Thru TUBING		Baro. Press. - P _g 13.2	
Reservoir Temp. °F 215 @ 11638		Mean Annual Temp. °F 60	
L 11638		H 11638	Gg .575
% CO ₂ .510		% N ₂ 1.46	% H ₂ S 0
Prover 0		Meter Run 4.026	Taps FLNG
COUNTY EDDY		STATE NEW MEXICO	
FLOW DATA			
NO.	Prover Line Size	X	Orifice Size
1.	4.026 X .500		240
2.	4.026 X .500		240
3.	4.026 X .500		240
4.	4.026 X .500		240
5.			
RATE OF FLOW CALCULATIONS			
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m
1.	1.18	101.89	253.2
2.	1.18	120.13	253.2
3.	1.18	137.80	253.2
4.	1.18	152.63	253.2
5.			
NO.	P _r	Temp. °R	T _r
1.	0.38	540.	1.56
2.	0.38	541.	1.56
3.	0.38	541.	1.56
4.	0.38	541.	1.56
5.			
Gas Liquid Hydrocarbon Ratio 0 Mcf/bbl.			
A.P.I. Gravity of Liquid Hydrocarbons 0 Deg.			
Specific Gravity Separator Gas .575			
Specific Gravity Flowing Fluid .575			
Critical Pressure 673 P.S.I.A.			
Critical Temperature 346 R			
P _c 4140.6 P _w 17145.0			
NO.	P ₁ ²	P _w	P ₂ ²
1.		3572	12760
2.		3129	9789
3.		2734	7476
4.		2367	5605
5.			
(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.4857$			
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.2201$			
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 289.0$			
Post ID-2 1-6-89 comp. Atk.			
Absolute Open Flow 289.0 Mcfd @ 15.025		Angle of Slope @ 63.3	
Slope, n 0.503			
Remarks: BHP MEASURED WITH AMERADA PRESSURE ELEMENTS			
Approved By: <i>FAV</i>		Conducted By: MONTY RANDOLPH	
Calculated By: MATT LEE		Checked By:	

**NEW-TEX
LAB**

PHONE 505/393-3581

P. O. BOX 1161

611 W. SNYDER

HOBBS, NEW MEXICO 88240

ANALYSIS CERTIFICATE

CLIENT: JOHN WEST OIL CO
ADDRESS: 412 N IAL PASA
CITY, STATE: HOBBS NM 88240

ANALYSIS NUMBER : 7008
DATE OF RUN : 4-20-62
DATE SECURED : 4-20-62

SAMPLE IDENT: OIL CO. 100% OIL CO. - PAUL "A" WELL #1
SAMPLING PRESS: GAGE NO. 1194

REMARKS: S17 T135 R28E

***** GAS ANALYSIS *****

	MOLE PERCENT	GRM/100
NITROGEN	0.01	0.01
CARBON DIOXIDE	0.01	0.01
METHANE	80.00	16.00
ETHANE	1.00	2.00
PROPANE	0.01	0.01
ISO-BUTANE	0.01	0.01
NORMAL BUTANE	0.01	0.01
ISO-PENTANE	0.01	0.01
NORMAL PENTANE	0.01	0.01
HEXANES	0.01	0.01
HEPTANES PLUS	0.01	0.01
TOTAL	100.00	100.00

PROPANE GPM: 0.44 BUTANES GPM: 0.01
ETHANE GPM: 1.62 HEPTANES PLUS GPM: 0.01

SPECIFIC GRAV (CALC): 0.6897
MOLE WEIGHT: 1.15

HV-BTU/CU FT	PRESSURE (PSIA)	TEMP (°F)	WATER (GAL)
14.595	100	100	100
14.650	100	100	100
14.732	100	100	100
14.731	100	100	100

ANALYZED BY:

APPROVED BY:

[Signature]

CITIES SERVICE COMPANY
POLK "A" NO. 1

TEST CONDUCTED BY:
JOHN WEST ENGINEERING

TEST DATE: APRIL 24 to 28, 1982
TEST DEPTH: 11,155 FEET
ELEMENT NO: 23882 (0-6400 psi)
OPERATOR: Winn Sutton

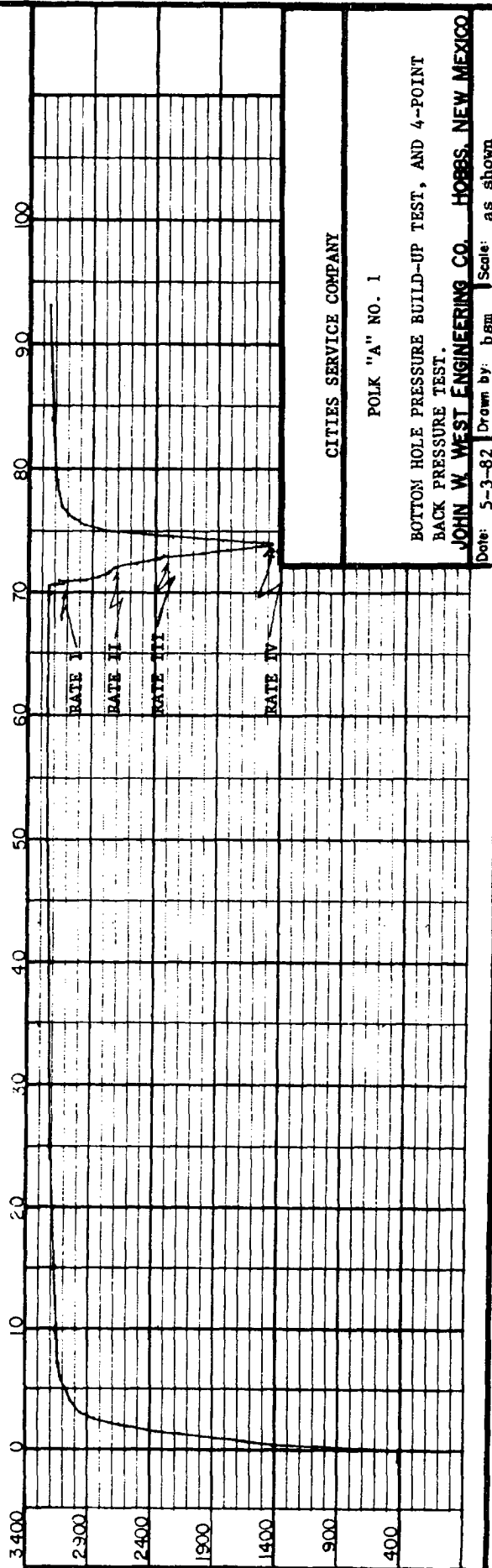
<u>DATE</u>	<u>TIME</u>	<u>CUM HRS. / MIN.</u>	<u>PSIG @ 11,155 FEET</u>
4-27-82	1:30 P.M.	00 Hrs. 00 Min.	1478 Begin Build-Up
	1:45 P.M.	00 15	1888
	2:00 P.M.	00 30	2276
	2:30 P.M.	01 00	2743
	3:00 P.M.	01 30	2949
	3:30 P.M.	02 00	3048
	4:30 P.M.	03 00	3141
	5:30 P.M.	04 00	3174
	6:30 P.M.	05 00	3196
4-27-82	11:30 P.M.	10 00	3228
4-28-82	4:30 A.M.	15 00	3235
4-28-82	9:00 A.M.	19 00	3251 Gauge out, End of test

TEST DATE: APRIL 24 to 28, 1982
TEST DEPTH: 11,155 FEET

ELEMENT NO: 23882
RANGE: 0-6400 psi
CLOCK NO: 24946
RANGE: 0-72 Hours

NOTE: SEE TABULATION OF TIMES AND PRESSURES ON ATTACHED SHEET.

TIME IN HOURS



Cities Service Company
 Polk "A" No. 1
 Bottom Hole Pressure Build-Up test,
 4-Point Back pressure test, and
 Bottom hole pressure build-Up test.
 Tabulation of times and pressures

TEST CONDUCTED BY:
 JOHN WEST ENGINEERING COMPANY

TEST DATE: APRIL 24 to 28, 1982
 TEST DEPTH: 11,155 FEET
 ELEMENT NO: 23882 (0-6400 psi)
 OPERATOR: WINN SUTTON

<u>DATE</u>	<u>TIME</u>	<u>CUM HRS./MIN.</u>	<u>PSIG @ 11,155 FEET</u>
4-24-82	10:00 A.M.		419 gauge reached 11,155 feet
	11:00 A.M.	00 Hrs. 00 Min.	419 Shut-In, Begin build-Up
	11:15 A.M.	00 15	1083
	11:30 A.M.	00 30	1413
	11:45 A.M.	00 45	1663
	12:00 Noon	01 00	1936
	12:30 P.M.	01 30	2350
	1:00 P.M.	02 00	2640
	1:30 P.M.	02 30	2842
	2:00 P.M.	03 00	2949
	3:00 P.M.	04 00	3045
	4:00 P.M.	05 00	3087
	5:00 P.M.	06 00	3119
	6:00 P.M.	07 00	3135
	7:00 P.M.	08 00	3145
	8:00 P.M.	09 00	3151
4-24-82	9:00 P.M.	10 00	3161
4-25-82	2:00 A.M.	15 00	3187
	7:00 A.M.	20 00	3193
	12:00 Noon	25 00	3212
4-25-82	5:00 P.M.	30 00	3221
4-26-82	3:00 A.M.	40 00	3235
4-26-82	1:00 P.M.	50 00	3244
4-26-82	11:00 P.M.	60 00	3257
4-27-82	9:00 A.M.	70 00	3264 Gauge out to change charts.
4-27-82	9:45 A.M.		3264 Gauge back to 11,155 feet
	10:00 A.M.	00 Hrs. 00 Min.	3264 Open-Choke, Begin Test
	10:15 A.M.	00 15	3132 4/64 Choke
	10:30 A.M.	00 30	3164 End Rate I
	10:45 A.M.	00 45	2949 8/64 Choke
	11:00 A.M.	01 00	2859
	11:15 A.M.	01 15	2775
	11:30 A.M.	01 30	2733 End Rate II
	11:45 A.M.	01 45	2559 11/64 Choke
	12:00 Noon	02 00	2466
	12:15 P.M.	02 15	2392
	12:30 P.M.	02 30	2344 End Rate III
	12:45 P.M.	02 45	2010 15/64 Choke
	1:00 P.M.	03 00	1817
	1:15 P.M.	03 15	1590
	1:30 P.M.	03 30	1478 End Rate IV

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_c or P_w)

FROM KNOWN BOTTOM HOLE PRESSURE (P_f or P_s)

COMPANY Cities Service Co., LEASE Polk "A" WELL NO. 1 DATE 4-27-82

LOCATION: Unit B Section 17 Township 23S Range 28E

L 12,574 H 12,574 LH G 6397 % CO₂ 611 % N₂ 2.235 % H₂S

GH P_{CT} T_{CT}

LINE		S_L	z	z	z	z	z	z	z
1	$T_w (W.H. \cdot R)$	530	530	534	524	527			
2	$T_s (B.H. \cdot R)$	656	656	656	656	656			
3	$T = (T_w + T_s) / 2$	533	593	595	590	591.5			
4	Z (Est.)	.827	.827	.828	.827	.869			
5	TZ	490.41	490.41	492.66	487.93	514.01			
6	GH/TZ	14.550	14.550	14.484	14.624	13.882			
7	e^S (Table XIV)	1.72	1.725	1.724	1.7305	1.6830			
8	P_f or P_s	3277.2	3177.2	2746.2	2352.2	1491.2			
9	P_f^2 or P_s^2	10740.68	10094.59	7541.61	5556.39	2723.67			
10	$P_c^2 = P_f^2 / e^S$ or $P_w^2 = P_s^2 / e^S$	6223.457	5849.44	4380.98	3210.80	1321.73			
11	P_c or P_w	2494.68	2418.56	2093.08	1791.87	1149.44			
12	$P = (P_w + P_s) / 2$ or $(P_c + P_f) / 2$								
13	$P_r = (P / P_{CT})$	4.29	4.16	3.60	3.08	1.96			
14	$T_r = (T / T_{CT})$	1.62	1.62	1.63	1.61	1.62			
15	Z (Table XI)								

$$\log 400 = 2.95424$$

$$\log 238 = 2.37658$$

$$.57767 \quad 1205 \left(\frac{6223}{4902} \right) \cdot 57767 = 1383$$

Pct - PW

3 X 3 CYCLES
KEUFFEL & ESSER CO.

