

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test RECEIVED 11-05-90	
Company Oxy U.S.A. ✓		Connection Vented DEC 18 '90	
Pool N. Burton Flat H2OKg		Formation Atoka O.C.D.	
Completion Date 11-05-90		Total Depth 11,525	Plug Back TD 10,875
Elevation 3227 GL		Farm or Lease Name Government 'U'	
Csq. Size 5 1/2	Wt. 17 & 20#	Set At 11,525	Perforations: From 10,391 To 10,798
Thq. Size 2 7/8	Wt. 6.5	Set At 10,303	Perforations: From open To end
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single		Packer Set At 10,303	Well No. 2
Producing Thru TBG	Reservoir Temp. °F 190 @ 10,595	Mean Annual Temp. °F 60	Buro. Press. - P _g 13.2
County Eddy		State New Mexico	
L 10,595	H *10,595	G _g .638	% CO ₂ 2.05
% N ₂ .45		% H ₂ S --	Prover 3.068
Meter Run FLG		Taps FLG	

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	Press. p.s.i.g.	Temp. °F	
SI							3500		PKR		72 hrs.
1.	3	X	1.000	420	14.00	73	3365		PKR		1 hr.
2.	3	X	1.000	480	50.00	76	3230		PKR		1 hr.
3.	3	X	1.750	460	13.04	74	2862		PKR		1 hr.
4.	3	X	1.750	470	24.00	75	2235		PKR		1 hr.
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, F _{pv}	Rate of Flow Q, Mcfd
1.	4.789	77.88	433.2	.9877	1.252	1.038	479
2.	4.789	157.04	493.2	.9850	1.252	1.043	967
3.	15.61	78.43	473.2	.9868	1.252	1.041	1,575
4.	15.61	107.69	483.2	.9859	1.252	1.043	2,164
5.							

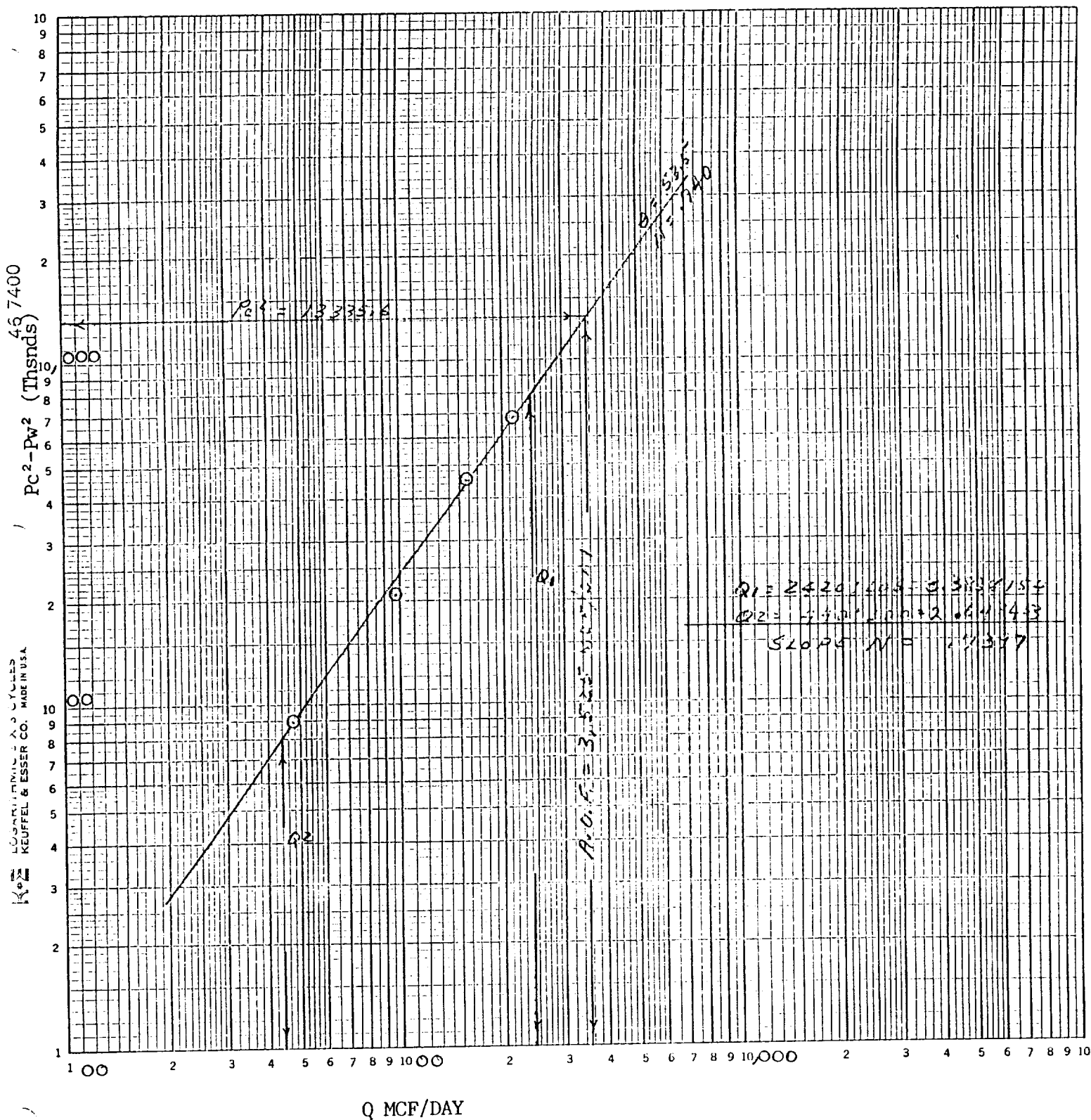
NO.	P _g	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio _____ 48.0 _____ Mcf/bbl.
1.	.63	533	1.46	.928	A.P.I. Gravity of Liquid Hydrocarbons _____ 50.0 @ 60° _____ Deg.
2.	.72	536	1.46	.919	Specific Gravity Separator Gas _____ .638 _____ XXXXXXXXXX
3.	.69	534	1.46	.922	Specific Gravity Flowing Fluid _____ XXXXX _____
4.	.71	535	1.46	.920	Critical Pressure ***678 _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature ***365 _____ R _____ R

P _c 3651.8 P _c ² 13335.6					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.934$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.629$	
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.525$			
1		3528.0	12446.8	888.8				
2		3352.6	11239.9	2095.7				
3		2984.4	8906.6	4429.0				
4		2537.5	6438.9	6896.7				
5								

Absolute Open Flow _____ 3,525 _____ Mcfd @ 15.025		Angle of Slope _____ 53.5 _____		Slope, n _____ .740 _____	
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Remarks: * BIP set at this depth	
Well made 4.50 BBLs 50.0 Gravity CONDENSATE @ 60°	
**=corrected to 2.05% CO ₂	
Approved By Division	Conducted By: Pro Well Testers
Calculated By: BM	Checked By: BM

New Mexico U.S.A.
 Government 'U', Well #2
 22 - 22S - 28E
 Eddy County, New Mexico
 11-05-90



PRO WELL TESTING & WIRELINE

FIELD DATA SHEET

COMPANY Oxy USA, Inc. COMPANY REPRESENTATIVE Sid Nichols
 LEASE NAME & NO. Government 'U', #2 TEST DATE & TIME 11-05-90 9:00AM
 COUNTY Eddy STATE New Mexico ELEVATION 3227 GL FORMATION Atoka
 INIT SECTION 22 TOWNSHIP 20-S RANGE 28-E
 TEST TYPE X INITIAL ANNUAL SPECIAL TYPE WELL Gas
 COMPLETION DATE 11-05-90 TDE 11,525 PBTDE 10,875 PKRE 10,303
 CONNECTION Air METER RUN 3.068 TAPS Flange
 CASING SIZE 5½ WT. 17-20# DIA. SET@ 11,525
 TUBING SIZE 2 7/8 WT. 6.5 DIA. SET@ 10,303
 PERFORATIONS FROM 10,391 TO 10,798
 PRODUCING THRU Tubing

TIME DATE	ELAP. HR	TBG. PRES	CASING PRES	W/H TEMP	METER OR PROVER			ORIF. SIZE	CHOKE SIZE	MCFD	REMARKS
					PRES	DIFF	TEMP				
9:00AM	72	3500	PKR					1.000"	645		Preheat
9:15	.00	3500	PKR								Start Test
9:30	.15	3400	PKR		420	15"	68°	1.000"	6/64	478	
9:45	.30	3380	PKR		420	14"	70°	1.000"	6/64	462	
10:00	.45	3360	PKR		420	11"	73°	1.000"	6/64	409	
10:15	1.00	3365	PKR		420	14"	73°	1.000"	6/64	462	End of Rate I
10:30	1.15	3340	PKR		450	40"	73°	1.000"	8.5/64	808	
10:45	1.30	3290	PKR		480	48"	76°	1.000"	8.5/64	913	
11:00	1.45	3270	PKR		460	45"	76°	1.000"	8.5/64	866	
11:15	2.00	3230	PKR		480	50"	76°	1.000"	8.5/64	932	End of Rate II
11:30	2.15	3120	PKR		450	13"	66°	1.750"	9.5/64	1502	
11:45	2.30	3030	PKR		460	13"	68°	1.750"	9.5/64	1518	
12:00	2.45	2900	PKR		460	14"	70°	1.750"	9.5/64	1575	
12:15	3.00	2862	PKR		460	13"	74°	1.750"	9.5/64	1518	End of Rate III
12:30	3.15	2680	PKR		500	28"	76°	1.750"	11/64	2320	
12:45	3.30	2490	PKR		450	26"	76°	1.750"	11/64	2124	
1:00	3.45	2340	PKR		450	25"	76°	1.750"	11/64	2069	
1:15	4.00	2235	PKR		470	24"	75°	1.750"	11/64	2084	End of Rate IV

Well made 4.5 BBLs CONDENSATE during test
 Gravity 50 @ 60°
 No H₂O

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURE (P_c or P_w)
FROM KNOWN BOTTOM HOLE PRESSURE (P_f or P_s)

FORM C-122F

COMPANY: OXY, USA
UNIT: L

LEASE: Gov't U WELL NO.: 2 DATE: 11/6/90
SECTION: 22 TOWNSHIP: 20 S RANGE: 28 E
H: 10595 L/H: 1 G/GNIX: 0.6380
CO2: 2.05 N2: 0.45 H2S: 0
GH: 6759.6 PCR: 678 TCR: 365

LINE		1	2	3	4	5	6	7	8
1	TW(W.H. R)	534	534	534	534	534	534	534	534
2	Ts(B.H. R)	640.0	640.0	640.0	640.0	640.0	640.0	640.0	640.0
3	T=(Tw+Ts/2)	587.0	587.0	587.0	587.0	587.0	587.0	587.0	587.0
4	Z (EST.)	0.985	0.883	ERR	ERR	ERR	ERR	0.000	ERR
5	TZ	578	518	ERR	ERR	ERR	ERR	0	ERR
6	GH/TZ	11.697	13.037	ERR	ERR	ERR	ERR	ERR	ERR
7	eS(TABLE XIV)	1.551	1.631	ERR	ERR	ERR	ERR	ERR	ERR
8	Pf or Ps	4663	4663	0	0	0	0	0	0
9	Pf2 or Ps2	21743.6	21743.6	0.0	0.0	0.0	0.0	0.0	0.0
10	Pc2=Pf/eS or Pw2=Ps2/eS	14022.7	13335.3	ERR	ERR	ERR	ERR	ERR	ERR
11	Pc or Pw	3745	3652	ERR	ERR	ERR	ERR	ERR	ERR
12	P=(Pw+Ps/2) or (Pc+Pf/2)	4204	4157	ERR	ERR	ERR	ERR	ERR	ERR
13	Pr=(P/Pcr)	6.20	6.13	ERR	ERR	ERR	ERR	ERR	ERR
14	Tr(T/Tcr)	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61
15	Z (TABLE XI)	0.883	0.880	ERR	ERR	ERR	ERR	ERR	ERR

BNP STATIC SIF PW 1: 3651.8 PW 2: ERR PW 3: ERR PW 4: ERR

CAL. TO SURFACE

PC

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURE (~~Pc~~ or Pw)
FROM KNOWN BOTTOM HOLE PRESSURE (Pf or Ps)

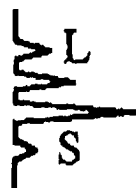
FORM C-122F

COMPANY OXY, USA
UNIT
L

LEASE : Gov't U WELL NO. : 2 DATE 11/6/90
SECTION : 22 TOWNSHIP : 20 S RANGE : 28 E
H : 10595 L/H : 1 G/GHIX : 0.6380
CO2 : 2.05 N2 : 0.45 H2S : 0
GH : 6759.6 PCR : 678 TCR : 365

LINE		1	2	3	4	5	6	7	8
1	TW(W.H. R)	534	534	534	534	534	534	534	534
2	Ts(B.H. R)	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
3	T=(Tw+Ts/2)	592.0	592.0	592.0	592.0	592.0	592.0	592.0	592.0
4	Z (EST.)	0.975	0.877	0.894	0.863	0.864	0.841	0.834	0.821
5	TZ	577	519	529	511	512	498	494	486
6	GH/TZ	11.710	13.013	12.778	13.225	13.214	13.582	13.684	13.916
7	eS(TABLE XIV)	1.551	1.629	1.615	1.642	1.641	1.664	1.671	1.685
8	Pf or Ps	4503	4503	4296	4296	3850	3850	3294	3294
9	Pf2 or Ps2	20277.0	20277.0	18455.6	18455.6	14822.5	14822.5	10850.4	10850.4
10	Pc2=Pf/eS or Pw2=Ps2/eS	13070.5	12447.1	11429.3	11239.7	9030.7	8906.8	6495.1	6438.9
11	Pc or Pw	3615	3528	3381	3353	3005	2984	2549	2537
12	P=(Pw+Ps/2) or (Pc+Pf/2)	4059	4016	3838	3824	3428	3417	2921	2916
13	Pr=(P/Pcr)	5.99	5.92	5.66	5.64	5.06	5.04	4.31	4.30
14	Tr(T/Tcr)	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
15	Z (TABLE XI)	0.877	0.875	0.863	0.863	0.841	0.840	0.821	0.820

Flowing ENPS PW 1 : 3528.0 PW 2 : 3352.6 PW 3 : 2984.4 PW 4 : 2537.5
ONLY TO SURFACE
Pw



Laboratory Services

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pro Well Testing & Wireline
Attention: Mr. Merv Buecker
P. O. Box 791
Hobbs, New Mexico 88240

SAMPLE
IDENTIFICATION: Government "U" #2
COMPANY: OXY
LEASE:
PLANT:

SAMPLE DATA:	DATE SAMPLED:	11/5/90 12:30PM	GAS (XX)	LIQUID ()
	ANALYSIS DATE:	11-05-90	SAMPLED BY:	Merv Buecker
	PRESSURE - PSIG	450.00	ANALYSIS BY:	Rolland Perry
	SAMPLE TEMP. °F	74.00		
	ATMOS. TEMP. °F			

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM	
Oxygen (O2)			
Hydrogen Sulfide (H2S)			
Nitrogen (N2)	2.05		
Carbon Dioxide (CO2)	0.45		
Methane (C1)	88.82		
Ethane (C2)	5.35	1.427	
Propane (C3)	1.82	0.500	
I-Butane (IC4)	0.38	0.124	
N-Butane (NC4)	0.43	0.137	
I-Pentane (IC5)	0.20	0.073	
N-Pentane (NC5)	0.09	0.034	
Hexane (C6)	0.41	0.170	
Heptanes Plus (C7+)	0.00	0.000	
	100.00	2.465	
BTU/CU.FT. - DRY	1095	MOLECULAR WT	18.4710
AT 14.650 DRY	1092		
AT 14.650 WET	1073	26# GASOLINE -	0.323
AT 15.025 DRY	1120		
AT 15.025 WET	1100		
SPECIFIC GRAVITY -			
CALCULATED	0.638		
MEASURED	0.000		

