

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		RECEIVED 03-04-91	
Company Oxy U.S.A.		Connection Transwestern	
Pool <i>S. Carlisle Morrow</i>		Formation Morrow	
Completion Date 02-25-91		Total Depth 11,836	
Plug Back TD 11,510		Elevation	
Form or Lease Name Tracy B		Unit 1	
Csg. Size 2 7/8		Wt. 6.5	
Set At 11,836		Perforations From 11,205 To 11,501	
Thq. Size 2 7/8		Wt. 6.5	
Set At 11,150		Perforations From OPEN To END	
Type Well - Single - Broadhead - G.C. or G.O. Multiple Single		Packer Set At 11,150	
Producing Thru		Reservoir Temp. °F 186	
Mean Annual Temp. °F 60		Base Press. - P _g	
State New Mexico		County Eddy	
L *11,167		H *11,167	
C _g .694		% CO ₂ 11.58	
% N ₂ .94		% H ₂ S	
Prover		Meter Run 4.026	
Taps 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	Press. p.s.i.g.	Temp. °F	
SI							1330		PKR		5 days
1.	4	X	1.125	260	4.00	62	1240		PKR		1 hr.
2.	4	X	1.125	260	8.50	63	1150		PKR		1 hr.
3.	4	X	1.125	260	16.00	63	1025		PKR		1 hr.
4.	4	X	1.125	260	32.00	63	895		PKR		1 hr.
5.											

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 _{sp}	Rate of Flow Q, Mcfd
1.	6.031	33.06	273.2	.9981	1.200	1.025	245
2.	6.031	48.19	273.2	.9971	1.200	1.025	356
3.	6.031	66.12	273.2	.9971	1.200	1.025	489
4.	6.031	93.50	273.2	.9971	1.200	1.025	692
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1.	.38	522	1.42	.952	DRY GAS	DRY	.694	XXXXXX	**716	**366
2.	.38	523	1.42	.952				XXXXX		
3.	.38	523	1.42	.952						
4.	.38	523	1.42	.952						
5.										

NO.	P ₁ ²	P _w	P ₂ ²	P ₂ ² - P _w ²	(1) $\frac{P_c^2}{P_2^2 - P_w^2} =$	(2) $\left[\frac{P_c^2}{P_2^2 - P_w^2} \right]^n =$
1.	1256.2	1578.0	226.2		2.808	2.756
2.	1212.6	1470.4	333.8			
3.	1150.4	1323.4	480.8			
4.	1077.8	1161.7	642.5			
5.						

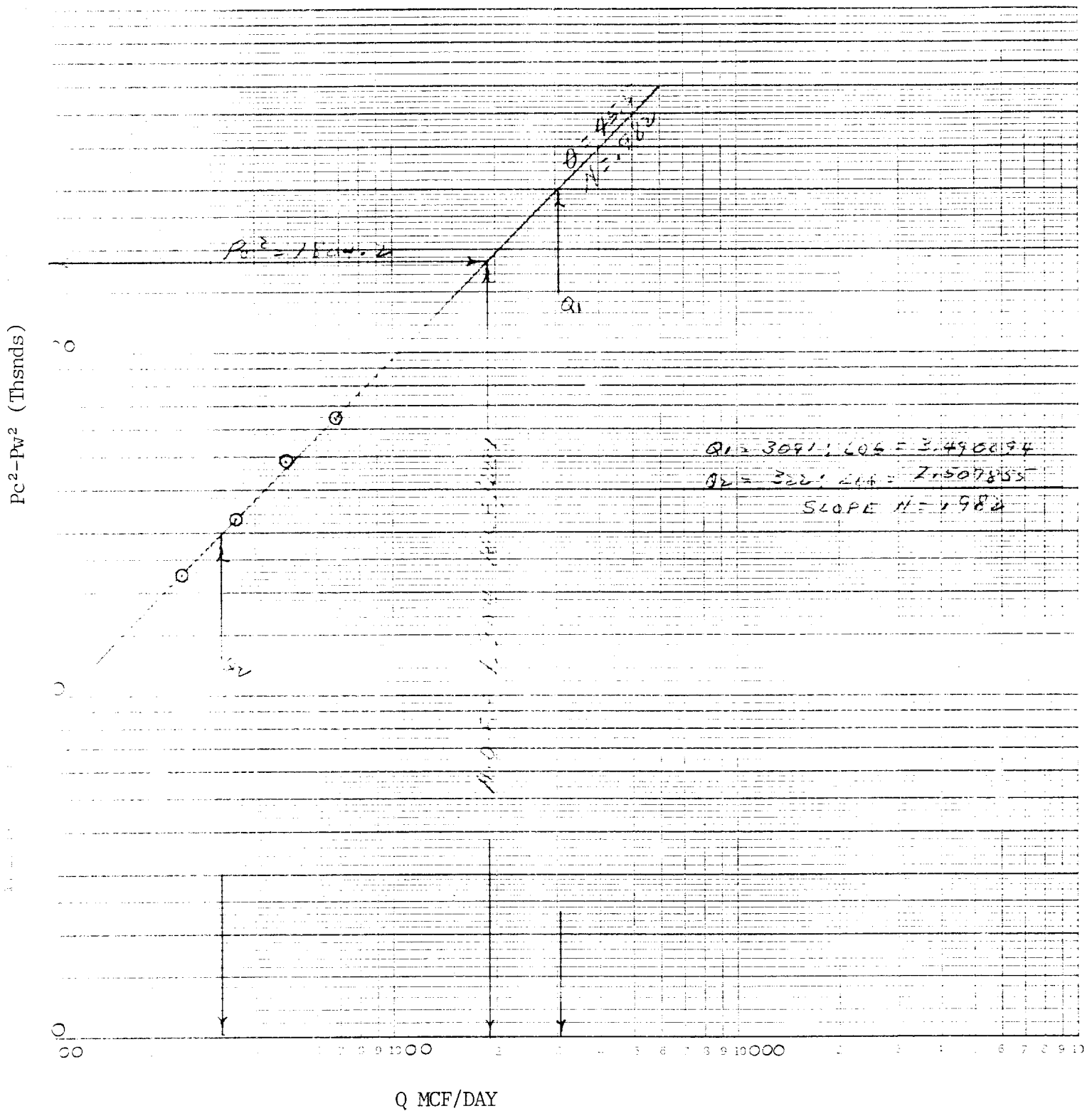
Absolute Open Flow		1,907		Mcfd @ 15.025		Angle of Slope θ		45.5		Slope, n		.982	
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Remarks: *=BHP Instrument set @ this depth
**=corrected to 11.58% CO₂ & .94% N₂

NO FLUID PRODUCED DURING TEST

Approved By Division	Conducted By: Pro Well Testers	Calculated By: BM	Checked By: BM
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Eddy County, New Mexico
03-04-91



PRO WELL TESTING & WIRELINE FIELD DATA SHEET

COMPANY Oxy U.S.A. COMPANY REPRESENTATIVE Sid Nichols

LEASE NAME & NO. Tracy B #1 TEST DATE & TIME 03-04-91

COUNTY Eddy STATE New Mexico ELEVATION KB 20' FORMATION Morrow

INIT SECTION TOWNSHIP RANGE

TEST TYPE X INITIAL ANNUAL SPECIAL TYPE WELL

COMPLETION DATE 02-25-91 TD@ 11,836' PBD@ 11,510' PKR@ 11,150'

CONNECTION Transwestern METER RUN 4.026 TAPS Flange

CASING SIZE WT. DIA. SET@

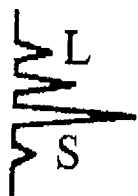
TUBING SIZE 2 7/8 WT. 6.5# DIA. SET@

PERFORATIONS FROM 11,205' TO 11,501'

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				
11:00 AM	1.20	1330	PKR					1.125	64		
12:00 PM	.00	1330	PKR		260	2"	64°	1.125	8/64	207	Start Test
12:15	.15	1270	PKR		260	3"	62°	1.125	8/64	223	
12:30	.30	1265	PKR		260	3"	62°	1.125	8/64	223	
12:45	.45	1255	PKR		260	3"	62°	1.125	8/64	223	
1:00	1.00	1240	PKR		260	4"	62°	1.125	8/64	257	End Rate I
1:15	1.15	1205	PKR		260	9"	62°	1.125	10/64	386	
1:30	1.30	1185	PKR		260	9"	63°	1.125	10/64	386	
1:45	1.45	1160	PKR		260	8.5"	63°	1.125	10/64	375	
2:00	2.00	1130	PKR		260	8.5"	63°	1.125	10/64	375	End Rate II
2:15	2.15	1105	PKR		260	17"	63°	1.125	14/64	531	
2:30	2.30	1075	PKR		260	17½"	63°	1.125	14/64	538	
2:45	2.45	1045	PKR		260	17"	63°	1.125	14/64	531	
3:00	3.00	1025	PKR		260	16"	63°	1.125	14/64	515	End Rate III
3:15	3.15	970	PKR		260	37"	63°	1.125	17/64	783	
3:30	3.30	940	PKR		260	34"	63°	1.125	17/64	751	
3:45	3.45	910	PKR		260	34"	63°	1.125	17/64	751	
4:00	4.00	895	PKR		260	32"	63°	1.125	17/64	728	End Rate IV

NO FLUID



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: Tracy "B"
COMPANY: OXY USA
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 3/4/91 3:40PM GAS (XX) LIQUID ()
ANALYSIS DATE: 03-04-91 SAMPLED BY: Merv Buecker
PRESSURE - PSIG 260.00 ANALYSIS BY: Rolland Perry
SAMPLE TEMP. °F
ATMOS. TEMP. °F
REMARKS: Eddy County New Mexico
Taken From The Meter Run.

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM	
Oxygen (O2)			
Hydrogen Sulfide (H2S)			
Nitrogen (N2)	0.94		
Carbon Dioxide (CO2)	11.58		
Methane (C1)	84.22		
Ethane (C2)	2.41	0.643	
Propane (C3)	0.42	0.114	
I-Butane (IC4)	0.06	0.021	
N-Butane (NC4)	0.07	0.023	
I-Pentane (IC5)	0.00	0.000	
N-Pentane (NC5)	0.07	0.023	
Hexane (C6)	0.23	0.094	
Heptanes Plus (C7+)	0.00	0.000	
	100.00	0.918	
BTU/CU.FT. - DRY	922	MOLECULAR WT	20.1008
AT 14.650 DRY	919		
AT 14.650 WET	903	26# GASOLINE -	0.125
AT 15.025 DRY	942		
AT 15.025 WET	926		
SPECIFIC GRAVITY -			
CALCULATED	0.694		
MEASURED	0.000		

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

FORM C-122F

COMPANY OXY USA

LEASE : TRACY B

WELL NO. : 1

DATE 3 4 91

UNIT

SECTION :

TWNSHP :

RANGE :

L

11167

H : 11167

L/H : 1

G/GMIX : 0.6940

CO2 : 11.58

N2 : 0.94

H2S :

GH : 7749.9

PCR : 716

TCR : 366

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)	645.7	645.7	645.7	645.7	645.7	645.7	645.7	645.7
3	$T = (Tw + Ts / 2)$	589.8	589.8	589.8	589.8	589.8	589.8	589.8	589.8
4	Z (EST.)	0.890	0.841	0.832	0.845	0.837	0.850	0.843	0.856
5	TZ	525	496	491	498	494	501	497	505
6	GH/TZ	14.768	15.631	15.789	15.553	15.696	15.460	15.579	15.348
7	eS(TABLE XIV)	1.740	1.797	1.808	1.792	1.801	1.786	1.794	1.778
8	P_f or P_s	1684.2	1684.2	1623.2	1623.2	1537.2	1537.2	1437.2	1437.2
9	P_{f2} or P_{s2}	2836.5	2836.5	2634.8	2634.8	2363.0	2363.0	2065.5	2065.5
10	$P_{c2} = P_f / eS$ or $P_{w2} = P_{s2} / eS$	1630.3	1578.4	1457.5	1470.4	1311.7	1323.3	1151.6	1161.7
11	P_c or P_w	1277	1256	1207	1213	1145	1150	1073	1078
12	$P = (P_w + P_s / 2)$ or $(P_c + P_f / 2)$	1481	1470	1415	1418	1341	1344	1255	1258
13	$P_r = (P / P_{cr})$	2.07	2.05	1.98	1.98	1.87	1.88	1.75	1.76
14	$T_r (T / T_{cr})$	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61
15	Z (TABLE XI)	0.841	0.841	0.845	0.845	0.850	0.850	0.856	0.856

PW 1 : 1256.4 PW 2 : 1212.6 PW 3 : 1150.4 PW 4 : 1077.8