

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 04-23-91	
Company Chevron U.S.A.		Connection	
Pool		Formation Eumont	
Completion Date 04-14-91		Total Depth 4000	Plug Back TD 3625
Elevation		Farm or Lease Name W.A. Ramsey A	
Csg. Size 5 1/2	Wt. 14#	Set At 4000	Perforations From 3138 To 3479
Thq. Size 2 3/8	Wt. 4.7#	Set At 3107	Perforations From OPEN To END
Type Well - Single - Broadhead - G.C. or G.O. Multiple Single		Packer Set At 3107	County Lea
Producing Thru Tubing	Reservoir Temp. °F 60°	Mean Annual Temp. °F 60°	Buro. Press. - P _g 13.2
State New Mexico			
L 3107	H 3107	G ₁ .727	% CO ₂ 4.05
		% N ₂ 2.65	% H ₂ S --
Prover		Meter Run 2.067	Taps Flange

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. in. H ₂ O	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							188		PKR		24 hr.
1.	2	X	1.500	40	12.00	80	178		PKR		45 mins.
2.	2	X	1.500	40	29.00	78	169		PKR		45 mins.
3.	2	X	1.500	40	45.00	75	159		PKR		45 mins.
4.	2	X	1.500	40	56.00	74	150		PKR		45 mins.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_p P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super. Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	12.76	25.27	53.2	.9813	1.173	1.013	376
2	12.76	39.28	53.2	.9831	1.173	1.013	586
3	12.76	48.93	53.2	.9859	1.173	1.014	732
4	12.76	54.58	53.2	.9868	1.173	1.014	817
5							

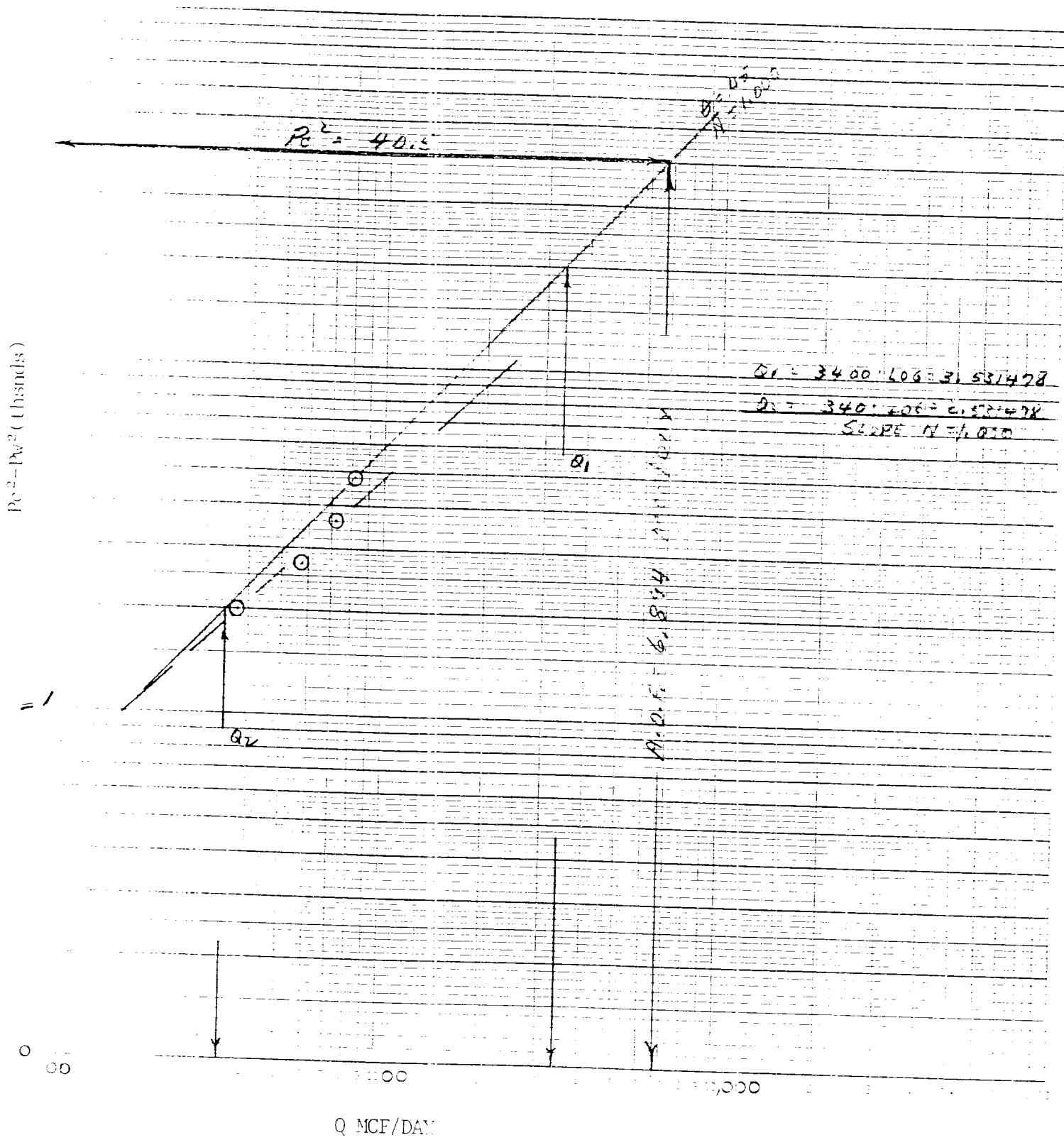
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	DRY GAS	Mcf/bbl.
1.	.07	540	1.40	.974	A.P.I. Gravity of Liquid Hydrocarbons	DRY	Deq.
2.	.07	538	1.39	.974	Specific Gravity Separator Gas	.727	XXXXXXX
3.	.07	535	1.38	.973	Specific Gravity Flowing Fluid	XXXXX	
4.	.07	534	1.38	.973	Critical Pressure	*682	P.S.I.A.
5.					Critical Temperature	*385	R

P _c 201.2		P _c 40.5	
NO.	P ₁ ²	P ₂ ²	P ₂ ² - P ₁ ²
1	196.1	38.5	2.0
2	194.5	37.8	2.7
3	192.0	36.9	3.6
4	188.8	35.6	4.8
5			

(1) $\frac{P_c^2}{P_2^2 - P_1^2} = 8.438$		(2) $\left[\frac{P_c^2}{P_2^2 - P_1^2} \right]^n = 8.438$	
AOF = 0 $\left[\frac{P_c^2}{P_2^2 - P_1^2} \right]^n = 6.894$			

Absolute Open Flow	6,984	Mcf @ 15.025	Angle of Slope	45	Slope, n	1.000
Remarks: *corrected to 4.05% CO ₂ & 2.65% N ₂ NO FLUID PRODUCED DURING TEST						
Approved By Division _____ Conducted By _____ Calculated By _____ Checked By _____						

Chevron U.S.A.
W.A. Ramsey A., Well #35
N - 27 - 21-S - 36-E
Lea County, New Mexico
04-23-81

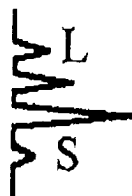


FIELD DATA SHEET

COMPANY Chevron U.S.A. COMPANY REPRESENTATIVE Danny Lovell
LEASE NAME & NO. W.A. Ramsey A, #35 TEST DATE & TIME 04-23-91 11:00AM
COUNTY Lea STATE New Mexico ELEVATION _____ FORMATION Eumont
UNIT N SECTION 27 TOWNSHIP 21-S RANGE 36-E
TEST TYPE X INITIAL _____ ANNUAL _____ SPECIAL _____ TYPE WELL Single
COMPLETION DATE 04-14-91 TDE 4000 PBTDE 3625 PKR@ 3107
CONNECTION None METER RUN 2.067" TAP'S Flange
CASING SIZE 5½ WT. 14# DIA. _____ SET@ 4000
TUBING SIZE 2 3/8 WT. 4.7# DIA. _____ SET@ 3107
PERFORATIONS FROM 3138 TO 3479
PRODUCING THRU Tubing

[illegible]

NO FLUID DURING TEST



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: W. A. Ramsey A 35
COMPANY: Chevron U. S. A.
LEASE:
PLANT:

SAMPLE DATA:	DATE SAMPLED: 4/23/91 1:30PM	GAS (XX)	LIQUID ()
	ANALYSIS DATE: 04-23-91	SAMPLED BY:	Glen-Pro Well
	PRESSURE - PSIG 40.00	ANALYSIS BY:	Rolland Perry
	SAMPLE TEMP. °F 74.00		
	ATMOS. TEMP. °F 82.00		

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM	
Oxygen (O2)			
Hydrogen Sulfide (H2S)			
Nitrogen (N2)	2.69		
Carbon Dioxide (CO2)	4.05		
Methane (C1)	78.29		
Ethane (C2)	8.50	2.268	
Propane (C3)	3.90	1.072	
I-Butane (IC4)	0.51	0.166	
N-Butane (NC4)	1.11	0.349	
I-Pentane (IC5)	0.30	0.110	
N-Pentane (NC5)	0.25	0.090	
Hexane (C6)	0.40	0.164	
Heptanes Plus (C7+)	0.00	0.000	
	100.00	4.219	
BTU/CU.FT. - DRY	1133	MOLECULAR WT	21.0519
AT 14.650 DRY	1130		
AT 14.650 WET	1110	26# GASOLINE -	0.480
AT 15.025 DRY	1159		
AT 15.025 WET	1138		
SPECIFIC GRAVITY -			
CALCULATED	0.727		
MEASURED	0.600		

COMPANY : CHEVRON USA LEASE : W A RAYSEY A WELL NO. : 35
 UNIT : N SECTION : 27 TOWNSHIP : 21
 L : 3107 H : 3107 L/H : 1 G/GMIX : 0.727
 WCO2 : 4.05 WNI2 : 2.65 H2S : DATE : 4 23 91
 d : 1.995 Fr : 0.018231 Gf : 2258.8 RANGE : 36

Pc = 201.2 Pc2 = 40.5 *
 Pt2 = 36.6 Pw = 196.1 *
 33.2 194.5 *
 29.7 192.0 *
 26.6 188.8 *

VOL 1 : 376 PSIA 1 : 191.2 RESV. TEMP 105.1
 VOL 2 : 586 PSIA 2 : 182.2
 VOL 3 : 732 PSIA 3 : 172.2 SHUT-IN PR= 201.2
 VOL 4 : 817 PSIA 4 : 163.2

PCR : 682
 TCR : 385

~~n = 0.595~~

LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 QM	0.376	0.376	0.586	0.586	0.732	0.732	0.817	0.817
2 TW	534	534	534	534	534	534	534	534
3 Ts	565.1	565.1	565.1	565.1	565.1	565.1	565.1	565.1
4 T	549.5	549.5	549.5	549.5	549.5	549.5	549.5	549.5
PR (est)	0.28		0.27		0.25		0.24	
5 Z(est)	0.943	0.942	0.945	0.943	0.947	0.944	0.948	0.945
6 TZ	518.5	517.5	519.3	518.0	520.2	518.6	521.1	519.1
7 GH/TZ	4.357	4.365	4.350	4.361	4.342	4.356	4.335	4.351
8 eS	1.177	1.178	1.177	1.178	1.177	1.177	1.177	1.177
9 1-e-S	0.151	0.151	0.151	0.151	0.150	0.151	0.150	0.151
10 Pt	191.2	191.2	182.2	182.2	172.2	172.2	163.2	163.2
11 Pt2 /1000	36.6	36.6	33.2	33.2	29.7	29.7	26.6	26.6
12 Fr	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231
13 Fc=FrTZ	9.453	9.434	9.468	9.445	9.484	9.454	9.500	9.465
14 FcQm	3.55	3.55	5.55	5.53	6.94	6.92	7.76	7.73
15 L/H(F=Qm)	12.6	12.6	30.8	30.6	48.2	47.9	60.2	59.3
16 Fw	1.903934	1.899987	14.632557	14.619769	17.242336	17.217297	19.037473	19.0015510
17 Pw2	38.5	38.5	37.8	37.8	36.9	36.9	35.7	35.6
18 Ps2	45.3	45.3	44.5	44.5	43.4	43.4	42.0	42.0
19 Ps	212.8	212.8	211.0	211.0	208.4	208.4	204.9	204.8
20 P	202.0	202.0	196.6	196.6	190.3	190.3	184.0	184.0
21 Pr	0.30	0.30	0.29	0.29	0.28	0.28	0.27	0.27
22 Tr	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43
23 Z	0.942	0.942	0.943	0.943	0.944	0.944	0.945	0.945

[Pc2/(Pc2-Pw2)] = 20.001
 15.191
 11.210
 8.354

[Pc2/(Pc2-Pw2)]n = 5.945
 5.047
 4.212
 3.536

AOF = Q ~~3.276~~
 2.758
 3.083
 2.889

~~AOF = 2.506~~

AOF = 6.894

FORM D122-D