

OIL CONSERVATION DIVISION

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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 05-04-91			
Company Chevron U.S.A.						Connection			
Pool Eumont						Formation Queen Eumont			
Completion Date 04-29-91		Total Depth 3899		Plug Back TD 3700		Elevation		Farm or Lease Name W.A. Ramsey NCT-A	
Cas. Size 5 1/2	Wt. 14	d	Set At 3899	Perforations From 3103 To 3487		Well No. 42			
Thq. Size 2 3/8	Wt. 4.7	d 1.995	Set At 3024	Perforations From OPEN To END		Unit B		Sec. 27	Twp. 21
Type Well - Single - Broadhead - G.C. or G.O. Multiple Single						Packer Set At 3024		County Lea	
Producing thru Tubing		Reservoir Temp. °F 104 @ 3024		Mean Annual Temp. °F 60		Baro. Press. - P _g 13.2		State New Mexico	
L 3024	H 3024	C _g .679	% CO ₂ .71	% N ₂ 2.73	% 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. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							282		PKR		4 days
1.	2	X	1.500	50	2.50	68	271		PKR		1 hr.
2.	2	X	1.500	50	6.50	68	268		PKR		1 hr.
3.	2	X	1.500	50	14.00	68	260		PKR		45 mins.
4.	2	X	1.500	50	27.50	68	246		PKR		45 mins.
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	12.76	12.57	63.2	.9924	1.214	1.008	195
2	12.76	20.27	63.2	.9924	1.214	1.008	314
3	12.76	29.75	63.2	.9924	1.214	1.008	461
4	12.76	41.69	63.2	.9924	1.214	1.008	646
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio DRY GAS Mcf/bbl.
1.	.09	528	1.40	.985	A.P.I. Gravity of Liquid Hydrocarbons DRY Deg.
2.	.09	528	1.40	.985	Specific Gravity Separator Gas .679 XXXXXXXXX
3.	.09	528	1.40	.985	Specific Gravity Flowing Fluid XXXXX
4.	.09	528	1.40	.985	Critical Pressure *666 P.S.I.A. P.S.I.A.
5.					Critical Temperature *376 °R °R

P _c 295.2	P _c ² 87.1		
NO.	P ₁ ²	P _w	P _r ² - P _w ²
1		285.0	81.2
2		283.3	80.3
3		277.9	77.2
4		268.6	72.3
5			

$$(1) \frac{P_c^2}{P_r^2 - P_w^2} = 5.846$$

$$AOF = Q \left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 3.777$$

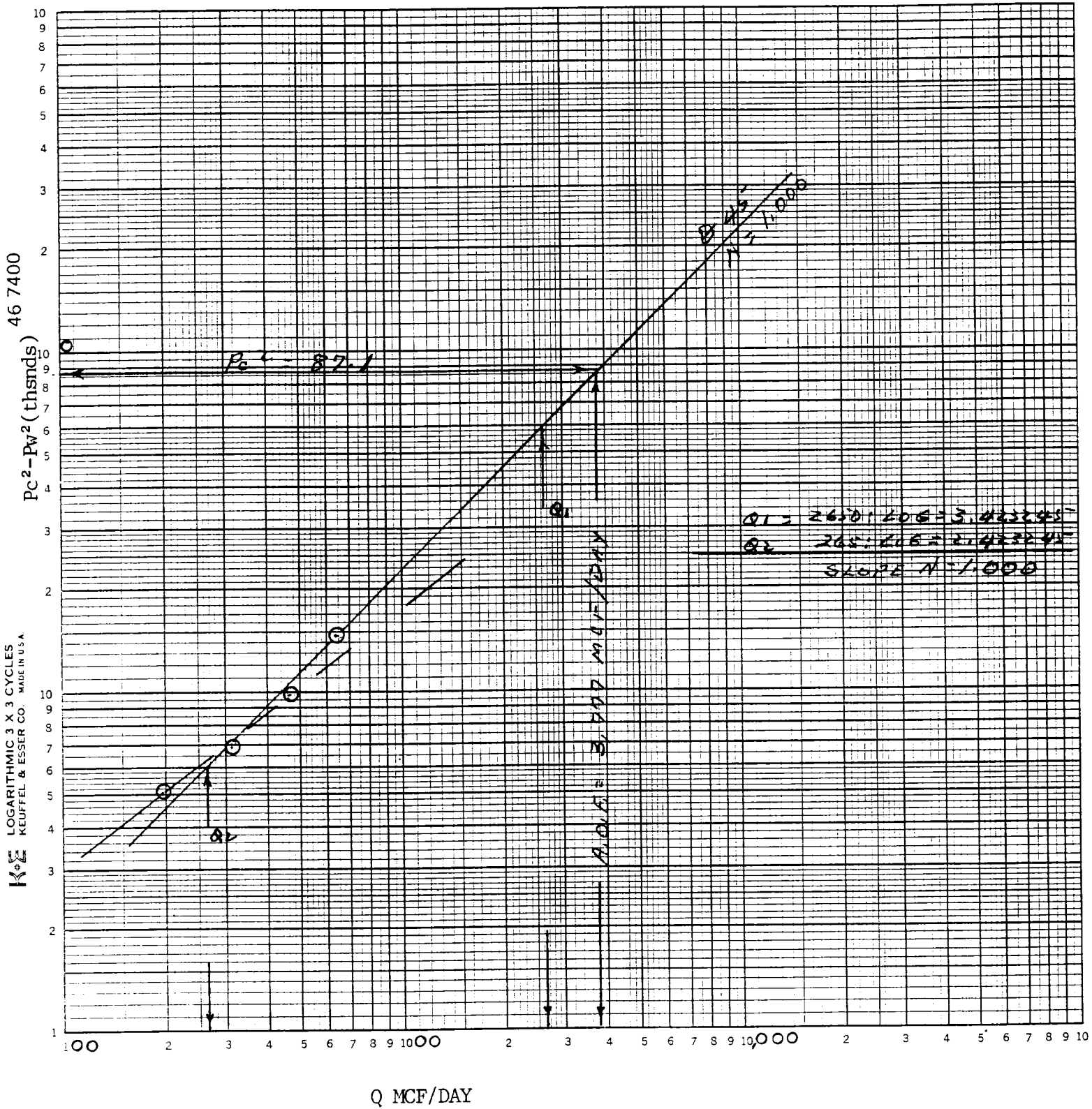
$$(2) \left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 5.846$$

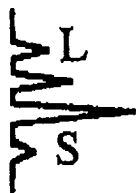
Absolute Open Flow 3,777 Mcfd @ 15.025	Angle of Slope θ 45	Slope, n 1.000
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Remarks: *=corrected to 2.73% N₂
NO FLUID PRODUCED DURING TEST

Approved By Division	Conducted By	Calculated By	Checked By
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Chevron U.S.A.
W.A. Ramsey NCT-A, Well #42
B - 27 - 21 - 36
Lea County, New Mexico
05-04-91





Laboratory Services

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

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

SAMPLE W. A. Ramsey
IDENTIFICATION: NCT A #42
COMPANY: Chevron U. S. A.
LEASE:
PLANT:

SAMPLE DATA:	DATE SAMPLED: 5/4/91 12:00	GAS (XX)	LIQUID ()
	ANALYSIS DATE: 05-04-91	SAMPLED BY:	Leonard Abney
	PRESSURE - PSIG 50.00	ANALYSIS BY:	Rolland Perry
	SAMPLE TEMP. °F		
	ATMOS. TEMP. °F		
REMARKS:	Eumont Formation		
	2/Phase Port-A-Check Gas Outlet		

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM	
Oxygen	(O2)			
Hydrogen Sulfide	(H2S)			
Nitrogen	(N2)	2.73		
Carbon Dioxide	(CO2)	0.71		
Methane	(C1)	83.32		
Ethane	(C2)	7.78	2.076	
Propane	(C3)	3.26	0.896	
I-Butane	(IC4)	0.42	0.137	
N-Butane	(NC4)	0.90	0.283	
I-Pentane	(IC5)	0.27	0.099	
N-Pentane	(NC5)	0.23	0.083	
Hexane	(C6)	0.38	0.156	
Heptanes Plus	(C7+)	0.00	0.000	
		100.00	3.730	
BTU/CU.FT. - DRY		1142	MOLECULAR WT	19.6742
AT 14.650 DRY		1139		
AT 14.650 WET		1119	26# GASOLINE -	0.432
AT 15.025 DRY		1168		
AT 15.025 WET		1148		
SPECIFIC GRAVITY -				
CALCULATED		0.679		
MEASURED		0.000		

PRO WELL TESTING & WIRELINE FIELD DATA SHEET

COMPANY Chevron U.S.A. COMPANY REPRESENTATIVE Danny Lovell
 LEASE NAME & NO. W.A. Ramsey NCT-A #42 TEST DATE & TIME 05-04-91 9:30AM
 COUNTY Lea STATE New Mexico ELEVATION _____ FORMATION Eumont
 UNIT B SECTION 27 TOWNSHIP 21-S RANGE 36-E
 TEST TYPE X INITIAL _____ ANNUAL _____ SPECIAL _____ TYPE WELL _____
 COMPLETION DATE 04-29-91 TD@ 3899 PBD@ 3700 PKR@ 3024
 CONNECTION Air METER RUN 2.067 TAPS Flange
 CASING SIZE 5½ WT. 14# DIA. _____ SET@ 3899
 TUBING SIZE 2 3/8 WT. 4.7 DIA. _____ SET@ 3024
 PERFORATIONS FROM 3103 TO 3487
 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				
9:30 AM		282	PKR						643		Start Test
9:45	.15	278	PKR		50	2	68°	1.500	12/64	178	
10:00	.30	276	PKR		50	2	68°	1.500	12/64	178	
10:15	.45	273	PKR		50	2	68°	1.500	13/64	178	
10:30	1.00	271	PKR		50	2.5	68°	1.500	13/64	199	End Rate I
10:45	1.15	268	PKR		50	6	68°	1.500	16/64	308	
11:00	1.30	268	PKR		50	6.5	68°	1.500	16/64	320	
11:15	1.45	268	PKR		50	6.5	68°	1.500	16/64	320	
11:30	2.00	268	PKR		50	6.5	68°	1.500	16/64	320	End Rate II
11:45	2.15	260	PKR		50	13.5	68°	1.500	19/64	461	
12:00 PM	2.30	260	PKR		50	14	68°	1.500	19/64	470	
12:15	2.45	260	PKR		50	14	68°	1.500	19/64	470	End Rate III
12:30	3.00	246	PKR		50	27.5	68°	1.500	23/64	659	
12:45	3.15	246	PKR		50	27.5	68°	1.500	23/64	659	
1:00	3.30	246	PKR		50	27.5	68°	1.500	23/64	659	End Rate IV

NO FLUID PRODUCED

COMPANY :	CHEVRON USA	LEASE :	W A RAMSEY NCT A WELL NO. :	42	Pc =	295.2	Pc2 =	87.1	***
UNIT :	B	SECTION :	27	TOWNSHIP :	21				***
L :	3024	H :	3024	L/H :	1	G/GMIX :	0.679	Pt2 =	80.8
XCO2 :	0.71	XN2 :	2.73	H2S :		DATE :	5 4 91	Pw =	285.0
d :	1.995	Fr :	0.018231	GH :	2053.3	RANGE :	36		283.3
									277.9
									268.8

VOL 1 :	195	PSIA 1 :	284.2	RESV.TEMP	104.2	Pc2-Pw2=	5.9	Pw2 =	81.2
VOL 2 :	314	PSIA 2 :	281.2				6.9		80.3
VOL 3 :	461	PSIA 3 :	273.2	SHUT-IN PR=	295.2		9.9		77.2
VOL 4 :	646	PSIA 4 :	259.2				14.9		72.3

		PCR :	666				n =	1.000	***
		TCR :	376						***
							Pc2/(Pc2-Pw2) =	14.738	***
LINE	RATE 1		RATE 2		RATE 3		RATE 4		12.675
	'1ST	'2ND	'1ST	'2ND	'1ST	'2ND	'1ST	'2ND	8.779
									5.855
1	QM	0.195	0.195	0.314	0.314	0.461	0.461	0.646	0.646
2	TW	534	534	534	534	534	534	534	534
3	Ts	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2
4	T	549.1	549.1	549.1	549.1	549.1	549.1	549.1	549.1
	PR (est)	0.43		0.42		0.41		0.39	
5	Z(est)	0.930	0.929	0.931	0.929	0.932	0.930	0.934	0.932
6	TZ	510.9	509.9	511.1	510.1	511.8	510.7	513.0	511.7
7	GH/TZ	4.019	4.027	4.017	4.025	4.012	4.021	4.002	4.013
8	eS	1.163	1.163	1.163	1.163	1.162	1.163	1.162	1.162
9	1-e-S	0.140	0.140	0.140	0.140	0.140	0.140	0.139	0.140
10	Pt	284.2	284.2	281.2	281.2	273.2	273.2	259.2	259.2
11	Pt2 /1000	80.8	80.8	79.1	79.1	74.6	74.6	67.2	67.2
12	Fr	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231
13	Fc=FrTZ	9.314	9.295	9.318	9.299	9.331	9.310	9.353	9.329
14	FcQm	1.82	1.81	2.93	2.92	4.30	4.29	6.04	6.03
15	L/H(FcQm)	3.3	3.3	8.6	8.5	18.5	18.4	36.5	36.3
16	Fw	0.461501	0.460527	1.197294	1.194640	2.584507	2.578285	5.088021	5.073860
17	Pw2	81.2	81.2	80.3	80.3	77.2	77.2	72.3	72.3
18	Ps2	94.4	94.5	93.3	93.3	89.8	89.8	84.0	84.0
19	Ps	307.3	307.4	305.5	305.5	299.6	299.6	289.8	289.8
20	P	295.8	295.8	293.3	293.4	286.4	286.4	274.5	274.5
21	Pr	0.44	0.44	0.44	0.44	0.43	0.43	0.41	0.41
22	Tr	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
23	Z	0.929	0.929	0.929	0.929	0.930	0.930	0.932	0.932

FORM C122-D