

NEW MEXICO PETROLEUM COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-

2/5F
File
RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 1-28-87		FEB 08 1987	
Company EXXON USA				Connection AIR NEW WELL			
Pool PECOS SLOPE U.D.				Formation ABO		Unit ARTESIA, OFFICE	
Completion Date 1-28-83		Total Depth 3245 3250		Plug Back 3187 3186		Elevation 4261 4271	
Perforations: From 2828 To 3134		Well No. 2		Form or Lease Name NEW MEXICO STATE		CS	
Type Well - Single - Floodhead - G.O. or G.O. Multiple SINGLE		Packer Set At 0		County CHAVES		State NEW MEXICO	
Producing thru TUBING		Reservoir Temp. °F 90 2981		Mean Annual Temp. °F 60		Base Press. - P _g 13.2	
L 2981		H 2981		O _g 0.622		% CO ₂ .013	
				% N ₂ 6.40		% H ₂ S 0	
				Prover 0		Meter Run 3.1	
						Type FLANGE	

FLOW DATA						TUBING DATA		B.H.P. 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.		CHOKE
SI							780	50			26 HRS
1	3.07	X	0.500	130	5.0	45	702	53	0	3/64	1 HR
2	3.07	X	0.500	140	8.5	50	630	54	0	5/64	1 HR
3	3.07	X	0.500	150	15.0	62	560	54	0	7/64	1 HR
4	3.07	X	0.500	120	24.0	64	460	55	0	9/64	1 HR
5											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor F _{sp}	Rate of Flow Q, Mcfd
1	1.18	26.76	143.2	1.0147	1.2680	1.0130	41.
2	1.18	36.09	153.2	1.0098	1.2680	1.0133	55.
3	1.18	49.48	163.2	0.9981	1.2680	1.0128	75.
4	1.18	56.54	133.2	0.9962	1.2680	1.0103	85.
5							

NO.	P ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio _____ Mol/bbl.	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
1	0.22	505	1.45	0.975	Specific Gravity Separator Gas 0.622	XXXXXXXXXX
2	0.23	510	1.47	0.974	Specific Gravity Flowing Fluid XXXXXX	
3	0.25	522	1.50	0.975	Critical Pressure 661. P.S.I.A	
4	0.20	524	1.51	0.980	Critical Temperature 348. °R	
5						

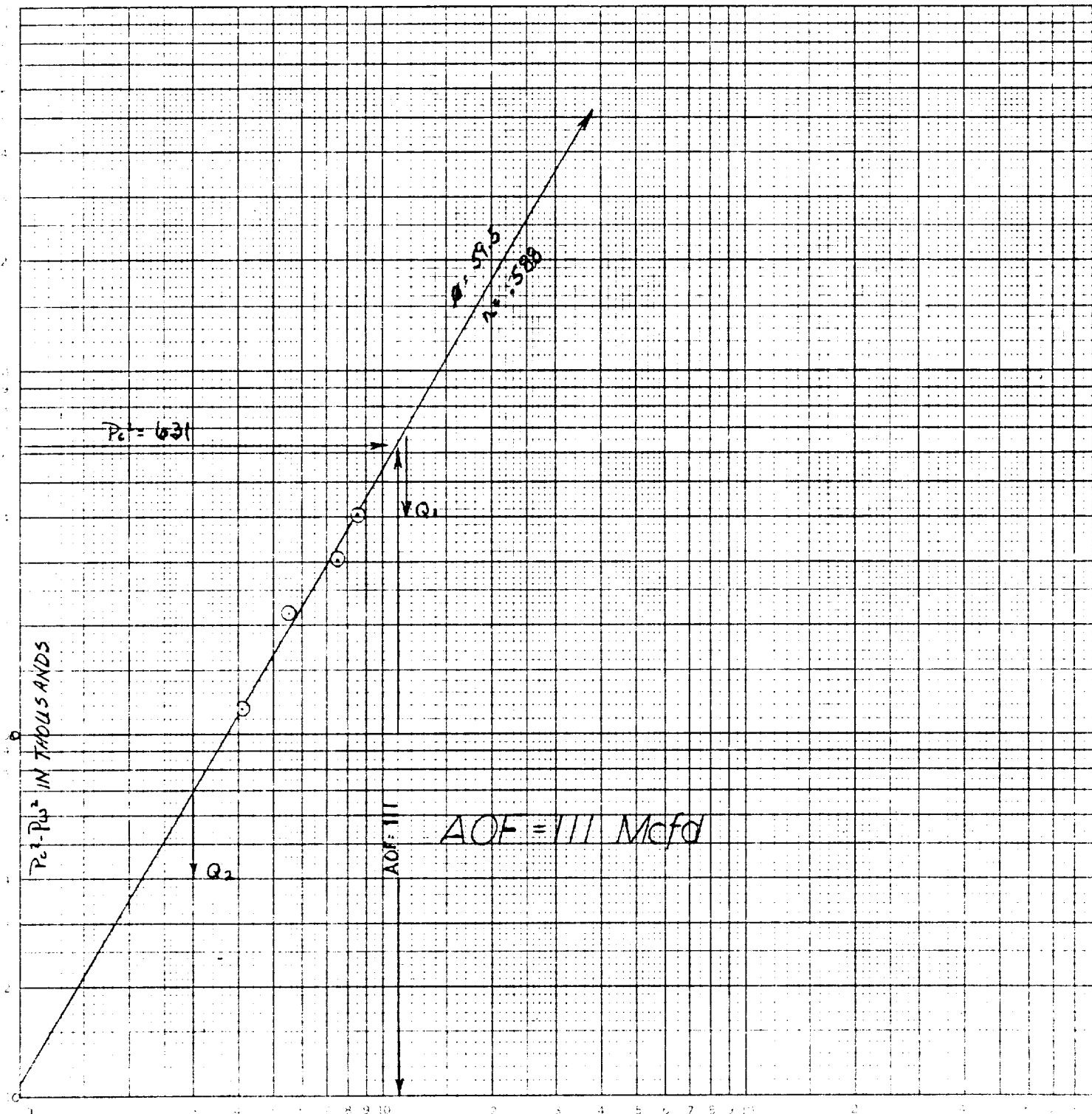
NO.	P ₁ ²	P _w ²	P ₁ ² - P _w ²	(1) $\frac{P_0^2}{P_1^2 - P_w^2} = 1.5515$	(2) $\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^n = 1.2948$
1	512.	716.	512.	AOF = 0 $\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^n = 111.$	Post ID 2 2-11-83 Camp & BK
2	414.	644.	414.		
3	329.	574.	329.		
4	224.	473.	224.		
5					

Absolute Open Flow 111. Mcfd @ 15.025	Angle of Slope 59.5	Slope, n 0.588
Remarks:		
Approved By Commission:	Conducted By: RICHARD TOWNLEY	Calculated By: BENNETT-CATHEY
Checked By:		

- NM STATE CS-2
2 75 22E
CHAVES
1 28 83

46 7400

LOG PERMEABILITY INDEX



$$\Delta P_1^2 \quad P_c^2 - P_w^2 = 700$$

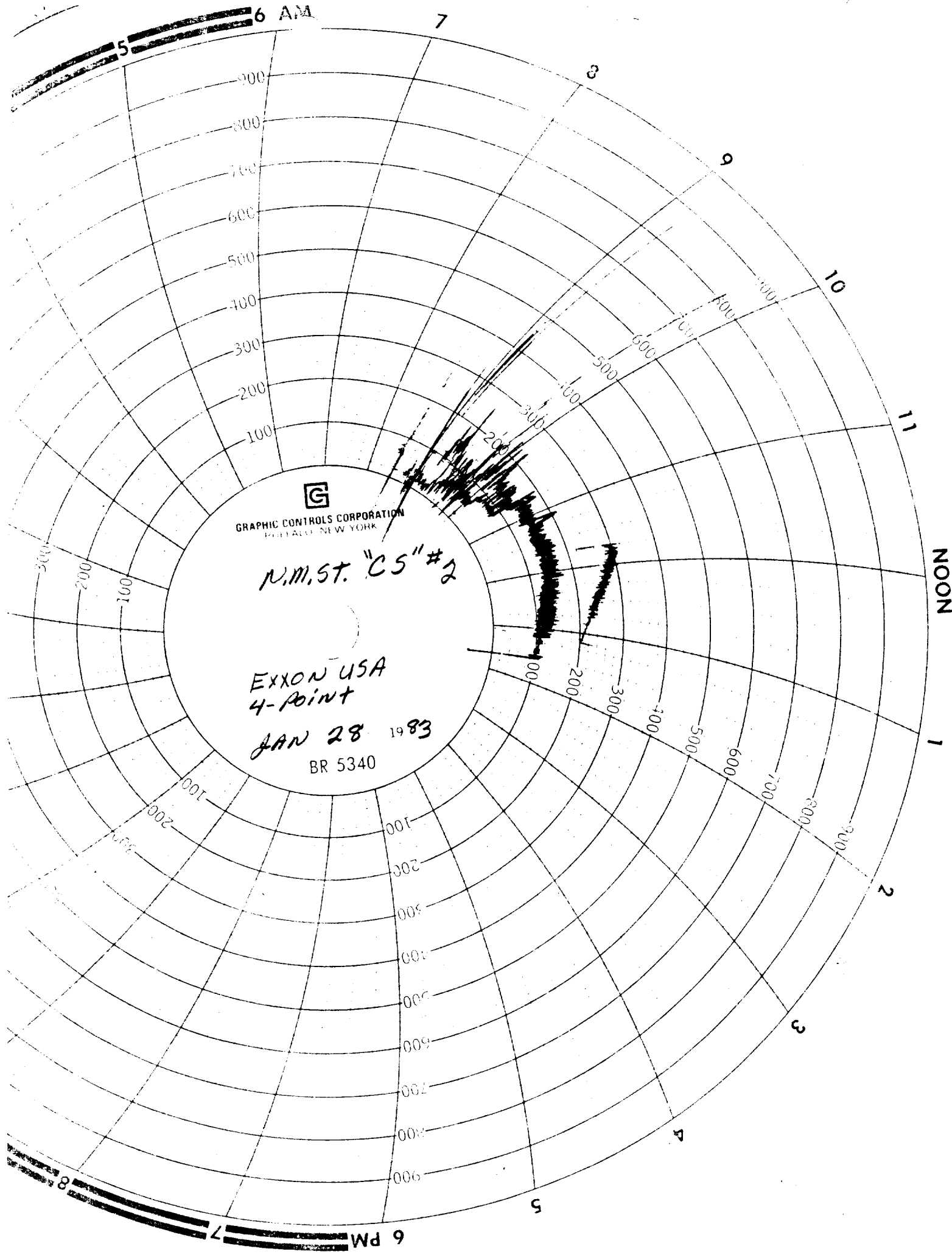
$$\Delta P_2^2 \quad P_c^2 - P_w^2 = 70$$

$$Q_1 = 116$$

$$Q_2 = 30$$

Q, Mcfd

$$\begin{aligned} \text{LOG } Q_1 &= 2.0651 \\ \text{LOG } Q_2 &= 1.0651 \\ \hline n &= 588 \end{aligned}$$



GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

N.M.S.T. "C5" #2

EXXON USA
4-point

JAN 28 1983

BR 5340

SUGGESTED FIELD DATA SHEET (NOT REQUIRED TO BE FILED)

RECEIVED

Type well ☐ Initial ☐ Annual ☒ Special		Date 1-24-83		1850 FSL	
Company EXXON		Connection AIR NEW WELL		1980 FEL	
Field PECOS SLOPE U.D.		Formation ABO		O. C. D. ARTESIA OFFICE	
Completion Date 1-21-83		Total Depth 3245		Plug back TD 3187	
				Elevation 4271 KB.	
Casing Size 5.5		Set At 14.0		Perforations: From 2828 To 3134	
Hole Size 2 7/8		Set At 6.5		Perforations: From OPEN To ENDED	
Type well - Single - Production - G.G. or G.O. Multiple		Packer Set At 0		County CHAVES	
Producing thru TUBING		Reservoir Temp. °F 90 • 2981		Mean Annual Temp. °F 60	
				Buro. Press. - 13.2	
L 2981		R 2981		Gg .622	
				% CO ₂ .131	
				% N ₂ 6.405	
				% H ₂ S 0	
				Prover 0	
COMPANY CORDON CARLSON		TEST RUN BY: DON BENNETT		TIME ARR. :	
				TIME RETURN:	
MILEAGE LEAVE:		ARRV.:		TOTAL MILEAGE ONE WAY	
DATE	ELAP	WELLHEAD PRESS.		METER OR PROVER	
TIME OF	HOOR	IBG	CAG	TEMP	PRES
READING		PSIG	PSIG	°F	PSI
				DIFF.	TEMP
					°F
					ORIF.
					SIZE
					MCFD
					CHOKE
					CUT
					H ₂ O
					COND.
					MADE
					BBL/ACCUM.
WELL SHUT IN	0700 HRS.	1-21-83		HIGHEST SHUT IN	840 LBS. TUBING
13/64 CHOKE WITH	320 LB. TUBING	(183.2 MCFD)		RUN 4 POINT	
HAVE H ₂ S TEST RUN				FLOW TEST 8 HRS.	
1-24-83	866	SHUT IN			
1615 HR 0				START TEST	3/4"
1630 HR 1/4	850			350 5"	48° 3/4"
1645 HR 1/2	784			270 5"	43° 3/4"
1700 HR 3/4	710			330 4"	42° 3/4"
1715 HR 1	645			285 4"	41° 3/4"
1730 HR 1 1/4	488			420 6.5"	44° 3/4"
1745 HR 1 1/2	435			120 3"	42° 3/4"
1800 HR 1 3/4	419			150 2.25'	43° 3/4"
1815 HR 2	402			125 2.25'	43° 3/4"
1830 HR 2 1/4	392			70 2"	42° 3/4"
1845 HR 2 1/2				SHUT IN	SHUT IN
1900 HR 2 3/4				SHUT IN	SHUT IN
1915 HR 3					1/2"
1945 HR 3 1/2	385			110 3.5"	42° 1/2"
2015 HR 4	381			120 12"	42° 1/2"
2045 HR 4 1/2	385			105 12"	42° 1/2"
2115 HR 5	352			140 16"	42° 1/2"
2145 HR 5 1/2	322			130 16"	42° 1/2"
2215 HR 6	297			110 14"	42° 1/2"
2245 HR 6 1/2	279			95 10.5"	40° 1/2"
2315 HR 7	267			90 10"	40° 1/2"
2345 HR 7 1/2	262			85 9.5"	40° 1/2"
2415 HR 8	260			85 9.5'	40° 1/2"
2445 HR 8 1/2	250			85 9.5"	40° 1/2"

SUGGESTED FIELD DATA SHEET (NOT REQUIRED TO BE FILED)

Type Test ☐ Initial ☐ Annual ☒ FEB-08 1983		Test Date 1-25-83		1850 FSI									
Company EXXON		Connection AIR NEW WELL O. C. D.		1980 FFI									
Field PECOS SLOPE U.D.		Formation ABO		Unit J									
Completion Date 1-21-83		Total Depth 3245		Plug back TD 3187									
Elevation 4271 KB.		Perforations From 2828 To 3134		NEW MEXICO STATE C-S									
Casing Size 5.5		Set At 3245		Well No. 2									
Hole Size 2 7/8		Set At 2806		Perforations From OPEN To ENDED									
Type Well - Single - Partitioned - C.G. or G.O. Multiple SINGLE		Factor Set At 0		County CHAVES									
Producing Zone TUBING		Reservoir Temp. °F 90		Mean Annual Temp. °F 60									
Bore Press. - P _h 13.2		State NEW MEXICO		Prover 0									
L 2981		H 2981		G _g .622									
% CO ₂ .131		% N ₂ 6.405		% H ₂ S 0									
Water Flow 3"		Flange FLANGE		TEST RUN BY: DON BENNETT									
Company GORDON CARLSON		TIME ARRIV. TIME		TIME RETURN TIME									
MILEAGE LEAVE		ARRIV.		TOTAL MILEAGE ONE WAY									
DATE	ELAP. HOUR	WELLHEAD PRESS. TBC PSIG	CAG PSIG	TEMP °F	PRES. PSI	DIFF.	TEMP °F	ORIF. SIZE	MCFD	CHOKE	CUT. H ₂ O	COND. MADE	BBL/ACCUM
1-25-83													
0115 HR	9	243			85	9.5"	33°	1/2"	35.3	20/64			3.7/27.75
0145 HR	9 1/2	238			85	8"	33°	1/2"		20/64			
0215 HR	10	237			90	9"	33°	1/2"	36.2	20/64			2/29.75
0245 HR	10 1/2	236			90	8 1/4"	33°	1/2"		20/64			
0315 HR	11	232			90	9"	33°	1/2"		20/64			4/33.75
0345 HR	11 1/2	231			90	9"	33°	1/2"	36.2	20/64			
0415 HR	12	230			90	9"	33°	1/2"		20/64			2/35.75
0445 HR	12 1/2	229			90	9"	33°	1/2"		20/64			
0515 HR	13	228			93	9"	33°	1/2"	36.8	20/64			2/37.75
0545 HR	13 1/2	227			95	9"	33°	1/2"		20/64			
0615 HR	14	226			95	9"	32°	1/2"	37.1	20/64			3.5/41.25
0645 HR	14 1/2	215			90	8"	32°	1/2"		20/64			
0715 HR	15	215			110	7.5"	33°	1/2"	36.1	20/64			1.5/42.75
0745 HR	15 1/2	216			110	7.5"	33°	1/2"		20/64			
0815 HR	16	210			115	7"	36°	1/2"	35.6	20/64			2/44.75
0845 HR	16 1/2	210			80	9"	38°	1/2"		20/64			
0915 HR	17	214			75	9"	44°	1/2"	33.4	20/64			1.5/46.25
1015 HR	18	215			85	9"	50°	1/2"	35.3	20/64			2.5/48.75
1115 HR	19	213			90	9"	54°	1/2"	36.2	20/64			3.5/52.5
1215 HR	20	208			90	8.5"	54°	1/2"	35.2	20/64			0/52.5
1315 HR	21	210			90	9"	54°	1/2"	36.2	20/64			2.5/55
1415 HR	22	205			90	9"	54°	1/2"	36.2	20/64			3/58
1515 HR	23	205			100	9"	54°	1/2"	37.9	20/64			2.25/60.25
1615 HR	24	202			90	9"	54°	1/2"		20/64			4.25/64.5
1715 HR	25	205			100	7"	53°	1/2"		20/64			1/65.5
1815 HR	26	197			100	7"	48°	1/2"	33.4	20/64			1/66.5
1915 HR	27	197			100	7"	47°	1/2"	33.4	20/64			1/67.5

SUGGESTED FIELD DATA SHEET (NOT REQUIRED TO BE FILED)

Type of Test ☐ Initial ☐ Annual ☒ Special		RECEIVED Date 1-25-83		1850 FSL									
Company EXXON		Connection AIR NEW WELL		FEB 08 1983									
Well PECOS SLOPE U.D.		Formation ABO		O. C. D.									
Completion Date 1-21-83		Total Depth 3245		Plug back To ARTESIA, 3187									
				4271 KB.									
Casing Size 5.5		ID 14.0		Set At 5.012									
Perforations: From 2828 To 3134		Well No. 2		Name, or Lease Name NEW MEXICO STATE C-S									
Casing Size 2 7/8		ID 6.5		Set At 2.441									
Perforations: From OPEN To ENDED		Unit J		Sec. 2									
				Twp. 7S									
				Range 22E									
Type Well - Single - Perforated - G.G. or G.O. Multiple SINGLE				Packer Set At 0									
Producing Interval TUBING		Reservoir Temp. °F 90 • 2981		Mean Annual Temp. °F 60									
				Surf. Press. - P _s 13.2									
L 2981		R 2981		G _g .622									
				% CO ₂ .131									
				% N ₂ 6.405									
				% H ₂ S 0									
				Prover 0									
				Meter Run 3"									
				Type FLANGE									
Company GORDON CARLSON		TEST RUN BY: DON BENNETT		TIME ARRV.									
MILEAGE LEAVE:		ARRV.:		TOTAL MILEAGE ONE WAY									
DATE TIME OF READING	ELAP HOUR	WELLHEAD PRESS. TBC PSIG	CAG PSIG	TEMP F°	PRES PSI	DIFF. PSI	TEMP F°	ORIF. SIZE	MCFD	CHOKE	CUT H ₂ O	COND. MADE	BBE/ACCUM
2015 HR	28	194			100	7"	43°	.500	33.4	20/64			1/67.5
2115 HR	29	195			100	7"	38°	.500	33.4	20/64			0/67.5
2215 HR	30	196			100	7"	38°	.500	33.4	20/64			1/68.5
2315 HR	31	198			110	6.5"	37°	.500	33.6	20/64			2/70.5
2415 HR	32	190			110	6.5"	37°	.500	33.6	20/64			1/71.5
0115 HR	33	196			110	6.5"	36°	.500	33.6	20/64			0/71.5
0215 HR	34	189			110	6.5"	36°	.500	33.6	20/64			1/72.5
0315 HR	35	183			110	7.0"	34°	.500	34.9	20/64			0/72.5
0415 HR	36	187			110	7.0"	32°	.500	34.9	20/64			1/73.5
0515 HR	37	180			110	7.0"	32°	.500	34.9	20/64			0/73.5
0615 HR	38	175			105	8.0"	32°	.500	36.5	20/64			1/74.5
0715 HR	39	180			110	8.0"	36°	.500	37.3	20/64			0/74.5
0815 HR	40	186			100	8.5"	38°	.500	36.8	20/64			1/75.5
0915 HR	41	182			100	9.0"	38°	.500	37.9	20/64			1/76.5
1015 HR	42	175			100	9.0"	42°	.500	37.9	20/64			2/78.5
1115 HR	43	173			90	9.0"	47°	.500	36.2	20/64			1/79.5
1215 HR	44	180			105	9"	55°	.500	38.7	20/64			1/80.5
1315 HR	45	170			100	9"	59°	.500	37.9	20/64			1/81.5
1415 HR	46	168			100	9"	60°	.500	37.9	20/64			1/82.5
1515 HR	47	168			105	9"	60°	.500	38.7	20/64			1/83.5
1615 HR	48	168			105	9"	58°	.500	38.7	20/64			2/85.5
1715 HR	49	167			105	9"	52°	.500	38.7	20/64			1/86.5
1815 HR	50	169			105	8.5"	46°	.500	37.6	20/64			1/87.5
1915 HR	51	165			105	8.5"	42°	.500	37.8	20/64			.75/88.25
2015 HR	52	167			105	8.5"	40°	.500	37.8	20/64			0/88.5
2115 HR	53	165			105	8.5"	40°	.500	37.8	20/64			0/88.5
2215 HR	54	169			105	8.5"	39°	.500	37.8	20/64			0/88.75
2315 HR	55	167			105	8.5"	38°	.500	37.8	20/64			.5/89.25

LOCATION
YOUR EXT. NO.

THE WESTERN COMPANY

WATER ANALYSIS

ANALYSIS NO.

GENERAL INFORMATION

OPERATOR	Exxon	DATE SAMPLED
WELL	New Mexico St. "CS" # 2	DATE RECEIVED 1-27-83
FIELD		SUBMITTED BY
FORMATION		WORKED BY
COUNTY	Chaves	SAMPLE DESCRIPTION:
STATE	New Mexico	
DEPTH		

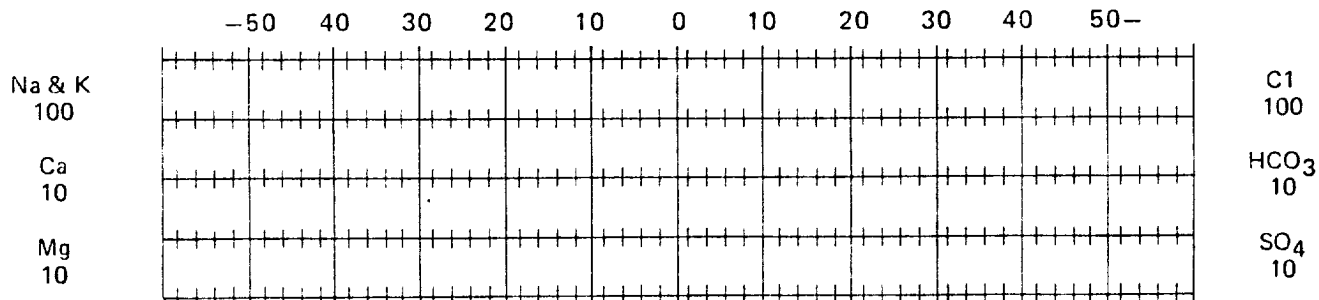
PHYSICAL AND CHEMICAL DETERMINATIONS

SPECIFIC GRAVITY	1.070	AT	62	°F	TOTAL DISSOLVED SOLIDS	PPM
pH	7				RESISTIVITY	Approx. .11 PPM
IRON	Faint/Fair				SULFATE	PPM
HYDROGEN SULFIDE	None				BICARBONATE	1830 PPM
HARDNESS	3	3000			CHLORIDE	48,000 PPM
CALCIUM	.6	1200			SODIUM CHLORIDE	78,960 PPM
MAGNESIUM	728.4		PPM		SODIUM	PPM
SODIUM & POTASSIUM	29,068.55		PPM		POTASSIUM	PPM
PHOSPHATE						

REMARKS:

Call Bennett Cathey to pickup

for Stiff type plot (in meq./l.)





PRECISION SERVICE INC.

Flow Measurement Engineers

Analysis Results Summary

Casper, WY 82601

Run No. 124-4

Date Run 01/24/83

Date Sampled 01/24/83

Analysis For: <u>BENNETT & CATHEY WRLN.</u>		Producer <u>Exxon</u>	
Lease: <u>New Mexico State C-S #2</u>		County <u>Chaves</u>	State <u>NEW MEXICO</u>
Location <u>China</u>		Sampled By <u>HDH</u>	
Purpose <u>Well Test</u>		Atmos Temp. <u>52</u> °F	
Sampling Temp. _____ °F		Formation _____	
Volume/day _____		PSIG; Line Pressure _____ PSIG	
Pressure on Bomb <u>120</u>			

Gas Component

Analysis

Press. Base: 14.65

Mol. %

Liq. %

GPM
Per MCF

Carbon Dioxide CO ₂	<u>.131</u>		
Oxygen O ₂			
Nitrogen N ₂	<u>6.405</u>		
Hydrogen Sulfide H ₂ S			
Methane C ₁	<u>88.840</u>		<u>15.058</u>
Ethane C ₂	<u>2.477</u>		<u>.660</u>
Propane C ₃	<u>1.165</u>		<u>.320</u>
Iso-Butane IC ₄	<u>.161</u>		<u>.053</u>
Nor-Butane NC ₄	<u>.506</u>		<u>.159</u>
Iso-Pentane IC ₅	<u>.063</u>		<u>.023</u>
Nor-Pentane NC ₅	<u>.160</u>		<u>.058</u>
Hexanes C ₆			
xanes	<u>.091</u>		<u>.037</u>
Heptanes Plus C ₇ +			
Total	<u>100.000</u>		<u>16.368</u>
Pentane + G.P.M.			<u>.118</u>
OPANE + G.P.M.			<u>.650</u>

BTU Dry	<u>1004</u>
BTU Wet	<u>987</u>
Calc. Specific Gravity	<u>.622</u>

@ Std. Press. 14.696

BTU Dry	<u>1007</u>
BTU Wet	<u>990</u>

Calc. Vap. Press. #/Sq.In. _____

Reid Vap. Press. #/Sq.In. _____

Z Factor	<u>.9979</u>
N Value	<u>1.3068</u>
Ave Mol Wt	<u>17.9904</u>

Run by JAP

Calculated By JAP

Remarks: No H₂S Detected.

Distribution: _____

