

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

N.M. Oil Co. Division
P.O. Box 1980
Hobbs, NM 88241

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Doyle Hartman

3. Address and Telephone No.

500 N. Main Street; Midland, TX 79701

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1650' FNL & 660' FWL, Section 5, T-24-S, R-37-E, NMPM
(Unit Letter E)

5. Lease Designation and Serial No.

NM-7488

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Myers "B" Federal No. 30

9. API Well No.

30-025-25765

10. Field and Pool, or Exploratory Area

Jalmat Gas

11. County or Parish, State

Lea County, NM

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☐ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☒ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other Re-entry,

- ☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

Production test, TA

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Between 11-4-96 and 12-19-96, well was re-entered and production tested from Jalmat perfs 3021'-3222' RKB. Details of work performed and results obtained are enclosed herewith on pages 2 through 5.

RECEIVED
BLM
ROSWELL, NM

MAY 02 97

RECEIVED

RECEIVED
BLM
ROSWELL, NM

MAY 11 10 AM '97

RECEIVED

14. I hereby certify that the foregoing is true and correct

Signed DAVID R. GLASS

Title Engineer

Date 4-28-97

(This space for Federal or State office use)

(ORIG. SGD.) DAVID R. GLASS

Title PETROLEUM ENGINEER

Date MAY 05 1997

Approved by _____
Conditions of approval, if any:

SEE ATTACHED FOR

CONDITIONS OF APPROVAL

Title 18 U.S.C. Section 1001 makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

Details of Re-entry and Production Test (11-4-96 to 12-19-96)

Rigged up Lucky's Well Service Unit No. 21 and ABC Rental Tool drilling equipment for re-entry of Myers "B" Federal No. 30 Jalmat gas well (production history enclosed). Commenced drilling on upper cement plug at 6:30 PM, 11-4-96. After drilling top cement plug, pressure tested 5-1/2" casing, from surface to top of second plug at 1109', to 1500 psi. Pressure held okay. Drilled remaining two cement plugs. Reached top of CIBP set at 3024' at 10:30 PM, 11-6-96. Drilled up CIBP and proceeded to a new PBTD of 3388' RKB.

Rigged up Halliburton and repaired shallow external-corrosion holes in 8-5/8" surface casing by cementing down 8-5/8" x 5-1/2" casing annulus with 100 sx of a 20 lb/sx blend of Premium cement. Circulated 27 sx of excess cement to pit.

Rigged up Capitan Corporation and logged well with GRN-CCL log. Set 5-1/2" CIBP at 3383' RKB. Perforated Jalmat interval with 16 additional shots between 3021' and 3222'. In three stages, acidized old and new perms from 3021' to 3222' with a combined total of 5825 gal of 15% NEFE acid and 195 ball sealers. After acidizing perforations, set Baker 5-1/2" Model "C" packer at 600' RKB. Pressure tested casing from 0'-600' to 2500 psi. Pressure held okay.

Ran into hole with 2-3/8" O.D., 4.7 lb/ft, J-55, EUE tubing and landed tubing at 3300' RKB. Utilizing American 80-119-64 pumping unit, placed well to pumping at 6:05 PM, 11-9-96 at 9x64x1-1/4. Between 11-9-96 and 11-22-96, recovered 1008.68 barrels of water, including 205 barrels of load water.

On 11-22-96, pulled out of hole with rods and tubing. Ran into hole with Baker 5-1/2" Model "C" packer. Set packer at a depth of 3252' RKB below perms 3021'-3222'. Pressure tested 5-1/2" O.D. casing from 3252'-3383' to 1440 psi. Pressure held okay.

Raised packer to 2993'. Pressure tested casing from 0'-2993' to 1500 psi. Pressure held okay. No leaks either above or below perms 3021'-3222'. Pulled out of hole with packer.

Ran 2-3/8" O.D. tubing and landed tubing at 3296' RKB. Circulated hole with air for 45 minutes. Raised bottom of tubing to 2746' RKB. Ran John West bottom-hole pressure bomb and performed 20 gradient stops from 0'-3370' (results enclosed).

Landed 2-3/8" O.D. tubing at 3333' RKB. Utilizing newly installed Lufkin C-228-213-100 pumping unit for increased pumping capacity, at 12:30 PM, 11-23-96, placed well to pumping at 9.6x100x1-1/2.

Between 11-23-96 and 12-19-96, unsuccessfully attempted to deplete out-of-zone water produced from Jalmat dry-gas interval 3021'-3222'. For total test period of 11-9-96 to 12-19-96, recovered 3829.06 net barrels of out-of-zone water in 946.67 producing hours from Jalmat perfs 3021'-3222' (daily water tabulation enclosed herewith on pages 4 and 5).

On 12-19-96, collected representative produced water sample for routine chemical analysis (copy of analysis enclosed). Collected 5-gallon water sample for possible future stable-isotope analysis. Pulled out of hole and laid down rods and tubing. Ran into hole with Baker 5-1/2" Model "K-1" cement retainer. Set retainer at 3125' RKB to isolate Jalmat perfs 3021'-3091' from Jalmat perfs 3136'-3222'. GR curve 3174'-3190' RKB, from Schlumberger CNL-FDC-GR log run 12-77, is significantly less radioactive than GR curve from Capitan GRN-CCL log run over same interval 11-96 (logs enclosed). Increase in GR curve gamma-ray activity from 12-77 to 11-96 strongly suggests that water migration has occurred through interval 3174'-3190' RKB subsequent to 12-77. Well now temporarily abandoned.

**Daily Water Production
from 3021' - 3222'
11/9/96 to 12/19/96**

Date	Time (CST)	Test Period (hrs)	Pump Time (%)	Water Production (bbls)	Cumulative Water Production (bbls)	Remaining Load (bbls)	Water Production Rate		Average Hauling & Disposal Rate (\$/bbl)	Daily Water Hauling Cost (\$)
							(bbls/hr)	(bbls/day)		
11/09/96	06:05 PM	0.00		0.00	0.00	205.00				
11/10/96	07:45 AM	13.67	100	52.44	52.44	152.56	3.837	92.09	0.8769	45.98
11/11/96	07:45 AM	24.00	100	89.91	142.35	62.65	3.746	89.91	0.8769	78.84
11/12/96	08:15 AM	24.50	100	108.22	250.57	-45.57	4.417	106.01	0.8769	94.89
11/13/96	08:30 AM	24.25	100	99.06	349.63	-144.63	4.085	98.04	0.8769	86.86
11/14/96	08:00 AM	23.50	100	82.41	432.04	-227.04	3.507	84.16	0.8769	72.26
11/15/96	08:30 AM	24.50	100	80.75	512.79	-307.79	3.296	79.10	0.8769	70.81
11/16/96	08:15 AM	23.75	100	75.76	588.55	-383.55	3.190	76.56	0.8769	66.43
11/17/96	07:30 AM	23.25	100	70.76	659.31	-454.31	3.043	73.04	0.8769	62.05
11/18/96	08:15 AM	24.75	100	72.27	731.58	-526.58	2.920	70.08	0.8769	63.37
11/19/96	08:15 AM	24.00	100	69.60	801.18	-596.18	2.900	69.60	0.8769	61.03
11/20/96	08:30 AM	24.25	100	69.84	871.02	-666.02	2.880	69.12	0.8769	61.24
11/21/96	08:30 AM	24.00	100	69.93	940.95	-735.95	2.914	69.93	0.8769	61.32
11/22/96	09:15 AM	24.75	100	67.43	1008.38	-803.38	2.724	65.39	0.8769	59.13
11/23/96 (1)	12:30 PM	27.25	0	0.00	1008.38	-803.38	0.000	0.00	0.8769	0.00
11/24/96	08:15 AM	19.75	100	112.37	1120.75	-915.75	5.690	136.55	0.8769	98.53
11/25/96	08:15 AM	24.00	100	209.79	1330.54	-1125.54	8.741	209.79	0.8769	183.96
11/26/96	08:30 AM	24.25	100	173.85	1504.39	-1299.39	7.169	172.06	0.8769	152.44
11/27/96	08:30 AM	24.00	100	152.34	1656.73	-1451.73	6.348	152.34	0.8769	133.58
11/28/96	08:45 AM	24.25	100	143.01	1799.74	-1594.74	5.897	141.54	0.8769	125.40
11/29/96	08:45 AM	24.00	100	134.86	1934.60	-1729.60	5.619	134.86	0.8769	118.25
11/30/96	08:45 AM	24.00	100	128.05	2062.65	-1857.65	5.335	128.05	0.8769	112.28
12/01/96	08:30 AM	23.75	100	125.71	2188.36	-1983.36	5.293	127.03	0.8769	110.23
12/02/96	08:30 AM	24.00	100	123.60	2311.96	-2106.96	5.150	123.60	0.8769	108.38
12/03/96	08:30 AM	24.00	100	119.88	2431.84	-2226.84	4.995	119.88	0.8769	105.12
12/04/96	10:45 AM	26.25	100	113.76	2545.60	-2340.60	4.334	104.01	0.8769	99.75
12/05/96	03:00 PM	28.25	100	127.96	2673.56	-2468.56	4.530	108.71	0.8769	112.20
12/06/96	09:45 AM	18.75	100	94.07	2767.63	-2562.63	5.017	120.41	0.8769	82.49
12/07/96	08:00 AM	22.25	100	102.40	2870.03	-2665.03	4.602	110.45	0.8769	89.79
12/08/96	08:00 AM	24.00	100	104.90	2974.93	-2769.93	4.371	104.90	0.8769	91.98
12/09/96	07:30 AM	23.50	100	102.40	3077.33	-2872.33	4.357	104.58	0.8769	89.79
12/10/96	07:30 AM	24.00	100	102.48	3179.81	-2974.81	4.270	102.48	0.8769	89.86
12/11/96	07:30 AM	24.00	100	101.56	3281.37	-3076.37	4.232	101.56	0.8769	89.05
12/12/96	07:30 AM	24.00	100	97.40	3378.77	-3173.77	4.058	97.40	0.8769	85.41
12/13/96	07:30 AM	24.00	100	94.30	3473.07	-3268.07	3.929	94.30	0.8769	82.69
12/14/96	07:30 AM	24.00	100	96.28	3569.35	-3364.35	4.012	96.28	0.8769	84.42
12/15/96	07:30 AM	24.00	100	94.90	3664.25	-3459.25	3.954	94.90	0.8769	83.21
12/16/96	07:30 AM	24.00	100	92.57	3756.82	-3551.82	3.857	92.57	0.8769	81.17
12/17/96	07:30 AM	24.00	100	93.24	3850.06	-3645.06	3.885	93.24	0.8769	81.76
12/18/96	07:30 AM	24.00	100	92.40	3942.46	-3737.46	3.850	92.40	0.8769	81.02
12/19/96	07:45 AM	24.25	100	91.60	4034.06	-3829.06	3.777	90.66	0.8769	80.32
Total/Avg		949.67	100	4,034.06	4,034.06	-3,829.06	4.248	101.95	0.8769	3,537.33

(1) Installed larger pumping unit to increase water recovery rate.

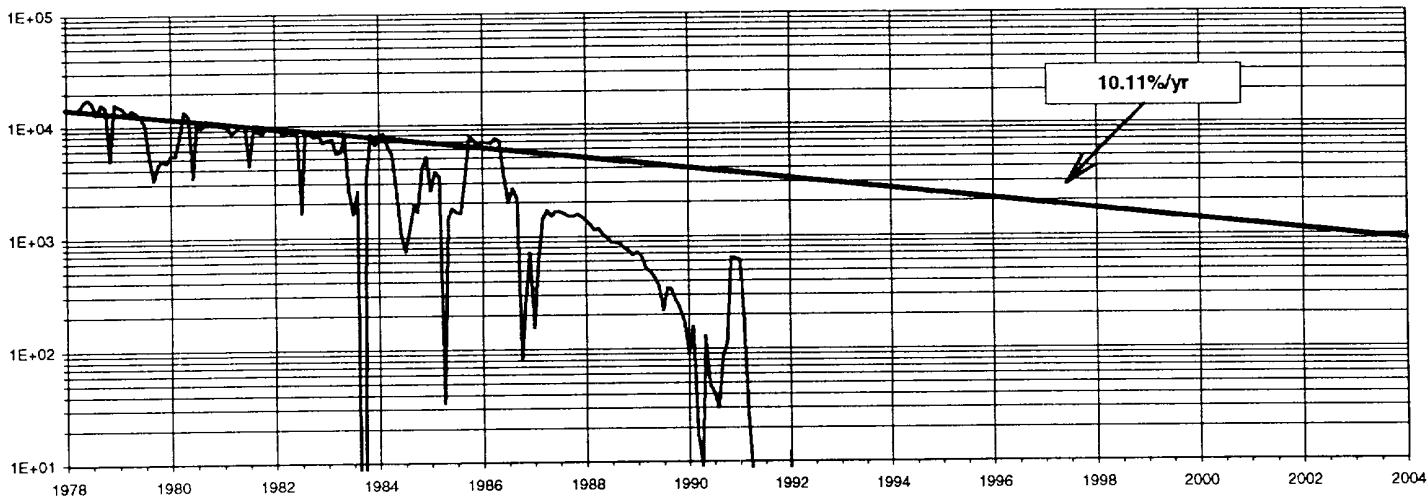
Water Hauling & Disposal Costs
11/14/96 thru 12/22/96

<u>Date</u>	<u>Reported Water Hauled (bbls)</u>	<u>Water Hauling Cost (\$)</u>	<u>Water Disposal Cost (\$)</u>	<u>Total Cost (\$)</u>	<u>Hauling & Disposal Rate (\$/bbl)</u>	<u>Service Company</u>
11/14/96	270	178.03	0.00	178.03	0.6594	XL Transportation
11/17/96	120	118.69	0.00	118.69	0.9891	XL Transportation
11/19/96	260	232.60	0.00	232.60	0.8946	Rapid Transport
11/22/96	360	359.96	0.00	359.96	0.9999	XL Transportation
11/25/96	380	359.96	0.00	359.96	0.9473	XL Transportation
11/27/96	240	239.97	0.00	239.97	0.9999	XL Transportation
11/29/96	240	209.97	0.00	209.97	0.8749	XL Transportation
12/01/96	240	239.97	0.00	239.97	0.9999	XL Transportation
12/05/96	360	359.96	0.00	359.96	0.9999	XL Transportation
12/09/96	360	269.97	0.00	269.97	0.7499	XL Transportation
12/12/96	240	204.53	0.00	204.53	0.8522	XL Transportation
12/15/96	240	204.53	0.00	204.53	0.8522	XL Transportation
12/18/96	360	350.62	92.27	442.89	1.2303	XL Transportation
12/22/96	130	116.30	0.00	116.30	0.8946	Rapid Transport
Total/Avg	3,800	3,445.06	92.27	3,537.33	0.9309	

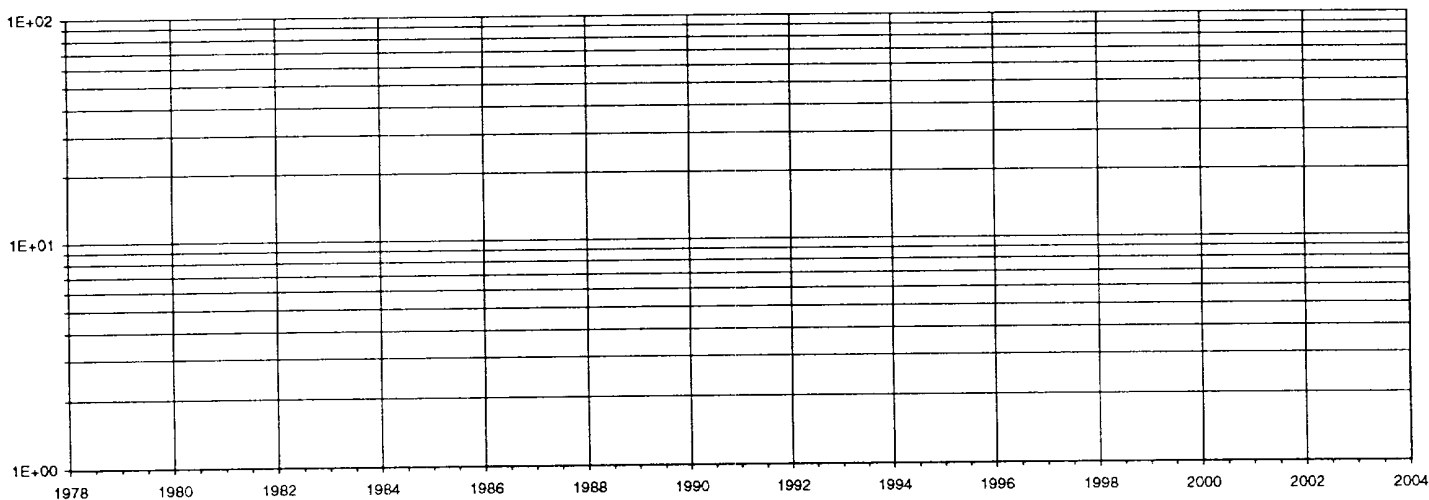
Note: Total amount of water produced as per daily drilling report was 4,034.06 bbls
(from 11/9/96 to 12/19/96) for an average combined water hauling and disposal
cost of \$0.8769/bbl ($\$3,537.33 / 4,034.06 \text{ bbls} = \$0.8769/\text{bbl}$).

MYERS B FEDERAL RA B #30
LMAT (TANSILL YATES SEVEN RIVERS)YS
5E 24S 37E
DOYLE HARTMAN

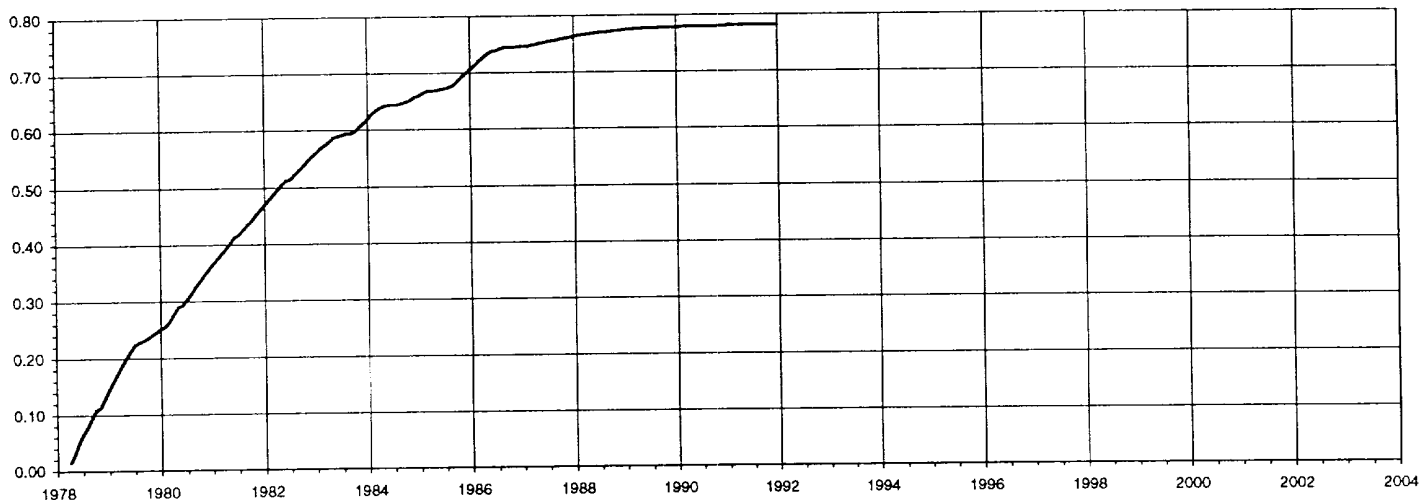
Gas Production (MCFPM)



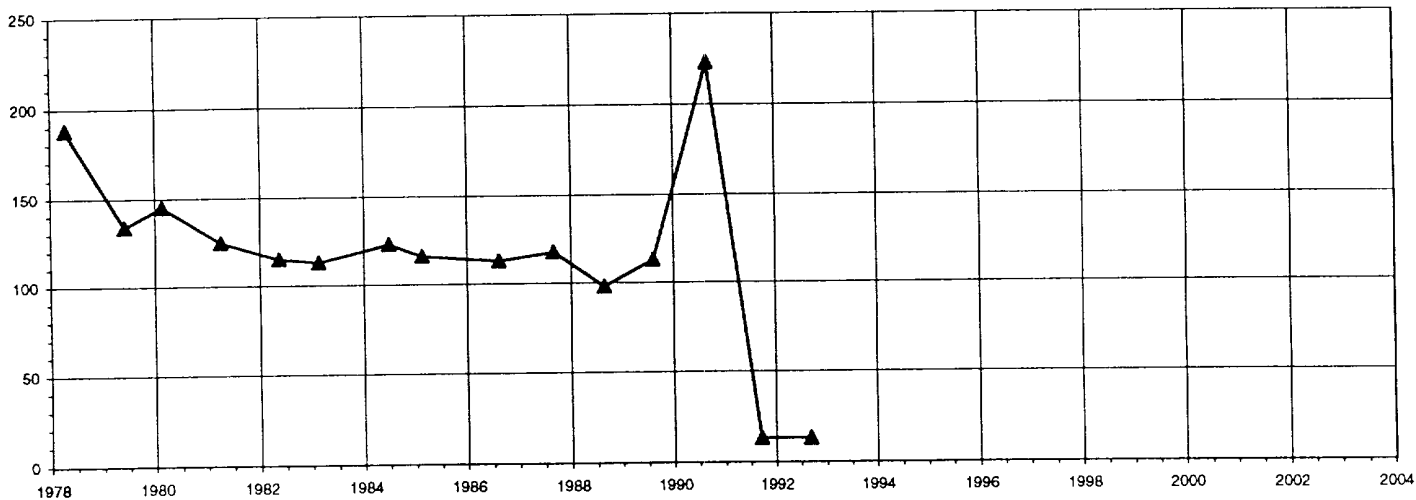
Water Production (BPM)



Cumulative Gas Production (BCF)

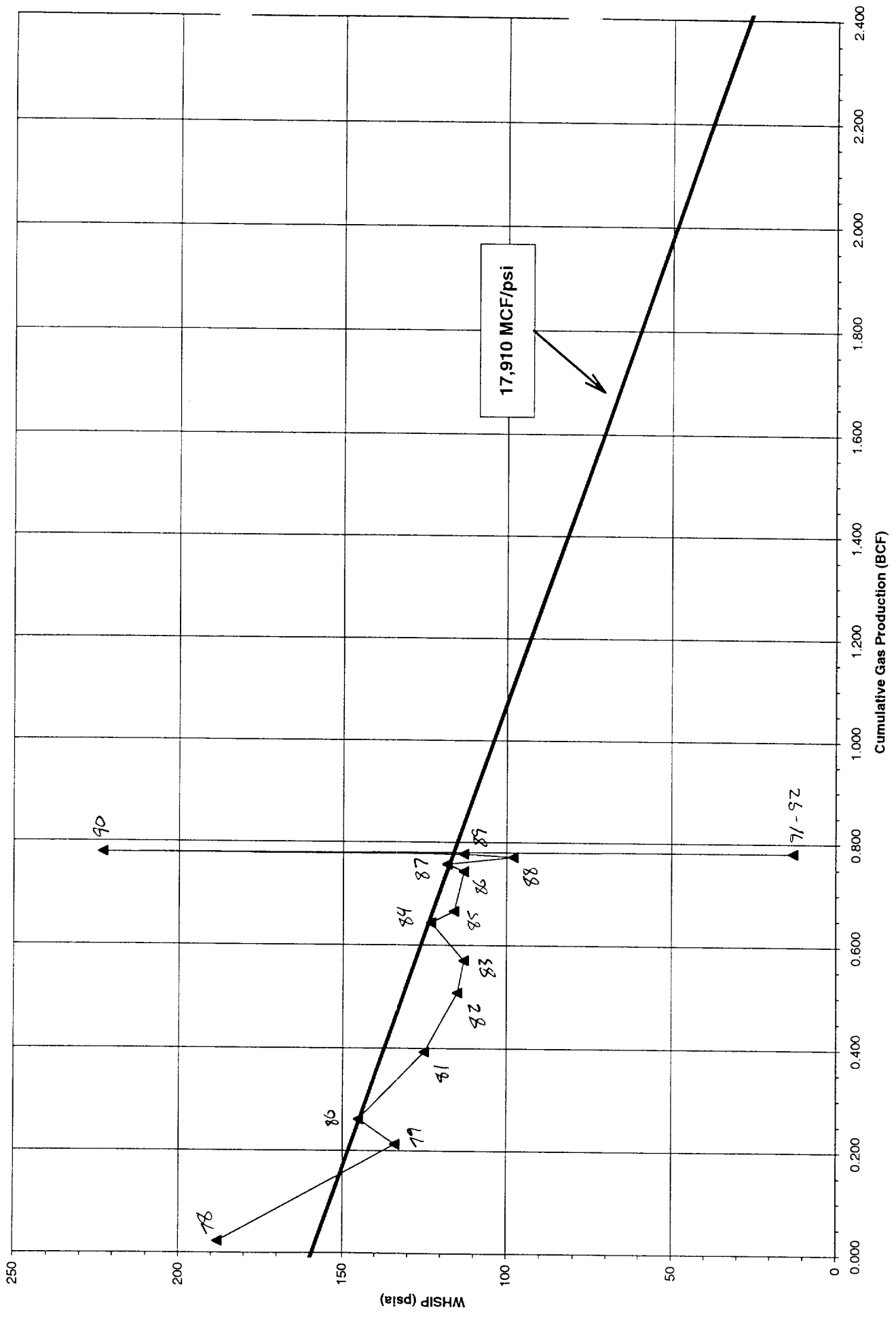


WHSIP (psia)

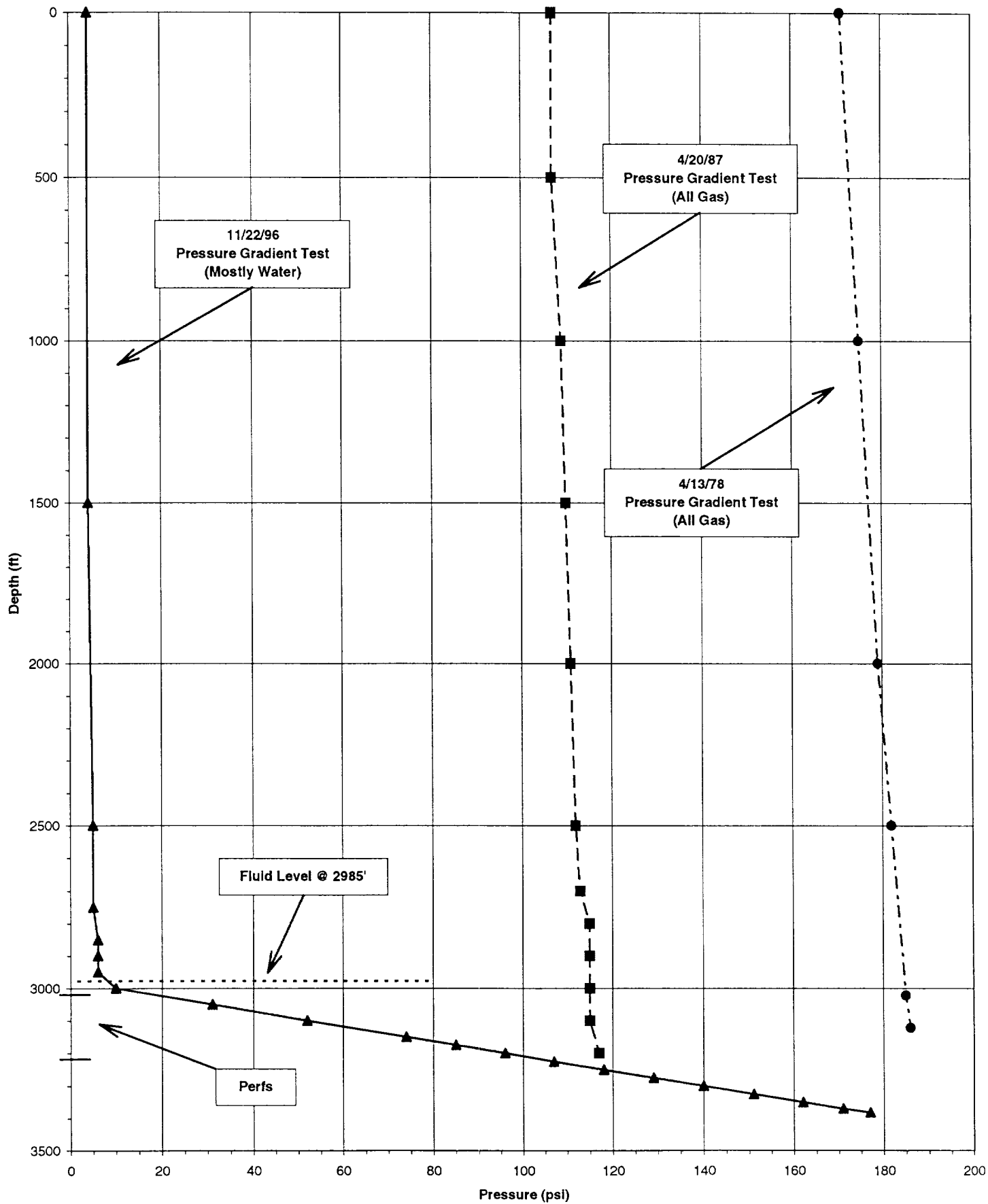


MYERS B FEDERAL RA B #30
JALMAT (TANSILL YATES SEVEN RIVERS)YS
5E 24S 37E
AMOCO PRODUCTION CO

9/5/92: 0.780947 BCF



Comparison of Shutin Pressure Gradient Tests
Myers "B" Federal No. 30
E-5-24S-37E
Lea County, NM
Jalmat Gas Pool



Comparison of Shutin Pressure Gradient Tests
Myers "B" Federal No. 30
E-5-24S-37E
Lea County, NM
Jalmat Gas Pool

<u>4/13/78</u>		<u>4/20/87</u>		<u>11/22/96</u>	
<u>Depth</u>	<u>SIP (psi)</u>	<u>Depth</u>	<u>SIP (psi)</u>	<u>Depth</u>	<u>SIP (psi)</u>
0	171	0	107	0	4
1000	175	500	107	1500	4
2000	179	1000	109	2500	5
2500	182	1500	110	2750	5
3022	185	2000	111	2850	6
3122	186	2500	112	2900	6
		2700	113	2950	6
		2800	115	3000	10
		2900	115	3050	31
		3000	115	3100	52
		3100	115	3150	74
		3200	117	3175	85
				3200	96
				3225	107
				3250	118
				3275	129
				3300	140
				3325	151
				3350	162
				3370	171
				3382	177

MARTIN WATER LABORATORIES, INC.

P.O. Box 1468 Phone 943-3234 or 563-1040
Monahans, Texas 79756

RESULT OF WATER ANALYSES

709 W. Indiana Phone 683-4521
Midland, Texas 79701

TO: Don Mashburn
P.O. Box 10426, Midland, TX 79702

LABORATORY NO. 1296162
SAMPLE RECEIVED 12-20-96
RESULTS REPORTED 12-23-96

API WATER ANALYSIS REPORT FORM

Company Doyle Hartman, Oil Operators		Sample No.		Date Sampled	
Field Jalmat		Legal Description		County or Parish Lea State NM	
Lease or Unit Myers "B" Federal		Well #30		Depth	
Type of Water (Produced, Supply, etc.) Produced		Formation		Water, B/D	
Sampling Point		Sampled By			

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	21,471	933.5
Calcium, Ca	2,160	108.0
Magnesium, Mg	3,402	280.0
Barium, Ba		

ANIONS

Chloride, Cl	43,677	1,231.7
Sulfate, SO ₄	3,692	76.8
Carbonate, CO ₃	0	0.0
Bicarbonate, HCO ₃	793	13.0

Total Dissolved Solids (calc.)

75,195

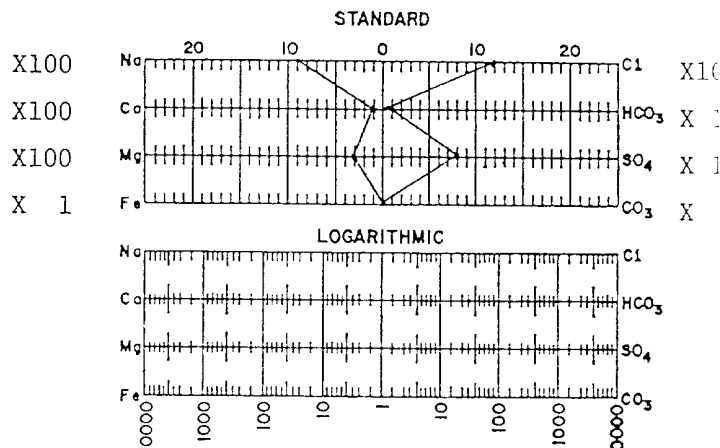
Iron, Fe (total) 5.8 0.2

Sulfide, as H₂S 159

OTHER PROPERTIES

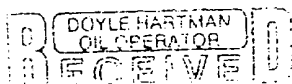
pH	7.50
Specific Gravity, 60/60 F.	1.0533
Resistivity (ohm-meters) 77° F.	0.116
Total Hardness, as CaCO ₃	19,400

WATER PATTERNS — me/l



REMARKS & RECOMMENDATIONS: In comparing the above with the water recovered from this well on 12-4-96 and reported on laboratory #129639, we see some slight changes in the levels of the salts; but the basic characteristics of the water have not changed. As previously stated, Yates waters in the area vary somewhat in their characteristics, but we suspect with some confidence that this is likely Yates water; and the consistency being experienced adds confirmation to that probability.

cc: DH - ofc
12-27-96 home



DEC 26 1996

Waylan C. Martin

Waylan C. Martin, M.A.

FAX: Doyle Hartman, Dallas

Examples of Increase in Concentration of Dissolved Solids After Subsurface Migration from Injection Point to Sample Point

	Texaco Rhodes "Yates" Waterflood Area				Oxy U.S.A. MLMU Waterflood Area	
	Rhodes "B"		Rhodes "B" #1 Well		MLMU	Myers "B" No. 30
	Fresh Santa Rosa Injection Water (2/12/80)	Battery Yates Prod. Wtr. (2/12/80)	Yates Water (5/11/79)	Salado Waterflow Sample #1 (1/16/79)	Seven Rivers Injection Water (11/26/96)	Out-of-Zone Produced Water (12/19/96)
Laboratory	Martin	Martin	Tretolite	Halliburton	Martin	Martin
Resistivity	10.50 @ 77 °F	0.094 @ 77 °F	---	0.045 @ 74 °F	0.465 @ 77 °F	0.116 @ 77 °F
Sp. Gr.	1.0018	1.0727	1.04	1.208	1.016	1.053
pH	7.3	7.6	7.58	6.4	7.45	7.5
Total Hardness (CaCO ₃)	332	26,000	---	---	4,100	19,400
Calcium (Ca + +)	68	2,200	2,400	7,600	700	2,160
Magnesium (Mg + +)	39	4,982	1,944	7,440	571	3,402
Chlorides (Cl -)	88	59,656	31,108	196,000	7,954	43,677
Sulfates (SO ₄ - -)	231	4,818	4,750	2,450	1,783	3,692
Bicarbonates (HCO ₃ -)	264	537	427	245	1,208	793
Soluble Iron (Fe + +)	0.19	0	25	60	0.43	5.80
Hydrogen Sulfide (H ₂ S)	0.0	21.0	Neg.	---	371	159
Total Dissolved Solids	804	101,434	56,780	---	16,797	75,195

Saturations are measured in mg/L

Water Solubilities of Evaporite Minerals
(Pure Solutions)

Handbook of Chemistry and Physics
Physical Constants of Inorganic Compounds

<u>Mineral</u>	<u>Water Temperature</u>		<u>Water Solubility</u>		<u>Precipitation Tendency</u>
	<u>°C</u>	<u>°F</u>	<u>g/100 ml</u>	<u>mg/L</u>	<u>Ranking</u>
FeS (Iron Sulfide)	18	64.4	0.00062	6.2	1
CaCO ₃ (Calcite)	25	77	0.0014	14	2
	75	167	0.0018	18	
MgCO ₃ (Magnesite)	25	77	0.0106	106	3
CaMg(CO ₃) ₂ (Dolomite)	18	64.4	0.0320	320	4
CaSO ₄ (Anhydrite)	30	86	0.2090	2090	5
	100	212	0.1619	1619	
CaSO ₄ 2H ₂ O (Gypsum)	0	32	0.2410	2410	6
	100	212	0.2220	2220	
NaSO ₄ (Thenardite)	0	32	4.76	47,600	7
	100	212	42.7	427,000	
NaCl (Halite/Salt)	0	32	35.7	357,000	8
	100	212	39.12	391,200	
KCl (Sylvite)	20	68	34.7	347,000	9
	100	212	56.7	567,000	
MgSO ₄ H ₂ O (Kieserite)	100	212	68.4	684,000	10
MgSO ₄ (Magnesium Sulfate)	0	32	26	260,000	11
	100	212	73.8	738,000	
MgSO ₄ 7H ₂ O (Epsom Salt)	20	68	71	710,000	12
	40	104	91	910,000	
CaCl ₂ (Calcium Chloride)	0	32	59.5	595,000	13
	100	212	159	1,590,000	
MgCl ₂ 6H ₂ O (Bischofite)	Cold		167	1,670,000	14
	Hot		367	3,670,000	

MYERS 'B' FEDERAL # 30
E-5-24S-37E

GRN - CCL
Fluid Level @
2990'

12 / 77
GR Curve

11 / 96
GR Curve