

MARTIN YATES, III
1912 - 1985
FRANK W. YATES
1936 - 1986



105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

OIL CONSERVATION DIVISION
RECEIVED
1993 AUG 23 AM 9 17
S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
PRESIDENT
PEYTON YATES
EXECUTIVE VICE PRESIDENT
RANDY G. PATTERSON
SECRETARY
DENNIS G. KINSEY
TREASURER

August 23 1993

State of New Mexico
OIL CONSERVATION DIVISION
P. O. Box 2088
Santa Fe, NM 87501
ATTN: Mr. David Catanach

Dear Mr. Catanach,

Enclosed are the necessary documents for obtaining approval for the downhole commingling of the Antongiovanni MJ Federal #1 located in O of Section 1, Township 20 South, Range 28 East, Eddy County.

Should you have any question, feel free to contact me at (505) 748-1471. Thank you.

Sincerely,

Brian Collins
Engineer

BC/th

enclosures

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August 23 1993

State of New Mexico
OIL CONSERVATION DIVISION
Drawer DD
Artesia, NM 88210
ATTN: Mr. Mike Williams

Dear Mr. Williams,

Enclosed are the necessary documents for obtaining approval for the downhole commingling of the Antongiovanni MJ Federal #1 located in O of Section 1, Township 20 South, Range 28 East, Eddy County.

Should you have any question, feel free to contact me at (505) 748-1471. Thank you.

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August 23, 1993

Bureau of Land Management
P. O. Box 1778
Carlsbad, NM 88220
ATTN: Richard Manus, Area Manager

Dear Mr. Manus,

Enclosed for your information is the data necessary to obtain approval for the downhole commingling of the following well:

Antongiovanni MJ Federal #1
Unit O Sec. 1-T20S-R28E
Eddy County, New Mexico
Operator: Yates Petroleum Corporation

Any objections may be submitted within the next 20 days to the New Mexico Oil Conservation Division, State Land Office Building, P. O. Box 2088, Santa Fe, NM 87504. Thank you.

Sincerely,

Brian Collins
Engineer

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TREASURER

August 23, 1993

Oxy USA, Inc.
P. O. Box 1919
6 Desta Dr., Suite 6002
Midland, TX 79702

Gentlemen:

Enclosed please find a copy of the application for downhole commingling the Antongiovanni MJ Federal #1 located in O of Section 1-T20S-R28E. This copy of the application to commingle fulfills our requirement to notify offset operators per NMOCD Rule 303 D (10).

Should you have any questions, please feel free to contact me at (505) 748-1471.

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August 23, 1993

Mewbourne Oil Company
P. O. Box 7698
Tyler, TX 75711

Gentlemen:

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August 23, 1993

Marathon Oil Company
P. O. Box 552
Midland, TX 79702

Gentlemen:

Enclosed please find a copy of the application for downhole commingling the Antongiovanni MJ Federal #1 located in O of Section 1-T20S-R28E. This copy of the application to commingle fulfills our requirement to notify offset operators per NMOC Rule 303 D (10).

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August 23, 1993

Presidio Exploration, Inc.
5613 DTC Parkway, Suite 750
P. O. Box 6525
Englewood, CO 80155-6525

Gentlemen:

Enclosed please find a copy of the application for downhole commingling the Antongiovanni MJ Federal #1 located in O of Section 1-T20S-R28E. This copy of the application to commingle fulfills our requirement to notify offset operators per NMOCD Rule 303 D (10).

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TREASURER

August 23, 1993

William Hudson, Mary Hudson Ard,
& Edward Hudson
1000 First National Bank Bldg.
Fort Worth, TX 76102

Gentlemen:

Enclosed please find a copy of the application for downhole commingling the Antongiovanni MJ Federal #1 located in O of Section 1-T20S-R28E. This copy of the application to commingle fulfills our requirement to notify offset operators per NMOCD Rule 303 D (10).

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Sincerely,

Brian Collins
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Application for Downhole Commingling
Antongiovanni MJ Federal #1
Unit O Sec. 1-T20S-R28E
Eddy County, New Mexico

Reason for Application: Yates Petroleum Corporation respectfully requests approval to commingle the Morrow with the Strawn yet to be tested. Our intention is to maximize gas recovery from the Morrow and prevent mineral resource waste.

1> Name and Address of the Operator:

Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
ATTN: Brian Collins

2> Lease Name, Well Number, Well Location, Name of the Pools to be Commingled:

Atongiovanni MJ Federal #1
Unit O Sec. 1-T20S-R28E
660'FSL & 1980'FEL
Pools: Winchester Morrow
Undesignated Strawn

3> A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

See Attachment A (map).

4> A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas, and water produced from each zone.

See Attachment B (production plots and tabular production data).
Morrow capable of approximately 50 - 100 MCFPD.
Morrow perfs 11135' - 11140'.

5> A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes. (This requirement may be dispensed within the case of a newly completed or recently completed well which has little or no production history. However, a complete description of treating testing, etc., of each zone, and a prognostication of future production from each zone shall be submitted.)

See Attachment B.

Exponential decline curve analysis of the production plot results in a remaining ultimate recovery of 117,943 MCF for the Morrow.

$$\begin{aligned}
 d &= 13\%/yr \\
 Q_i &= 75 \text{ MCFD} \\
 Q_{\text{aban}} &= 30 \text{ MCFD} \\
 N_R &= \frac{365(30-75)}{\ln(1-.13)} = 117,943 \text{ MCF}
 \end{aligned}$$

We propose to test the Strawn from 10189' to 10206' until commercial production is established and commingle with the Morrow. We want to commingle the Morrow with the Strawn to maximize drainage from the Morrow and prevent the waste of mineral resources. We can't determine the Strawn reserves until we've tested it.

- 6> Estimated bottom-hole pressure for each artificially lifted zone. A current (within 30 days) measured bottomhole pressure for each zone capable of flowing.

See Attachment C (Morrow static BHP - 1-10-92)
(DST in Strawn on Trigg AIN Fed. #1 Sec. 28-20S-29E).

Last Morrow BHP was 2742 psi @ 11139' taken on 1-10-92. A reasonable estimate of the Strawn BHP is 4544 psi @ 10198' taken from a drill stem test on the Trigg AIN Fed. #1 located in Sec. 28-20S-29E. A packer with a standing valve will be located between the Strawn and the Morrow.

- 7> A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the well-bore.

Both Morrow and Strawn will produce sweet gas. Don't anticipate any compatibility problems.

- 8> A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams.

Both Morrow and Strawn will produce sweet gas. The value of the gas will not be affected by commingling.

- 9> A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula.

We propose to test the Strawn before recommending an allocation formula. As soon as the Strawn has been tested, we will submit an allocation formula.

- 10> A statement that all offset operators and, in the case of a well on federal land, the US BLM, have been notified in writing of the proposed commingling.

The offset operators for this area and the BLM were notified of the proposed commingling of the Antongiovanni MJ Federal #1.

ATTACHMENT A

ATTACHMENT B

PAGE 1

Dwight's Energydata, Inc. DLOOK 4.20 Record # 1

Run date: 08/03/93

Property data from file: bc2028.dmp

Retrieval code: 250,015,20S28E010

Operator (#806779)			Lease name			Well #	
YATES PETROLEUM CORP			ANTONGIOVANNI MJ FEDERAL			000001	
Ident. #	State	Dist	County		Location		Lse/tax /unit #
20S28E01000PM	NM(30)	2	015 EDDY		10 20S 28E		97365
API #		Field (#8081924)				Reservoir	
30-015-23180		WINCHESTER (MORROW)				PM	MORROW
Total Depth	Perforations Upper Lower		Temp Gradient		N-Factor		GOR
0	0	0	1.045		0.000		0
Comp Date	Production Dates First Last		Status Date		Status		
0	8010	9303	0		ACT		
Cumulative gas MCF Since		Gas Gravity		Gas Gatherer			
684580	FP Date	0.00		TRANW			
Cumulative liquid BBL Since		Liquid Gravity		Liquid Gatherer			
4751	FP Date	0.00		NAVAJ			

Dwight's Energydata, Inc. DLOOK 4.20 Record # 1 Run date: 08/03/93
Gas test data from file: bc2028.dmp Retrieval code: 250,015,20S28E010
Lease: ANTONGIOVANNI MJ FEDERAL Well #: 000001

Test Date	Cum at Test	WHSIP	BHP	BHPZ	M/C	Type Pot	bd water	bd cond	whflow	poten	init test
810401	42808	2213	0	0		0	0	0	0	0	0
820714	213315	703	0	0		0	0	0	0	0	0
830603	314393	653	0	0		0	0	0	0	0	0
840724	417019	313	0	0		0	0	0	0	0	0
850516	476894	2053	0	0		0	0	0	0	0	0
860709	526139	2113	0	0		0	0	0	0	0	0
870514	541097	2188	0	0		0	0	0	0	0	0
880531	565985	2063	0	0		0	0	0	0	0	0
890616	591505	2013	0	0		0	0	0	0	0	0
900701	623735	2013	0	0		0	0	0	0	0	0
910628	646793	2023	0	0		0	0	0	0	0	0
920705	661760	2063	0	0		0	0	0	0	0	0

Dwight's Energydata, Inc. DLOOK 4.20 Record # 1 Run date: 08/03/93

Production data from file: bc2028.dmp

Retrieval code: 250,015,20S28E0100

Lease: ANTONGIOVANNI MJ FEDERAL

Well #: 000001

Month	Oil bbls	Cum Oil bbls	Gas mcf	Cum Gas mcf	Water bbls	No. of Wells
January	0	0	0	0	0	1
February	0	0	0	0	0	1
March	0	0	0	0	0	1
April	0	0	0	0	0	1
May	0	0	0	0	0	1
June	0	0	0	0	0	1
July	0	0	0	0	0	1
August	0	0	0	0	0	1
September	0	0	0	0	0	1
October	9	9	927	927	0	1
November	0	9	0	927	0	1
December	51	60	6351	7278	225	1
Total 1980	60	60	7278	7278	225	1
January	113	173	12282	19560	405	1
February	94	267	11097	30657	327	1
March	100	367	11804	42461	327	1
April	99	466	11555	54016	309	1
May	106	572	11947	65963	294	1
June	99	671	11829	77792	285	1
July	93	764	11914	89706	261	1
August	88	852	12037	101743	252	1
September	97	949	11135	112878	255	1
October	102	1051	11371	124249	246	1
November	86	1137	10716	134965	225	1
December	72	1209	10793	145758	225	1
Total 1981	1149	1209	138480	145758	3411	1
January	69	1278	10786	156544	225	1
February	60	1338	9478	166022	120	1
March	96	1434	10962	176984	270	1
April	87	1521	10261	187245	180	1
May	78	1599	10940	198185	213	1
June	90	1689	10148	208333	159	1
July	62	1751	10599	218932	159	1
August	70	1821	9094	228026	114	1
September	74	1895	9613	237639	132	1
October	75	1970	10048	247687	204	1
November	69	2039	9670	257357	174	1
December	69	2108	10187	267544	174	1
Total 1982	899	2108	121786	267544	2124	1
January	70	2178	9665	277209	201	1
February	64	2242	8703	285912	234	1
March	72	2314	9594	295506	153	1
April	68	2382	9209	304715	159	1
May	66	2448	8851	313566	101	1
June	76	2524	8272	321838	70	1
July	50	2574	8586	330424	73	1

Dwight's Energydata, Inc. DLOOK 4.20
 Production data from file: bc2028.dmp
 Lease: ANTONGIOVANNI MJ FEDERAL

Record # 1

Run date: 08/03/93

Retrieval code: 250,015,20S28E0100

Well #: 000001

Month	Oil bbls	Cum Oil bbls	Gas mcf	Cum Gas mcf	Water bbls	No. of Wells
August	62	2636	8756	339180	112	1
September	56	2692	8449	347629	154	1
October	57	2749	8480	356109	128	1
November	57	2806	7990	364099	136	1
December	59	2865	7622	371721	104	1
Total 1983	757	2865	104177	371721	1625	1
January	58	2923	7529	379250	116	1
February	53	2976	6664	385914	56	1
March	57	3033	7468	393382	78	1
April	54	3087	7324	400706	99	1
May	50	3137	7513	408219	248	1
June	23	3160	3946	412165	188	1
July	44	3204	6068	418233	9	1
August	43	3247	6036	424269	13	1
September	37	3284	5282	429551	35	1
October	55	3339	8023	437574	173	1
November	50	3389	7034	444608	135	1
December	51	3440	7513	452121	132	1
Total 1984	575	3440	80400	452121	1282	1
January	56	3496	7224	459345	121	1
February	41	3537	6146	465491	88	1
March	40	3577	5948	471439	41	1
April	17	3594	2902	474341	20	1
May	22	3616	4817	479158	0	1
June	62	3678	8027	487185	114	1
July	44	3722	7391	494576	76	1
August	42	3764	6130	500706	59	1
September	9	3773	863	501569	12	1
October	0	3773	1762	503331	0	1
November	10	3783	3103	506434	0	1
December	45	3828	4998	511432	1	1
Total 1985	388	3828	59311	511432	532	1
January	31	3859	2714	514146	4	1
February	27	3886	3621	517767	23	1
March	0	3886	979	518746	0	1
April	0	3886	831	519577	0	1
May	27	3913	4926	524503	0	1
June	5	3918	1121	525624	0	1
July	6	3924	1715	527339	0	1
August	0	3924	809	528148	0	1
September	0	3924	954	529102	0	1
October	0	3924	791	529893	0	1
November	0	3924	694	530587	0	1
December	0	3924	529	531116	0	1
Total 1986	96	3924	19684	531116	27	1

Dwight's Energydata, Inc. DLOOK 4.20 Record # 1 Run date: 08/03/93

Production data from file: bc2028.dmp

Retrieval code: 250,015,20S28E0100

Lease: ANTONGIOVANNI MJ FEDERAL

Well #: 000001

Month	Oil bbls	Cum Oil bbls	Gas mcf	Cum Gas mcf	Water bbls	No. of Wells
January	87	4011	7257	538373	39	1
February	4	4015	744	539117	25	1
March	0	4015	900	540017	0	1
April	0	4015	692	540709	0	1
May	0	4015	825	541534	0	1
June	0	4015	874	542408	0	1
July	0	4015	668	543076	0	1
August	0	4015	668	543744	0	1
September	6	4021	723	544467	0	1
October	1	4022	658	545125	0	1
November	4	4026	703	545828	0	1
December	64	4090	6491	552319	97	1
Total 1987	166	4090	21203	552319	161	1
January	28	4118	3598	555917	145	1
February	27	4145	3811	559728	61	1
March	37	4182	5001	564729	172	1
April	0	4182	0	564729	0	1
May	0	4182	1219	565948	0	1
June	0	4182	460	566408	0	1
July	0	4182	511	566919	0	1
August	0	4182	248	567167	0	1
September	0	4182	296	567463	0	1
October	0	4182	369	567832	0	1
November	0	4182	0	567832	0	1
December	0	4182	463	568295	0	1
Total 1988	92	4182	15976	568295	378	1
January	56	4238	6749	575044	111	1
February	17	4255	3545	578589	89	1
March	28	4283	4004	582593	96	1
April	27	4310	3919	586512	138	1
May	25	4335	3280	589792	60	1
June	11	4346	3232	593024	33	1
July	30	4376	3673	596697	69	1
August	16	4392	3549	600246	45	1
September	17	4409	3208	603454	42	1
October	0	4409	162	603616	6	1
November	34	4443	5335	608951	132	1
December	23	4466	3436	612387	57	1
Total 1989	284	4466	44092	612387	878	1
January	22	4488	3740	616127	123	1
February	16	4504	3242	619369	119	1
March	0	4504	0	619369	0	1
April	0	4504	0	619369	0	1
May	0	4504	0	619369	0	1
June	20	4524	4233	623602	36	1
July	23	4547	4430	628032	123	1

Dwight's Energydata, Inc. DLOOK 4.20 Record # 1 Run date: 08/03/93
Production data from file: bc2028.dmp Retrieval code: 250,015,20S28E0100
Lease: ANTONGIOVANNI MO FEDERAL Well #: 000001

Month	Oil bbls	Cum Oil bbls	Gas mcf	Cum Gas mcf	Water bbls	No. of Wells
August	8	4555	3685	631717	99	1
September	0	4555	240	631957	0	1
October	0	4555	0	631957	0	1
November	23	4578	4111	636068	57	1
December	16	4594	3656	639724	134	1
Total 1990	128	4594	27337	639724	691	1
January	27	4621	3573	643297	141	1
February	1	4622	375	643672	21	1
March	0	4622	1242	644914	0	1
April	10	4632	719	645633	0	1
May	0	4632	1160	646793	33	1
June	0	4632	0	646793	0	1
July	0	4632	471	647264	0	1
August	0	4632	0	647264	0	1
September	0	4632	852	648116	0	1
October	14	4646	2348	650464	0	1
November	21	4667	2132	652596	9	1
December	0	4667	808	653404	0	1
Total 1991	73	4667	13680	653404	204	1
January	0	4667	641	654045	0	1
February	0	4667	0	654045	0	1
March	0	4667	571	654616	0	1
April	0	4667	1857	656473	0	1
May	14	4681	3498	659971	36	1
June	0	4681	1552	661523	57	1
July	6	4687	1392	662915	0	1
August	37	4724	4204	667119	135	1
September	0	4724	2467	669586	24	1
October	0	4724	2806	672392	60	1
November	0	4724	2086	674478	44	1
December	14	4738	2513	676991	68	1
Total 1992	71	4738	23587	676991	424	1
January	6	4744	2354	679345	23	1
February	7	4751	1529	680874	126	1
March	0	4751	3706	684580	225	1
Total 1993	13	4751	7589	684580	374	1

Dwight's Energydata, Inc. DLOOK 4.20

Record # 1

Run date: 08/03/93

Gas test data from file: bc2028.dmp

Retrieval code: 250,015,20S28E0100

Lease: ANTONGIOVANNI MJ FEDERAL

Well #: 000001

Field: WINCHESTER (MORROW)

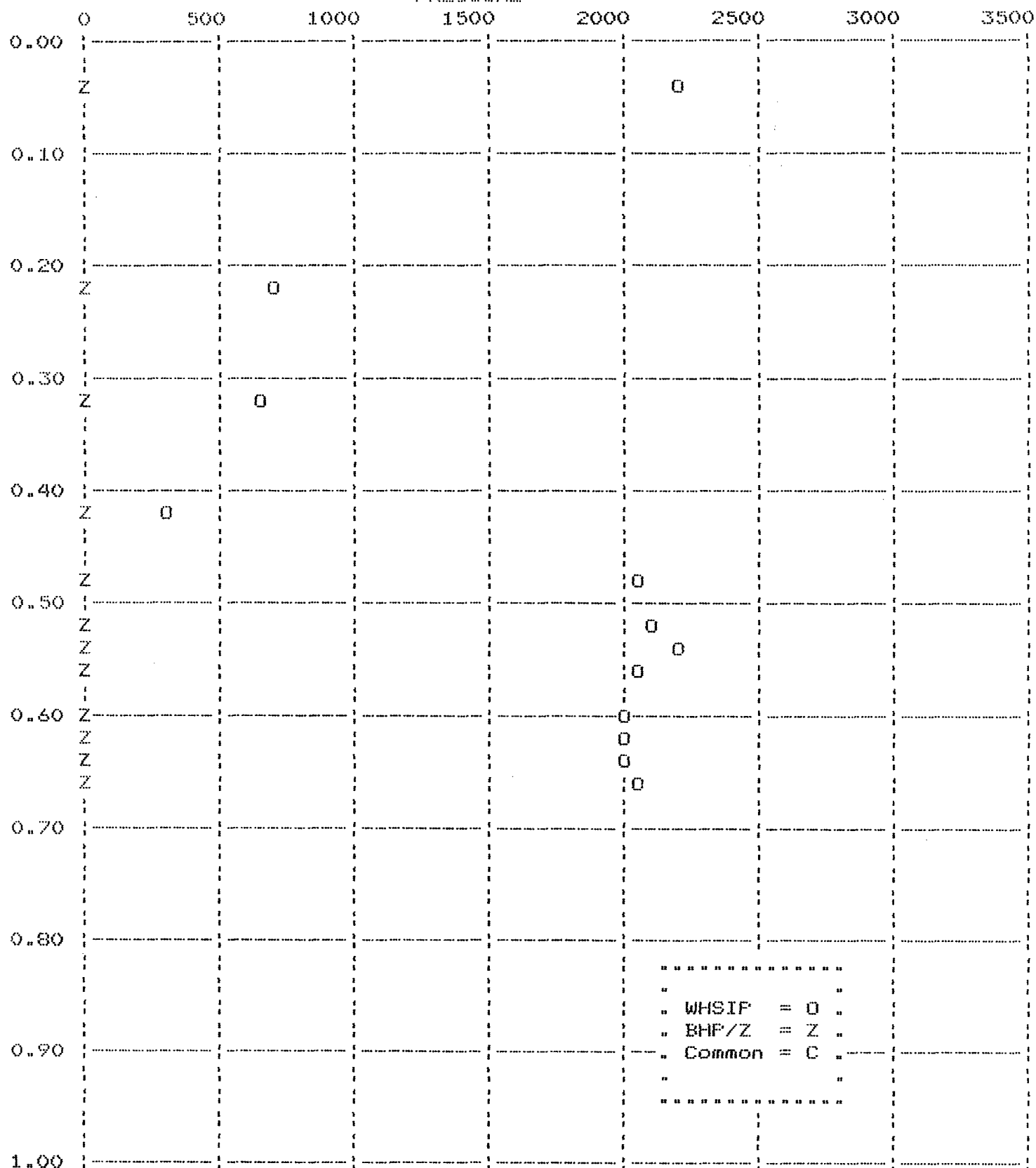
PM Reservoir: MORROW

Operator: YATES PETROLEUM CORP

Gas cum: 684580

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C
F

PRESSURE



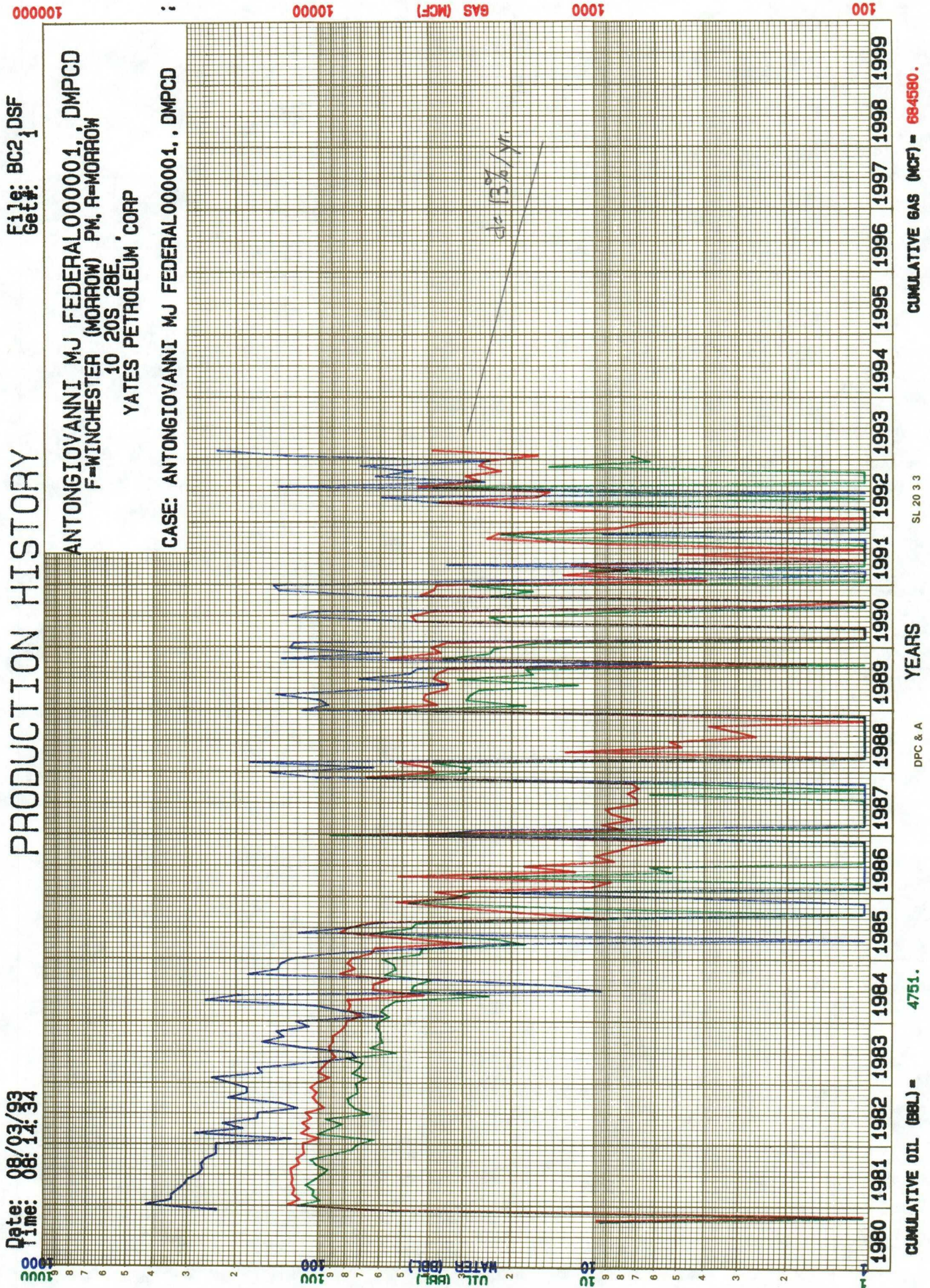
Date: 08/03/93
Time: 08:14:34

PRODUCTION HISTORY

File: BC2.DSF
Get#:

ANTONGIOVANNI MJ FEDERAL000001, DMP
F-WINCHESTER (MORROW) PM, R-MORROW
10 20S 28E,
YATES PETROLEUM CORP

CASE: ANTONGIOVANNI MJ FEDERAL000001, DMP



<<Static Gradient Survey>>

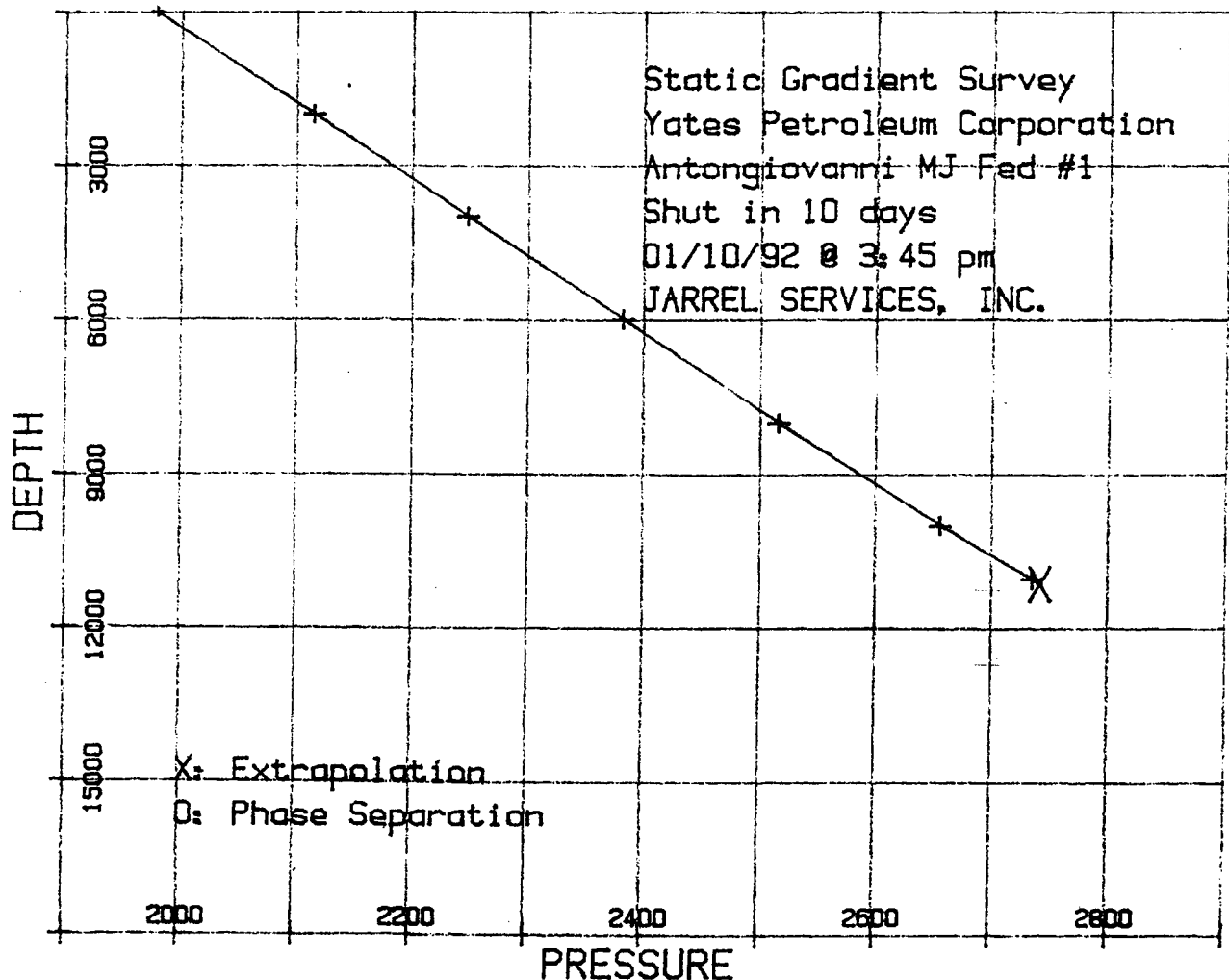
COMPANY: Yates Petroleum Corporation
LEASE: Antongiovanni MJ Fed
FIELD: Burton Flat
COUNTY: Eddy
STATUS: Shut in 10 days
PERFORATIONS FROM: 11135 ft
DEPTH: 11050 ft

Date: 01/10/92 @ 3:45 pm
CONTACT: Ed Perry
WELL: #1
ZONE: Upper Morrow
STATE: New Mexico
OPERATOR: Harrah
TO: 11140 ft
TEMPERATURE: 168°F

TABULAR DATA

DEPTH (ft)	PRESSURE (psi)	GRADIENT (psi/ft)	EXPLANATIONS
0	1978		
2000	2115	0.069	
4000	2248	0.067	
6000	2382	0.067	
8000	2516	0.067	
10000	2656	0.070	
11050	2735	0.075	
11137	2742	0.075	<=Extrapolated BHP

NOTE: Explanations are included to clarify calculated data points.





BAKER SERVICE TOOLS

DRILL STEM TESTING OPERATION REPORT

Lynes District Hobbs NM B4765 Date 6-2 1991 Field Ticket 258-75184
 Operator Kelco Petroleum Corp
 Address 103 South 4th Street
Albuquerque NM 88210
 Well Name & Number Trigg AIN Federal #1 DST No. 4 Est. Porosity 8%
 Contractor Ziadrill Co Net FL Pay 9
 Rig No. 2 Top Choke 1 1/2 Bottom Choke 3/4
 Spot 1880 FNL + 640 FEL Size Hole 7 7/8 Size Rat Hole ---
 Sec. 28 Casing Size & Wt. 8 5/8
 Twp. 20 South Size & Wt. D. P. or Tubing 4 1/2 x 14 16 (10+20)
 Rng. 29 East Size Wt. Pipe ---
 Field Burnham Flats I. D. of D. O. 2 1/4
 County Eddy Length of D. O. above Tool 1640'
 State New Mexico Total Depth 10657
 K. B. Elevation --- Interval Tested 10360 - 10657
 Formation Straawn Interval Perforated --- Type of Test Bottom Hole Core
 Flow No. 1 5 Flow No. 2 6 Flow No. 3 6 Flow No. 4 6
 Shut-in No. 1 60 Shut-in No. 2 120 Shut-in No. 3 --- Shut-in No. 4 ---
 Bottom Hole Temp. 178° Mud Weight 9.3 Gravity --- Viscosity 31
 Tool Opened @ 0612

Caliper Log Run Prior to Test: Yes ☐ No ☒
 Calipered Hole Size @ Top Pkr. --- @ Bottom Pkr. ---
 Did well flow gas yes in 32 mins.
 Did well flow oil no in --- mins.
 Did well flow water no in --- mins.
 If well did flow, during which flow or shut-in period did gas/fluid reach surface?
2nd Flow Period
 BOTTOM HOLE SAMPLER
 Pressure in Sampler: 250 PSIG
 Total Volume of Sampler: 2600 cc.
 Total Volume of Sample: 950 cc.
 Where was Sample drained? Rig Floor
 Oil: 500 cc.
 Water: 450 cc.
 Mud: --- cc.
 Gas: 128 cu. ft.
 Other: ---
 Sample R. W.: Gas at 60° 87,000 PPM/cb
 Gravity --- Gas/Oil Ratio ---
 Make Up Water R. W.: ---
 Mud Fil Sample R. W.: Gas at 60° 109,000 PPM/cb

Bottom of Top Packer 10551
 Bottom of Second Packer 10360
 Top of Straddle Packer ---
 Top of Fourth Packer ---
 Length of Test Interval 97'
 Test Interval: Anchor 37 Collars 59.79 DP ---
 Below Straddle: Anchor --- Collars --- DP ---
 Was tool plugged? no Was anchor plugged? no
 Did straddle pkr. hold? --- Press. below straddle ---
 REMARKS:

Good Mechanical Test
Gas 25178 ran above
Shut in Tool
 Recorder No. --- Ran Under Straddle Pkr. ---

RECORDER READINGS

Type	<u>K3</u>	No.	<u>22722</u>	Clock		Type	<u>K3</u>	No.	<u>22719</u>	Clock		Type	<u>DMR</u>	No.	<u>1754</u>	Clock	
Cap.	<u>6725</u>	Loc.	<u>10540</u>	No.	<u>26578</u>	Cap.	<u>6725</u>	Loc.	<u>10571</u>	No.	<u>2087</u>	Cap.	<u>10000</u>	Loc.	<u>10571</u>	No.	
Inside	<u>X</u>	Outside		Hrs.	<u>24</u>	Inside		Outside	<u>X</u>	Hrs.	<u>24</u>	Inside		Outside	<u>X</u>	Hrs.	<u>1K</u>
Press.		Field		Corrected		Press.		Field		Corrected		Press.		Field		Corrected	
IN	A	5013				IN		5040				IN		5050			
PH	K	5006				PH		5040				PH		5062			
IF-1	B	496				IF-1		516				IF-1		530			
FF-1	C	523				FF-1		540				FF-1		542			
IF-2	E	380				IF-2		397				IF-2		405			
FF-2	F	462				FF-2		480				FF-2		490			
IF-3	H	413				IF-3		435				IF-3		440			
FF-3	I	462				FF-3		490				FF-3		500			
SIP-1	D	4562				SIP-1		4613				SIP-1		4622			
SIP-2	G	4573				SIP-2		4620				SIP-2		4643			
SIP-3	J					SIP-3						SIP-3					

BST TECHNICIAN Benny Fisher RESERVOIR ANALYSIS? yes WELL OWNERS REPRESENTATIVE (Please Print Legibly) Craig Huber



DRILL STEM TESTING SEQUENCE REPORT

DST # 4

Address

Cushion 1036 Fresh Water Amount 1036 Ft. _____
 Cushion _____ Amount _____ Ft. _____
 Total Fluid Recovered 1318 Ft. Consisting of:
1036 Ft. of Fresh Water Cushion
209 Ft. of Water Ext Mud
73 Ft. of Oil
 _____ Ft. of _____
 _____ Ft. of _____
 _____ Ft. of _____
 _____ Ft. of Gas Recovered in Drill Pipe

Test was/was not reverse circulated? was not
Recovery
Top Sample R.W. 1.8 at 60 2600 PPM/chl
Middle Sample R.W. 400 PPM Chlorides
Bottom Sample R.W. 573 at 60 77000 PPM Chloride

RESERVOIR ANALYSIS? YES

WELL OWNERS REPRESENTATIVE (Please Print Legibly)

No. Final Copies 12

Grain Huber

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T E S T P A R A M E T E R S

RECORDER NUMBER	312	HOLE SIZE	7.875 IN
RECORDER DEPTH	10571 FT	TEMPERATURE	638 DEG R
ELEVATION	3284 FT (KB)	COMPRESSIBILITY	0.85
DATUM	-7287 FT	1ST FLOW TIME	4 MIN
PAY THICKNESS	9 FT	1ST SHUT-IN TIME	62 MIN
VISCOSITY	0.015 CP	2ND FLOW TIME	64 MIN
POROSITY FRACTION	0.08	2ND SHUT-IN TIME	180 MIN
		3RD FLOW TIME	66 MIN
		3RD SHUT-IN TIME	1 MIN

C A L C U L A T I O N S Grad = $\frac{4710}{10571}$
 $\approx 0.446 \text{ psi/ft}$

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI)	4709.9
NUMBER OF POINTS USED	3
SLOPE (PSI SQUARED/LOG CYCLE)	30135792.0
EXTRAPOLATED SECOND SHUT-IN PRESSURE (PSI)	4685.0
NUMBER OF POINTS USED	8
SLOPE (PSI SQUARED/LOG CYCLE)	2736895.3
EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI)	INDETERMINATE
NUMBER OF POINTS USED	
SLOPE (PSI SQUARED/LOG CYCLE)	
 AVERAGE PRODUCTION RATE (MCF/DAY)	 128.00
TRANSMISSIBILITY (MD.-FT./CP.)	41.52
FLOW CAPACITY (MD.-FT.)	0.62
PERMEABILITY (MD.)	0.0692
PRODUCTIVITY INDEX (MCF/DAY/PSI)	0.031
ESTIMATED DAMAGE RATIO (EDR)	1.8
SKIN FACTOR (S)	4.3
PRESSURE DROP DUE TO SKIN (PSI)	1277.0
APPROXIMATE RADIUS OF INVESTIGATION (FT.)	18.0
DRAWDOWN FACTOR (%)	0.5
POTENTIOMETRIC SURFACE (FT.)	3629.0