

RELEASE 11-8-93 DHC

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



OIL CONSERVATION DIVISION

RECEIVED

AM 9 22

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

S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
PRESIDENT
PEYTON YATES
EXECUTIVE VICE PRESIDENT
RANDY G. PATTERSON
SECRETARY
DENNIS G. KINSEY
TREASURER

October 11, 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 Morrow and Strawn for the North Millman Unit #4 located in Unit O of Section 6, Township 19 South, Range 28 East.

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

Sincerely,

Brian Collins
Engineer

BC/th

Enclosures

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October 11, 1993

State of New Mexico
OIL CONSERVATION DIVISION
P. O. 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 Morrow and Strawn for the North Millman Unit #4 located in Unit O of Section 6, Township 19 South, Range 28 East.

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

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October 11, 1993

Commissioner of Public Lands
Oil/Gas and Minerals Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Attn: Mr. Pete Martinez

Dear Mr. Martinez,

Enclosed are the necessary documents and the \$30.00 filing fee for obtaining approval for the downhole commingling of the Morrow and Strawn for the North Millman Unit #4 located in Unit O of Section 6, Township 19 South, Range 28 East.

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

Sincerely,

Brian Collins
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October 11, 1993

Louis Dreyfus Gas Holdings
Lock Box 850181
Oklahoma City, OK 73185-0181

Gentlemen:

Enclosed please find a copy of the application for commingling the Morrow and Strawn in the North Millman Unit #4 located in Unit O of Section 6-T19S-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.

Sincerely,

Brian Collins
Engineer

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October 11, 1993

Meridian Oil Inc.
P. O. Box 51810
Midland, TX 79710

Gentlemen:

Enclosed please find a copy of the application for commingling the Morrow and Strawn in the North Millman Unit #4 located in Unit O of Section 6-T19S-R28E. This copy of the application to commingle fulfills our requirement to notify offset operators per NMOC Rule 303 D (10).

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

Sincerely,

Brian Collins
Engineer

BC/th

Enclosures

COMMINGLING DATA FOR THE NORTH MILLMAN UNIT #4

The objective is to downhole commingle the Morrow and the Strawn formations to prevent the waste of mineral resources. By downhole commingling the Morrow and Strawn, an estimated 12688 MCF of additional Morrow gas will be recovered.

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:

North Millman Unit #4
Unit O Sec. 6-T19S-R28E
660'FSL & 1980'FEL
Pools: Millman South 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.

The approximate test rates for each zone are:

Morrow

10711'-10714', 10822'-10829'

Produces approximately 10 MCFPD

See Attachment B (Production History)

Strawn

9446'-9456'

Strawn has not been tested yet. We are seeking downhole commingling approval prior to testing the Strawn.

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 (Morrow Production History)

Prognostication of Strawn production will be made after Strawn is tested.

Prognostication of future Morrow Production:

Production behavior suggests that the Morrow will decline at 25%/yr.

- Gas: IP = 10 MCFPD d = 25%/year

$$N = \frac{365 (Q-Q_i)}{\ln(1-d)} = \frac{365 (0-10)}{\ln(1-.25)} = 12,688 \text{ MCF}$$

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

Estimated BHP of Morrow = 3008 psi from BHP measurement taken 9-18-93.

Estimated BHP of Strawn = 3301 psi from DST measurement taken on North Millman Unit #2. See Attachment C (BHP Data).

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

Wellbore fluids will not be incompatible. The Morrow will produce dry, sweet gas. A standing valve located in a packer above the Morrow will protect the Morrow from any liquids produced by the Strawn.

- 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.

Morrow and Strawn gas are sweet and will not decrease the value of the commingled gas streams.

Prognostication of each formation's reserves indicates that an additional 12,688 MCF of gas will be recovered by commingling production from the Morrow and Strawn.

- 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.

Allocation formula will be submitted after the Strawn is tested.

- 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 were notified of the proposed commingling of the North Millman Unit #4.

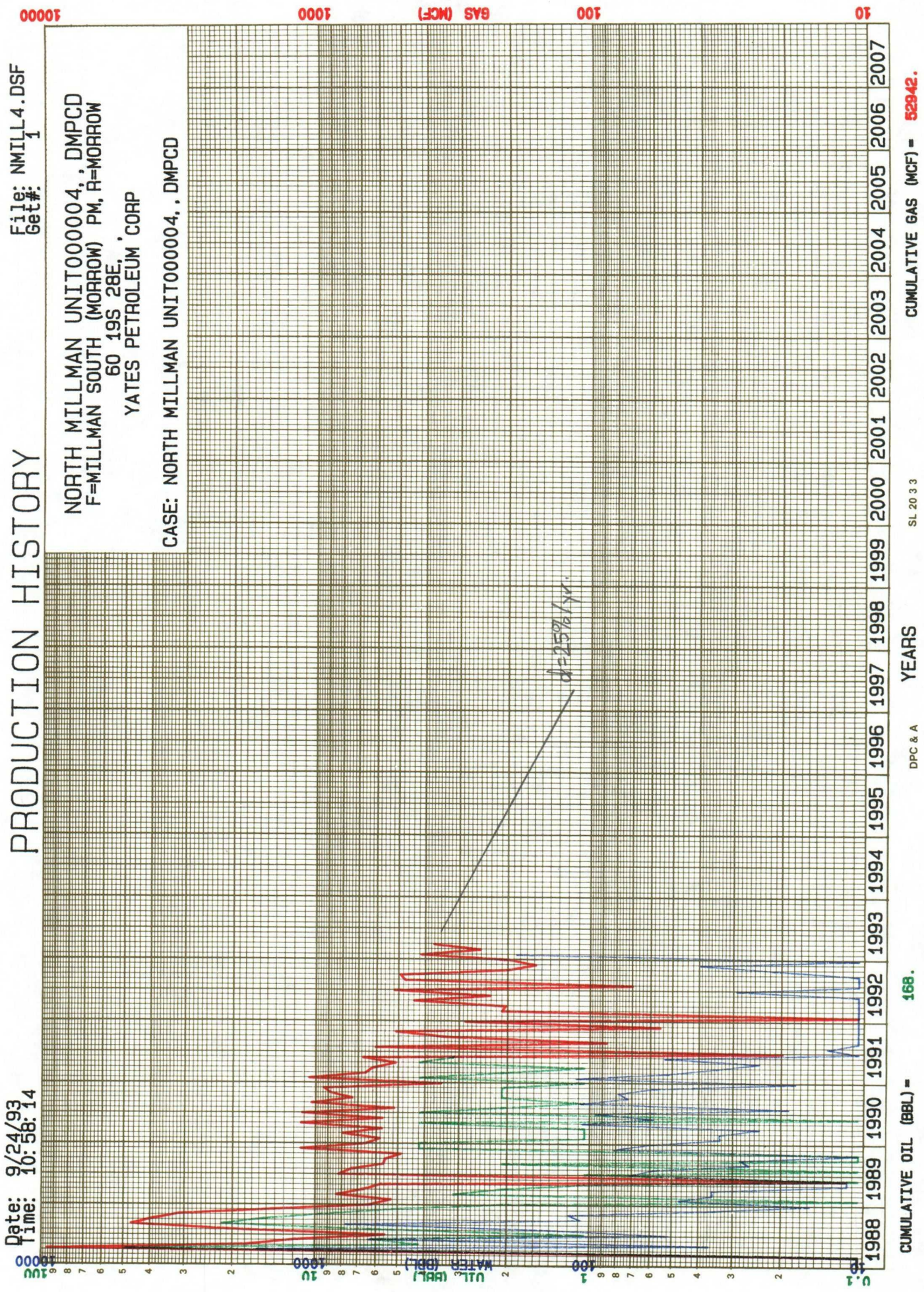
Date: 9/24/93
Time: 10:58:14

PRODUCTION HISTORY

File: NMILL4.DSF
Get#: 1

NORTH MILLMAN UNIT000004, DMPCD
F=MILLMAN SOUTH (MORROW) PM, R=MORROW
60 19S 28E,
YATES PETROLEUM CORP

CASE: NORTH MILLMAN UNIT000004, DMPCD



CUMULATIVE OIL (BBL) = 168.
CUMULATIVE GAS (MCF) = 52942.
YEARS
DPC & A
SL 20 3 3

ATTACHMENT B

Page 2

Dwight's Energydata, Inc. DLOOK 4.20
Property data from file: nmill.dmp

Record # 1

Run date: 09/24/93

Retrieval code: 250,015,19S28E0600

Operator (#806779)	Lease name	Well #
YATES PETROLEUM CORP	NORTH MILLMAN UNIT	000004

Ident. #	State	Dist	County	Location	Lse/tax /unit #
19S28E06000PM	NM(30)	2	015 EDDY	60 19S 28E	98735

API #	Field (#8051742)	Reservoir
30-015-24860	MILLMAN SOUTH (MORROW)	PM MORROW

Total Depth	Perforations Upper Lower	Temp Gradient	N-Factor	GOR
10940	10711 10829	1.030	0.793	0

Comp Date	Production Dates First Last	Status Date	Status
8408	8804 9304	0	ACT

Cumulative gas MCF	Since FP Date	Gas Gravity	Gas Gatherer
52942	FP Date	0.63	TESPC

Cumulative liquid BBL	Since FP Date	Liquid Gravity	Liquid Gatherer
168	FP Date	51.50	NAVAJ

ATTACHMENT B

Page 3

Dwight's Energydata, Inc. DLOOK 4.20

Record # 1

Run date: 09/24/93

Gas test data from file: nmill.dmp

Retrieval code: 250,015,19S28E0600

Lease: NORTH MILLMAN UNIT

Well #: 000004

Test Date	Cum at Test	WHSIF	BHP	BHPZ	M/C	Type Pot	bd water	bd cond	whflow	poten	init test
880329	0	3163	0	0		0	0	0	0	0	1
880401	273	2303	0	0		1	0	0	1216	365	0
890616	30146	2013	0	0		0	0	0	0	0	0
900701	38414	1988	0	0		0	0	0	0	0	0
910628	47021	2038	0	0		0	0	0	0	0	0
920705	50007	2288	0	0		0	0	0	0	0	0

ATTACHMENT B

Page 4

Dwight's Energydata, Inc. DLOOK 4.20
 Production data from file: nmill.dmp
 Lease: NORTH MILLMAN UNIT

Record # 1

Run date: 09/24/93

Retrieval code: 250,015,19528E0600

Well #: 000004

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	47	47	9086	9086	1548	1
May	4	51	1701	10787	35	1
June	6	57	1127	11914	613	1
July	1	58	532	12446	49	1
August	6	64	1973	14419	133	1
September	21	85	4483	18902	737	1
October	15	100	3753	22655	103	1
November	9	109	3002	25657	114	1
December	5	114	1377	27034	34	1
Total 1988	114	114	27034	27034	3366	1
January	2	116	604	27638	15	1
February	0	116	506	28144	45	1
March	3	119	802	28946	34	1
April	2	121	642	29588	34	1
May	1	122	552	30140	11	1
June	0	122	11	30151	11	1
July	1	123	787	30938	68	1
August	0	123	705	31643	56	1
September	2	125	540	32183	25	1
October	0	125	531	32714	27	1
November	0	125	467	33181	0	1
December	4	129	1078	34259	78	1
Total 1989	15	129	7225	34259	404	1
January	4	133	630	34889	58	1
February	1	134	556	35445	32	1
March	1	135	761	36206	32	1
April	1	136	548	36754	23	1
May	4	140	1083	37837	102	1
June	0	140	545	38382	56	1
July	4	144	1065	39447	91	1
August	2	146	494	39941	18	1
September	1	147	991	40932	103	1
October	2	149	703	41635	69	1
November	2	151	843	42478	75	1
December	2	153	894	43372	56	1
Total 1990	24	153	9113	43372	715	1
January	1	154	333	43705	17	1
February	4	158	1005	44710	107	1
March	2	160	631	45341	50	1
April	1	161	591	45932	33	1
May	4	165	489	46421	23	1
June	3	168	645	47066	51	1
July	0	168	19	47085	0	1

ATTACHMENT B

Page 5

Dwight's Energydata, Inc. DLOOK 4.20

Record # 1

Run date: 09/24/93

Production data from file: nmill.dmp

Retrieval code: 250,015,19S28E0600

Lease: NORTH MILLMAN UNIT

Well #: 000004

Month	Oil bbls	Cum Oil bbls	Gas mcf	Cum Gas mcf	Water bbls	No.of Wells
August	0	168	582	47667	13	1
September	0	168	83	47750	0	1
October	0	168	320	48070	0	1
November	0	168	490	48560	0	1
December	0	168	53	48613	0	1
Total 1991	15	168	5241	48613	294	1
January	0	168	273	48886	0	1
February	0	168	0	48886	0	1
March	0	168	201	49087	0	1
April	0	168	194	49281	0	1
May	0	168	421	49702	0	1
June	0	168	221	49923	0	1
July	0	168	497	50420	28	1
August	0	168	67	50487	0	1
September	0	168	454	50941	0	1
October	0	168	474	51415	0	1
November	0	168	192	51607	20	1
December	0	168	151	51758	38	1
Total 1992	0	168	3145	51758	86	1
January	0	168	190	51948	0	1
February	0	168	398	52346	178	1
March	0	168	240	52586	0	1
April	0	168	356	52942	0	1
Total 1993	0	168	1184	52942	178	1

Record # 1

Run date: 09/24/93

Gas test data from file: nmill.dmp

Retrieval code: 250,015,19528E0600

Lease: NORTH MILLMAN UNIT

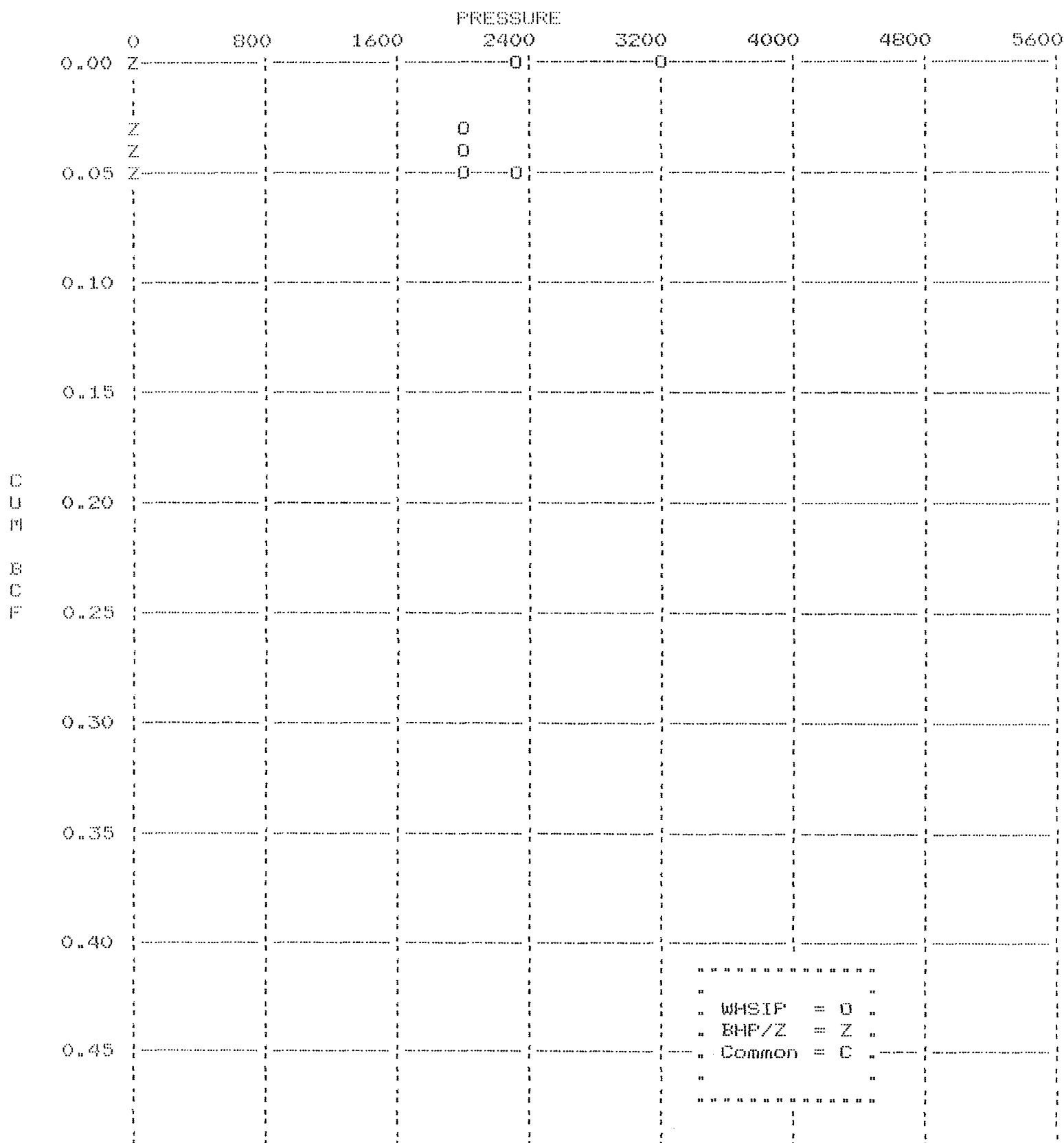
Well #: 000004

Field: MILLMAN SOUTH (MORROW)

PM Reservoir: MORROW

Operator: YATES PETROLEUM CORP

Gas cum: 52942



JARREL SERVICES, INC.
Box 1230
Hobbs, New Mexico 88240

ATTACHMENT C

Brian

<<Static Gradient Survey>>

COMPANY: Yates Petroleum Corporation
LEASE: North Millman Unit
FIELD:
COUNTY: Eddy
STATUS: Shut in
PERFORATIONS FROM: 10711 ft
DEPTH: 10500 ft

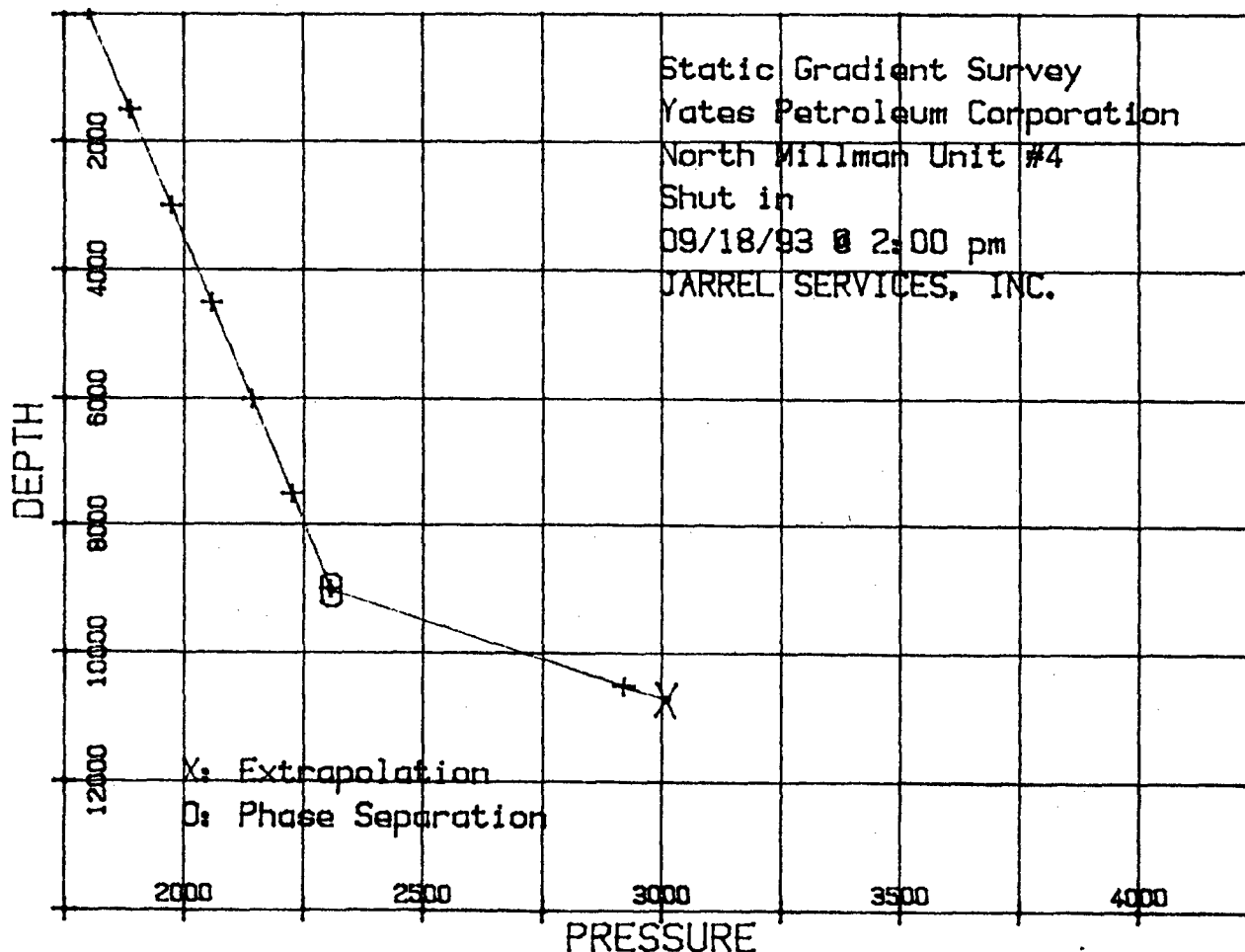
Date: 09/18/93 @ 2:00 pm
CONTACT: Ed Perry
WELL: #4
ZONE:
STATE: New Mexico
OPERATOR: Standefer
TD: 10714 ft
TEMPERATURE: 164°F

MORROW

TABULAR DATA

DEPTH (ft)	PRESSURE (psi)	GRADIENT (psi/ft)	EXPLANATIONS
0	1802		
1500	1887	0.057	
3000	1972	0.057	
4500	2057	0.057	
6000	2142	0.057	
7500	2226	0.056	
9000	2306	0.053	
9030	2308	0.053	<=Phase separation
10500	2920	0.417	
10712	3008	0.417	<=Extrapolated BHP

NOTE: Explanations are included to clarify calculated data points.



DRILL STEM TESTS

Yates Petroleum Corporation
North Millman Unit No. 2 - E-1051
1980 FNL & 1980 FEL, Section 8-19S-28E
Eddy County, New Mexico

DST No. 1 - 7955-8091': TO 15"; SI 30"; TO 60"; SI 120". Tool opened w/very slight blow. No GTS. Reopened tool w/slight vacuum. No blow, no vacuum. Recovered: 200' drilling fluid. Sampler: 2450 cc drilling fluid with no pressure. BHT: 128 degrees. Pressures: HP 3537-3537; IFP 128-143; ISIP 143; FFP 171-185; FSIP 185.

DST No. 2 - 8410-8513': TO 30"; SI 60"; TO 60"; SI 180". Tool opened w/fair blow. GTS in 18 minutes. Reopened tool w/fair blow, gas flared -- TSTM. Recovered 270' gas cut drilling fluid. Sampler: 200 psi, 1.02 cfg, 0 fluid. Pressures: HP 3733-3733; IFP 92-115' ISIP 344; FFP 69-115; FSIP 431. BHT: 140 degrees.

DST No. 3 - 9715-9822': TO 30"; SI 90"; TO 33"; SI 216". Tool opened w/very good blow. GTS in 8 minutes. Reopened tool. Distillate to surface, solid stream. Recovered: 3300' of distillate. Sampler: 1850 psi, 14.86 cfg, 10500 cc distillate. BHT: 140 degrees F. Pressures: HP 5317-5317, IFP 1112-1751, ISIP 3301; FFP 1219-2133' FSIP 3195.

↑
STRAWN