

RELEASE 5.10.93

OIL CONSERVATION DIVISION
APR 20 1993

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



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

April 19, 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 Benson Deep ET Fed. #1 located in B of Section 33, Township 18 South, Range 30 East.

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

Sincerely,

Brian Collins
Engineer

BC/th

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



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

April 19, 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 Benson Deep ET Fed. #1 located in B of Section 33, Township 18 South, Range 30 East.

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

Sincerely,

Brian Collins
Engineer

BC/th

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



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

April 19, 1993

Bureau of Land Management
P. O. Box 1778
Carlsbad, NM 88220

Attn: Mr. Richard Manus

Dear Mr. Manus,

Enclosed are the necessary documents for obtaining approval for the downhole commingling of the Benson Deep ET Fed. #1 located in B of Section 33, Township 18 South, Range 30 East.

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

Sincerely,

Brian Collins
Engineer

BC/th

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



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

April 19, 1993

Larue & Muncy
P. O. Box 470
Artesia, NM 88210

Gentlemen,

Enclosed please find a copy of the application for commingling the Benson Deep ET Fed. #1 located in B of Section 33-T18S-R30E. 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

BC/th

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



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

April 19, 1993

H & S Oil Company
P. O. Box 176
Artesia, NM 88210

Gentlemen,

Enclosed please find a copy of the application for commingling the Benson Deep ET Fed. #1 located in B of Section 33-T18S-R30E. 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

See Attachment B (Bone Spring monthly production history)

Prognostication of Wolfcamp reserves derived by assuming an exponential decline rate of 50%/yr. (best engineering estimate).

$$Q_i = 60 \text{ BOPD}$$

$$Q_{el} = 5 \text{ BOPD}$$

$$d = 50\% / \text{yr.}$$

$$N_{oil} = \frac{365 (Q_{el} - Q_i)}{\ln(1-d)} = \frac{365 (5-60)}{\ln(.5)} = 28,962 \text{ BO}$$

Best engineering estimate is that the GOR will be the same for the Bone Spring and Wolfcamp.

Prognostication of Bone Spring reserves derived by assuming constant 1 BOPD rate for life of Wolfcamp completion.

$$\text{Life of Wolfcamp} = t = \ln(Q/Q_i) / \ln(1-d) = \ln(5/60) / \ln(1-.5) = 3.6 \text{ yrs.} = 1309 \text{ days.}$$

$$N = (1309 \text{ days})(1 \text{ BOPD}) = 1309 \text{ BO.}$$

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

Estimated BHP of Bone Spring = 2820 psi at 8379' based on static fluid level at 2000' with 2% KCl water in the well. $(8379' - 2000')(8.5 \text{ ppg})(.052) = 2820 \text{ psi.}$

Estimated BHP of Wolfcamp = 3733 psi at 9572' from testing of the same correlative zone in the Benson Deep Unit #2. Static fluid level was 1900' and the specific gravity of the water was 1.125. (See Attachment D)

Benson Deep Unit #2: $(9680' - 1900')(8.33 \text{ ppg})(1.125)(.052) / 9680' = 0.39 \text{ psi/ft.}$
Benson Deep ET Fed. #1: $(0.39 \text{ psi/ft.})(9572') = 3733 \text{ psi}$

The possibility of cross flow between zones won't exist because the well will be pumped off. The pressure gradients in each zone are almost the same (Bone Spring = 0.34 psi/ft., Wolfcamp = 0.39 psi/ft.).

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

Both zones produce sweet oil and gas. The oil gravities are similar (Bone Spring = 37.4°, Wolfcamp = 41.9°). There are no incompatibility 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 zones produce sweet oil and gas. The combined oil gravity requires no gravity adjustment from the oil purchaser, therefore the value of the commingled production will not be less than the sum of the values of the individual streams.

**Downhole Commingling Application
Benson Deep ET Fed. #1
33-T18S-R30E
Eddy County, New Mexico**

COMMINGLING DATA FOR THE BENSON DEEP ET FED. #1

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:

Benson Deep ET Fed. #1
Unit B Sec. 33-T18S-R30E
660'FNL & 1980'FEL
Pools: Leo South Bone Spring
Undesignated Wolfcamp

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.

Bone Spring

8318'-8440'

See attached Dwight's monthly production history summary
(Attachment B). Well capable of 1-2 BOPD/1-3 MCFGPD/1-2
BWPD.

Wolfcamp

9563'-9580', 9931'-9945' (under RBP)

See attached workover summary (Attachment C). Wolfcamp
9931'-9945' was dry and non-productive and is under a RBP.
Wolfcamp 9563'-9580' swab tested 5 BFPH with 50% oil cut
(60 BOPD, 60 BWPD).

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 with in 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 C (workover history)

See Attachment B (Bone Spring monthly production history)

Prognostication of Wolfcamp reserves derived by assuming an exponential decline rate of 50%/yr. (best engineering estimate).

$$Q_i = 60 \text{ BOPD}$$

$$Q_{el} = 5 \text{ BOPD}$$

$$d = 50\% / \text{yr.}$$

$$N_{\text{oil}} = \frac{365 (Q_{el} - Q_i)}{\ln(1-d)} = \frac{365 (5-60)}{\ln(.5)} = 28,962 \text{ BO}$$

Best engineering estimate is that the GOR will be the same for the Bone Spring and Wolfcamp.

Prognostication of Bone Spring reserves derived by assuming constant 1 BOPD rate for life of Wolfcamp completion.

$$\text{Life of Wolfcamp} = t = \ln(Q/Q_i) / \ln(1-d) = \ln(5/60) / \ln(1-.5) = 3.6 \text{ yrs.} = 1309 \text{ days.}$$

$$N = (1309 \text{ days})(1 \text{ BOPD}) = 1309 \text{ BO.}$$

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

Estimated BHP of Bone Spring = 2820 psi at 8379' based on static fluid level at 2000' with 2% KCl water in the well. $(8379' - 2000')(8.5 \text{ ppg})(.052) = 2820 \text{ psi.}$

Estimated BHP of Wolfcamp = 3733 psi at 9572' from testing of the same correlative zone in the Benson Deep Unit #2. Static fluid level was 1900' and the specific gravity of the water was 1.125. (See Attachment D)

Benson Deep Unit #2: $(9680' - 1900')(8.33 \text{ ppg})(1.125)(.052) / 9680' = 0.39 \text{ psi/ft.}$
Benson Deep ET Fed. #1: $(0.39 \text{ psi/ft.})(9572') = 3733 \text{ psi}$

The possibility of cross flow between zones won't exist because the well will be pumped off. The pressure gradients in each zone are almost the same (Bone Spring = 0.34 psi/ft., Wolfcamp = 0.39 psi/ft.).

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

Both zones produce sweet oil and gas. The oil gravities are similar (Bone Spring = 37.4°, Wolfcamp = 41.9°). There are no incompatibility 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 zones produce sweet oil and gas. The combined oil gravity requires no gravity adjustment from the oil purchaser, therefore the value of the commingled production will not be less than the sum of the values of the individual streams.

By commingling the Bone Spring with the Delaware, an estimated additional 1309 bbls. of oil will be produced during the life of the well.

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.

Oil: Bone Spring - $\frac{1309 \text{ BO}}{30,271 \text{ BO}} = 4.32\%$, say 4%

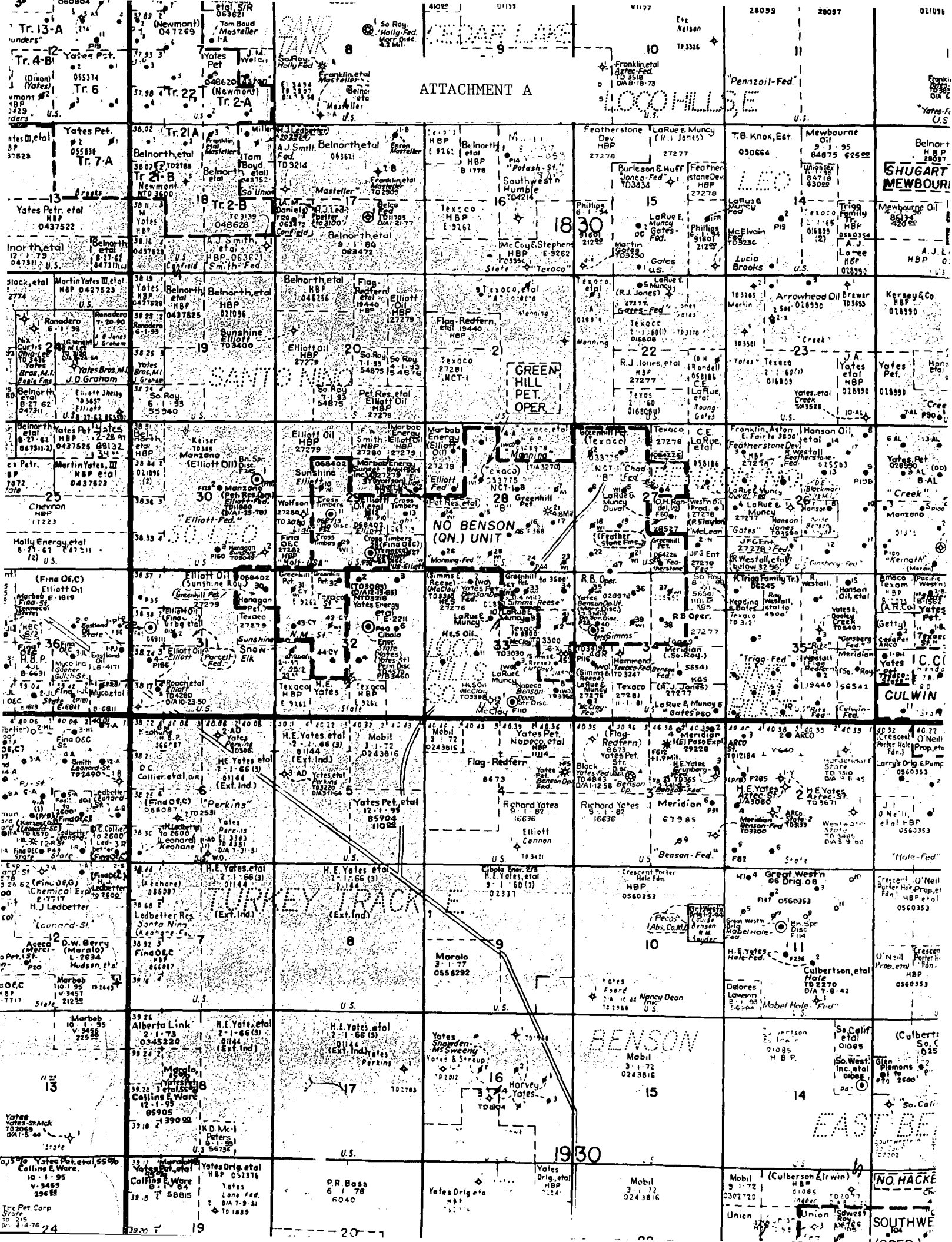
 Wolfcamp - $\frac{28,962 \text{ BO}}{30,271 \text{ BO}} = 95.68\%$, say 96%

Gas: Bone Spring - 4%

 Wolfcamp - 96%

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 Benson Deep ET Fed. #1.



ATTACHMENT B

Page 1

Dwight's Energydata, Inc. DLOOK 4.20

Record # 1

Run date: 04/12/93

Property data from file: BENSON.DMP

Retrieval code: 150,015,18S30E33B0

Operator (#806779)		Lease name		Well #	
YATES PETROLEUM CORP		BENSON DEEP FEDERAL ET COM		000001	

Ident. #	State	Dist	County	Location	Lse/tax /unit #
18S30E33B00BS	NM(30)	2	015 EDDY	33B 18S 30E	0

API #	Field (#8043812)	Reservoir
30-015-24330	LED SOUTH (BONE SPRINGS)	BS BONE SPRINGS

Total Depth	Perforations Upper Lower	Temp Gradient	N-Factor	GOR
12055	0 0	0.000	0.000	0

Comp Date	Production Dates First Last	Status Date	Status
0	8808 8910	0	INA

Cumulative gas MCF	Since	Gas Gravity	Gas Gatherer
14025	FP Date	0.00	

Cumulative liquid BBL	Since	Liquid Gravity	Liquid Gatherer
1419	FP Date	0.00	AMOCF

ATTACHMENT B

Page 2

Dwight's Energydata, Inc. DLOOK 4.20

Record # 1

Run date: 04/12/93

Production data from file: BENSON.DMP

Retrieval code: 150,015,18S30E33B0

Lease: BENSON DEEP FEDERAL ET COM

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	232	232	881	881	1289	1
September	202	434	1774	2655	1018	1
October	139	573	1578	4233	462	1
November	121	694	1425	5658	269	1
December	109	803	1508	7166	284	1
Total 1988	803	803	7166	7166	3322	1
January	104	907	1560	8726	204	1
February	81	988	936	9662	172	1
March	85	1073	1560	11222	188	1
April	51	1124	1248	12470	108	1
May	44	1168	1251	13721	55	1
June	43	1211	50	13771	43	1
July	54	1265	90	13861	60	1
August	65	1330	85	13946	77	1
September	48	1378	40	13986	0	1
October	41	1419	39	14025	51	1
Total 1989	616	1419	6859	14025	958	1

**YATES PETROLEUM CORPORATION
CHRONOLOGICAL DRILLING REPORT
Benson Deep "ET" Federal Com #1
Unit B
33-18S-30E
Eddy County, New Mexico**

RECOMPLETION

4-5-93 Prep to recomplete to Wolfcamp.

4-6-93 Moved in and rigged up pulling unit. Pumped 1 hour. Came loose. TOH with rods. Laid all rods down - 98 - 1.3 fiberglass, 180 - 1" steel rods. Did not have pump. Rods came into at safety connection. Loaded tubing with 12 bbls 2% KCL. Pressure to 1500 psi. Released tubing anchor catcher. Strip on BOP. Swabbed tubing down to 3000'. TOH with 2000'. Swabbed down. Well kicking. Bled down. Shut in. DC \$2480

4-7-93 Overnight SITP 400#. SICP 250#. Bled down. Flowing up tubing. Reverse circulated hole through pump. Circulated hole. TOH with tubing. TIH with 4-5/8" bit, scraper on 2-7/8" tubing. Tagged at 10,409'. Rotated with tongs and circulated - could not make any hole. Pulled 5 stands. Shut in. DC \$3115; CC \$5595

4-8-93 TOH with tubing. Rigged up HLS. Ran GR/CBL from 10400-7000' with 500 psi. Perforated Lower Wolfcamp 9931-45' (15 holes). TIH with packer and RBP set at 9989'. Set packer at 9895'. Prep to acidize. DC \$6773; CC \$12,368

4-9-93 Loaded casing with 23 bbls. Tubing was full. Break Wolfcamp perms 9931-45' at 4000#. Opened by-pass. Spot acid and balls to packer. Acidized with 2000 gals 20% NEFE acid. Avg 3 BPM at 4000#. Balled out 5000#. ISDP 3700#, 15 mins 3500#. Started swabbing. Total load to recover 107 bbls -

10:30	IFL at surface
11:30	24 bbls FL 4000'
12:30	20 FL 6200'
1:30	15 FL 7800'
2:30	10 FL 9200'
3:00	1-1/2 FL 9500'
4:00	2-1/2 FL 9400' No show
5:00	1-1/2 FL 9600' No show
6:00	1 FL 9600' No show

Total recovered 75.5 bbls water. This AM - Overnight SI 50#. Fluid level 9000'. On 1st swab run - 3 bbls with 3% oil. Dc \$4445; CC \$16,813

4-10-93 Overnight SITP 50 psi (acid gas). Initial fluid level 9000'. Recovered 3 bbls fluid with 3% oil cut. On 2nd run fluid level 9750'. Recovered 1/2 bbl. Wait 1 hr. Recovered 1/2 bbls with skim of oil. Loaded tubing. Released packer and RBP. Moved tools. Set RBP at 9635'. Tested to 2000 psi. TOH and perforated 2nd Wolfcamp Zone 9563-80' (14 holes). TIH with packer. Break perms at 3600 psi. Acidized with 2000 gals 20% NEFE acid. Avg 3 BPM at 3300#. Balled out to 4200#. ISDP 2200#, 15 mins 1950#. Started swabbing. Total load to recover 115 bbls -

TIME	BPH	%	FL	PSI
6:30 PM	24		1800'	
7:30 PM	20		2800'	
8:00 PM	9		500'	Started flowing
9:00 PM	24	20%	Flwg	150# - 3/4" Ch
10:00 PM	10	20%	Flwg	125# - 1/2"

DRILLING REPORT - RECOMPLETION

Page 2

Yates Petroleum - Benson Deep "ET" Federal Com #1 (Unit B)
33-18S-30E*****Eddy Co.,
NM*****

11:00 PM 10 20% Flwg 90#

12:00 AM 10 20% Flwg 60#

Total recovered 107 bbls. DC \$5988; CC \$22,801

4-11-93

Well dead and swab tested as follows:

1:00 AM 10 40% 5200'

2:00 AM 7.5 40% 7200'

3:00 AM 2.5 50% 8500'

4:00 AM 5 80% 7800'

5:00 AM 5 50% 7800'

6:00 AM 5 50% 7800'

7:00 AM 4 50% 7800'

8:00 AM 5 50% 8000'

9:00 AM 5 50% 8200'

10:00 AM 5 50% 8200'

11:00 AM 4 50% 8500'

12:00 PM 5 50% 8500'

Total recovered - 63 bbls (30 BO + 33 BW in 12 hrs). 15 bbls over
load. Shut in. DC \$1450; CC \$24,251

4-12-93

SITP 800#. Plan to hang on pump and test.

WATER ANALYSIS: 4-11-93 Noon

Spec Gravity 1.127 @ 77 Resistivity .045 @ 75

pH 1.9 Sulfate 1375

Iron 500 Tot Hardness 20408

Calcium 781 Bicarbonate 108

Magnesium 4485 Sod Chloride 204302

Chloride 124196 Tot Diss Sol 217964

KCL 1% Oil --

DRILLING REPORT - WORKOVER

Page 1:

Yates Petroleum - Benson Deep Unit #2 (Unit E) 34-18S-30E Eddy Co., NM

2-4-86 Prep for completion.

2-5-86 Rigged up pulling unit. Flowed down and set BOPs. POH with tubing and packer. Prep to perforate. EDC \$2550; ETCTD \$2550

2-6-86 Set CIBP at 10600' with 35' cement cap top at 10565' with 2 bailer runs. WIH on wireline with 4" steel casing gun and perforated 9577-9689' with 24 .40" holes as follows: 9577', 78', 79', 80', 81', 84', 85', 90', 91', 92', 93', 94', 95', 96', 99-1/2', 9604', 9606', 07', 08', 10', 79', 80', 88', and 89' (correlation off open hole log). GIH with 2-7/8" N-80 tubing and Uni VI packer with CL, on/off tool with 1.81" profile nipple (blanking plug on end of packer). Tubing ran dry. Packer set at 9640'. Tested perforations 9673-83' (4 holes) natural. Dropped bar and knocked out blanking plug. Very small bow on tubing. Prep to acidize. EDC \$8083; ETCTD \$1063

2-7-86 Overnight SITP 70#. Fluid level 6000' (3600' of fluid entered hole overnight). Made 9 swab runs, recovered 25 bbls fluid. Had small amount of gas on every swab run, none thereafter. Last 5 swab runs off seating nipple, tubing dry. Acidized perforations with 500 gallons 15% NEFE acid and 3 ball sealers in 3 drops of 1-1-1 each. Formation feeding .8 BPM at 5000#. Formation broke at 5800# to 800# with 6 bbls in formation. Casing pressure increased. Bled off casing, tubing pressure down to 0#. Started swabbing. Recovered 65 bbls fluid. Shut down for 15 minutes. Fluid level 1000'. Made 22 swab runs, recovered 90 bbls fluid. Fluid level 2200'. Casing had slight blow after last swab run. EDC \$2237.61; ETCTD \$10320.61

WATER ANALYSIS: 2-6-86 9673-9683'

	Before Acid Job	After Acid Job
Sp. Gravity	1.100 @ 74	1.130 @ 68
Resistivity	.09 @ 74	.064 @ 68
pH	6.5	6
Sulfate	1800	3000
Iron	Faint/Strong	Good/Strong
Bicarbonate	244	244
Hardness	10000	2760
Chloride	72000	114000
Calcium	1200	896
Sod Chloride	118440	187530
Magnesium	1701	126.36
Sod & Pot	43059	74200.3
KCL	2%	0%

2-8-86 Overnight SITP 0#. Pulled packer to 9519.66'. Circulated (via casing) to clear any acid in annulus. Set packer and tested to 2000# for 10 minutes. Fluid level 1400'. Made 7 swab runs, recovered 28 bbls. Fluid level 1800'. Acidized with 2000 gallons NEFE acid, 1500 SCF N2 per barrel and 25 RCN ball sealers in 5 drops of 5-5-5-5-5 each. First set of ball sealers 0# increase; 2nd set 400# increase; 3rd set 0# increase; 4th set 0# increase; and 5th set 0# increase. Treating Pressures: Max 5700#; Min 4800#; Avg 5000# at 6.5-3.5 BPM fluid and 3 BPM N2. ISDP 3600#, 5 mins 3100#, 10 mins 2600#, 15 mins 2400#. Total load to recover 125 bbls. Flowed back and swabbed. Flowed down in 2 hours 10 minutes. Fluid level 800'. Made 12 swab runs, recovered 52 bbls fluid. Fluid level 2000'. Short of load 73 bbls. No oil or gas recovered. Shut in. EDC \$6297.90; ETCTD \$16618.51

2-9-10-86 SITP 200#, gas will burn. Fluid level 1500'. Had gas on swab runs, none thereafter. Made 23 swab runs, recovered 110 bbls with small amount of condensate on first swab

DRILLING REPORT - WORKOVER

Page 2:

Yates Petroleum - Benson Deep Unit #2 (Unit E) 34-18S-30E Eddy Co., NM

run, none thereafter. Fluid level 2200'. Total over load recovered 37 bbls. Shut in. EDC \$840; ETCTD \$17458.51

WATER ANALYSIS: 2-8-86		9571-9683
Sp Gravity	1.125 @ 68	Resistivity ? @ 68
pH	6.5	Sulfate 2200
Iron	Good/Strong	Bicarbonate 305
Hardness	30000	Chloride 94000
Calcium	6000	Sod Chloride 154630
Magnesium	3645	Sod & Pot 48358

2-11-86
2-12-86

No report.
SITP 0#. Fluid level 1900'. On 1st swab run recovered 1.5 bbls condensate. Made 35 swab runs, recovered 150 bbls fluid. Total over load recovered 187 bbls. Fluid level 2400'. Had small amount of gas on all swab runs, nonethereafter. Shut in. EDC \$1050; ETCTD \$18508.51

WATER ANALYSIS: 2-11-86		9571-9683'
Sp. Gravity	1.125 @ 74	Resistivity .07 @ 74
pH	6.0	Sulfate 1900
Iron	Good Trace/Strong	Bicarbonate 366
Hardness	53000	Chloride 112000
Calcium	12000	Sod Chloride 184240
Magnesium	5589	

2-13-86

SITP 0#. Initial fluid level 1900'. On first swab run recovered 1 bbl codensate, none thereafter. Made 32 swab runs, recovered 153 bbls fluid. Had gas on all swab runs, none thereafter. Total over load recovered 340 bbls. Final fluid level 2600'. Shut down. EDC \$1050; ETCTD \$19558.51

WATER ANALYSIS: 2-12-86		
Sp. Gravity	1.130 @ 74	Resistivity .065 @ 74
pH	6.5	Sulfate 2200
Iron	Good/Strong	Bicarbonate 549
Hardness	30000	Chloride 110000
Calcium	6800	Sod Chloride 180950
Magnesium	3159	

2-14-86

SITP 0#. Fluid level 2200'. Made 1 swab run, recovered 5 bbls condensate, none thereafter. Made 30 swab runs, recovered 140 bbls fluid. Had gas on swab runs, none thereafter. Final fluid level 2500'. Total overload recovered 480 bbls. Shut down. Prep to squeeze perforations 9571-9683' (24 holes). EDC \$945; ETCTD \$20503.51

2-15-17-86

SITP 0#. POH with tubing and packer. Packer came off of on/off tool. GIH with tubing to retrieve packer (4485'). POH with tubing and packer. GIH with tubing and cement retainer and set at 9529.66'. Cemented perforations 9571-9683' (24 holes) with 125 sacks Class "H" with .1% CF-9 + .2% CFH + .2% AFS. Squeezed to 2000# with 115 sacks. Circulated 10 sacks to pit. POH with tubing and cement retainer stinger. WOC. Prep to perforate and acidize. EDC \$6726.59; ETCTD \$27230.10 (Unit Hrs - 12.5)

WATER ANALYSIS: 2-13-86		
	First Sample	Second Sample
Sp. Gravity	1.130 @ 74	1.130 @ 74
Resistivity	.065 @ 74	.065 @ 74
pH	6.5	6.5
Sulfate	2400	2400
Iron	Good/Strong	Good/Strong
Bicarbonate	671	671
Hardness	29000	30000
Chloride	110000	106000
Calcium	7600	7200
Sod Chloride	180950	174370
Magnesium	2430	2916

*Correlative
Wolfcamp
Zone*

9571-9683