

BEFORE THE OIL CONSERVATION DIVISION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION :
OF YATES PETROLEUM CORPORATION :
TO INJECT WATER FOR THE PURPOSE :
OF WATER DISPOSAL, LEA COUNTY, :
NEW MEXICO :

CASE NO. 7874

APPLICATION

COMES NOW Yates Petroleum Corporation, by its attorneys, pursuant to Rule 701, and in support hereof, respectfully states:

1. Applicant proposes to dispose of water into its LDM Amoco "GX" State No. 1 Well, located 660 feet from the south line and 1,926 feet from the west line of Section 19, Township 14 South, Range 33 East, N.M.P.M., through perforations from 10,384 to 10,585 feet in the Canyon (Permo-Upper Penn) formation.

2. There is attached hereto as Exhibit "A" and incorporated by reference, Form C-108 showing the location of the proposed disposal well, and the location of all other wells within a radius of two miles from said proposed disposal well, and the formation from which said wells are producing or have produced, and indicating the lessees within said two mile radius. The log of the proposed disposal well and a diagrammatic sketch thereof with other pertinent information concerning the proposed project are a part thereof.

WHEREFORE, applicant prays:

A. That this application be set for hearing before an examiner and that notice of said hearing be given as required by law. /

B. That upon hearing, the Division enter its order authorizing applicant to dispose of water into its LDM Amoco "GX" State No. 1 Well, located 660 feet from the south line and 1,926 feet from the west line of Section 19, Township 14 South, Range 33 East, N.M.P.M., through perforations from 10,384 to 10,585 feet in the Canyon (Permo-Upper Penn) formation.

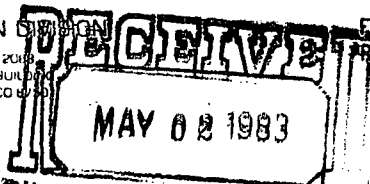
C. And for such other and further relief as may be just in the premises.

YATES PETROLEUM CORPORATION

By: 
Chad Dickerson

LOSEE, CARSON & DICKERSON, P.A.
P. O. Drawer 239
Artesia, New Mexico 88210

Attorneys for Applicant



APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Yates Petroleum Corporation
Address: 207 S. 4th Street; Artesia, N.M. 88210
Contact party: Nelson Muncy Phone: (505) 746-3558
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- * VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Nelson Muncy Title Engineer

Signature: Nelson Muncy Date: 4/22/83

- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. Subject well logs are on file with NMOC in Hobbs.

FORM C-108 Supplement

LDM Amoco "GX" State #1

I. Purpose:

To re-enter the D/A LDM Amoco "GX" State #1 and convert to a salt water disposal status.

II. The Operator is: Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

Attn: Nelson Muncy

III. Well Data:

See attached well data sheet.

V. Ownership map attached (Midland Map Co.) with a scale of:
1" = 2,000'.
Well and lease information posted through 4-15-83. Map has a two-mile radius circle and a one-half mile radius circle.

VI. There are no wells except for the proposed disposal well within the area of review, as indicated by the attached map. This well was D/A on 4-18-77 (Schematic attached) see attached C-105 and/or C-103, completion information.

VII. Data on proposed operations:

- (1). The proposed average daily rate of injection is 2,000 bbls per day and the estimated ultimate maximum daily rate is 4,000 bbls per day. The estimated total volume of fluids to be injected is 2.19×10^7 bbls.
- (2). The system will be closed with an oil seal.
- (3). The average injection pressure is 0 to 2,077 PSIG.
- (4). The source of the injection fluid will be produced water from the following Yates Petroleum Corporation wells that are producing from the Permo-Upper Penn zone in the general area of the subject well, identified as follows:
 - a. Woodpecker "SY" St. #1
660' FNL & 660' FEL
Sec. 21-T14S-R33E
See attached analysis.
 - b. Woodpecker "SY" St. #2
1980' FNL & 660' FEL
Sec. 21-T14S-R33E
See attached analysis.
 - c. Woodpecker "SY" St. #3
660' FNL & 1800' FEL
Sec. 21-T14S-R33E
See attached analysis.
 - d. Woodpecker "SY" St. #4
660' FNL & 1980' FWL
Sec. 21-T14S-R33E
See attached analysis.
 - e. Woodpecker "SY" St. #5
1980' FNL & 1980' FEL
Sec. 21-T14S-R33E
No analysis available at this time. Any analysis should be consistent with those of other wells in this area.

- f. Swan "VB" St. #1
1980' FSL & 660' FEL
Sec. 21-T14S-R33E
See attached analysis.
- g. Dove "VK" St. #1
1980' FSL & 660' FEL
Sec. 3-T14S-R33E
See attached analysis.
- h. Hanladdie "WR" St. #1
1980' FSL & 1980' FWL
Sec. 9-T14S-R33E
See attached analysis.

The water produced from subsequently drilled wells in this area will also utilize the disposal well covered by this application.

The injection compatibility appears acceptable because the chlorides in the above wells range from 10,879-92,000 MG/L (average 17,907 MG/L) and the chlorides are 18,000 MG/L from the attached DST #5 in the proposed injection zone. The proposed injection zone is included within the vertical limits of the Saunders Permo-Upper Penn pool, as correlative with the Adobe Gray 35-1 in unit N by Sec. 35-T14S-R33E, the type well for the field rules. However, the proposed injection zone is stratigraphically lower than the oil productive zone in this field.

There are no producing wells in this area of review.

- (5). The subject well was D/A and there is no way to obtain a current water analysis.
DST #5 (10,410 to 450') reported chlorides at 18,000 MG/L.

VIII. Geological Data:

Injection zone: Canyon (Permo-Upper Penn) 10,384-585' Dolomite, wht creamy, xln, vuggy good porosity, decreasing porosity with depth.

The underground source of drinking water in this area is Ogollala formation of Tertiary age, the base of which is estimated at 250' at the location of the proposed disposal well. The Chinlee formation is also a fresh water aquifer which immediately underlies the Ogollala formation. Both of these aquifers are behind the surface pipe of the well covered by this application.

- IX. The proposed stimulation program is to break down the perforations from 10,384-585' with 5,000 gallons of 15% acid.

If necessary, an acid fracture will be performed.

- X. CNL, FDC, DLL, and FXO logs have been submitted to the NMOCD in Hobbs. DST test data attached.
- XI. No fresh water wells exist within the one-mile radius of the injection well. The nearest fresh water well is about 660' FSL & 660' FEL of Sec. 18-T14S-R33E. Total chlorides from this fresh water well are reported as 40-80 MG/L.

- XII. Available geological and engineering data have been examined and no evidence of open faults or any other hydrologic connections between the disposal zone and any underground fresh water aquifers have been found.
- XIII. The off-set operators listed below have been furnished a copy of this application by certified mail.

Yates Petroleum Corporation
207 S. 4th Street
Artesia, NM 88210

Santa Fe Exploration
P.O. Box 1136
Roswell, NM 88201

Texaco, Inc.
P.O. Box 38107
Dallas, Tx 75388

Gulf Oil Corporation
P.O. Box 1150
Midland, Tx 79701

Superior Oil Company
P.O. Box 1900
Midland, Tx 79702

The surface owners listed below have been furnished a copy of this application by certified mail.

Geraldine Tulk
Box 666
Lovington, NM 88260

Jerry & Bob Dean
Box 845
Lovington, NM 88260

Mr. B. F. Good
% Goods, Inc.
Box 333
Caprock "NM 88213

N.M. State Land Office
P.O. Box 1148
Santa Fe, NM 87501

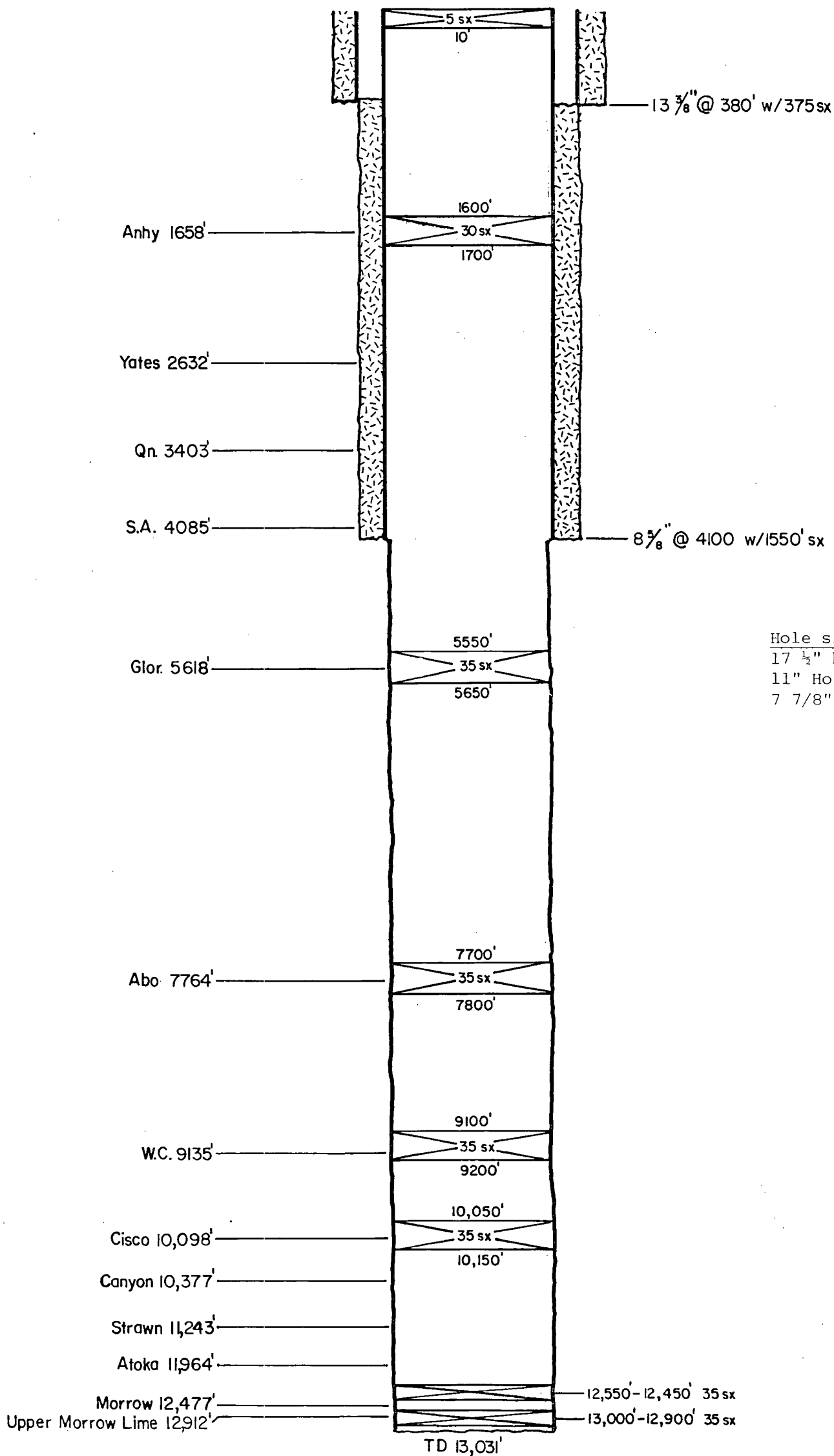
Additional data submitted:

Petroleum information (P.I) cards submitted on all wells within a two-mile radius circle.

YATES PETROLEUM CORPORATION

LDM Amoco "GX" State No. 1
 660' FSL - 1926' FWL
 Sec. 19, T-14-S, R-33-E
 Lease #L-45

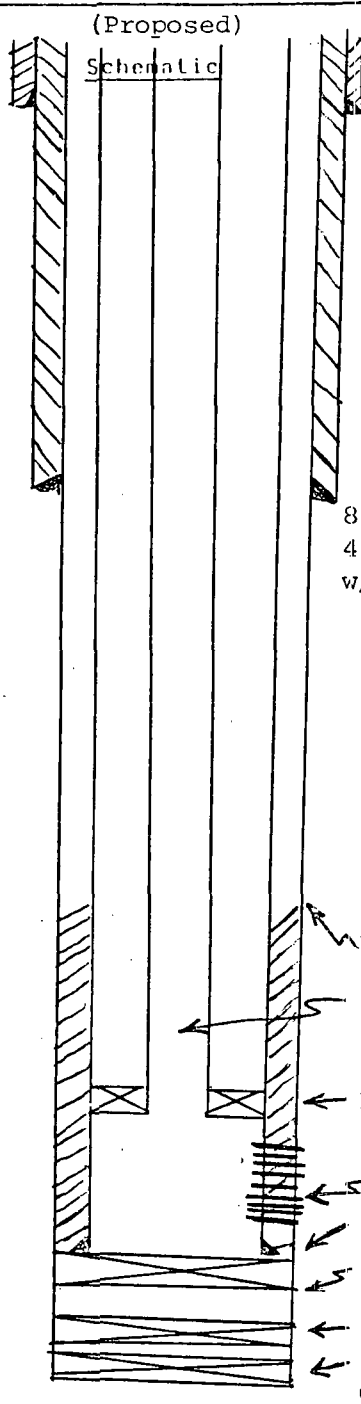
CURRENT WELL DIAGRAM



Hole sizes:
 17 1/2" hole to 380'
 11" Hole to 4100'
 7 7/8" Hole to 13,031'
 (TD)

INJECTION WELL DATA SHEET

Yates Petroleum Corporation	LDM Amoco "GX" St. #1	(State Lease # L-45)
OPERATOR	LEASE	
#1	660 FSL & 1926 FWL	19
WELL NO.	FOOTAGE LOCATION	SECTION
		14S
		33E
		TOWNSHIP
		RANGE



Tabular Data

13 3/8" Surface Casing
@ 380' Size 13 3/8 " Cemented with 375 sx.
W/375 sx. TOC Surface feet determined by calculation
Hole size 17 1/2"

Intermediate Casing
Size 8 5/8 " Cemented with 1550 sx.
TOC circulated feet determined by calculation
Hole size 11"

8 5/8" @
4100' Long string
w/1550 sx. Size 5 1/2 " Cemented with approx. 1000 sx.
TOC approx. 7000 feet ^{to be} determined by Bond log
Hole size 7 7/8"

Total depth 10,650' (OTD 13,031')

Injection interval
10,384 feet to 10,585 feet
(perforated or open-hole, indicate which)

TOC approximately 7000'

2 7/8" plastic lined tubing

Packer @ approximately 10,300'

Proposed injection interval 10,384-585'

5 1/2" @ 10,650' w/approximately 1,000 sx.

10,750'-10,650' 35 sx.

12,550'-12,450' 35 sx.

13,000-12,900' 35 sx.

OTD 13,031

Tubing size 2 7/8" lined with Plastic set in a
(material)
Baker Model-R (Platic coated) packer at 10,300 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

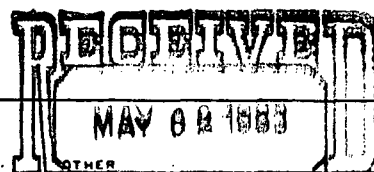
- Name of the injection formation Canyon
- Name of Field or Pool (if applicable) Undesignated
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil and/or gas test
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No, production casing was not run. The well was plugged as shown in the attached schematic.
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. None in the section. Approximately one mile east is the Saunders Permo Upper-Penn pool. Corresponding depth of pay in this well is from 10,050 feet to 10,384 feet.

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OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Form C-105

RECEIVED MAY 2 1977



5a. Indicate Type of Lease	
State ☒	Fee ☐
5. State Oil & Gas Lease No.	
L-45	

1a. TYPE OF WELL	
OIL WELL ☐	GAS WELL ☐ DRY ☒ OTHER ☐
b. TYPE OF COMPLETION	
NEW WELL ☐	WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. RESVR. ☐

7. Unit Agreement Name
8. Farm or Lease Name
LDM-AMOCO GX State
9. Well No.
1
10. Field and Pool, or Wildcat
Wildcat

2. Name of Operator
Yates Petroleum Corporation

3. Address of Operator
207 South 4th Street - Artesia, NM 88210

4. Location of Well
UNIT LETTER <u>N</u> LOCATED <u>660</u> FEET FROM THE <u>South</u> LINE AND <u>1926</u> FEET FROM

12. County
Lea

THE <u>West</u> LINE OF SEC. <u>19</u> TWP. <u>14S</u> RGE. <u>33E</u> NMPM

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Casinghead
1-6-77	4-9-77	Dry	4262' GR	

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
13031				0-13031	

24. Producing Interval(s), of this completion - Top, Bottom, Name	25. Was Directional Survey Made
Dry	No

26. Type Electric and Other Logs Run	27. Was Well Cored
CNL/FDC-DLL/Rxo	No

28. CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	48#	380'	17 1/2"	375 sacks	
8-5/8"	32#	4100'	11"	1550 sacks	

29. LINER RECORD				30. TUBING RECORD			
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET

31. Perforation Record (Interval, size and number)	32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
	DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

33. PRODUCTION							
Date First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)				Well Status (Prod. or Shut-in)	
Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas-Oil Ratio
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)	

34. Disposition of Gas (Sold, used for fuel, vented, etc.)	Test Witnessed By

35. List of Attachments
DST's

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.		
SIGNED <u>Christina L. Linares</u>	TITLE <u>Geol. Secty</u>	DATE <u>4-18-77</u>

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 15 days after the completion of any newly-drilled or deepened well. It shall be accompanied by a copy of all electrical and radio-activity logs run, the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico			Northwestern New Mexico		
Rustler					
T. Anhy	1658	T. Canyon	10377	T. Ojo Alamo	T. Penn. "B"
T. Salt		T. Strawn	11243	T. Kirtland-Fruitland	T. Penn. "C"
B. Salt		T. Atoka	11964	T. Pictured Cliffs	T. Penn. "D"
T. Yates	2632	T. Miss		T. Cliff House	T. Leadville
T. 7 Rivers		T. Devonian		T. Menefee	T. Madison
T. Queen	3403	T. Silurian		T. Point Lookout	T. Elbert
T. Grayburg		T. Montoya		T. Mancos	T. McCracken
T. San Andres	4085	T. Simpson		T. Gallup	T. Ignacio Qtzte
T. Glorieta	5618	T. McKee		Base Greenhorn	T. Granite
T. Paddock		T. Ellenburger		T. Dakota	T.
T. Blinbry		T. Gr. Wash		T. Morrison	T.
T. Tubb		T. Granite		T. Todillo	T.
T. Drinkard		T. Delaware Sand		T. Entrada	T.
T. Abo	7764	T. Bone Springs		T. Wingate	T.
T. Wolfcamp	9135	T. Morrow	12477	T. Chinle	T.
T. Penn.		T. Upr Miss. Ls	12912	T. Permian	T.
T. Cisco (Bough C)	10098	T.		T. Penn. "A"	T.

OIL OR GAS SANDS OR ZONES

No. 1, from.....to.....	No. 4, from.....to.....
No. 2, from.....to.....	No. 5, from.....to.....
No. 3, from.....to.....	No. 6, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....	feet.
No. 2, from.....to.....	feet.
No. 3, from.....to.....	feet.
No. 4, from.....to.....	feet.

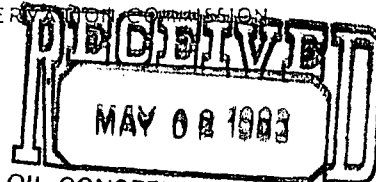
FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	190	1677	Red bed	12255	12360	105	Lime & shale
1677	2680	1003	Anhy & salt	12360	12717	357	Lime, shale & sand
2680	3521	841	Anhy	12717	13031	314	Lime & shale
3521	3682	161	Anhy & sand				
3682	4054	372	Anhy				
4054	7644	3590	Lime				
7644	9710	2066	Lime and shale				
9710	10386	676	Lime, shale & chert				
10386	10500	114	Lime & shale				
10500	10538	38	Lime, shale & chert				
10538	11606	1068	Shale & lime				
11606	11836	230	Lime, shale & sand				
11836	11877	41	Lime, shale & chert				
11877	12207	330	Shale & lime				
12207	12255	48	Shale, sand & lime				

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LAND OFFICE		
OPERATOR		

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65



5a. Indicate Type of Lease
State ☒ Fed ☐
5. State Oil & Gas Lease No.
L-45

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT DEPTH OR TO USE "APPLICATION FOR PERMIT - 1" (FORM C-101) FOR SUCH PROPOSALS.)

OIL WELL ☐ GAS WELL ☐ OTHER ☐ P & A

Name of Operator

Yates Petroleum Corporation

Address of Operator

207 South 4th Street - Artesia, NM 88210

Location of Well

UNIT LETTER N 660 FEET FROM THE South LINE AND 1926 FEET FROM

THE West LINE, SECTION 19 TOWNSHIP 14S RANGE 33E NMPM.

7. Unit Agreement Name

8. Farm or Lease Name

LDM-AMOCO GX State

9. Well No.

1

10. Field and Pool, or Wildcat

Wildcat

15. Elevation (Show whether DF, RT, GR, etc.)

4262' GR

12. County

Lea

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data
NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

REMEDIAL WORK ☐

ALTERING CASING ☐

TEMPORARILY ABANDON ☐

COMMENCE DRILLING OPNS. ☐

PLUG AND ABANDONMENT ☒

WELL OR ALTER CASING ☐

CHANGE PLANS ☐

CASING TEST AND CEMENT JOBS ☐

OTHER ☐

Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

TD 13031' . This well was plugged as follows:

13000-12900' 35 sacks

12550-12450' 35 sacks

10150-10050' 35 sacks

9200-9100' 35 sacks

7800-7700' 35 sacks

5650-5550' 35 sacks

1700-1600' 30 sacks

5 sacks 10' surface and dry hole marker installed

Heavy mud was placed between each plug.

The location will be cleaned, pits levelled and filled and your office will be notified when ready for inspection.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED [Signature]

TITLE Geol. Secty

DATE 4-15-77

APPROVED BY [Signature]

TITLE OIL & GAS INSPECTOR

DATE MAY 02 1977

REMARKS OF APPROVAL, IF ANY:

DRILL STEM TESTS

Yates Petroleum Corporation
LDM-AMOCO GX State No. 1 (L-45 Lease #)
Section 19-T14S-R33E
Lea County, New Mexico

DST No. 1 - 10052-10168' TO 30", SI 60", OP 60", SI 120". TO w/blow, Reop w/blow and died. Recovered: - 700' DM 3100' SW - no gas. Sampler: 1800 cc salt water. Pressures: HP 4828-4786'; IFP 518-1549; ISIP 1679; FFP 1549-1634; FSIP 1677. BHT 146 deg.

DST #2 - 10190-10321' - TO 30", SI 90", OP 120", SI 240". Op w/fair blow, GTS in 18" increased to 50# on 1/4" choke. Reop w/weak blow, 2# on 1/4" choke, decreased to 1/2#. Recovered: 4 BOCM, 12 BO&GCM, 5 BGC sulphur water. Sampler: 1400 cc O & G cut water. Pressures: HP 4845-4803; IFP 345-432; ISIP 3655; FFP 432-1079; FSIP 3312.

* DST #3 - 10332-10386' - TO 30", SI 90", TO 30", SI 60". Op w/good blow, 2# on 1/4" choke decreasing. Reop w/weak blow, dead in 15". Recovered: 300' of black mud and water, 8250' of salty sulphur water, no oil or gas. Sampler: 160#, 1900 cc sulphur water, no oil or gas. Pressures: HP 4972-4930' IFP 1036-3655; ISIP 3826; FFP 3655-3826; FSIP 3826.

DST #4 - 12656-830' - TO 30", SI 90", OP 120", SI 180". Op w/weak blow. Reop w/weak blow. No GTS. Recoveree: 1500' WC, 289' GCM. Sampler: No fluid. 540 psi 1.4 cfg. Pressures: HP 6205-6205; IFP no reading. ISIP 909; FFP 909-974; FSIP 1509.

* DST #5 - 10410-450 (Straddle) - TO 30", SI 60", TO 60", SI 90". TO w/strong blow. Reop w/strong blow, 5# on 1/8" choke after 45", decreased to weak blow. Recovered: 1000' WB, sli GC slphur wtr at 7646'. Sampler: 2800 cc sulphur water, 18000 ppm cl. Pressures: HP 5204-5204, IFP 1388-3393, ISIP 3850, FFP 3419-3850, FSIP 3850.

* Proposed injection zone

UNICHEM INTERNATIONAL

401 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : YATES PETROLEUM

DATE : 11-22-82

FIELD/LEASEWELL : WOODPECKER #1

SAMPLING POINT: WELLHEAD

DATE SAMPLED : 11-19-82

SPECIFIC GRAVITY = 1.026

TOTAL DISSOLVED SOLIDS = 38398

PH = 7.59

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	80	1603
MAGNESIUM	(MG)+2	180	2188
SODIUM	(NA).CALC.	408	9383
ANIONS			
BICARBONATE	(HCO3)-1	17.4	1061
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	84.7	4144
CHLORIDES	(CL)-1	564	17995
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	.45	19.9
HYDROGEN SULFIDE	(H2S)	14	238
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		3.5
BARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

SCALING INDEX

TEMP

30C

86F

1.19

LIKELY

CARBONATE INDEX

CALCIUM CARBONATE SCALING

SULFATE INDEX

CALCIUM SULFATE SCALING

3.74

LIKELY

UNICHEM INTERNATIONAL

801 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : YATES PETROLEUM
DATE : 11-22-82
FIELD, LEASE, WELL : WOODPECKER #2
SAMPLING POINT: WELLHEAD
DATE SAMPLED : 11-19-82

SPECIFIC GRAVITY = 1.044
TOTAL DISSOLVED SOLIDS = 65676
PH = 6.92

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	106	2137
MAGNESIUM	(MG)+2	183	2228
SODIUM	(NA), CALC.	859	19765
ANIONS			
BICARBONATE	(HCO3)-1	11.8	719
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	38.1	1833
CHLORIDES	(CL)-1	1099	38991
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	45	199
HYDROGEN SULFIDE	(H2S)	30	311
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		176
BARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

SCALING INDEX

TEMP

30C
86F
406

CARBONATE INDEX
CALCIUM CARBONATE SCALING

LIKELY

SULFATE INDEX
CALCIUM SULFATE SCALING

-27
UNLIKELY

UNICHEM INTERNATIONAL

601 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : YATES PETROLEUM
DATE : 11-22-82
FIELD, LEASE & WELL : WOODPECKER #3
SAMPLING POINT: WELLHEAD
DATE SAMPLED : 11-19-82

SPECIFIC GRAVITY = 1.018
TOTAL DISSOLVED SOLIDS = 27850
TDS = 7.56

		MG/L	MG/G
CATIONS			
CALCIUM	(CA)+2	48.4	975.
MAGNESIUM	(MG)+2	39.3	478.
SODIUM	(NA), CALC.	370.	8513.
ANIONS			
CARBONATE	(HCO3)-1	23.4	1427.
BICARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	92.4	3758.
CHLORIDES	(CL)-1	352.	13497.
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	.22	9.9
HYDROGEN SULFIDE	(H2S)	18	306
HYDROGEN	(O2)	NOT RUN	
IRON (TOTAL)	(FE)		
COPPER	(CU)+2	NOT RUN	3.9
MANGANESE	(MN)	NOT RUN	

SCALING INDEX

TEMP

CARBONATE INDEX
CALCIUM CARBONATE SCALING
1.19
LIKELY

SULFATE INDEX
CALCIUM SULFATE SCALING
-2.9
UNLIKELY

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W83-195To Yates Petroleum CorporationDate 2-14-83207 S. 4th StreetArtesia, New MexicoATTN: Mr. Eddie Mahfood

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Submitted by _____ Date Rec. 2-14-83Well No. Hanladdie "WR" St. #1 Depth 9,900'

Formation _____

County Eddy Field Saunders

Source _____

2-11-832-12-83Resistivity _____ 0.082 @ 74°F.0.082 @ 74°F.Specific Gravity _____ 1.1041.104pH _____ 5.75.8Calcium (Ca) _____ 24,00023,200

*MPL

Magnesium (Mg) _____ 2,5202,400Chlorides (Cl) _____ 92,00092,000Sulfates (SO₄) _____ 1,1501,200Bicarbonates (HCO₃) _____ 1,0301,050Soluble Iron (Fe) _____ 110100API Gr. _____ 31.0 @ 60°F.31.2 @ 60°F.

Remarks: _____

*Milligrams per liter

Respectfully submitted,

Analyst: Brewer

cc: _____

HALLIBURTON COMPANY

By _____

CHEMIST

NOTICE

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HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W83-001

To Yates Petroleum Corporation

Date 1-1-83

207 S. 4th Street

Artesia, New Mexico

ATTN: Mr. Eddie Mahfood

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Submitted by

Date Rec 1-1-83

Well No. Dove #1

Depth

Formation

County

Field

Source

Resistivity 0.063 @ 70°F.

Specific Gravity 1.110

pH 5.3

Calcium (Ca) 11,250

*MPL

Magnesium (Mg) 6,080

Chlorides (Cl) 89,500

Sulfates (SO₄) 800Bicarbonates (HCO₃) 805

Soluble Iron (Fe) 125

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Thompson

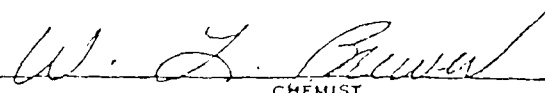
HALLIBURTON COMPANY

cc: Harvey Apple, GeoVann, Inc.

Box 38

Artesia, New Mexico

By



CHEMIST

NOTICE

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Schlumberger

COMPENSATED NEUTRON
FORMATION DENSITYCOUNTY LEA
FIELD SAUNDERS
LOCATION LDM AMOCO GX STATE
WELL #1
COMPANY YATES PETROLEUM CORP.

COMPANY YATES PETROLEUM CORPORATION

WELL LDM AMOCO GX STATE #1

FIELD SAUNDERS

COUNTY LEA STATE NEW MEXICO

660' FSL & 1926' FWL

Other Services:
DLL

LOCATION

API SERIAL NO.

SEC.

TWP.

RANGE

19

14-S

33-E

Permanent Datum: G.L. ; Elev.: 4262

Log Measured From: K.B. , 16 Ft. Above Perm. Datum

Drilling Measured From: K.B.

Elev.: K.B. 4278

D.F. 4262

G.L. 4262

Date 4-2-77

Run No. ONE

Depth-Driller 12717

Depth-Logger 12711

Btm. Log Interval 12710

Top Log Interval 0

Casing-Driller 8 5/8@4114

Casing-Logger 4118

Bit Size 7 7/8

Type Fluid in Hole ASBESTOS-DRISPAC-CKL-SW GEL

Dens. Visc. 9.3 42

PH Fluid Loss 10.7 8.3 ml

Source of Sample CIRC.

Rm @ Meas. Temp. .11 @ 70 °F

Rmf @ Meas. Temp. .09 @ 73 °F

Rrc @ Meas. Temp. .16 @ 70 °F

Source: Rmf Rmc M C

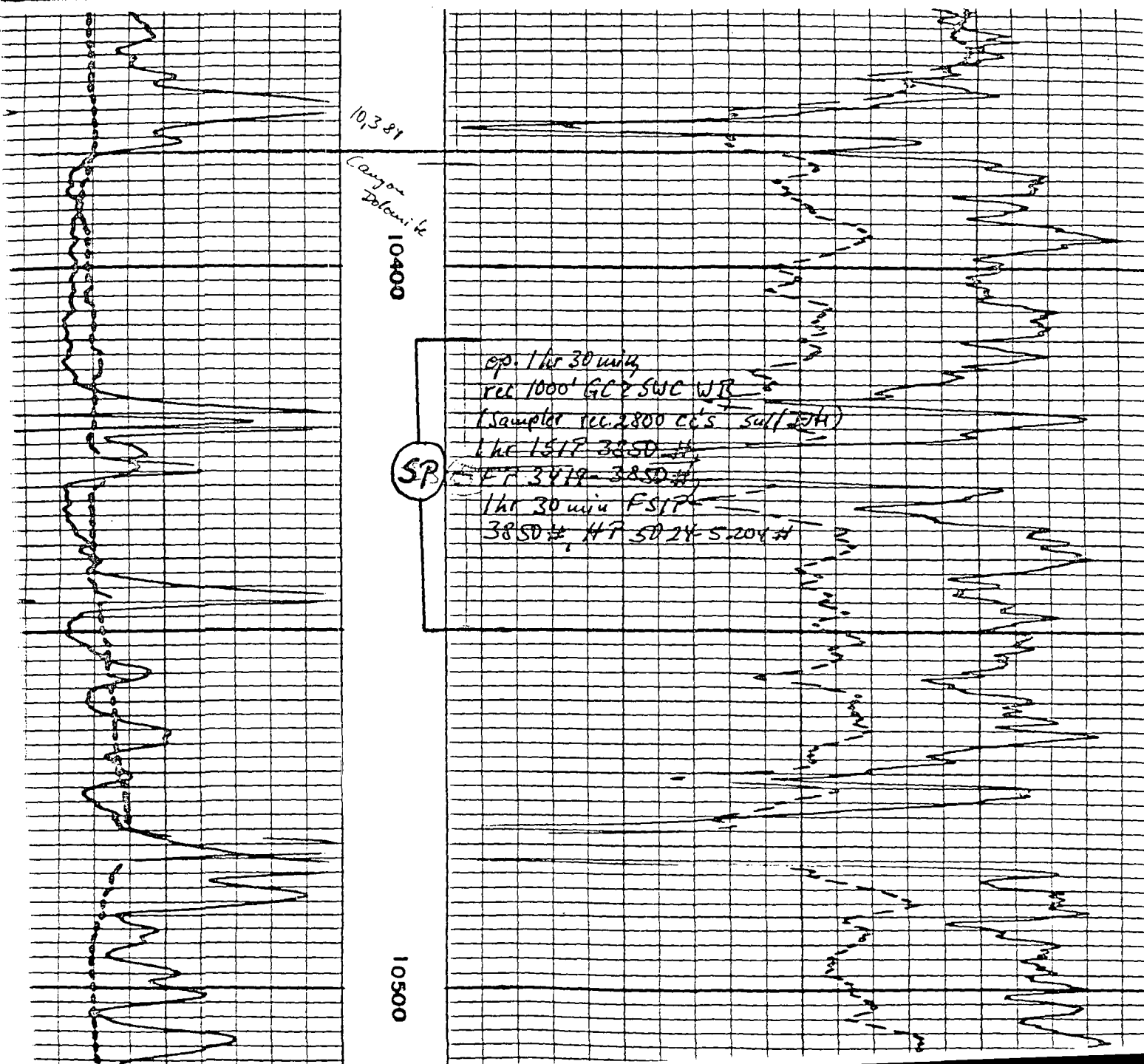
Rm @ BHT .05 @ 165 °F

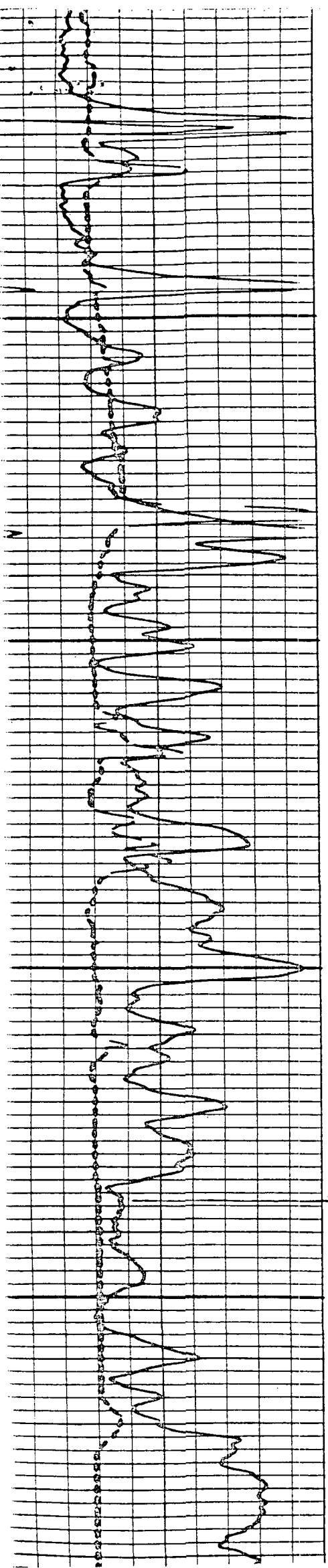
Circulation Stopped 2000

Logger on Bottom 0200

Rec. Temp. 165 °F

Location 5641 HOBBS



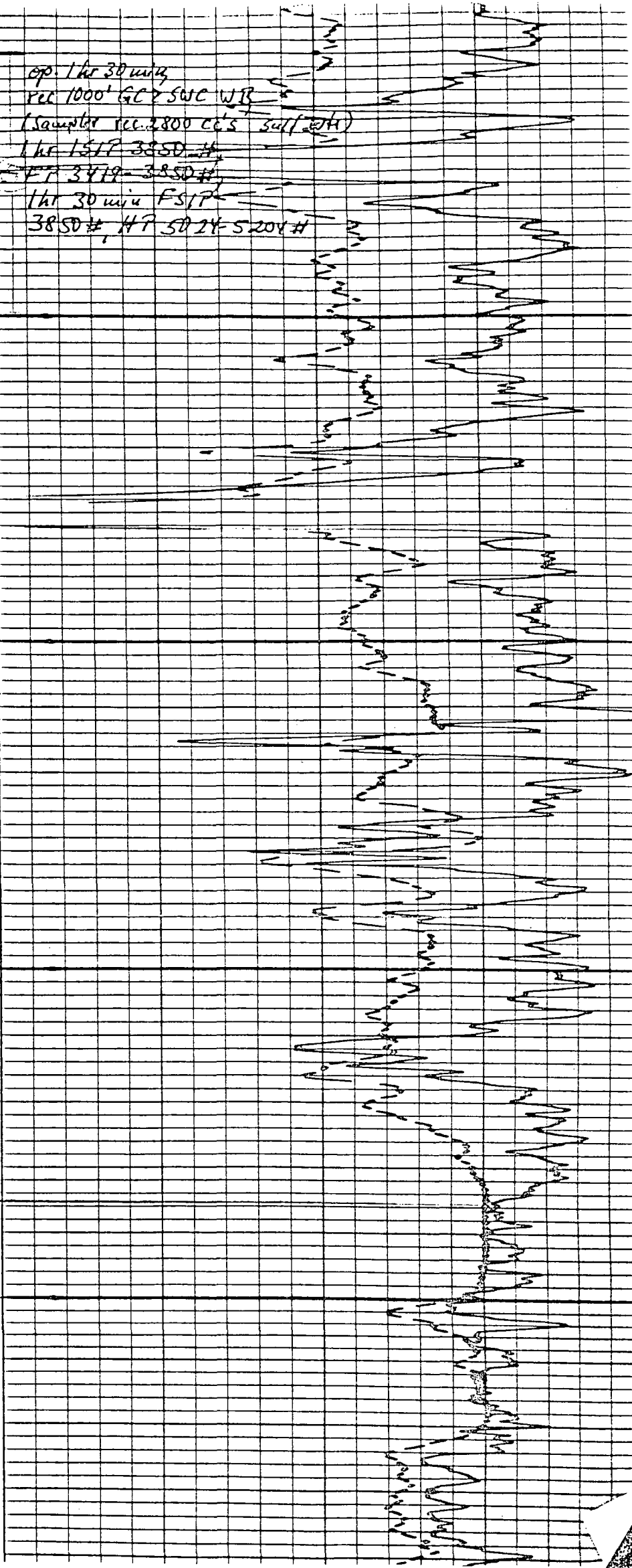


10500

Bottom of
Dolomite
10585

10600

SP



op. 1 hr 30 min
rec 1000' GC 2 SWC W.B.
(Sampler rec. 2800 CC's 501/20H)
1 hr 151P 3850 #
FF 3419-3850 #
1 hr 30 min FS/P
3850 #, HP 5024-5204 #

LEA COUNTY NEW MEXICO SAUNDERS

Well: POGO PRODUCING CO. 1 SAN State Result: OIL DO

Locn: 23 mi SE/Caprook, Sec 32-14S-33E, 990 FNL, 660 FEL Sec

Spud: 1-29-81, Comp: 7-10-81, Elev: 4221' Grd, TD: 10,250 (PSLV) PB: /10,055

Casing: 13 3/8" 310' / 490sx, 8 5/8" 4170' / 1819sx, 5 1/2" lnr-3864-10,249-1490sx

Prod Zone: (Penn) T/Pay 9496', Prod thru Perfs 9496-9919'

IPP: 77 BOPD + 17 BW, Gra (NR) GOR 1636'

Comp Info: Perf (Penn) 9456-9500, 9853-55, 9888-91, 9916-19, 10,064-070 w/46 shots (OA) S/30 SW in 2 runs, PB to 10,055, A/2000 gals C/Cactus #30

Tops: (EL) NR

API NO: 30-025-27208



Petroleum Information®

CORPORATION
A Subsidiary of A.C. Nielsen Company

Date 7-29-81

Card No.: 10 mja

LEA COUNTY	NEW MEXICO	SAUNDERS FIELD
Well: SABINE PROD. CO. I Yates-Grace St.		Result: <u>D&A</u> D
Loc'n: 24 mi SE/Caprock, 1980' FNL 660' FWL Sec 32-14S-33E.		
Spud: 12-13-78; Comp 1-11-79; Elev: 4229' grd; TD: 10,250' Bough;		
Casing: 13 3/8" 430'/425 sx, 8 5/8" 4180'/1625 sx		
Comp Info: C/Forster #7.		
Tops: (EL) Rustler 1660', Yates 2633', San And 4120', Glor 4248', Tubb 7078', Bough		
"C" 10,109'		
API No.: 30-025-26165		



Petroleum Information®

CORPORATION
A Subsidiary of A.C. Nielsen Company

Date: 1-31-79

Card No.: 11 rm

Co. LEA POOL UNDESIGNATED STATE N.M. KROENLEIN 171-59
Company Amerada Petr. Corp. - #1 - State SK ELEV. 4234 DF
Loc. 660 FSL & FEL
Sec. 29, T. 14-S. R. 33-E

ACID OR SHOT	CASING RECORD	TOPS
500 acid	5 1/2L.-4062- -10195- 800	Penn. 9368
SPD. 1-9-59 COMP 2-21-59 I. P. P. 58 EO + 50 BXW/24 hrs. GR. 40.2 GOR 995 TP - CP		TP 9944 TO 10,200 L. PBO 10,108
REMARKS		

Co. LEA	POOL SAUNDERS	STATE	KROENLEIN 172-62
COMPANY Cosden Pet. Corp. - #1 - State "E"		ELEV 4232 DF	
LOC 660' FSL & FWL <i>Abb NO FILE</i>		12' Kelly?	
Sec. 21, T. 14-S, R. 33-E <i>LOGS</i>			
10,200' RT - Penn.			
ACID OR SHOT	CASING RECORD	TOPS	
Perf: 9925-10,000	13 3/8- 310- 325	Anhy.	1695
26,500 acid	8 5/8- 4179-1600	Yates	2655
	5 1/2- 10042- 300	Glor.	5670
		Tubb	6997
		Abo	7780
		W.C.	9318
		Saunders	9855
BPO. 1-26-62	COMP 5-14-62		
I. P. P. 20 BO & 95 BW/24 hrs.			
GR. GOR	TP	CP	
REMARKS DST 9380-9915 op. 1 hr. 15 mins.		9925	
gas in 3 mins. rec. 250' oil & 250'		10,042	
HMC0; FP 245-285; ISIP 3540/30"; CONT'D. PAGE 2.			

LEA, N.M. 21-14-33
Cosden Pet. Corp. - #1 - State "E"

K-172-62
PAGE 2.

FSIP 3170/30".

DST 9915-9970 op. 2 hrs. 5 mins., gas in 15 mins., est. 195,000 CFG; rec. 1760' oil & 40' wtr.; FP 180-448; ISIP 3133/30"; PSIP 1594/30".

DST 9970-10030 misrun

DST 9962-10030 op. 2 hrs. rec. 100' DM & 1950' salty sul. wtr.; no FP; ISIP 3690/30"; PSIP 3630/30".

Perf: 20/9925-9935, 4/9950-9952, 16/9972-80; 5000 acid; swb. 140 bbls. fluid/9 hrs. (45 BO & 95 BW); reA/10,000 swb. 210 bbls. fluid/12 hrs. (24 BO & 186 BAW); PB 9910' Swb. 84 BO & 146 BW/16 hrs.; BP/9910'

Perf: 12/9836-42, 12/9856-62, 8/9866-70, 16/9873-81, 16/9887-95; 2000 acid in 3 stages; swb. 256 BAW & form. wtr. & 22 BO/24 hrs./9836-9842'; swb. 310 bbls. wtr. & trace of oil/24 hrs. 9856-9881'; swb. 213 BW/6 1/2 hrs., 9887-9895'; resqz. perfs 9836-95' w/125 ax; reA. 12,000

Perf: 24/9994-10,000; 500 acid; P. 14 BO & 80 BW/24 hrs.; P. 10 BO & 95 BW/24 hrs.

LEA COUNTY	NEW MEXICO	BAUM
Well: MWJ PRODUCING CO. 1 Baum "17" State	Result: OIL DO	
Locn: 21 mi SE/Caprock, Sec 17-14S-33E-660 FNL, 660 FWL Sec		

Spud: 3-14-81, Comp: 6-29-81, Elev: 4247' Grd, TD: 10,150 (PSLV) PB: 10/000
Casing: 13 3/8" 375'/400sx, 8 5/8" 4113'/1300sx, 5 1/2" 10,150-300sx
Prod Zone: (U/Penn) T/Pay 9933', Prod thru Perfs 9933-43'
IPP: 69 BOPD + 110 BW, Grav (NR) GOR (NR)
Comp Info: Perf (Penn) 10,035-056', w/2 SPF, A/1000 gals, No gauges
PB to 10,000, Perf (U/Penn) 9933-38', 9940-43', A/1000 gals, C/Tri-Service #8
Tops: (EL) NR
API No: 30-025-27309

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LEA COUNTY NEW MEXICO BAUM FIELD
 Well: MWJ PROD. CO. 1 Baum "17-A" State Result: D&A D
 Loc'n: 20 mi S/Caprock; Sec 17-14S-33E; 1980' FSL 1980' FWL of Sec;

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Spud: 7-9-82; Comp: 1-14-83; Elev: 4251' Grd; 4261' KB; TD: 10,250'
 Penn;
 Casing: 13-3/8" 386' / 425 sx; 8-5/8" 4149' / 1700 sx; 5 1/2" 10,250' / 300 sx;
 Comp Info: Ran ACSL, CBND, GRL; Perf (Penn) 9906-10', 9924-
 28', 9933-35', 9940-45', 9956-58', 10,008-010', 10,018-
 022', A/3000 gals; C/Tri-Service #8.
 Tops: (EL) Salt 2615', Queen 3520', San Andres 4090', Glorieta
 5570', Tubb 7115', Abo 7750', Wolfcamp 9180', Cisco 9860'.
 API No: 30-025-27883

Replaces Card 23 dated 2-9-83 to show results fr Temp Comp;



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Date: 3-9-83

Card No.: 51 bc

LEA COUNTY NEW MEXICO BAUM FIELD
 Well: MWJ PRODUCING CO, 1 Baum "17-B" State Result: OIL DO
 Loc'n: 21 mi SE/Caprock; 660' FSL, 660' FEL Sec 17-14S-33E 10,127'
 Spud: 10-30-83; Comp: 2-19-83; Elev: 4229' Grd; TD: 10,200' Cisco; PB:
 Casing: 13-3/8" 408' / 425 sx; 8-5/8" 4178' / 1500 sx; 5 1/2" 10,200' /
 450 sx; 2-3/8" 10,003'
 Prod Zone: (U/Penn), Prod thru Perfs 9962-78'
 IPF: 240 BOPD + 10 BW 22/ 64" ch, Grav 39.2, GOR 1500, TP 250#
 Comp Info: Perf (Cisco) 9962-78' / 2 SPF, A/1000 gals; flwd 240
 BO & 10 BW/24 hrs; C/Tri Service #8
 Tops EL: Yated 2625', Queen 3540', San Andres 4090', Glorieta
 5570', Tubb 7110', Abo 7735', Wolfc 9180', Penn 9810', Cisco
 9950'
 API No: 30-025-28000

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Date: 3-16-83

Card No.: 32 dh

LEA COUNTY NEW MEXICO BAUM FIELD
 Well: MWJ PRODUCING CO, 1 Baum "18" State Result: OIL DO
 Loc'n: 20 mi SE/Caprock; 660' FNL, 660' FEL Sec 18-14S-33E
 Spud: 1-10-82; Comp: 3-17-82; Elev: 4256' Grd; TD: 10,150' Cisco; PB: 10,031'
 Casing: 8-5/8" 4104' / 755 sx; 5 1/2" 10,150' / 300 sx; 2-3/8" 9953'
 Prod Zone: (U/Penn), T/Pay 9906', Prod thru Perfs 9906-20'
 IPF: 110 BOPD + 70 BW, 40/64" ch, GOR 2100, Grav 40.5, TP 70#
 Comp Info: Perf (U/Penn) 9906-20', A/2000 gals; C/Tri-Service
 #8
 Tops EL: Yates 2590', San And 4068', Glorieta 5310', Tubb
 7070', Abo 7700', Penn 9900', Cisco 10,050'
 API No: 30-025-27701

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Date: 4-14-82

Card No.: 17 dh

Co. - LEA

POOL TULK-PENN STATE N.M. C-23-14-32
KROENLEINCOMPANY Coastal States Gas Prod. Co. - #1 - State
"23" ELEV. 4294 GRLOC. 1980' FNL & FWL
Sec. 23, T.14-S, R.32-E
10,000' RT-Penn

PAY STIMULATION	CASING	TOPS
PERF: 9891-	13 3/8- 375- 400	Anhy 1543
9896	8 5/8-4020- 300	Yates 2549
	5 1/2-10100-200	S.And 4013
	2 3/8-9773	Tubb 6910
	1 -9741	Abo 7620
		Wolfe 9003
SPD. 8-25-68	COMP. 10-4-68	Penn 9522
		Bo "C" 9928

I. P. P. 210 BOPD + 650 BW

GR. 43.4 GOR 1201 TP CP
DST 8944-9000 op. 1 hr. 15 mins., TP 9891
weak blow 15 mins. & died; rec. TD 10,100
90' mud, 210' salt wtr.; CONT'D. PBD 10,053
PAGE 2.

C-23-14-32

LEA, N.M.

PAGE 3.

Coastal States Gas Prod. Co. - #1 - State "23"

FP 480-1556; ISIP 3581/1 hr.; FSIP 3557/90
mins.DST 9952-9980 op. 1 hr. 15 mins., good blow
thruout; rec. 2850' salt wtr., no shows;
FP 790-1280; ISIP 2658/1 hr.; FSIP 2460/
90 mins.Perf 2 SPF/9891-9896'; 1500 gal. 28% acid &
1500 gal. 15% acid/9891-96', P. 132 BO +
904 BW/24 hrs.; P. 210 BO + 650 bbls. wtr.,
252 MCFG/24 hrs.

C-23-14-32

LEA, N.M.

PAGE 2.

Coastal States Gas Prod. Co. - #1 - State "23"

FP 105-180; ISIP 3281/1 hr.; FSIP 3130/1
hr.DST 9680-9787 op. 1 hr. 15 mins., gas in 23
mins., TSTM; decr. to sli. blow; rec. 6425'
gas in DP; 2500' oil & gas cut SW (10% oil);
752' SW; FP 432-841; ISIP 3461/1 hr.; FSIP
3413/1 hr.DST 9800-9860 op. 1 hr. 45 mins., fair blow
thruout; rec. 6570' gas in DP, 300' O&GCM;
no wtr.; FP 59-98; ISIP 2678/1 hr.; FSIP
1764/1 hr. 30 mins.DST 9860-9915 op. 90 mins., gas in 4 mins.,
at 220,000 CFGPD; rec. 2915' hvy. O&GCM
(60% oil); 1222' free oil; 1504' SW;

CONT'D. PAGE 3.

Co. LEA
 POOL TULK-PENN STATE N.M. C-26-14-32
 COMPANY Coastal States Gas Prod. Co. - #2 - State "26" ELEV 4299 KB
 LOC. 660' FNL & 1980' FEL 4285 GR
 Sec. 26, T.14-S, R.32-E
 10,000' RT-Penn

PAY STIMULATION	CASING	TOPS
PERF:	13 3/8- 395-	Anhy 1601
	8 5/8-4035- 300	Yates 2556
		Queen 3303
		S.And 4054
		Glor 5524
		Tubb 6883
		Abo 7631
		Wolfe 9031
		Bursum 9766?
		Bo "C" 9921?
SPD. 9-29-68	COMP. 10-30-68	TP
I. P. P & A		TD 10,102
GR. GOR	TP	PBD
DST 9755-9840 op. 1 hr. 15 mins.,	CP	D. PAGE 2.
fair blow; gas in 10 mins., TSTM;		
rec. 700' hvy. GC & sli. OCM; CONT		

LEA, N.M. C-26-14-32
 Coastal States Gas Prod. Co. - #2 - State "26" PAGE 2.

60' GCM below sub; FP 197-316; ISIP
 2261/1 hr.; FSIP 2162/90 mins.
 DST 9925-10015 op. undes. time, rec. 1530'
 sul. wtr.; FP 375-691; ISIP 2681/___;
 no FSIP.
 DST 10037-102 op. 2 hrs. 45 mins., good
 blow, decr.; rec. 8420' salt wtr.;
 FP 3499-3600; ISIP 3600/1 hr.; FSIP
 3600/1 hr.