STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION SWD
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

637

APPLICATION FOR AUTHORIZATION TO INJECT

JUL 22 1996

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no

II. Operator: Conoco Inc.

Address: 10 Desta Drive West, Ste 100W, Midland, Texas 79705

Contact party: Jerry W. Hoover Phone: (915) 686-6548

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: Jerry W. Hoover Title Sr. Conservation Coordinator

Signature: Jerry W. Hoover Date: July 18, 1996

* 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. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

C - 1 0 8 ATTACHMENTS

III. WELL DATA:

A. PRESTON FEDERAL NO. 2 -- Current and Proposed well bore schematics included as ATTACHMENTS III-A and III-B.

(1) NAME & LOCATION: Preston Federal No. 2
1980' FNL, 1980' FEL, SEC. 34, T20S, R24E.

(2) CASING:

Size	Weight	Hole Size	Depth	Cement	TOC
13 3/8"	54.5#	17 1/2"	500'	300 SX	Circ.
9 5/8"	36#	12 1/4"	1201'	1000 SX	600' TS
7"	26#	8 3/4"	9596'	3130 SX	Circ.
Proposed Liner					
4 1/2"	9.5#	6 1/8"	7000' to 11600'	420 SX	7000' TS

(3) TUBING: 6900' 3 1/2", 9.2 #, J-55, plus 3000' 2 7/8", N-80 w/turned down collars. Internally Plastic Coated

(4) PACKER: 4 1/2" LOK-SET @ +/- 9900'

B. INJECTION & COMPLETION DATA

(1) INJECTION FORMATION: Siluro Devonian

(2) INJECTION INTERVAL: 10,000' To 10,500' (Estimated) will be perforated

(3) ORIGINAL PURPOSE: Well was originally drilled as a Morrow/Cisco Producer and also tested the Wolcamp & Atoka.

(4) COMPLETION (perforated) INTERVALS WHICH HAVE BEEN SQUEEZED:

FORMATION	INTERVAL	PLUGGING METHOD
MORROW	9192' - 9242'	Set retainer @ 9154' Squeezed w/75 sx Class H w/35' cmt on top.
MORROW	8857' - 8867'	Set CIBP @ 8752' w/35' cmt on top
ATOKA	8624 ' -8669'	Set retainer @ 8590' Squeezed w/75 sx Class H w/35' cmt on top.
CISCO	7424' - 7854'	Set Retainer @ 7415', Squeeze w/100sxsClass H
WOLFCAMP	7388' - 7399'	Set Retainer @ 7320' Squeeze w/39 sx Class C

Squeeze holes were perforated @ 7345 & 7900'. Circ 265 sx Class C between these intervals (perfs).

(5) DEPTH TO NEXT HIGHER PRODUCTIVE ZONE:

Morrow @ 9192' (+/-1000' up hole from the expected injection interval).
THERE IS NO LOWER PRODUCTIVE ZONE IN THIS AREA .

V. MAP: SEE ATTACHMENT V

VI. DATA TABULATION: No wells penetrate the Siluro-Devonian within 1/2 mile radius of the proposed disposal well.

VII. OPERATIONAL DATA:

1. Avg. injection rate = 10,000 BPD
2. Injection will be through an open system.
3. Avg. injection press = 2000 psi
4. Injected water will be produced from the Cisco. See water analysis as ATTACHMENT VII-4.
5. Water samples and/or analyses are not available from the Devonian in this area. However, Conoco operates two additional Devonian disposal wells in the Dagger Draw area which also dispose of Cisco produced water. Neither of these wells have exhibited any compatibility problem. The Devonian is a common nonproductive, disposal zone for this area. These two additional Devonian disposal wells are the:

   Monsanto Foster Well No. 1 -- Unit D, Sec. 5, T-20S, R-25E
   Order R-4158-B

   King No. 1 -- Unit C, Sec. 9, T-20S, R-25E
   Order R-5250

VIII. DISPOSAL ZONE & FRESH WATER AQUIFERS:

The proposed disposal zone is the Siluro-devonian. the top of the Siluro-Devonian is expected to be encountered at a subsea depth of approximately -6200' (measured depth approx. 9933'). It should consist of approximately 500' of fractured, vugular dolomite and limestone.

The only known fresh water well in the area is producing from a depth of 166 feet in the NE NW NE Sec. 35, T-20S, R-24E and all shallow fresh water zones, known locally as the Artesia Group, should be no deeper than 300 feet according to the state engineering office. These zones are protected by surface casing which is cemented from a depth of 1201' to surface in the Preston Federal No. 2.

IX. STIMULATION: (1) Perforate.
(2) Acidize perforations w/15% NEFE HCL.

X. LOGS: Open hole logs are available at the Oil Conservation District Office.

XI. FRESH WATER WELLS: According to the State Engineer's office, there is one fresh water well located approximately NE NW NW of Section 35, T20S, R24E, Eddy County. A copy of an analysis of the produced water from this well is included as ATTACHMENT XI.

XII. HYDROLOGIC CONNECTION: Analysis of available geologic and engineering data indicate no evidence of open faults or any other hydrologic connection between the proposed disposal zone and the Artesia Group fresh water aquifer.

XIII. PROOF OF NOTICE:

SURFACE OWNER OF LAND ON WHICH THE PRESTON FEDERAL NO. 2 IS LOCATED:

Bureau of Land Management
Carlsbad Resource Area
620 E. Greene Street
Carlsbad, NM 88220-6292

OFFSET OPERATORS WITHIN 1/2 MILE OF PRESTON FEDERAL NO. 2:

Yates Petroleum Corp. (as shown on ATTACHMENT V)
150 S. Fourth St.
Artesia, NM 88210

COPIES OF CERTIFIED MAIL RECEIPTS ARE SHOWN BELOW:

Z 111 000 232

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Bureau of Land Management
Carlsbad Resource Area
620 E. Greene Street
Carlsbad, NM 88220-6292

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	7/18/96

PS Form 3800, March 1993

Z 111 000 231

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

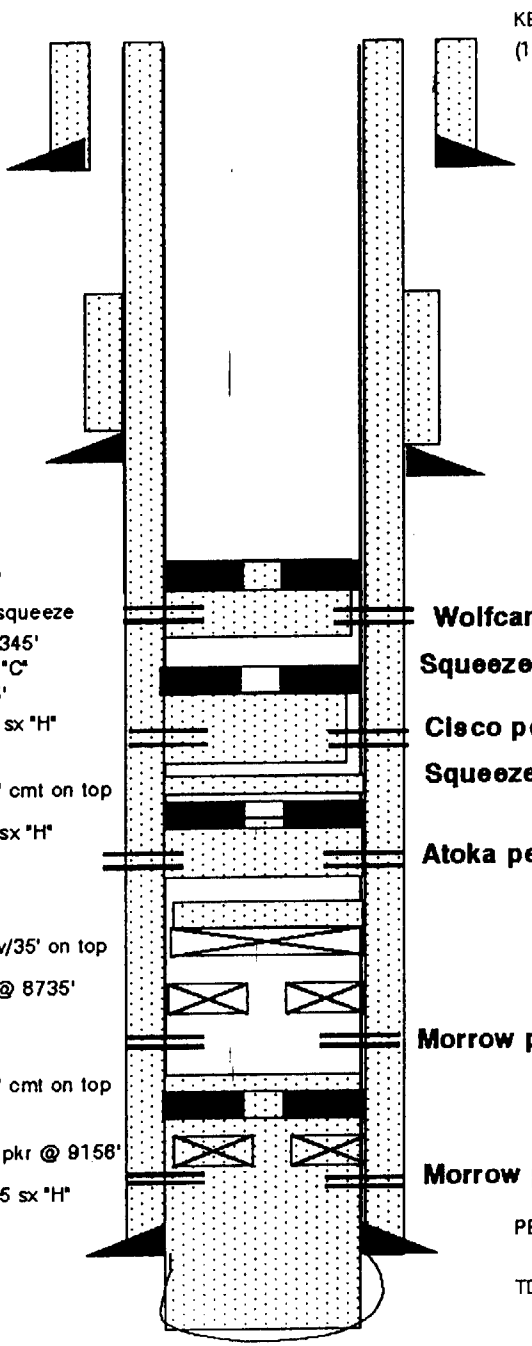
Sent to
Yates Petroleum Corp.
150 S. Fourth St
Artesia, NM 88210

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	7/18/96

PS Form 3800, March 1993

PROOF OF PUBLICATION WILL BE SUBMITTED WHEN THE AFFIDAVIT OF PUBLICATION HAS BEEN RECEIVED.

CURRENT WELLBORE DIAGRAM
PRESTON FEDERAL No. 2
DAGGER DRAW FIELD



SURFACE CASING

13 3/8", 54.5# @ 500'

TOC: CIRC

INTERMEDIATE CASING

9 5/8", 36# @ 1201'

TOC: 600' (TS)

PRODUCTION CASING

7", 26#, @ 9596'

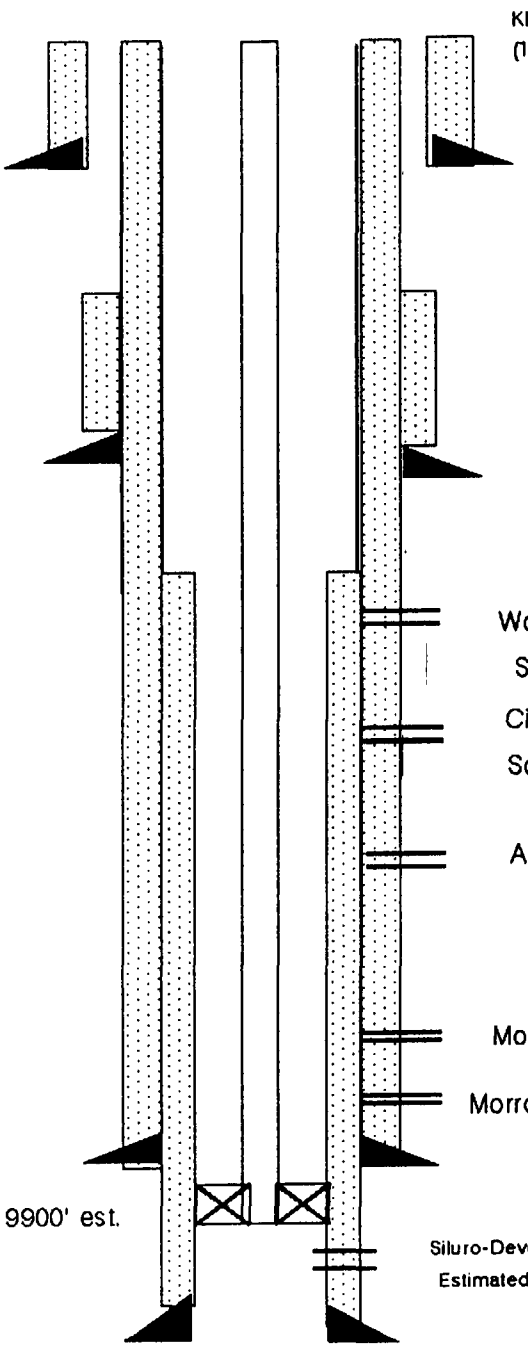
TOC: CIRC

BY: Keith Sevin

DATE: 07-02-96

ATTACHMENT III-A

PROPOSED WELLBORE DIAGRAM
PRESTON FEDERAL No. 2
DAGGER DRAW FIELD



GLE: 3718'

KBE: 3733'
(15' AGL)

Tubing:
6900' 3-1/2" IPC + 3000' 2-7/8" IPC

SURFACE CASING

13 3/8", 54.5# @ 500'

TOC: CIRC

INTERMEDIATE CASING

9 5/8", 36# @ 1201'

TOC: 600' (TS)

Wolfcamp perfs: 7388' - 7399' Squeeze w/39 sx "C"

Squeeze perfs @ 7345' Circ 265 sxs thru squeeze perfs @ 7900' to 7345'

Cisco perfs: 7424' - 7854'

Squeeze holes @ 7900' Squeeze w/100 sx "H"

Atoka perfs: 8624' - 8669' squeezed w/75 sx "H"

PRODUCTION CASING

7", 26#, @ 9596'

TOC: CIRC

Morrow perfs: 8857' - 8867'

Morrow perfs: 9192' - 9242' Squeezed w/75 sx "H"

LINER

TOC 3 1/2" 9.5# from 7000' to 11600'

7000'

Lok-Set pkr @ 9900' est.

Siluro-Devonian: 10000' - 10500'
Estimated perf depth

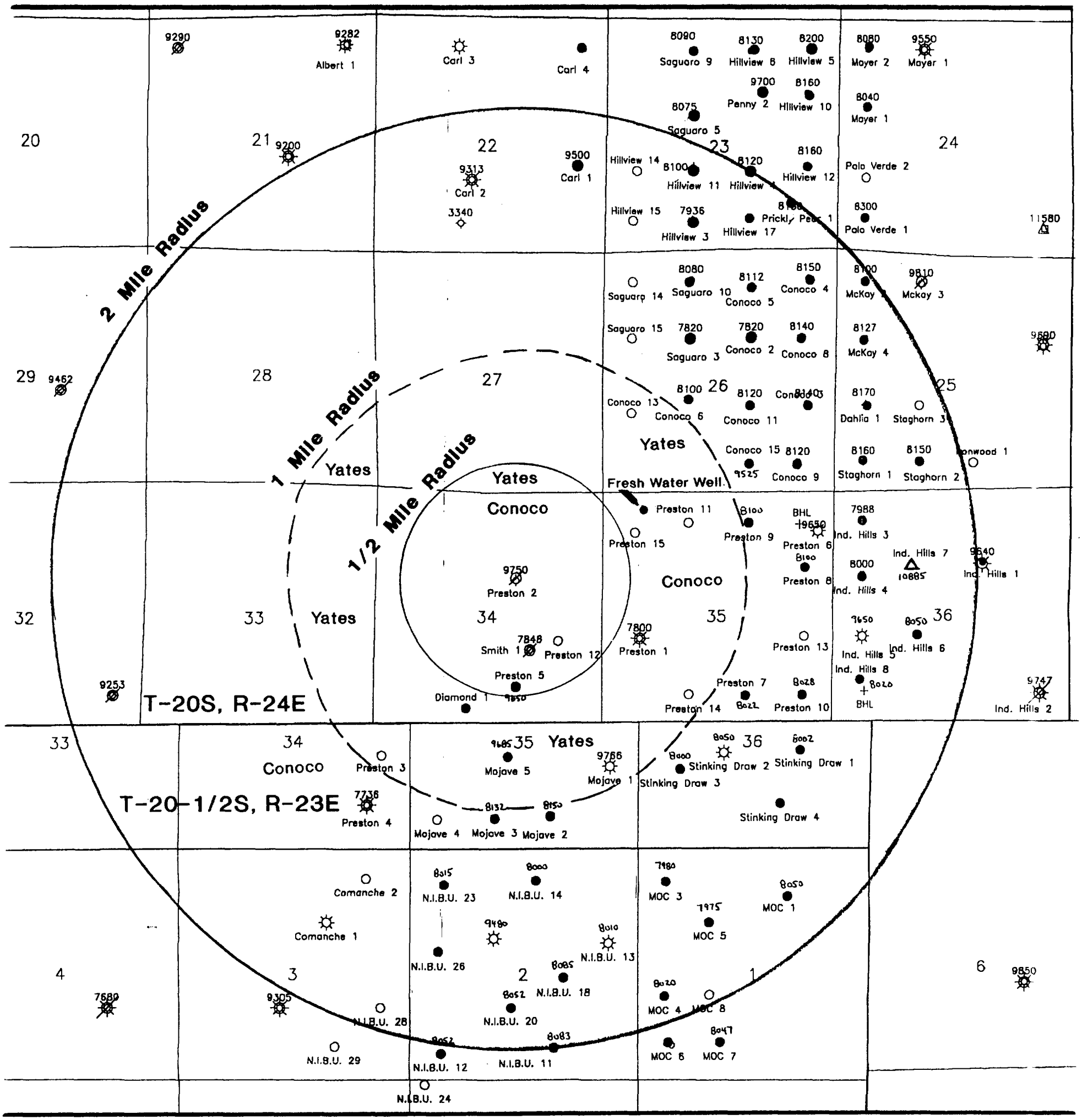
PBTD: 11000' estimated

TD: 11600' estimated

DATE: 07-02-98

BY Keith Sevin

ATTACHMENT III-B



CONOCO MIDLAND DIVISION

BASEMAP
SOUTH DAGGER DRAW

DATE 30-JUN-96

ATTACHMENT V

TETROLITE

Petrolite Corporation
422 West Main Street
Artesia, NM 88210-2041

TRETOLITE DIVISION

(505) 746-3588
Fax (505) 746-3580

Reply to:
P.O. Box 1140
Artesia, NM
88211-7531

WATER ANALYSIS REPORT

Company	: CONOCO, INC.	Date	: 08/23/95
Address	: DAGGER DRAW	Date Sampled	: 08/23/95
Lease	: PRESTON FEDERAL	Analysis No.	: 0146
Well	: BATTERY		
Sample Pt.	: WATER TANK		

	ANALYSIS		mg/L		* meq/L
1.	pH	6.9			
2.	H2S	290PPM			
3.	Specific Gravity	1.010			
4.	Total Dissolved Solids		17985.2		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		NR		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	939.0	HCO3	15.4
12.	Chloride	Cl	6603.0	Cl	186.3
13.	Sulfate	SO4	2000.0	SO4	41.6
14.	Calcium	Ca	8700.0	Ca	434.1
15.	Magnesium	Mg	-4633.0	Mg	-381.2
16.	Sodium (calculated)	Na	4375.7	Na	190.3
17.	Iron	Fe	0.5		
18.	Barium	Ba	NR		
19.	Strontium	Sr	NR		
20.	Total Hardness (CaCO3)		2651.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

434	*Ca <----- *HCO3	15
	/------->	
-381	*Mg -----> *SO4	42
	<----------/	
190	*Na -----> *Cl	186

Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	15.4	1247
CaSO4	68.1	41.6	2835
CaCl2	55.5	186.3	10336
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6		
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4		

REMARKS:
-------- A. MILLER

Petrolite Oilfield Chemicals Group

Respectfully submitted,
SHAWNA MATTHEWS

ATTACHMENT VII-4

Petrolite Corporation
422 West Main Street
Artesia, NM 88210-2041

TRETOLITE DIVISION

(505) 746-3588
Fax (505) 746-3580

Reply to:
P.O. Box 1140
Artesia, NM
88211-7531

WATER ANALYSIS REPORT

Company	: YATES PETROLEUM	Date	: 04/01/96
Address	: ARTESIA, NM	Date Sampled	: 04/01/96
Lease	: WINDMILL	Analysis No.	: 0261
Well	: DAGGER DRAW		
Sample Pt.	: WATER TANK		

	ANALYSIS		mg/L		* meq/L
1.	pH	7.2			
2.	H2S	0 PPM			
3.	Specific Gravity	1.000			
4.	Total Dissolved Solids		2890.0		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		NR		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	244.0	HCO3	4.0
12.	Chloride	Cl	106.0	Cl	3.0
13.	Sulfate	SO4	1700.0	SO4	35.4
14.	Calcium	Ca	332.0	Ca	16.6
15.	Magnesium	Mg	96.2	Mg	7.9
16.	Sodium (calculated)	Na	411.8	Na	17.9
17.	Iron	Fe	NR		
18.	Barium	Ba	0		
19.	Strontium	Sr	NR		
20.	Total Hardness (CaCO3)		1225.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

17	*Ca <----- *HCO3	4
	/------->	
8	*Mg -----> *SO4	35
	<---------/	
18	*Na -----> *Cl	3

Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	4.0	324
CaSO4	68.1	12.6	855
CaCl2	55.5		
Mg(HCO3)2	73.2		
MgSO4	60.2	7.9	476
MgCl2	47.6		
NaHCO3	84.0		
Na2SO4	71.0	14.9	1060
NaCl	58.4	3.0	175

REMARKS:
-------- ANDY MILLER

Petrolite Oilfield Chemicals Group

Respectfully submitted,
SHAWNA MATTHEWS

ATTACHMENT XI

SCALE TENDENCY REPORT

Company	: YATES PETROLEUM	Date	: 04/01/96
Address	: ARTESIA, NM	Date Sampled	: 04/01/96
Lease	: WINDMILL	Analysis No.	: 0261
Well	: DAGGER DRAW	Analyst	: SHAWNA MATTHEWS
Sample Pt.	: WATER TANK		

STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
CaCO3 Scaling Tendency

S.I. =	0.3	at	60 deg. F or	16	deg. C
S.I. =	0.3	at	80 deg. F or	27	deg. C
S.I. =	0.4	at	100 deg. F or	38	deg. C
S.I. =	0.4	at	120 deg. F or	49	deg. C
S.I. =	0.5	at	140 deg. F or	60	deg. C

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CALCIUM SULFATE SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

S =	1244	at	60 deg. F or	16	deg C
S =	1294	at	80 deg. F or	27	deg C
S =	1304	at	100 deg. F or	38	deg C
S =	1296	at	120 deg. F or	49	deg C
S =	1282	at	140 deg. F or	60	deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,
SHAWNA MATTHEWS

[redacted]