

RELEASE DATE 6-9-92

## APPLICATION FOR AUTHORIZATION TO INJECT

OIL CONSERVATION DIVISION

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage  
Application qualifies for administrative approval? ☐ yes ☐ no
- II. Operator: Yates Petroleum Corporation '92 MAR 26 PM 10 32  
Address: 105 S. 4th Street  
Contact party: Brian Collins Phone: (505) 748-1471
- 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: Brian Collins Title Petroleum Engineer  
Signature: Brian Collins Date: May 20, 1992
- \* 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.

## 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.

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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-108  
Application For Authorization To Inject  
Yates Petroleum Corporation  
Lusk "AHB" Federal #4  
C 35-19S-32E  
Lea County, New Mexico

- I. The purpose of completing this well is to make a disposal well for produced Delaware Sand water into the Delaware Sand formation.

Yates Petroleum plans to convert this well to a water disposal well into the Delaware Sand. This well was originally drilled to test the Delaware Sand. The well was completed in the Delaware Sand as an unsuccessful, uneconomic well. The well tested 5 BOPD and 400 BWPD.

- II. Operator: Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, NM 88210  
Brian Collins (505) 748-1471

- III. Well Data: See Attachment A

- IV. This is not an expansion of an existing project.

- V. See attached map, Attachment B

- VI. See attached well data and wellbore sketches.  
(Attachment C)

- VII. 1. Proposed average daily injection volume approximately 1500 BWPD.  
Maximum daily injection volume approximately 5,000 BWPD.
2. This will be a closed system.
3. Proposed average injection pressure-unknown  
Proposed maximum injection pressure--947 psi.
4. Sources of injected water would be produced water from the Delaware Sand. (See Attachment D)
5. See Attachment D.

Application for Authorization to Inject  
Lusk "AHB" Federal #4  
-2-

- VIII. 1. The proposed injection interval is the portion of the Delaware Sand formation consisting of porous Sandstone from estimated depths: 4733'-4742'  
4902'-4908'  
5034'-5045'  
5121'-5138'  
6384'-6401'  
7647'-7678'
2. Possible Fresh water zones overlie the proposed injection formations at depths to approximately 1142' feet. There are no fresh water zones underlying the formation
- IX. The proposed disposal interval might be acidized with 7-1/2% HCL acid and/or fraced with crosslinked gelled water and 20/40 Sand.
- X. Logs were filed at your office when the well was drilled.
- XI. No windmills exist within a one mile radius of the subject location.
- XII. Yates Petroleum Corporation has examined geologic and engineering data and has found that there is no evidence of faulting in the proposed interval.
- XIII. Proof of Notice
- A. Certified letters sent to the surface owner and offset operators-attached. (Attachment E)
- B. Copy of legal advertisement attached. (Attachment F)
- XIV. Certification is signed.

Yates Petroleum Corporation  
Lusk "AHB" Federal #4  
C 35-T19S-R32E

Attachment A  
Page 1

III. Well Data

A. 1. Lease Name/Location:

Lusk "AHB" Federal #4  
C 35-T19S-R32E  
660' FNL & 2310' FWL

2. Casing Strings:

a. Present Well Condition

13 3/8", 54.5#, J55 @ 1142' w/950 sx  
8 5/8", 32#, J55, HC 80 @ 4465' w/2175 sx  
5 1/2", 17 & 15.5#, J55 @ 7860' w/825 sx  
TOC - 4265' CBL  
TD @ 7860'  
Perforations (Delaware): 4733'-4742', 4902'-4908',  
5034'-5045', 5121'-5138', 6384'-6401', 7647'-7678'

Present Status: Unsuccessful, uneconomic completion in  
the Delaware (5 BOPD/400 BWPDP).

3. Proposed well condition:

Casing and perforations same as above.

3 1/2" 9.3 J55 or 2 7/8" 6.5 J55 plastic-coated injection tubing @ 4650'.

4. Propose to use Guiberson or Baker plastic-coated or nickel-plated packer  
set at 4650'.

B. 1. Injection Formation: Delaware Sand

2. Injection Interval will be through perforations from approximately  
4733'-7678'.

3. Well was originally drilled as a Delaware Sand oil well. Well will be  
Delaware Sand water disposal well (4733'-7678') when work is completed.

4. Perforations: 4733'-4742', 4902'-4908', 5034'-5045', 5121'-5138', 6384'-6401',  
7647'-7678'

5. Next higher (shallower) oil or gas zone within 2 miles--Yates, Seven Rivers  
Next lower (deeper) oil or gas zone within 2 miles--Bone Spring

WELL NAME: LEWIS AND CLARK

LOCATION: 660' FNL, 2310' FNL 35-193-32e Lea NM

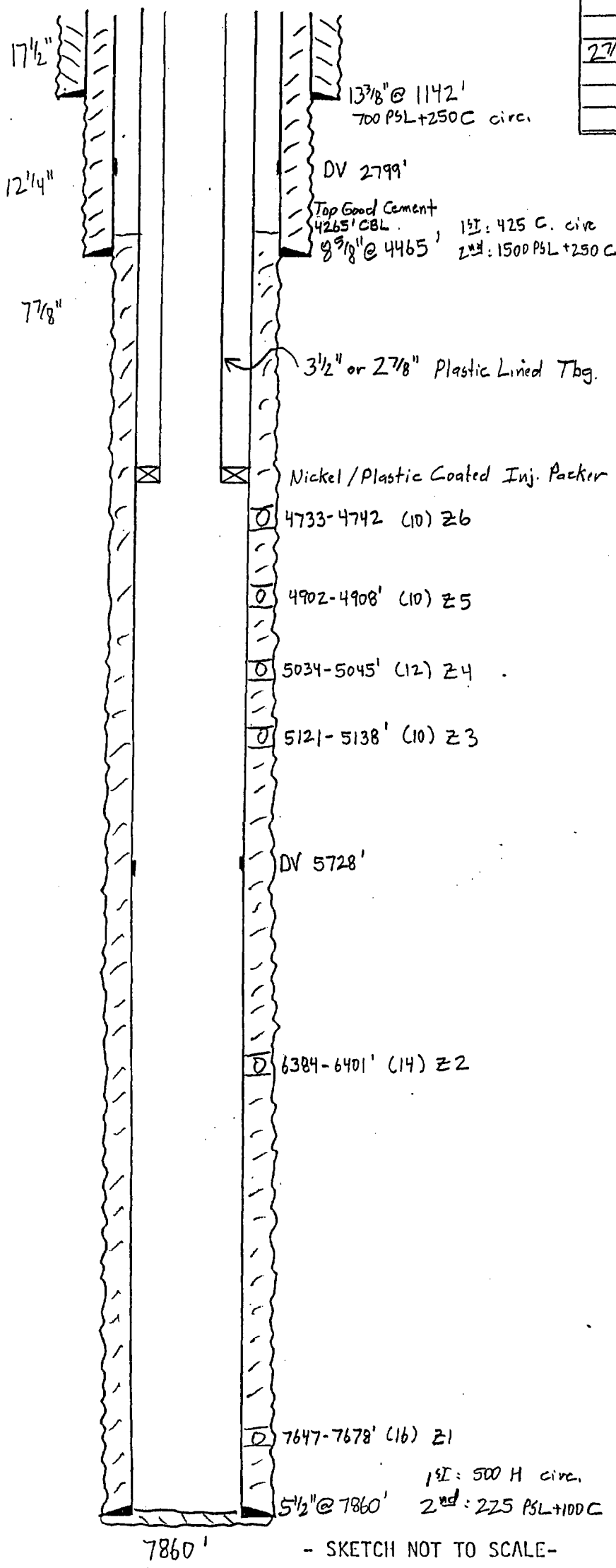
GL: 3573' ZERO: 15' AGL:         

KB: 3588' ORIG. DRLG./COMPL. DATE:         

COMMENTS:         

CASING PROGRAM:

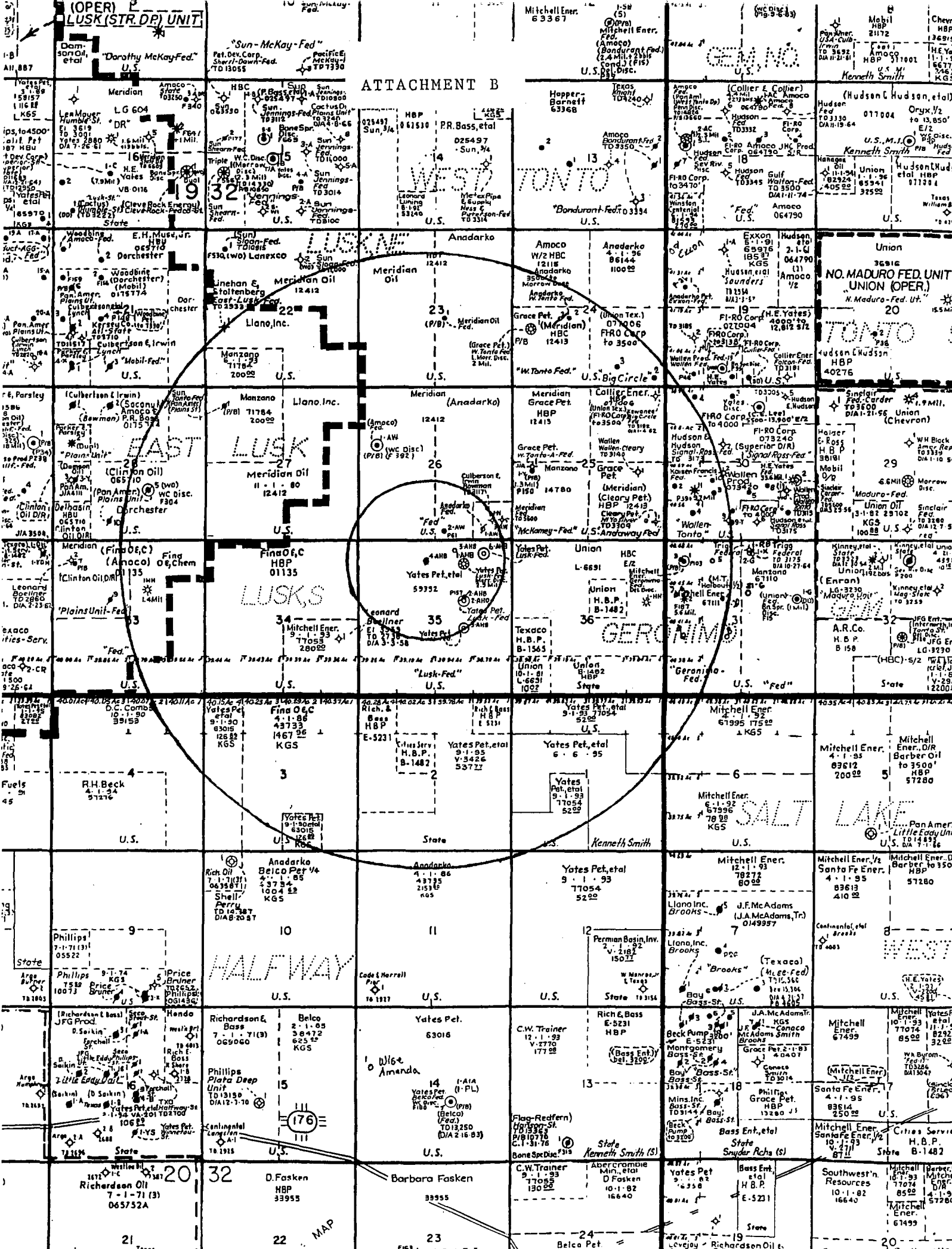
SIZE/WT./GR./CONN.	DEPTH
13 3/8 54.5 J55 STC	114
8 5/8 32 HC80 J55	446
5 1/2 17 J55 LTC	43
15.5 J55 LTC	698
17 J55 LTC	786
2 7/8 6.5 J55 EVE	



Proposed Wellbore Schematic  
ATTACHMENT A Pg. 2

- SKETCH NOT TO SCALE -

REVISED:



**YATES PETROLEUM CORPORATION**  
**LUSK "AHB" FEDERAL #4**  
**PROPOSED SALT WATER DISPOSAL**  
**SEC. 35-19S-32E**  
**660'FNL & 2310'FWL**  
**LEA COUNTY, NEW MEXICO**



## ATTACHMENT C

Lusk "AHB" Federal #4  
Form C-108

## Tabulation of Data on Wells Within Area of Review

<u>Well Name</u>	<u>Operator</u>	<u>Type</u>	<u>Spud</u>	<u>Completed</u>	<u>Total Depth</u>	<u>Producing Zone</u>	<u>Perforations</u>	<u>Completion Information</u>
Bowman #1N P 26-19S-32E	Culbertson & Irwin	D&A	04/01/43	05/25/43	3117'			
Federal "AVW" #1 P 26-19S-32E	Amoco Prod.	Oil	01/16/87	01/27/87	13520'	Delaware	4848'-4866'	13 3/8" @ 511' w/475 sx 9 5/8" @ 5744' w/1935 sx 5 1/2" @ 13519' w/2550 sx 2 3/8" @ 10525'
Federal "AVW" #2 O 26-19S-32E	Meridian Oil Inc.	Oil	09/28/90	12/10/90	7806'	Delaware	4870'-4892'	13 3/8" @ 368' w/375 sx 8 5/8" @ 4520' w/1425 sx 5 1/2" @ 7806' w/1200 sx 2 7/8" @ 4709'
Lusk "AHB" Federal #1 B 35-19S-32E	YPC	Gas	02/28/90	04/28/90	13936'	Morrow	13616'-13624'	13 3/8" @ 1140' w/750 sx 8 5/8" @ 4679' w/2450 sx 5 1/2" 13936' w/2590 sx 2 7/8" @ 13538
Lusk "AHB" Federal #2 G 35-19S-32E	YPC	Oil	10/21/90	12/25/90	10600'	Delaware	4694'-7962'	13 3/8" @ 1140' w/950 sx 8 5/8" @ 4405' w/3040 sx 5 1/2" @ 10600' w/2250 sx 2 7/8" @ 10478'
Lusk "AHB" Federal #3	YPC	Oil	01/21/92	03/01/92	7900'	Delaware	5210'-7533'	13 3/8" @ 1160' w/950 sx 8 5/8" @ 4430' w/2125 sx 5 1/2" @ 7900' w/1255 sx
Lusk "AHB" Federal #5 B 35-19S-32E	YPC	Oil	11/19/91	01/14/92	7940'	Delaware	4705'-7705'	13 3/8" @ 1140' w/950 sx 8 5/8" @ 4430' w/800 sx 5 1/2" @ 7940' w/1265 sx

ATTACHMENT C

Lusk "AHB" Federal #6 A 35-19S-32E	YPC	Oil	2/29/92	04/09/92	7900'	Delaware	4597'-7285'	13 3/8" @ 1140' w/970 SX 8 5/8" @ 4475' w/2065 SX 5 1/2" @ 7900' w/965 SX
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SIZE/WT./GR./CONN.	DEPTH
13 3/8" 54.5 # 750 SX	114
8 5/8" 32 # 2450 SX	465
5 1/2" 17 & 20 # 2590 SX	139
2 7/8" thg & pr	135

17 1/2"

12 1/4"

7 7/8"

13 3/8" @ 1140'  
w/ 750 SX (circ)

8 5/8" @ 4679'  
w/ 2450 SX (circ)

DV 8766'

2 7/8" + 6" d pkr @ 13538'

13616-13624 Narrow

PETD 13770'

5 1/2" @ 13936'  
1st: 1180 SX "H"  
2nd: 1410 SX 50/50 P&Z

13,936'

- SKETCH NOT TO SCALE-

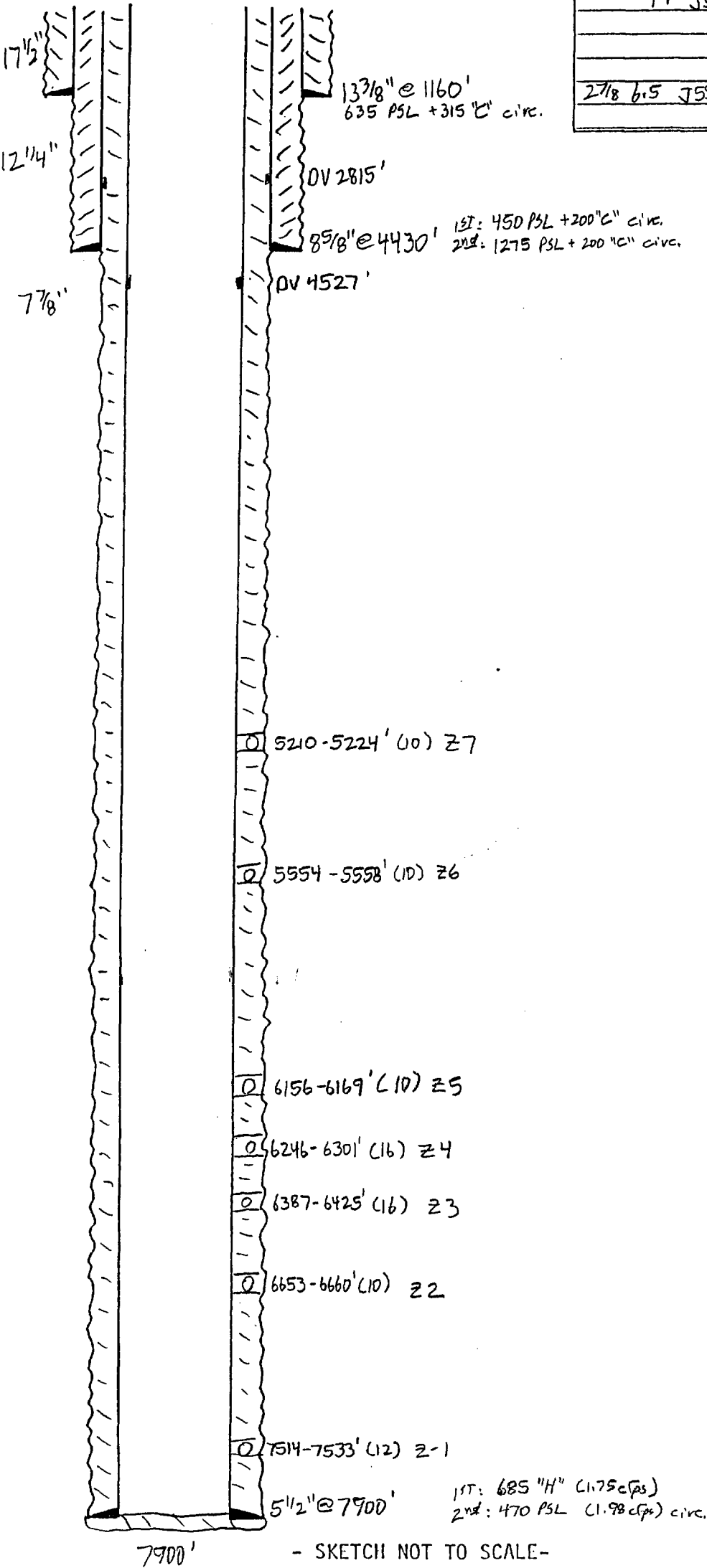
- SKETCH NOT TO SCALE-

REVISÉD:

WELL NAME: Lusk AHB Fed. 3 FIELD AREA: Lusk Delaware  
 LOCATION: 2310' FSL, 1650' FEL J- 35-195-32e Lea NM  
 GL: 3558' ZERO: 18.5' AGL:         
 KB: 3576.5' ORIG. DRLG./COMPL. DATE:         
 COMMENTS:       

CASING PROGRAM:

SIZE/WT./GR./CONN.	DEPTH SET
13 7/8 54.5 J55	1160'
8 5/8 32 HCB0, J55	4430'
5 1/2 17 J55 LTC	210'
15.5 J55 LTC	6986'
17 J55 LTC	7900'
2 7/8 6.5 J55 EVE	



ATTACHMENT C  
 PG. 3

- SKETCH NOT TO SCALE -

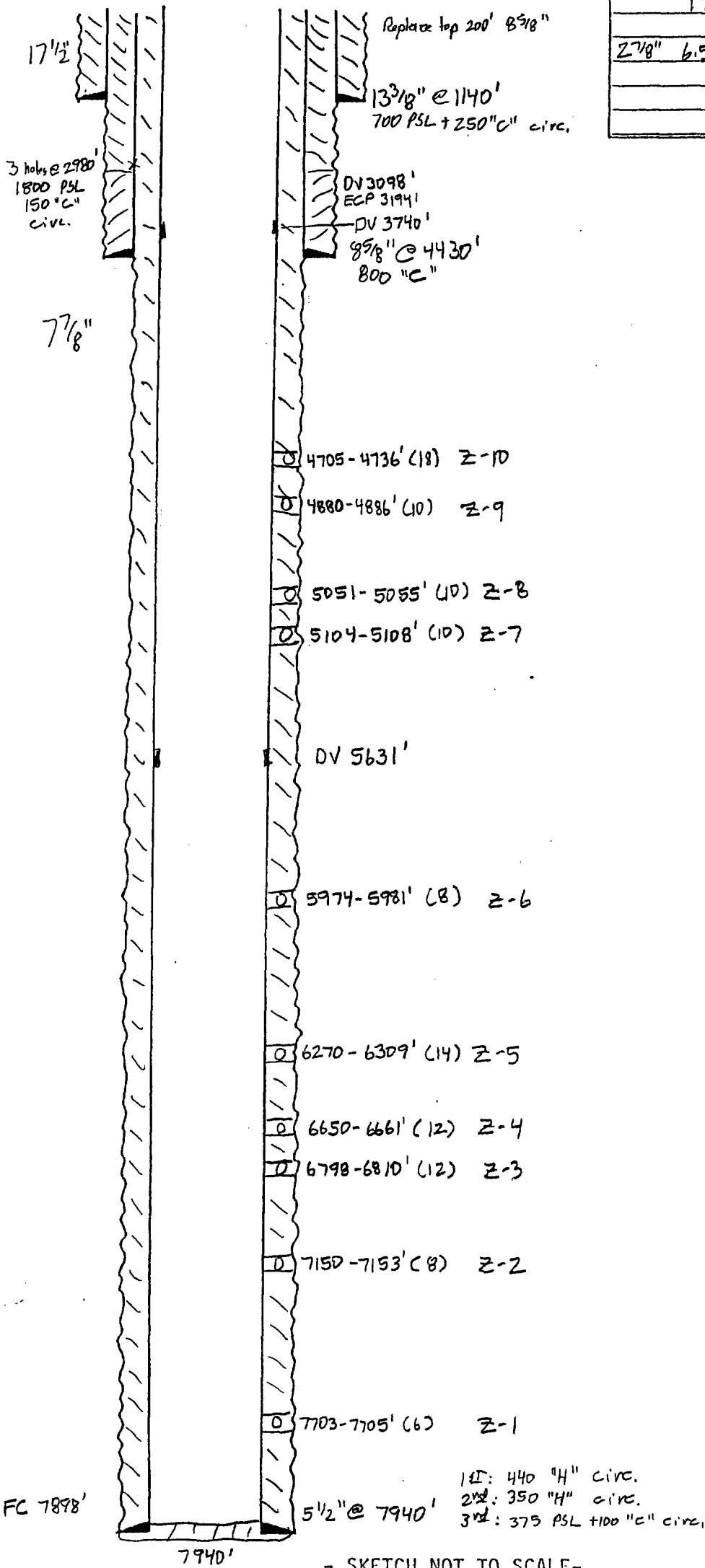
REVISED: Brian Collins

WELL NAME: Lusk AHB Fed. 5 FIELD AREA: Lusk Delaware.  
 LOCATION: 330' PNL, 1980' FEL Sec. 35 - 19s - 32e Lea, NM  
 GL: 3569' ZERO: 19' AGL:         
 KB: 3588' ORIG. DRLG./COMPL. DATE:         
 COMMENTS:       

CASING PROGRAM:

SIZE/WT./GR./CONN.	DEPTH SE
13 3/8 54.5 J55	1140'
8 3/8" 32 HCBP J55	4430'
5 1/2" 17 J55 LTC	739'
15.5 J55 LTC	7074'
17 J55 LTC	7940'
2 7/8" 6.5 J55 R/E	

ATTACHMENT C  
 PG. 4



- SKETCH NOT TO SCALE-

REVISED: Brian Collins

WELL NAME: LOSH AHB F&O, #6 FILED NAME: \_\_\_\_\_  
 LOCATION: A-3S-19S-37-E  
 GL: 3568' ZERO: 18.5' AGL: \_\_\_\_\_  
 KB: 3586.5' ORIG. DRLG./COMPL. DATE: 3-19-92  
 COMMENTS: \_\_\_\_\_

CASING PROGRAM:

SIZE/WT./GR./CONN.	DEPTH S
13 3/8 54.5 J55	1140'
8 5/8 32 J55, HC80	4475
5 1/2 17 # J55 1262'	7900
15.5 # J-55 6638'	
MARKER JTS AT	
7175' AND 4993	

17 1/2"  
 12 1/4"  
 13 3/8" @ 1140'  
 W 1970 SK circ  
 DV 2981'  
 TOC above 4450' CBL  
 8 5/8 @ 4475' 1st: 350"C"  
 2nd: 1400 PSL + 200"C" circ.

ATTACHMENT C  
 PG. 5

7 7/8"  
 4597 - 4608 (12)  
 4698 - 4736 (15)  
 4883 - 92 (10)  
 5076 - 95 (15)  
 5443 - 54 (12)  
 D.V. TOOL 5730'

6176 - 80 (10)  
 6281 - 90 (12)  
 7262 - 85 (14 holes)

STAGE 2 325 SX  
 F.S. 7900' STAGE 1 550 SX, CIRC.  
 - SKETCH NOT TO SCALE-

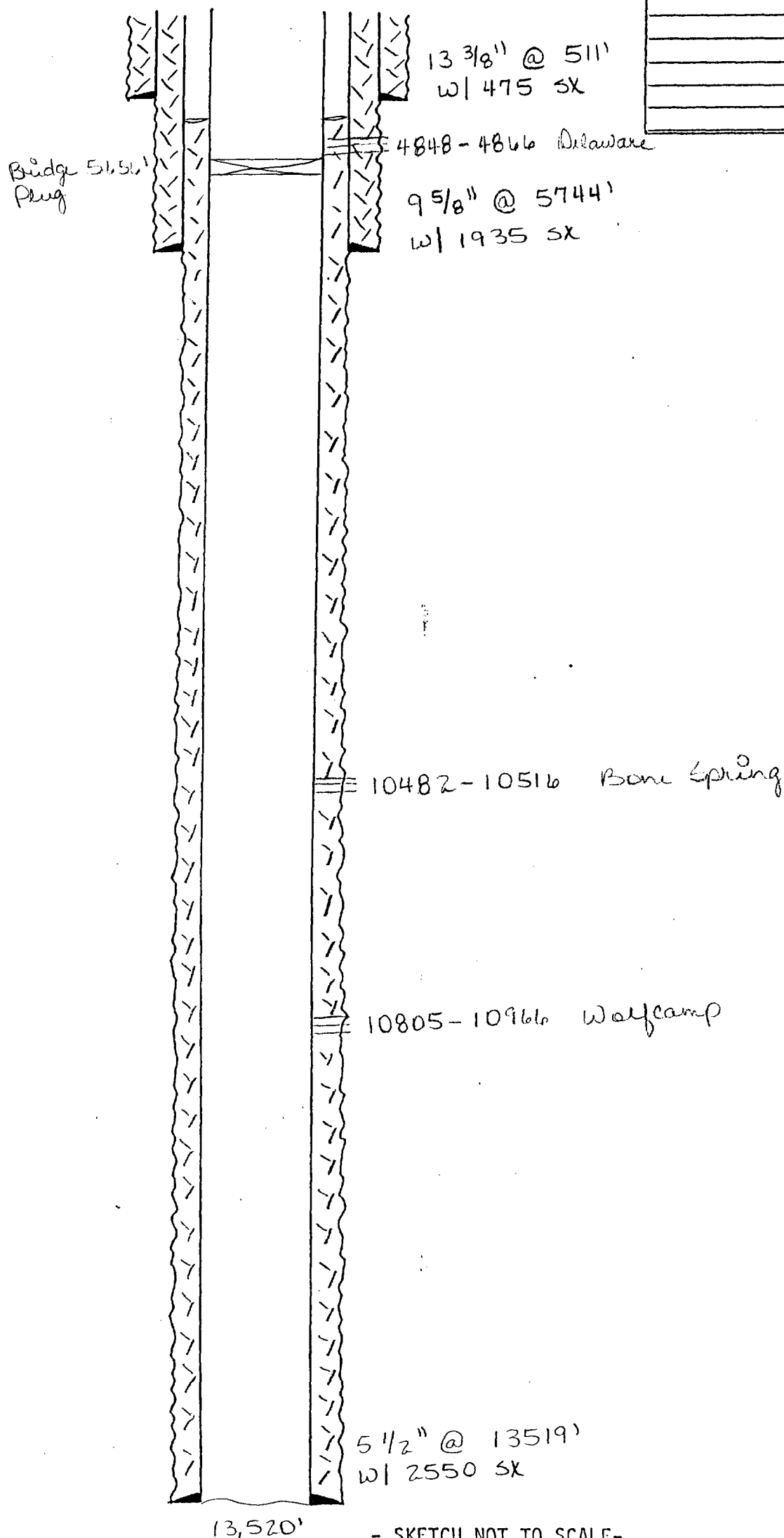
REVISED: \_\_\_\_\_

WELL NAME: TRENTON F.W.  
LOCATION: 1980' ENL & 660' FWL 26-175-32E L&A - NM  
GL: \_\_\_\_\_ ' ZERO: \_\_\_\_\_ ' AGL: \_\_\_\_\_ '  
KB: \_\_\_\_\_ ' ORIG. DRLG./COMPL. DATE: 3-23-81  
COMMENTS:  

SIZE/WT./GR./CONN.	DEP
--------------------	-----

[illegible]

ATTACHMENT C  
PG. 6



- SKETCH NOT TO SCALE-

REVISSED:

**TRETOLITE®****Chemicals and Services**
 16010 Barker's Point Lane • Houston, Texas 77079  
 713 558-5200 • Telex: 4620346 • FAX: 713 589-4737

 Reply to: P.O. Box FF  
 Artesia, New Mexico 88210  
 (505) 746-3588 Phone  
 (505) 746-3580 Fax
**WATER ANALYSIS REPORT**
 Company : YATES PETROLEUM  
 Address : ARTESIA, NM  
 Lease : LUSK  
 Well : #2  
 Sample Pt. : WELLHEAD

 Date : 04/13/92  
 Date Sampled : 04/10/92  
 Analysis No. : 003

ANALYSIS	mg/L	* meq/L
1. pH	6.2	
2. H <sub>2</sub> S	0	
3. Specific Gravity	1.150	
4. Total Dissolved Solids	234810.1	
5. Suspended Solids		
6. Dissolved Oxygen		
7. Dissolved CO <sub>2</sub>		
8. Oil In Water		
9. Phenolphthalein Alkalinity (CaCO <sub>3</sub> )		
10. Methyl Orange Alkalinity (CaCO <sub>3</sub> )		
11. Bicarbonate	HCO <sub>3</sub> 61.0	HCO <sub>3</sub> 1.0
12. Chloride	Cl 146331.0	Cl 4127.8
13. Sulfate	SO <sub>4</sub> 425.0	SO <sub>4</sub> 8.9
14. Calcium	Ca 26720.0	Ca 1333.3
15. Magnesium	Mg 3588.2	Mg 295.2
16. Sodium (calculated)	Na 57684.9	Na 2509.1
17. Iron	Fe 0.0	
18. Barium	Ba 0.0	
19. Strontium	Sr 0.0	
20. Total Hardness (CaCO <sub>3</sub> )	81500.0	

**PROBABLE MINERAL COMPOSITION**

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
1333 *Ca <----- *HCO <sub>3</sub>	Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.0	1.0 81
----- /----->	CaSO <sub>4</sub>	68.1	8.9 602
295 *Mg -----> *SO <sub>4</sub>	CaCl <sub>2</sub>	55.5	1323.5 73440
----- <----- /	Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.2	
2509 *Na -----> *Cl	MgSO <sub>4</sub>	60.2	
+-----+	MgCl <sub>2</sub>	47.6	295.2 14053
Saturation Values Dist. Water 20 C	NaHCO <sub>3</sub>	84.0	
CaCO <sub>3</sub> 13 mg/L	Na <sub>2</sub> SO <sub>4</sub>	71.0	
CaSO <sub>4</sub> * 2H <sub>2</sub> O 2090 mg/L	NaCl	58.4	2509.1 146634
BaSO <sub>4</sub> 2.4 mg/L			

**REMARKS:**

----- L. MALLET / MLAB / FILE

Petro-lite Oilfield Chemicals Group

Respectfully submitted,  
LEE MALLET



**TRETOLITE®****Chemicals and Services**

PETROLITE

16010 Barker's Point Lane • Houston, Texas 77079  
713 558-5200 • Telex: 4620346 • FAX: 713 589-4737Reply to: P.O. Box FF  
Artesia, New Mexico 88210  
(505) 746-3588 Phone  
(505) 746-3580 Fax**WATER ANALYSIS REPORT**Company : YATES PETROLEUM  
Address : ARTESIA, NM  
Lease : LUSK  
Well : #5  
Sample Pt. : WELLHEADDate : 04/13/92  
Date Sampled : 04/10/92  
Analysis No. : 004

ANALYSIS	mg/L	* meq/L
1. pH	6.6	
2. H <sub>2</sub> S	0	
3. Specific Gravity	1.130	
4. Total Dissolved Solids	204740.9	
5. Suspended Solids		
6. Dissolved Oxygen		
7. Dissolved CO <sub>2</sub>		
8. Oil In Water		
9. Phenolphthalein Alkalinity (CaCO <sub>3</sub> )		
10. Methyl Orange Alkalinity (CaCO <sub>3</sub> )		
11. Bicarbonate	HCO <sub>3</sub> 61.0	HCO <sub>3</sub> 1.0
12. Chloride	Cl 125670.0	Cl 3545.0
13. Sulfate	SO <sub>4</sub> 1175.0	SO <sub>4</sub> 24.5
14. Calcium	Ca 13960.0	Ca 696.6
15. Magnesium	Mg 2462.4	Mg 202.6
16. Sodium (calculated)	Na 61412.5	Na 2671.3
17. Iron	Fe 0.0	
18. Barium	Ba 0.0	
19. Strontium	Sr 0.0	
20. Total Hardness (CaCO <sub>3</sub> )	45000.0	

**PROBABLE MINERAL COMPOSITION**

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
697 *Ca <----- *HCO <sub>3</sub>	Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.0 1.0	81
----- /----->	CaSO <sub>4</sub>	68.1 24.5	1665
203 *Mg -----> *SO <sub>4</sub>	CaCl <sub>2</sub>	55.5 671.1	37241
----- <----- /	Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.2	
2671 *Na -----> *Cl	MgSO <sub>4</sub>	60.2	
	MgCl <sub>2</sub>	47.6 202.6	9644
Saturation Values Dist. Water 20 C	NaHCO <sub>3</sub>	84.0	
CaCO <sub>3</sub> 13 mg/L	Na <sub>2</sub> SO <sub>4</sub>	71.0	
CaSO <sub>4</sub> * 2H <sub>2</sub> O 2090 mg/L	NaCl	58.4 2671.3	156109
BaSO <sub>4</sub> 2.4 mg/L			

**REMARKS:**

----- L. MALLETT / MLAB / FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,  
LEE MALLETT

## WATER ANALYSIS REPORT

Company : YATES PETROLEUM  
 Address : ARTESIA, NM  
 Lease : LUSK #6  
 Well : #6  
 Sample Pt. : WELLHEAD

Date : 05/15/92  
 Date Sampled : 05/14/92  
 Analysis No. : 037

ANALYSIS		mg/L		* meq/L
-----		----		-----
1. pH	6.9			
2. H2S	0			
3. Specific Gravity	1.100			
4. Total Dissolved Solids		159576.1		
5. Suspended Solids				
6. Dissolved Oxygen				
7. Dissolved CO2				
8. Oil In Water				
9. Phenolphthalein Alkalinity (CaCO3)				
10. Methyl Orange Alkalinity (CaCO3)				
11. Bicarbonate	HCO3	158.6	HCO3	2.6
12. Chloride	Cl	96276.0	Cl	2715.8
13. Sulfate	SO4	4125.0	SO4	85.9
14. Calcium	Ca	16400.0	Ca	818.4
15. Magnesium	Mg	3411.3	Mg	280.6
16. Sodium (calculated)	Na	39205.2	Na	1705.3
17. Iron	Fe	0.0		
18. Barium	Ba	0.0		
19. Strontium	Sr	0.0		
20. Total Hardness (CaCO3)		55000.0		

## PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter		Compound	Equiv wt	X meq/L	= mg/L
-----					
818	*Ca <----- *HCO3	Ca(HCO3)2	81.0	2.6	211
-----	/----->	CaSO4	68.1	85.9	5846
281	*Mg -----> *SO4	CaCl2	55.5	729.9	40500
-----	<-----/	Mg(HCO3)2	73.2		
1705	*Na -----> *Cl	MgSO4	60.2		
-----		MgCl2	47.6	280.6	13360
		NaHCO3	84.0		
		Na2SO4	71.0		
		NaCl	58.4	1705.3	99659

Saturation Values Dist. Water 20 C

CaCO3 13 mg/L

CaSO4 \* 2H2O 2090 mg/L

BaSO4 2.4 mg/L

## REMARKS:

----- L. MALLETT / MLAB / FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,  
 LEE MALLETT

**ATTACHMENT E**

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

May 22, 1992

CERTIFIED RETURN RECEIPT

State of New Mexico  
OIL CONSERVATION DIVISION  
P. O. Drawer 1980  
Hobbs, NM 88240

Attn: Mr. Jerry Sexton

Dear Mr. Sexton,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates' Lusk "AHB" Federal #4 located in Unit C of Section 35-19S-32E, Lea County, New Mexico.

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

Sincerely,

Brian Collins  
Petroleum Engineer

BC/th

Enclosure

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FRANK W. YATES  
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SECRETARY  
DENNIS G. KINSEY  
TREASURER

May 22, 1992

CERTIFIED RETURN RECEIPT

State of New Mexico  
OIL CONSERVATION DIVISION  
P. O. Box 2088  
Santa Fe, NM 87501

Attn: Mr. David Catanach

Dear Mr. Catanach,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates' Lusk "AHB" Federal #4 located in Unit C of Section 35-19S-32E, Lea County, New Mexico.

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

Sincerely,

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Petroleum Engineer

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SECRETARY  
DENNIS G. KINSEY  
TREASURER

May 22, 1992

CERTIFIED RETURN RECEIPT

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

Dear Sir,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates' Lusk "AHB Federal #4 located in Unit C of Section 35-19S-32E, Lea County, New Mexico.

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

Sincerely,

Brian Collins  
Petroleum Engineer

BC/th

Enclosures

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1912 - 1985  
FRANK W. YATES  
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105 SOUTH FOURTH STREET  
ARTESIA, NEW MEXICO 88210

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SECRETARY  
DENNIS G. KINSEY  
TREASURER

May 22, 1992

CERTIFIED RETURN RECEIPT

Meridian Oil, Inc.  
P. O. Box 51810  
Midland, TX 79710-1810

Dear Sir,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates' Lusk "AHB Federal #4 located in Unit C of Section 35-19S-32E, Lea County, New Mexico.

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

Sincerely,

Brian Collins  
Petroleum Engineer

BC/th

Enclosures

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1912 - 1985  
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1936 - 1986



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EXECUTIVE VICE PRESIDENT  
RANDY G. PATTERSON  
SECRETARY  
DENNIS G. KINSEY  
TREASURER

May 22, 1992

CERTIFIED RETURN RECEIPT

Fina Oil & Chemical Co.  
6 Desta Dr. #4400  
Midland, TX 79705-5505

Dear Sir,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates' Lusk "AHB Federal #4 located in Unit C of Section 35-19S-32E, Lea County, New Mexico.

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

Sincerely,

Brian Collins  
Petroleum Engineer

BC/th

Enclosures



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1936 - 1986



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DENNIS G. KINSEY  
TREASURER

May 22, 1992

Hobbs News Sun  
201 N. Thorp  
Hobbs, NM 88240

Gentlemen,

Yates Petroleum Corporation desires to place a public notice in your newspaper for one day. The notice is enclosed.

Please place this notice in your paper on Tuesday, May 26, 1992 and forward a copy of it along with your billing as soon as possible to:

Yates Petroleum Corporation  
105 S. 4th Street  
Artesia, NM 88210  
Attn: Brian Collins

If you have any questions, please contact me at 748-1471, Ext. 182. Thank you for your cooperation in this matter.

Sincerely,

Brian Collins  
Petroleum Engineer

BC/th

Enclosure

## Attachment F

### Legal Notice

Yates Petroleum Corporation, 105 South Fourth Street, Artesia, NM 88210, has filed form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for an injection well. The proposed well, the "Lusk AHB Federal #4" located 660' FNL & 2310' FWL of Section 35, Township 19 South, Range 32 East of Lea County, New Mexico, will be used for saltwater disposal. Disposal waters from the Delaware Sand will be re-injected into the Delaware Sand at a depth of 4733'-7678' with a maximum pressure of 947 psi and a maximum rate of 5,000 BWPD.

All interested parties opposing the aforementioned must file objections or requests for a hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, NM 87501, within 15 days. Additional information can be obtained by contacting Brian Collins at (505) 748-1471.

## AFFIDAVIT OF PUBLICATION

OIL CONSERVATION DIVISION  
RECEIVEDState of New Mexico,  
County of Lea.

'92 JUN 25 AM 8 47

I, Kathi Bearden

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period

of \_\_\_\_\_

One weeks.  
Beginning with the issue dated

May 26, 1992  
and ending with the issue dated

May, 26, 1992

Kathi Bearden  
General Manager

Sworn and subscribed to before

me this 29 day of

May, 1992

Paula Paman  
Notary Public.

My Commission expires \_\_\_\_\_

Aug. 5, 1995  
(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

## LEGAL NOTICE

May 26, 1992

Yates Petroleum Corporation, 105 South Fourth Street, Artesia, NM 88210, has filed form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for an injection well. The proposed well, the "Lusk AHB Federal #4" located 660' FNL & 2310' FWL of Section 35, Township 19 South, Range 32 East of Lea County, New Mexico, will be used for saltwater disposal. Disposal waters from the Delaware Sand will be re-injected into the Delaware Sand at a depth of 4733'-7678' with a maximum pressure of 947 psi and a maximum rate of 5,000 BWP.

All interested parties opposing the aforementioned must file objections or requests for a hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, NM 87501, within 15 days. Additional information can be obtained by contacting Brian Collins at (505) 748-1471.



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE

RECEIVED

5-28-92

'92 JUN 1 AM 10 52

BRUCE KING  
GOVERNOR

POST OFFICE BOX 1980  
HOBBS, NEW MEXICO 88241-1980  
(505) 393-6161

OIL CONSERVATION DIVISION  
P. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

RE: Proposed:

MC \_\_\_\_\_  
DHC \_\_\_\_\_  
NSL \_\_\_\_\_  
NSP \_\_\_\_\_  
SWD X SWD-480  
WFX \_\_\_\_\_  
PMX \_\_\_\_\_

Gentlemen:

I have examined the application for the:

Yates Petroleum Corp. Lease AHB Federal #4-C 35-19-32  
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton  
Supervisor, District 1

/ed