

CHECKLIST for ADMINISTRATIVE INJECTION APPLICATIONS

Operator: MERIDIAN OIL COMPANY Well: LITTLE JACK "30" FEDERAL No. 7
Contact: DONNA WILLIAMS Title: PROD. ASST. Phone: 915-688-6943
DATE IN 6.23.94 RELEASE DATE 7.7.94 DATE OUT 8.11.94

Proposed Injection Application is for: ☐ WATERFLOOD ☐ Expansion ☐ Initial

Original Order: R- ☐ Secondary Recovery ☐ Pressure Maintenance

☐ SENSITIVE AREAS

☒ SALT WATER DISPOSAL

☐ WIPP

☐ Capitan Reef

☐ Commercial Operation

Data is complete for proposed well(s)? YES Additional Data _____

AREA of REVIEW WELLS

5 Total # of AOR

0 # of Plugged Wells

YES Tabulation Complete

N/A Schematics of P & A's

YES Cement Tops Adequate

N/A AOR Repair Required

INJECTION INFORMATION

Injection Formation(s) LOWER BELL CANYON (DELAWARE) 5340'-5720'

Source of Water BONE SPRING / DELAWARE Compatible YES

PROOF OF NOTICE

☒ Copy of Legal Notice

☐ Information Printed Correctly

☒ Correct Operators

☐ Copies of Certified Mail Receipts

☐ Objection Received

☐ Set to Hearing _____ Date

NOTES: _____

APPLICATION QUALIFIES FOR ADMINISTRATIVE APPROVAL YES

COMMUNICATION WITH CONTACT PERSON:

1st Contact:	<input type="checkbox"/> Telephoned	<input type="checkbox"/> Letter	_____	Date	_____	Nature of Discussion	_____
2nd Contact:	<input type="checkbox"/> Telephoned	<input type="checkbox"/> Letter	_____	Date	_____	Nature of Discussion	_____
3rd Contact:	<input type="checkbox"/> Telephoned	<input type="checkbox"/> Letter	_____	Date	_____	Nature of Discussion	_____

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Meridian Oil Inc.
Address: P.O. Box 51810 Midland, Texas 79710-1810
Contact party: Donna Williams Phone: 915-688-6943
- 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: Donna Williams

Title: Production Assistant

Signature: [Signature]

Date: 6/17/94

- * 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.

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.

June 17, 1994

Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501-2088

**RE: Application for Authorization to Dispose
 Little Jack 30 Federal No. 7
 SW/SE, Sec. 30, T23S, R32E
 660' FSL & 2485' FEL
 Lea County, New Mexico
 Federal Lease No: NM 86927**

Gentlemen:

Meridian Oil Incorporated (MOI) is applying for authorization to drill and complete the above referenced well for the purpose of water disposal. Attached is an injection well data sheet showing the current and proposed mechanical configuration of this well. A map is also attached showing the one-half mile area of review around the well. The required information from 'Form C-108' follows.

The proposed injection well will dispose of water produced from Meridian Oil leases from the kBone Spring & Delaware formations in the South Sand Dunes Bone Spring & West Triste Draw Delaware fields. Our estimated initial injection rate will be 1000 BPD. The estimated maximum rate is 4000 BPD. We anticipate initial injection pressure to be +/-600 psi, and request an operating maximum pressure of 1150 psi. The closed injection facilities will be equipped with high and low level head switches and will not operate continuously. No deeper aquifers containing usable quality water are known in this area.

III. Well Data

- A. 1) The proposed well:
 Little Jack 30 Federal # 7
 660' FSL & 2485' FEL
 Sec. 30, T23S, R32E
 Lea County, New Mexico
- 2) Surface casing: 8 5/8" 32# set @ 600. Cmt w/375 sxs. TOC @ surface.
 Injection casing: 5 1/2" 15.5# @ 6100'. Cmt w/850 sxs. TOC @ surface.
- 3) Injection tubing: 2 7/8" 6.5# J-55 IPC tubing @ +/-5250'.
- 4) Injection packer: Baker Lokset (coated) set @ +/- 5250'.

- B.
- 1) Injection Formation: Lower Bell Canyon
 - 2) Injection Interval: Perfed from 5340' to 5720'. 4 JSPF
 - 3) The well will be drilled as a disposal well.
 - 4) There will be no other open intervals in this injection well.
 - 5) The next possible lower oil or gas zone is the Brushy Canyon Delaware located at approximately 7000'. No higher horizons produce within the area of review.

IV. This is not an expansion of an existing Meridian Oil project.

V. Area of Review: See Exhibit 'A' which identifies the well's area of review.

VI. Tabulation of data: Wells within area of review.

- 1.)

Well Name:	Tresnor Federal # 1		
Location:	1980 FSL & 1980' FWL, Sec. 30, T23S R32E, Lea County New Mexico		
Operator:	Mitchell Energy Corporation		
Well Type:	Oil	Total Depth:	15588'
Date Drilled:	Spud: 7/30/81	Completed:	8/14/82
Completion Data:	Perforated 14788'-14798' (4 JSPF), 11360';11000' squeezed; 11087'-11337' OA; 8586'-8626' Acidized with 200 gl 7 1/2% MSR. Fracture Stimulated with 26500 gal X-linked gel w/5000# 20/40 sand & 1500# 100 mesh sand.		
Top of Cement on Production String:	12600' (TS)		
Well Currently producing			
See Exhibit 'B'			
- 2.)

Well Name:	Tresnor Federal # 2		
Location:	1980' FNL & 660' FWL, Sec. 30, T23S, R32E Lea County, New Mexico		
Operator:	Mitchell Energy Corporation		
Well Type:	Oil	Total Depth:	8990'
Date Drilled:	Spud: 9/11/93	Completed:	12/21/93
Completion Data:	Perforated 8577'-8592' (4 JSPF) Acidized with 1500 gl 15% NEFE Fracture stimulated with 42000# 20/40 RD w/24500 gl gel Top of Cement on Production String: 4000' (TS)		
Well currently producing			
See Exhibit 'C'			

- 3.) Well Name: Little Jack 30 Federal # 1
Location: 1980' FSL & 2310' FEL, Sec. 30, T23S, R32E, Lea County
New Mexico
Operator: Meridian Oil Inc.
Well Type: Oil Total Depth: 9758'
Date Drilled: Spud 12/27/93 Completed: 3/18/94
Completion Data: Perforated 7248'-7310' (2 JSPF); 8637'-8680' (2 JSPF)
Acidized w/2000 gl 7.5% NEFE HCl
Fracture stimulated w/21000 gl 35# cross-linked gel,
74000 20/40 Ottawa sand & 20000 20/40 RC sand
Top of Cement on production string: 4700' (TS)
Well Currently Producing
See Exhibit 'D'
- 4.) Well Name: Little Jack 30 Federal # 2
Location: 1980' FSL & 2310' FWL, Sec. 30, T23S, R32E, Lea County
New Mexico
Operator: Meridian Oil Inc.
Well Type: Oil Total Depth: 8800'
Date Drilled: Spud 4/30/94 Completed: 5/24/94
Completion Data: Perforated 8292'-8358' (4 SPF)
Acidized w/1100 gls 7.5% NEFE HCl
Fracture stimulated w/22500 gls 35# XL gel w/60000# 20/40
Ottawa sand and 15000# 20/40 Super HC sand
Top of Cement on production string: 4200' (TS)
Well Currently Producing
See Exhibit 'E'
- 5.) Well Name: Little Jack 30 Federal # 3
Location: 660' FSL & 2310' FEL, Sec. 30, T23S, R32E, Lea County
New Mexico
Operator: Meridian Oil Inc.
Well Type: Oil Total Depth: 8900'
Date Drilled: Spud 4/15/94 Completed: 5/9/94
Completion Data: Perforated 8196'-8222 (4 JSPF); 8286'-8310'
Acidized w/2500 gls 7.5% NEFE HCl
Fracture stimulated w/23000 gl 35# cross-linked gel, 63000#
20/40 Ottawa and 15000# 20/40 LC sand
Top of Cement on Production String: 4500'(TS)
Well Currently Producing
See Exhibit 'F'

VII. Proposed Operation:

- 1). Estimated average initial injection rate is 1000 BWPD
Estimated maximum daily rate is 4000 BWPD
- 2). This will be a closed system
- 3). Estimated average injection pressure is 600 psi. Maximum estimated operating pressure is 1150 psi.
- 4). Produced water from the Delaware and the First Bone Spring Sand will be disposed of into the Lower Bell Canyon. Water analysis of produced water from the Delaware is included. See Exhibit 'G'.
- 5). The injection interval is not productive of oil or gas within one (1) mile of the proposed well. For the injection zone water analysis, the data source is from the Dagger Lake 'S' State No. 1 located in Sec. 5, T22S, R33E, Lea County, New Mexico. See attached water analysis. Exhibit 'H'.

VIII. Geological Data:

A. Injection Zone -

Lithological Description: Sandstone, light gray fine to very fine grained, poorly consolidated, silty, poor calc. cement.

Geological Name: Bell Canyon (Delaware)

Zone of Thickness: 1300'

Base of Zone At: 6091'

B. Fresh Water Sources -

Geological Name: Triassic

Depth at Bottom of Zone: 680'

Since there are no known water wells within a one half mile radius, See Exhibit 'I', we are submitting water analysis from two water wells located in Sec. 14, T22S, R32E, Lea County, New Mexico as representative of fresh water samples. See Exhibit 'J'.

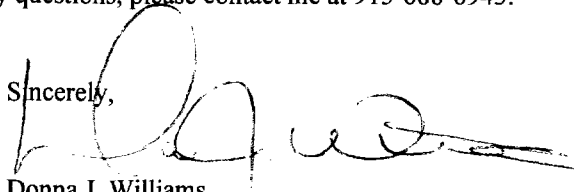
IX. Proposed Stimulation:

The proposed stimulation program is 3000 gals 7 1/2% NEFE HCl.

- X. Log Data - The Little Jack 30 Feddeal # 3 was recently drilled in the same unit letter as the proposed SWD. The logs from this well with the disposal interval marked are included. See Exhibit 'K'.
- XI. Fresh Water Analysis: There are no fresh water wells within a one mile radius of the proposed SWD well.
- XII. Hydrologic Communication:
- There is no known evidence of faulting or other hydrologic communication between potential fresh water aquifers and the desired injection zone.
- XIII. Proof of Notice:
- Proof of Notice is attached.
Exhibit 'M'
- Notification of Offset Operators within a 1/2 mile radius:
Notification of Surface Owner:
Proof of Publication:
- XIV. Certification:
- Certification is on Form C-108

If you need additional information, or if you have any questions, please contact me at 915-688-6943.

Sincerely,

A handwritten signature in black ink, appearing to read 'Donna J. Williams', with a long horizontal flourish extending to the right.

Donna J. Williams
Production Assistant
Meridian Oil Inc.

Enclosures:

INJECTION WELL DATA SHEET

SIDE 1

Meridian Oil Inc.

Little Jack 30 Federal

OPERATOR

LEASE

7

30

T23S

R32E

WELL NO.

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

Lea County, NM

Schematic

Tubular Data

Surface Casing

Size 8 5/8"

Cemented with 375

TOC surface

feet determined by circulation

Hole size 12 1/4"

by

n

Intermediate Casing

Size

Cemented with

TOC

feet determined by

Hole size

by

Long String

Size 5 1/2"

Cemented with 850

TOC surface

feet determined by circulation

Hole size 7 7/8"

by

n

Total Depth 6100±

Baker Lok Set
@5250'

Lower Bell Canyon
Delaware perforations
5340'-5720' (4 JSPF)

Injection Interval

5340

feet to 5720

feet

Perforated with 4 JSPF

5 1/2" 15.5# csg
@ 6100 w/ 850 sxs
TOC = surface

TD=6100'

PROPOSED WELLBORE

INJECTION WELL DATA SHEET

SIDE 2

Tubing size 2 7/8" lined with plastic coated set in a
Baker Lokset packer at (material)
(brand and model) +/-5250 feet
(or describe any other casing-tubing seal).

OTHER DATA

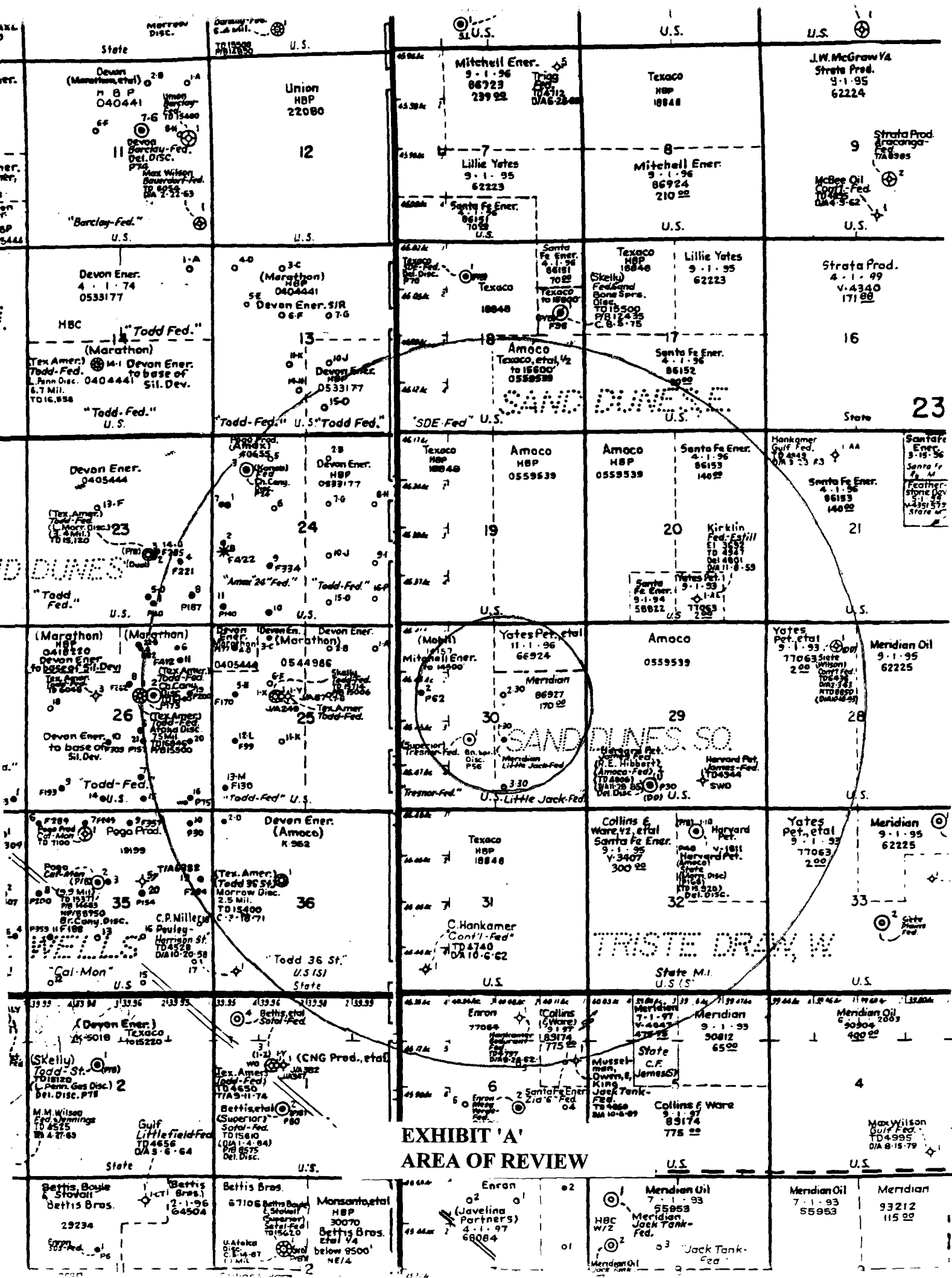
Non-productive of hydrocarbons

1. Name of the injection formation Lower Bell Canyon Delaware
2. Name of Field or Pool (if applicable) for I.D. purposes - West Triste Draw Delaware
3. Is this a new well drilled for injection? ☒ X ☐ YES ☐ NO
If no, for what purpose was the well originally drilled? _____

4. 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).
Well was drilled and abandoned without completion.
See wellbore sketches of current and proposed configuration of well.

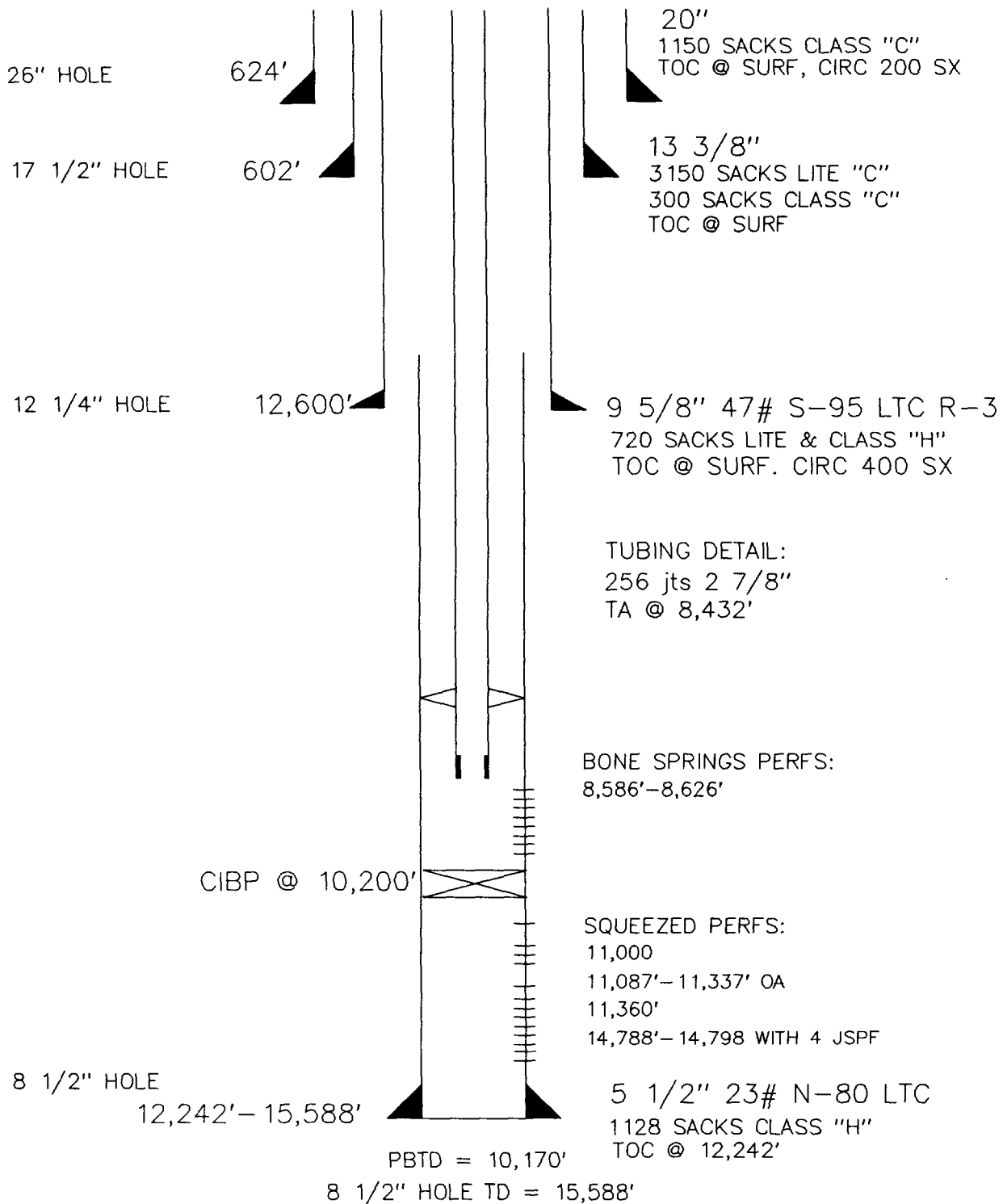
5. Give the depth to and name of any overlying and/or gas zones (pools) in this area.

No higher productive intervals in area of review. The next possible lower oil and gas zone is the Brushy Canyon Delaware sandstone located at approximately 7000'.



MITCHELL ENERGY CORPORATION

TRESNOR FEDERAL #1 LEA COUNTY, NEW MEXICO

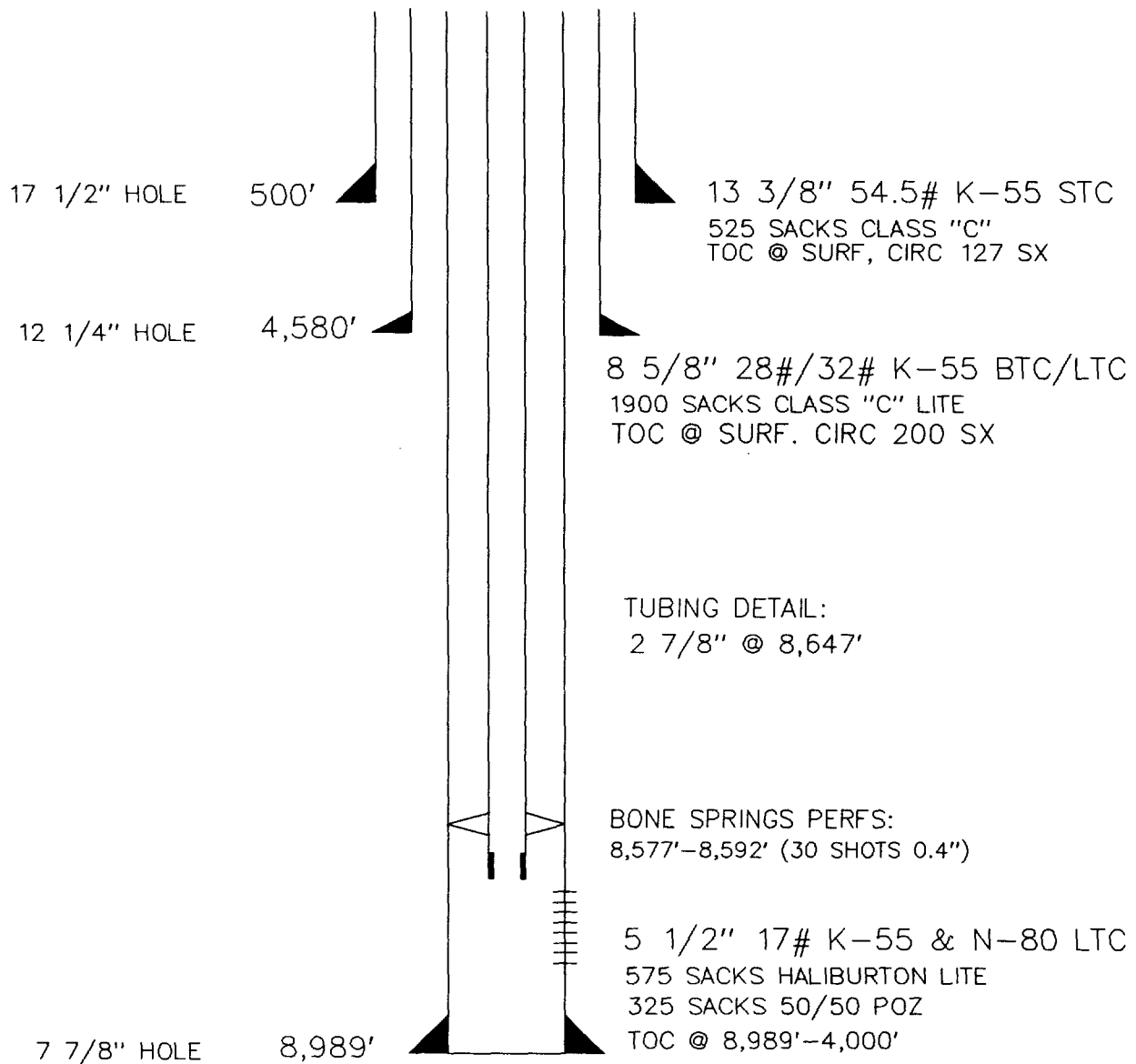


EXISTING CONFIGURATION (EST.)

EXHIBIT 'B'
DATA OF WELL WITHIN AREA OF REVIEW

MITCHELL ENERGY CORPORATION

TRESNOR FEDERAL #2
LEA COUNTY, NEW MEXICO



PBTD = 8,901'

7 7/8" HOLE TD = 8,990'

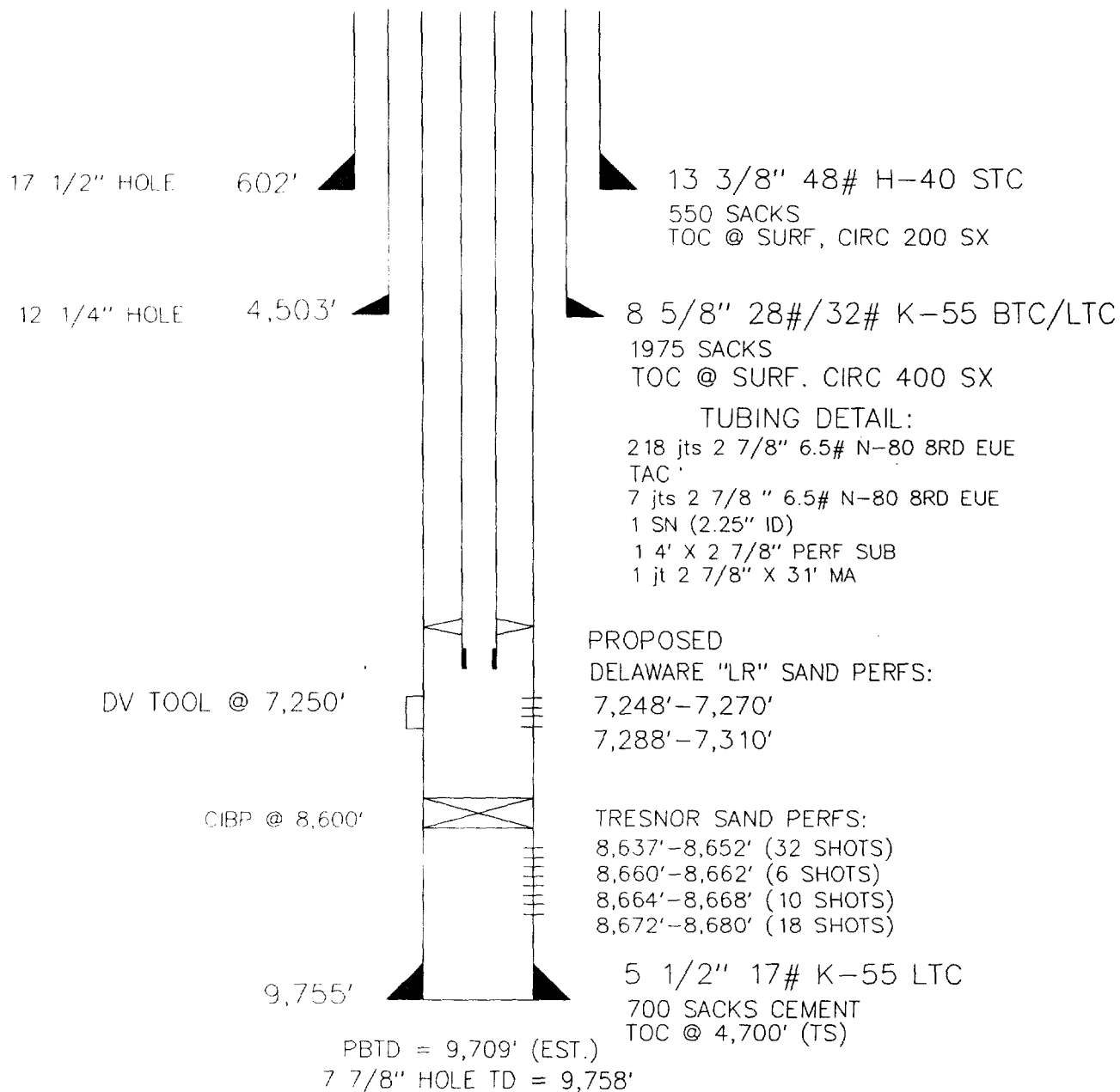
EXISTING CONFIGURATION (EST.)

EXHIBIT 'C'

DATA OF WELL WITHIN AREA OF REVIEW

MERIDIAN OIL

LITTLE JACK 30 FEDERAL #1
SOUTH SAND DUNES PROSPECT
LEA COUNTY, NEW MEXICO



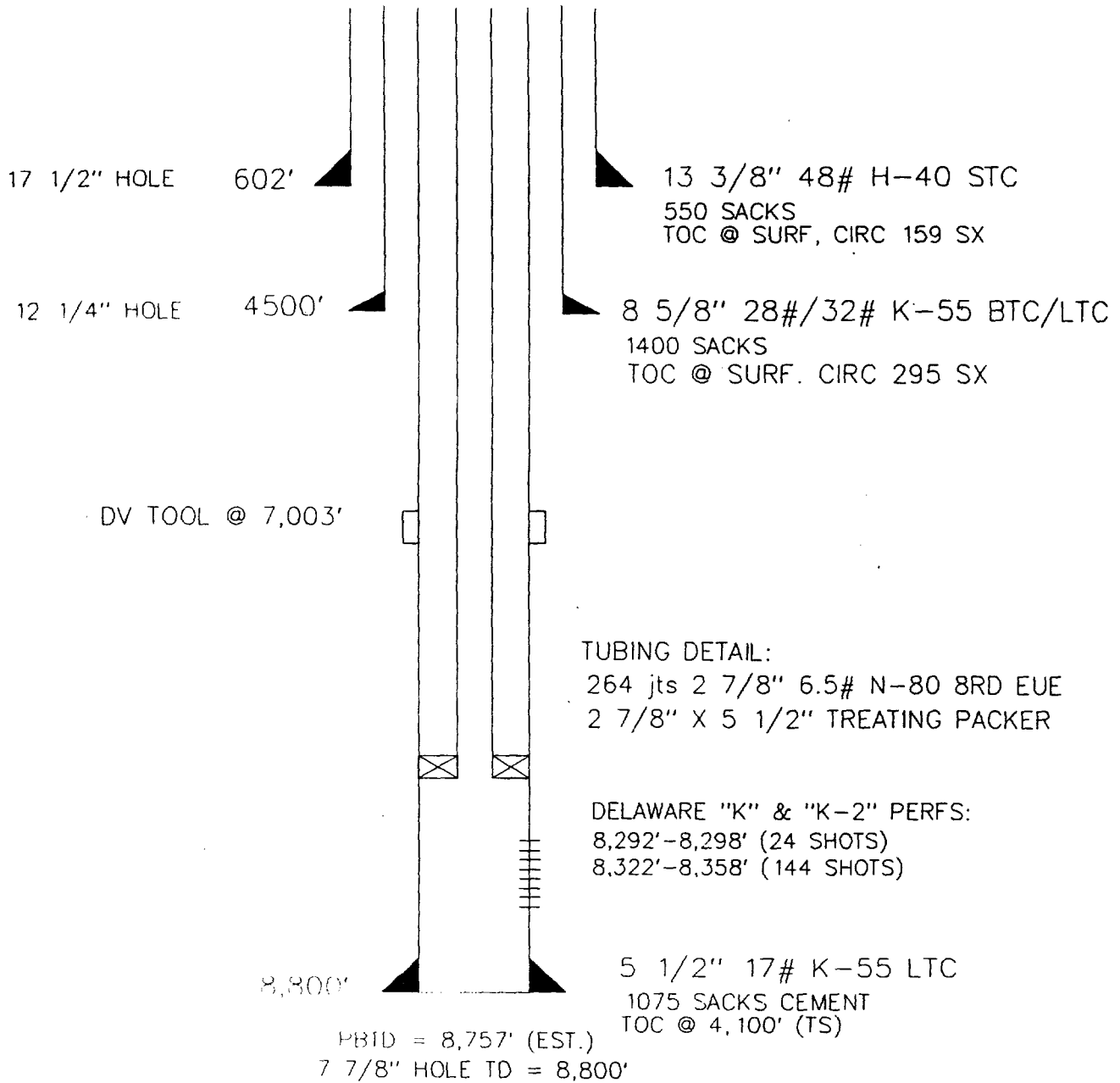
PROPOSED CONFIGURATION

EXHIBIT 'D'

DATA OF WELL WITHIN AREA OF REVIEW

MERIDIAN OIL

LITTLE JACK 30 FEDERAL #2
SOUTH SAND DUNES FIELD
LEA COUNTY, NEW MEXICO

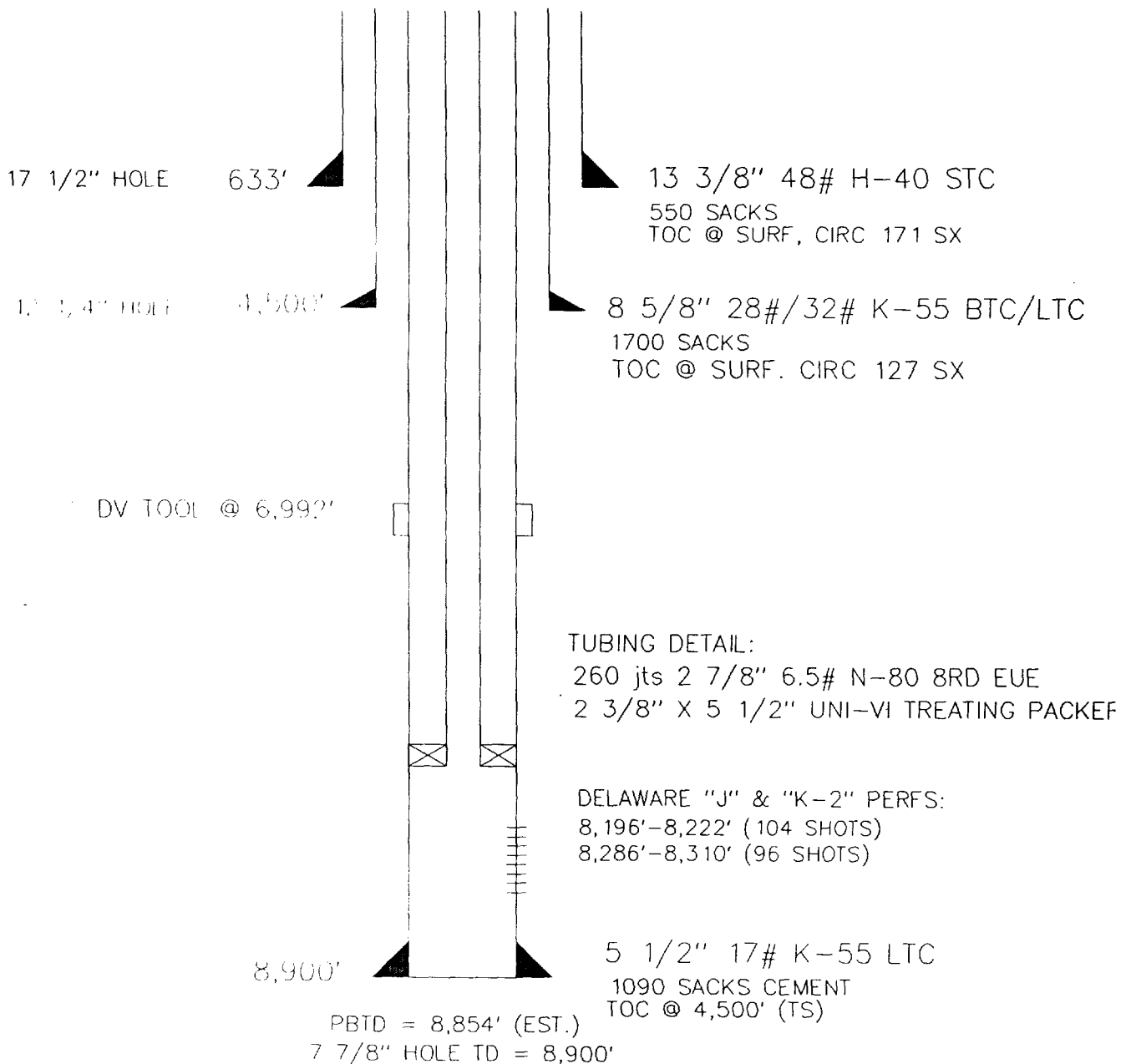


PROPOSED CONFIGURATION

EXHIBIT 'E'
DATA OF WELL WITHIN AREA OF REVIEW

MERIDIAN OIL

LITTLE JACK 30 FEDERAL #3
SOUTH SAND DUNES FIELD
LEA COUNTY, NEW MEXICO



CURRENT CONFIGURATION

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Pete Harrington LABORATORY NO. 594140
P. O. Box 51810, Midland, TX 79710 SAMPLE RECEIVED 5-17-94
RESULTS REPORTED 5-23-94

COMPANY Meridian Oil Company LEASE As listed

FIELD OR POOL _____

SECTION _____ BLOCK _____ SURVEY _____ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Little Jack 30 #1 (heater-treater). 5-11-94

NO. 2 Produced water - taken from Jack Tank 8 #2 (heater-treater). 5-11-94

NO. 3 _____

NO. 4 _____

REMARKS: Delaware

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1290	1.1963		
pH When Sampled				
pH When Received	5.56	5.45		
Bicarbonate as HCO ₃	171	63		
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	29,500	93,000		
Calcium as Ca	10,000	30,400		
Magnesium as Mg	1,094	4,131		
Sodium and/or Potassium	65,017	75,114		
Sulfate as SO ₄	494	63		
Chloride as Cl	120,700	181,760		
Iron as Fe	74.2	45.0		
Barium as Ba	0	147		
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	197,476	291,678		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohms/m at 77° F.	0.058	0.047		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Total Dissolved Solids @ 180°F.	193,004	310,376		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks We are not familiar with what field these wells are located in. In comparing with our records in this county, we note that the water from Jack Tank 8 #2 has characteristics very similar to what we would expect from natural Delaware except for the barium content. It is further noted that this water is significantly supersaturated with barium sulfate and therefore has potential for scaling and precipitation from this source. The water from Jack 30 #1 has ratios of salts comparable to what we would expect from natural Delaware in this county, but the levels of salts are lower and therefore indicated to be diluted as compared to natural Delaware. Contact us for any additional assistance in this matter.

Form No. 3

By

Waylan C. Martin
Waylan C. Martin, M.A.

EXHIBIT 'G'

WATER ANALYSIS PRODUCED WATER

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

EXHIBIT 'H'

WATER ANALYSIS - INJECTION ZONE



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

May 19, 1994

FILE: Misc.

Peter J. Harrington
Meridian Oil
P.O. Box 51810
Midland, TX 79710-1810

Dear Mr. Harrington:

I am writing to you in response to your letter of May 17, 1994, to Johnny Hernandez. After researching our records, no wells were found to be located within one-half mile of the location of the proposed salt water disposal well.

This location is in the Carlsbad Underground Water Basin and this area was not declared by the New Mexico State Engineer until June 4, 1975. If wells were drilled in this area prior to June 4, 1975, and were not declared with this office, we would have no record of them.

If you have any questions concerning this matter, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script, appearing to read "Robert G. Bradley".

Robert G. Bradley
Assistant Carlsbad Groundwater
Basin Supervisor

RGB/tg
cc: Santa Fe

EXHIBIT 'T'
LETTER REFERENCING FRESH WATER WELLS

709 W. INDIANA
MIDLAND, TEXAS 79701

PHONE 683-1592

RESULT OF WATER ANALYSES

TO: Mr. Kevin Midkiff
3300 North "A", Bldg. 6, Midland, TX 79705

LABORATORY NO. 194218
SAMPLE RECEIVED 1-29-94
RESULTS REPORTED 2-2-94

COMPANY Meridian Oil Company LEASE Red Tank Federal

FIELD OR POOL _____

SECTION 14 BLOCK _____ SURVEY T22&R32 COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from west water well. 1-27-94

NO. 2 Raw water - taken from east water well. 1-27-94

NO. 3 _____

NO. 4 _____

REMARKS: Triassic 300'

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0015	1.0013		
pH When Sampled				
pH When Received	7.09	7.10		
Bicarbonate as HCO ₃	244	239		
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	192	188		
Calcium as Ca	41	38		
Magnesium as Mg	22	22		
Sodium and/or Potassium	108	79		
Sulfate as SO ₄	178	123		
Chloride as Cl	30	26		
Iron as Fe	0.12	0.12		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	623	528		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohms/m at 77° F.	13.25	16.02		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	2.5	2.9		
Total Dissolved Solids @ 180°C.	544	468		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By

Waylan C. Martin, M.A.

EXHIBIT 'J'
WATER ANALYSIS - FRESH WATER WELL

COMPANY: MERIDIAN OIL, INC.

WELL: LITTLE JACK "30" FEDERAL NO. 3

FIELD: S. SAND DUNES BONE SPRING

COUNTY: LEA STATE: NEW MEXICO

COUNTY: LEA Field: S. SAND DUNES BONE SPRING Location: 2310' FEL & 660' FSL Well: LITTLE JACK "30" FED. NO. 3 Company: MERIDIAN OIL, INC.	<div style="border: 1px solid black; padding: 5px; text-align: center;"> Schlumberger </div>		LITHO DENSITY / COMPENSATED NEUTRON			
			2310' FEL & 660' FSL		Elev.: K.B. 3615 F G.L. 3597 F D.F. 3614 F	
	LOCATION	Permanent Datum: GROUND LEVEL		Elev.: 3597 F		
		Log Measured From: K.B.		18.0 F above Perm. Datum		
	Drilling Measured From: K.B.					
	API Serial No. N/A		SECTION 30		TOWNSHIP 23-S	RANGE 32-E
MUD	Logging Date		APRIL 27, 1994			
	Run Number		1			
	Depth Driller		8900 F			
	Schlumberger Depth		8896 F			
	Bottom Log Interval		8817 F			
	Top Log Interval		200 F			
	Casing Driller Size @ Depth		8.625 IN @ 4500 F		@	
	Casing Schlumberger		4500 F			
	Bit Size		7.875 IN			
	Type Fluid In Hole		FRESH GEL			
	Density	Viscosity	8.5 LB/G	31 S		
	Fluid Loss	PH	14 C3	10		
	Source Of Sample		FLOWLINE			
	RM @ Measured Temperature		1.380 OHMM	@ 72 DEGF	@	
	RMF @ Measured Temperature		1.035 OHMM	@ 72 DEGF	@	
	RMC @ Measured Temperature			@	@	
	Source RMF	RMC	MEAS.	N/A		
	RM @ BHT	RMF @ BHT	0.819 @ 126	0.614 @ 126	@	@
Maximum Recorded BHT		126 DEGF	126			
Circulation Stopped Time		APRIL 27, 1994	07:30			
Logger On Bottom Time		APRIL 27, 1994	SEE LOG			
Unit Number Location		2033	HOBBS. 3402			
Recorded By		CHRIS DAVIS				
Witnessed By		KEVIN MIDKIFF				

EXHIBIT 'K'
LOGS FOR OFFSETTING WELL

COMPANY: MERIDIAN OIL, INC.

WELL: LITTLE JACK "30" FEDERAL NO. 3

FIELD: S. SAND DUNES BONE SPRING

COUNTY: LEA STATE: NEW MEXICO

COUNTY: LEA Field: S. SAND DUNES BONE SPRING Location: 2310' FEL & 660' FSL Well: LITTLE JACK "30" FED. NO. 3 Company: MERIDIAN OIL, INC.	Schlumberger		LITHO DENSITY / COMPENSATED NEUTRON			
			2310' FEL & 660' FSL		Elev.: K.B. 3615 F G.L. 3597 F D.F. 3614 F	
	Permanent Datum: GROUND LEVEL		Elev.: 3597 F			
	Log Measured From: K.B.		18.0 F above Perm. Datum			
	Drilling Measured From: K.B.					
API Serial No. N/A		SECTION 30	TOWNSHIP 23-S	RANGE 32-E		
Logging Date		APRIL 27, 1994				
Run Number		1				
Depth Driller		8900 F				
Schlumberger Depth		8896 F				
Bottom Log Interval		8817 F				
Top Log Interval		200 F				
Casing Driller Size @ Depth		8.625 IN @ 4500 F				
Casing Schlumberger		4500 F				
Bit Size		7.875 IN				
Type Fluid In Hole		FRESH GEL				
MUD	Density	Viscosity	8.5 LB/G	31 S		
	Fluid Loss	PH	14 C3	10		
	Source Of Sample		FLOWLINE			
	RM @ Measured Temperature	1.380 OHMM	@	72 DEGF	@	
	RMF @ Measured Temperature	1.035 OHMM	@	72 DEGF	@	
	RMC @ Measured Temperature		@		@	
	Source RMF	RMC	MEAS.	N/A		
	RM @ BHT	RMF @ BHT	0.819 @ 126	0.614 @ 126	@	@
	Maximum Recorded BHT	126 DEGF	126			
	Circulation Stopped	Time	APRIL 27, 1994	07:30		
Logger On Bottom	Time	APRIL 27, 1994	SEE LOG			
Unit Number	Location	2033	HOBBS. 3402			
Recorded By	CHRIS DAVIS					
Witnessed By	KEVIN MIDKIFF					

EXHIBIT 'K'
LOGS FOR OFFSETTING WELL

PROPOSED DISPOSAL ZONE IN LITTLE JAW 30 FEDERAL NO. 7

5300

5400

TENS

GR

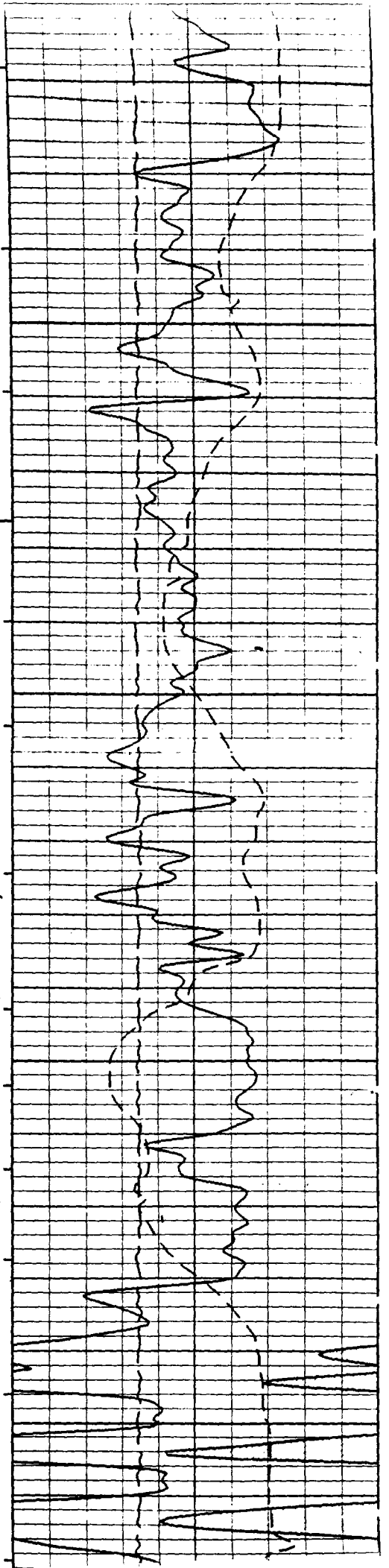
GALI

PEE

DPHI

DRHO

DPHI



PROPOSED DISPOSAL ZONE IN LITTLT SHAL 30 FEET DEEP AB. 7

5700

5600

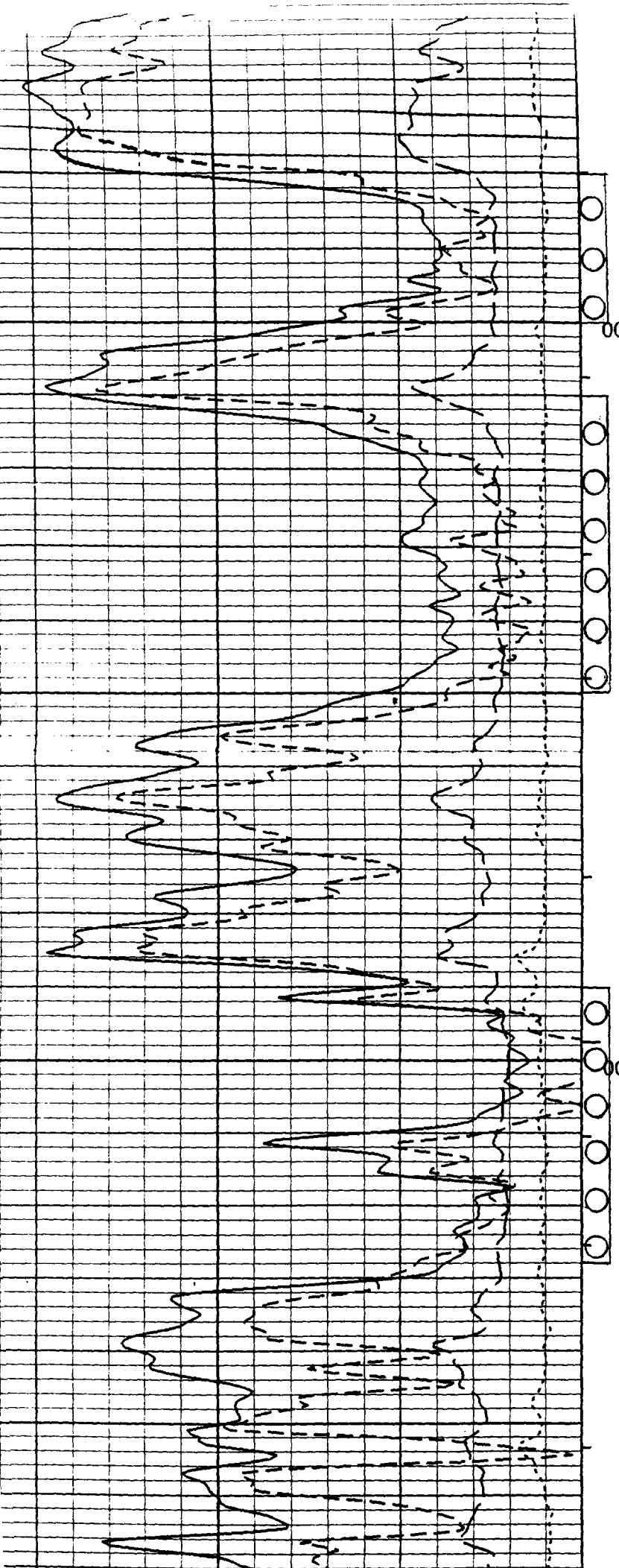


EXHIBIT 'L'
PROOF OF NOTIFICATION

**I CERTIFY THAT A COPY OF THE DISPOSAL APPLICATION WAS
MAILED TO THE FOLLOWING:**

OFFSET OPERATORS WITHIN 1/2 MILE:

**AMOCO PRODUCTION COMPANY
BOX 3092
HOUSTON, TEXAS 77253**

**HARVARD PETROLEUM CORP.
BOX 936
ROSWELL, NEW MEXICO 88202**

**TEXACO EXPLORATION & PRODUCTION INC.
BOX 3109
MIDLAND, TEXAS 79702**

**YATES PETROLEUM CORP.
105 S. FOURTH STREET
ARTESIA, NEW MEXICO 88210**

**MITCHELL ENERGY CORP.
200 N. LORAIN
MIDLAND, TEXAS 79701**

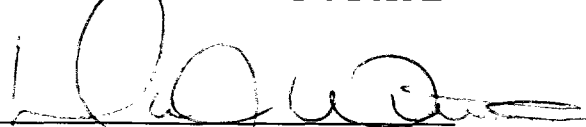
SURFACE OWNER:

**BUREAU OF LAND MANAGEMENT
P.O. BOX 1778
CARLSBAD, NEW MEXICO 88221-1778**

NEWSPAPER

**HOBBS NEWS SUN
201 N. THORP
HOBBS, NEW MEXICO 88240**

BY CERTIFIED/RETURN RECEIPT MAIL ON THIS DATE


DONNA WILLIAMS, PRODUCTION ASST.

6/17/94
JUNE 17, 1994

MERIDIAN OIL

OIL CONSERVATION DIV
RECEIVED

104 JUL 11 AM 8 50

July 8, 1994

**Mr. David Catanach
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501**

**RE: Application for Authority to Inject
 Little Jack 30 Federal No. 7
 Sec. 30, T23S, R32E
 Lea County, New Mexico**

Mr. Catanach:

Please find attached proof of notification and the affidavit of publication in the Hobbs News Sun.

Should you have any questions, or need additional information, please do not hesitate to contact me at 915-688-6943.

Sincerely,



**Donna J. Williams
Production Assistant**

MERIDIAN OIL

NOTE: Will send proof of notification as soon as received.

June 17, 1994

Hobbs News Sun
201 N Thorp
Hobbs, New Mexico 88241

RE: Publication of Legal Notice
Little Jack 30 Federal No. 7
Sec. 30, T23S, R32E
Lea County, New Mexico

Ladies & Gentlemen:

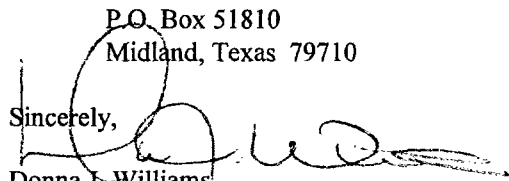
Please publish for one day only, the following legal notice:

**MERIDIAN OIL INC., P.O. BOX 51810 MIDLAND, TEXAS 79710-1810
CONTACT PARTY: DONNA WILLIAMS (915-688-6943) IS MAKING APPLICATION
WITH THE OIL CONSERVATION DIVISION IN SANTA FE, NEW MEXICO FOR
AUTHORITY TO DISPOSE OF WATER IN THE PROPOSED LITTLE JACK 30
FEDERAL # 7 IN SEC. 30, T23S, R32E, 660' FSL & 2485' FEL, LEA COUNTY, NEW
MEXICO. THE PROPOSED DISPOSAL WELL WILL DISPOSE OF WATER PRO-
DUCED FROM MERIDIAN OIL LEASE FROM THE DELAWARE FORMATION
IN THE WEST TRISTE DRAW DELAWARE FIELD INTO THE LOWER BELL
CANYON DELAWARE FORMATION 5340'-5720' WHICH IS NON-PRODUCTIVE
OF HYDROCARBONS. ESTIMATED INITIAL INJECTION RATE WILL BE 1000
BOPD. THE ESTIMATED MAXIMUM INJECTION RATE IS 4000 BOPD. ANTICI-
PATED INITIAL INJECTION PRESSURE TO BE 600 PSI AND REQUEST AN
OPERATING MAXIMUM PRESSURE OF 1150 PSI. ANY INTERESTED PARTIES
MUST FILE OBJECTIONS OR REQUEST FOR HEARING WITH THE OIL
CONSERVATION DIVISION, P.O. BOX 2088, SANTE FE, NEW MEXICO 87501
WITHIN FIFTEEN DAYS.**

Please mail a newspaper clipping, invoice, and affidavit of publication to:

Donna Williams - Production Services
Meridian Oil Inc.
P.O. Box 51810
Midland, Texas 79710

Sincerely,


Donna J. Williams
Production Assistant
915-688-6943

xc: Well File

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Yates Petroleum Corp.
105 S Fourth Street
Artesia, New Mexico 88210

4a. Article Number

P 219 777 081

4b. Service Type

- | | |
|---|---|
| <input type="checkbox"/> Registered | <input type="checkbox"/> Insured |
| <input checked="" type="checkbox"/> Certified | <input type="checkbox"/> COD |
| <input type="checkbox"/> Express Mail | <input type="checkbox"/> Return Receipt for Merchandise |

7. Date of Delivery

JUN 21 1994

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:

Mitchell Energy Corp.
200 N. Loraine
Midland, Texas 79701

5. Signature (Addressee)

6. Signature (Agent)

4a. Article Number

P 219 777 079

4b. Service Type

☐ Registered

☐ Insured

☒ Certified

☐ COD

☐ Express Mail

☐ Return Receipt for Merchandise

7. Date of Delivery

8. Addressee's Address (Only if requested and fee is paid)

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address

2. ☐ Restricted Delivery

Consult postmaster for fee.

Thank you for using Return Receipt Service.

PS Form 3811, December 1991

U.S. GPO: 1993-352-714

DOMESTIC RETURN RECEIPT

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

1. ☐ Addressee's Address

2. ☐ Restricted Delivery

Consult postmaster for fee.

4a. Article Number

P 219 777 082

4b. Service Type

☐ Registered

☐ Insured

☒ Certified

☐ COD

☐ Express Mail

☐ Return Receipt for Merchandise

7. Date of Delivery

8. Addressee's Address (Only if requested and fee is paid)

9. Signature (Addressee)

9. Signature (Agent)

3. Article Addressed to:

Bureau Of Land Management
P.O. Box 1778
Carlsbad, New Mexico 88221-1778

PS Form 3811, December 1991

U.S. GPO: 1993-352-714

DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

1. ☐ Addressee's Address

2. ☐ Restricted Delivery

Consult postmaster for fee.

4a. Article Number

P 219 777 080

4b. Service Type

☐ Registered

☐ Insured

☒ Certified

☐ COD

☐ Express Mail

☐ Return Receipt for Merchandise

7. Date of Delivery

8. Addressee's Address (Only if requested and fee is paid)

9. Signature (Addressee)

9. Signature (Agent)

3. Article Addressed to:

Harvard Petroleum
Box 936
Roswell, New Mexico 88202

PS Form 3811, December 1991

U.S. GPO: 1993-352-714

DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

RECEIVED
JUL 05 1994
PROD. SERV.

I, Kathi Bearden

General Manager

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 _____

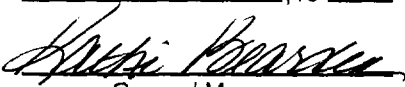
one _____ weeks.

Beginning with the issue dated

June 26, 19 94

and ending with the issue dated

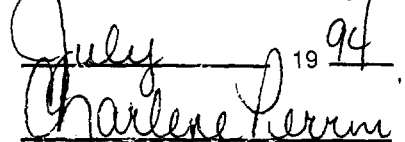
June 26, 19 94



General Manager

Sworn and subscribed to before

me this _____ day of



Notary Public.

My Commission expires
March 15, 1997

(Seal)

LEGAL NOTICE

June 26, 1994

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

Contact Party: Donna Wil-
liams (915-688-6943) is
making application with the
Oil Conservation Division in
Santa Fe, New Mexico for
authority to dispose of water
in the proposed Little Jack
30 Federal #7 in section 30,
T23S, R32E, 660' FSL &
2485' FEL, Lea County, New
Mexico. The proposed dis-
posal well will dispose of
water produced from Meridi-
an Oil Lease from the Dela-

ware formation in the West
Triste Draw Delaware field
into the lower Bell Canyon
Delaware formation 5340'-
5720' which is non-produc-
tive of hydrocarbons. Esti-
mated initial injection rate
will be 1000 BOPD. The esti-
mated maximum injection
rate is 4000 BOPD. Antici-
pated initial injection pres-
sure to be 600 PSI and re-
quest an operating maximum
pressure of 1150 PSI. Any
interested parties must file
objections or request for
hearing with the Oil Conser-
vation Division, P.O. Box
2088, Santa Fe, New Mexico
87501 within fifteen days.

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