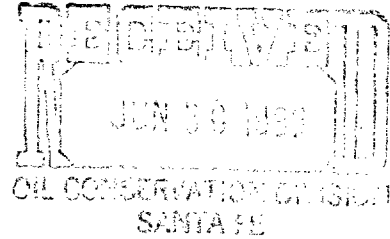


# RICE Engineering Corporation

122 WEST TAYLOR TELEPHONE (505) 393-9174

HOBBS, NEW MEXICO 88240

June 28, 1988



State of New Mexico  
Energy and Minerals Department  
Oil Conservation Division  
P.O.Box 2088  
Santa Fe, New Mexico 87504-2088

RE: Rule 701-Injection of Fluids  
into Reservoirs (Salt Water  
Disposal)

Gentlemen:

Rice Engineering Corporation, as an agent for the American Exploration Company of Houston, Texas, hereby applies for an administrative approval for the purpose of securing a permit under Rule 701 to complete the currently shut-in and temporarily abandoned American Exploration Company-Henry No.2 well, located in SE/4,SW/4,section 26, Township 25 South, Range 37 East,N.M.P.M.,Lea County, New Mexico, as a salt water disposal well in the Justis Salt Water Disposal System.

Rice Engineering Corporation further deposes and states the following:

- A. That said well is located 330 feet from the South line and 1650 feet from the West line of Section 26, Township 25 South, Range 37 East, N.M.P.M.,Lea County, New Mexico (Exhibit "A").
- B. That said well was drilled on December 8, 1938 by Culbertson and Irwin as a Langlie Mattix Queen oil well and has been shut-in and temporarily abandoned since August 1, 1961 by the current operator, American Exploration Company.
- C. That said well has 12½" O.D. casing set at 132 feet and 8-5/8" O.D. casing set at 1218 feet with 7" O.D. casing set at 3213 feet and shot open hole to a total depth of 3297 feet (Exhibit "B").
- D. That said well will be recompleted as a salt water disposal well in the San Andres-Glorieta by (1) deepening to an approximate depth of 5000 feet, (2) setting a liner of 5½" O.D. casing from approximately 3200 feet to 3500 feet and (3) disposing of produced salt water in the open hole

interval from 3500 feet to 5000 feet (Exhibit "C")

- E. That the salt water to be injected is produced in the Fowler, North Justis and Justis pool areas from the Langlie Mattix(Seven Rivers-Queen), Justis(Glorieta), Justis(Paddock), Justis(Blinebry), Justis(Tubb-Drinkard), Fowler(Blinebry), Fowler(Devonian), Justis(Fusselman), Justis(Montoya), North Justis(Montoya), North Justis(McKee), Fowler(Ellenburger), and Justis(Ellenburger) pools.
- F. That the volume of salt water to be disposed shall be approximately 5000 barrels per day by gravity injection.
- G. That the proposed stimulation program is approximately 10,000 gallons of 15% HCl acid.
- H. That the proposed injection zones are San Andres and Glorieta formations of the Leonard Age, Permian System, Paleozoic Era which occur at approximate depths of 3500 feet(-450') and 4700 feet(-1650') respectively with approximate thicknesses of 1300 feet for San Andres and 300 feet for Glorieta.
- I. That the underground water-bearing formations are Alluvium and Triassic occurring at approximate depths of 0-125 feet and 400-850 feet respectively.
- J. That all available geologic and engineering data have been examined and no evidence of open faults or any other hydrologic connection between the disposal zone and underground sources of drinking water has been found and verified by Mr. Paul Katz, geologist at OCD District I office.

*Checked on this  
fresh water not  
this deep in  
this area.*

Therefore, Rice Engineering Corporation respectfully requests from the Oil Conservation Division to grant a permit by administrative approval to dispose of salt water in the American Exploration Company Henry No.2 well.

Yours very truly,

RICE ENGINEERING CORPORATION

*L. B. Goodheart*  
L. B. Goodheart

Division Manager

SAH

Attachments: Form C-108

- Affidavit of Publication for legal notice
- Exhibit "A" : Lease Map of Area
- Exhibit "B" : Current wellbore diagram
- Exhibit "C" : Proposed wellbore diagram
- Exhibit "D" : Data on wells within the area of review
- Exhibit "E" : Copy of log
- Exhibit "F" : Production data at or within one mile
- Exhibit "G" : Fresh water sample analyses
- Exhibit "H" : Typical produced water analyses
- Receipts for certified mail to offset operators

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage  
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Rice Engineering Corporation as agent for American Exploration  
Address: 122 W. Taylor, Hobbs, NM 88240 Company  
Contact party: Loy B. Goodheart Phone: 393-9174
- 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 Justis SWD System.
- 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: L. B. Goodheart Title Division Manager  
Signature: [Signature] Date: June 28, 1988
- \* 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.

**AFFIDAVIT OF PUBLICATION**

State of New Mexico,  
County of Lea.

I, \_\_\_\_\_

William H. Shearman, Jr.

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 24 \_\_\_\_\_, 19 88  
and ending with the issue dated

June 24 \_\_\_\_\_, 19 88

Will Shearman  
Publisher.

Sworn and subscribed to before

me this 27 day of

June, 19 88

Vera Murphy  
Notary Public.

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

November 14 \_\_\_\_\_, 19 88  
(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**

June 24, 1988

**NOTICE OF  
APPLICATION  
FOR OIL AND GAS  
WASTE DISPOSAL  
WELL PERMIT**

Rice Engineering Corporation, 122 W. Taylor, Hobbs, New Mexico 88240, Phone No. 393-9174, has applied to the Oil Conservation Division of New Mexico for a permit to dispose of produced salt water or other oil and gas waste by gravity well injection at a rate of approximately 5000 barrels per day.

The applicant proposes to dispose of oil and gas waste into the San Andres and Glorieta formations by deepening the Langlie Matrix (Queen) Henry No. 2 Well. The proposed disposal well is located at 330' from the South line and 1650' from the West line of Section 26, Township 25 South, Range 37 East, N.M.P.M., Lea County, New Mexico. The waste water will be injected into strata in the subsurface depth intervals of approximately 3500—5000 feet.

**LEGAL AUTHORITY:**  
Rule 701, "Injection of Fluids into Reservoirs (Salt Water Disposal)" of the Oil Conservation Division, Energy and Minerals Department of the State of New Mexico.

Requests for a public hearing from persons who can show and substantiate they are adversely affected

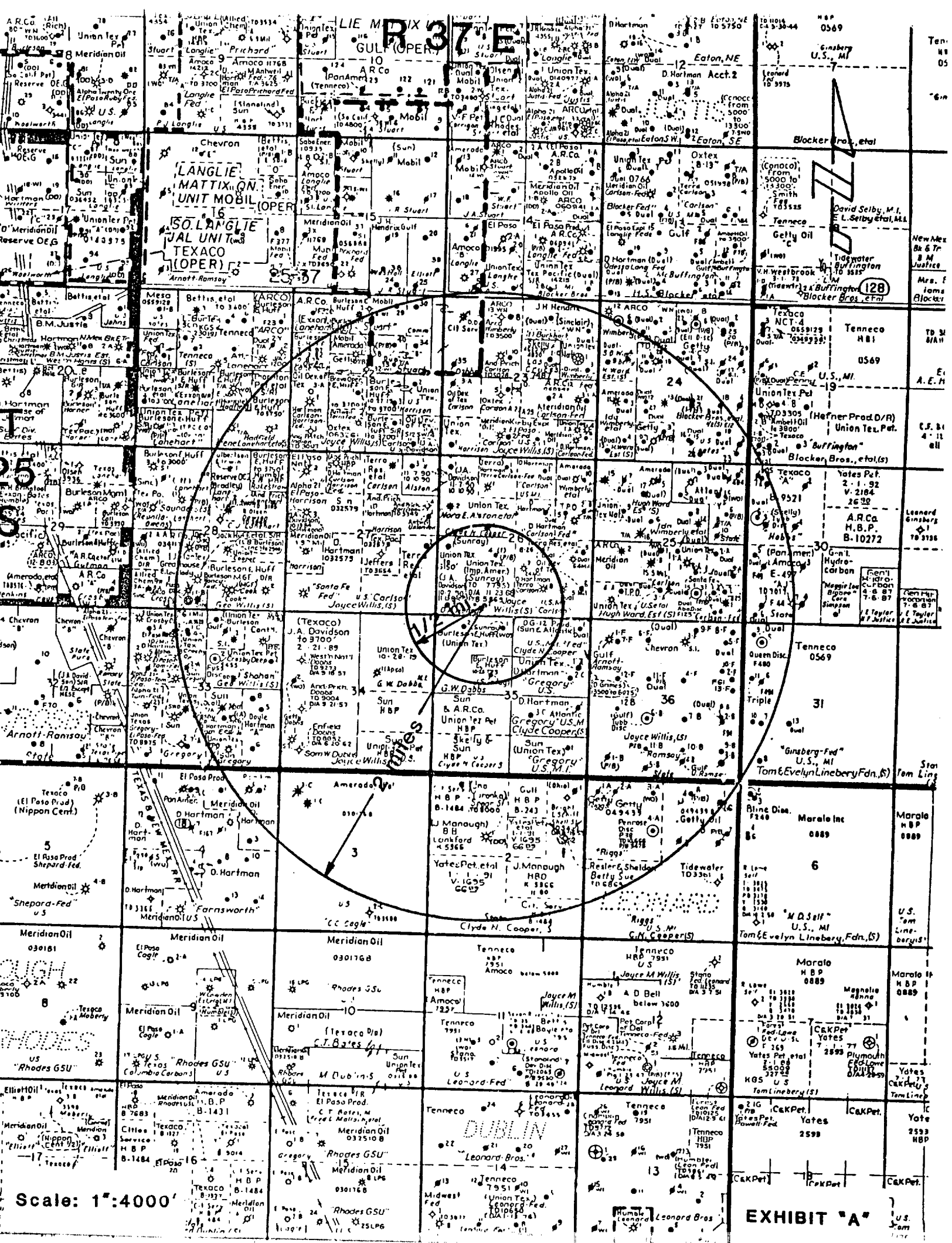
or requests for further information concerning any aspect of this application should be submitted in writing, within fifteen (15) days of this publication to: Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501.

**RECEIVED**

**JUN 27 1988**

**RICE ENGINEERING CORPORATION  
HOBBS, N.M.**

TO	
LBG	✓
SAH	✓
GB,KS	
FILE	



AMERICAN EXPLORATION COMPANY

HENRY No.2

UNIT N, 330' FSL & 1650' FWL, SEC. 26, T25S, R37E,  
LEA COUNTY, NEW MEXICO

DF: 3023'

15" HOLE  
125 SX

12-1/2" 40PPF  
CSG @ 132'

SPUDED: 12-8-1938  
SI & TA: 8-4-1961

10" HOLE  
100 SX.

8-5/8" 32PPF  
CSG @ 1218'

FORMATION TOPS:

Yates: 2410' (613' SL)  
7 Rivers: 2685' (338' SL)  
Queen: 3120' (-97' SL)  
Penrose: 3240' (-217' SL)

8" HOLE  
150 SX.

SHOT OH

7" 22PPF  
CSG @ 3213'

TD @ 3297'

CURRENT WELLBORE DIAGRAM

EXHIBIT "B"

DWN	S.A.H.	10-23-87	APPROVED		JUSTIS SWD SYSTEM LEA COUNTY, NEW MEXICO	SCALE NONE
					Rice Engineering Corporation Great Bend, Kansas	DWG. NO.



## INJECTION WELL DATA SHEET

Rice Engineering Corporation as agent for  
American Exploration Company

Henry

OPERATOR		LEASE	LEASE	
2	330' FSL & 1650' FWL	26	25S	37E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
Lea County, New Mexico				

SchematicSEE ATTACHED  
PROPOSED WELLBORE  
DIAGRAMTabular DataSurface Casing

Size 12 $\frac{1}{2}$  " Cemented with 125 sx.  
 TOC circ'd. feet determined by \_\_\_\_\_  
 Hole size 15"

Intermediate Casing

Size 8-5/8 " Cemented with 100 sx.  
 TOC 273 feet determined by estimate  
 Hole size 10"

Long string

Size 7 " Cemented with 150 sx.  
 TOC 793 feet determined by estimate  
 Hole size 8"  
 Total depth 3297'

## Injection interval (open hole)

3500 feet to 5000 feet  
 (perforated or open-hole, indicate which)

Tubing size 3 $\frac{1}{2}$ " & 2-7/8" lined with fiberglass insert set in a  
 (material)  
BAKER Lok-Set packer at 3450 feet  
 (brand and model)

(or describe any other casing-tubing seal). If bottom hole pressure allows, annular oil blanket will be installed in lieu of packer.

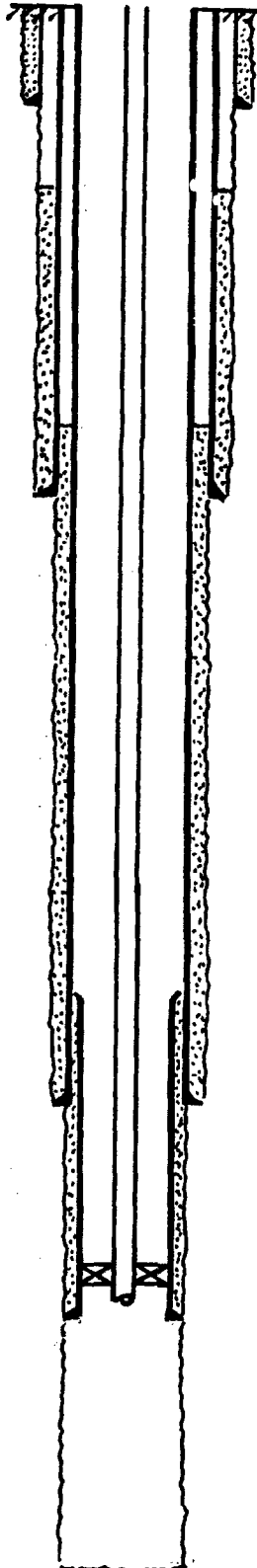
Other Data

- Name of the injection formation San Andres- Glorieta
- Name of Field or Pool (if applicable) Justis (Grayburg-San Andres-Glorieta)
- Is this a new well drilled for injection? ☐ Yes ☒ No  
 If no, for what purpose was the well originally drilled? Langlie Mattix Queen  
oil production, spudded 12-8-1938
- 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) \_\_\_\_\_  
Open-hole producing interval only.
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.  
Overlying : Queen Top at 3120' (log data)  
Underlying : Glorieta Top estimated at 5100'

# PROPOSED WELLBORE DIAGRAM

OPERATOR Rice Engineering Corporation as agent for American Exploration Company		DATE June 28, 1988
LEASE Henry	WELL No 2	LOCATION 330' FSL & 1650' FWL

Section 26, T25S, R37E, Lea County



12½" 40# casing @ 132'

TOC approx. @ 273' (calc.)

TOC approx. @ 793' (calc.)

8-5/8" 32# casing @ 1218'

Top of liner to be approx. @ 3200'

7" 22# casing @ 3213'

5½" BAKER lok-set packer with tailpipe approx. @ 3450'

5½" 15.5# casing liner to be set approx. @ 3500'

TD to be approx. @ 5000'

# TABULATION OF DATA ON WELLS WITHIN THE AREA OF REVIEW

OPERATOR	LEASE & WELL No.	Type of Well	Date Drilled	WELLBORE CONSTRUCTION						LOCATION				COMPLETION ZONE	COMPLETION PERFS (SUBSEA)	REMARKS	
				Hole Size	Csg. Size	Csg. Set at	ex. of Cement	TOC	TD	PBD	Unit Letter	Section	Township				Range
Lewis B. Burleson, Inc.	Dabbs #1 <i>OK</i>	O11	4-29-38	18" 11" 11"	13" 8 5/8" 7"	435' 1198' 2944'	100 100 150	Circ.	3331'	3218'	C	35	25S	37E	Langlie Mattix Queen	2944' - 3307' (+77' to -286')	Cable Tools Shot OH Comp
Lewis B. Burleson, Inc.	Dabbs #2 <i>OK</i>	O11	9-24-39	13 1/2" 10" 8" Liner	10 3/4" 8 5/8" 7" 5"	103' 1193' 3038' 3031' to 3314'	75 150 150 150	Circ.	3314'	3221'	D	35	25S	37E	Langlie Mattix Queen	3150' - 3217' (-139' to -206')	Cable Tools
Lewis B. Burleson, Inc.	Dabbs #3 <i>OK</i>	O11	12-5-67	12 1/2" 7 7/8"	8 5/8" 5 1/2"	375' 3344'	235 250	Circ. 2250'	3350'	3250'	F	35	25S	37E	Langlie Mattix Queen	3191' - 3214' (-179' to -202')	
American Exploration	Alston #4 <i>OK</i>	O11	4-26-38	12 1/2" 8"	10" 5 3/16"	455' 3190'	150 350	Circ.	3341'		F	26	25S	37E	Langlie Mattix Seven Rivers Queen-Grayburg	3240' - 3334' (-202' to -296')	Shot OH Comp
American Exploration	Henry #1 <i>OK</i>	O11	5-31-38	18" 10" 8"	15 1/2" 8 5/8" 7"	150' 1215' 3027'	100 100 150	Circ.	3330'	3325'	L	26	25S	37E	Langlie Mattix Seven Rivers Queen-Grayburg	3190' - 3325' (-159' to -294')	Shot OH Comp
American Exploration	Henry #3 <i>OK</i>	O11	2-9-39	15 1/2" 10" 8"	12 1/2" 8 5/8" 7"	140' 1220' 3201'	100 100 150	Circ.	3325'	3325'	M	26	25S	37E	Langlie Mattix Seven Rivers Queen-Grayburg	3030' - 3040' (-5' to -15') 3055' - 3070' (-30' to -45') 3072' - 73' (-47' to -48') 3201' - 3312' (-176' to -287')	Shot OH Comp

# TABULATION OF DATA ON WELLS WITHIN THE AREA OF REVIEW

OPERATOR	LEASE & WELL No.	Type of Well	Date Drilled	WELLBORE CONSTRUCTION							LOCATION				COMPLETION ZONE	COMPLETION PERFS (SUBSEA)
				Hole Size	Csg. Size	Csg. Set at	ex. of Cement	TOC	TD	PBD	Unit Letter	Section	Township	Range		
American Exploration	Henry #4	Oil	10-1-68	11 1/2" 7 7/8"	8 5/8" 4 1/2"	893' 5917'	470 900 1050	Circ.	7995'	5869'	K	26	25S	37E	Langlie Mattix Seven Rivers - Queen Grayburg	3100' - 3232' (-81' to -232')
Doyle Hartman	Terra Carlson "B" Federal #1	Gas	12-16-80	15" 12 1/2" 7 7/8" 5 1/2"	13 3/8" 8 5/8" 5 1/2"	40' 446' 3375'	20 300 600	Circ. Circ. Circ.	3375'	3337'	O	26	25S	37E	Langlie Mattix Queen	2998' - 3219' (+22' to -199')
Santa Fe Energy Oper. Partners	Carlson B-26 #3	Oil	1-14-56	11" 7 7/8"	8 5/8" 5 1/2"	900' 3226'	350 250	Circ. 2100'	3329'	3224'	J	26	25S	37E	Langlie Mattix Queen	3071' - 3204' (-36' to -169')
Santa Fe Energy Oper. Partners	Carlson/B-26 #2	Gas	6-15-55	11" 7 7/8" 4 3/4"	8 5/8" 5 1/2"	2172' 3080'	400 250	Circ. 2280'	3279'		P	26	25S	37E	Langlie Mattix	3080' - 3279' (-43' to -242')
Westates Petr.	Carlson B-26 #7	Oil	8-6-60	15" 8 3/4"	11 3/4" 7"	839' 6043'	670 725	Circ.	6050'		J	26	25S	37E	Justis Blinebry Paddock	5980' - 6000' (-2936' to -2956')
																5958' - 5962' (-2914' to -2918')
																5944' - 5954' (-2900' to -2910')
																5830' - 5850' (-2786' to -2806')
																5784' - 5800' (-2740' to -2756')
																5650' - 5654' (-2606' to -2610')

TABULATION OF DATA ON WELLS WITHIN THE AREA OF REVIEW

OPERATOR	LEASE & WELL No.	Type of Well	Date Drilled	WELLBORE CONSTRUCTION							LOCATION			COMPLETION ZONE	COMPLETION PERFS (SUBSEA)	REMARKS
				Hole Size	Csg. Size	Csg. Set at	sx. of Cement	TOC	TD	PBD	Unit Letter	Section	Township	Range		
															5630' - 5644' (-2586' to -2600')	
															5620' - 5627' (-2576' to -2583')	
															5605' - 5618' (-2561' to -2574')	
															5470' - 5518' (-2426' to -2474')	
															5158' - 5162' (-2114' to -2118')	
															5145' - 5150' (-2101' to -2106')	
															5122' - 5142' (-2078' to -2098')	
															5117' - 5120' (-2073' to -2076')	
															5110' - 5114' (-2066' to -2070')	
															5054' - 5060' (-2010' to -2016')	
															5042.5' - 5048.5' (-1998.5' to -2004.5')	
															5430' (-2386') 5301' - 5371' (-2257' to	

OPERATOR Westates Petroleum Company		DATE June 28, 1988
LEASE Carlson B-26	WELL No. 7	LOCATION 2310' FSL & 1650' FEL. Unit J.

Sec. 26, T25S, R37E, Lea County,  
New Mexico

DF: 3044'

Spudded: 8-6-60  
P&A'd: 8-14-75

*OK*

formation  
ops:

anhydrite 857' 65 sx 925' 11 3/4" casing set at 839' with 670 sx of cement

Hole size 15"

alt - 1052' 65 sx 1363' Shot 7" csg. at 1315', pulled 31 jts.  
/Salt - 2170'

ates - 2320' 35 sx 2348'  
even Rivers 2560'  
een - 2980'

in Andres 3590' 25 sx 3701'  
orieta 4725'  
ddock 5042' 4308'  
inebry 5103' 5326'  
bbs - 5758'

7" casing set at 6043' with 500 (first stage) 225 sx of cement

inkard 5930' CIBP @ 5140' Total Depth 6050' Hole size 8 3/4" DV Tool @ 2300'  
2 sx cmt on top

COMPANYUnion Texas Petroleum(American Exp)(Culbertson & Irwin)

WELLHenry No. 2

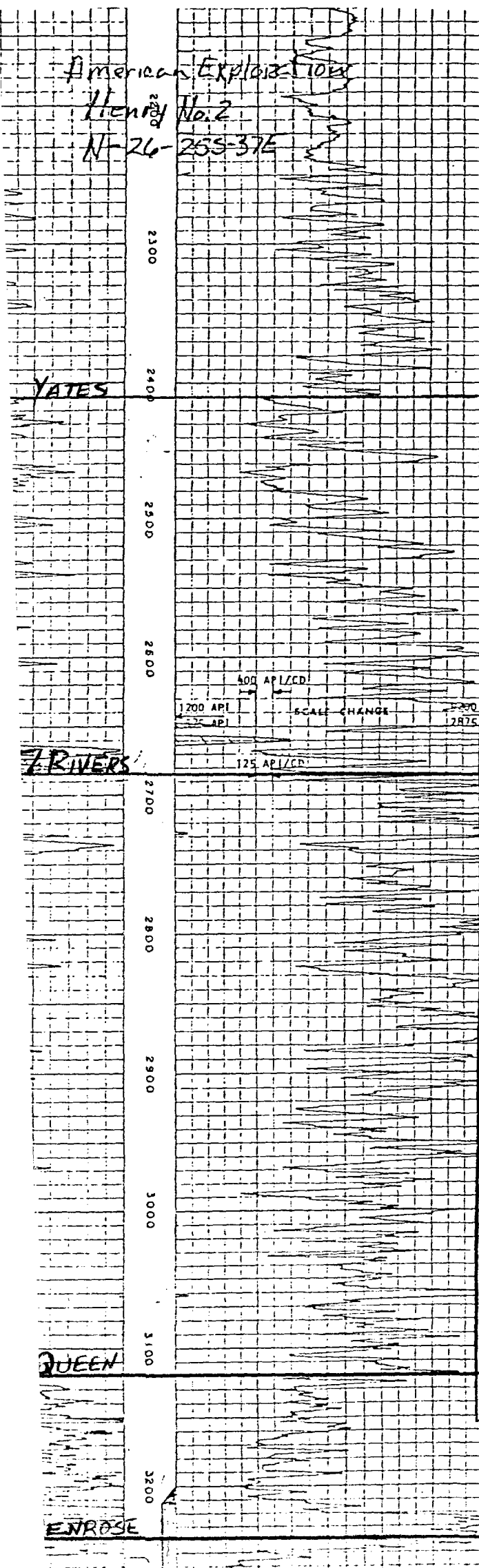
FIELDLanglie Mattix

LOCATION330 FSL & 1650 FWL (N)  
Section 26, T-25-S, R-37-E

COUNTYLEa

STATENew Mexico

ELEVATIONS:KB  
DF3026  
GL



COMPLETION RECORD

SPUD DATE12-8-38

COMP. DATE1-27-39

TD3295

PBTD3295

CASING RECORD8 5/8 @ 1227 w/100  
7 @ 3213 w/150

PERFORATING RECORD OH: 3213-3295  
(Penrose)

STIMULATIONShot w/150 qts  
(3240-3295)

IPIPF= 158 BOPD

GORGR

TPCP

CHOKE TUBING @

DST RECORD

REMARKS

# PRODUCTION AT OR WITHIN ONE MILE

N O T E : PRODUCTION WITHIN ONE-HALF MILE IS ON EXHIBIT "D" IN DETAIL

OPERATOR	LEASE NAME & WELL No.	LOCATION				CURRENTLY PRODUCING POOL & FORMATION
		UNIT	SEC.	TOWN.	RANGE	
Amerada Hess	Ida Wimberly #1	A	26	25S	37E	P&A'd - 5-29-73
Doyle Hartman	Carlson Federal #1	B	26	25S	37E	Justis (Blinebry) Oil
Doyle Hartman	Terra Carlson Federal #1	C	26	25S	37E	Langlie Mattix (Queen-Penrose) Gas
Hamilton Dome	Carlson "B" Federal #1	C	26	25S	37E	P&A'd - 8-10-53
American Expl. Co	Alston #1	D	26	25S	37E	Langlie Mattix (Seven Rivers Queen-Grayburg) Oil
American Expl. Co	Alston #2	E	26	25S	37E	Langlie Mattix (Seven Rivers Queen-Grayburg) Oil T A'd - 2-1-74
Doyle Hartman	Carlson Federal #2	G	26	25S	37E	Justis (Blinebry) Oil
Doyle Hartman	Carlson Federal #2	H	26	25S	37E	Langlie Mattix (Seven Rivers Queen-Grayburg) Oil T A'd 4-28-86
Doyle Hartman	Carlson Federal #5	H	26	25S	37E	Langlie Mattix (Queen-Penrose) Gas
Santa Fe Energy	Carlson B-26 #4	I	26	25S	37E	Langlie Mattix (Queen) Gas
Santa Fe Energy	Carlson B-26 #5	I	26	25S	37E	Justis (Blinebry) Oil
Santa Fe Energy	Carlson B-26 #6	P	26	25S	37E	Justis (Blinebry) Oil
ARCO Oil & Gas	Carlson Federal #2	L	25	25S	37E	Justis (Blinebry) Oil
Meridian Oil	Carlson "A" Federal #2	M	25	25S	37E	Langlie Mattix (Seven Rivers Queen-Grayburg) Gas
Union Texas Petr.	Carlson "A" #4	M	25	25S	37E	Justis (Blinebry-Tubb Drinkard) Commingled, Oil
Gulf Oil Corp.	Arnott Ramsay NCT-F #1	D	36	25S	37E	P&A'd - 5-28-85



WATER ANALYSIS REPORT  
furnished by TRETOLITE CHEMICALS

COMPANY: RICE ENGINEERING  
LEASE: JUSTIS SWDS  
SAMPLE POINT: FRESH WATER N. LOCATION , Sec. 26, T25S, R37E, Lea County, NM  
SAMPLE DATE: 6-7-88  
SAMPLE TEMP.: NA

pH: 7.0  
H2S: 0  
SPECIFIC GRAVITY: 1

TITRATED AND CALCULATED IONS

	MILLIGRAMS PER LITER	MILLIEQUIVALENTS PER LITER
HCO3	244.00	4.00
Cl	985.00	27.75
SO4	250.00	5.21
Ca	200.00	10.00
Mg	97.20	7.97
Na	436.71	18.99

IONIC STRENGTH = 0.05  
TOTAL HARDNESS = 900.0 mg/ltr.  
TOTAL DISSOLVED SOLIDS = 2212.0 mg/ltr.

PROBABLE MINERAL COMPOSITION AND ION PAIRING

	MILLIEQUIVALENTS PER LITER	MILLIGRAMS PER LITER
Ca(HCO3)2	4.00	324.16
CaSO4	5.21	354.53
CaCl2	0.79	43.94
Mg(HCO3)2	0.00	0.00
MgSO4	0.00	0.00
MgCl2	7.97	379.40
NaHCO3	0.00	0.00
Na2SO4	0.00	0.00
NaCl	18.99	1110.02

CALCULATED SCALING TENDENCIES

SCALING INDEX

CaCO3 @ 80 DEG F. = 0.2  
CaCO3 @ 120 DEG F. = 0.6

SATURATION POINT

CaSO4 @ 70 DEG F. = 2258.4 MG/LTR.  
CaSO4 @ 110 DEG F. = 2315.1 MG/LTR.

(THIS SAMPLE CONTAINED 354.5 MG/LTR. CaSO4)

EXHIBIT "G"

WATER ANALYSIS REPORT  
furnished by TRETOLITE CHEMICALS

COMPANY: RICE ENGINEERING  
LEASE: JUSTIS SWDS  
SAMPLE POINT: FRESH WATER WILLIS HOUSE, SEC. 2, T26 S, R37 E, LEA COUNTY, NM  
SAMPLE DATE: 6-7-88  
SAMPLE TEMP.: NA

pH: 7.1  
H<sub>2</sub>S: 0  
SPECIFIC GRAVITY: 1

TITRATED AND CALCULATED IONS

	MILLIGRAMS PER LITER	MILLIEQUIVALENTS PER LITER
HCO <sub>3</sub>	244.00	4.00
Cl	1065.00	30.00
SO <sub>4</sub>	375.00	7.81
Ca	240.00	12.00
Mg	97.20	7.97
Na	502.44	21.85

IONIC STRENGTH = 0.06  
TOTAL HARDNESS = 1000.0 mg/ltr.  
TOTAL DISSOLVED SOLIDS = 2522.8 mg/ltr.

PROBABLE MINERAL COMPOSITION AND ION PAIRING

	MILLIEQUIVALENTS PER LITER	MILLIGRAMS PER LITER
Ca(HCO <sub>3</sub> ) <sub>2</sub>	4.00	324.16
CaSO <sub>4</sub>	7.81	531.80
CaCl <sub>2</sub>	0.19	10.41
Mg(HCO <sub>3</sub> ) <sub>2</sub>	0.00	0.00
MgSO <sub>4</sub>	0.00	0.00
MgCl <sub>2</sub>	7.97	379.40
NaHCO <sub>3</sub>	0.00	0.00
Na <sub>2</sub> SO <sub>4</sub>	0.00	0.00
NaCl	21.85	1277.08

CALCULATED SCALING TENDENCIES

SCALING INDEX

CaCO<sub>3</sub> @ 80 DEG F. = 0.3  
CaCO<sub>3</sub> @ 120 DEG F. = 0.6

SATURATION POINT

CaSO<sub>4</sub> @ 70 DEG F. = 2277.5 MG/LTR.  
CaSO<sub>4</sub> @ 110 DEG F. = 2334.3 MG/LTR.

(THIS SAMPLE CONTAINED 531.8 MG/LTR. CaSO<sub>4</sub>)

**EXHIBIT "G"**

WATER ANALYSIS REPORT  
furnished by TRETOLITE CHEMICALS

COMPANY: RICE ENGINEERING  
LEASE: ARCO LANGLEIE FEDERAL      SEC. 14, T25S, R37E, LEA COUNTY, NEW MEXICO  
SAMPLE POINT: BLINEBRY  
SAMPLE DATE: 5-27-88  
SAMPLE TEMP.:

pH: 6.4  
H2S: +  
SPECIFIC GRAVITY: 1.1

TITRATED AND CALCULATED IONS

	MILLIGRAMS PER LITER	MILLIEQUIVALENTS PER LITER
HCO3	366.00	6.00
Cl	85200.00	2400.00
SO4	1750.00	36.46
Ca	9200.00	460.00
Mg	243.00	19.92
Na	15138.42	1962.54

IONIC STRENGTH = 2.71  
TOTAL HARDNESS = 24000.0 mg/ltr.  
TOTAL DISSOLVED SOLIDS = 141820.1 mg/ltr.  
TOTAL IRON (Fe) = 2.0 ppm

PROBABLE MINERAL COMPOSITION AND ION PAIRING

	MILLIEQUIVALENTS PER LITER	MILLIGRAMS PER LITER
Ca(HCO3)2	6.00	486.24
CaSO4	36.46	2481.72
CaCl2	417.54	23173.56
Mg(HCO3)2	0.00	0.00
MgSO4	0.00	0.00
MgCl2	19.92	948.50
NaHCO3	0.00	0.00
Na2SO4	0.00	0.00
NaCl	1962.54	114730.10

CALCULATED SCALING TENDENCIES

SCALING INDEX

CaCO3 @ 80 DEG F. = 0.5  
CaCO3 @ 120 DEG F. = 1.0

SATURATION POINT

CaSO4 @ 70 DEG F. = 1845.4 MG/LTR.  
CaSO4 @ 110 DEG F. = 1825.0 MG/LTR.

(THIS SAMPLE CONTAINED 2481.7 MG/LTR. CaSO4)

EXHIBIT "H"

WATER ANALYSIS REPORT  
furnished by TRETOLITE CHEMICALS

COMPANY: RICE ENGINEERING  
LEASE: ARCO STATE Y-8 SEC. 25, T25S, R37E, LEA COUNTY, NEW MEXICO  
SAMPLE POINT: FUSSELMAN  
SAMPLE DATE: 5-27-88  
SAMPLE TEMP.:

pH: 6.2  
H<sub>2</sub>S: +  
SPECIFIC GRAVITY: 1.05

TITRATED AND CALCULATED IONS

	MILLIGRAMS PER LITER	MILLIEQUIVALENTS PER LITER
HCO <sub>3</sub>	793.00	13.00
Cl	42600.00	1200.00
SO <sub>4</sub>	2500.00	52.08
Ca	6000.00	300.00
Mg	486.00	39.84
Na	21280.69	925.25

IONIC STRENGTH = 1.46  
TOTAL HARDNESS = 17000.0 mg/ltr.  
TOTAL DISSOLVED SOLIDS = 73623.7 mg/ltr.  
TOTAL IRON (Fe) = 1.0 ppm

PROBABLE MINERAL COMPOSITION AND ION PAIRING

	MILLIEQUIVALENTS PER LITER	MILLIGRAMS PER LITER
Ca(HCO <sub>3</sub> ) <sub>2</sub>	13.00	1053.52
CaSO <sub>4</sub>	52.08	3545.31
CaCl <sub>2</sub>	234.92	13037.88
Mg(HCO <sub>3</sub> ) <sub>2</sub>	0.00	0.00
MgSO <sub>4</sub>	0.00	0.00
MgCl <sub>2</sub>	39.84	1896.99
NaHCO <sub>3</sub>	0.00	0.00
Na <sub>2</sub> SO <sub>4</sub>	0.00	0.00
NaCl	925.25	54089.96

CALCULATED SCALING TENDENCIES

SCALING INDEX

CaCO<sub>3</sub> @ 80 DEG F. = 0.0  
CaCO<sub>3</sub> @ 120 DEG F. = 0.6

SATURATION POINT

CaSO<sub>4</sub> @ 70 DEG F. = 3782.8 MG/LTR.  
CaSO<sub>4</sub> @ 110 DEG F. = 2256.0 MG/LTR.

(THIS SAMPLE CONTAINED 3545.3 MG/LTR. CaSO<sub>4</sub>)

EXHIBIT "H"

WATER ANALYSIS REPORT  
furnished by TRETOLITE CHEMICALS

COMPANY: RICE ENGINEERING  
LEASE: ARCO STATE Y 3 , Sec. 25 , T25S , R37E , LEA COUNTY , NEW MEXICO  
SAMPLE POINT: MONTOYA FORMATION  
SAMPLE DATE: 5-27-88  
SAMPLE TEMP.:

pH: 6.6  
H<sub>2</sub>S: +  
SPECIFIC GRAVITY: 1.05

TITRATED AND CALCULATED IONS

	MILLIGRAMS PER LITER	MILLIEQUIVALENTS PER LITER
HCO <sub>3</sub>	1098.00	18.00
Cl	42600.00	1200.00
SO <sub>4</sub>	2500.00	52.08
Ca	6800.00	340.00
Mg	243.00	19.92
Na	20933.80	910.17

IONIC STRENGTH = 1.48  
TOTAL HARDNESS = 18000.0 mg/ltr.  
TOTAL DISSOLVED SOLIDS = 74141.2 mg/ltr.  
TOTAL IRON (Fe) = 1.0 ppm

PROBABLE MINERAL COMPOSITION AND ION PAIRING

	MILLIEQUIVALENTS PER LITER	MILLIGRAMS PER LITER
Ca(HCO <sub>3</sub> ) <sub>2</sub>	18.00	1458.72
CaSO <sub>4</sub>	52.08	3545.31
CaCl <sub>2</sub>	269.92	14980.37
Mg(HCO <sub>3</sub> ) <sub>2</sub>	0.00	0.00
MgSO <sub>4</sub>	0.00	0.00
MgCl <sub>2</sub>	19.92	948.50
NaHCO <sub>3</sub>	0.00	0.00
Na <sub>2</sub> SO <sub>4</sub>	0.00	0.00
NaCl	910.17	53208.27

CALCULATED SCALING TENDENCIES

SCALING INDEX

CaCO<sub>3</sub> @ 80 DEG F. = 0.6  
CaCO<sub>3</sub> @ 120 DEG F. = 1.2

SATURATION POINT

CaSO<sub>4</sub> @ 70 DEG F. = 3499.8 MG/LTR.  
CaSO<sub>4</sub> @ 110 DEG F. = 2010.5 MG/LTR.

(THIS SAMPLE CONTAINED 3545.3 MG/LTR. CaSO<sub>4</sub>)

EXHIBIT "H"

# RICE Engineering Corporation

122 WEST TAYLOR      TELEPHONE (505) 393-9174

HOBBS, NEW MEXICO 88240

June 28, 1988

George and Joyce Marie Willis  
Box 307  
Jal, New Mexico 88252

RE: AFE H-479 & H-479A  
(Justis SWD System)  
SWD Well  
SE/4, SW/4, Sec. 26, T25S, R37E  
Lea County, New Mexico

Dear Mr. and Mrs. Willis :

Rice Engineering Corporation, acting as an agent for the American Exploration Company, and the operator of the Justis Salt Water Disposal System, has applied to the Oil Conservation Division for a permit to inject produced salt water into subsurface strata under Rule 701.

The legal description of the proposed salt water disposal well is as follows :

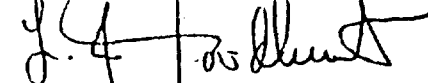
American Exploration Co.-Henry No.2  
Unit N, 330 feet from the South line and  
1650 feet from the West line of Section 26,  
Township 25 South, Range 37 East, N.M.P.M.,  
Lea County, New Mexico.

Please find enclosed, for your information, a copy of the application package furnished to the OCD as well as a copy of the legal notice printed in the Hobbs News-Sun dated June 24, 1988.

Should you require additional information regarding this application, please contact our office.

Yours very truly,

RICE ENGINEERING CORPORATION

  
L. B. Goodheart

SAH

# RICE Engineering Corporation

122 WEST TAYLOR      TELEPHONE (505) 393-9174

HOBBS, NEW MEXICO 88240

June 28, 1988

Lewis B. Burleson, Inc.  
P.O.Box 2479  
Midland, Texas 79702

RE: AFE H-479 & H-479A  
(Justis SWD System)  
SWD Well  
SE/4, SW/4, Sec. 26, T25S, R37E  
Lea County, New Mexico

Gentlemen :

Rice Engineering Corporation, acting as an agent for the American Exploration Company, and the operator of the Justis Salt Water Disposal System, has applied to the Oil Conservation Division for a permit to inject produced salt water into subsurface strata under Rule 701.

The legal description of the proposed salt water disposal well is as follows :

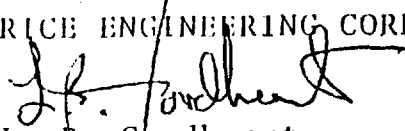
American Exploration Co.-Henry No.2  
Unit N, 330 feet from the South line and  
1650 feet from the West line of Section 26,  
Township 25 South, Range 37 East, N.M.P.M.,  
Lea County, New Mexico.

Please find enclosed, for your information, a copy of the application package furnished to the OCD as well as a copy of the legal notice printed in the Hobbs News-Sun dated June 24, 1988.

Should you require additional information regarding this application, please contact our office.

Yours very truly,

RICE ENGINEERING CORPORATION

  
L. R. Goodheart

SAH

# RICE Engineering Corporation

122 WEST TAYLOR      TELEPHONE (505) 393-9174

HOBBS, NEW MEXICO 88240

June 28, 1988

American Exploration Company  
2100 RepublicBank Center  
700 Louisiana  
Houston, Texas 77002-2725

RE: AFE H-479 & H-479A  
(Justis SWD System)  
SWD Well  
SE/4, SW/4, Sec. 26, T25S, R37E  
Lea County, New Mexico

Gentlemen :

Rice Engineering Corporation, acting as an agent for the American Exploration Company, and the operator of the Justis Salt Water Disposal System, has applied to the Oil Conservation Division for a permit to inject produced salt water into subsurface strata under Rule 701.

The legal description of the proposed salt water disposal well is as follows :

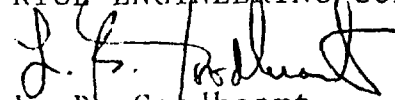
American Exploration Co.-Henry No.2  
Unit N, 330 feet from the South line and  
1650 feet from the West line of Section 26,  
Township 25 South, Range 37 East, N.M.P.M.,  
Lea County, New Mexico.

Please find enclosed, for your information, a copy of the application package furnished to the OCD as well as a copy of the legal notice printed in the Hobbs News-Sun dated June 24, 1988.

Should you require additional information regarding this application, please contact our office.

Yours very truly,

RICE ENGINEERING CORPORATION

  
L. B. Goodheart

SAH



# RICE Engineering Corporation

122 WEST TAYLOR

TELEPHONE (505) 393-9174

HOBBS, NEW MEXICO 88240

June 28, 1988

Doyle Hartman  
P.O. Box 10426  
Midland, Texas 79702-0426

RE: AFE H-479 & H-479A  
(Justis SWD System)  
SWD Well  
SE/4, SW/4, Sec. 26, T25S, R37E  
Lea County, New Mexico

Gentlemen :

Rice Engineering Corporation, acting as an agent for the American Exploration Company, and the operator of the Justis Salt Water Disposal System, has applied to the Oil Conservation Division for a permit to inject produced salt water into subsurface strata under Rule 701.

The legal description of the proposed salt water disposal well is as follows :

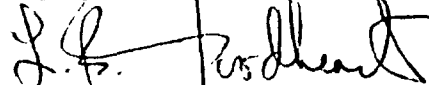
American Exploration Co.-Henry No.2  
Unit N, 330 feet from the South line and  
1650 feet from the West line of Section 26,  
Township 25 South, Range 37 East, N.M.P.M.,  
Lea County, New Mexico.

Please find enclosed, for your information, a copy of the application package furnished to the OCD as well as a copy of the legal notice printed in the Hobbs News-Sun dated June 24, 1988.

Should you require additional information regarding this application, please contact our office.

Yours very truly,

RICE ENGINEERING CORPORATION



L. B. Goodheart

SAH

# RICE Engineering Corporation

122 WEST TAYLOR TELEPHONE (505) 393-9174

HOBBS, NEW MEXICO 88240

June 28, 1988

Santa Fe Energy Company  
500 W. Illinois, Suite 500  
Midland, Texas 79701

RE: AFE H-479 & H-479A  
(Justis SWD System)  
SWD Well  
SE/4, SW/4, Sec. 26, T25S, R37E  
Lea County, New Mexico

Gentlemen :

Rice Engineering Corporation, acting as an agent for the American Exploration Company, and the operator of the Justis Salt Water Disposal System, has applied to the Oil Conservation Division for a permit to inject produced salt water into subsurface strata under Rule 701.

The legal description of the proposed salt water disposal well is as follows :

American Exploration Co.-Henry No.2  
Unit N, 330 feet from the South line and  
1650 feet from the West line of Section 26,  
Township 25 South, Range 37 East, N.M.P.M.,  
Lea County, New Mexico.

Please find enclosed, for your information, a copy of the application package furnished to the OCD as well as a copy of the legal notice printed in the Hobbs News-Sun dated June 24, 1988.

Should you require additional information regarding this application, please contact our office.

Yours very truly,

RICE ENGINEERING CORPORATION

L. B. Goodheart

SAH

# RICE Engineering Corporation

122 WEST TAYLOR      TELEPHONE (505) 393-9174

HOBBS, NEW MEXICO 88240

June 28, 1988

Westates Petroleum Company  
1600 Broadway, Suite 2360  
Denver, Colorado 80202

RE: AFE II-479 & II-479A  
(Justis SWD System)  
SWD Well  
SE/4, SW/4, Sec. 26, T25S, R37E  
Lea County, New Mexico

Gentlemen :

Rice Engineering Corporation, acting as an agent for the American Exploration Company, and the operator of the Justis Salt Water Disposal System, has applied to the Oil Conservation Division for a permit to inject produced salt water into subsurface strata under Rule 701.

The legal description of the proposed salt water disposal well is as follows :

American Exploration Co.-Henry No.2  
Unit N, 330 feet from the South line and  
1650 feet from the West line of Section 26,  
Township 25 South, Range 37 East, N.M.P.M.,  
Lea County, New Mexico.

Please find enclosed, for your information, a copy of the application package furnished to the OCD as well as a copy of the legal notice printed in the Hobbs News-Sun dated June 24, 1988.

Should you require additional information regarding this application, please contact our office.

Yours very truly,

RICE ENGINEERING CORPORATION

  
B. Goodheart

SAH

P 691 992 358

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

Sent to George & Joyce Willis	
Street and No Box 307	
P.O., State and ZIP Code Jal, NM 88252	
Postage	\$ 1.05
Certified Fee	.85
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	.90
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$ 2.80
Postmark or Date	

PS Form 3800, June 1985

P 691 992 359

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

Sent to Lewis B. Burleson, Inc.	
Street and No. P.O. Box 2479	
P.O., State and ZIP Code Midland, TX 79702	
Postage	\$ 1.05
Certified Fee	.85
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	.90
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$ 2.80
Postmark or Date	

PS Form 3800, June 1985

P 691 992 360

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

Sent to American Explo. Co.	
Street and No 2100 Republic Bank Center	
P.O., State and ZIP Code Houston, TX 77002-2725	
Postage	\$ 1.05
Certified Fee	.85
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	.90
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$ 2.80
Postmark or Date	

PS Form 3800, June 1985

P 691 992 361

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

Sent to Doyle Hartman	
Street and No. P.O. Box 10426	
P.O., State and ZIP Code Midland, TX 79702	
Postage	\$ 1.05
Certified Fee	.85
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	.90
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$ 2.80
Postmark or Date	

PS Form 3800, June 1985

P 691 992 362

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

Sent to Santa Fe Energy Co.	
Street and No 500 W. Illinois, Ste. 500	
P.O., State and ZIP Code Midland, TX 79701	
Postage	\$ 1.05
Certified Fee	.85
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	.90
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$ 2.80
Postmark or Date	

PS Form 3800, June 1985

P 691 992 363

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

Sent to Westates Petroleum Co.,	
Street and No 1600 Broadway, Ste. 2360	
P.O., State and ZIP Code Denver, CO 80202	
Postage	\$ 1.05
Certified Fee	.85
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	.90
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$ 2.80
Postmark or Date	

PS Form 3800, June 1985



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE

GABRIEL CARRUTHERS  
GOVERNOR

6-30-88

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 ☒ \_\_\_\_\_  
WFX \_\_\_\_\_  
PMX \_\_\_\_\_

Gentlemen:

I have examined the application for the:

For: Rice Eng. American Expl. Co. Henry # 2-N 26-25-37  
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK J S  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours very truly,

Jerry Sexton  
Jerry Sexton  
Supervisor, District 1

/ed