Release 6.10.93

OIL CONSERVATION DIVISION
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marbob
energy corporation

May 20, 1993

Mr. William LeMay
Division Director
Oil Conservation Division
New Mexico Energy and Minerals Department
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. LeMay:

Enclosed herewith, in triplicate, is the application of Marbob Energy Corporation for authority to convert to water disposal the Keely B Federal well No. 24 located 660 feet from the South line and 560 feet from the West line of Section 24, Township 17 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.

Waters to be disposed of will consist of Seven Rivers, Grayburg, and San Andres production water from the Grayburg Jackson Seven Rivers, Queen, Grayburg, San Andres Pool.

Application is made pursuant to Rule 701 D of the Division Rules Regulations for Administrative Approval for disposal into the Upper Pennsylvanian formation which is nonproductive of oil or gas within a radius of one half mile from the proposed injection well.

Publication of Marbob's intent to utilize the subject well for water disposal has been made in the Artesia Daily Press, and copies of this application have been furnished to each leasehold operator within one half mile of the well. The United States of America is the owner of the surface of the land upon which the well is located.

Your approval of the subject application at the expiration of the required 15-day waiting period is respectfully requested.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

P.O. Drawer 217 • Artesia, New Mexico 88211-0217 • (505) 748-3303 FAX #505-746-2523

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION
APPLICATION FOR ADMINISTRATIVE APPROVAL
MARBOB ENERGY CORPORATION
FOR CONVERSION TO WATER DISPOSAL
THE
KEELY B FEDERAL WELL NO. 24

Located 660' FSL 560' FWL Sec. 24, T-17S, R-29E
Eddy County, New Mexico

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Marbob Energy Corporation

Address: P. O. Drawer 217, Artesia, New Mexico 88210

Contact party: Raye Miller Phone: 505/748-3303

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: Raye Miller Title Attorney-in-Fact

Signature: Raye Miller Date: 5/21/93

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. _____

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

III. WELL DATA

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

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

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

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

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

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

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

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

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

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

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

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

XIV. PROOF OF NOTICE

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

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

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

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

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

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

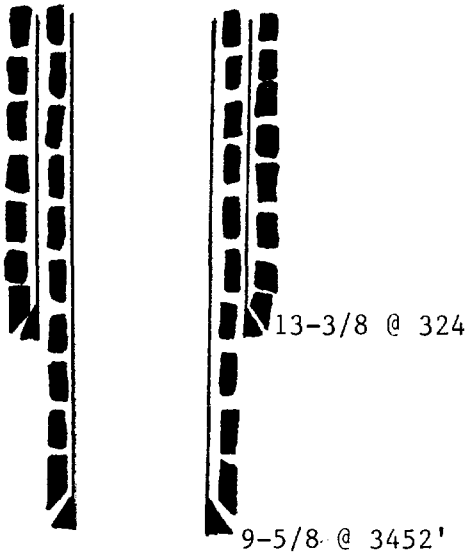
NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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

INJECTION WELL DATA SHEET

OPERATOR		LEASE		
Marbob Energy Corporation		Keely B Federal		
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
24	660 FSL 560 FWL	24	17S	29E

Schematic



Tabular Data

Surface Casing

Size 13 3/8 " Cemented with 650 sx.

TOC Surface feet determined by circulated

Hole size 15½

Intermediate Casing

Size 9 5/8 " Cemented with 2350 sx.

TOC Surface feet determined by circulated

Hole size 12¼

Long string

Size 7 " Cemented with 515 sx.

TOC 6495 feet determined by not reported

Hole size 8 3/4

Total depth 13,341 PBTD 11,424

Injection interval

9265 feet to 9299 feet
(perforated or open-hole, indicate which)

Perforated

Tubing size 2 7/8" lined with plastic coating set in a
(material)

Giberson Uni VI packer at 9000' feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Upper Pennsylvanian

2. Name of Field or Pool (if applicable) N/A

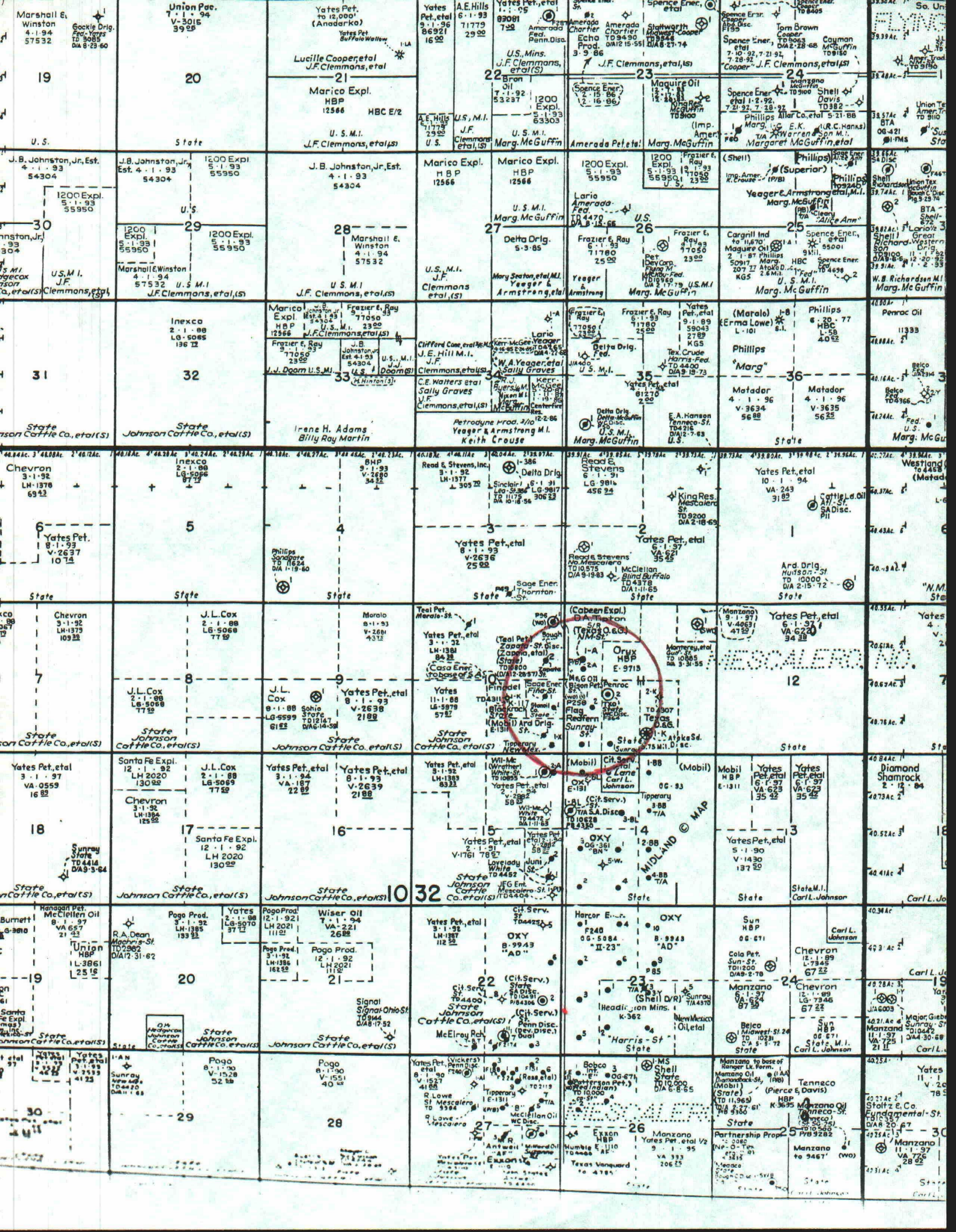
3. Is this a new well drilled for injection? ☐ Yes ☒ No

If no, for what purpose was the well originally drilled? Oil and gas production

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) Open hole 11,149 to 11,404 set cement plug 11,100 to 11,150 CIBP 9530 w/2sx to 9500'.

Perf 9100-9140 9160-9200 squeezed cmt

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. No underlying pools in 1/2 mile radius, overlying pool Grayburg Jackson Seven Rivers, Queen, Grayburg, San Andres producing from about 1400' to 3300'.


MIDLAND
© MAP

WELL DATA

A review of the records indicate there are no wells which have been drilled to the depth of the proposed disposal zone within the area of review.

Attachment C-108 VI

DATA SHEET
(Section VII, Form C-108)

1. Proposed Rate of Injection
   A. Average daily rate of injection: 2000 barrels
   B. Maximum daily rate of injection: 5000 barrels

2. Type of System
   System will be closed

3. Anticipated Injection Pressure
   It is anticipated that the injection pressure will be nominal but in no event would the pressure exceed 0.2 psi per foot of depth to the top of the injection zone at 9265 feet, or 1853 psi.

4. Source of Injection Water
   Source of disposal water is Seven Rivers, Grayburg, and San Andres wells located in Sections 12, 13, 23, 24, 25, and 26, of Township 17 South, Range 29 East, and Sections 18, 19, and 30 of Township 17 South, Range 30 East. See Attachment VII (a) for analysis of disposal water.

5. Disposal Zone Water Analysis
   Disposal is to be into a zone not productive of oil or gas within 1.25 miles of the proposed well. A review of the records revealed that there are not any analysis of water from this zone on file. This well reported sulfur water when testing this zone. Water analysis records were checked with Halliburton to no avail. A review was made with Mark Ashley of the Artesia Oil Conservation Division for material on this zone in this area. We anticipate that the formation water will contain lower chlorides than our disposal water but that it will be compatible with the formation since this zone produced water which was used in a pilot water flood project in the shallow zones and no incompatibility problems were reported. The pH reported in the well files from the disposal zone on three different test was 6.9, 7.0, and 7.2. Attached, Exhibit A, is a water analysis of the Burch Keely produced water from the Seven Rivers, Grayburg, and San Andres formations.

HALLIBURTON DIVISION LABORATORY

EXHIBIT A
(Section VII, C-108)

HALLIBURTON SERVICES

ARTESIA DISTRICT

LABORATORY REPORT

No. W167 & W168-93

TO Marbob Energy Corporation

P. O. Box 304

Artesia, NM 88210

Date May 20, 1993

Submitted by _____ **Date Rec.** _____

Well No. _____ **Depth** _____ **Formation** _____

Field _____ **County** _____ **Source** _____

	Burch Keely		Mary Dodd A
Resistivity	0.066 @ 70°		0.060 @ 70°
Specific Gravity ..	1.0979 @ 70°		1.1250 @ 70°
pH	7.0		7.0
Calcium	4,379		3,332
Magnesium	2,081		2,890
Chlorides	84,000		111,000
Sulfates	1,000		400
Bicarbonates	976		1,403
Soluble Iron	0		0
- - - - - - - - - -			
- - - - - - - - - -			
- - - - - - - - - -			

Remarks:

E D Jacobson

Respectfully submitted

Analyst: Eric Jacobson - Operations Engineer

HALLIBURTON SERVICES

NOTICE: This report is for information only and the content is limited to the sample described. Halliburton makes no warranties, express or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, including any act or omission of Halliburton, resulting from the use hereof

GEOLOGICAL DATA
(Section VIII, Form C-108)

PHONE OFF. 622-0440

PHONE RES. 622-7764

Jack Ahlen

CONSULTING GEOLOGIST
533 PETROLEUM BUILDING
ROSWELL, NEW MEXICO 88201

19 May 1993

MAY 21 1993

Marbob Energy Corporation
P.O. Box 217
Artesia, NM 88210-0217

Re: Administrative Approval
for Water Disposal,
Your Keely B #24 Well
SWSW Sec. 24 T17S R29E
Eddy County, New Mexico

Gentlemen,

I have prepared two exhibits and one table in support of your request for a water disposal well into the Pennsylvanian Formation at a depth of 9260' to 9270' in the above refrenced well.

Exhibit 1 is a structure map at the top of the proposed disposal zone. The map shows regional dip to the southeast into the Delaware Basin with local terracing which is associated with upper Pennsylvanian reefing. Disposal would be into reef equivalent beds.

Exhibit II is a north south structure cross section through the proposed disposal well and the ARCO Jackson Federal #1 well which produced oil for a period of 18 months from the proposed disposal zone equivalent. The cross section shows the stratigraphic and structural relationships of the overlying and underlying beds as well as perforation and drill stem tests.

The proposed disposal zone has been utilized in the past as a source for water in secondary flooding of the overlying Grayburg and San Andres formations. A total of 1,607,031 bbls of water had been produced from the zone through June 1962. Part of the water being injected will have come from this zone. No compatibility problems are expected because of this relationship.

I have examined all available records and data and find that no other well has been drilled within a one half mile radius which penetrates the proposed disposal zone. The zone has produced oil from the ARCO #1 Jackson Federal well located approximately one and a half miles to the southwest. A total of 31,497 bbls of oil, 60,327 MCFG and 138 bbls of water have been produced from this zone prior to abandonment in May of 1986. No other wells within the two mile radius have produced oil or gas from the disposal zone.

Appendix A tabulates all wells drilled through the zone of interest within two miles of the proposed disposal well.

A search of the State Engineers Office in Roswell reveals the above referenced water disposal system lies outside all declared underground water basins. One fresh water well has been drilled in the area of review in Unit B of Sec. 35 T17S R29E. It was abandoned as no potable water was discovered. Ranchers use a fresh water pipeline for domestic purposes in this area.

Your request appears to meet the geological requirements for administrative approval of this project.

Respectfully submitted,

Jack Ahlen

Appendix A

Well Name	Location				TD	Pay Zone
	Unit	Sec.	Tsp	Rg		
General American Keely C #45	H	13	17S	29E	11,402	Temp abd, OWWO Grayburg 2507-2563
Oryx Little Wing Fed Com #1	L	14	17S	29E	11,025	Morrow, 10,728-10,748
Marbob Energy Corp Dodd A #21-Y	O	15	17S	29E	11,242	P&A, OWWO San Andres, Queen 2364-3416
H.L. Brown Jr. Dodd - Fed #1	P	15	17S	29E	10,864	Morrow, 10,770-10,790
Moran Dlg & Prod Corp Dodd #1	J	22	17S	29E	10,880	P & A
General America of Texas Burch C #15	D	23	17S	29E	12,260	Orig. P&A, recomp San Andres 2407-3312
Marbob Energy Corp Keely B #24	M	24	17S	29E	13,341	Orig. P&A, WSW Penn., 9260-70 San Andres 3452-3550
Atlantic Richfield Co. F.M. Robinson Fed Com #1	K	27	17S	29E	11,065	P&A
ARCO O&G Jackson Fed #1	C	35	17S	29E	11,383	Cisco, 9185-9215
Great Western Grayburg Deep Unit #1	F	18	17S	30E	12,211	Morrow 11,039-11,057
General American Burch A #17	P	18	17S	30E	11,422	Glorietta 4223-4240
Phillips Grayburg Deep Unit #10	C	19	17S	30E	11,240	Morrow 10,891-10,960
General American Grayburg Deep Unit #8	H	30	17S	30E	11,600	P & A

STIMULATION PROGRAM
(Section IX, Form C-108)

The proposed injection well was originally drilled in April, 1952 as a Devonian test. Thirteen and three-eighths inch casing was set at 324 with 650 sacks of cement which was brought back to surface. A 12 1/4" hole was drilled to 3452 where 9 5/8" casing was cemented back to surface with 2350 sacks. An 8 3/4" hole was drilled to TD of 13,341'. Plug back was 11,424. Seven inch casing was set at 11,149' and cemented with 365 sacks. Top of cement was 6495'. They attempted completion in open hole from 11,149 to 11,424. Set cement plug in 7" from 11,150 to 11,100. Set 7" CIBP at 9270. Attempted completion from 9100-9140 and 9160-9200. Limited zone. Loaded hole with mud and TA'd well for four years. Drilled out bridge plug and circulated at 9540'. Set CIBP at 9530' with 2 sacks Calseal and two sacks cement to plug back at 9500'. Perforated 9265 - 9299. In next five years produced 1,607,031 barrels of water for pilot waterflood project. Cut 7" casing at 3722'. Set cement plug from 3722' to 3550'. Current injection is in following perfs and open hole 2342-2348, 2455-2488, 3004-3032, 3146-3192, 3383-3393, and 3530-3560. It is proposed to drill out cement plug from 3550 to top of 7" casing. Clean out 7" casing to cement plug at 9500'. Log well to determine casing integrity. Perforate 9265 to 9299 and test zone for disposal capability. Either tie back 7" to surface or run 5 1/2" casing to 9200' and cement in two stages. Prior to running 5 1/2" casing, 7" casing will be perforated at 6450' to cover top of Abo, 5540' to cover top of Tubb, and 4070' to cover top of Glorieta with cement. Treatment of the zone will consist of 1,000 gallons of 15% NE acid if needed.

LOGGING AND TESTING DATA
(Section X, Form C-108)

The Schlumberger Electric Log run on the subject well on February 1, 1953 is included in Section VIII as part of Exhibit II. DST's were taken at various depths in the well and tabulated results are included here as Exhibits I through V.

GULF GRAYBURG UNIT NO. 1

EXHIBIT I

FORM C-108 X

Record of Drill Stem Tests:

TEST NO.	1	2	3	4	5	6
Date	7-28-52	8-11-52	8-14-52	8-16-52	8-18-52	8-19-52
Testing Co.	Howco	Howco	Howco	Howco	Howco	Howco
Size & Type Pkr.	Two 8" Form.	Two 8" Form.	Two 8" Form.	Two 8" Form.	Two 8" Form.	Two 8" Form.
Interval Tested	6249-6337	7102-7154	7205-7340	7340-7380	7392-7442	7442-7492
Formation Tested	Lower Clear Fork	Lower Abo.	Lower Abo.	Lower Abo.	Lower Abo.	Lower Abo.
Chokes	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T
Times Tool Reset	1	1	1	2	1	1
Total Time Open	1:00	1:00	1:30	1:00	2:00	1:30
Surface Reaction						
Air	Weak blow air thru out	Weak blow air thru out	Open w/fair blow air	Weak Blow air-- died :12	Weak blow air. Inc. to fair blow & level out @ fair rest of test	Open w/good blow air
Gas	None	None	:35	None	None	:11
Mud	None	None	None	None	None	None
Oil	None	None	None	None	None	None
Water	None	None	None	None	None	None
Rate of Flow	None	None	Rate of 5100 cu. ft./day in :40. Decr. to 1000 in 1:30	None	None	Not. Measurable.
Fluid Recovery			205'	None	None	None
Mud	480' (no shows)	35' (no shows)	None	None	None	None
Cut Mud	None	None	205' sltly gas cut	150' very sltly gas cut	300' highly gas cut. Bottom 200' drk. gray-green w/salty Taste. Gas w/in 400' Top	270' highly gas and Sul. Water cut mud Slt show oil
Oil	None	None	None	None	None	Show
Water	None	None	None	None	None	480' highly gas cut-slty o.l cut S. water. B e H 3.5°
Depth Recorder Set	6222'	7152'	7179'	7310'	7365'	7439'
Inital Flowing Press.	70#	30 #	60#	0#	40#	0#
Closing Flowing Press.	285#	30 #	60#	55#	90#	150#
Total Time Shut in	:15	:15	:15	:00	:15	:15
Shut-in Press	0	120#	370#	None Taken	520#	1280#
Hydrostatice Press.	3130#	3440#	3650#	3750#	3780#	3770#
Remarks:	Temp. @ 6335' 132° 4 1/2 " DP Positive Test	4 1/2 DP Positive Test	Temp @ 7338' 138° 4 1/2" DP Positive Test	Positive Test 4 1/2" DP	Positive Test 4 1/2" DP	Positive Test 4 1/2" DP

GULF GRA JRG UNIT NO. 1

EXHIBIT II

FORM C-108 X

Record of Drill Stem Tests:

TEST NO.	7	8	9	10	11	12
Date	8-20-52	8-21-52	8-23-52	8-27-52	8-28-52	8-31-52
Testing Co.	Howco	Howco	Howco	Howco	Howco	Howco
Size & Type Pkr.	Two 8" Form.	Two 8" Form	Two 8" Form	Two 8" Form	Two 8" Form	Two 8" Form.
Interval Tested	7537-7570	7570-7606	7606-7687	7842-7876	7837-7876	8024-8087
Formation Tested	Upper Hueco	Upper Hueco	Upper Hueco	Hueco	Hueco	Hueco ?
Chokes	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T
Times Tool Reset	1	1	1	2	1	1
Total Time Open	1:00	1:00	1:00	1:00	1:00	1:00
Surface Reaction						
Air	Fair blow thru out	Weak blow thru out	Weak blow thru out	Momentary weak blow air & died	Weak blow air for :30 and died	Fair blow air thru out
Gas	None	None	None	None	None	None
Mud	None	None	None	None	None	None
Oil	None	None	None	None	None	None
Water	None	None	None	None	None	None
Rate of Flow	None	None	None	None	None	None
Fluid Recovery		190'	100'	5'	15'	170'
Mud	30' No show	100' slty Gas cut	100' No shows	5' No shows	15' No shows	None
Cut Mud	None	90' slty gas and sul. water cut.	None	None	None	170' Gas cut (no oil show)
Oil	None	None	None	None	None	None
Water	None	None	None	None	None	None
Depth Recorder Set	7505'	7544'	7573'	7819'	7817'	7997'
Initial Flowing Press.	0#	95#	0#	*	0#	0#
Closing Flowing Press.	0#	140#	0#	*	8#	60#
Total Time Shut-in	:15	:15	:15	:15	:15	:15
Shut-In Press.	100#	2155#	40#	*	0#	0#
Hydrostatic Press.	3900#	3895#	3787# ?	3823#	3883#	?
Remarks:	Positive Test 4 1/2" DP	Positive Test 41/2" DP	Positive Test 4 1/2" DP	* Tool Plugged on Opening Mis-run	Positive Test	Positive Test

Gulf Gray rg Unit No. 1

EXHIBIT III

FORM C-108 X

Record of Drill Stem Tests:

Test No.	13	14	15	16	17	18
Date	9-14-52	9-16-52	9-20-52	9-21-52	9-22-23-52	10-4-52
Testing Co.	Howco	Howco	Howco	Howco	Howco	Howco
Size & Type Pkr.	Two 8 " Form	Two 8" Form	Two 8" Form.	Two 8" Form.	Two 8" Form.	Two 8" Form
Interval Tested	8838-8898	8940-9010	9160-9207	9204-9238	9255-9310	9920-9970
Formation Tested	Penn(?)	Penn	Penn	Penn.	Penn.	Penn.
Chokes	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T
Times Tool Reset	1	1	1	1	1	1
Total Open Time	1:15	1:00	1:45	1:00	1:10	2:00
Surface Reaction						
Air	Fair blow air grad. dec. toward end.	Weak blow air for :45 & died	Opened w/good blow air	Weak blow air thru cut	Open w/stead. blow air grad. dec. to fair blow at end of test	Open with steady blow of air
Gas	None	None	Gas to surface in :7 rate = 382.6 MCF/D	None	None	To surface in :38 steady flow for balance of test
Mud	None	None	None	None	None	None
Oil	None	None	None	None	None	None
Water	None	None	None	None	None	None
Rate of Flow	None	None	382.6 MCF per day	None	None	Gauged at rate of 1800 cu ft. Sweet gas per day by Gulf
Fluid Recovery	400' total fluid	60' Total	200' Total	75' total	8300' Total	190' total
Mud	300' Highly Gas cut	60' No show	None	None	None	None
Cut Mud	100' Highly & Salt water	None	50' O & G Cut	75' slightly sul. water cut mud	None	190' highly gas cut drlg. mud.
Oil	None	None	150' of 41° Oil.	None	None	None
Water	None	None	None	None	150' mud cut Sul. Water 8150' Slightly gas cut Sul. Wtr.	None
Depth Recorder Set	8809'	8913'	9135'	9177'	9227'	9891'
Initial Flowing Press.	28#	0#	250#	55#	575#	50#
Closing Flowing Press.	55#	0#	370#	55#	3600#	50#
Total Shut-in Time	:15	:15	:15	:15	None	:30
Shut-in Press.	110#	0#	3450#	345#	None	1130#
Hydrostatic Press.	(in) 4310# (out) 4255#	(in) 4580# (out) 4530#	(in) 4550# (out) 4610#	(in) 4750# (out) 4750#	(in) 4690 # (out) 4690 #	(in) 5275# (out) 5275#
Remarks:	Positive Test 4 1/2" DP	Positive Test 4 1/2" DP	Positive Test 4 1/2 DP	Positive Test 4 1/2 DP	Positive Test Grade of Sul. Water 5.2 Be HVY 8300' fill up in 1:10 = 101 bbls/hr 4 1/2" DP	Positive Test. 4 1/2" DP

EXHIBIT IV

FORM C-108 X

GULF-GRAYBURG UNIT NO. 1
Record of Drill Stem Tests:

Test No.	19	20	21	22	23	24	25
Date	10-23-52	11-8-52	11-10-52	11-15-52	11-17-52	11-20-52	11-23-52
Testing Co.	Howco	Howco	Howco	Howco	Howco	Howco	Howco
Size & Type of Pkr.	Two 8" Form.	Two 8" Form.	Two 8" Form.	Two 8" Form.	Two 8" Form.	Two 8" Form.	Two 8" Form.
Interval Tested	10,768-10,825		11,173-11,271	Mis-run attempted	11,2271-11,334	11,334-11,400	Mis-run attempted to test section 11,400-11,466 & hit bridge 118' off bottom.
Formation Tested	Penn.	Penn.	Penn.	to test section	Penn. & Poss. Upper Miss.	Poss. Upper Miss.	
Chokes	5/8" B. 5/8" T.	5/	5/8" B, 1" T	from 11,271, to	5/8" x 1 "	5/8" B, 1" T	
Times Tool Reset	1	Mis- run could not get below 105' off bottom because of Heavy mud	1	11,334 and hit	1	1	
Total Time Open	1:00		2:00	bridge 250' off	2:00	2:00	
Surface Reaction				bottom.			
Air	Immed. Good blow thru out		Immed. Stead. blow.		Open w/weak blow. Immediately inc to strong	Open w/immed. strong blow	
Gas	None		To surface in :06		To surface :12 Gauged 56.1 MCF PD grad decr. 43.2 MCF	Gas to surface :13 Guaged steady flow 61.9 MCF Sweet gas/d.	
Mud	None						
Oil	None		Accum. 25 gals. condensate in trap in 1:54		None	No distillate	
Water	None		Gauged at rate of 862 MLF/ PD & rate of 12 bbls cond.PD				
Rate of Flow	None				Max. #11 End #7		
Fluid Recovery			Total 3850'		Total 5400'	Total 350'	
Mud	90'		90' Condensate cut		5220'	None	
Cut Mud	None		3700' highly gas cut		180' Gas cut	350' Highly Gas	
Oil	None		60' condensate		None	None	
Water	None		None		None	None	
Depth Recorder Set	? ?		11,146'		Howco 11,333' Amerada 11,244'	11,309'	
Initial Flowing Press.	40#		435#		1100# 370#	145#	
Closing flowing Press.	40#		435#		550# 620#	145#	
Total Time Shut-in	:15		:15		:15 :15	:15	
Shut-in Press	145#		2060#		Did not Close	860#	
Hydrostatic Press	5670#		5935#		In-6250# 6220 # Out-6000# 6200#	(in) 6030# (Out) 5985#	
Remarks:	Positive Test 3 1/2" DP		After DST complete had to jar 2:30 to loosen pkr. Apparently Tool started leaking while Jarring & filled DP w/3700' Mud while pulling out. Positive Test 3 1/2" DP		Valley Gas co. Caught 2 smpls. for anal. & 1 smpl. for distillation test. Positive Test 3 1/2" DP	Positive Test 3 1/2 DP	

GULF GR/ JRG UNIT NO. 1
Record oi drill stem tests:

EXHIBIT V

FORM C-108 X

Test No.	26	27	28	29	30	31
Date	11-25-52	12-19-52	12-21-52	12-29-52	1-26-53	1-26-53
Testing Co.	Howco	HOWCO	Howco	Howco	Howco	Howco
Size & Type Pke.	Two 8" Form.	Two 8" Form.	Two 8" Form	Two 8" From	Two 8" Form.	Two 8" Form.
Intervall Tested	11,400-11,466	12,055-12,135	12,135-12190	12,400-12,470	13,176-13,241	13,241 - 13, 341
Formation Tested	Poss. Uper Miss.	Upper Devonian	Devonian	Siluro-Dev.	Ellenburger	Ellenburger
Chokes	5/8" B, 1" T	1" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T	5/8" B, 1" T
Times Tool Reset	1	1	1	1	1	1
Total time open	1:00	1:00	2:00	1:00	1:00	1:30
Surface Reaction						
Air	Open w/fair blow air dec. to very weak bl.	Open w/very weak blow air & died in :40	Open w/good blow air dec. slit'ly in 2:00	Weak blow air thru out	Immed. sl blow air, dim. & died in 30 min.	Immed. sl bbw air inc. thru out test.
Gas	None	None	None	None	None	None
Mud	None	None	None	None	None	None
Oil	None	None	None	None	None	None
Water	None	None	None	None	None	None
Rate of Flow	None	None	None	None	None	None
Fluid Recovery	90' Total	120' Total	4940' Total	280' Total	60' Total	640' Total
Mud	90' (no shows)	120' (No shows)	None	280'	60'	370'
Cut Mud	None	None	90' Salt water cut	None	None	270' Salt water cut *
Oil	None	None	None	None	None	None
Water	None	None	4850' Salt Water	None	None	None
Depth Recorder set	11372'	12040'	12,108'	12,3838	13,240'	13,216'
Initial Flowing Press.	65#	0#	290#	0#	0#	30#
Closing Flowing Press.	65#	95#	2205#	153#	0#	300#
Total Time Shut in	:15	:15	:15	:15	:15	:15
Shut in Press.	90#	4025#	3895#	2920#	175#	5120#
Hydrostatic Press.	(in) 6145# (out)5910#	(out) 6260# (in) 6215#	(in) 6495# (out)6435#	(in) 6498# (out)6498#	(In) 6900# (out)6850#	(in)6900# (out)6880#
Remarks:	Positive Test 3 1/2" DP BHT @ 11,465 142°	Positive Test 3 1/2" DP Used Howco Hydr Tool BHT 12,134' 162°	3 1/2DP * Fill-up 16.30 bbls per hrof 5.4°Be Hy @ 70° F. Salt water. BHT @ 12,188=158° Positive Test	Positive Test 3 1/2" DP	3 1/2" DP Positive Test BHT @ 13,240 - 150° F	Positive Test 3 1/2"DP * Mud cut w/salt water tested 9.5#/gal viscosit 42 sec. Filtrate contain 58,000 PPM Choride

FRESH WATER ANALYSIS

(Section XI, Form C-108)

As indicated by Section VIII there were no records found on fresh water wells in this area. Our search of the area found one water well in Section 35. The well was abandoned. This well is located in the NW/4 of the NE/4 of Section 35. We asked the owner about the well and he indicated the well had not been used in years because "the water was no good".

AFFIRMATIVE STATEMENT

(Section XII, Form C-108)

Applicant hereby affirms that he has examined the available geologic and engineering data and finds no evidence of open faults or other hydrologic connection between the disposal zone and any underground source of drinking water.

marbob
energy corporation

May 20, 1993

Phillips Petroleum Company
4001 Penbrook
Odessa, Texas 79762

Attention: Mr. Troy Richard

RE: Proposed disposal well

Dear Mr. Richard:

Enclosed please find an application for a proposed salt water disposal well located in Section 24, Township 17 South, Range 29 East, Eddy County, New Mexico. If you have any questions regarding this application, please contact me at 505/748-3303.

If you have no objection to the application, please sign below and return one copy of this letter to us.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

Phillips Petroleum Company has no objection to the proposed disposal well.

By: _____

Title: _____

Date: _____

cc: Mr. Jack Pickett
Phillips Petroleum Company
4001 Penbrook
Odessa, TX 79762

marbob
energy corporation

May 20, 1993

Bureau of Land Management
1717 W. Second Street
Roswell, New Mexico 88201

Attention: Mr. Armando Lopez

RE: Proposed disposal well

Dear Mr. Lopez:

Enclosed please find an application for a proposed salt water disposal well located in Section 24, Township 17 South, Range 29 East, Eddy County, New Mexico. If you have any questions regarding this application, please contact me at 505/748-3303.

If you have no objection to the application, please sign below and return one copy of this letter to us.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

The Bureau of Land Management has no objection to the proposed disposal well.

By: _____

Title: _____

Date: _____

P.O. Drawer 217 • Artesia, New Mexico 88211-0217 • (505) 748-3303 FAX #505-746-2523

marbob
energy corporation

May 20, 1993

Great Western
P. O. Box 1659
Midland, Texas 79702

Attention: Mr. Mike Headington

RE: Proposed disposal well

Dear Mr. Headington:

Enclosed please find an application for a proposed salt water disposal well located in Section 24, Township 17 South, Range 29 East, Eddy County, New Mexico. If you have any questions regarding this application, please contact me at 505/748-3303.

If you have no objection to the application, please sign below and return one copy of this letter to us.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

Great Western has no objection to the proposed disposal well.

By: _____

Title: _____

Date: _____

P.O. Drawer 217 • Artesia, New Mexico 88211-0217 • (505) 748-3303 FAX #505-746-2523

marbob
energy corporation

May 20, 1993

Davoil, Inc.
P. O. Box 122269
Fort Worth, Texas 76121-2269

Attention: Mr. Kenneth Smith

RE: Proposed disposal well

Dear Mr. Smith:

Enclosed please find an application for a proposed salt water disposal well located in Section 24, Township 17 South, Range 29 East, Eddy County, New Mexico. If you have any questions regarding this application, please contact me at 505/748-3303.

If you have no objection to the application, please sign below and return one copy of this letter to us.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

Davoil, Inc. has no objection to the proposed disposal well.

By: _____

Title: _____

Date: _____

marbob
energy corporation

May 20, 1993

Wilshire Oil Company of Texas
200 North Harvey, Suite 717
Oklahoma City, Oklahoma 73102

Attention: Mr. David George

RE: Proposed disposal well

Dear Mr. George:

Enclosed please find an application for a proposed salt water disposal well located in Section 24, Township 17 South, Range 29 East, Eddy County, New Mexico. If you have any questions regarding this application, please contact me at 505/748-3303.

If you have no objection to the application, please sign below and return one copy of this letter to us.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

Wilshire Oil Company of Texas has no objection to the proposed disposal well.

By: _____

Title: _____

Date: _____

P.O. Drawer 217 • Artesia, New Mexico 88211-0217 • (505) 748-3303 FAX #505-746-2523

EXHIBIT B
(Section XIV, C-108)

Affidavit of Publication

No. 14319

STATE OF NEW MEXICO,

County of Eddy:

Gary D. Scott being duly sworn, says: That he is the Publisher of The Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 consecutive days weeks on the same day as follows:

First Publication May 20, 1993

Second Publication

Third Publication

Fourth Publication

Gary D. Scott

Subscribed and sworn to before me this 20th day of May 19 93

Barbara Ann Bass

Notary Public, Eddy County, New Mexico

My Commission expires September 23, 1996

Copy of Publication

MAY 24 1993

LEGAL NOTICE

Notice is hereby given pursuant to Rule 701 B 3 of the New Mexico Oil Conservation Division Rules and Regulations that it is the intent of Marbob Energy Corp. to utilize the Keely B well No. 24 located 560 feet from the West Line and 660 feet from the South Line of Section 24, Township 17 South, Range 29 East, NMPM, Eddy County, New Mexico for the underground disposal of produced water in the area. Disposal will average 2000 barrels per day but could go as high as 5000 barrels per day. Maximum injection pressure will not exceed 1853 pounds per square inch. Questions regarding this proposal may be directed to Raye Miller, P.O. Drawer 217, Artesia, N.M. 88210, Telephone 748-3303.

Objections to this proposal or requests for hearing on the matter, together with the reasons therefor, must be filed in writing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, N.M. 87501, within 15 days after date of publication of this notice.
Published in the Artesia Daily Press, Artesia, N.M. May 20, 1993.

Legal 14319

SPEED LETTER®

TO

93 JUN 22 AM 8 56

Mr. Ben Stone/Oil Conservation Division

P. O. Box 2088

Santa Fe, NM 87504

FROM

Marbob Energy Corporation

P. O. Drawer 217

Artesia, NM 88210

SUBJECT Keely B #24 Salt Water Disposal Well

FOLD NO. 9 or 10

MESSAGE

Dear Mr. Stone:

Per your telephone request today, enclosed please find copies of the certified return receipts and copies of the letters that we have received from the offset operators on the above referenced well. If you need anything else, please contact us.

DATE 6/17/93 SIGNED Misti McLurg Misti McLurg

REPLY

FOLD FOR NO. 9

FOLD FOR NO. 10

DATE SIGNED

WilsonJones • Carbonless • MADE IN U.S.A.

marbob
energy corporation

May 20, 1993

Great Western
P. O. Box 1659
Midland, Texas 79702

Attention: Mr. Mike Headington

RE: Proposed disposal well

Dear Mr. Headington:

Enclosed please find an application for a proposed salt water disposal well located in Section 24, Township 17 South, Range 29 East, Eddy County, New Mexico. If you have any questions regarding this application, please contact me at 505/748-3303.

If you have no objection to the application, please sign below and return one copy of this letter to us.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

Great Western has no objection to the proposed disposal well.

By: D. L. Eaje

Title: Geology/Land Manager

Date: June 15, 1993

marbob
energy corporation

May 20, 1993

JUN 07 1993

Wilshire Oil Company of Texas
200 North Harvey, Suite 717
Oklahoma City, Oklahoma 73102

Attention: Mr. David George

RE: Proposed disposal well

Dear Mr. George:

Enclosed please find an application for a proposed salt water disposal well located in Section 24, Township 17 South, Range 29 East, Eddy County, New Mexico. If you have any questions regarding this application, please contact me at 505/748-3303.

If you have no objection to the application, please sign below and return one copy of this letter to us.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

Wilshire Oil Company of Texas has no objection to the proposed disposal well.

By: K. C. Hays

Kendall C. Hays

Title: Vice President

Date: May 27, 1993

P.O. Drawer 217 • Artesia, New Mexico 88211-0217 • (505) 748-3303 FAX (505) 746-2523

marbob
energy corporation

May 20, 1993

JUN 04 1993

Davoil, Inc.
P. O. Box 122269
Fort Worth, Texas 76121-2269

Attention: Mr. Kenneth Smith

RE: Proposed disposal well

Dear Mr. Smith:

Enclosed please find an application for a proposed salt water disposal well located in Section 24, Township 17 South, Range 29 East, Eddy County, New Mexico. If you have any questions regarding this application, please contact me at 505/748-3303.

If you have no objection to the application, please sign below and return one copy of this letter to us.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

Davoil, Inc. has no objection to the proposed disposal well, SUBJECT TO OPERATOR'S APPROVAL ONLY!!!

By: Deborah L. Singleton
DEBORAH L. SINGLETON

Title: MANAGER, OIL & GAS OPERATIONS

Date: 6/2/93

P.O. Drawer 217 • Artesia, New Mexico 88211-0217 • (505) 748-3303 FAX #505-746-2523

P 106 969 184

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 Fee will provide you the signature of the person delivered to and the date of delivery.

MAY 26 1993

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:
PHILLIPS PETROLEUM COMPANY
ATTN; MR. TROY RICHARD
4001 PENBROOK
ODESSA, TX 79762

KEELY B #24 DISPOSAL WELL

4a. Article Number
P 106 969 184

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
5-25-93

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form **3811**, November 1990 ★U.S. GPO: 1991—287-066 **DOMESTIC RETURN RECEIPT**

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

Sent to	PHILLIPS PETROLEUM CO.
Street and No.	4001 PENBROOK
P.O., State and ZIP Code	ODESSA, TX 79762
Postage	$ 1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.00
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$ 3.44
Postmark or Date	MAY 24 1993

PS Form **3800**, June 1991

P 106 967 509

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 Fee will provide you the signature of the person delivered to and the date of delivery.

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:
PHILLIPS PETROLEUM
ATTN; MR. JACK PICKETT
4001 PENBROOK
ODESSA, TX 79762

MAY 26 1993

KEELY B #24 DISPOSAL WELL

4a. Article Number
P 106 967 509

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
5-25-93

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form **3811**, November 1990 ★U.S. GPO: 1991—287-066 **DOMESTIC RETURN RECEIPT**

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

Sent to	PHILLIPS PETROLEUM
Street and No.	4001 PENBROOK
P.O., State and ZIP Code	ODESSA, TX 79762
Postage	$ 1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.00
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$ 3.44
Postmark or Date	MAY 24 1993

PS Form **3800**, June 1991

P 106 969 183

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 Fee will provide you the signature of the person delivered to and the date of delivery.

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:
BUREAU OF LAND MANAGEMENT
ATTN; MR. ARMANDO LOPEZ
1717 W. SECOND STREET
ROSWELL, NM 88201

KEELY B #24 DISPOSAL WELL

MAY 26 1993

4a. Article Number
P 106 969 183

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
5/25/93

5. Signature (Addressee)
Carol Kuies

6. Signature (Agent)

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

PS Form **3811**, November 1990 ☆U.S. GPO: 1991—287-068 **DOMESTIC RETURN RECEIPT**

Receipt for Certified Mail

UNITED STATES POSTAL SERVICE

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

Sent to BUREAU OF LAND MANAGEMENT	
Street and No. 1717 W. 2ND ST.	
P.O., State and ZIP Code ROSWELL, NM 88201	
Postage	$ 1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.00
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$ 3.44
Postmark or Date	MAY 24 1993

PS Form **3800**, June 1991