

SWO-577

CHECKLIST for ADMINISTRATIVE INJECTION APPLICATIONS

Operator: HARBOR ENERGY CORP. Well: SABER FEDERAL Well No. 1

Contact: RAYE MILLER Title: LAND MAN Phone: 505-748-3303

DATE IN 11.23.94 RELEASE DATE 11.28.94 DATE OUT 12.13.94
12-7

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)? ☐ Additional Data _____

AREA of REVIEW WELLS

0 Total # of AOR 0 # of Plugged Wells

N/A Tabulation Complete N/A Schematics of P & A's

N/A Cement Tops Adequate N/A AOR Repair Required

INJECTION INFORMATION

Injection Formation(s) PENN (Upper)

Source of Water SR-Q-G-SA Compatible YFS

PROOF OF NOTICE

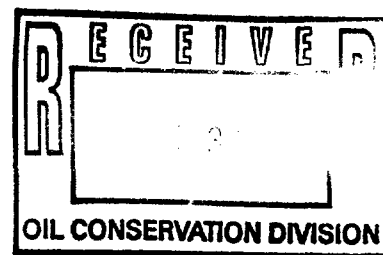
☐ Copy of Legal Notice ☒ Information Printed Correctly
☐ Correct Operators ☒ Copies of Certified Mail Receipts
☒ Objection Received ☐ Set to Hearing _____ Date

NOTES: _____

APPLICATION QUALIFIES FOR ADMINISTRATIVE APPROVAL YFS

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 _____



November 10, 1994

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 Saber Federal Well No. 1 located 720 feet from the North line and 2005 feet from the East line of Section 11, Township 17 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.

Waters to be disposed of will consist of 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

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION
APPLICATION FOR ADMINISTRATIVE APPROVAL
MARBOB ENERGY CORPORATION
FOR CONVERSION TO WATER DISPOSAL
THE
SABER FEDERAL WELL NO. 1

Located 720' FNL 2005' FEL Sec. 11, T-17S, R-29E
Eddy County, New Mexico

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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. Box 227, Artesia, New Mexico 88211-0227

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: 11/10/94

* 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.

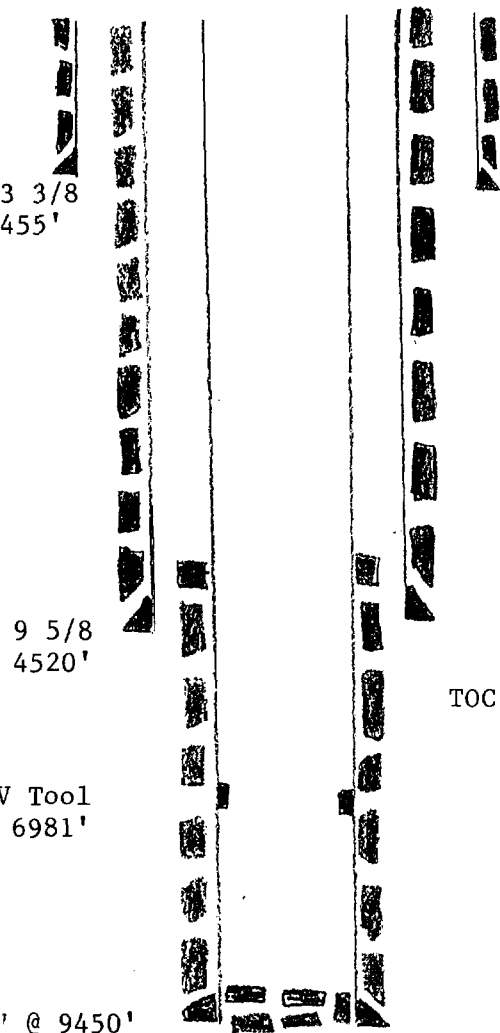
NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

INJECTION DATA SHEET

OPERATION		LEASE		
Marbob Energy Corporation		Saber Federal		
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
1	720' FNL & 2005' FEL	11	17S	29E

Schematic

Tubular Data



Surface Casing

Size 13 3/8 " Cemented with 400 ex.
 TOC surface feet determined by circulated
 Hole size 17 1/2

Intermediate Casing

Size 9 5/8 " Cemented with 1600 ex.
 TOC surface feet determined by circulated
 Hole size 12 1/2

Long string

Size 7 " Cemented with 1260 ex.
 TOC 4350 feet determined by CBL
 Hole size 8 1/2
 Total depth 10,910

Injection Interval

8644 feet to 8960 feet
 (perforated or open-hole, indicate which)

TOC 4350'

Tubing size 2 7/8" lined with plastic coated (material) set in a
Giberson Uni VI packer at 8600 feet
 (brand and model)

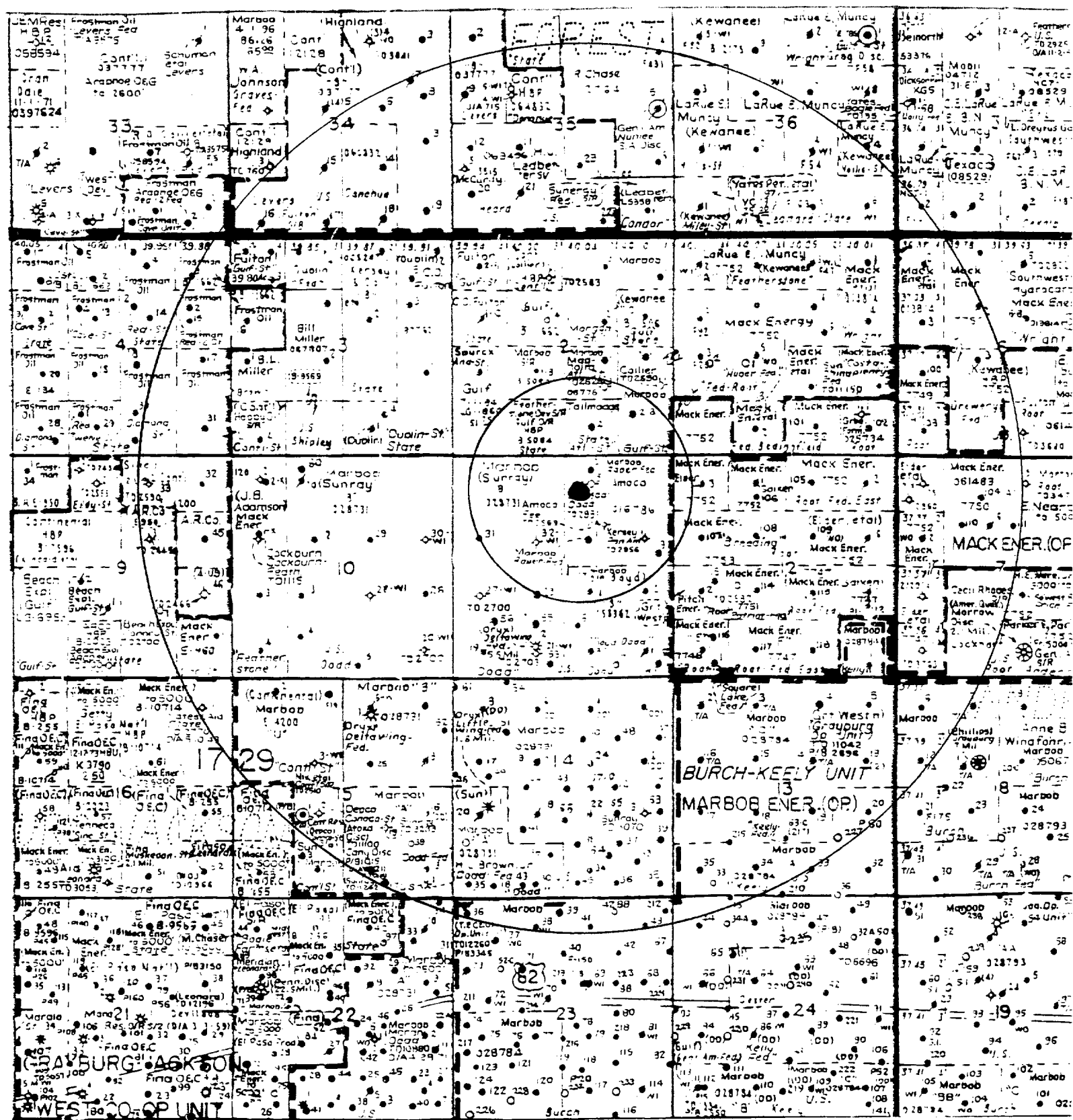
(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Upper Pennsylvanian
- Name of Field or Pool (if applicable) N/A
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? Oil and gas production
- 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) see attached
- Give the depth to and name of any overlying and/or underlying oil or gas zones (up to) in this area. underlying pools Grayburg Morrow producing from 10,770', Grayburg Atoka North producing from 10,342' overlying pool Grayburg Jackson Seven Rivers, Queen, Grayburg, San Andres producing from 2100' - 3300'.

ATTACHMENT FOR INJECTION DATA SHEET

Two and seven-eighths tubing was run to 10,910'. Cemented with 335 sacks of cement with the top of cement at 9635' by temperature survey. Perforated 10,730-10,749 (Morrow). Set cast iron bridge plug at 10,680'. Cut off tubing at 9535'. Spot 80 sacks Class H cement from 9150' to 9535'. Pull tubing to 9318' and reverse out excess cement. Tagged cement at 9333'. Well was also perforated 7338' to 7508' (Wolfcamp). These perforations have not been plugged and will be discussed in Section IX Stimulation Program.



APPLICATION FOR ADMINISTRATIVE APPROVAL

ILLEGIBLE

MARBOb ENERGY CORPORATION

SABER FED. #1 DISPOSAL WELL

SECTION 11, TOWNSHIP 17 SOUTH, RANGE 29 EAST

EXHIBIT II

C-108 V

Map of Area Showing Well & Lease Ownership

Jack Ahlen Dawn Ahlen Willis Oct. 26, 1994

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: 5,000 barrels
 - B. Maximum daily rate of injection: 10,000 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 8644 feet, or 1729 psi.
4. Source of Injection Water

Source of disposal water is Seven Rivers, Grayburg, and San Andres wells located in Sections 10, 11, 13, 14, 15, 22, 23, 24, 25, and 26 of Township 17 South, Range 29 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 one mile of the proposed well. In our application for disposal in the Dodd Well No. 1 in June 1993 the following information was submitted: A review of the records revealed that there are not any analysis of water from this zone on file. 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 is currently being used for disposal of similar produced water in a disposal well less than one mile away in unit letter E of Section 27, Township 17 South, Range 29 East.

HALLIBURTON DIVISION LABORATORY

EXHIBIT A

HALLIBURTON SERVICES

(Section VII, C-108)

ARTESIA DISTRICT

LABORATORY REPORT

No. W167 & W168-93TO Marbob Energy CorporationDate May 20, 1993P. O. Box 304Artesia, NM 88210

This report is the property of Halliburton Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the express written approval of laboratory management. It may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Services

Submitted by _____ Date Rec. _____

Well No. _____ Depth _____ Formation _____

Field _____ County _____ Source _____

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

Remarks:


Respectfully submittedAnalyst: 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

Jack AhlenCONSULTING GEOLOGIST
533 PETROLEUM BUILDING
ROSWELL, NEW MEXICO 88201

26 Oct. 1994

Marbob Energy Corporation
P.O. Box 217
Artesia, N.M. 88210-0217Re: Administrative Approval
for Water Disposal,
Your Saber Federal #1,
NW NE Sec. 11 T17S R29E
Eddy Co., N.M.

Gentlemen;

I have prepared three exhibits and one table in support of your request for a water disposal well into the Pennsylvanian Formation at a depth of 8640' to 8960' in the above referenced well.

Exhibit I is a structure map at the top of the proposed disposal zone. All wells which have penetrated the disposal zone have been posted to the map and show the appropriate datum. A two mile radius circle has been inscribed on the map and is hereby defined as the area of review. The map shows regional dip to the southeast into the Delaware Basin with local terracing which may be associated with upper Pennsylvanian reefing. Disposal will be into reef beds.

Exhibit II is a land map showing all wells drilled in the area. 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. Oil has been produced from the disposal zone in the Depco Inc. #1 Conoco State, Unit K, Sec. 15, at a depth of 8768' to 8787'. A total of 265 BO, 478 BW and 2.864MMCFG was produced from June 2, 1977 until March 28, 1978. The zone was subsequently squeezed and the well was perforated in a deeper zone at 9820' to 9847'. No other well has produced oil or gas from the disposal zone within the two mile radius.

Appendix A tabulates all wells drilled through the zone of interest within two miles of the proposed disposal well. The list shows well name, location, total depth and pay zone where appropriate.

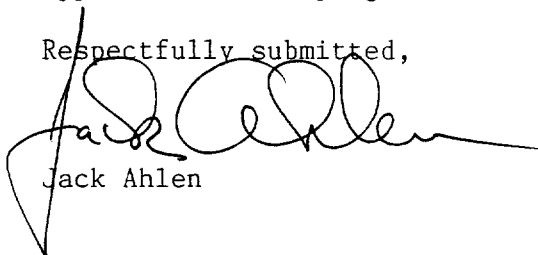
Exhibit III is a structure cross section from the disposal well south to the Oryx Energy Little Wing Fed. Com. #1 as indicated on the structure map. The top of the proposed disposal zone is indicated by the heavy line labeled Penn Marker. Exhaustive completion attempts were made in the Penn reef zone as indicated on the log. Seperate production tests were run on the four marked perforated intervals of the Saber Federal. A total of 34,694 bbls of water was pumped from the zone in a period of 16 days, indicating exceptional permeability. The DST tools on DST #3 were left open sufficiently long, such that, the pressure of the fluid in the drill pipe equalized with the reservoir pressure. A total of 7224 feet of mud and formation water was recovered. Chlorides tested at 3000 ppm. The static fluid level should stand at 1400 to 1100 feet from the surface.

The recommended disposal zone is identical to that in your previously approved Dodd #1 (M Dodd A#47) in NW SE Sec. 22 and your Keely B #24 (Burch-Keely Unit #113) in SW SW Sec. 24 in this same township. You should not expect any significant fluid incompatibilities as evidenced by your experience and injection into the same zone in the above Dodd and Burch-Keely wells.

The area of review lies within the recently extended (State Engineer Special Order No. 147, Feb. 8, 1993) Roswell Underground Water Basin. There are no windmills, stock tanks, springs or other natural sources of potable water visible within the area of review. There are no other known sources of naturally occurring potable water in the subsurface within the area of review. 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

Saber Fed. #1 Disposal Well

Appendix A

Deep wells within 2 mile radius of proposed disposal well.

Well Name	Unit	Location Sec. Tsp	Rg	TD	Pay Zone
Sun Expl. & Prod. 1 China Cat Fed. Com.	P	1 17S	29E	11,150	D&A Grayburg 2507'-2563'
POGO Prod. Co. Saber Fed. #1	B	11 17S	29E	10,910	D&A
Oryx Energy Delta Wing Fed. #2	N	11 17S	29E	10,910	Morrow 10,762'-10,806'
General American-Texas Keely C #45	H	13 17S	29E	11,402	Temp. Abd. Grayburg
Oryx Energy Little Wing Fed. Com. #1	L	14 17S	29E	11,025	Morrow 10,728'-10,748'
Oryx Energy Delta Wing Fed. #1	B	15 17S	29E	10,950	Morrow 10,654'-10,778'
Depco Inc. Conoco State Com. #1	K	15 17S	29E	11,100	Atoka 10,308'-10,316' Cisco 8,768'-8,787' 9,820'-9,847'
Sunray Mid-Continent Oil Co. Dodd "A" #21X	O	15 17S	29E	11,242	Orig. P&A Queen/SanAndres 2,364'-3,416'
Brown, H.L. Jr. Dodd Fed. #1	P	15 17S	29E	10,864	Morrow 10,770'-10,790'

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE