

CHECKLIST for ADMINISTRATIVE INJECTION APPLICATIONS

Operator: MARALO, INC. Well: PROHIBITION FEDERAL UNIT WELL NO. 2

Contact: DOROTHEA OWENS Title: REGULATORY ANALYST Phone: 915.684.7441

DATE IN AUG 29, 94 RELEASE DATE 9.12.94 DATE OUT 9.20.94

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

Original Order: R- ☐ Secondary Recovery ☐ Pressure Maintenance

SENSITIVE AREAS

☒ SALT WATER DISPOSAL

6 MILES
FROM WIPP
BOUNDARY

☐ Capitan Reef

☐ Commercial Operation

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

AREA of REVIEW WELLS

☐ Total # of AOR

☐ # of Plugged Wells

☐ Tabulation Complete

☐ Schematics of P & A's

☐ Cement Tops Adequate

☐ AOR Repair Required

INJECTION INFORMATION

Injection Formation(s) DELAWARE

Source of Water DELAWARE Compatible YES

PROOF OF NOTICE

YES Copy of Legal Notice

YES Information Printed Correctly

YES Correct Operators

☐ Copies of Certified Mail Receipts

NO Objection Received

☐ Set to Hearing _____ Date

NOTES: NEED CERT MAIL RCPT'S

APPLICATION QUALIFIES FOR ADMINISTRATIVE APPROVAL YES

COMMUNICATION WITH CONTACT PERSON:

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

RECEIVED - NOV 10 1994
FEDERAL BUREAU OF INVESTIGATION
U.S. DEPARTMENT OF JUSTICE
FBI - NEW MEXICO
FBI 8 50



August 24, 1994

New Mexico Energy & Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504

Attention: David Catanach

Enclosed please find our application for authorization to
inject for the Prohibition Federal Unit #2 located in Unit K
of Section 11, T22S, R32E.

Sincerely,

A handwritten signature in cursive script that reads "Dorothea Owens". The signature is fluid and written in dark ink.

Dorothea Owens
Regulatory Analyst

Enclosures

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: MARALO, INC.

Address: P. O. BOX 832, MIDLAND, TEXAS 79702

Contact party: RICHARD A. GILL Phone: (915) 684-7441

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: DOROTHEA OWENS Title REGULATORY ANALYST

Signature: Dorothea Owens Date: AUGUST 24, 1994

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.

Application For Authorization To Inject
Maralo, Inc.
Prohibition Federal Unit #2
K 11-22S-32E
Lea County, New Mexico

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

Maralo, Inc. plans to convert this well to a water disposal well into the Delaware Sand.

- II. Operator: Maralo, Inc.
P. O. Box 832
Midland, TX 79702
Richard A. Gill (915) 684-7441

- III. Well Data : See Attachment A

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

- V. See attached map, Attachment B

- VI. No wells within the area of review penetrate the proposed injection zone.

- VII. 1. Proposed average daily injection volume approximately 3000 BWPD.
Maximum Daily injection volume approximately 5000 BWPD.

2. This will be a closed system.

3. Proposed average injection pressure-unknown
Proposed maximum injection pressure--900 psi.

4. Sources of injected water would be produced water from the Delaware Sand. (Attachment C)

5. See Attachment C.

- VIII. The proposed injection interval is the portion of the Delaware Sand formation consisting of porous Sandstone from estimated depths:

5220' - 5230'
5286' - 5386'
5804' - 5850'
5874' - 5894'
5928' - 5942'
7230' - 7235'

Application for Authorization to Inject
Prohibition Federal Unit #2

-2-

8481' - 8559'

8692' - 8706'

2. Possible Fresh water zones overlies the proposed injection formations at depths to approximately 697 feet. There are no fresh water zones underlying the formation.
- IX. The proposed disposal interval may be acidized with 7-1/2% HCL acid.
- X. Logs were filed at your office when the well was drilled.
- XI. No windmills exist within a one mile radius of the subject location.
- XII. Maralo, Inc. has examined geologic and engineering data and has found that there is no evidence of faulting in the proposed interval.
- XIII. Proof of Notice
 - A. Certified letter sent to the Bureau of Land Management (Surface Owner) and offset operators- attached. (Attachment D)
 - B. Copy of legal advertisement (Attachment E) attached.
- XIV. Certification is signed.

MARALO, INC.
PROHIBITION FEDERAL UNIT #2
K 11-22S-32E

Attachment A
Page 1

III. Well Data

- A. 1. Lease Name/Location
Prohibition Federal Unit #2
K 11-22S-32E
1980' FSL & 2080' FWL
2. Casing Strings:
Present Well Condition
13-3/8" 54.5# K55 @ 1110' w/950 sx (circ)
8-5/8" 32#, K55 @ 4700' w/1700 sx (circ)
5-1/2" 17# K-55 @ 9225' w/1065 sx TOC 5080'
(Temp. Survey)
Present Status:
SI.
3. Proposed well condition:
Casing same as above.
2-7/8" 6.5# K-55 Duo-line plastic coated
injection tubing at 5150'
4. Propose to use Baker nickel-plated Loc-Set
packer set at 5150'.
- B. 1. Injection Formation: Delaware Sand
2. Injection Interval will be through
perforations from approximately 5220 - 8706'.
3. Well was original drilled as a Brushy Canyon
(Delaware Sand) oil well. Tests proved well to
be non-commercial. Well will be Delaware Sand
Water disposal well (5220 - 8706') when work
is completed.
4. Additional Perforations:
9135 - 9149' plugged off w/CIBP @ 9100' w/35'
cement.
7616 - 7627' Squeezed w/250 sx.
5. There are no higher or lower oil or gas zones
within the area of interest.

CURRENT

WELLBORE SKETCH AND WELL HISTORY

#101-D

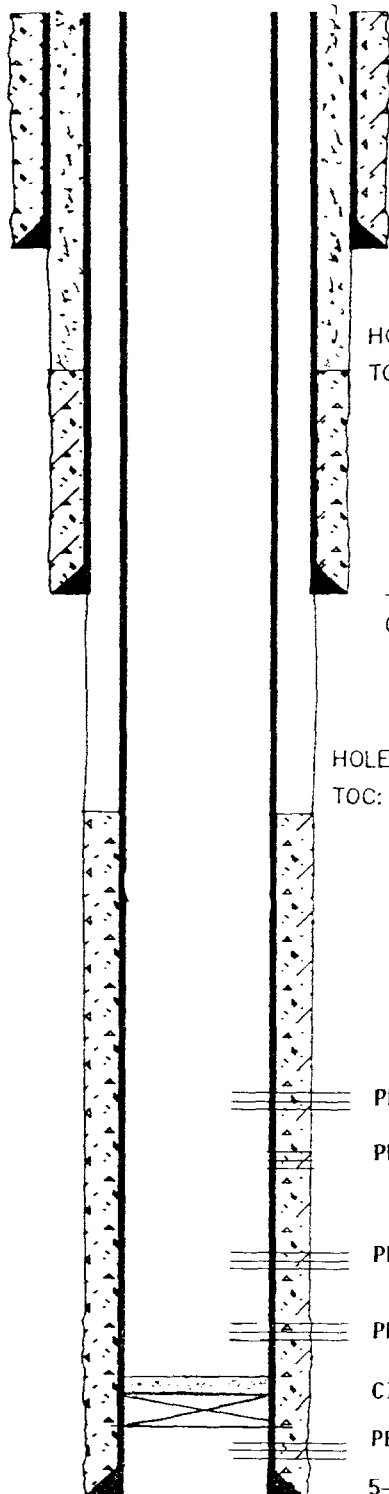
ELEV.: KB 3759.4 ", 13' ABOVE GL

LEASE & WELL NAME: PROHIBITION FEDERAL UNIT #2

FIELD: BOOTLEG RIDGE; DEL. COUNTY: LEA ST.: NM

LOCATION: 1980' FSL & 2080' FWL, SEC. 11, T22S, R32E

DATE: 08-12-94 BY: RAG REV.: BY:

HOLE SIZE: 17 1/2 "
TOC: SURF13-3/8 " 1100 '
CMT 950 SXHOLE SIZE: 12 1/2 "
TOC: SURF8-5/8 " 4700 '
CMT 1700 SXHOLE SIZE: 7-7/8 "
TOC: 5080' (TEMP SURVEY)

PERFS 7230 - 7235'

PERFS 7616 - 7627', SQUEEZED

PERFS 8481 - 8559'

PERFS 8692 - 8706'

CIBP @ 9100' W/35' CMT

PERFS 9135 - 9149'

5-1/2 " 9225 '
CMT 1065 SX

CASING RECORD

SURFACE CASING

O.D.	WT/FT	GRADE	SET AT
13-3/8	54.5#	K-55	1100'
8-5/8	32#	K-55	4700'

PRODUCTION CASING

5-1/2	17#	K-55	9225'

TUBING

NO. JTS.	O.D.	THD.	TYPE	WT.	GDE.	SET AT

WELL HISTORY:

11-5-92	PERF 9135 - 49'
	FRAC W/5000 GAL + 6750#
11-11-92	SET CIBP @ 9100' W. 35' CMT
11-12-92	PERF 8481 - 8559' A/1000 GAL
	FRAC 33000 GEL + 89500#
01-08-93	SET RBP @ 7782'
	PERF 7616 - 7627'
	A/750 GAL, F/18000 GAL + 42K#
02-10-93	SQZ PERFS 7616 - 27' W/250 SXS
02-16-93	SET RBP @ 7547'
	PERF 7230 - 35', A/500 GEL
03-26-93	CATCH RBP @ 7547, RESET @ 7692'.
03-30-93	SET RBP @ 7550'
10-25-93	PULL RBP @ 7550'
	PULL RBP @ 7783'
11-03-93	PERF 8692 - 8706'

TD: 10100' PBD: 9065'

PROPOSED

WELLBORE SKETCH AND WELL HISTORY

#101-D

ELEV.: KB 3759.4 " 13' ABOVE GL

LEASE & WELL NAME: PROHIBITION FEDERAL UNIT #2

FIELD: BOOTLEG RIDGE, DEL. COUNTY: LEA ST.: NM

LOCATION: 1980' FSL & 2080' FWL, SEC. 11, T22S, R32E

DATE: 08-12-94 BY: RAG REV.: BY:

HOLE SIZE: 17 1/2 "
 TOC: SURF13-3/8 " 1100'
 CMT 950 SXHOLE SIZE: 12 1/2 "
 TOC: SURF8-5/8 " 4700'
 CMT 1700 SXHOLE SIZE: 7-7/8 "
 TOC: 5080' (TEMP SURVEY)PERFS 5220 - 5230'
 PERFS 5286 - 5386'
 PERFS 5804 - 5850'
 PERFS 5874 - 5894'
 PERFS 5928 - 5942'

PERFS 7230 - 7235'

PERFS 7616 - 7627', SQUEEZED

PERFS 8481 - 8559'

PERFS 8692 - 8706'

CIBP @ 9100' W/35' CMT

PERFS 9135 - 9149'

5-1/2 " 9225'
 CMT 1065 SX

CASING RECORD

SURFACE CASING

O.D.	WT/FT	GRADE	SET AT
13-3/8	54.5#	K-55	1100'
8-5/8	32#	K-55	4700'

PRODUCTION CASING

5-1/2	17#	K-55	9225'

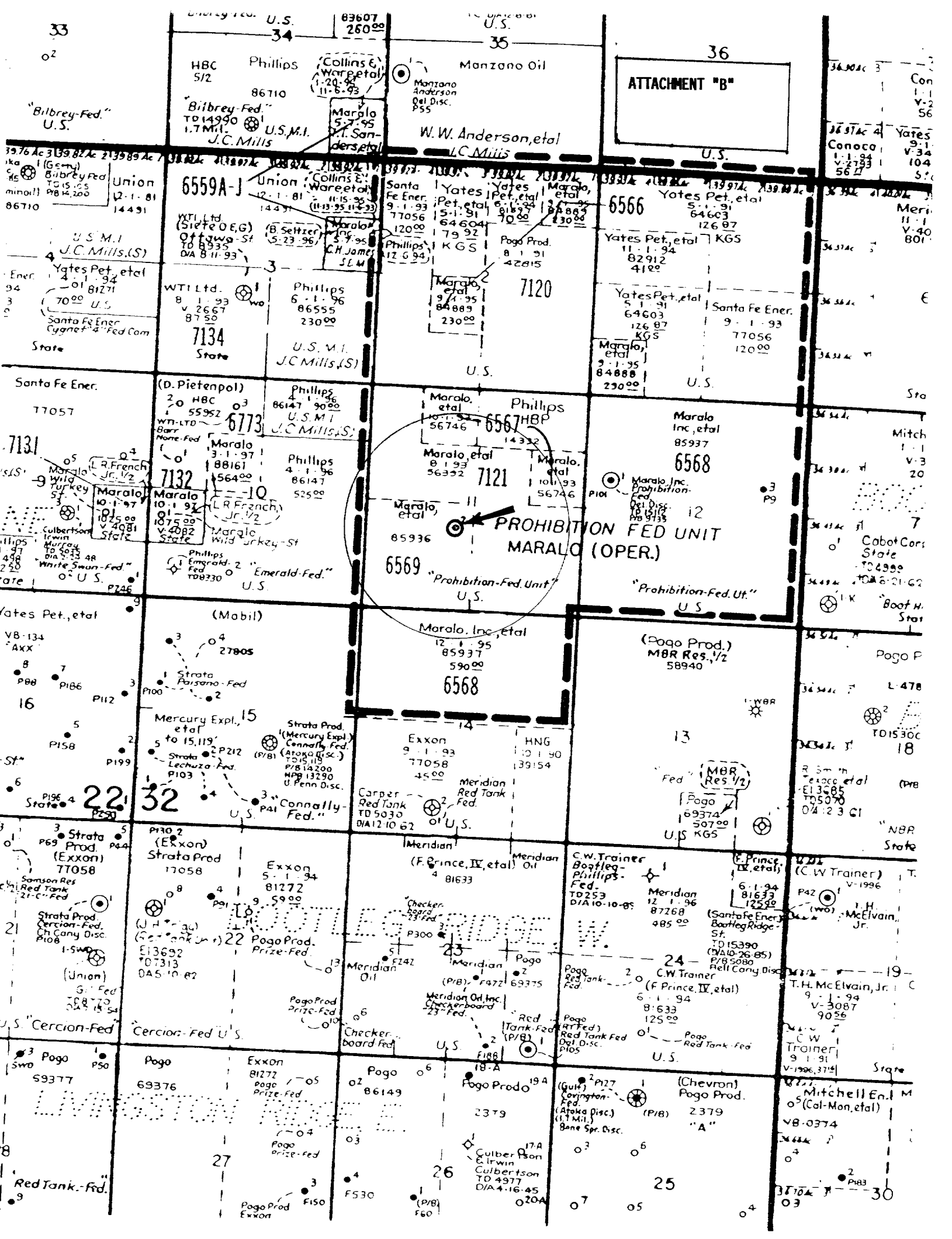
TUBING

NO. JTS.	O.D.	THD.	TYPE	WT.	GDE.	SET AT
	2-7/8			6.5#	K-55	5150'

WELL HISTORY:

11-5-92	PERF 9135 - 49' FRAC W/5000 GAL + 6750#
11-11-92	SET CIBP @ 9100' W. 35' CMT
11-12-92	PERF 8481 - 8559' A/1000 GAL - FRAC 33000 GEL + 89500#
01-08-93	SET RBP @ 7782' PERF 7616 - 7627' A/750 GAL, F/18000 GAL + 42K#
02-10-93	SQZ PERFS 7616 - 27' W/250 SXS
02-16-93	SET RBP @ 7547' PERF 7230 - 35', A/500 GEL
03-26-93	CATCH RBP @ 7547, RESET @ 7692'.
03-30-93	SET RBP @ 7550'
10-25-93	PULL RBP @ 7550' PULL RBP @ 7783'
11-03-93	PERF 8692 - 8706'

TD: 10100' PBD: 9065'



Martin Water Laboratories, Inc.

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

TO: Mr. Bill Hunt
P. O. Box 833, Midland, TX 79702

LABORATORY NO. 894110
SAMPLE RECEIVED 8-16-94
RESULTS REPORTED 8-18-94

COMPANY Maralo, Inc. LEASE Wild Turkey "9" State #1
FIELD OR POOL _____
SECTION _____ BLOCK _____ SURVEY _____ COUNTY Lea STATE NM

NO. 1 Produced water - taken from heater-treater. 8-16-94

NO. 2 _____

NO. 3

NO. 4

REMARKS: Delaware

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1986			
pH When Sampled				
pH When Received	4.50			
Bicarbonate as HCO ₃	63			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	99,000			
Calcium as Ca	31,200			
Magnesium as Mg	5,103			
Sodium and/or Potassium	83,569			
Sulfate as SO ₄	226			
Chloride as Cl	198,853			
Iron as Fe	40.0			
Barium as Ba	0			
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	319,014			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	0.044			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The above results reveal characteristics that are common to Delaware in this general area although we do not know the specific location of this well. It should be noted that for disposal purposes, this water should not be mixed with any water that contains a high sulfate as combining a water with a high calcium such as encountered herein with a water containing a high sulfate will result in calcium sulfate scaling and/or precipitation.

By Waylan C. Martin, M.A.

ATTACHMENT D
PROHIBITION FEDERAL UNIT #2
OFFSET OPERATORS

POGO PRODUCING COMPANY
P. O. BOX 10340
MIDLAND, TX 79702-7340

PHILLIPS PETROLEUM COMPANY
4001 PENBROOK
ODESSA, TX 79762

MERIDIAN OIL, INC.
P. O. BOX 51810
MIDLAND, TX 79710-1810

STRATA PETROLEUM COMPANY
303 W. WALL, SUITE 807
MIDLAND, TX 79701

SURFACE OWNER:

BUREAU OF LAND MANAGEMENT
P. O. BOX 1778
CARLSBAD, NM 88221

AFFIDAVIT OF PUBLICATION

ATTACHMENT E

State of New Mexico,
County of Lea.

I, Kathi Bearden

General Manager

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

of _____

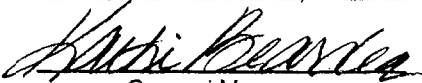
one weeks.

Beginning with the issue dated

August 18, 19 94

and ending with the issue dated

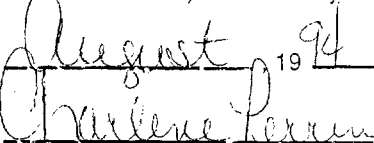
August 18, 19 94



General Manager

Sworn and subscribed to before

me this 22 day of

August, 19 94


Notary Public.

My Commission expires

March 15, 1997

(Seal)

LEGAL NOTICE

August 18, 1994

Maralo, Inc., P.O. Box 832, Midland, Texas 79702, is filing Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for an injection well. The proposed well, the Prohibition Federal Unit, Well #2 is located 1980' FSL and 2080' FWL, Section 11, Township 22 South, Range 32 East, Lea County, New Mexico, will be used for saltwater disposal. Disposal waters from the Delaware Sand will be re-injected into the Delaware Sand at the depth of 5220-8706 feet with a maximum pressure of 900 psi and a maximum rate of 5000 BWPD.

All interested parties op-

posing the aforementioned must file objections or requests for a hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico, 87504, within 15 days. Additional information can be obtained by contacting R. A. Lowery at (915) 684-7441.

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.



August 24, 1994

CERTIFIED RETURN RECEIPT

*SENT TO ALL
OFFSET OPERATORS*

Pogo Producing Company
P. O. Box 10340
Midland, Texas 79702-7340

Dear Sir:

Enclosed please find a copy of Form C-108 (New Mexico OCD Application for Authority to Inject) on Maralo Inc.'s Prohibition Federal Unit #2 located in Unit K of Section 11, T22S, R32E.

Should you have any questions, please feel free to contact me at (915) 684-7441.

Sincerely,

A handwritten signature in cursive script that reads "Dorothea Owens".

Dorothea Owens
Regulatory Analyst

Enclosure



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

1991 DEC 14 AM 8 52

BRUCE KING
GOVERNOR

10-25-94

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

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

RE: Proposed:

MC _____
DHC _____
NSL _____
NSP _____
SWD X _____
WFX _____
PMX _____

Sub 569

Gentlemen:

I have examined the application for the:

Maralo Inc Prohibition Fed Unit #2-K 1122-32
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed