## KELLAHIN AND KELLAHIN

W. THOMAS KELLAHIN\*

"NEW MEXICO BOARD OF LEGAL SPECIALIZATION RECOGNIZED SPECIALIST IN THE AREA OF NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

ATTORNEYS AT LAW EL PATIO BUILDING 117 NORTH GUADALUPE POST OFFICE BOX 2265 SANTA FE. NEW MEXICO 87504-2265 August 16, 1995

TELEPHONE (505) 982-4285 TELEFAX (505) 982-2047

## HAND DELIVERED

Oil Conservation Division 2040 South Pacheco Santa Fe, New Mexico 87505 Attn: Mr. Ben Stone

Re: Administrative Application for Salt Water Disposal Approval Mallon Oil Company's State "16" Well No. 3 Unit I, Sec 16, T16S, R37E, NMPM Lea County, New Mexico AUG 1 6 1995

RECEIVED

**Oil Conservation Division** 

Dear Mr. Catanach:

On behalf of Mallon Oil Company and in accordance with Division Rule 701, we are enclosing an original and one copy of the completed and signed Application for Authorization to Inject (Division Form C-108 with attachments) for the referenced well.

Mallon seeks approval for injection into the Strawn formation through existing and future perforations from approximately 11,436 feet to 11,690 feet.

Copies of the application have been sent to the surface owner and offsetting operators. In addition, we have had newspaper notification by newspaper published and that certification is enclosed.

Please call me if you need anything else in order to process this request.

ery truly your W. Thomas Kellahin

cc: OCD-Hobbs (w/ encl.) cc: Mallon Oil Company Attn: Ray Jones

## NEWSPAPER NOTICE

Notice of Application for Authorization to Inject Salt Water

Mallon Oil Company, 999 18th St., Denver, CO 80202, has made application to the New Mexico Oil Conservation Division for authority to convert its existing State "16" Federal Well No. 3 located 1980 feet from the south line and 660 feet from the east line (Unit I) of Section 16, Township 16 South, Range 37 East, NMPM, Lea County, New Mexico into a disposal well for the injection of produced salt water into the Strawn formation through existing and future perforations from approximately 11,436 feet to 11,690 feet. Said well is located approximately 6 miles southeast from Lovington, New Mexico.

Interested parties with an objection or request for a hearing must file said objection/request in writing within 15 days of this notice with the Division, 2040 South Pacheco, Santa Fe, New Mexico 87505

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ENERGY	AND	M	INER	IALS	DEPARTM	

DEL CONSERVATION DIVISION PORT OFFICE BOX 2016 STATE LAND OFFICE BUX, DNG SANTA FL. NEW MEXICO #7501



AUG 1 6 1995

APPL'CATION	FOR	AUTHORIZATION	TO	INJECT
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- 1. Purpose: Secondary Recovery Pressure Maintenauconse Vition Division Storage Application qualifies for administrative approval? yes no
- II. Operator: Mallon Oil Company .

Address: 999 18th Street, Suite 1700, Denver, CO 80202

Contact party: Ray E. Jones

Phone: 303-293-2333

- 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 X 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;
    - Whether the system is open or closed;
    - 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: Ray E. Jones Title Vice President, Engineering Signature: Care Correct Date: And 1995
- 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:
  - 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 offect operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

## FORM C-108 ATTACHMENT

## MALLON OIL COMPANY

STATE '16' NO. 3 1980' FSL & 660' FEL I, Sec. 16, T16S-R37E Lea County, NM

III. INJECTION WELL DATA	
Surface Casing:	Hole size: 17-1/2", casing: 13-3/8" @ 445' cemented with 600 sx circ to surface
Intermediate Casing:	Hole size: 11", casing: 8-5/8" @ 4391' cemented with 1800 sx circ
Production Casing:	Hole size: 7-7/8", casing: 5-1/2" @ 11,890' cemented with 475 sx TOC @ 10,200' by cement scan log
Total Depth:	11,930'
Tubing:	2-7/8" tubing
Packer:	Guiberson Uni VI Packer at 11,330'
Name of Injection Formation:	Strawn
Field:	Lovington, NE (Penn)
Injection Interval:	Cased hole, 11,436' - 11,690' gross interval
Original Well Purpose:	The well was drilled by Pennzoil Company in 1986 and completed as a Strawn Producer.
Perforated Intervals:	11,472' - 11,483 (current completion) CIBP @ 11,495' 11,504-1/2' - 11,515'
Depth and name of overlying and/or underlying oil and gas zones in this area:	Canyon 11,054' Atoka 11,874'





# VI. TABULATION OF DATA ON ALL WELLS IN REVIEW AREA

<u>Well</u> :	Pennzoil - State 15 #1 (Lovington, NE)
Location:	1980' FNL & 810' FWL, Sec. 15, T16S-R37E Lea County, New Mexico
Depth:	11,800'
<u>Type Well</u> :	Dry Hole
Construction:	13-3/8" @ 44' w/450 sx - circ 8-5/8" @ 4400 w/1740 sx - circ
Date Drilled:	11/28/90 to 12/17/90
Record of Completion:	Comp 12/20/90 Cement Plugs: Surface Plug - 10 sx 1,910-2,130' - 65 sx 4,235-4,475' - 75 sx 6,260-6,500' - 75 sx 8,020-8,500' - 150 sx 11,120 - 11,360' - 75 sx
<u>Well</u> :	Mobil Producing TX & NM - State 15-1 (Lovington, NE) (Originally Standard of Texas State 1527 #1-B)
Location:	1980 FSL & 660 FWL, Sec. 15 T16S-R37E Lea County, New Mexico
Depth:	11,700'
Type Well:	P&A (3/2/88)
Construction:	13-3/8" @ 364' w/400 sx - circ 8-5/8" @ 5081' w/1500 sx 5-1/2" @ 11697' w/2230 sx - circ
Date Drilled:	8/15/87 to 8/22/87
<u>Record of Completion</u> :	Comp. 3/2/88 Cement Plugs: 420' Surface Plug 2,138-2,238' - 25 sx 4,997-5,135' - 30 sx 8,526-8,626' - 25 sx 11,450' CIBP w/35' cement

VI. TABULATION OF DATA ON ALL WELLS	N REVIEW AREA (Continued)
Well:	American Quasar C&K State #1 (Lovington, NE)
Location:	610 FNL & 660 FEL Sec. 21, T16S-R37E Lea County, New Mexico
Depth:	11,646'
Type Well:	P&A (4/13/81)
Construction:	13-3/8" @ 350' w/560 sx - circ 8-5/8" @ 4492' w/2100 sx - circ
Date Drilled:	2/16/81 to 4/11/81
Record of Completion:	Comp. 4/13/81 Cement Plugs: 10' Surface Plug 2,000 - 2,100' - 100 sx 4,440-4,540' - 100 sx 5,025-5,125' - 100 sx 6,000-6,100' - 100 sx 8,400-8,500' - 100 sx 10,850-10,950' - 100 sx 11,360-11,460' - 100 sx
<u>Well</u> :	Pennzoil State 16 #2 (Lovington, NE)
Location:	1330 FNL & 1650 FEL Sec. 16, T16S-R37E Lea County, New Mexico
Depth:	11,720'
Type Well:	P&A (6/5/84)
Construction:	13-3/8" @ 425' w/400 sx 8-5/8" @ 4345' w/1650 sx
Date Drilled:	4/30/84 to 6/2/84
Record of Completion:	30' Surface Plug 2,056' - 2,156' - 35 sx 4,295' - 4,395' - 35 sx 6,463' - 6,563' - 55 sx 7,761' - 7,861' - 50 sx 8,456' - 8,556' - 45 sx 10,826' - 10,926' - 50 sx 11,367' - 11,467' - 35 sx

State '16' No. 3 Lea County, NM Attachment to C-108 August 10, 1995, Page -4-

#### VII. PROPOSED OPERATION:

Storage tanks will be located on the well site along with a powered salt water disposal pump. A salt water gathering system will transport from our tank battery, located at our State 16-4 well, 2,970 feet northwest. At the present time, only the State 16-4 well is producing water at a rate of 95 barrels per day. If the wells' disposal capacity is such to handle additional water, other operator's wells in the area may be trucked in to the storage tanks or connected to the salt water gathering system.

The average injection rate is estimated at 500 BWPD.

The proposed maximum injection rate is 2,000 BWPD.

The system will be open

The proposed average injection pressure is 2,280 psi.

The proposed maximum injection pressure is 2,280 psi.

The sources of injected water will be from the Strawn.

#### VIII. GEOLOGIC DATA

Geological Name:	Strawn
Lithological Detail:	Limestone with thin interbedded shale
Thickness:	700'
Depth:	11,436'
Geological Data of <u>Drinking Water Zone</u> :	The underground source of drinking water

overlying the zone of disposal is the Ogalla, which occurs at approximately 50 feet and is approximately 100-200' thick.

### IX. PROPOSED STIMULATION PROGRAM

## X. LOGS WERE PREVIOUSLY FILED BY ORIGINAL OPERATOR: Pennzoil Company

- XI. ANALYSIS OF FREE WATER WELL: One water well was found by field inspection. Analysis of the water is attached.
- XII. After examining all available geological and engineering data, we find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

State '16' No. 3 Lea County, NM Attachment to C-108 August 10, 1995, Page -5-

XIII. A copy of our application has been furnished by certified mail to the surface owner and to the Commissioner of Public Lands. Mallon Oil Company is the only leasehold operator within one-half mile of our proposed injection well.

	MALLON OIL COMPAN ENGINEERING CHART	SHEET NO. OF FILE
SUBJECT STATE 16-	BLETIONS FOR INSECTIONS	DATE
<u>PROPOSED</u> Com	· · · · · · · · · · · · · · · · · · ·	CASING CEMENT
		13 3/9 " 600 5X WLATED TO SURFACE
		85/9" 18CO SX CULATED TO SURFACE
	10,200' TOC	
	11,472-11,483' P	ROPOSED STRAUIN PERFORATIONIS
	A) 11,495' PROPOSED	CIBP
	△ //, 504 ½ - //, 515' S	STRAWN PERFORATIONS
	11,890' 77/8" 11,930'	5½″ 475 <sub>5×</sub>

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SHEET NO. OF MALLON OIL COMPAN FILE ENGINEERING CHART APPN RENNZOIL STATE 15-1 DATE SUBJECT BY I CEMENT CAFING DEPTH B11 PLUGAG -10 5X d CLASS H 1 4 4 1 KI 0 4 4 17-1/2" 13-3/8" 442' 450 5× CEMENT CIRCULATED TO SURFACE PL10=5 1910' 2/30' 65 5x 2054 1 PLUGED 4235' 4475' 8-5/8" 4,400' 1740 5x 11" 75 5× Cips + CEMENT CIRCULATED TO SURFACE PLU6#3 6260 75 5x CLOSS #1 (11) 6500' PLUGJZ 8020' 8,500' 150 5× C: 43 H PLUB=1 "11, TZO' 11, 360' 7554 CLASH 7-7/8" 11,800'

(	SUBJECT <u>MOBIL 574</u>	MALLON OIL COMPAN ENGINEERING CHART	SHEET NO. OF File APPN DATE BY
	• • • •	DEDTH	BIT CASING CEMENT
	420' 40 5X 2 4	364'	17-1/2" 13-3/8" 400 SX NENT CIRCULATED TO SURFACE
			TOOL 11" 8-5/3" 1500 SX C 1187' (CALCULATED)
	2138-2238' 25 5x 7 7/11 4997-5135' 30 5x 7 8526-8626' 25 5x 7		
	11,450 CIBP N/35 CMT	11,515-11,540	) STRAWAJ PERFERATION
		(1, 526 - 11, 52)	9' STRAWN PERFORATIONS
		11,531-11,54	O' STRAWN PERFORATIONS
(			7-5/8" 5-1/2" 2498 5x

	MALLON OIL COMPAN ENGINEERING CHART	SHEET NO. OF <u>FILE</u>
SUBJECT <u>AM QUASAR</u>		DATE
	DEPTH BIT	CASING CEMENT
10 x 2000' 01/1/ 1005x 2000' 01/1/ 1005x 2100 01/1/ 1005x 4440' 01/1/	CEMENT CIRCUM	13-3/8" 560 5х сл САТЕД ТО SURFACE 8-5/8" ZIODSX-Gir (САLCULATED)
100 5x 5025' 111 100 5x 5125' 111 100 5x 6000' 111 100 5x 8.400' 111 100 5x 10,850' 111 100 5x 10,950' 111 100 5x 11,360' 111	11,646'	



AUG-08-95 TUE 15:57 MALLON OIL CO.

11

AUG-07-1994 14:39

BPCI



Water Analysis Report

Pax #		Fax#
Phone #		Phone #
Co./Dept.		Ç0.
to Ollane Elin	Il.	From Itera Stand
POSILIE PER NOIS	7671	1 505 396 6146 P.01

Company.....: Mallon Oil Location....: field.....: S. Quail Ridge Lease.....: Water Well Sample Source...:

Date of Sampling:	08/07/95
Date of Analysis:	08/07/95
Baker Representative.	Steven Stroud
Well#	N/A
Analysis by	Stroud

		DISSOLVED	SOLIDS	
CATIONS:		mg/l		me/l
Ca++		20.00	-	1.00
Kg++		329.40		27.00
Fe++		0.10		0.01
8a++	ø	0.00		0.00
Xa+		4010.74		174.38
No++		0.00		0.00
ANIONS:				
CL-		7000.00		197.18
\$04		250.00		5.21
NC03-		0.20		0.00
co3		0.00		0.00
OH-		0.00		0.00
s-		0.00		0.00
TOTAL HARDNES	s			28.00
TOTAL SOLIDS	(quant	itative)	• • • • • • • • • • • • • • • •	0.00
		NS(ppm)		0.00
a - not data				

#### DISSOLVED GASES

	-	
Hydrogen Sulfide, H2S;		0.0
Carbon Bioxide, CD2;		0.0 0.0
Oxygen, O2	ø	
PHYSICAL PROPE	RTIE	3
рИ		7.2
Specific Gravity	1.000	
TDS (calculated) ppm	11	510.4
TIS (calculated)		0.2

SCALE	STABILITIES
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Temp.	<u>"C</u>	٩F	CaCO3	CaSO4	98504
	20	68	-4.52	3126	0
	30	86	-4.33	3210	0
	40	104	-4.12	3254	0
	Nax ont	ity, (cal	culated):	68	0

# = not determined

17 414 IRUANASIO (SZASKODAVIVITENS 130 Catt 2.1. SH Mgate 10 mail of the 10.11 20+++ CO3: а 122

#### NOTES:

@ 20' C SEVERELY CORROSIVE

@ 20'C CALCIUM SULFATE SCALING IS UNLIKELY

## **OFFSET OPERATOR NOTICE LIST**

Mallon Oil Company 999 18th Street Denver, Colorado 80202 Attn: Mr. Ray Jones

## SURFACE OWNER/LESSEE NOTICE LIST

Commissioner of Public Lands State of New Mexico P. O. Box 1148 Santa Fe, New Mexico 87504-1148 (State Lease K-6806)

Mr. B. M. Midlin W St. Route Tatum, New Mexico 88267 (grazing lease GM-1907)

### KELLAHIN AND KELLAHIN

W. THOMAS KELLAHIN\*

NEW MEXICO BOARD OF LEGAL SPECIALIZATION RECOGNIZED SPECIALIST IN THE AREA OF NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

ATTORNEYS AT LAW EL PATIO BUILDING 117 NORTH GUADALUPE POST OFFICE BOX 2265 SANTA FE, NEW MEXICO 87504-2265

September 11, 1995

TELEPHONE (505) 982-4285 TELEFAX (505) 982-2047

## HAND DELIVERED

Mr. Ben Stone Underground Injection Control Oil Conservation Division 2040 South Pacheco Santa Fe, New Mexico 87504

Re: Administrative Application for Salt Water Disposal Approval Mallon Oil Company's Mallon's "16" Federal Well No. 3 Unit I, Sec 16, T16S, R37E, NMPM Lea County, New Mexico

Dear Mr. Stone:

On August 16, 1995 and on behalf of Mallon Oil Company, I filed an application for approval of the referenced salt water disposal well.

Please find enclosed the following: (1) original of newspaper notice published August 20, 1995 providing fifteen notice and (2) copies of the return receipt cards showing delivery of a copy of the C-108 to the State Land Office and to Mr. B. W. Medlin, the surface grazing lessee.

The fifteen day notice period has expired and I have not received any objection to approval of this case.

Mallon seeks approval for injection into the Strawn formation through existing and future perforations from approximately 11,346 feet to 11,690 feet.

ery truly yours. W. Thomas /Kellahin

cc: OCD-Hobbs (w/ encl.) cc: Mallon Oil Company Attn: Ray Jones



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 \_\_\_

<u>1</u> weeks. Beginning with the issue dated

and ending with the issue dated

August 20 \_\_\_\_\_1995

TOASTA

General Manager Sworn and subscribed to before

. day of me this . 1995 Notary Public.

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.

My Commission expires March 24, 1998 (Seal)

LEGAL NOTICE August 20, 1995 Notice of Application for Authorization to Inject Salt Water Mallon Oil Company, 999 18th St., Denver, CO 80202, has made application to the New Mexico Oil Conservation Division for authority to convert its existing State "16" Federal Well No. 3 lo-cated 1980 feet from the south line and 600 feet from the east line (Unit I) of section 16, Township 16 South, Range 37 East, NMPM, Lea County, New Mexico into a disposal well for the injection of produced salt water into the Strawn formation through existing and future perforations from approximately 11,436 feet to 11,690 feet. Said well is located approximately 6 miles southeast from Lovington, New Mexico. Interested parties with an objection or request for a hearing must file said objection/request in writing within 15 days of this notice with the Division, 2040 South Pacheco, Santa Fe, New

Mexico 87505



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