

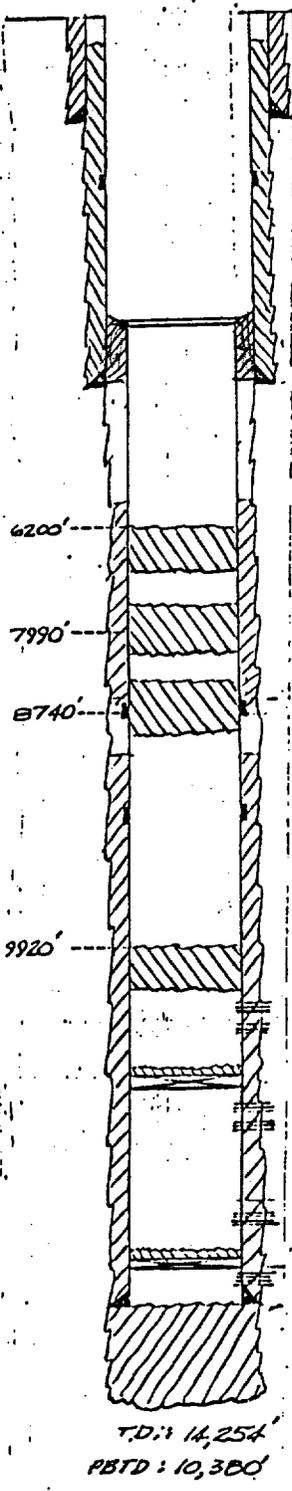


BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

*Huber* EXHIBIT NO. 1

CASE NO. 8493

2 7/8



PROPOSED ABANDONMENT PROCEDURE

Cabot "Q" State No. 1  
Lea County, New Mexico

1. Spot a 200' (27 cu.ft.) cmt. plug above perfs from 10,120' to 9920' inside 5½" csg. Use 26 sks Class "H" w/0.2% HR-5 (retarder).
2. Spot a 200' (27 cu.ft.) cmt. plug across the casing patch at 8740' inside 5½" csg. Use 26 sks Class "H" with 0.2% HR-5.
3. Spot a 200' (27 cu.ft.) cmt. plug across the top of the Abo @ 7990' inside 5½" csg. Use 26 sks Class "H" w/0.2% HR-5.
4. Spot a 200' (27 cu.ft.) cmt. plug @ 6200' inside 5½" csg. Use 26 sks Class "H" w/0.2% HR-5

CABOT STATE "Q" No. 1  
 Morton Wolfcamp Field  
 Lea County, New Mexico

BEFORE EXAMINER STOGNER  
 OIL CONSERVATION DIVISION  
*Huber* EXHIBIT NO. 2  
 CASE NO. 9493

WELLS LOCATED WITHIN 1/2-MILE RADIUS  
OF REVIEW OF J.M. HUBER CABOT "Q" STATE #1 \*

<u>OPERATOR</u>	<u>LEASE &amp; WELL NAME</u>	<u>LOCATION</u>	<u>TOTAL DEPTH</u>	<u>CURRENT STATUS</u>
Union Oil Co. of Calif.	State "7" No. 1	Unit D, Sec.7,T15S,R35E	10,700'	P&A
J.M. Huber Corp.	James O'Neill St. #1	Unit E, Sec.7,T15S,R35E	10,500'	Producing
J.M. Huber Corp.	James O'Neill St. #3	Unit F, Sec.7,T15S,R35E	10,500'	Producing
J.M. Huber Corp.	Cabot "Q" State #1	Unit L, Sec.7,T15S,R35E	14,254'	SI
J.M. Huber Corp.	Superior St. #2	Unit L, Sec.7,T15S,R35E	10,500'	Producing
J.M. Huber Corp.	Superior St. #1	Unit K, Sec.7,T15S,R35E	10,500'	Producing
Great Western	Glen Cleveland #2	Unit J, Sec.7,T15S,R35E	10,618'	Producing
J.M. Huber Corp. (frmlly Cabot & McAlester)	State "Q" No. 2	Unit M, Sec.7,T15S,R35E	10,445'	P&A
J.M. Huber Corp.	Superior "A" St.#1	Unit N, Sec.7,T15S,R35E	10,500'	Producing
Union Oil Co. of Calif.	Gulf Federal No. 1	Unit H, Sec.12,T15S,R34E	10,703'	SWD
J.M. Huber Corp.	Stoltz Federal #1	Unit J, Sec.12,T15S,R34E	10,400'	Producing
Union Oil Co. of Calif.	Union "A" Federal #1	Unit P, Sec.12,T15S,R34E	10,450'	Producing

\* Well data sheets are attached for all wells listed.

BEFORE EXAMINER STOGNER	
OIL CONSERVATION DIVISION	
<i>Huber</i>	EXHIBIT NO. <u>5</u>
CASE NO. <u>8493</u>	



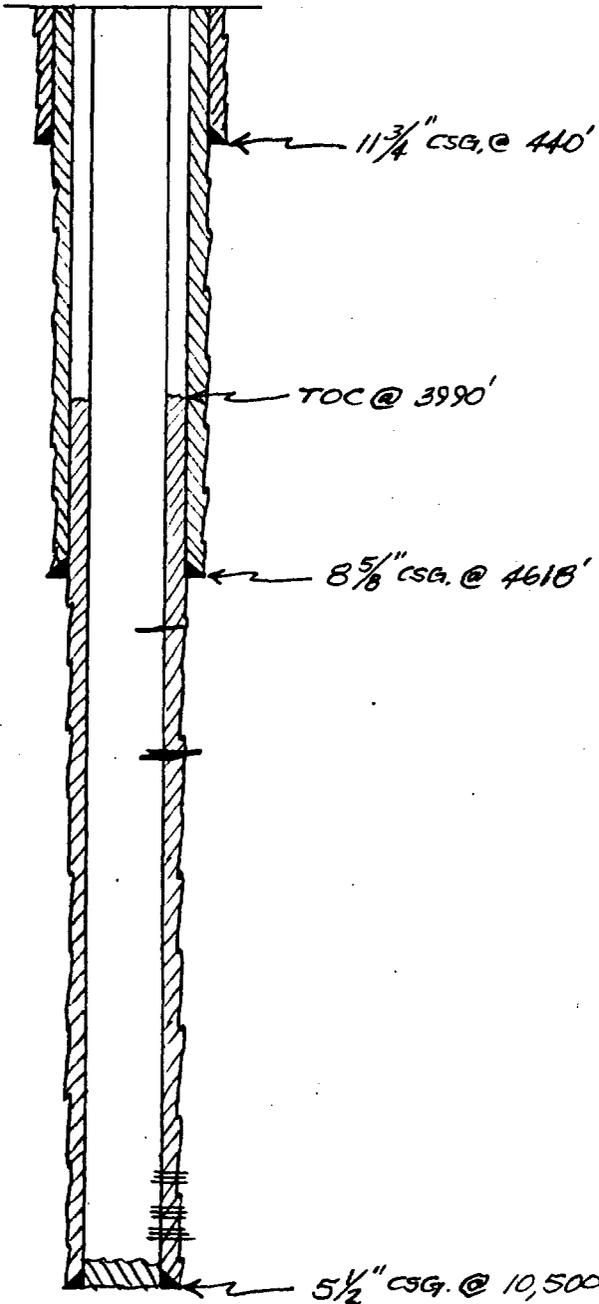
INJECTION WELL DATA SHEET

J.M. Huber Corporation

James O'Neill State

OPERATOR	LEASE		
1	766' FWL & 1874' FNL	7	15S 35E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP RANGE

Schematic



Tabular Data

Surface Casing

Size 11-3/4" @ 440' Cemented with 300 sx.  
 TOC Circulated \_\_\_\_\_ feet determined by \_\_\_\_\_  
 Hole size 14-3/4"

Intermediate Casing

Size 8-5/8" @ 4618' Cemented with 2050 sx.  
 TOC Circulated \_\_\_\_\_ feet determined by \_\_\_\_\_  
 Hole size 11"

Long string

Size 5 1/2" @ 10,500' Cemented with 1175 sx.  
 TOC 3990' feet determined by circulation to safety jt @ 4000'  
 Hole size 7-7/8"

Total depth 10,500' PBD: 10,451'

Injection interval

\_\_\_\_\_ feet to \_\_\_\_\_ feet  
 (perforated or open-hole, indicate which)

Spud: 8/22/81  
 Complete: 10/22/81  
 Perforations: 10,321'-401'  
 Current Status: Producing, Lower Wolfcamp

Tubing size \_\_\_\_\_ lined with \_\_\_\_\_ set in a \_\_\_\_\_  
 (material)  
 \_\_\_\_\_ packer at \_\_\_\_\_ feet  
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

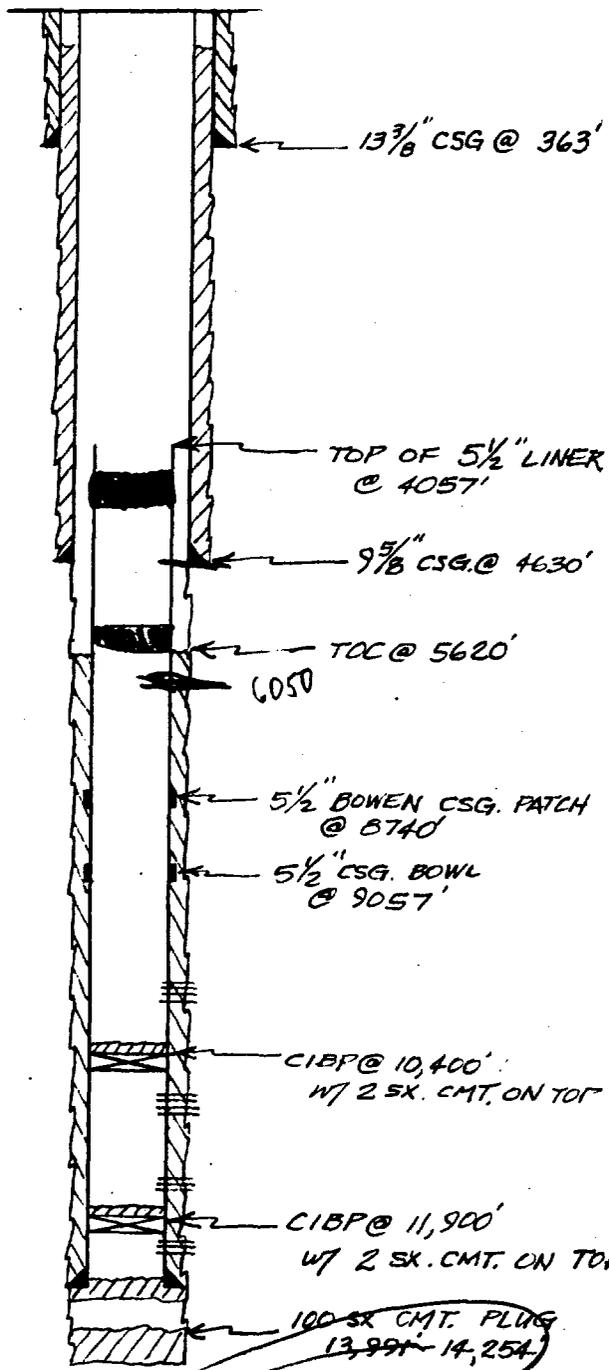
- Name of the injection formation \_\_\_\_\_
- Name of Field or Pool (if applicable) \_\_\_\_\_
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? \_\_\_\_\_
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) \_\_\_\_\_
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. \_\_\_\_\_



INJECTION WELL DATA SHEET

J.M. Huber Corp.		Cabot "O" State		
OPERATOR		LEASE		
1	1980' FSL & 560' FWL	7	15S	35E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing  
 Size 13-3/8" @363' Cemented with 350 sx.  
 TOC circulated feet determined by \_\_\_\_\_  
 Hole size 17 1/2"

Intermediate Casing  
 Size 9-5/8" @4630' Cemented with 2300 sx.  
 TOC 570' 100' feet determined by Temp. Survey  
 Hole size 12 1/2"

Long string  
 Size 5 1/2 @12,160' Cemented with 1590 sx.  
 TOC 5620' feet determined by Cmt. Bond Log  
 Hole size 7-7/8"

Total depth 14,254' PBDT: 10,380'

Injection interval (Proposed)  
4630' feet to 6050 feet, perforated  
 (perforated or open-hole, indicate which)

NOTE: The well will be plugged back to 6200'± and the top of the 5 1/2" liner cmt squeezed prior to conversion to SWD. (See attached schematic of proposed plug back)

Tubing size 2-7/8" lined with 100 SC-650 plastic coating set in a  
 (material)  
 Baker Lok-set packer at 5800' feet  
 (brand and model)  
 (or describe any other casing-tubing seal).

Other Data

- Name of the injection formation San Andres
- Name of Field or Pool (if applicable) Not applicable
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? Oil well in the Strawn and Wolfcamp formations
- 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) Strawn: 11,964-987'; Wolfcamp: 10,304'-375'; 414'-419'; 420'-424'; 513'-547' See above diagram for plugging details.
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Overlying: none  
Underlying: Wolfcamp - 10,304'

INJECTION WELL DATA SHEET

J.M. Huber Corporation

Superior State

OPERATOR

LEASE

2  
WELL NO.

1980' FSL & 810' FWL  
FOOTAGE LOCATION

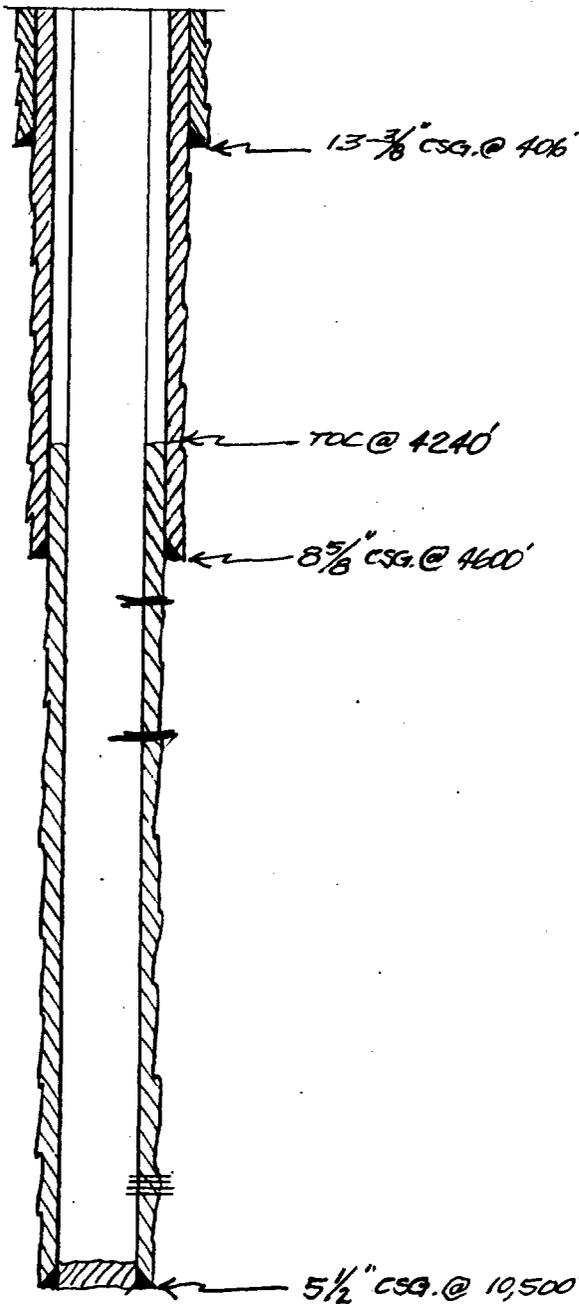
7  
SECTION

15S  
TOWNSHIP

35E  
RANGE

Schematic

Tabular Data



Surface Casing

Size 13-3/8" @ 406 " Cemented with 460 sx.

TOC Circulated \_\_\_\_\_ feet determined by \_\_\_\_\_

Hole size 17 1/2"

Intermediate Casing

Size 8-5/8" @ 4600' Cemented with 1900 sx.

TOC Circulated \_\_\_\_\_ feet determined by \_\_\_\_\_

Hole size 11"

Long string

Size 5 1/2" @ 10,500' Cemented with 1525 sx.

TOC 4240' feet determined by Temp Survey

Hole size 7-7/8"

Total depth 10,500' PBTB: 10,456'

Injection interval

\_\_\_\_\_ feet to \_\_\_\_\_ feet  
(perforated or open-hole, indicate which)

Spud: 8/17/84

Complete: 9/24/84

Perforations: . 10,406'-411'

Current Status: Producing, Lower Wolfcamp

Tubing size \_\_\_\_\_ lined with \_\_\_\_\_ set in a  
(material)  
\_\_\_\_\_ packer at \_\_\_\_\_ feet  
(brand and model)

(or describe any other casing-tubing seal).

Other Data

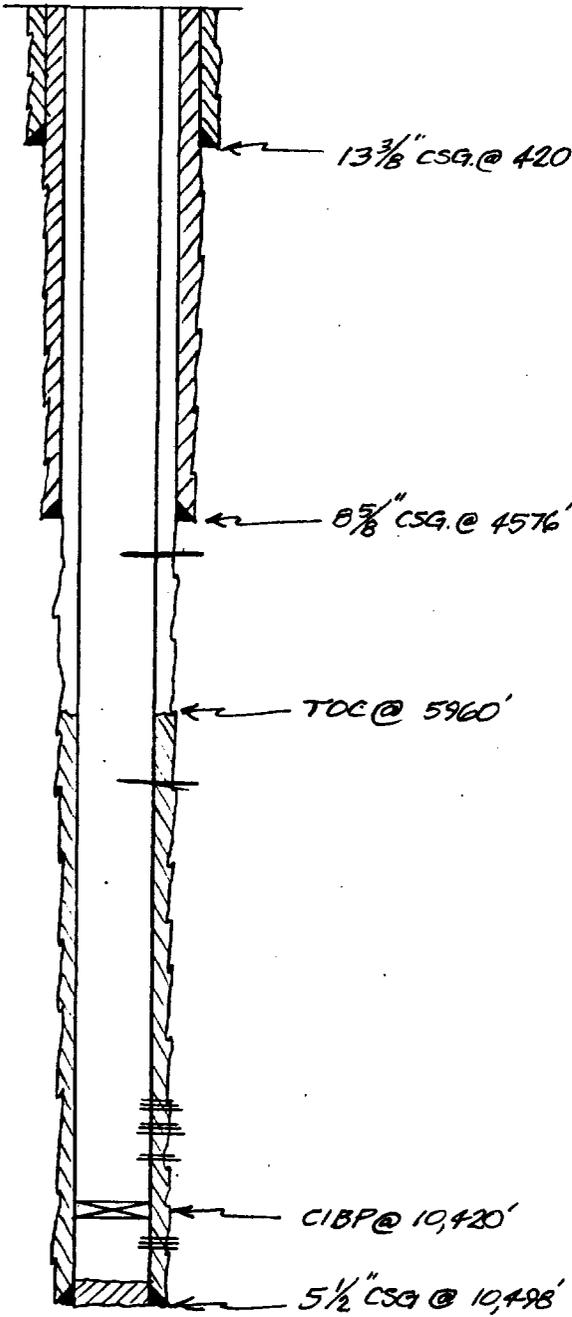
1. Name of the injection formation \_\_\_\_\_
2. Name of field or Pool (if applicable) \_\_\_\_\_
3. Is this a new well drilled for injection?  Yes  No  
If no, for what purpose was the well originally drilled? \_\_\_\_\_
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) \_\_\_\_\_
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. \_\_\_\_\_

INJECTION WELL DATA SHEET

X

J.M. Huber Corporation		Superior State		
OPERATOR		LEASE		
1	1980' FSL & FWL	7	15S	35E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 13-3/8" @ 420' " Cemented with 560 sx.  
 TOC circulated feet determined by \_\_\_\_\_  
 Hole size 17 1/2"

Intermediate Casing

Size 8-5/8" @ 4576' " Cemented with 2100 sx.  
 TOC circulated feet determined by -  
 Hole size 11"

Long string

Size 5 1/2 @ 10,498' " Cemented with 1460 sx.  
 TOC 5960' feet determined by cmt Bond Log  
 Hole size 7-7/8"  
 Total depth 10,500' PBD: 10,420'

Injection interval

\_\_\_\_\_ feet to \_\_\_\_\_ feet  
 (perforated or open-hole, indicate which)  
 Spud: 11/13/83  
 Complete: 1/4/84  
 Perforations: 10,352'-416'  
10,439'-443' SI under CIBP @ 10,420'  
 Current Status: Producing from Lower Wolfcamp

Tubing size \_\_\_\_\_ lined with \_\_\_\_\_ set in a  
 \_\_\_\_\_ (material)  
 \_\_\_\_\_ packer at \_\_\_\_\_ feet  
 \_\_\_\_\_ (brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation \_\_\_\_\_
- Name of field or Pool (if applicable) \_\_\_\_\_
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? \_\_\_\_\_
- 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) \_\_\_\_\_
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. \_\_\_\_\_

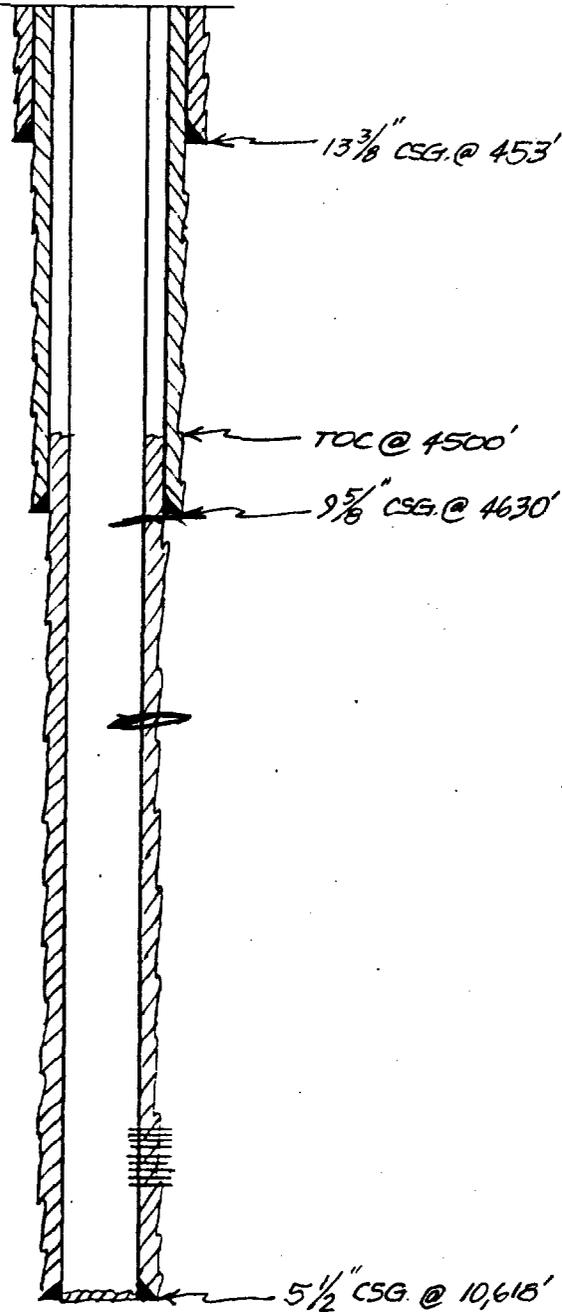
INJECTION WELL DATA SHEET

Great Western

Glen Cleveland

OPERATOR		LEASE		
2	2080' FSL & FEL	7	15S	35E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing  
 Size 13-3/8 ; 453' " Cemented with 475 sx.  
 TOC circulated feet determined by \_\_\_\_\_  
 Hole size 17"

Intermediate Casing  
 Size 9-5/8" @ 4630' " Cemented with 1900 sx.  
 TOC circulated feet determined by \_\_\_\_\_  
 Hole size 12 1/4"

Long string  
 Size 5 1/2" @ 10,618' " Cemented with 1308 sx.  
 TOC 4500 feet determined by Temp. Survey  
 Hole size 7-7/8"  
 Total depth 10,618'

Injection interval  
 \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 (perforated or open-hole, indicate which)

Spud: 7/13/84  
 Completion: 10/24/84  
 Perforations: 10,300'-402'  
 Current Status: Producing from Lower Wolfcamp

Tubing size \_\_\_\_\_ lined with \_\_\_\_\_ (material) set in a  
 \_\_\_\_\_ packer at \_\_\_\_\_ feet  
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

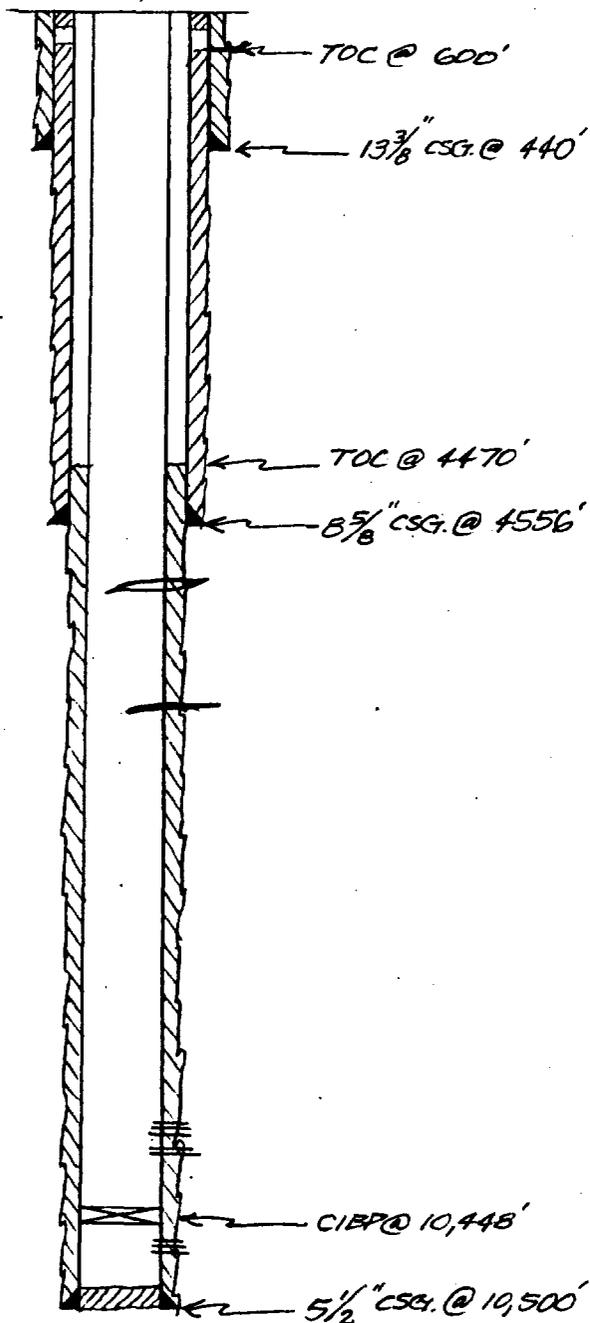
- Name of the injection formation \_\_\_\_\_
- Name of Field or Pool (if applicable) \_\_\_\_\_
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? \_\_\_\_\_
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) \_\_\_\_\_
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. \_\_\_\_\_



INJECTION WELL DATA SHEET

J.M. Huber Corporation		Superior "A" State		
OPERATOR		LEASE		
1	660' FSL & 1980' FWL	7	15S	35E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 13-3/8" @ 440' " Cemented with 460 sx.  
 TOC circulated feet determined by -  
 Hole size 17-1/2"

Intermediate Casing

Size 8-5/8" @ 4556' " Cemented with 2040 sx.  
 TOC 600' feet determined by Temp Survey  
 Used 1" tbg. to cmt from 158' to  
 Hole size 11" surface w/140 sx.

Long string

Size 5 1/2" @ 10,500' " Cemented with 1320 sx.  
 TOC 4470' feet determined by Cmt Bond Log  
 Hole size 7-7/8"

Total depth 10,500' PBSD: 10,448'

Injection interval

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

Spud: 9/12/84

Complete: 10/29/84

Perforations: 10,364'-373'

10,467'-473' SI under CIBP @ 10,448'

Current Status: Producing from Lower Wolfcamp

Tubing size \_\_\_\_\_ lined with \_\_\_\_\_ set in a  
 (material)  
 \_\_\_\_\_ packer at \_\_\_\_\_ feet  
 (brand and model)

(or describe any other casing-tubing seal).

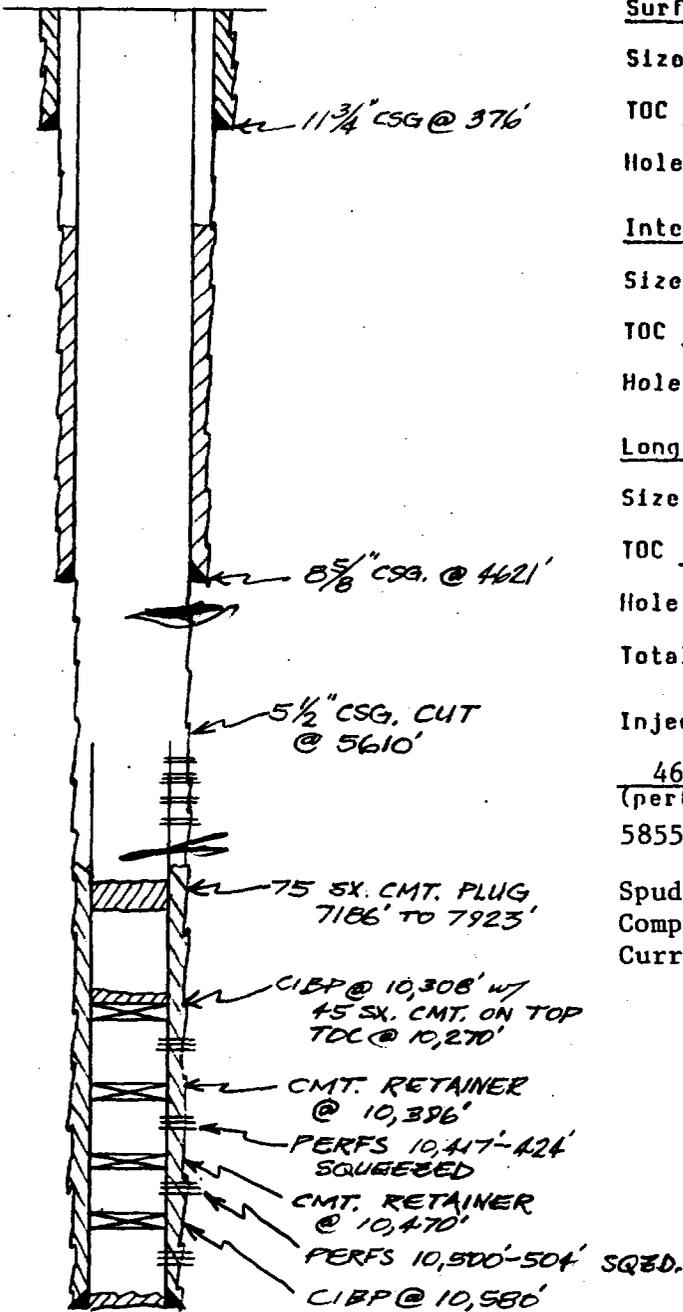
Other Data

- Name of the injection formation \_\_\_\_\_
- Name of Field or Pool (if applicable) \_\_\_\_\_
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? \_\_\_\_\_
- 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) \_\_\_\_\_
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. \_\_\_\_\_

INJECTION WELL DATA SHEET

Union Oil Co. of California	Gulf Federal		
OPERATOR	LLASC		
1	1980' FNL & 660' FEL	12	15S 34E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP RANGE

Schematic



Tabular Data

Surface Casing  
 Size 11-3/4" @ 376' " Cemented with 300 sx.  
 TOC circulated feet determined by -  
 Hole size 15"

Intermediate Casing  
 Size 8-5/8" @ 4621' " Cemented with 500 sx.  
 TOC 2575 feet determined by calculation  
 Hole size 11"

Long string  
 Size 5 1/2" @ 10,703' " Cemented with 400 sx.  
 TOC 7000 feet determined by calculation  
 Hole size 7-7/8"  
 Total depth 10,703'

Injection interval  
4621' feet to 5610' feet Open Hole  
 (perforated or open-hole, indicate which)  
5855' to 6583': perforated

Spud: 11/12/64  
 Complete: 12/31/64  
 Current Status: SWD in San Andres  
 Lower Wolfcamp P & A in 1972

Tubing size 2-3/8" lined with Plastic Applicators 501 set in a  
 (material)  
Guiberson Unipacker VI packer at 4500 feet  
 (brand and model)

(or describe any other casing-tubing seal).

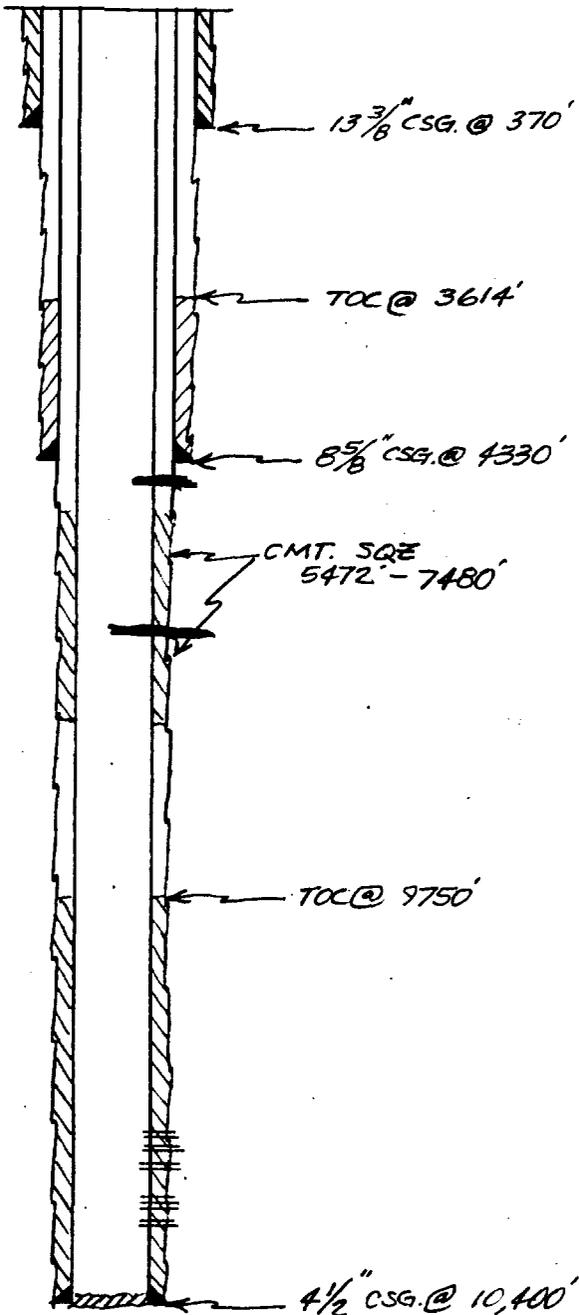
Other Data

- Name of the injection formation San Andres
- Name of Field or Pool (if applicable) NA
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? Lower Wolfcamp  
oil well was depleted and P & A.
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (bags of cement or bridge plug(s) used) 10,338'-349'; 10,417'-424'; 10,500'-504'; 10,602'-607'; See schematic above for plugging details.
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. No overlying zones have been identified.  
The Lower Wolfcamp @ 10,338' is underlying.

INJECTION WELL DATA SHEET

J.M. Huber Corporation OPERATOR		Stoltz Federal LEASE		
1	1980' FEL & 2130' FSL	12	15S	34E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 13-3/8" @ 370' " Cemented with 275 sx.  
 TOC Circulated feet determined by \_\_\_\_\_  
 Hole size 1 7/8"

Intermediate Casing

Size 8-5/8" @ 4330' " Cemented with 200 sx.  
 TOC 3614 feet determined by Temp. Survey  
 Hole size 1 1/2"

Long string

Size 4 1/2" @ 10,400' " Cemented with 240 sx.  
 TOC 9750' feet determined by Temp Survey  
 Hole size 7-7/8" Holes in csg. have been repaired by  
 Total depth 10,400' cmt. squeezes from  
 5472' to 7480'

Injection interval

\_\_\_\_\_ feet to \_\_\_\_\_ feet  
 (perforated or open-hole, indicate which)

Spud: 12/13/65  
 Complete: 3/16/66  
 Perforations: .10,242'-388'  
 Current Status: Producing from Lower Wolfcamp

Tubing size \_\_\_\_\_ lined with \_\_\_\_\_ set in a  
 (material)  
 \_\_\_\_\_ packer at \_\_\_\_\_ feet  
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation \_\_\_\_\_
- Name of Field or Pool (if applicable) \_\_\_\_\_
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? \_\_\_\_\_
- 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) \_\_\_\_\_
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. \_\_\_\_\_



VII. DATA ON THE PROPOSED OPERATION

1. Proposed average and maximum daily rate and volume of fluids to be injected.

Average rate: 320 BWP  
Maximum rate: 1000 BWP  
Volume of fluids: Above rate until economic limit is reached

2. Whether the system is open or closed: Closed
3. Proposed average and maximum injection pressure:

Average pressure: 100 psig  
Maximum pressure: 900 psig

BEFORE EXAMINER STOGNER OIL CONSERVATION DIVISION <i>Huber</i> EXHIBIT NO. <u>5</u> CASE NO. <u>8493</u>
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4. Sources and appropriate analysis of injection fluid from the Lower Wolfcamp formation. See attached analysis.

Compatibility with receiving formation. Formation water from the Lower Wolfcamp is being injected into the San Andres formation in the Huber Stoltz State No. 1 (M-Sec. 6, T15S, R35E) and in the Union Gulf Federal No. 1-12 (H-Sec. 12, T15S, R35E) without any apparent compatibility problems.

5. Chemical analysis of disposal zone formation water. See attached tabulation of analyses taken from various San Andres wells in Lea County, New Mexico.

VIII. SUMMARY OF GEOLOGIC DATA: The proposed injection zones in the J.M. Huber Cabot "Q" State #1, located in 1980' FSL & 560' FWL, Sec. 7, T15S, R35E, are in the Permian San Andres Formation; the subject interval occurs from 5840' (-1787) to 6050' (-1997) in that well. (See log for specific intervals) The respective tops of the San Andres Formation and Glorieta Sand occur at 4552' (-499) and 6200' (-2147). The overall interval is 210 feet thick and consists predominantly of brown-to-tan Dolomite with interbedded dense brown-to-tan limestones. The dolomites vary from fine-to coarsely crystalline with indicated porosities ranging from 10% to 24% in the injection zones; tight carbonates with interbedded shales bound the proposed injection interval.

Injection of salt water into the proposed interval will not effect shallow fresh-water zones of the tertiary or triassic age units.

IX. DESCRIPTION OF PROPOSED STIMULATION PROGRAM

Acidize perforations 5839' to 6050' with 6000 gallons 15% NeFe HCl acid in 4 equal stages each separated by 500# rock salt in 10 bbls brine water.

XII. Available geologic and engineering data has been examined and no evidence of open faults or any other hydrologic connection exists between the disposal zone and any underground source of drinking water.

CASING COLLARS

5705'

5827'

5869'

5910'

5953'

5996'

6037'

GR

ENL  $\phi$

5750

5800

5850

5900

5950

6000

6050

30%

20%

10%

0%

10%

PROPOSED  
PERFED

(9)

(10)

(6)

(3)

(5)

(12)

(7)

(4)

(6)

(4)

5882-48'

5853-63'

5892-5908'

5922-25'

5933-38'

5958-6000'

6003-10'

6014-15'

6036-42'

6046-50'

FORE EXAMINER STOGNER  
CIL CONSERVATION DIVISION

Huber EXHIBIT NO. 6

CASE NO. 8493

J.M. HUBER CORPORATION  
CABOT "G" STATE  
No. 1  
SMD CONVERSION  
LEA COUNTY, NEW MEXICO

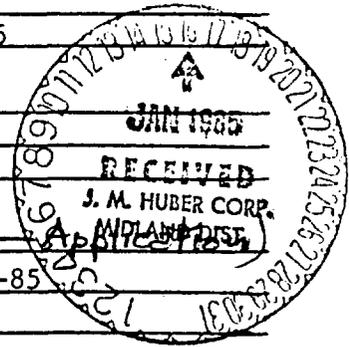
TOTAL 21

RESULT OF WATER ANALYSES

LABORATORY NO. 185101  
 TO: Mr. Bill Horne SAMPLE RECEIVED 1-9-85  
1900 Wilco Building, Midland, Texas RESULTS REPORTED 1-14-85

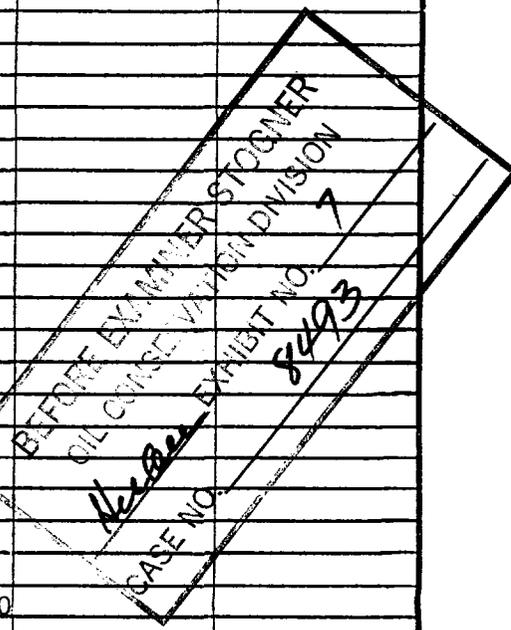
COMPANY J. M. Huber Corporation LEASE Superior State  
 FIELD OR POOL Morton  
 SECTION      BLOCK      SURVEY      COUNTY Lea STATE NM  
 SOURCE OF SAMPLE AND DATE TAKEN:

- NO. 1 Brine sample used in Superior State #1. 1-7-85 (Not related to)
- NO. 2 Produced (Wolfcamp) water - taken from Superior State #2. 1-7-85
- NO. 3
- NO. 4



REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.2152	1.0238		
pH When Sampled				
pH When Received	7.58	7.98		
Bicarbonate as HCO <sub>3</sub>	151	1,318		
Supersaturation as CaCO <sub>3</sub>				
Undersaturation as CaCO <sub>3</sub>				
Total Hardness as CaCO <sub>3</sub>	13,200	3,100		
Calcium as Ca	630	800		
Magnesium as Mg	2,825	267		
Sodium and/or Potassium	128,908	10,813		
Sulfate as SO <sub>4</sub>	11,467	2,880		
Chloride as Cl	199,563	15,979		
Iron as Fe	0.08	0.47		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	343,544	32,057		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	875		
Resistivity, ohms/m at 77° F.	0.042	0.240		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				



Results Reported As Milligrams Per Liter

Additional Determinations And Remarks This study of the above results has revealed no evidence of any detectable incompatibility between these two waters. The only concern we would have with the above is that if the brine represented herein were to be used for drilling purposes, it would be difficult to raise the pH above approximately 9.0 due to the relatively high magnesium. Though the case does not exist herein, we would be concerned about using this brine in a zone where the water had a high calcium, which would result in calcium sulfate precipitation. Contact us for any additional assistance in this matter.

Form No. 3 ANALYSIS OF PRODUCED BY Waylan C. Martin, M. A.  
 FLUID FROM LOWER WOLFCAMP.

SAN ANDRES WATER ANALYSIS  
From tabulation of samples  
taken from various wells in  
Lea County.

HOBBS DISTRICT (NEW MEXICO) Con't.

Page 8

LEA COUNTY Con't.  
SAN ANDRES FORMATION

<u>FIELD NAME</u>	<u>WELL NAME</u>	<u>Rw@</u> <u>75°F</u>	<u>SG@</u> <u>60°F</u>	<u>PH</u>	<u>Ca</u>	<u>Mg</u>	<u>Na</u>	<u>Cl</u>	<u>SO<sub>4</sub></u>	<u>CO<sub>2</sub></u>	<u>HCO<sub>3</sub></u>
Vacuum	St. of N.M. "AE" #2	0.044	1.143	7.0	4009	330	90459	144,881	3417	-	-
Hobbs East	D. F. Ferguson #1	-	1.010	6.5	1000	365	4100	6,600	1680	-	2257
Vacuum	St. "O" (NCT-2) #17	.050	1.140	6.0	8634	6816	46365	140,818	318	-	216
Vacuum	St. "O" (NCT-1) #2	0.049	1.146	6.0	7286	3586	62778	141,407	365	-	594
West Lovington	St. "AH" #2	0.050	1.139	6.0	13712	9937	22663	140,465	91	-	421
West Lovington	St. "AH" #7	0.049	1.132	6.0	16116	11833	3476	130,428	304	-	282
West Lovington	St. "AH" #12	0.048	1.141	6.0	21830	17055	22900	140,465	182	-	443
Moore	Moore #4	-	1.170	5.8	2203	1217	94758	151,940	3925	-	427
Maljamar	N.M. "O" (NCT-3)	0.071	1.074	7.65	3300	1470	38075	66,785	2590	-	130 302

STRAWN FORMATION

Lusk	N.M. "CR" St. #1	0.069	1.092	6.3	10450	1860	-	78,500	200	-	40 122
Lusk	N.M. "CR" St. #3	-	1.099	6.8	8534	4715	-	90,880	-	-	50 -

TUBE FORMATION

Tubb	Lockhart #9	-	1.127	6.4	7688	2006	54626	101,834	1967	-	129
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WOLFCAMP FORMATION

Vacuum	St. "R" (NCT-3) #15	-	1.044	7.5	2371	948	18012	31,980	2361	-	1868
Vacuum	St. "L" #6	-	1.099	5.8	13030	2080	30660	74,788	1478	-	488
Lazy J	State "AQ" (NCT-11) #1	0.085	1.072	5.6	6713	1251	30894	61,574	1507	-	705

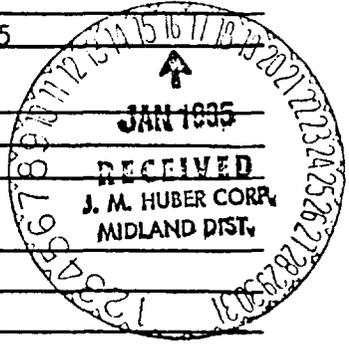


RESULT OF WATER ANALYSES

TO: Mr. Bill Horne LABORATORY NO. 185105  
1900 Wilco Building, Midland, Texas SAMPLE RECEIVED 1-9-85  
 RESULTS REPORTED 1-14-85

COMPANY J. M. Huber Corporation LEASE \_\_\_\_\_  
 FIELD OR POOL Morton  
 SECTION \_\_\_\_\_ BLOCK \_\_\_\_\_ SURVEY \_\_\_\_\_ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN: Stoltz  
 NO. 1 Windmill water - taken from Stoltz Ranch windmill. 1-7-85  
 NO. 2 Located approximately 3/4 of a mile to the west of  
 NO. 3 Cabot "A" State No. 1.  
 NO. 4 \_\_\_\_\_



REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0023			
pH When Sampled				
pH When Received	7.68			
Bicarbonate as HCO <sub>3</sub>	232			
Supersaturation as CaCO <sub>3</sub>				
Undersaturation as CaCO <sub>3</sub>				
Total Hardness as CaCO <sub>3</sub>	260			
Calcium as Ca	81			
Magnesium as Mg	14			
Sodium and/or Potassium	31			
Sulfate as SO <sub>4</sub>	81			
Chloride as Cl	37			
Iron as Fe	0.16			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	475			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	18.00			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

ANALYSIS FROM FRESH WATER SUPPLY WELL

By

Waylan C. Martin, M. A.

# J. M. HUBER CORPORATION

OIL AND GAS DIVISION  
1900 WILCO BUILDING  
MIDLAND, TEXAS 79701

MIDLAND DISTRICT OFFICE

January 21, 1985

TELEPHONE  
915-682-3794

Union Oil Company of California  
Box 671  
Midland, Texas 79701

Re: Conversion of J.M. Huber Corp.'s  
Cabot "Q" State No. 1 to a Salt  
Water Disposal Well

Gentlemen:

This is notification to you, as a leasehold operator within one-half mile of the subject well's location that J.M. Huber Corporation proposes to convert the Cabot "Q" State No. 1, Section 7, T15S, R35E, Lea County, New Mexico, to a salt water disposal well. Attached are copies of the applications for authorization to inject. Any objections or requests for hearing of administrative applications must be filed with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days from the date this application was mailed to you.

Very truly yours,



Robert R. Glenn  
District Production Manager

WGH/sgp

attachments

BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION
<i>Glenn</i> EXHIBIT NO. <u>9</u>
CASE NO. <u>8493</u>

# J. M. HUBER CORPORATION

OIL AND GAS DIVISION  
1900 WILCO BUILDING  
MIDLAND, TEXAS 79701

MIDLAND DISTRICT OFFICE

January 21, 1985

TELEPHONE  
915-682-3794

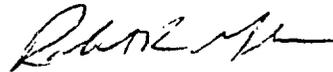
Great Western Drilling Company  
Box 1659  
Midland, Texas 79702

Re: Conversion of J.M. Huber Corp.'s  
Cabot "Q" State No. 1 to a Salt  
Water Disposal Well

Gentlemen:

This is notification to you, as a leasehold operator within one-half mile of the subject well's location that J.M. Huber Corporation proposes to convert the Cabot "Q" State No. 1, Section 7, T15S, R35E, Lea County, New Mexico, to a salt water disposal well. Attached are copies of the applications for authorization to inject. Any objections or requests for hearing of administrative applications must be filed with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days from the date this application was mailed to you.

Very truly yours,



Robert R. Glenn  
District Production Manager

WGH/sgp

attachments

# Affidavit of Publication

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF LEA )

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Mgr. of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

~~Legal Notice~~ .....

and numbered ..... in the

..... Court of Lea County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, once each week on the

same day of the week, for one time .....

consecutive weeks, beginning with the issue of .....

January 11 ....., 1985

and ending with the issue of .....

....., 19.....

And that the cost of publishing said notice is the sum of \$ 7.01 .....

which sum has been (Paid) (~~Assessed~~) as Court Costs

Joyce Clemens .....

Subscribed and sworn to before me this 17th.....

day of January ....., 1985

Mr. Ken Linn .....

Notary Public, Lea County, New Mexico

My Commission Expires Sept 28, 1986

## LEGAL NOTICE

To whom it may concern:

J.M. Huber Corporation proposes to convert the following well to a produced water disposal well:

Cabot "Q" State No. 1; Section 7, T15S, R35E, 1980' FSL & 560' FWL, Lea County, New Mexico

The intended purpose of the injection well is to accept lower Wolfcamp reduced water in the San Andres formation at a depth between 4630' and 6050'. The estimated maximum injection pressure and rate will be 900 psi and 1000 BPD, respectively. 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 from the date of this publication.

For further information, contact Bob Glenn at J.M. Huber Corporation, 1900 Wilco Building, Midland, Texas 79701, or telephone (915) 682-3794.

Published in the Lovington Daily Leader January 11, 1985.

A SWD-104

SWD-230

*Not a structural well*

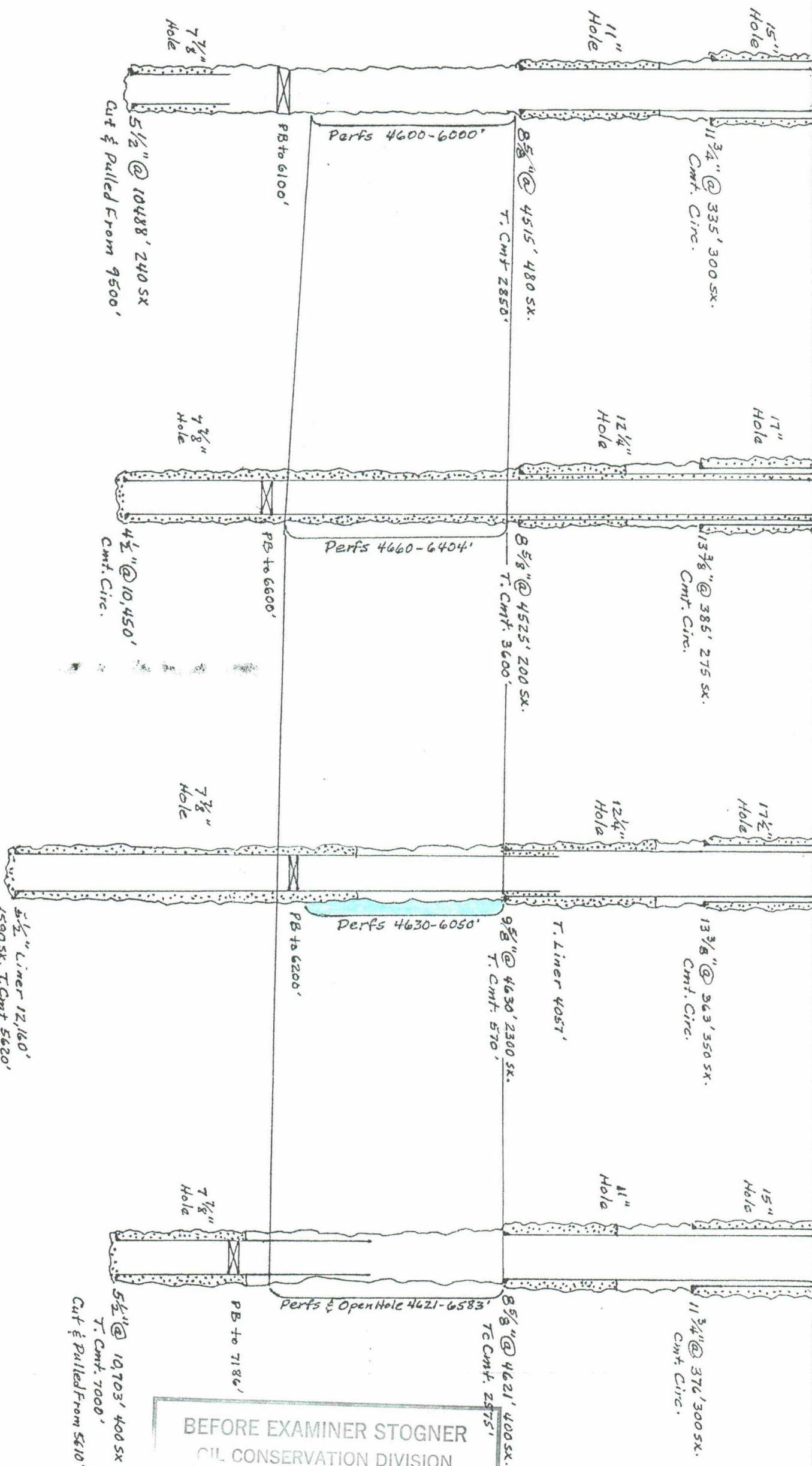
SWD-234 A'

FEATHERSTONE Humble X-1  
C-6-155-35E 12/16

HUBER Stoltz St. 1  
M-6-155-35E 10/21/80

PROPOSED DISP. WELL  
L-7-155-35E

UNION Gulf Fed. 1  
H-12-155-34E



BEFORE EXAMINER STOGNER  
OIL CONSERVATION DIVISION

*Huber* EXHIBIT NO. 10

CASE NO. 8493

SUBJECT: SALT WATER DISPOSAL WELL

THE APPLICATION OF OLEN F. FEATHERSTONE  
FOR A SALT WATER DISPOSAL.

ORDER NO. SWD-104

ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION COMMISSION

Under the provisions of Rule 701 (C), Olen F. Featherstone made application to the New Mexico Oil Conservation Commission on July 9, 1969, for permission to complete for salt water disposal his Humble 'X' Well No. 1 located in Unit C of Section 6, Township 15 South, Range 35 East, NMPM, Lea County, New Mexico.

The Secretary-Director finds:

1. That application has been duly filed under the provisions of Rule 701 (C) of the Commission Rules and Regulations;
2. That satisfactory information has been provided that all offset operators, surface owners, and the New Mexico State Engineer Office have been duly notified; and
3. That the applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 (C) will be met.
4. That no objections have been received within the waiting period as prescribed by said rule.

IT IS THEREFORE ORDERED:

That the applicant herein, Olen F. Featherstone, is hereby authorized to complete his Humble 'X' Well No. 1 located in Unit C of Section 6, Township 15 South, Range 35 East, NMPM, Lea County, New Mexico, in such a manner as to permit the injection of salt water for disposal purposes into the San Andres formation at approximately 4600 feet to approximately 6000 feet through 3-inch tubing with a packer set at approximately 4000 feet in the production casing in said well.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after notice and hearing, the Commission may terminate the authority hereby granted in the interest of conservation. That applicant shall submit monthly reports of the disposal operation in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

APPROVED at Santa Fe, New Mexico, on this 24th day of July, 1969.

BEFORE EXAMINER STOGNER	
OIL CONSERVATION DIVISION	
<i>Hulse</i>	EXHIBIT NO. 11
CASE NO.	8493
S E A L	

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*A. L. Porter, Jr.*  
A. L. PORTER, Jr.  
Secretary-Director

SUBJECT: SALT WATER DISPOSAL WELL

ORDER NO. SWD-230

THE APPLICATION OF J. M. HUBER CORPORATION  
FOR A SALT WATER DISPOSAL WELL.

ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701 (C), J. M. Huber Corporation made application to the New Mexico Oil Conservation Division on August 29, 1980, for permission to complete for salt water disposal its Stoltz State SWD Well No. 1 located in Unit M of Section 6, Township 15 South, Range 35 East, NMPM, Lea County, New Mexico.

The Division Director finds:

- (1) That application has been duly filed under the provisions of Rule 701 (C) of the Division Rules and Regulations;
- (2) That satisfactory information has been provided that all offset operators and surface owners have been duly notified; and
- (3) That the applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 (C) will be met.
- (4) That no objections have been received within the waiting period as prescribed by said rule.

IT IS THEREFORE ORDERED:

That the applicant herein, J. M. Huber Corporation, is hereby authorized to complete its Stoltz State SWD Well No. 1 located in Unit M of Section 6, Township 15 South, Range 35 East, in such a manner as to permit the injection of salt water for disposal purposes into the San Andres Glorieta formations at approximately 4660 feet to approximately 6404 feet through 2 3/8" inch plastic lined tubing set in a packer located at approximately 4550 feet.

PROVIDED that the Union Oil of California Gulf Federal #1 well in Unit H of Section 12, Township 15 South, Range 34 East is plugged in accordance to a division approved plugging program within one year of commencement of injection within the Stoltz State SWD #1 to prevent migration of fluid around the 5 1/2 X 8 5/8" annulus.

IT IS FURTHER ORDERED:

That the operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

That the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing or packer.

That injection pressure shall not exceed 930 pounds per square inch as measured at the surface.

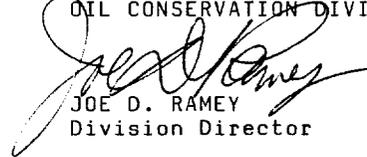
That the operator shall notify the supervisor of the Division's Hobbs District Office before injection is commenced through said well;

That the operator shall immediately notify the Supervisor of the Division Hobbs District Office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely or necessary to correct such failure or leakage.

PROVIDED FURTHER, That jurisdiction of this cause is hereby retained by the Division for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after notice and hearing, the Division may terminate the authority hereby granted in the interest of conservation. That applicant shall submit monthly reports of the disposal operations in accordance with Rule 704 and 1120 of the Division Rules and Regulations.

APPROVED at Santa Fe, New Mexico, on this 2nd day of October, 1980.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
JOE D. RAMEY  
Division Director

S E A L

THE APPLICATION OF UNION OIL  
COMPANY OF CALIFORNIA FOR A  
SALT WATER DISPOSAL WELL.

ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Union Oil Company of California made application to the New Mexico Oil Conservation Division on April 7, 1983, for permission to complete for salt water disposal its Gulf Federal Well No. 1-12 located in Unit H of Section 12, Township 15 South, Range 34 East, NMPM, Lea County, New Mexico.

March  
14,  
1983

(date corrected  
by letter  
4/29/83)

The Division Director finds:

- (1) That application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;
- (2) That satisfactory information has been provided that all offset operators and surface owners have been duly notified; and
- (3) That the applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met.
- (4) That no objections have been received within the waiting period prescribed by said rule.

IT IS THEREFORE ORDERED:

That the applicant herein, Union Oil Company of California is hereby authorized to complete its Gulf Federal Well No. 1-12, located in Unit H of Section 12, Township 15 South, Range 34 East, NMPM, Lea County, New Mexico, in such a manner as to permit the injection of salt water for disposal purposes into the San Andres and Glorieta formations at approximately 4621 feet to approximately 6583 feet through 2 3/8-inch plastic lined tubing set in a packer located at approximately 4500 feet.

IT IS FURTHER ORDERED:

That the operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

That the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

That the injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 924 psi.

That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the San Andres and Glorieta formations. That such proper showing shall constitute a valid step rate test acceptable to the Division office.

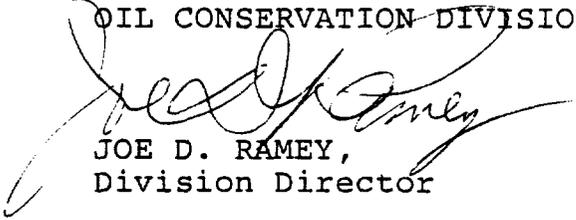
That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

PROVIDED FURTHER, That jurisdiction of this cause is hereby retained by the Division for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after notice and hearing, the Division may terminate the authority hereby granted in the interest of conservation. That applicant shall submit monthly reports of the disposal operations in accordance with Rule 706 and 1120 of the Division Rules and Regulations.

Approved at Santa Fe, New Mexico, on this 11th day of April, 1983.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



JOE D. RAMEY,  
Division Director

S E A L