

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION HOBBS DISTRICT OFFICE

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Gentlemen:

I have examined the application for the: Loose & Well No. Unit S-T-R 30-15-31 Operator

and my recommendations are as follows:

S 1 1

Yours very truly,

Jerry Sexton Supervisor, District 1

/mc

Union Oil and Gas Division: Central Region

Union Oil Company of California 500 North Marienfeld, Midland, Texas 79701 P.O. Box 671, Midland, Texas 79702 Telephone (915) 682-9731

Midland District

November 21, 1985

New Mexico Oil Conservation Commission P. O. Box 2088 State Land Office Building Santa Fe, New Mexico 87501

SUBJECT:

Union Oil Co. of California's Application for Administrative Approval Reentry of the South Caprock Queen Unit Well No. 10-30 Water Injection Well

Gentlemen:

Union Oil Company of California respectfully requests administrative approval to reenter the South Caprock Queen Unit Well No. 10-30, Section 30, T-15-S, R-31-E, 1980' FSL and 1980' FEL of section, Chaves County, New Mexico. We are proposing to reenter the subject well and use it to inject water into the Queen Sand for secondary recovery. The injection fluid will be produced water from the Queen Sand. Prior to abandonment in 1972, the well was being used for this same purpose.

In support of this application, we enclose the following:

- 1. Completed Forms C-101, C-102, and C-108.
- A tabulation of well data for the proposed injection well including a schematic diagram of its present and proposed conditions.
- 3. A map identifying all wells and leases within a two-mile radius of the subject well.
- 4. A tabulation of well data on all wells within the one-half mile radius area of review, including schematic diagrams of all plugged wells illustrating plugging details.
- 5. Data concerning our proposed operating parameters for the well.
- 6. A water analysis of the injection fluid taken from the producing zone in the area. This is the same zone as the proposed injection zone.
- 7. A water analysis of a fresh water well located within one mile of the proposed injection well.

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New Mexico Oil Conservation Commission South Caprock Queen Unit Well No. 10-30 November 21, 1985 Page Two

- 8. A copy of the letters sent to the surface owner, surface lessee, and offset leasehold operators notifying them of our application to inject.
- 9. A copy of the legal advertisement of our application, published in the Roswell Daily Record.

Should you require any further information concerning this application, please contact D. L. Watkins by telephone at 915/682-9731. Thank you for your consideration in this matter.

truly vours Very L. F. Thompson District Operations Manager

TLP:ggc Enclosures

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SEC. <u>30</u>, TWP. <u>15</u> S., RGE. <u>31</u> E., N.M.P.M.

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD BY ME AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

In WWest

JOHN W. WEST, PE & LS NO. 676

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SEC. <u>30</u>, TWP. <u>15</u> S., RGE. <u>31</u> E., N.M.P.M.

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In WWest

JOHN W. WEST, PE & LS NO. 676 5-17-55

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In WWest

JOHN W. WEST, PE & LS NO. 676 3-17-55

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I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD BY ME AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

In WWest

JOHN W. WEST, PE & LS NO. 676

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	ATION FOR AUTHORIZATION TO INJECT
Ι.	Purpose: 🕅 Secondary Recovery 🔲 Pressure Maintenance 🔲 Disposal 🔲 Storage Application qualifies for administrative approval? 🛛 yes 🗌 no
II.	Operator:Union Oil Company of California
	Address: P. O. Box 671, Midland, Texas 79702
	Contact party: D. L. Watkins Phone: 915/682-9731
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. Is this an expansion of an existing project? IN Original Auth.No.R-1729
1V.	Is this an expansion of an existing project? X yes Original Auth.No.R-1729 If yes, give the Division order number authorizing the project Expansion Auth.No.R-266(
۷.	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:
·	 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; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and 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.
Χ.	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: D. L. Watkins Title District Engineer
	Signature: N.K. Watt- Date: December 4, 1985
submi	e information required under Sections VI, VIII, X, and XI above has been previously tted, it need not be duplicated and resubmitted. Please show the date and circumstance e earlier submittal.

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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 wall 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. DEC 5- 1985 DEC 5- 1985 HOLLS STICE

III. Well Data

- A. (1) Lease Name: South Caprock Queen Unit Well No.: 10-30 Location: 1980' FSL & 1980' FEL, Section 30, T-15-S, R-31-E, Chaves County, New Mexico
 - (2) Casing Record: 9-5/8" casing set at 315' in 12-1/4" hole, cemented with 200 sacks, circulated. 5-1/2" casing set at 3195' in 7-7/8" hole, cemented with 175 sacks. Top of cement calculated at 2625'. (100% efficiency).
 - (3) Tubing: 2-3/8" 4.70# J-55 8rd EUE internally plasticcoated tubing set at approximately 3100'.
 - (4) Packer: Guiberson Uni pkr VI, set at approximately 3100'.
- B. (1) Injection Formation: Queen Sand

Field: Caprock Queen

- (2) Injection
 Interval: 3152-3165'
- (3) This well was originally drilled as an oil well. It was converted to water injection January 29, 1964, and plugged and abandoned March 24, 1972.
- (4) There are no other perforated intervals.
- (5) There are no known higher or lower oil or gas zones in the area of the well.



South Caprock Queen Unit No. 10-30 CURRENT STATUS PROPOSED STATUS TING PLUG NO. 7 5 sts cmt at surface in 51/2" casing. 95/8" casing C 315'. Cmtd w/200 sxs, Circ. 4.7# BRO EVE J-55 PCID INJECTION THEING approximately 3100 Top of Cement calculated to be at 2625' outside 5%" casing <u>PLUG No. 1</u> 2.5 sks cmt from 3100' - 2853' in 5'2 csg. Guiberson Uniper ZI approximately 3100' Pertorations Queen Sund 3152-53, 3160-65 w/2spt 3153-3160 w/8spt Queen Perts 3152 - 3165 51/2" Csg c 3195" Cm+d w/ 75 sxs TD:3195' PBTA: 3175

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VI. Tabulation of Well Data Within Area of Review

Well No.	Description	
South Caprock Queen Unit (SCQU) 12-29	Location:	2310' FSL & 330' FWL, Section 29, T-15-S, R-31-E
	Type:	Water Injection Well
	Date Drilled:	September 7, 1955 - September 23, 1955
	Construction:	8-5/8" csg set at 325' cmt'd w/200 sks 5-1/2" csg set at 3185' cmt'd w/175 sks TD = 3188'
	Completion:	Perf 3154-3167' w/6 SPF Frac'd w/10,000 gals lease oil Potential flowed 66 BOPD thru 16/64" ck
	Converted to wa 405 BWPD at 128	ater injection July 20, 1965. Injected 30 psi.
	Plugged and aba (Schematic atta	andoned August 12, 1971 ached).
South Caprock Queen Unit (SCQU) 13-29	Location:	990' FSL & 330' FWL, Section 29, T-15-S, R-31-E
	Туре:	Water Injection Well
	Date Drilled:	November 18, 1956 - December 28, 1956
	Construction:	12-3/4" csg set at 300' cmt'd w/250 sks 8-5/8" csg set at 1325' TD = 3187' Plugged and abandoned December 28, 1956
	deepen to 3235	er injection August 1, 1964 and '. 4-1/2" 9.5# csg set at 3234' cmt'd f 3188-3203' w/2 SPF
	Plugged and aba	andoned August 12, 1971

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VI. Tabulation of Well Data Within Area of Review - Continued

Well No.	Description	
South Caprock Queen Unit (SCQU) 2-30	Location:	660' FNL & 1980' FEL, Section 30, T-15-S, R-31-E
	Туре:	Water Injection Well
	Date Drilled:	July 15, 1955
	Construction:	8-5/8" csg set at 315' cmt'd w/175 sks 5-1/2" csg set at 3138' cmt's w/200 sks TD = 3138'
	Completion:	Perforate 3118-3130' w/4 SPF Sand Frac'd w/8000 gals lease oil Potential: Flowed 624 BOPD through 1/2" ck
	Plugged and aba	indoned March 24, 1972
South Caprock Queen Unit (SCQU) 3-30	Location:	990' FNL & 2310' FWL, Section 30, T-15-S, R-31-E
	Type:	Producing Well
	Date Drilled:	November 15, 1955
	Construction:	8-5/8" csg set at 300' cmt'd w/175 sks 5-1/2" csg set at 3138' cmt'd w/200 sks TD = 3138'
	Completion:	Perforate 3123-3130' w/4 SPF Sand Frac'd w/8000 gals lease oil Potential: Flowed 155 BOPD through 1/4" ck
	Plugged and aba	ndoned March 24, 1972
South Caprock Queen Unit (SCQU) 5-30	Location:	2310' FNL & 990' FWL, Section 30, T-15-S, R-31-E
	Type:	Producing Well (Active)
	Date Drilled:	November 20, 1955
	Construction:	8-5/8" csg set at 311' cmt'd w/175 sks 5-1/2" csg set at 3129' cmt'd w/200 sks TD = 3129'
	Completion:	Perforate 3109-3123' Sand Frac'd w/8000 gals lease oil Potential: Flowed 290 BOPD through 1/4" ck
	Reentered on Ap	ndoned March 24, 1972 pril 2, 1984. Perforated 3109-3123'. gal. Potentialed 5 BOPD + 248 BWPD.

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VI. Tabulation of Well Data Within Area of Review - Continued

Well No.	Description	
South Caprock Queen Unit (SCQU) 6-30	Location:	1980' FNL & 1980' FWL, Section 30, T-15-S, R-31-E
	Туре:	Water Injection Well
	Date Drilled:	June 21, 1955
	Construction:	8-5/8" csg set at 320' cmt'd w/135 sks 5-1/2" csg set at 3148' cmt'd w/200 sks TD = 3148'
	Completion:	Perforate 3125-3139' w/4 SPF Sand Frac'd w/8000 gal lease oil Potential: Flowed 618 BOPD through 3/4" ck
	Plugged and aba	andoned March 24, 1972
South Caprock Queen Unit (SCQU) 7-30	Location:	1980' FNL & 1980' FEL, Section 30, T-15-S, R-31-E
	Type:	Oil Well
	Date Drilled:	July 31, 1955 - July 24, 1955
	Construction:	8-5/8" csg set at 315' cmt'd w/330 sks 5-1/2" csg set at 3137' cmt'd w/150 sks Open Hole - 3137-3159' TD = 3159'
	Completion:	Frac'd open hole 3137-3159' w/20,000 gals oil Potential: Flowed 70 BOPD on 16/64" ck
	Plugged and aba	ndoned March 24, 1972.
South Caprock Queen Unit	Location:	1650' FNL & 990' FEL, Section 30, T-15-S, R-31-E
	Type:	Water Injection Well
	Date Drilled:	July 13, 1955 - July 24, 1955
	Construction:	8-5/8" csg set at 309' cmt'd w/175 sks 5-1/2" csg set at 3158' cmt'd w/200 sks TD = 3159'
	Completion:	Perfed 3140-3152' w/3 SPF Frac'd w/8000 gals oil Potential: 188 BOPD on 1/2" ck
	Convert to wate	er injection October 1, 1963
	Plugged and aba	ndoned March 24, 1972

VI. Tabulation of Well Data Within Area of Review - Continued

Well No.	Description	
South Caprock Queen Unit (SCQU) 9-30	Location:	1980' FSL & 660' FEL, Section 30, T-15-S, R-31-E
	Туре:	Oil Well
	Date Drilled:	July 26, 1955 - August 16, 1955
	Construction:	8-5/8" csg set at 314' cmt'd w/200 sks 5-1/2" csg set at 3203' cmt'd w/175 sks TD = 3205'
	Completion:	Perf 3157-3169' w/8 SPF Natural completion Potential: Flowed 144 BOPD on 16/64" ck
	Plugged and abar	ndoned March 24, 1972
South Caprcck Queen Unit (SCQU) 11-30	Location:	1980' FSL & 1962.8' FWL, Section 30, T-15-S, R-31-E
	Туре:	Oil Well
	Date Drilled:	May 19, 1955 - June 8, 1955
	Construction:	9-5/8" csg set at 315' cmt'd w/200 sks 5-1/2" csg set at 3181' cmt'd w/175 sks TD = 3182'
	Completion:	Perf 3143-3151' w/8 SPF Natural completion Potential: Flowed 144 BOPD on 16/64" ck
	Plugged and aba	ndoned March 24, 1972
	Acidized w/1200	27, 1984. Perf 3143-51' w/2 SPF. gals 15% HCl acid. 14, 1984): Pumped 7 BOPD + 266 BWPD
South Caprock Queen Unit (SCQU) 12-30	Location:	1880' FSL & 501' FWL, Section 30, T-15-S, R-31-E
	Type:	Water injection well
	Date Drilled:	October 19, 1955
	Construction:	8-5/8" csg set at 207' cmt'd w/180 sks 5-1/2" csg set at 3009' cmt'd w/175 sks TD = 3010'
	Completion:	Perf 2982-2989' w/6 SPF Sand Frac'd w/10,000 gal lease oil Potential: Flowed 960 BOPD on 24/64"ck
	Convert to wate 580 BWPD, O psi	r injection February 26, 1964 at
	Plugged and aba	ndoned March 24, 1972

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Form C-108 South Caprock Queen Unit Well No. 10-30

VI. Tabulation of Well Data Within Area of Review - Continued

Well No.	Description	
South Caprock Queen Unit (SCQU) 13-30	Location:	990' FSL & 972' FWL, Section 30, T-15-S, R-31-E
	Type:	Oil Well
	Date Drilled:	May 11, 1956
	Construction:	8-5/8" csg set at 208' cmt'd w/150 sks 4-1/2" csg set at 2901' cmt'd w/75 sks 3-1/2" liner 2837-3008' cmt'd w/25 sks TD = 3060'
	Completion:	Perf 2990-3004' w/4 SPF Sand Frac'd w/8000 gals lease oil Potential: Pumped 276 BOPD
	Plugged and aba	andoned March 24, 1972
South Caprock Queen Unit (SCQU) 14-30	Location:	990' FSL & 2293' FWL, Section 30, T-15-S, R-31-E
	Type:	Water Injection Well
	Date Drilled:	May 30, 1955 - June 20, 1955
	Construction:	9-5/8" csg set at 322' cmt'd w/200 sks 5-1/2" csg set at 3185' cmt'd w/175 sks TD = 3186'
	Completion:	Perf 3184-3160' w/8 SPF Frac'd w/10,000 gals lease oil Potential: Flowed 296 BOPD on 30/64" ck
	Converted to wa Injected 700 BW	iter injection February 27, 1964. IPD on vacuum.
	Plugged and aba	undoned March 24, 1972
South Caprock Queen Unit (SCQU) 15-30	Location:	1980' FEL & 990' FSL, Section 30, T-15-S, R-31-E
	Туре:	Oil Well
	Date Drilled:	August 3, 1955 - August 31, 1955
	Construction:	8-5/8" csg set at 322' cmt'd w/200 sks 5-1/2" csg set at 3186' cmt'd w/175 sks TD = 3187'
	Completion:	Perf 3165-3176' w/8 SPF Frac'd w/10,000 gals lease oil Potential: Flowed 372 BOPD on 16-64" ck
	Plugged and aba	ndoned March 24, 1972
	Acidized w/2000	3, 1984. Perf 3163-3176' w/2 SPF.) gals 15% HC1 acid. 14, 1984): 5 BOPD + 275 BWPD

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Form C-108 South Caprock Queen Unit Well No. 10-30

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VI. Tabulation of Well Data Within Area of Review - Continued

Well No.	Description	
South Caprock Queen Unit (SCQU) 16-30	Location:	990' FSL & 990' FEL, Section 30, T-15-S, R-31-E
	Туре:	Water Injection Well (Active)
	Date Drilled:	September 12, 1955
	Construction:	8-5/8" csg set at 305' cmt'd w/100 sks 5-1/2" csg set at 3195' cmt'd w/175 sks TD = 3200'
	Completion:	Perf 3172-3184' Sand Frac'd w/10,000 gals lease oil Potential: Flowed 319 BOPD on 24/64' ck
	Converted to wat 554 BWPD @1050 p	cer injection April 18, 1966, Dsi.
	Plugged and abar	ndoned March 24, 1972
	Reentered and re	eturned to injection February 1985.
South Caprock Queen Unit (SCQU) 17-30	Location:	2630' FSL & 1330' FEL, Section 30, T-15-S, R-31-E
	Type:	Oil Well (Active)
	Date Drilled:	April 16, 1985
	Construction:	8-5/8" csg set at 354' cmt'd w/300 sks 5-1/2" csg set at 3300' cmt'd w/750 sks TD = 3300'
	Completion:	Perf 3158-78' Sand Frac'd w/12,000 gal gelled water Potential: Pumped 16 BOPD + 172 BWPD
Pubco Drickey-State	Location:	Unit A, Section 31, T-15-S, R-31-E
No. 3-A	Type:	Oil Well
	Date Drilled:	Unknown
	Construction:	9-5/8" surface csg 5-1/2" csg set at 3252' TD = 3252'
	Completion:	Perfs 3185-3191'
	Plugged and abar	ndoned June 30, 1956

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VI. Tabulation of Well Data Within Area of Review - Continued

Well No.	Description	
South Caprock Queen Unit (SCQU) 1-31	Location:	330' FNL & 990' FEL, Section 31, T-15-S, R-31-E
	Type:	Water Injection Well
	Date Drilled:	May 1, 1956 - May 31, 1956
	Construction:	9-5/8" csg set at 327' cmt'd w/204 sks 5-1/2" csg set at 3217' cmt'd w/125 sks TD = 3220'
	Completion:	Perf 3187-3191' w/4 SPF Squeezed perfs w/100 sks Reperf 3185-88' w/4 SPF Frac'd w/10,000 gals oil Potential: Pumped 48 BOPD + 50 BWPD
	Converted to wat	er injection July 1964
	Plugged and aban	doned August 12, 1971
South Caprock Queen Unit (SCQU) 2-31	Location:	330' FWL & 2310' FEL, Section 31, T-15-S, R-31-E
South Caprock Queen Unit (SCQU) 2-31	Location: Type:	330' FWL & 2310' FEL, Section 31, T-15-S, R-31-E Water Injection Well
South Caprock Queen Unit (SCQU) 2-31		T-15-S, R-31-E
South Caprock Queen Unit (SCQU) 2-31	Type:	T-15-S, R-31-E Water Injection Well
South Caprock Queen Unit (SCQU) 2-31	Type: Date Drilled:	T-15-S, R-31-E Water Injection Well October 25, 1956 - November 21, 1956 13-3/8" csg set at 255' cmt'd w/100 sks 8-5/8" csg set at 1242' 5-1/2" csg set at 3087' cmt'd w/100 sks Open Hole 3087-3095'
South Caprock Queen Unit (SCQU) 2-31	Type: Date Drilled: Construction: Completion:	T-15-S, R-31-E Water Injection Well October 25, 1956 - November 21, 1956 13-3/8" csg set at 255' cmt'd w/100 sks 8-5/8" csg set at 1242' 5-1/2" csg set at 3087' cmt'd w/100 sks Open Hole 3087-3095' TD = 3095' Frac'd open hole 3087-3095' w/10,000 gals oil Potential: Pumped 47 BOPD er injection June 27, 1966. Injected

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Physical 8/12/71. South Caprack Queen Whit Well No. 12-29 Current wellbore schematic Plus No.2 5 sxs contat Surface. B-5/B' Casing set at 325' cemented with 200 sxs. Comment Circulated. Cement top calculated at 1852 outside 512" casing <u>Plug No. 1</u> 25 sxs cement in 5½ cusing from 3100'-2853' Queen Sand perfs 3154-3167' W/ 6 holes perfoot 51/2" Casing set at 3185' comented with 175 sxs. TD = 3188" • .
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South Caprock Queen Unit well No. 13-29 phyged 8/12/71 Current Wellbore schematic 5 sxs cement at surface Plug No.2 12-314" casing set at 300' cemented w/ 250 sxs. cement circulation B-518" cusing set at 1325' Top of cement outside of 41/2" casing a 1794' 20 sx's coment in 41/2" Cusing from 3200-2910' Plug No.1 Perfs Queen Sand 3188-3203' W 2 holes perfoot 4"2" 9,5 * casing set at 3234" cemental w/250 sxs. 72 - 3235'

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South Caprock Que	Pen Unit Well No. 2-30 Phygged and Abandoned March 24, 1972
	<u>Plus No. 2</u> 5 sxs cmt at surface in 5 ^{1/2} casing
	85/8" Casing set at 315'. Cm+'d w/ 175 sacies, circulated.
	~ Cement Top outside 5'5" casing calculated at 1615!
	<u>PLUG No.1</u> 25 sts cement in 5½" casing from 3100' to 2853'
	Perforations
	Queen Sand 3118-3130' w/4 shots per foot

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South Caprock Queen Unit Well No. 3-30. Augged and Abandoned March 24, 1972. <u>Plue No.2</u> 5 sucks cmt at surface in 51/2" casing. 1712 8 5/8" casing set at 300', cemented w/ 175 sucks, Circulated. - -----Cement Top calculated at 1615' outside 5'2' Casing. PLUG No. 1 25 sacks cont in 51/2" casing from 3100' - 2853'. Pertorations Queen Sand 3123-3130' w/ 4 shots per foot. 5 1/2 " casing set at 3138", cemented w/200 sacks. TD: 3138'

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South Captock Queen Unit Well No. 6-30

Plugged And Abandoned March 24, 1972

E. S. R. S. F. S. L. L. PLUG No. 2. 5 socks coment at surface in 856" easing. 8-518" cesing set at 320' comenter w/ 135 sxs, circulated. 5% Casing cut off, Stub at 1256' Cement top calculated at 1625 outside 51/2" casing. PLUG No. 1 25 sucks out from 3100'- 2853' in 5'2" casing Perforations Queen Sand 3125-3139 w/ 4 spots perfact 51/2" casing set at 3148' cemented w/200 sxs.

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South Caprock Queen Unit Well No. 7-30 Phugged 3/24/72 Current Willbore Schematic Plug No. 2 5 sis cement at surface 8-5/8" casing set at 315' cemented with 330 sxs. Cement circulated. cement top calculated at 1994 outside of 51/2" casing Plue No.1 25 sxs cement in 51/2" casing form 3100'- 2853' 5 1/2" cosing set at 3137' Comented W/150 sxs 4 3/4" open hole 3137-3159' Queen Sund. TO = 3159'

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i.

South Caprock Queen Unit Well No. 8-30

Plugged 3/24/72 Current Wellbore Schematic Plus No. 2 5 sxs cement at surface. 8-513" cusing set at 309' comented w/ 175 sxs. Coment circulated. Cement top calculated at 1635 outside of 51/2" casing. Plug No. 1 25 sxs cement in 51/2 cusing from 3100-2853 Perfs Queen sand 3140-3152' W/3 holes per foot PBTD 3157 51/2" casing set at 3158' cemented with 200 sks TO: 3159

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South Caprock Queen Unit Well No. 9-30 plugged 3/24/72 Current wellbore schematic Plug No. 2 5 sis cement at surface 8-56" casing set at 314' cemented with 200 sxs. Cement circulated cement top calculated at 1870' outside 51/2" cusing Plug No. 1 25 sis coment in 51/2" casing from 3100'-2853'. Perfs Queen Sand 3157-3169' W/ & holes per foot 5 1/2" casing set at 3203' cemented with 175 sxs. 70:3205'

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South Caprock Queen Unit Well No. 10-30

Phyged 3/24/72

Plus No. 2 5 SXS cement at surface 9-5/3" casing set at 315' comented with 200 sxs. coment circulates Cement top Culculated at 2639' outside of 5 1/2" casing. Plug No.1 25 sxs cement from 3100-2853' in 51/2" cusing. Perfs Queen Sand 3153-3160' with & holes per foot. TO 3175' 5'4" casing set at 3125' cemented with 75 sxs. TO: 3195'

DEC 5- 1985 0.6.3. H0995 OFFICE N.

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Plugged And Abundoned March 24, 1972 South Capicock Queen Unit No. 12-30 PLUG No. 2. 5 sts at surface in 5 1/2" cusing. 85'B" casing set at 207' cmt'd w 180 srs, circulated. cement Top outside 5's" casing calculated at 1676'. PLUG NO. 1 25 sucks cant in 51/2" casing from 2900'- 2653'. Perforations Queen Sund 2982-2989 w/ 6 spf. 51/2" cusing set at 3009', cemented w/ 175 sts. TD : 3010'

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South Cuprock Queen Unit Well No. 13-30 Philgged and Abandoned March 24, 1972.
5 sks coment at surface in 41/2" casing,
(
B-5/8° Cusing set at 208' cmtd W/ 150 sacks, circulated
Cement top outside 41/2" casing calculated at 2134"
Liter Con Plus No. 1
25 sts cement inside 412" casing from 2900'- 2538'.
A CALLER AND COMMENT AND A CASH AND COMMENT
Signed Perforations Signed Life in Sund 2990 - 3004' w/ 4 storts per foot
(ik) (m) (m) 2770-2007 (0) 4 STORS PEL TOON
J's 41/2" cusing set at 2901' cmtd w/ 75 sts.
3'2" liner set from 2837-3008', cmtd w/25 sxs
() (CI) TD: 3060?

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South Caprock Queen Unit Well No. 14-30

Plugged 3/24/72

Current wellbore schematic

Plug No. 2 5 sxs cement at surface 9-5/8" casing set at 322' comented w/200 sxs. coment circulated. Top of coment outside 5' cusing at 1852' Plug No.1 25 Sxs compet in 512" cusing from 3100'-2853'. Perfs Queen sand 3148-3160' N/ 8 holes put foot 5'2" casing set at 3185' comented w/ 175 sxs. 3181 **É** TO = 3186 '

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South Caprock Queen Unit No. 1-31 Plugged 6/12/71 Current Wellbore Schematic 5 sxs cement at surface. Plug No.2 9-5/9" cusing set. at 327' cemented w/ 204 sxs - Cement Circulated Top of coment outside of 512" casing at 22651 Plug No. 20 sx's coment in 512" cusing from 3100'- 2822'. Perfs Queen sund 3187-3191 W/4 holes per fost - squeezel W/100 sxs cement 3185-3188' w/4 holes perfost. b = 320751/2" cusing set at 3217' cemonted w/ 125 sxs.

TS = 3220'

RECAIVED DEC 5- 1985 0.C.D. HOBSS OFFICE South Cuprock Queen Unit Well No. 2-31 Phyged 3/72 Current well bore schematic Plue No. 2 5 sxs cement at surface 13-318" set at 255' cemented w/100 sks. Cement circulated. en en la la la la B-519" cusing set at 1242'. Top of cement outside of 512" casing at 2325! Plug No. 1 25 SKS coment in 5'2" cusing from 3000 - 2753' 51/2 casing set at 3087' cemented w/ 100 sxs. 43/4" openhole 3087-3095 (Other Sand) 70 = 3095

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Pubco Drickey-State Well No. 3-A plugged 6/30/56 Current Wellbore Schematic 以公认为法 Plue No. 4 10 sxs cement at surface Plus No.3 BO' cement in bottom of 9-5/8" cusing 9-5/8" cusing 54 Casing Line Side of Star 50' cement in 51/2" clusing stub at 2400'. Plug No. 2 stub at 24001 Plug No. 1 50' cement in 51/2" cusing over perforations Perfs Quein 3185-3191 5 1/2" cusing set at 3252' TS=3252



VII. Proposed Operation

- Proposed average daily injection rate 600 BWPD Proposed maximum daily injection rate - 800 BWPD
- 2. This will be a closed system
- Proposed average injection pressure 1000 psi Proposed maximum injection pressure - 1200 psi
- 4. Source of injected fluid is Queen Sand formation. Analysis of produced water is attached.
- 5. Injection is for waterflood purposes, with fluids being injected into the same zone they are produced from.
- VIII. The proposed injection zone in the South Caprock Queen No. 10-30, Section 30, T-15-S, R-31-E, Chaves County, New Mexico, is in the Shattuck (Sandstone) member of the Permian Queen formation, which is the uppermost 100' of the Queen formation. The top of the Queen formation is at 3150' (+1300') and the bottom of the sand is at 3170' (+1280'). The proposed injection zone is in the interval 3153' to 3165'. The proposed injection is in an arkosic sandstone and siltstone with small amounts of sandy anhydrite and sandy dolomite, which was deposited in a shallow marine, shelf-lagoon environment. There are no apparent faults or fractures in the field which would permit the migration of oil out of the Shattuck reservoir.

The only known source of drinking water in the area is at a very shallow depth, less than 300' in the Tertiary "Ogallala" formation, of the Lea County underground basin.

- IX. Proposed Stimulation Program The formation will acidized with 1500 gal 15% HCl with an aromatic solvent. Maximum treating pressure will be 2000 psi.
- X. Electric log of subject well is attached.
- XI. Analysis from fresh water well attached. Well is located in N/2 of NE/4, Section 32, T-15-S, R-31-E, Chaves County, New Mexico (only one well within one mile).
- XII. We have examined available geologic and engineering data and find no evidence of open faults or other hydrologic connection between the injection zone and any underground source of drinking water.
- XIII. Proof of notice to offset operators and surface owner is attached. Also attached is a copy of publication and affidavit by the publisher.

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WATER ANALYSIS REPORT

COMPANY Union Oil	of Calif	ornia				ANALYSIS NUMBER
COMPANY ADDRESS	· · · · · · · · · · · · · · · · · · ·			······································		DATE
FIELD				· · · · · · · · · · · · · · · · · · ·		9/26/84
CAPROCK QUI	EEN			COUNTY OR PARI		state N · M.
LERSELOR DINIT	0	WELL(S) N	AME OR NO.	WATER SOURCE (WATER SOURCE (FORMATION)	
South Caprock	Queen¢	#15-3	0	QUEEN SA		
DEPTH, FT. BHT, OF	SAMPLE SI	OURCE	TEMP, OF	WATER. BBL/DAY		GAS, MMCF/DAY
DATE SAMPLED						
\$ 9/26/84	TYPE OF V					· · · · · · · · · · · · · · · · · · ·
			SUPPLY	WATERF	LOOD SAL	T WATER DISPOSAL
<u>100</u> Na ⁺ 20	(NI	UMBER BESI	WATER ANALYSI	S PATTERN DICATES me/1* SCAL		
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100 ca++						
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100 Mg ⁺⁺				30		
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1 Fe ⁺⁺⁺						
Fe <u></u>						
DISSOLVED SOLIDS				DISSOLVED		
				DISSOLVEL	GASES	
CATIONS		me/I*	mg/I*	Hydrogen Si	ulfide H2S	<u>-0-</u> mg/1*
Total Hardness		636		Carbon Diox		<u>190.1mg/1</u>
Calcium. Ca ⁺⁺ Magnesium, Mg ⁺⁺		334	6680	Oxygen, Oz		<u>1+</u> mg/l*
ron (Total) Fe ⁺⁺⁺		302	-3684 22			-
Barium, Ba ⁺⁺				PHYSICAL	PROPERTIES	
Sodium, Na ⁺ (calc.)		358	8142	рН		6.95
				Specific Grav	vity	1-147
NIONS	• •		<u>.</u>		red Solids (calc.)	54405, 2g/1*
hloride, CI		935.2	22000	. Stability Ind	ex @ <u>_20_</u> •C	46
ulfate, SO4 ⁼	<u></u>				°C©	
arbonate, CO3 ⁼		-0-	<u> 2650 </u> –0–		lity @C	<u>31.2</u> me/1*
icarbonate, HCO3		8_	48_	 8 Max. CaSO4 Pr		me/l* <u>55.2</u> me/l*
ydroxyl, OH	·	0		Max. CaSO4 P		me/l*
ulfide, S ⁼						////
	·		·			
		······································		Residual Hydi	rocarbons	ppm{Vol/Vol
OTAL SOLIDS (QUANTIT	ATIVE)	•		2		
EMARKS AND RECOMME	NDATIONS				*NOTE	and mg/l are common
•					used interchar	ngeably for epm and ppr
20° C SLIGHTLY 20° C CALCIUM S	CORROSIV ULFATE S	E TENDEN CALING)]	NCY IS INDIC S POSSIBLE	CATED	respectively.	Where epm and ppm ar ons should be made fo
AKER OIL TREATING REPRE	SENTATIVE	ADDRESS				
· LEWIS					TELEPHONE	
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WATER ANALYSIS REPORT

COMPANY	
UNICN OIL OF CALIFORNIA	ANALYSIS NUMBER
COMPANY ADDRESS	0564
	DATE
FIELO	10/22/8/1
COUNTY OF THE	STATE
CAPROCK QUEEN CHAVES CO.	
WELL(S) NAME OR NO. I WATER SOURCE (FORMATION)	IN.M.
STILLY (ADDOCY OTHERN TINIT THERE WATER STOCK NELL A	
HATER BELIDAT OIL BELIDAY	GAS. MMCF/DAY
DATE SAMPLED TYPE OF WATER	
0/22/84 DERCOUCED ESUPPLY WATERFLOOD SALT W	ATER DISPOSAL
WATER ANALYSIS PATTERN	
10 Na ⁺ 20 15 10 5 10 15 10 15	
	2°ci- <u>10</u>
10	
	<u> </u>
	+
	HCO3
$ \underbrace{10}_{1} \operatorname{Mg}^{++} \underbrace{1}_{1} \underbrace{1} \underbrace{1}_{1} \underbrace{1}_{1} \underbrace{1}_{1} \underbrace{1}_{1} \underbrace$	
$ \underbrace{10}_{}^{} \mathbb{E}_{e^{++++}} \underbrace{1}_{$	

DISSOLVED SOLIDS

DISSOLVED GASES

CATIONS Total Hardness Calcium. Ca ++ Magnesium, Mg ⁺⁺ Iron (Totai) Fe ⁺⁺⁺ Barium, Ba ⁺⁺	<u>me/l*</u> <u>26</u> <u>14</u> <u>12</u> <u>-0-</u>	<u>mg/1</u> * 280 14 <u>6_4</u> 	Hydrogen Suifide, H2S Carbon Dioxide, CO2 Oxygen, O2 PHYSICAL PROPERTIES	- <u>O</u> mg/l* <u>4,0</u> mg/l* <u>5,0</u> mg/l*
Sodium, Na ⁺ (caic.)	61.0	1424 2	pH Specific Gravity	<u> </u>
ANIONS Chloride, CI [—] Sulfate, SO4 ⁼ Carbonate, CO3 ⁼ Bicarbonate, HCO3 ⁼ Hydroxyl, OH ⁺ Sulfide, S ⁼	<u>84,5</u> <u>42</u> <u>-0-</u> <u>3,0</u> <u>-0-</u> <u>-0-</u>	<u> </u>	 Total Dissolved Solids (caic.) Stability Index @°C @°C CaSO4 Solubility @°C @°C Max. CaSO4 Possible (calc.) Max. CaSO4 Possible (calc.) 	<u>5053,6</u> mg/1* <u>-,54</u> <u>27,4</u> me/1* <u>me/1*</u> <u>42</u> me/1*
			Residual Hydrocarbons	ppm(Vol/Vol)
TOTAL SOLIDS (QUANTITATIVE)		5053.6		
REMARKS AND RECOMMENDATIONS: a 20 ⁰ C MODERATELY COPROSIVE TENDENCY IS INDICATED, a 20 ⁰ C CALCIUM SULFATE SCALING IS UNLIKELY.			used intercha respectively.	and mg/l are commonly ngeably for epm and ppm Where epm and ppm are ions should be made for ty.

BAKER OH TREATING REPRESENTATIVE	ADORESS	TELEPHONE	
ANALYZZD AM		OFF:	RES:
N'RITA BETTY	10722/84 DISTRIBUTION		

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Union Oil and Gas Division: Central Region

Union Oil Company of California 500 North Marienfeld, Midland, Texas 79701 P.O. Box 671, Midland, Texas 79702 Telephone (915) 682-9731

Uni

Midland District

November 22, 1985

State of New Mexico P. O. Box 1148 Santa Fe, New Mexico 87501

SUBJECT:

Reentry of Union Oil Company of California's South Caprock Queen Unit Well No. 10-30 To Inject Produced Water

Gentlemen:

This is notification to you, as owner of the surface land and as a leasehold operator within one-half mile of the proposed injection well location, that Union Oil Company of California proposes to reenter the South Caprock Queen Unit Well No. 10-30, Section 30, T-15-S, R-31-E, 1980' FSL and 1980' FEL of section, Chaves County, New Mexico, and use it to inject produced water. Injection will be into the Queen Sand through perforations from 3152' to 3165', with water produced from the Queen Sand. The well was being used in this manner prior to abandonment in 1972. Attached are copies of the applications for approval to inject. Any objections or requests for hearing of administrative application must be filed with Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501, within 15 days from the date this application was mailed to you.

FOP L. F. Thompson District Operations Manager

TLP:ggc Enclosures

mailed "certified, return receipt requested" No. P 167 350 579

DEC 5- 1985 O.C.O. HOBBS OFFICE

received

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Union Oil and Gas Division: Central Region

Union Oil Company of California 500 North Marienfeld, Midland, Texas 79701 P.O. Box 671, Midland, Texas 79702 Telephone (915) 632-9731

Un@n

Midland District

November 22,1985

Zip Franklin P. O. Box 545 Lovington, New Mexico 88260

SUBJECT:

Reentry of Union Oil Company of California's South Caprock Queen Unit Well No. 10-30 To Inject Produced Water

Gentlemen:

This is notification to you, as lessee of the surface lands containing the proposed injection well location, that Union Oil Company of California proposes to reenter the South Caprock Queen Unit Well No. 10-30, Section 30, T-15-S, R-31-E, 1980 'FSL and 1980' FEL of section, Chaves County, New Mexico, and use it to inject produced water. Injection will be into the Queen Sand through perforations from 3152' to 3165', with water produced from the Queen Sand. The well was being used in this manner prior to abandonment in 1972. Attached are copies of the applications for approval to inject. Any objections or requests for hearing of administrative application must be filed with Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501, within 15 days from the date this application was mailed to you.

Thomo District Operations Manager

TLP:ggc Enclosures

mailed "certified, return receipt requested" No. P 167 350 578

DEC 5- 1985 O.C.D. HOBBS OFFICE

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Union Oil and Gas Division: Central Region

Union Oil Company of California 500 North Marienfeld, Midland, Texas 79701 P.O. Box 671, Midland, Texas 79702 Telephone (915) 682-9731

Midland District

November 22, 1985

Sun Exploration and Production Company P. O. Box 1861 Midland, Texas 79702

SUBJECT:

Reentry of Union Oil Company of California's South Caprock Queen Unit Well No. 10-30 To Inject Produced Water

Gentlemen:

This is notification to you, as a leasehold operator within one-half mile of the proposed injection well location, that Union Oil Company of California proposes to reenter the South Caprock Queen Unit Well No. 10-30, Section 30, T-15-S, R-31-E, 1980' FSL and 1980' FEL of section, Chaves County, New Mexico, and use it to inject produced water. Injection will be into the Queen Sand through perforations from 3152' to 3165', with water produced from the Queen Sand. The well was being used in this manner prior to abandonment in 1972. Attached are copies of the applications for approval to inject. Any objections or requests for hearing of administrative application must be filed with 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 wours. L. F. Thompson District Operations Manager

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No. P 167 350 576



RECEIVED DEC 5- 1**985** 0.C.D. HOBBS (FRCE

AFFIDAVIT OF PUBLICATION

County of Chaves

State of New Mexico,

I, R.M. H.gginbotham,

manager

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

ofone...day.....

for one weeks

beginning with the issue dated

November 29 19.85

and ending with the issue dated

......November 29 19.85 e Liver of and the Ville Ð

Sworn and subscribed to before me

this 29th day of

Novembef 19.85 de lon 1 1412

Notary Public 1

My commission expires

take 2/ 19/7 (Seal)

Publish November 29, 1985

NOTICE

TO WHOM IT MAY CONERERN:

Union Oil Company of California proposes to re-enter the folowing well and use it to inject produced water:

South Caprock Queen Unit Well No. 10-30, Section 30, T-15-S, R-31-E, 1980' FSL and 1980' FEL, Chaves County, New Mexico.

The intended purpose for the injection well is to provide secondary oil recovery through pressure maintenance by injecting produced water from the Queen Sand Formation into the Queen Sand Formation into the Queen Sand Formation into the Bueen Sand Formation into the Queen Sand Portations from 3152' to 3165' in depth. The expected maximum injection rate and pressure will be 800 BWPD and 1200 psi, respectively. Interested parties must file objections or requests for hearing with the Oil Conservarion Divison, P.O. Box 2088, Santa Fe. New Mexico 87501, within fifteen days.

For further information, contact D.L. Watkins at Union Oil Company of California, P.O. Box 671, Midland, Texas 79702, or telephone (915) 682-9731.

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DEC 5- 19**85**

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O.C.D. HOBBS OFFICE