KELLAHIN, KELLAHIN and AUBREY

Attorneys at Law

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Santa Fé, New Mexico 87504-2265

Telephone 982-4285 Area Code 505

Fax: 505/982-2047

July 26, 1989

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RECEIVED

JUL 26 1989

Mr. William J. LeMay Oil Conservation Division Post Office Box 2088 Santa Fe, New Mexico 87501

OIL CONSERVATION DIVISION

Pase 9736

Re: Application of Wallen Production Company for Approval of the Wallen Tonto Waterflood Project and Approval of the Wallen Tonto #7 WIW Well as the Initial Injection Well, Lea County, New Mexico

Dear Mr. LeMay:

On behalf of Wallen Production Company, please find enclosed a completed Division Form C-108 which constitutes our application for approval of the referenced waterflood.

We suggest the following as a possible advertisement for this case:

Application of Wallen Production Company for Waterflood Project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Wallen Tonto Waterflood Project and authority to inject produced water into the Yates Seven Rivers formation of the South Tonto Yates Seven Rivers Pool in the open hole interval from approximately 2,900 feet to 3,113 feet in its Wallen Tonto #7 WIW Well located 1,650 feet FSL and 990 feet FEL of Section 30, Township 19 South, Range 33 East, NMPM, Lea County, New Mexico. Said well is located approximately \_\_\_\_\_\_\_.

We would appreciate this application being set for hearing at the next available examiner's docket now scheduled for August 23, 1989.

By copy of this letter to all parties, sent certified mail, return-receipt requested, we are notifying them that they have the right to appear at the hearing, to make a statement to the Division, to present evidence and cross-examine witnesses either in support of or in opposition to

Mr. William J. LeMay Oil Conservation Division July 26, 1989 Page Two

the application. Those parties are directed to contact the Division or the Applicant's attorney to determine what additional rights they may have.

Very truly yours,

. Thomas Kellahin

WTK/rs Encl.

cc: Mr. Walter W. Krug - Wallen Production Company

### Certified Mail-Return Receipt Requested:

Mr. Jerry Sexton Oil Conservation Division Post Office Box 1980 Hobbs, New Mexico 88240

Bureau of Land Management Roswell District Office Attn: District Manager Post Office Box 1397 Roswell, New Mexico 88201-1397

Oil Conservation Division State Land Office Attn: Land Commissioner Post Office Box 1148 Santa Fe, New Mexico 87501

Kaiser-Francis Route Box 208 Odessa, Texas 78765

FI-RO Corporation Post Office Box 8148 Roswell, New Mexico 88201

Union Oil Company of California 4000 North Big Spring Suite 300 Midland, Texas 79702

### STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

### OIL CONSERVATION DIVISION

POST OFFICE BUX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501

Case	9	FORM (6-1)	.08 7⊱1-81
RATI	FIN	FED.	

PPLICA	TION FOR AUTHORIZATION TO INJECT  JUL 26 1989
Ι.	Purpose: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? OF CONSERVATION DIVISION
II.	Operator: Wallen Production Company
	Address: P0. Box 1960 Midland, Texas 79702
	Contact party: Walter W. Krug Phone: 915-683-2600
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
٧.	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:
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and</li> <li>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.).</li> </ol>
'III.	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.
х.	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: W. Thomas Ketlasin Title Attorney
	Signature: Date: July 24, 1989
submi	ne information required under Sections VI, VIII, X, and XI above has been previously itted, it need not be duplicated and resubmitted. Please show the date and circumstance he earlier submittal.

#### III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
  - (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
  - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
  - (3) A description of the tubing to be used including its size, lining material, and setting depth.
  - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
  - (1) The name of the injection formation and, if applicable, the field or pool name.
  - (2) The injection interval and whether it is perforated or open-hole.
  - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
  - (4). Give the depths of any other perforated intervals and detail on the sacks of cement or  $\infty$  bridge plugs used to seal off such perforations.
  - (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

#### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells:
- . (3) the formation name and depth with expected maximum injection rates and pressures; and
  - (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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

### Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

### List of Exhibits - Form C-108

Exhibit A	Map required by Paragraph V
Exhibit B	Tabular Summary required by Paragraph VI
Exhibit C	Data Sheet required by Paragraph VII
Exhibit D	Geological Data - Paragraph VIII
Exhibit E	Log of Injection Well
Exhibit F	Data Sheet on Proposed Injection Well
Exhibit G	Schematic of Proposed Injection Well
Exhibit H	Schematic of P&A Wells within Area of Review
Exhibit I	Water Analysis Produced Water to be re-injected
Exhibit J	Statement per Paragraph XII
Exhibit K	Notice Requirements

wallen Prod. Co. Wallen-Tonto Well No. 9Y	Wallen Prod. Co. Wallen-Tonto Well No. 9	wallen Prod. Co. wallen-Tonto well No. 1	wailen Prod. Co. wailen-Tonto weil No. 6	wallen Prod. Co. wallen-Tonto well No. 3	wallen Prod. Co. wallen-Tonto well No. 5	wallen Prod. Co. wallen-Tonto well No. 8	wallen Prod. Co. wallen-Tonto well No. 7	John H. Trigg Federal RB 31 Well No. 1X	John H. Trigg Federal RB 31 Well No. 1	Sinclair O&G Co. Carder-Federal Well No. 2	Edward Hudson Signal Ross-Fed Well No. 6	Aminoli USA Federal 30 Weil No. 2	Aminoli USA Federal 30 Well No. 1	Operator Well Name, Number
N, Sec 30, T19S, R33E 660' FSL & 2300' FWL	N, Sec 30, T19S, R33E 600' FSL & 2300' FWL	N, SeC 30, T19S, R33E 990, FSL & 2310, FWL	P, Sec 30, T19S, R33E 990 FS & EL	K, Sec 30, T19S, R33E 1650, FS & WL	1650° FSL & 2310° FEL	J, Sec 30, T19S, R33E 1790° FSL & 1710° FEL	1, Sec 30, T195, R33E 1650, FSL & 990, FEL	B, Sec 31, T19S, R33E 335, FNL & 2223, FEL	B, Sec 31, T195, R33E 330, FNL & 2310, FEL	1, Sec 30, T19S, R33E 1980, FSL & 660, FEL	0, Sec 30, T19S, R33E 660', FSL & 1980', FEL	K, Sec 30, T19S, R33E 2310° FSL & 1980° FWL	1, Sec 30, T19S, R33E 1980, FSL & 760, FEL	Location: Unit, Sec., Twp., Range
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Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

### Exhibit C

### Data on Proposed Operation

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

Average daily rate of 200 BWIPD Maximum daily rate of 400 BWIPD

- 2. System is closed.
- 3. Proposed Average Injection Pressure: 600 psig Proposed Maximum Injection Pressure: 1000 psig

The proposed average and maximum injection pressures are to be determined from step rate tests to be run after the well is re-entered.

- 4. (A) Source of injection fluid:
  Produced water from South Tonto Yates Seven Rivers
  Pool.
  - (B) Analysis of formation fluid:
    Not applicable re-injected produced water.
- 5. Zone of disposal is productive of oil and gas within one mile of proposed disposal well.

Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

### Exhibit D

### Geological Data on Injection Zone

Pool: South Tonto Yates Seven Rivers

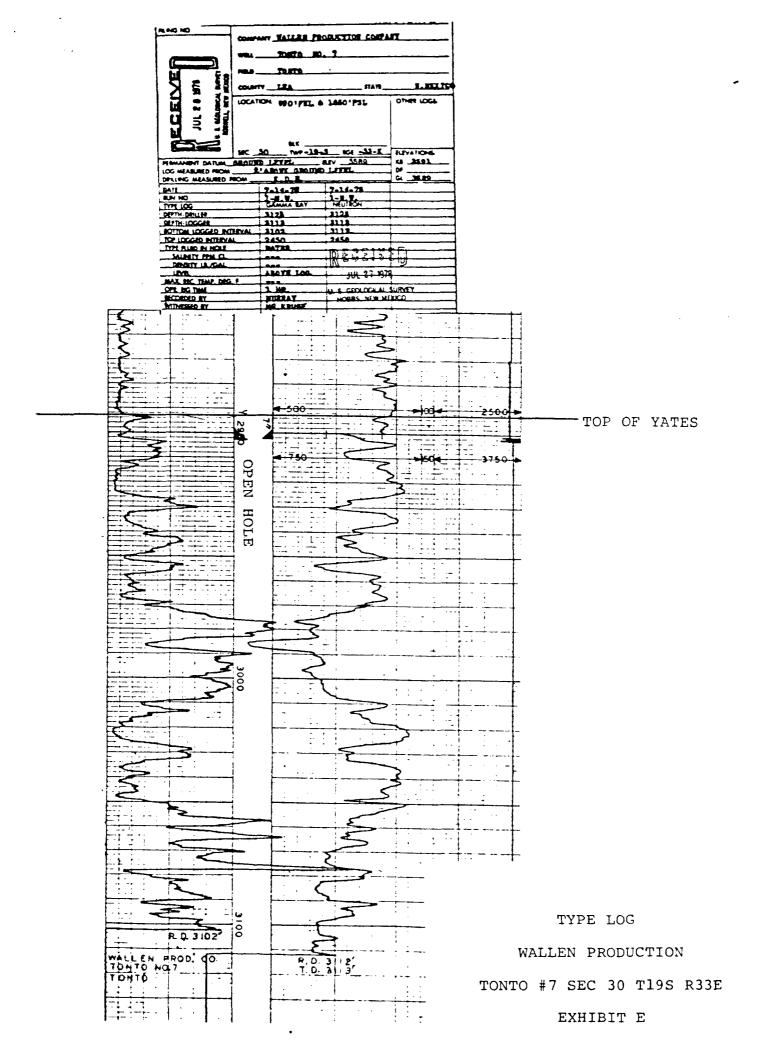
Formation: Yates Seven Rivers

Geological Name: Yates

Thickness: @200 feet

Depth: @2900 feet

Injection Interval: 2900 to 3113 feet



Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

### Exhibit F

### Well Data on Injection Well

Stimulation Program: 2000 gallons 15% NE-FE Acid

Location: 1650' FSL & 990' FEL

Section 30, T19S, R33E Lea County, New Mexico

Casing: 13 3/8" @225' cmtd w/300 sx

7" @2900' cmtd w/200 sx

Tubing: 2 3/8" @2850' - Plastic Coated

Packer: Halliburton R4 Injection Packer

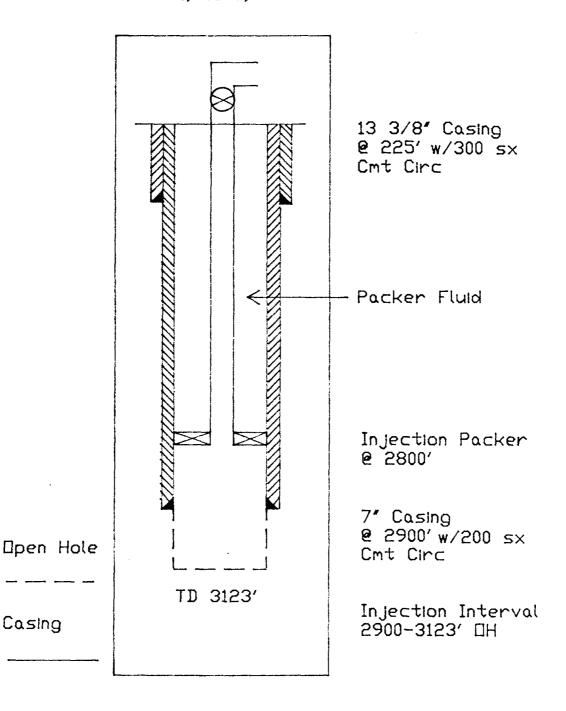
Injection Formation: Yates in the South Tonto Yates-Seven

Rivers Pool.

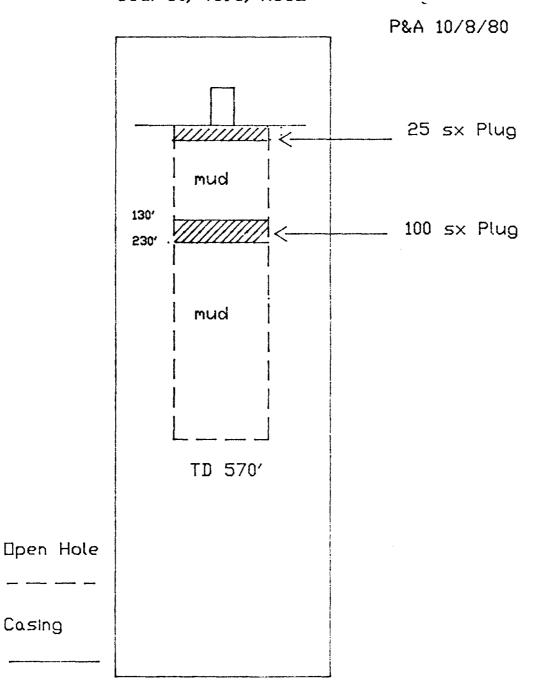
Injection Interval: 2900' to 3113' Open Hole

Well was originally drilled as oil producer. Currently P&A.

Wallen Production Company Wallen-Tonto Well No. 7 990' FEL & 1650' FSL Sec. 30, T19S, R33E

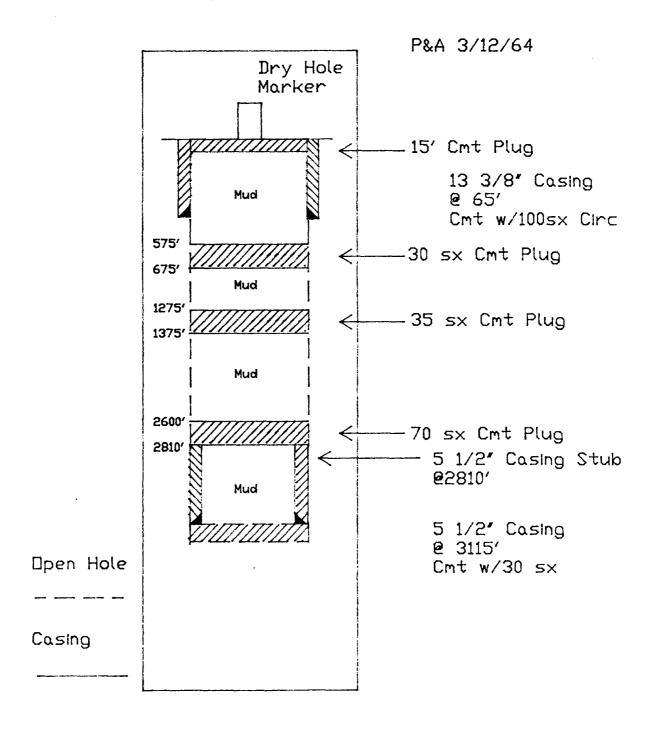


Wallen-Tonto Well No. 9 2300' FWL & 600' FSL Sec. 30, T19S, R33E

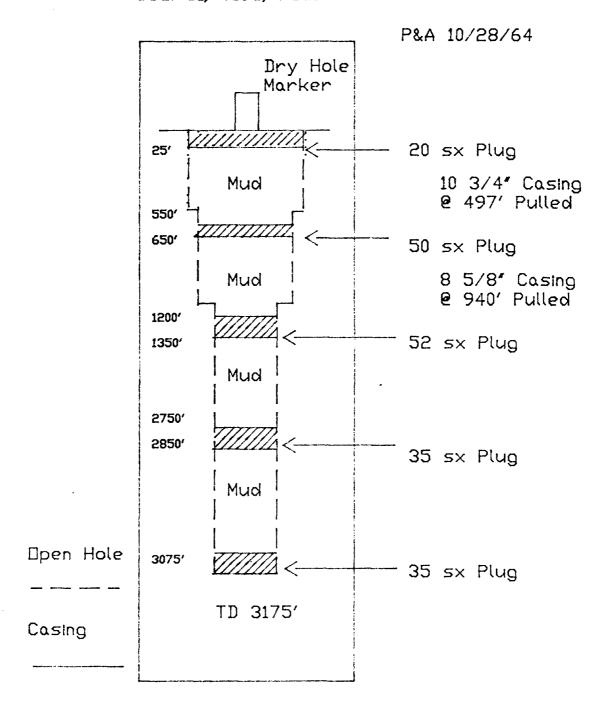


Casing

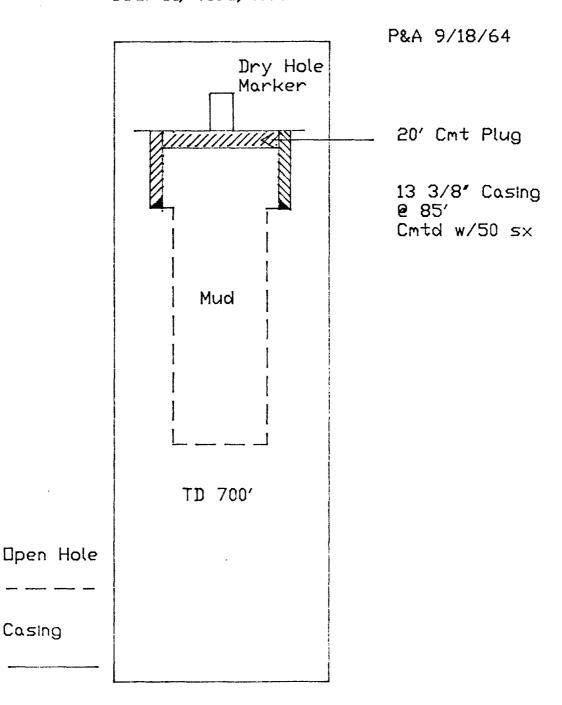
Edward Huston Signal Ross\_Fed. Well No. 6 660' FSL & 1980' FEL Sec. 30, T195, R33E



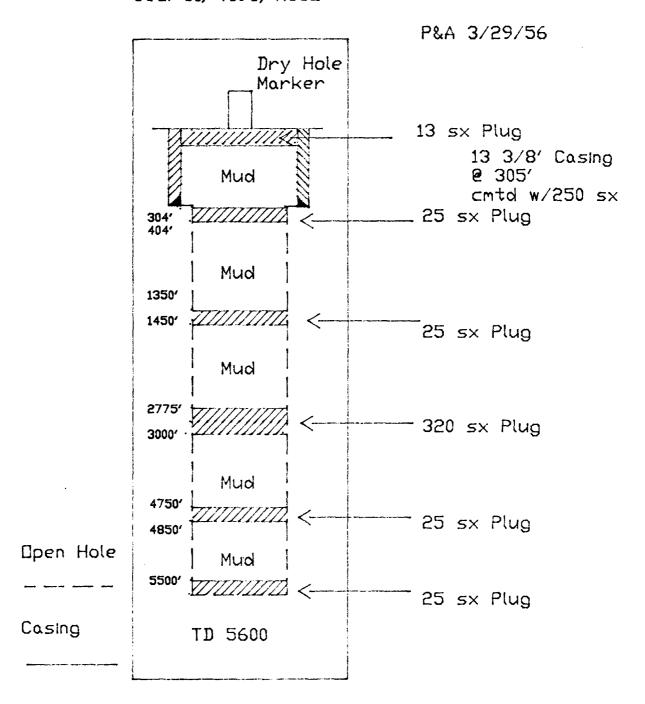
John H. Trigg Federal "RB" 31 Well No. 1X 335' FNL & 2223' FEL Sec. 31, T19S, R33E



John H. Trigg Federal "RB" 31 Well No. 1 330' FNL & 2310' FEL Sec. 31, T19S, R33E



Sinclair Dil & Gas Company Carder-Federal Well No. 2 330' FNL & 2310' FEL Sec. 31, T195, R33E



# WATER ANALYSIS REPORT furnished by TRETOLITE CHEMICALS

COMPANY:

WALLEN PRODUCTION

LEASE:

TONTO

SAMPLE POINT:

HEATER TREATER

SAMPLE DATE:

5-27-87

SAMPLE TEMP.:

I Dill .

pH: 6.5

H2S: 500

SPECIFIC GRAVITY: 1.025

TITRATED AND CALCULATED IONS

	MILLIGRAMS PER LITER	MILLIEQUIVALENTS PER LITER
нсо3	915.00	15.00
C1	11210.00	315.77
SO4	1250.00	26.04
Ca	2800.00	140.00
Mg	0.00	0.00
Na	4986.78	216.82

IONIC STRENGTH = 0.44

TOTAL HARDNESS = 6000.0 mg/ltr.

TOTAL DISSOLVED SOLIDS = 21155.5 mg/ltr.

TOTAL IRON (Fe) = 3.0 ppm

### PROBABLE MINERAL COMPOSITION AND ION PAIRING

	MILLIEQUIVALENTS	MILLIGRAMS
	PER LITER	PER LITER
Ca(HCO3)2	15.00	1215.60
CaSO4	26.04	1772.66
CaC12	98.96	5492.19
1g(HCO3)2	0.00	0.00
MgSO4	0.00	0.00
MgCl2	0.00	0.00
NaHCO3	0.00	0.00
Na2SO4	0.00	0.00
NaCl	216.82	12675.08

### CALCULATED SCALING TENDENCIES

SCALING INDEX

CaCO3 @ 80 DEG F. = 0.5 CaCO3 @ 120 DEG F. = 1.0

SATURATION POINT

CaSO4 @ 70 DEG F. = 1996.5 MG/LTR. CaSO4 @ 110 DEG F. = 2020.2 MG/LTR.

(THIS SAMPLE CONTAINED 1772.7 MG/LTR. CaSO4)

Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

Exhibit J

### Affirmative Statement

Wallen Production Company has examined available geologic and engineering data and finds no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

Proposed Wallen Tonto Waterflood
Wallen Tonto #7 WIW
Section 30, T19S, R33E
Lea County, New Mexico

### Exhibit K

### Notice

Pursuant to Section XIV of Form C-108,

Applicant has mailed copies of the application to the following:

Surface Owners:

Bureau of Land Management Roswell District Office P.O. Box 1397

Roswell, New Mexico 88201-1397

Attention: District Manager

Oil Conservation Division

State Land Office P.O. Box 1148

Santa Fe, New Mexico 87501

Attention: Land Commissioner

Leasehold Operators within one-half mile:

Kaiser-Francis Rt. Box 208 Odessa, Texas 78765

FI-RO Corporation P.O. Box 8148 Roswell, New Mexico 88201

Union Oil Company of California 4000 N. Big Spring Suite 300 Midland, Texas 79702

# KELLAHIN, KELLAHIN and AUBREY Attorneys at Law

W. Thomas Kellahin Karen Aubrey

Jason Kellahin Of Counsel El Patio - 117 North Guadalupe Post Office Box 2265

Santa Fé, New Mexico 87504-2265

Telephone 982-4285 Area Code 505

Fax: 505/982-2047

July 26, 1989

RECEIVED

JUL 26 1989

Mr. William J. LeMay Oil Conservation Division Post Office Box 2088 Santa Fe, New Mexico 87501

oil conservation division

Ouse 9 736

Re: Application of Wallen Production Company for Approval of the Wallen Tonto Waterflood Project and Approval of the Wallen Tonto #7 WIW Well as the Initial Injection Well, Lea County, New Mexico

Dear Mr. LeMay:

On behalf of Wallen Production Company, please find enclosed a completed Division Form C-108 which constitutes our application for approval of the referenced waterflood.

We suggest the following as a possible advertisement for this case:

Application of Wallen Production Company for Waterflood Project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Wallen Tonto Waterflood Project and authority to inject produced water into the Yates Seven Rivers formation of the South Tonto Yates Seven Rivers Pool in the open hole interval from approximately 2,900 feet to 3,113 feet in its Wallen Tonto #7 WIW Well located 1,650 feet FSL and 990 feet FEL of Section 30, Township 19 South, Range 33 East, NMPM, Lea County, New Mexico. Said well is located approximately \_\_\_\_\_\_.

We would appreciate this application being set for hearing at the next available examiner's docket now scheduled for August 23, 1989.

By copy of this letter to all parties, sent certified mail, return-receipt requested, we are notifying them that they have the right to appear at the hearing, to make a statement to the Division, to present evidence and cross-examine witnesses either in support of or in opposition to

Mr. William J. LeMay Oil Conservation Division July 26, 1989 Page Two

the application. Those parties are directed to contact the Division or the Applicant's attorney to determine what additional rights they may have.

Very truly yours,

Thomas Kellahin

WTK/rs Encl.

cc: Mr. Walter W. Krug - Wallen Production Company

### Certified Mail-Return Receipt Requested:

Mr. Jerry Sexton Oil Conservation Division Post Office Box 1980 Hobbs, New Mexico 88240

Bureau of Land Management Roswell District Office Attn: District Manager Post Office Box 1397 Roswell, New Mexico 88201-1397

Oil Conservation Division State Land Office Attn: Land Commissioner Post Office Box 1148 Santa Fe, New Mexico 87501

Kaiser-Francis Route Box 208 Odessa, Texas 78765

FI-RO Corporation
Post Office Box 8148
Roswell, New Mexico 88201

Union Oil Company of California 4000 North Big Spring Suite 300 Midland, Texas 79702

#### STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

## OIL CONSERVATION DIVISION

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501

FORM C-10B Revised 7-1-81

			SANTA FE, NEW MEXICO 87501	interiato	. 0	0736
APPLICA	ATION FOR AUI	PO. Box 1960 M.  Address:  Contact party: Walter W. Krug  Well data: Complete the data requ proposed for injection  Is this an expansion of an existing  If yes, give the Division order num  Attach a map that identifies all well		JUL 26 19	89 Ca	se 9736
Ι.	Purpose: Applicat	Secondary Recovery ion qualifies for admir	Pressure Mainte	cons <del>tr</del> yati <mark>ón</mark> b	IVIENDING 1	Storage
II.	Operator:					
	Address:	P0. Box 1960 I	Midland, Texas	79702		
	Contact par	ty: Walter W. Kri	ug	Phone:9	L5-683-	2600
III.	Well data:					
IV.						
٧.		ap that identifies all yell with a one-half mi			•	•

- well. This circle identifies the well's area of review.
- Attach a tabulation of data on all wells of public record within the area of review which VI. 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; 3.
  - 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.
  - Describe the proposed stimulation program, if any. TX.
- 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 know! and belief.

Title Attorney Date: July 24, 1989 Signature:

\* 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.

# STATE OF NEW MEXICO

### OIL CONSERVATION DIVISION

ENERGY	AND MINERALS DEPARTMENT	POST OFFICE BUX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501	RECEIVED	(1 7 2 (.
APPLICAT	TION FOR AUTHORIZATION TO INJECT	JU	RECEIVED  L 26 1989 Cons	29/36
Ι.	Purpose: Secondary Recovery Application qualifies for admini	Pressure Maintennestrative approval	SERVATION DIVISION 13	Storage
II.	Operator: Wallen Production	Company		
	Address: PO. Box 1960 Mi	dland, Texas 797	'02 <del></del>	
	Contact party: Walter W. Krug	P	hone: <u>915-683-26</u>	500
III.	Well data: Complete the data require proposed for injection.	red on the reverse si Additional sheets m	de of this form for ay he attached if ne	each well ecessary.
IV.	Is this an expansion of an existing If yes, give the Division order number	project?  yes per authorizing the p	X no roject	
٧.	Attach a map that identifies all we injection well with a one-half mile well. This circle identifies the we	radius circle drawn	around each proposed	roposed d injection
· VI.	Attach a tabulation of data on all penetrate the proposed injection zowell's type, construction, date dri a schematic of any plugged well ille	ne. Such data shail lled, location, depth	include a description, record of completi	on of each
VII.	Attach data on the proposed operation	on, including:		
	<ol> <li>Proposed average and maximum</li> <li>Whether the system is open of the disposal system of the syst</li></ol>	or closed; m injection pressure; analysis of injection f other than reinject l purposes into a zon the proposed well, at on water (may be meas	fluid and compatible of produced water; a e not productive of tach a chemical analysis.	ility with and oil or gas lysis of
·VIII.	Attach appropriate geological data detail, geological name, thickness, bottom of all underground sources o total dissolved solids concentration injection zone as well as any such injection interval.	and depth. Give the f drinking water (aqu ns of 10,000 mg/l or	geologic name, and ifers containing wat less) overlying the	depth to ters with proposed
IX.	Describe the proposed stimulation $\ensuremath{p}$	rogram, if any.		
* X.	Attach appropriate logging and test with the Division they need not be		If well logs have be	een filed
* XI.	Attach a chemical analysis of fresh available and producing) within one location of wells and dates samples	mile of any injectio	re fresh water wells n or disposal well s	s (if showing
XII.	Applicants for disposal wells must examined available geologic and eng or any other hydrologic connection source of drinking water.	ineering data and fin	d no evidence of ope	en faults
XIII.	Applicants must complete the "Proof	of Notice" section o	n the reverse side o	of this form.
XIV.	Certification			
	I hereby certify that the informati to the best of my knowledge and bel	ief.		ue and correc
	Name: W. Thomas Kellarin		Attorney	
	Signature:	Dat	e: July 24, 19	89
submi	e information required under Section tted, it need not be duplicated ind e earlier submittal.	s VI, VIII, X, and XI resubmitted. Please	above has been presshow the date and c	viously ircumstance

#### III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
  - (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
  - (2) Each casing string used with its size, setting depth, sacks of cement used, hale 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  $\Xi$  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:

- 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.

### Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

### List of Exhibits - Form C-108

Exhibit A	Map required by Paragraph V
Exhibit B	Tabular Summary required by Paragraph VI
Exhibit C	Data Sheet required by Paragraph VII
Exhibit D	Geological Data - Paragraph VIII
Exhibit E	Log of Injection Well
Exhibit F	Data Sheet on Proposed Injection Well
Exhibit G	Schematic of Proposed Injection Well
Exhibit H	Schematic of P&A Wells within Area of Review
Exhibit I	Water Analysis Produced Water to be re-injected
Exhibit J	Statement per Paragraph XII
Exhibit K	Notice Requirements

wallen Prod. Co. wallen-Tonto well No. 9Y	wallen Prod. Co. wallen-Tonto well No. 9	wallen Prod. Co. wallen-Tonto well No. 1	Wallen Prod. Co. Wallen-Tonto Well No. 6	Wallen Prod. Co. Wallen-Tonto Well No. 3	Wallen Prod. Co. Wallen-Tonto Well No. 5	wallen Prod. Co. wallen-Tonto well No. 8	wallen Prod. Co. wallen-Tonto well No. 7	John H. Trigg Federal RB 31 Well NO. 1X	John H. Trigg Federal RB 31 Well No. 1	Sinclair O&G Co. Carder-Federal Well No. 2	Edward Hudson Signal Ross-Fed Well No. 6	Aminoli USA Federal 30 Well No. 2	Aminoil USA Federal 30 Well No. 1	Operator Well Name, Number
N, Sec 30, T19S, R33E 660' FSL & 2300' FWL	N, SeC 30, T19S, R33E 600, FSL & 2300, FWL	N, Sec 30, T198, R33E 990, FSL & 2310, FWL	P, Sec 30, T195, R33E 990, FS & EL	K, Sec 30, T19S, R33E 1650' FS & WL	1650, FSL & 2310, EFF	J. Sec 30, T19S, R33E 1790' FSL & 1710' FEL	1, Sec 30, T198, R33E 1650, FSL & 990, FEL	B, SeC 31, T19S, R33E 335, FNL & 2223, FEL	B, Sec 31, T198, JR33E 330, FNL & 2310, FEL	1, Sec 30, T19S, R33E 1980, FSL & 660, FEL	0, Sec 30, T198, R33E 660' FSL & 1980' FEL	K, Sec 30, T19S, R33E 2310° FSL & 1980° FWL	1, Sec 30, T19S, R33E 1980' FSL & 760' FEL	Location: Unit, Sec., Twp., Range
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186	Richardson & Belco Bass   2 1.65 7.1.71(3) 38472 069060   625 55	Yates Pet. 9 : 1 : 90 63016	(Anadarko) Rich & Bass (Anadarko) E-5231 L-641 HBP		EXHIBIT A	y =×	Ame
3 4013 7 E 65 178	Phillips	127 <b>92</b> KG5					
'W_	Plata Deep Unit 15	14 f.p∟ ,⊗	13				
. 8	centingniel 176 =		Flag-Redfern)				33

Proposed Wallen Tonto Waterflood
Wallen Tonto #7 WIW
Section 30, T19S, R33E
Lea County, New Mexico

### Exhibit C

### Data on Proposed Operation

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

Average daily rate of 200 BWIPD Maximum daily rate of 400 BWIPD

- 2. System is closed.
- Proposed Average Injection Pressure: 600 psig Proposed Maximum Injection Pressure: 1000 psig

The proposed average and maximum injection pressures are to be determined from step rate tests to be run after the well is re-entered.

- 4. (A) Source of injection fluid:
  Produced water from South Tonto Yates Seven Rivers
  Pool.
  - (B) Analysis of formation fluid:
    Not applicable re-injected produced water.
- 5. Zone of disposal is productive of oil and gas within one mile of proposed disposal well.

Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

### Exhibit D

### Geological Data on Injection Zone

Pool: South Tonto Yates Seven Rivers

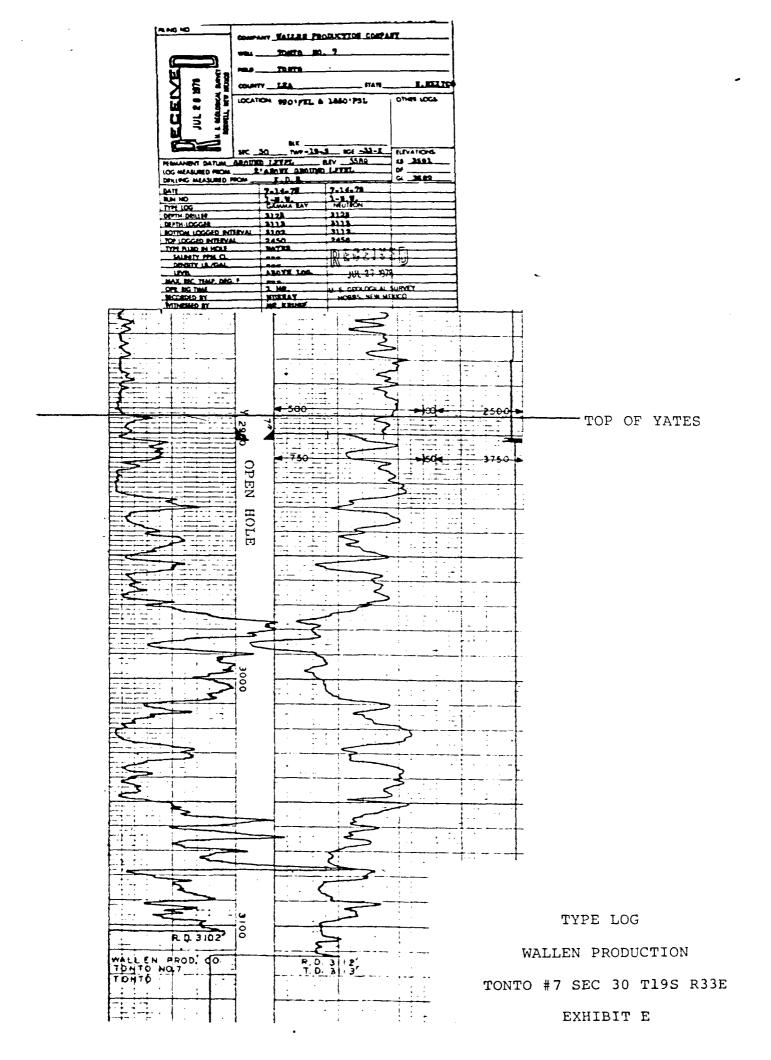
Formation: Yates Seven Rivers

Geological Name: Yates

Thickness: @200 feet

Depth: @2900 feet

Injection Interval: 2900 to 3113 feet



Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

### Exhibit F

### Well Data on Injection Well

Stimulation Program: 2000 gallons 15% NE-FE Acid

Location:

1650' FSL & 990' FEL Section 30, T19S, R33E Lea County, New Mexico

13 3/8" @225' cmtd w/300 sx Casing:

7" @2900' cmtd w/200 sx

Tubing: 2 3/8" @2850' - Plastic Coated

Packer: Halliburton R4 Injection Packer

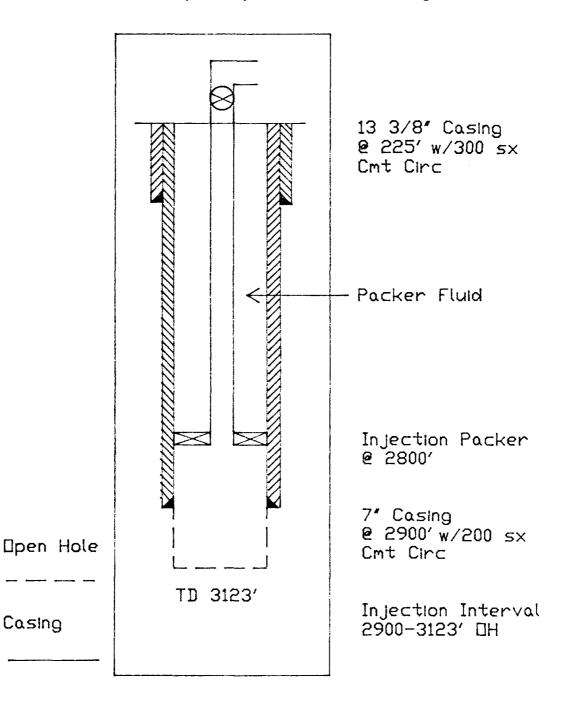
Injection Formation: Yates in the South Tonto Yates-Seven

Rivers Pool.

Injection Interval: 2900' to 3113' Open Hole

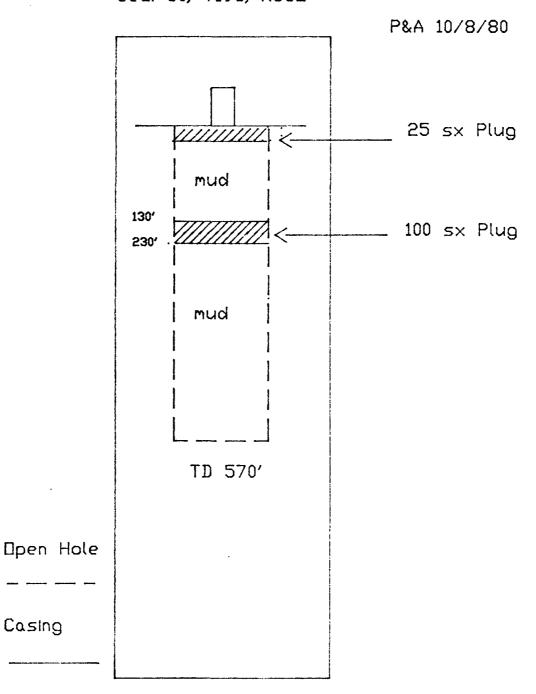
Well was originally drilled as oil producer. Currently P&A.

Wallen Production Company Wallen-Tonto Well No. 7 990' FEL & 1650' FSL Sec. 30, T19S, R33E



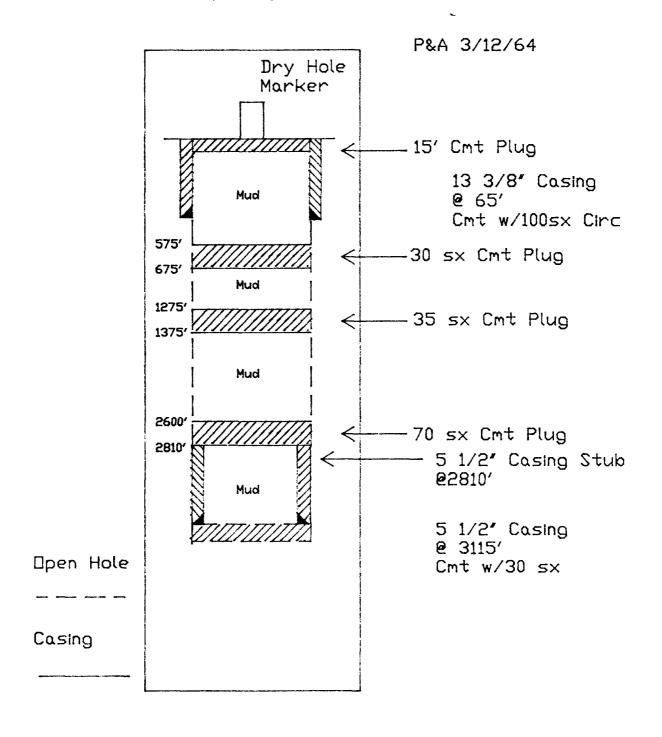
Casing

Wallen Production Company Wallen-Tonto Well No. 9 2300' FWL & 600' FSL Sec. 30, T19S, R33E

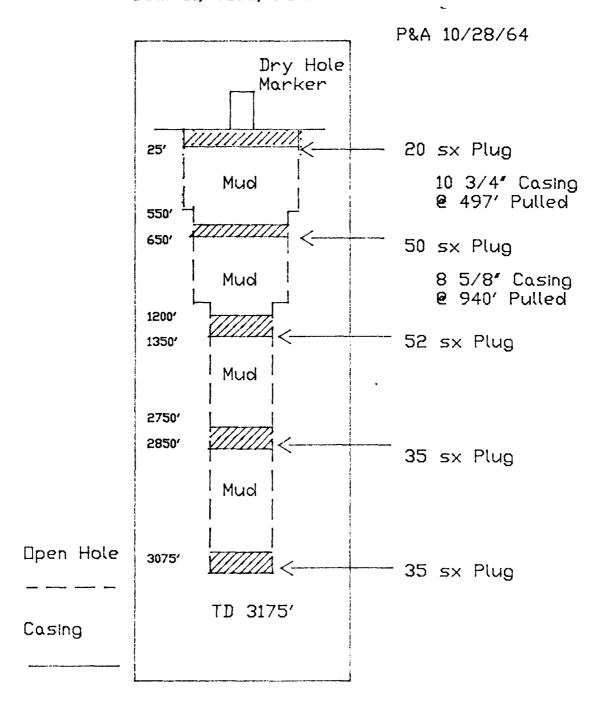


Casing

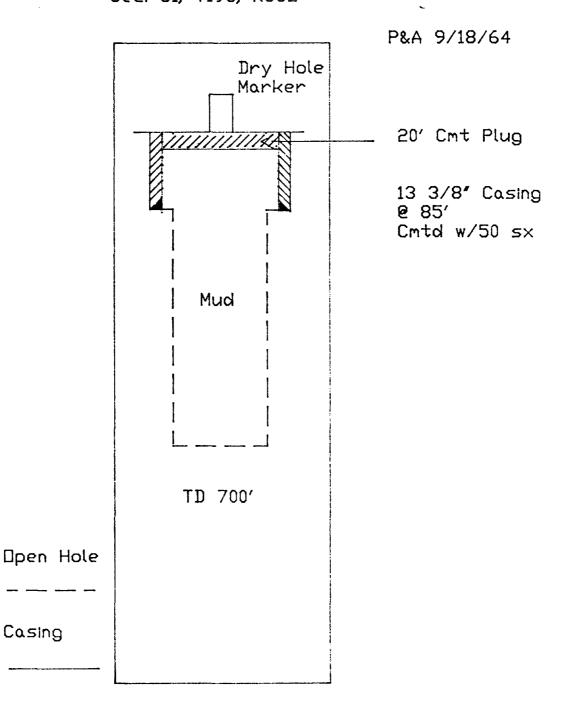
Edward Huston Signal Ross\_Fed. Well No. 6 660' FSL & 1980' FEL Sec. 30, T19S, R33E



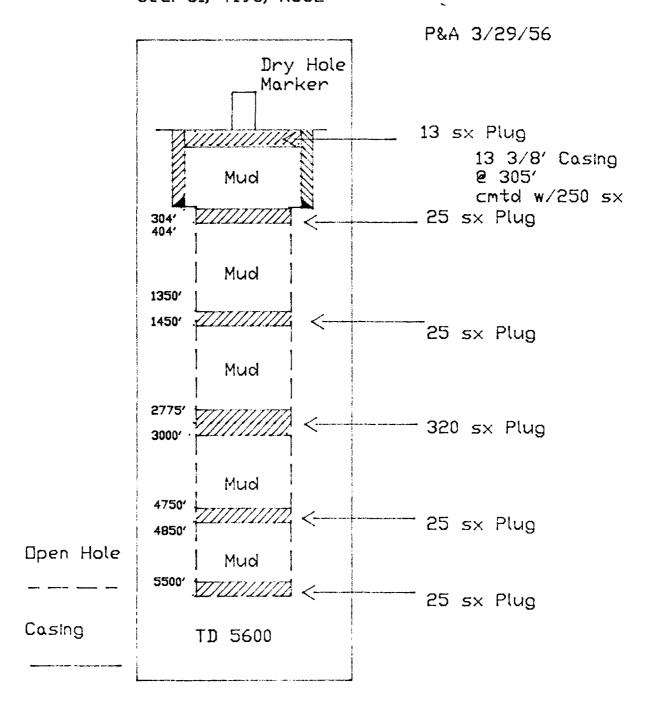
John H. Trigg Federal "RB" 31 Well No. 1X 335' FNL & 2223' FEL Sec. 31, T19S, R33E



John H. Trigg Federal "RB" 31 Well No. 1 330' FNL & 2310' FEL Sec. 31, T19S, R33E



Sinclair Dil & Gas Company Carder-Federal Well No. 2 330' FNL & 2310' FEL Sec. 31, T19S, R33E



### WATER ANALYSIS REPORT furnished by TRETOLITE CHEMICALS

COMPANY:

WALLEN PRODUCTION

LEASE:

TONTO

SAMPLE POINT:

HEATER TREATER

SAMPLE DATE:

5-27-87

SAMPLE TEMP.:

pH: 6.5 H2S: 500

SPECIFIC GRAVITY: 1.025

### TITRATED AND CALCULATED IONS

	MILLIGRAMS	MILLIEQUIVALENTS
	PER LITER	PER LITER
HCO3	915.00	15.00
Cl	11210.00	315.77
SO4	1250.00	26.04
Ca	2800.00	140.00
Mg	0.00	0.00
Na	4986.78	216.82

IONIC STRENGTH = 0.44 TOTAL HARDNESS = 6000.0 mg/ltr.

TOTAL DISSOLVED SOLIDS = 21155.5 mg/ltr.

TOTAL IRON (Fe) = 3.0 ppm

### PROBABLE MINERAL COMPOSITION AND ION PAIRING

MILLIEQUIVALENTS	MILLIGRAMS
PER LITER	PER LITER
15.00	1215.60
26.04	1772.66
98.96	5492.19
0.00	0.00
0.00	0.00
. 0.00	0.00
0.00	0.00
0.00	0.00
216.82	12675.08
	PER LITER 15.00 26.04 98.96 0.00 0.00 0.00 0.00

### CALCULATED SCALING TENDENCIES

SCALING INDEX

CaCO3 @ 80 DEG F. = 0.5CaCO3 @ 120 DEG F. = 1.0

SATURATION POINT

CaSO4 @ 70 DEG F. = 1996.5 MG/LTR. CaSO4 @ 110 DEG F. = 2020.2 MG/LTR.

(THIS SAMPLE CONTAINED 1772.7 MG/LTR. CaSO4)

Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

Exhibit J

### Affirmative Statement

Wallen Production Company has examined available geologic and engineering data and finds no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

wallen Tonto #7 WIW Section 30, T19S, R33E Lea County, New Mexico

Exhibit K

<u>Notice</u>

Pursuant to Section XIV of Form C-108,

Applicant has mailed copies of the application to the following:

Surface Owners:

Bureau of Land Management Roswell District Office

P.O. Box 1397 Roswell, New Mexico 88201-1397

Attention: District Manager

Proposed Wallen Tonto Waterflood Wallen Tonto #7 WIW Section 30, T198, R33E Lea County, New Mexico

Exhibit K

### <u>Notice</u>

Pursuant to Section XIV of Form C-108,

Applicant has mailed copies of the application to the following:

Surface Owners:

Bureau of Land Management Roswell District Office

P.O. Box 1397

Roswell, New Mexico 88201-1397

Attention: District Manager

Oil Conservation Division

State Land Office P.O. Box 1148

Santa Fe, New Mexico 87501

Attention: Land Commissioner

Leasehold Operators within one-half mile:

Kaiser-Francis Rt. Box 208 Odessa, Texas 78765

FI-RO Corporation

P.O. Box 8148

Roswell, New Mexico 88201

Union Oil Company of California

4000 N. Big Spring

Suite 300

Midland, Texas 79702