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Santa Fé, New Mexico 87504-2265

W. Thomas Kellahin
Karen Aubrey

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Telephone 982-4285
Area Code 505
Fax: 505/982-2047

June 29, 1989

Case 9708

HAND-DELIVERED

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

RECEIVED
JUN 29 1989
OIL CONSERVATION DIVISION

Re: Application of Phillips Petroleum Company for Approval for Use of Cruces Well No. 3 for Salt Water Disposal, Section 26, T20S, R24E, Lea County, New Mexico

Dear Mr. LeMay:

On behalf of Phillips Petroleum Company, please find enclosed a completed Division Form C-108 which represents our request for a hearing for consideration of approval of the referenced well for disposal purposes. We request that this case be set on the next available Examiner's docket now scheduled for July 26, 1989.

This application is for authority to dispose of produced water into the Lynch Yates formation in the perforated interval from approximately 3509 feet to 3629 feet in the Cruces Well No. 3, located 330 feet FSL and 1655 feet FWL of Section 26, T20S, R34E, NMPM, Lea County, New Mexico.

In accordance with Division notice rules we are sending copies of this application to the surface owner and offsetting operators within a one-half mile radius of the well.

Very truly yours,

W. Thomas Kellahin

WTK/rs
Encl.

cc: Bill Mueller - Phillips

Oil Conservation Division - Lea County
Post Office Box 1980
Hobbs, New Mexico 88240

Certified Mail-Return Receipt Requested

Arco Oil and Gas Company
Post Office Box 1610
Midland, Texas 79702

Dan C. Berry
Post Office Box 755
Hobbs, New Mexico 88241

Daniel C. Berry, III
Post Office Box 160
Eunice, New Mexico 88231

Ronald Philip Berry
Post Office Box 1551
Lovington, New Mexico 88260

Burk Royalty Company
Post Office Box BRC
Wichita Falls, Texas 76307

Arlen L. Edgar
414 West Texas
Suite 208
Midland, Texas 79701

Hondo
Post Office Box 2819
Dallas, Texas 75221

William A. and Edward R. Hudson
616 Texas Street
Fort Worth, Texas 76102-4612

Olsen Energy, Inc.
16414 San Pedro, Suite 470
San Antonio, Texas 78232

Texaco Inc.
Post Office Box 2511
Houston, Texas 77252

Case 9708

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

RECEIVED
JUN 29 1989
OIL CONSERVATION DIVISION

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [XX] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [ ] yes [ ] no

II. Operator: PHILLIPS PETROLEUM COMPANY

Address: 4001 PENBROOK, ODESSA, TEXAS 79762

Contact party: L. M. SANDERS Phone: (915) 367-1488

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? [ ] yes [X] no
If yes, give the Division order number authorizing the project _____.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: W. T. Mueller Title Reservoir Engr. Supv.

Signature: _____ Date: 27 June

* If the information required under Sections VI, VIII, X, and XI above has been submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

PHILLIPS PETROLEUM COMPANY
CRUCES WELL NO. 3

III. WELL DATA

(See Attachment No. 1)

A.	1.	Name and Location	Cruces Well Number 3 330' FSL and 1655' FWL Section 26, T-20-S, R-34-E Lea County, New Mexico
	2.	Casing Surface:	8 5/8 " OD, 24#, J-55 set at 176' (12 1/4" hole). Cemented with 125 sacks; circulated cement to surface.
		Production:	5 1/2" OD, 14#. J-55 set at 3693' (7 7/8" hole). Cemented with 465 sacks; circulated cement to surface.
		Open Hole:	4 1/2" hole from 3693' to 3730'
	3.	Tubing:	2 3/8" OD, 4.7#, J-55 set at 3410' (internally plastic coated)
	4.	Packer:	Baker Lok-Set Retrievable Packer with Baker Model "FL" On/Off Tool set at 3410'.
B.	1.	Injection Formation:	Lynch Yates 7R
	2.	Perforated Interval:	3509' - 3629'
	3.	Original Intent:	Well was drilled as an oil producer.
	4.	Depth Details: Perforations:	3509' - 3519' 3526' - 3536' 3540' - 3550' 3556' - 3566' 3574' - 3583' 3601' - 3629'
		CIBP:	3665'
	5.	Productive Zones Lower:	Bone Springs at 9100' (1 1/4 miles northeast)
		Higher:	none

Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
CRUCES WELL NO. 3

VII. PROPOSED INJECTION OPERATIONS

1.	Rates:	average - 200 bwpd maximum - 1000 bwpd
2.	System:	closed
3.	Pressures:	average - 500 psi maximum - 702 psi
4.	Fluid:	Produced water analyses from the Phillips Petroleum Cruces Tank Battery (Lynch Yates 7R Formation); see Attachment No. 9

VIII. GEOLOGICAL DATA

A. Injection Zone: The injection zone will be within the Yates Formation, a 170' thick sequence of fine-grained porous sandstones interbedded with tight dolomites (at 3493' to 3666' in this well). Porosity in the sand ranges from 8 to 20% and permeabilities may be as high as 90md but are commonly below 2 md.

B. Fresh Water Sources:

Ogallala	base at 63'

IX. PROPOSED STIMULATION PROGRAM

The Yates injection perforations will be isolated into Upper, Middle or Lower Yates. Each set will be treated with 1500 gallons of 20% NEFE HCl.

X. LOGGING DATA

Well logs were submitted after the well's completion in 1959; the well name has not changed since that time.

XI. FRESH WATER ANALYSES

Fresh Water Well Locations -- see Attachment No. 10

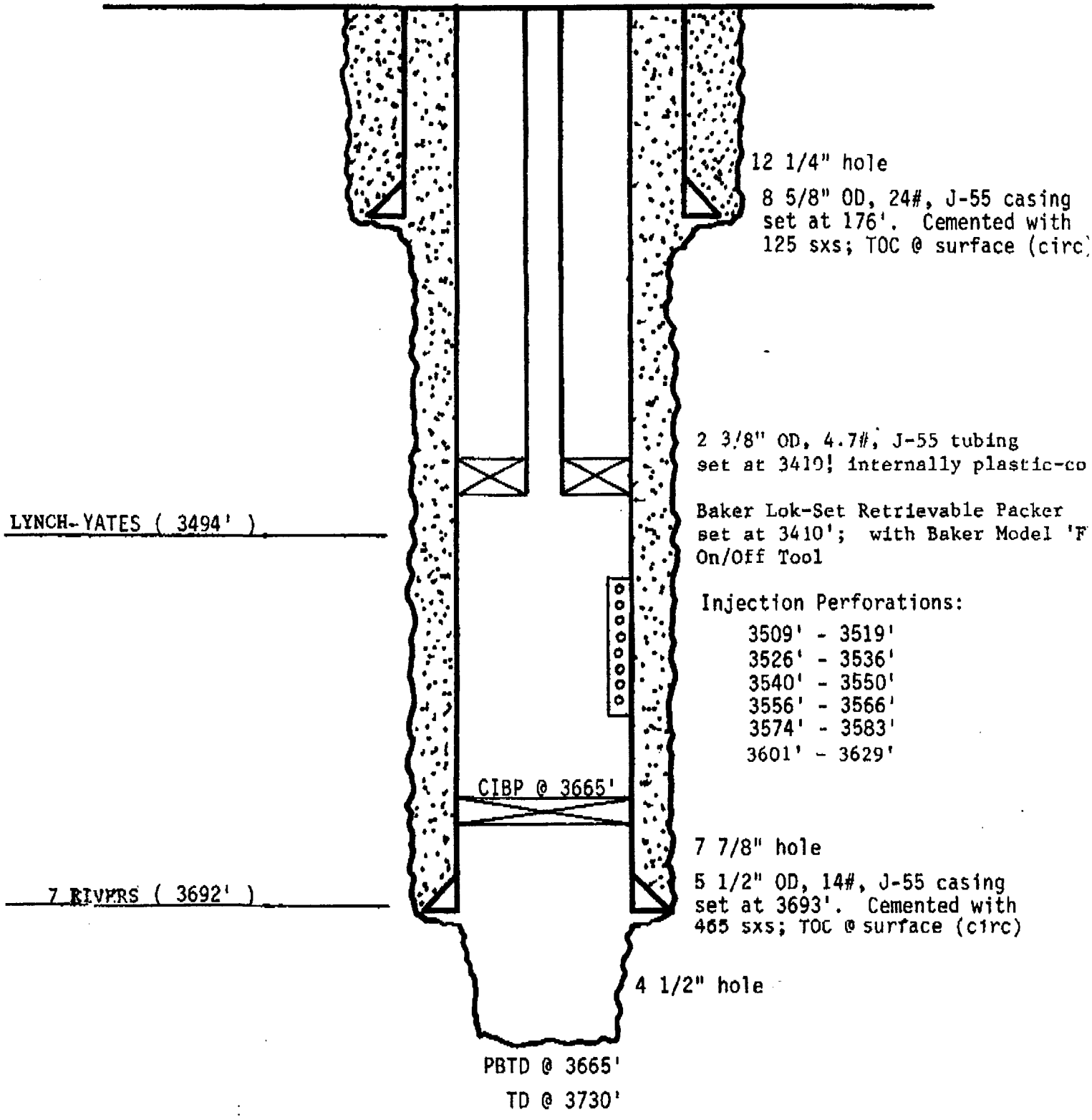
Fresh Water Analyses -- see Attachment Nos. 11, 12 and 13

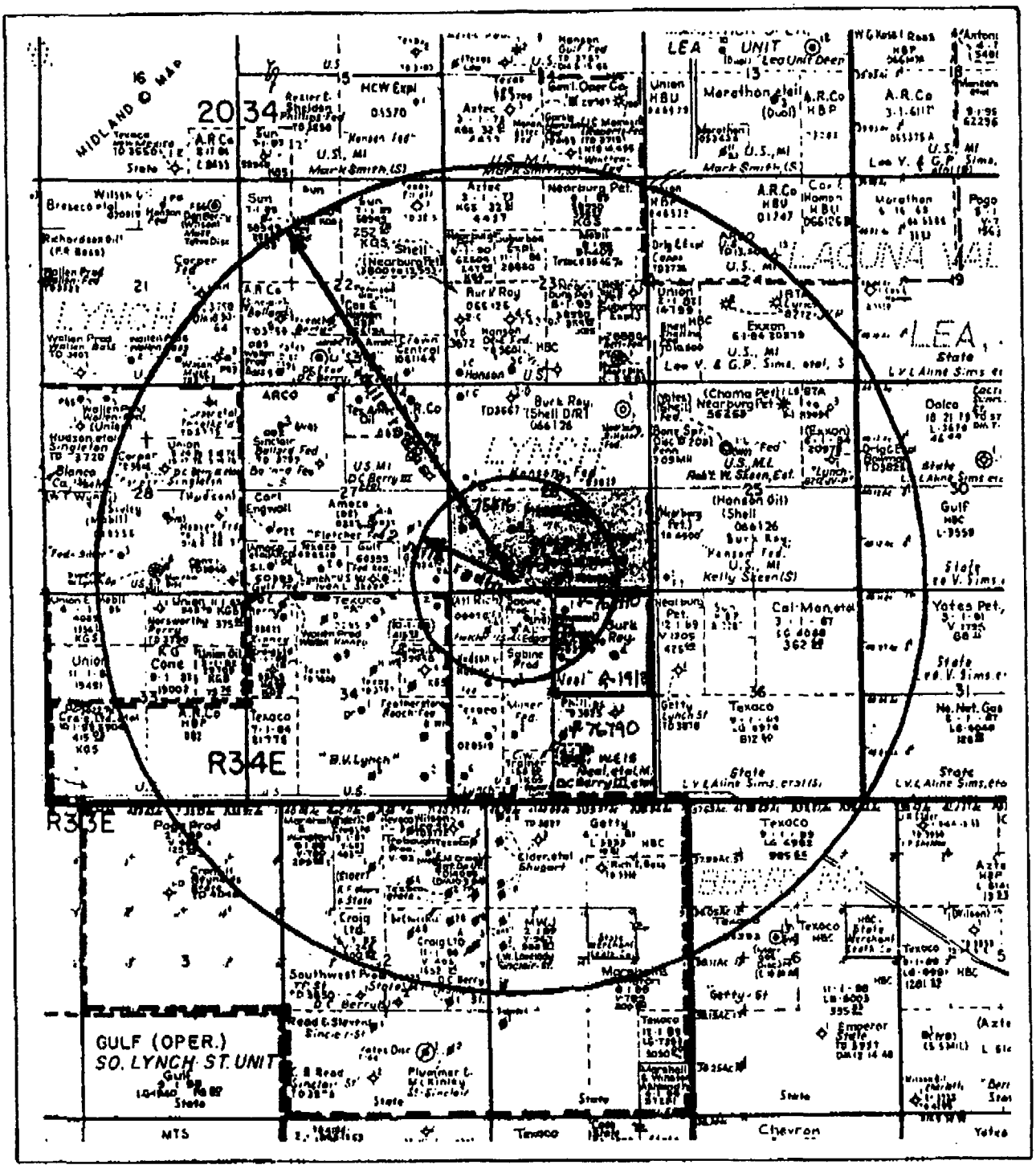
Proposed Wellbore Schematic

PHILLIPS PETROLEUM COMPANY

ATTACHMENT NO. 1

Cruces Well No. 3
330' FSL and 1655' FWL
Section 26, T20S, R34E
Lea County, New Mexico





AREA OF REVIEW

PHILLIPS PETROLEUM COMPANY

Cruces Well No. 3
330' FSL and 1655' FWL
Section 26, T20S, R34E
Lea County, New Mexico

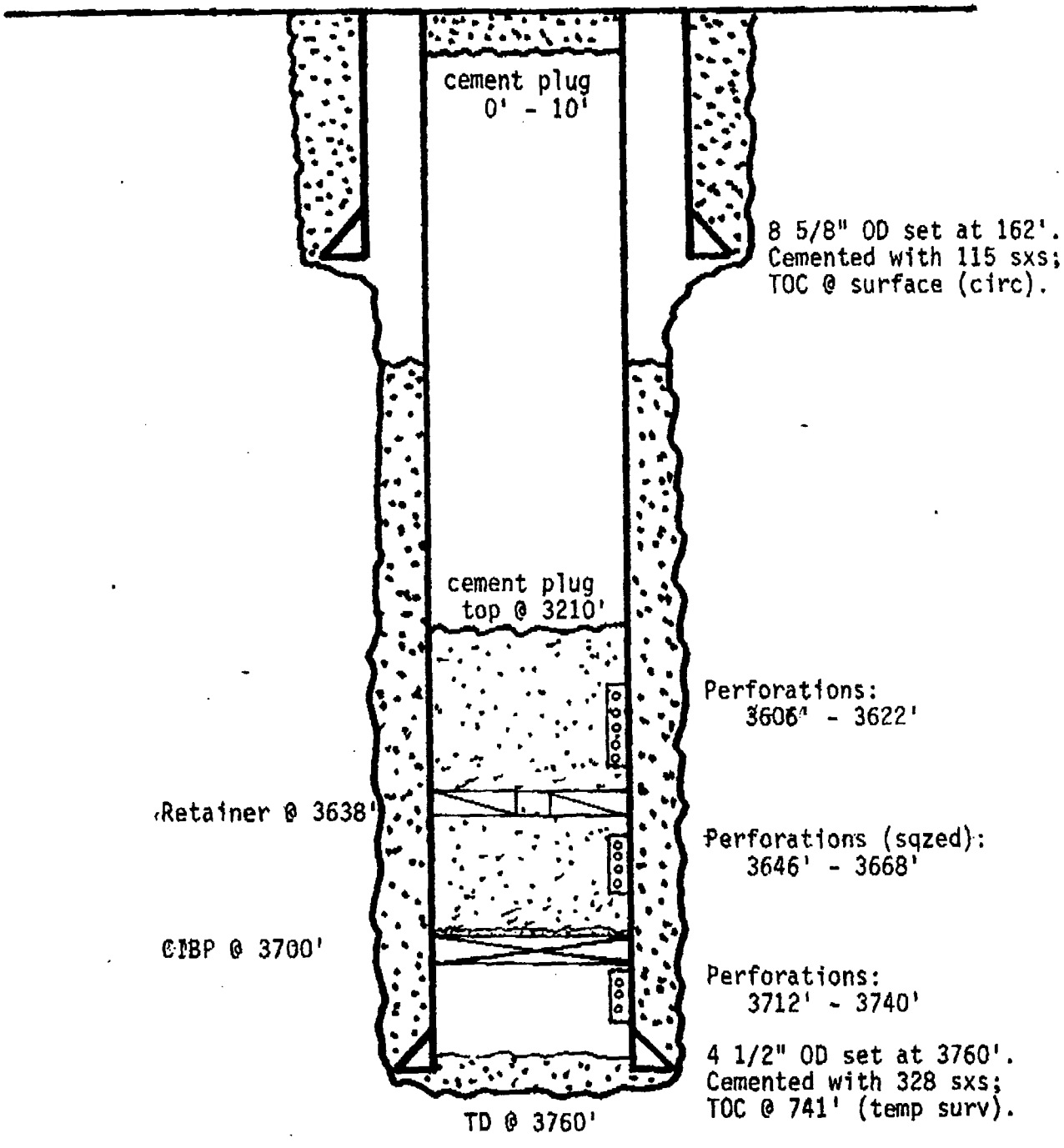
ATTACHMENT NO. 2

TOTAL P.01

ATTACHMENT NO. 3 (P & A'd)

PHILLIPS PETROLEUM COMPANY

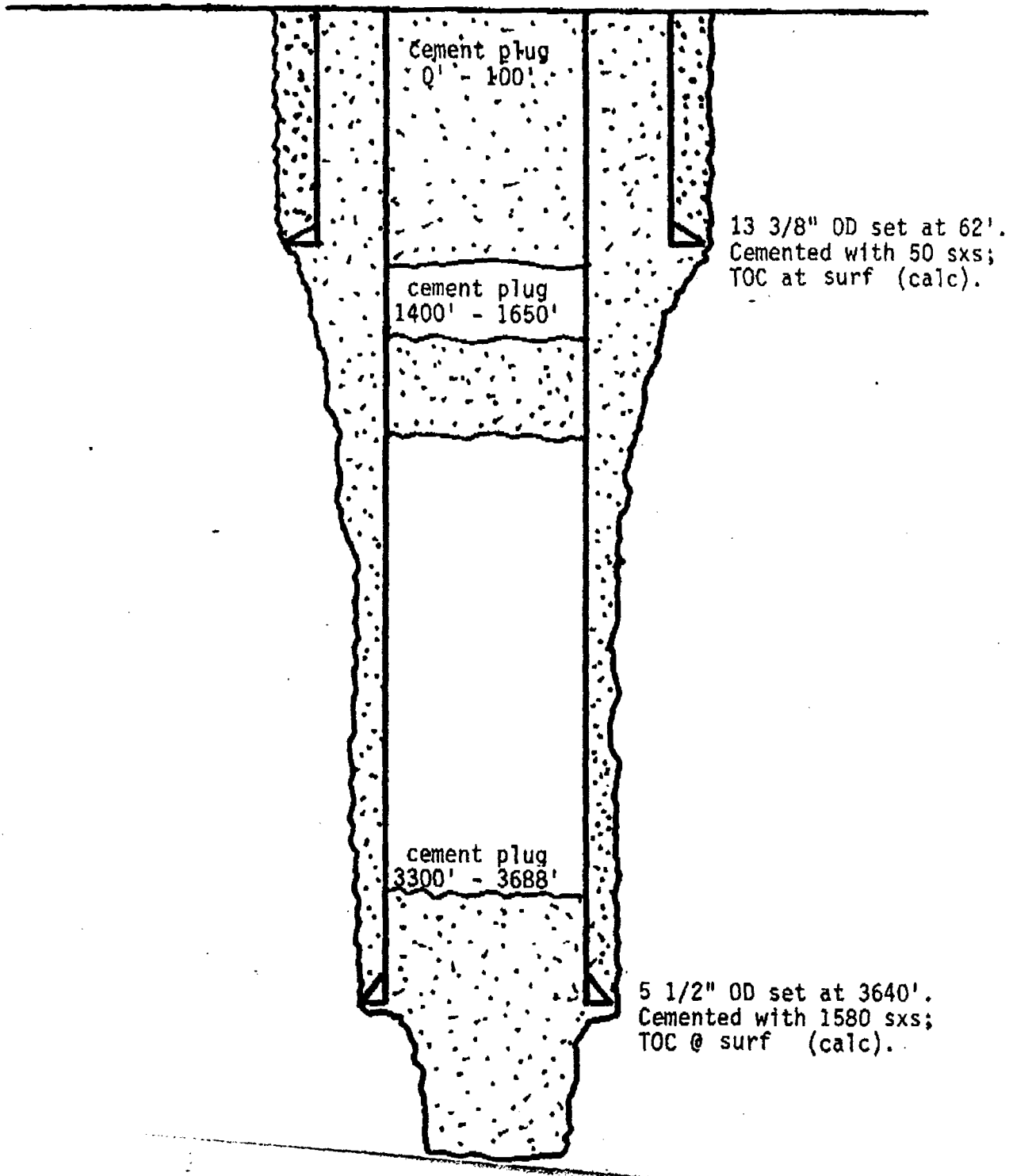
Cruces Well No. 5
330' FSL & 993' FEL
Section 26, T20S, R34E
Lea County, New Mexico



ATTACHMENT NO. 4 (P & A'd)

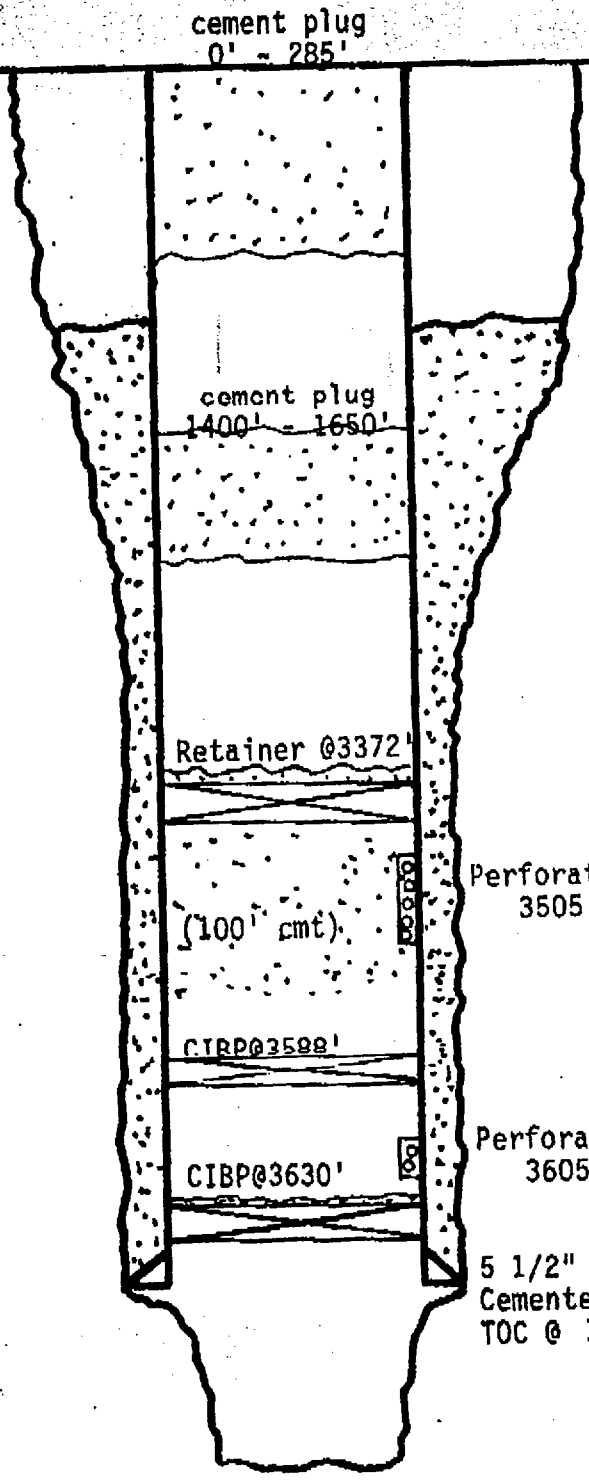
ARCO

Fletcher A DE Federal Well No. 3
1650' FSL & 990' FEL
Section 27, T20S, R34E
Lea County, New Mexico



ARCO

Fletcher A Federal Well No. 1
800' FNL & 660' FWL
Section 35, T20S, R34E
Lea County, New Mexico



Perforations (sqzed):
3505' - 3572'

Perforations:
3605' - 3615'

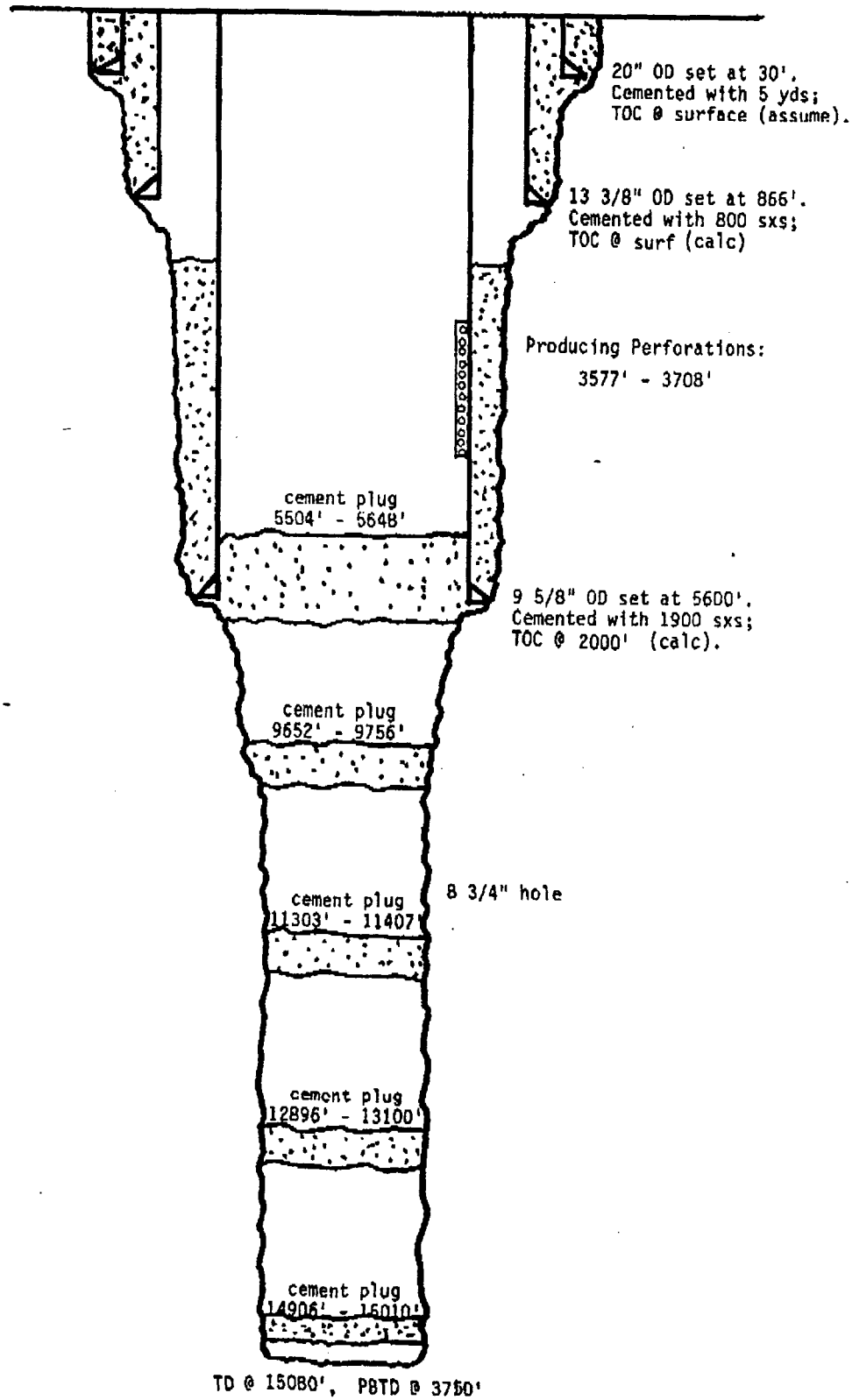
5 1/2" OD set at 3680'.
Cemented with 1550 sxs;
TOC @ 1000' (calc).

TD @ 3725'

ATTACHMENT NO. 7 (T / A'd)

ARLEN L. EDGAR

Federal C Well No. 1
660' FNL & 1980' FWL
Section 35, T20S, R34E
Lea County, New Mexico



VI. WELLS WITHIN THE AREA OF INTEREST
(radius of investigation = 41/2 mile)

Operator	Well Name	Location	Date Spudded (orig. intent)	Present TD	Surface Casing Size (in)	Surface Casing Depth (ft)	Surface Casing Cement (sx)
PHILLIPS PETR. COMPANY	Cruces #1	330' FSL & 330' FWL Section 26-20S-34E Lea County, NM	19 March 1957 (oil)	3705'	8 5/8	171	125
	Cruces #2	1651' FSL & 330' FWL Section 26-20S-34E Lea County, NM	24 May 1957 (oil)	3710'	8 5/8	157	150
	Cruces #4	330' FSL & 2316' FEL Section 26-20S-34E Lea County, NM	15 July 1959 (oil)	3750'	8 5/8	183	100
	Cruces #5	330' FSL & 992' FEL Section 26-20S-34E Lea County, NM	7 Nov 1959 (oil)	3760'	8 5/8	162	115
	Cruces #6	1650' FSL & 1650' FWL Section 26-20S-34E Lea County, NM	8 May 1960 (oil)	3700'	8 5/8	180	125
ARCO	Fletcher A DR Federal #3	1650' FSL & 990' FEL Section 27-20S-34E Lea County, NM	23 Jan 1957 (oil)	3688'	13 3/8	62	50
	Fletcher A Federal #1	990' FNL & 990' FWL Section 35-20S-34E Lea County, NM	16 Sept 1956 (oil)	3725'			
BERRY, DAN C.	W H Milner Federal #3	2310' FNL & 1650' FWL Section 35-20S-34E Lea County, NM	5 Oct 1952 (oil)	3736'	13 3/8	95	125
	W H Milner Federal #4	990' FNL & 1650' FWL Section 35-20S-34E Lea County, NM	26 Jan 1954 (oil)	3850'			

<---- Production Casing ------> Size (in)	Depth (ft)	Cement (sx) (TOC:method)	Producing Perforations (zone)
5 1/2	3644	450 (surf:circ)	3470' - 3600' and 3644' - 3705' (OH) Lynch-Yates-7R
5 1/2	3667	500 (surf:circ)	3496' - 3614' Lynch-Yates-7R
4 1/2	3750	422 (surf:	- 3592' -7R
4 1/2	3766	338 (743'	29, 31
4 1/2	3700	360 (surf:circ)	3532' - 3638' Lynch-Yates-7R
5 1/2	3640	1500 * (surf:calc)	P & A'd (Attachment No. 4)
5 1/2	3680	1550 * (1000':calc)	P & A'd (Attachment No. 5)
5 1/2	3682	800 (surf:circ)	3682' - 3736'(OH) Lynch-Yates-7R
5 1/2	3780	706 (surf:circ)	Salt Water Disposal Lynch-Yates-7R 3786' - 3806'

* Calculation Detail
cmt yld = 1.3 ft3/sx
excess = 50%

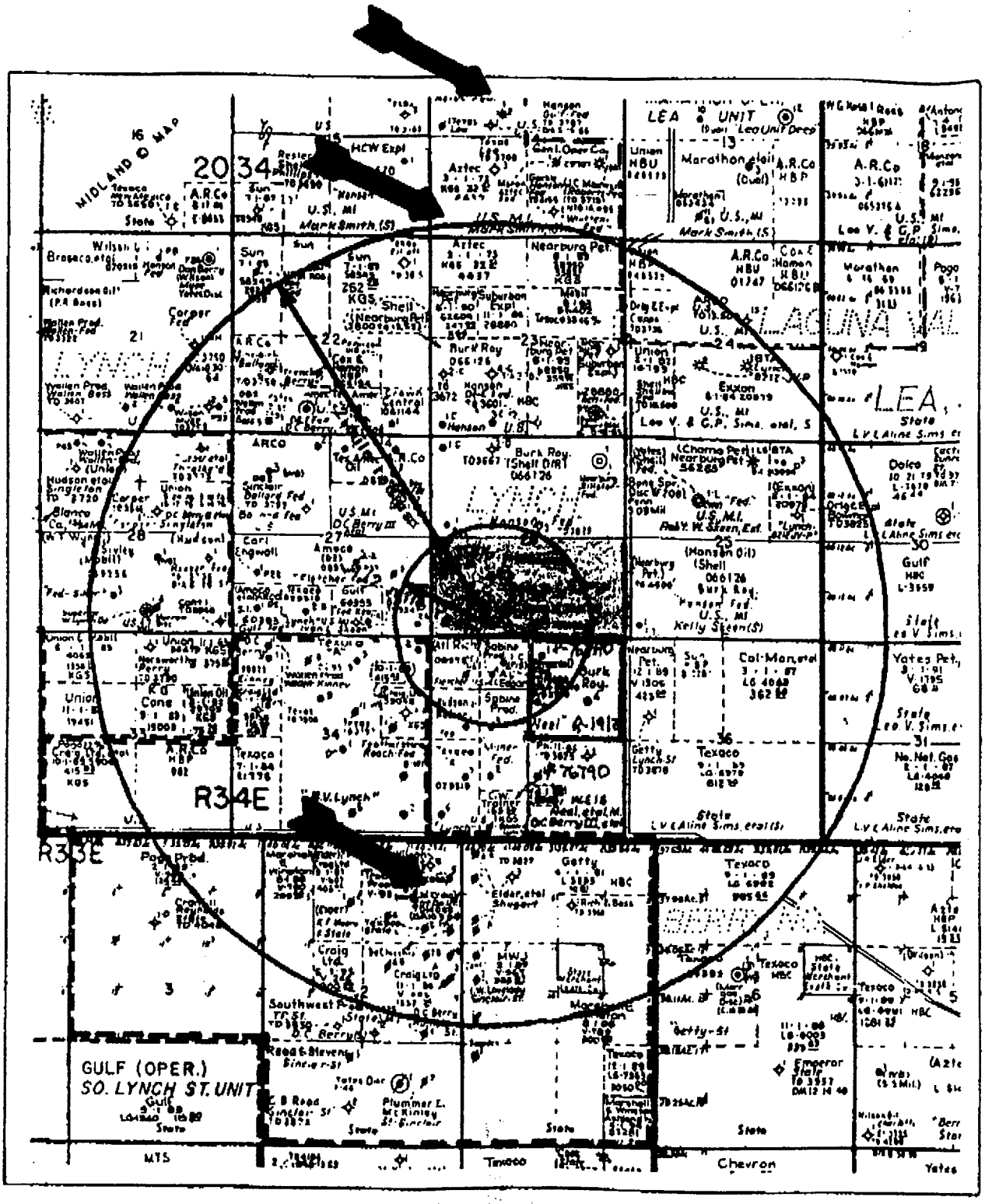
VI. WELLS WITHIN THE AREA OF INTEREST
(radius of investigation = +1/2 mile)

Operator	Well Name	Location	Date Spudded (orig. intent)	Present TD	Surface Casing Size (in)	Surface Casing Depth (ft)	Surface Casing Cement (sx
BURK ROYALTY	Hanson B #1	2310' FNL & 467' FWL Section 26-20S-34E Lea County, NM	23 August 1959 (oil)	3767'	8 5/8	190	125
	Hanson B #2	2310' FNL & 1650' FWL Section 26-20S-34E Lea County, NM	17 Nov 1959 (oil)	3744'	8 5/8	190	125
	Hanson B #3	2310' FNL & 2310' FEL Section 26-20S-34E Lea County, NM	2 Dec 1959 (dry)	3829'	8 5/8	185	150
	Neal #1	467' FNL & 2315' FEL Section 35-20S-34E Lea County, NM	5 April 1959 (oil)	3752'	8 5/8	180	150
	Neal #2	1650' FNL & 2316' FEL Section 35-20S-34E Lea County, NM	15 July 1959 (oil)	3819'	8 5/8	186	100
	Neal #3	330' FNL & 993' FEL Section 35-20S-34E Lea County, NM	9 June 1959 (oil)	3805'	8 5/8	190	100
EDGAR, ARLEN L.	Federal C #1	660' FNL & 1980' FWL Section 35-20S-34E Lea County, NM	16 Aug 1970 (oil)	3750'	13 3/8	866	800
HONDO	Fletcher A DE Federal #2	330' FSL & 330' FEL Section 27-20S-34E Lea County, NM	12 Nov 1956 (oil)	3705			
HUDSON, WILLIAM A. & EDWARD	Federal #1	2310' FNL & 990' FWL Section 35-20S-34E Lea County, NM	1 Jan 1953 (oil)	3734'			
OLSEN ENERGY INC	B V Lynch A Federal #12	330' FNL & 330' FEL Section 34-20S-34E Lea County, NM	16 Sept 1957 (oil)	3690'			
	Fletcher A Federal #1	330' FNL & 380' FWL Section 35-20S-34E Lea County, NM	26 Sept 1968 (oil)	3860'	8 5/8"	511	290
TEXACO	Lynch #4	1980' FNL & 660' FEL Section 34-20S-34E	17 Sept 1934 (dry)	3797'	12 1/2	477	

Production Casing Size (in)	Depth (ft)	Cement (sx) (TOC:method)	Producing Perforations (zone)
4 1/2	3767	600 * (1000':calc)	3645' - 3660' Lynch-Yates-7R
5 1/2	3744	605 * (1400':calc)	3627' - 3642' Lynch-Yates-7R
(no information available in Hobbs office)			Dry Hole (Attachment No. 6)
5 1/2	3743	300 * (2300':calc)	3630' - 3735' Lynch-Yates-7R
4 1/2	3818	300 * (2300':calc)	3718' - 3720' Lynch-Yates-7R
5 1/2	3805	200 * (2800':calc)	Salt Water Disposal Lynch-Yates-7R 3703' - 3714'
9 5/8	5600	1900 * (2000':calc)	T & A'd (Attachment No. 7)
5 1/2	3648	1650 * (surf:calc)	3648' - 3705' Lynch-Yates-7R
5 1/2	3680	700 (surf:circ)	3680' - 3724'(OH) Lynch-Yates-7R
5 1/2	3679	1450 (1000':calc)	3679' - 3690'(OH) Lynch-Yates-7R
4 1/2	3859	927 (surf:circ)	3525' - 3605' Lynch-Yates-7R
8 1/4 (no information available	1636	75	Dry Hole (Attachment No. 8)

* Calculation Detail
cmt yld = 1.3 ft3/sx
excess = 50%

<---- Production Casing ------>			Producing
Size (in)	Depth (ft)	Cement (sx) (TOC:method)	Perforations (zone)
5 1/2	3644	450 (surf:circ)	3478' - 3600' and 3644' - 3785' (OH) Lynch-Yates-7R
5 1/2	3667	500 (surf:circ)	3498' - 3614' Lynch-Yates-7R
4 1/2	3750	622 (surf:circ)	3536' - 3592' Lynch-Yates-7R
4 1/2	3760	328 (741':tie.)	P & A'd (Attachment No. 3)
4 1/2	3788	360 (surf:circ)	3512' - 3638' Lynch-Yates-7R



AREA OF REVIEW

PHILLIPS PETROLEUM COMPANY

Cruces Well No. 3
330' FSL and 1655' FWL
Section 26, T20S, R34E
Lea County, New Mexico

ATTACHMENT NO. 10

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 06-16-1989
Location: Fresh H20 - Windmill 1 (on 6-15-89)

	Sample 1
Specific Gravity:	1.003
Total Dissolved Solids:	3722
pH:	8.81
IONIC STRENGTH:	0.071

		me/liter	mg/liter
CATIONS:			
Calcium	(Ca^{+2})	2.70	54.0
Magnesium	(Mg^{+2})	1.70	20.7
Sodium	(Na^{+1})	52.4	1210
Iron (total)	(Fe^{+2})	0.001	0.000
ANIONS:			
Bicarbonate	(HCO_3^{-1})	5.20	317
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	23.4	1130
Chloride	(Cl^{-1})	28.2	1000

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.3	-12

ATTACHMENT NO. 11

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 06-16-1989
Location: Fresh H2O - Windmill 2 (on 6-15-89)

	Sample 1
Specific Gravity:	1.002
Total Dissolved Solids:	2887
pH:	8.45
IONIC STRENGTH:	0.054

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	2.80	56.0
Magnesium	(Mg^{+2})	1.80	21.9
Sodium	(Na^{+1})	39.4	905
Iron (total)	(Fe^{+2})	0.136	3.80
ANIONS:			
Bicarbonate	(HCO_3^{-1})	5.80	354
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	15.6	750
Chloride	(Cl^{-1})	22.6	800

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.1	-12

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 06-16-1989
Location: Fresh H2O - Windmill #3 (on 6-15-89)

	Sample 1
Specific Gravity:	1.002
Total Dissolved Solids:	2304
pH:	8.47
IONIC STRENGTH:	0.054

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	17.3	347
Magnesium	(Mg^{+2})	8.67	105
Sodium	(Na^{+1})	14.2	326
Iron (total)	(Fe^{+2})	0.032	0.900
Barium	(Ba^{+2})	0.025	1.70
ANIONS:			
Bicarbonate	(HCO_3^{-1})	3.40	207
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	1.22	58.8
Chloride	(Cl^{-1})	35.5	1260

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.6	-12

KELLAHIN, KELLAHIN and AUBREY
Attorneys at Law
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June 29, 1989

Case 9708

HAND-DELIVERED

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JUN 29 1989
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Mr. William J. LeMay
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WTK/rs
Encl.

cc: Bill Mueller - Phillips

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William A. and Edward R. Hudson
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Fort Worth, Texas 76102-4612

Olsen Energy, Inc.
16414 San Pedro, Suite 470
San Antonio, Texas 78232

Texaco Inc.
Post Office Box 2511
Houston, Texas 77252

Case 9708

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

RECEIVED
JUN 29 1989
OIL CONSERVATION DIVISION

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

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Application qualifies for administrative approval? [ ] yes [X] no

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Contact party: L. M. SANDERS Phone: (915) 367-1488

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V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: W. J. Mueller Title Reg. Engr. Supv.

Signature: _____ Date: 27 June

* If the information required under Sections VI, VIII, X, and XI above has been submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

PHILLIPS PETROLEUM COMPANY
CRUCES WELL NO. 3

III. WELL DATA

(See Attachment No. 1)

A.	1.	Name and Location	Cruces Well Number 3 330' FSL and 1655' FWL Section 26, T-20-S, R-34-E Lea County, New Mexico
	2.	Casing Surface:	8 5/8 " OD, 24#, J-55 set at 176' (12 1/4" hole). Cemented with 125 sacks; circulated cement to surface.
		Production:	5 1/2" OD, 14#. J-55 set at 3693' (7 7/8" hole). Cemented with 465 sacks; circulated cement to surface.
		Open Hole:	4 1/2" hole from 3693' to 3730'
	3.	Tubing:	2 3/8" OD, 4.7#, J-55 set at 3410' (internally plastic coated)
	4.	Packer:	Baker Lok-Set Retrievable Packer with Baker Model "FL" On/Off Tool set at 3410'.
B.	1.	Injection Formation:	Lynch Yates 7R
	2.	Perforated Interval:	3509' - 3629'
	3.	Original Intent:	Well was drilled as an oil producer.
	4.	Depth Details: Perforations:	3509' - 3519' 3526' - 3536' 3540' - 3550' 3556' - 3566' 3574' - 3583' 3601' - 3629'
		CIBP:	3665'
	5.	Productive Zones Lower:	Bone Springs at 9100' (1 1/4 miles northeast)
		Higher:	none

Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
CRUCES WELL NO. 3

VII. PROPOSED INJECTION OPERATIONS

1.	Rates:	average - 200 bwpd maximum - 1000 bwpd
2.	System:	closed
3.	Pressures:	average - 500 psi maximum - 702 psi
4.	Fluid:	Produced water analyses from the Phillips Petroleum Cruces Tank Battery (Lynch Yates 7R Formation); see Attachment No. 9

VIII. GEOLOGICAL DATA

A. Injection Zone: The injection zone will be within the Yates Formation, a 170' thick sequence of fine-grained porous sandstones interbedded with tight dolomites (at 3493' to 3666' in this well). Porosity in the sand ranges from 8 to 20% and permeabilities may be as high as 90md but are commonly below 2 md.

B. Fresh Water Sources:

Ogallala	base at 63'

IX. PROPOSED STIMULATION PROGRAM

The Yates injection perforations will be isolated into Upper, Middle or Lower Yates. Each set will be treated with 1500 gallons of 20% NEFE HCl.

X. LOGGING DATA

Well logs were submitted after the well's completion in 1959; the well name has not changed since that time.

XI. FRESH WATER ANALYSES

Fresh Water Well Locations -- see Attachment No. 10

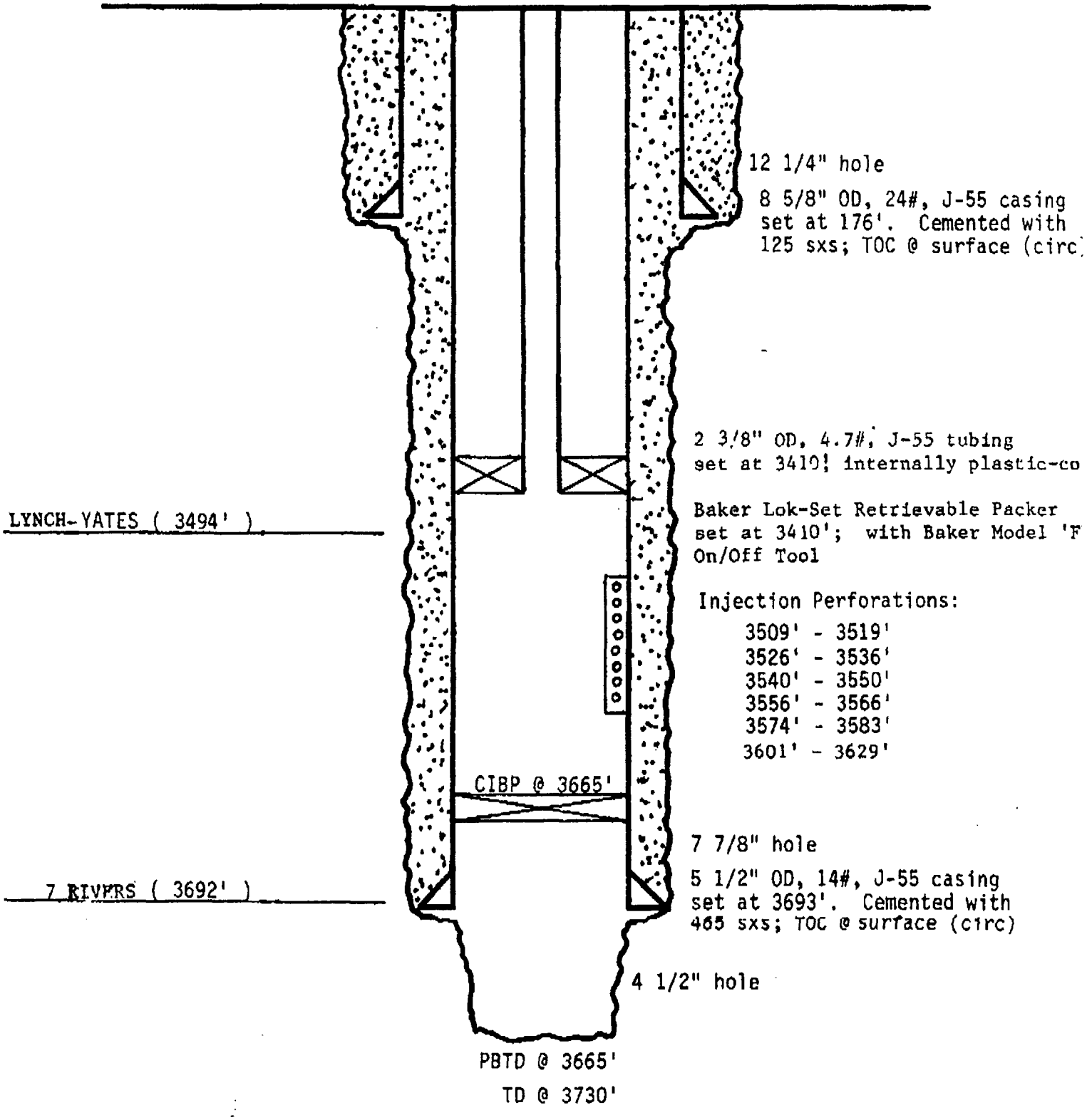
Fresh Water Analyses -- see Attachment Nos. 11, 12 and 13

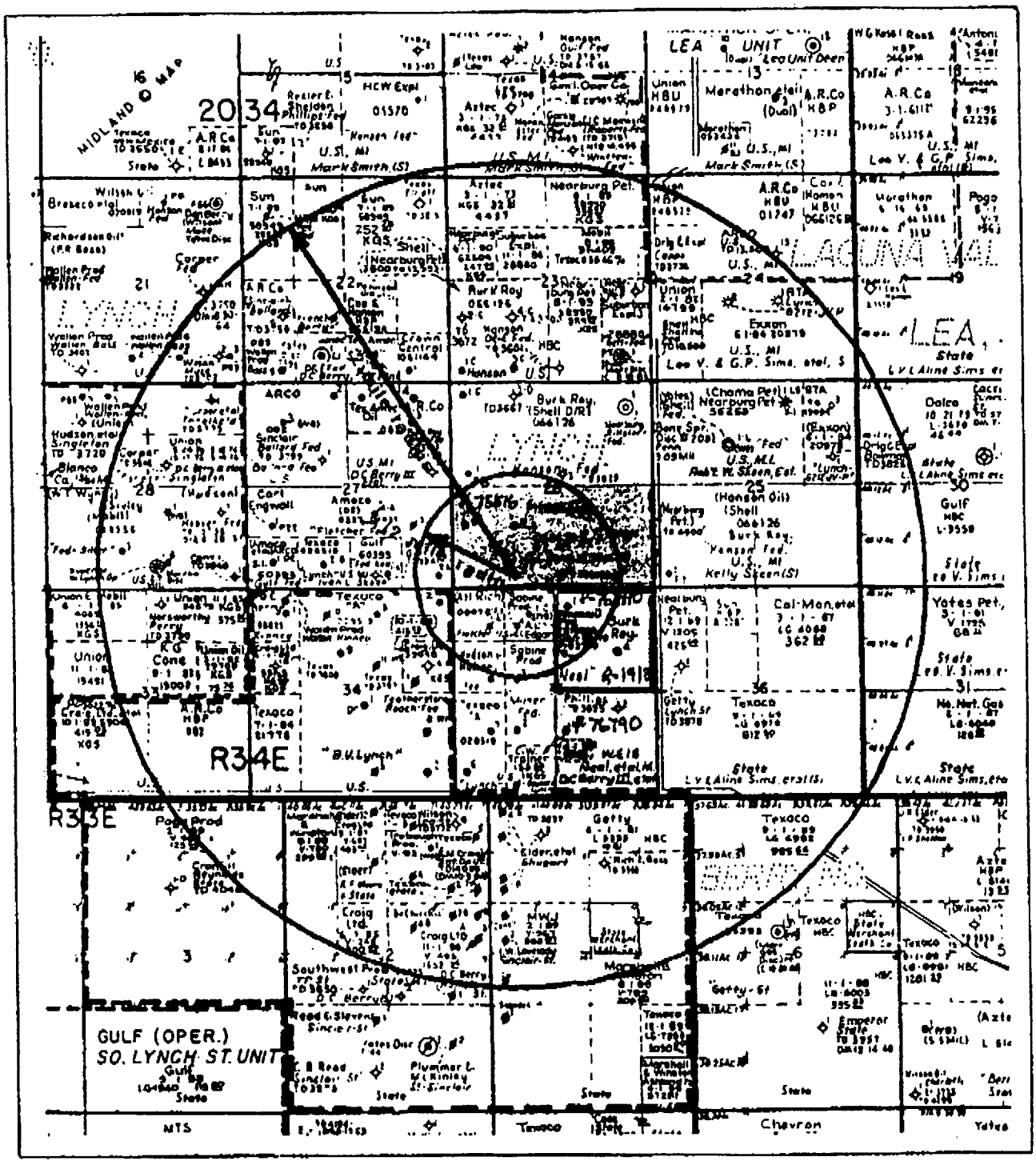
Proposed Wellbore Schematic

PHILLIPS PETROLEUM COMPANY

ATTACHMENT NO. 1

Cruces Well No. 3
330' FSL and 1655' FWL
Section 26, T20S, R34E
Lea County, New Mexico





AREA OF REVIEW

PHILLIPS PETROLEUM COMPANY

Cruces Well No. 3
330' FSL and 1655' FWL
Section 26, T20S, R34E
Lea County, New Mexico

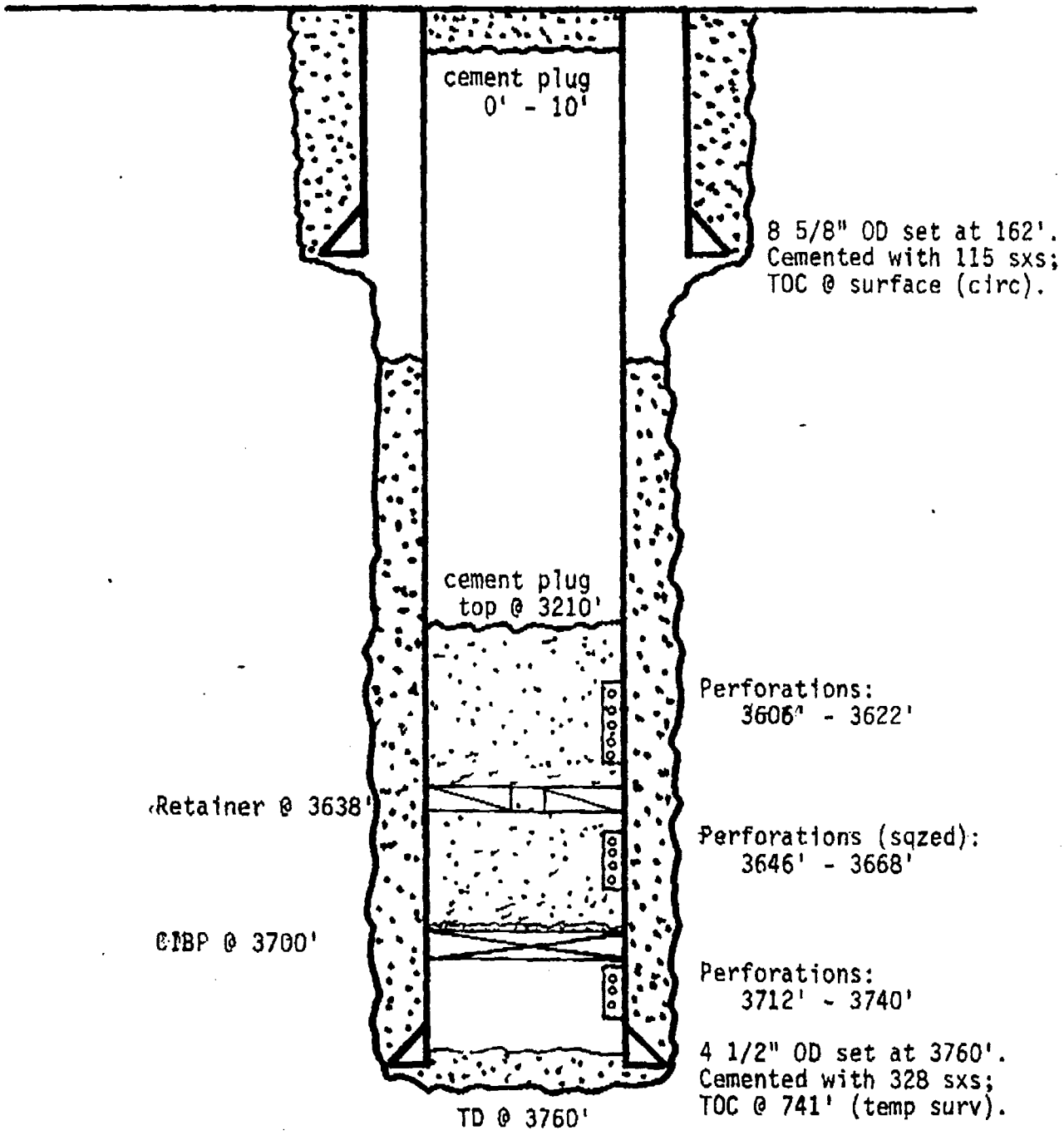
ATTACHMENT NO. 2

TOTAL P.01

ATTACHMENT NO. 3 (P & A'd)

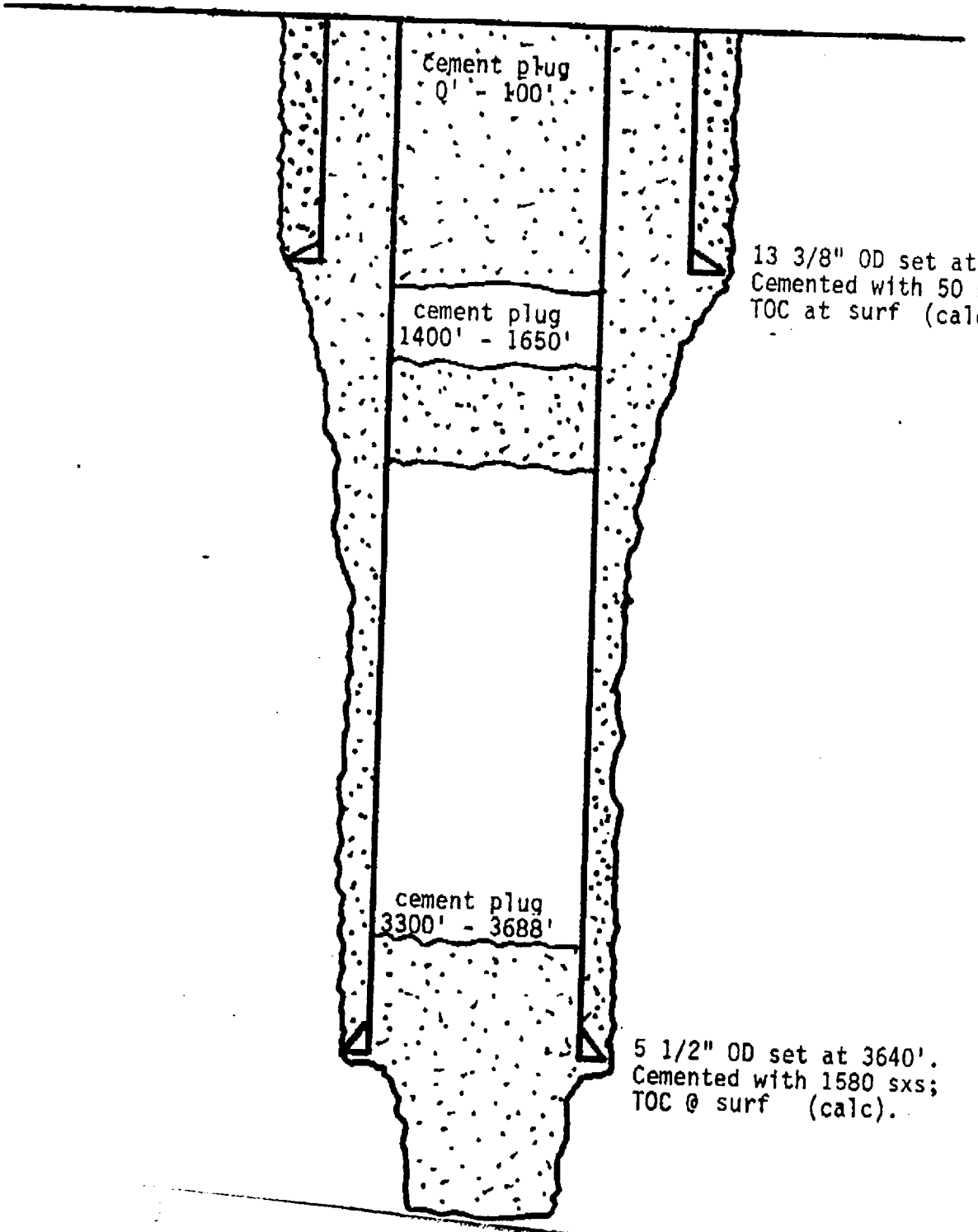
PHILLIPS PETROLEUM COMPANY

Cruces Well No. 5
330' FSL & 993' FEL
Section 26, T20S, R34E
Lea County, New Mexico



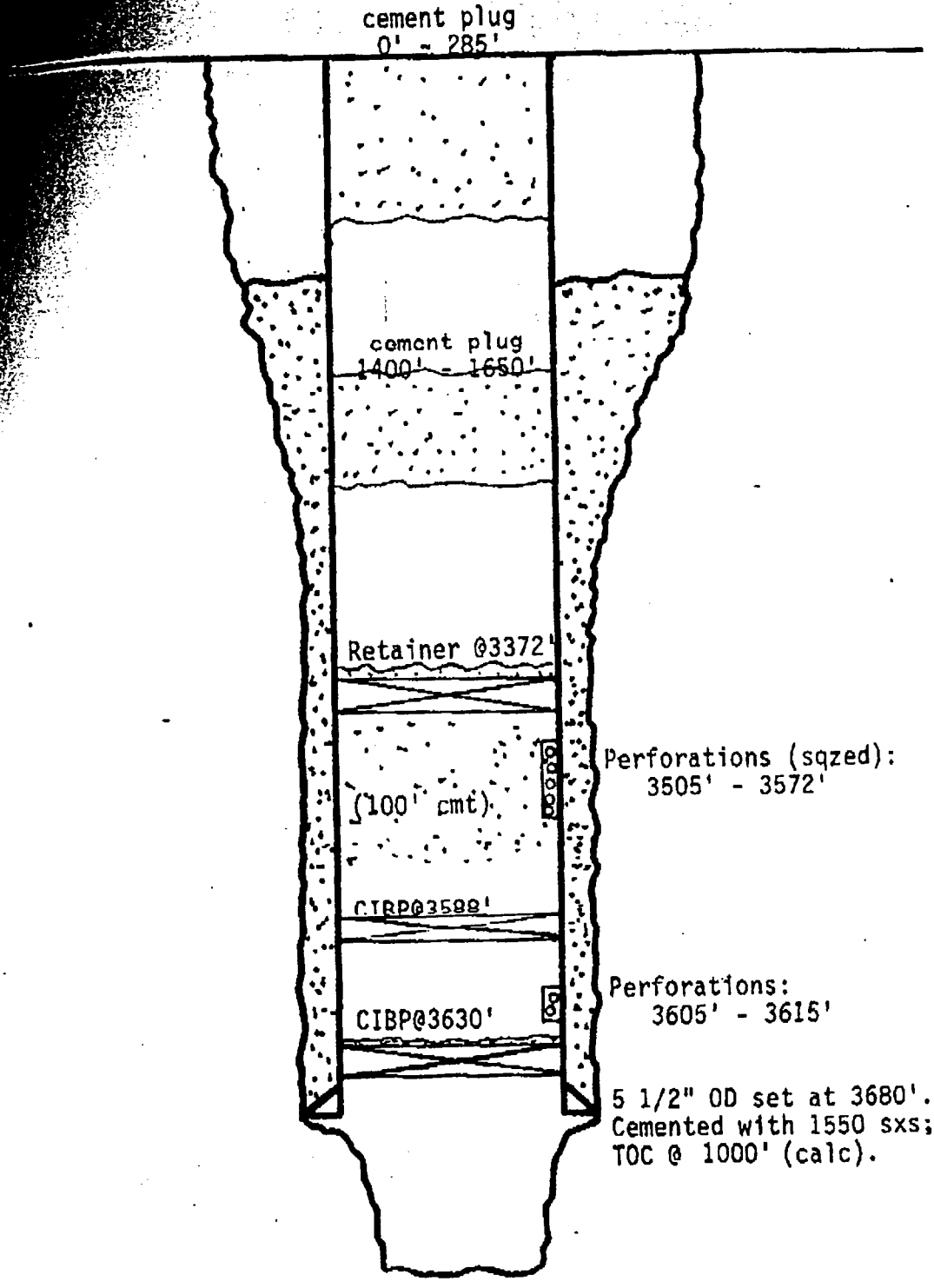
ATTACHMENT NO. 4 (P & A'd)

ARCO
Fletcher A DE Federal Well No. 3
1650' FSL & 990' FEL
Section 27, T20S, R34E
Lea County, New Mexico



ARCO

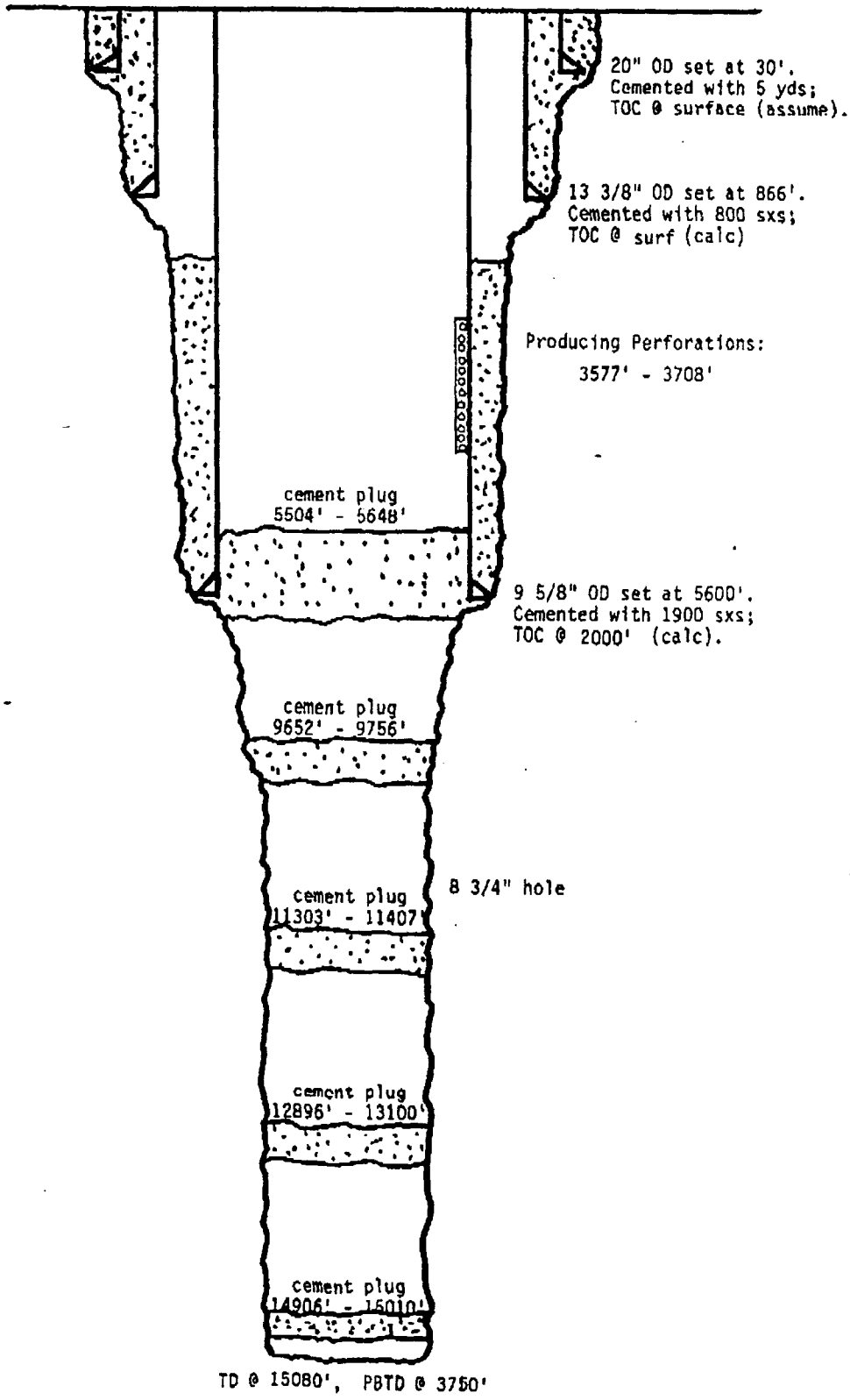
Fletcher A Federal Well No. 1
990' FNL & 990' FWL
Section 35, T20S, R34E
Lea County, New Mexico



ATTACHMENT NO. 7 (T / A'd)

ARLEN L. EDGAR

Federal C Well No. 1
660' FNL & 1980' FWL
Section 35, T20S, R34E
Lea County, New Mexico



APPLICATION for AUTHORIZATION to INJECT

PHILLIPS PETROLEUM COMPANY
CRUCES WELL NUMBER 3

VI. WELLS WITHIN THE AREA OF INTEREST
(radius of investigation = +1/2 mile)

Operator	Well Name	Location	Date Spudded (orig. intent)	Present TD	Surface Casing Size (in)	Surface Casing Depth (ft)	Surface Casing Cement (sx)
PHILLIPS PETR. COMPANY	Cruces #1	330' FSL & 330' FWL Section 26-20S-34E Lea County, NM	19 March 1957 (oil)	3705'	8 5/8	171	125
	Cruces #2	1651' FSL & 330' FWL Section 26-20S-34E Lea County, NM	24 May 1957 (oil)	3710'	8 5/8	157	150
	Cruces #4	330' FSL & 2316' FEL Section 26-20S-34E Lea County, NM	15 July 1959 (oil)	3750'	8 5/8	183	100
	Cruces #5	330' FSL & 992' FEL Section 26-20S-34E Lea County, NM	7 Nov 1959 (oil)	3760'	8 5/8	162	115
	Cruces #6	1650' FSL & 1650' FWL Section 26-20S-34E Lea County, NM	8 May 1960 (oil)	3700'	8 5/8	188	125
ARCO	Fletcher A DR Federal #3	1650' FSL & 990' FEL Section 27-20S-34E Lea County, NM	23 Jan 1957 (oil)	3680'	13 3/8	62	50
	Fletcher A Federal #1	990' FNL & 990' FWL Section 35-20S-34E Lea County, NM	16 Sept 1956 (oil)	3725'			
BERRY, DAN C.	W M Milner Federal #3	2310' FNL & 1650' FWL Section 35-20S-34E Lea County, NM	5 Oct 1952 (oil)	3736'	13 3/8	95	125
	W M Milner Federal #4	990' FNL & 1650' FWL Section 35-20S-34E Lea County, NM	26 Jan 1954 (oil)	3858'			

<---- Production Casing ------> Size (in)	Depth (ft)	Cement (sx) (TOC:method)	Producing Perforations (zone)
5 1/2	3644	450 (surf:circ)	3470' - 3600' and 3644' - 3705' (OH) Lynch-Yates-7R
5 1/2	3667	500 (surf:circ)	3496' - 3614' Lynch-Yates-7R
4 1/2	3750	422 (surf:	- 3592' -7R
4 1/2	3766	330 (743'	29, 31
4 1/2	3700	360 (surf:circ)	3512' - 3638' Lynch-Yates-7R
5 1/2	3640	1500 * (surf:calc)	P & A'd (Attachment No. 4)
5 1/2	3680	1550 * (1000':calc)	P & A'd (Attachment No. 5)
5 1/2	3682	800 (surf:circ)	3682' - 3736'(OH) Lynch-Yates-7R
5 1/2	3700	706 (surf:circ)	Salt Water Disposal Lynch-Yates-7R 3786' - 3806'

* Calculation Detail
cmt yld = 1.3 ft3/sx
excess = 50%

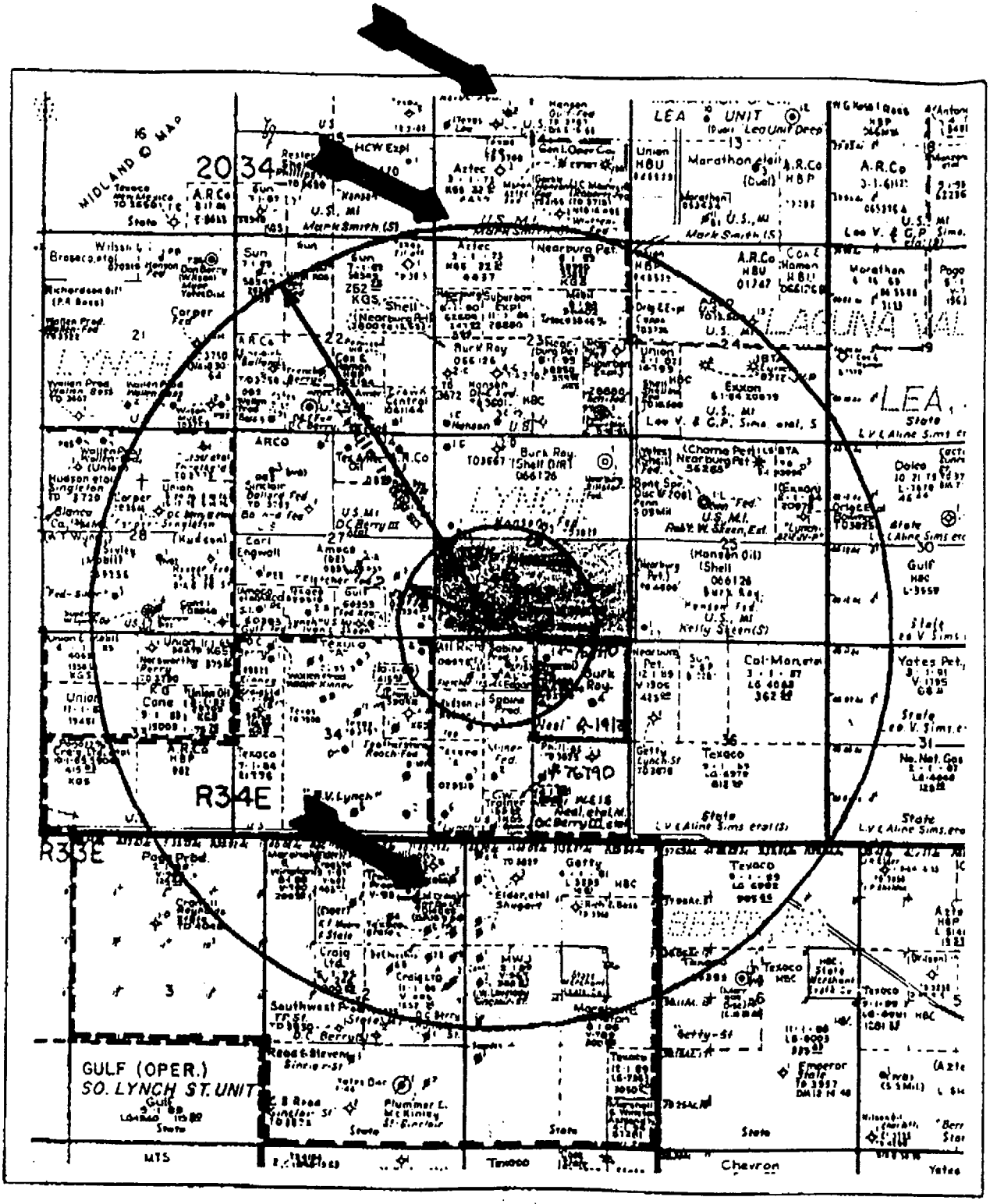
VI. WELLS WITHIN THE AREA OF INTEREST
(radius of investigation = +1/2 mile)

Operator	Well Name	Location	Date Spudded (orig. intent)	Present TD	Surface Casing Size (in)	Surface Casing Depth (ft)	Surface Casing Cement (sx
BURK ROYALTY	Hanson B #1	2310' FNL & 467' FWL Section 26-20S-34E Lea County, NM	23 August 1959 (oil)	3767'	8 5/8	190	125
	Hanson B #2	2310' FNL & 1650' FWL Section 26-20S-34E Lea County, NM	17 Nov 1959 (oil)	3744'	8 5/8	190	125
	Hanson B #3	2310' FNL & 2310' FEL Section 26-20S-34E Lea County, NM	2 Dec 1959 (dry)	3829'	8 5/8	185	150
	Neal #1	467' FNL & 2315' FEL Section 35-20S-34E Lea County, NM	5 April 1959 (oil)	3752'	8 5/8	180	150
	Neal #2	1650' FNL & 2316' FEL Section 35-20S-34E Lea County, NM	15 July 1959 (oil)	3819'	8 5/8	180	100
	Neal #3	330' FNL & 993' FEL Section 35-20S-34E Lea County, NM	9 June 1959 (oil)	3805'	8 5/8	190	100
EDGAR, ARLEN L.	Federal C #1	660' FNL & 1980' FWL Section 35-20S-34E Lea County, NM	16 Aug 1970 (oil)	3750'	13 3/8	866	800
HONDO	Fletcher A DE Federal #2	330' FSL & 330' FEL Section 27-20S-34E Lea County, NM	12 Nov 1956 (oil)	3705			
HUDSON, WILLIAM A. & EDWARD	Federal #1	2310' FNL & 990' FWL Section 35-20S-34E Lea County, NM	1 Jan 1953 (oil)	3734'			
OLSEN ENERGY INC	B V Lynch A Federal #12	330' FNL & 330' FEL Section 34-20S-34E Lea County, NM	16 Sept 1957 (oil)	3698'			
	Fletcher A Federal #1	330' FNL & 380' FWL Section 35-20S-34E Lea County, NM	26 Sept 1988 (oil)	3860'	8 5/8"	511	290
TEXACO	Lynch #4	1980' FNL & 660' FEL Section 34-20S-34E	17 Sept 1934 (dry)	3797'	12 1/2	477	

<---- Production Casing ------> Size (in)	Depth (ft)	Cement (sx) (TOC:method)	Producing Perforations (zone)
4 1/2	3767	600 * (1000':calc)	3645' - 3668' Lynch-Yates-7R
5 1/2	3744	605 * (1400':calc)	3627' - 3642' Lynch-Yates-7R
(no information available in Hobbs office)			Dry Hole (Attachment No. 6)
5 1/2	3743	300 * (2300':calc)	3630' - 3735' Lynch-Yates-7R
4 1/2	3818	300 * (2300':calc)	3710' - 3720' Lynch-Yates-7R
5 1/2	3805	200 * (2800':calc)	Salt Water Disposal Lynch-Yates-7R 3703' - 3714'
9 5/8	5600	1900 * (2000':calc)	T & A'd (Attachment No. 7)
5 1/2	3648	1650 * (surf:calc)	3648' - 3705' Lynch-Yates-7R
5 1/2	3680	700 (surf:circ)	3680' - 3724'(OH) Lynch-Yates-7R
5 1/2	3679	1450 (1000':calc)	3679' - 3690'(OH) Lynch-Yates-7R
4 1/2	3859	927 (surf:circ)	3525' - 3605' Lynch-Yates-7R
8 1/4 (no information avail-	1636	75	Dry Hole (Attachment No. 4)

* Calculation Detail
cmt yld = 1.3 ft3/sx
excess = 50%

<---- Production Casing ------>			Producing
		Cement (sx)	Perforations
Size (in)	Depth (ft)	(TOC:method)	(zone)
5 1/2	3644	450 (surf:circ)	3478' - 3600' and 3644' - 3705' (OH) Lynch-Yates-7R
5 1/2	3667	500 (surf:circ)	3490' - 3614' Lynch-Yates-7R
4 1/2	3750	622 (surf:circ)	3536' - 3592' Lynch-Yates-7R
4 1/2	3768	328 (741':tm.)	P & A'd (Attachment No. 2)
4 1/2	3700	360 (surf:circ)	3512' - 3638' Lynch-Yates-7R



AREA OF REVIEW

PHILLIPS PETROLEUM COMPANY

Cruces Well No. 3
330' FSL and 1655' FWL
Section 26, T20S, R34E
Lea County, New Mexico

ATTACHMENT NO. 10

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 06-16-1989
Location: Fresh H20 - Windmill 1 (on 6-15-89)

	Sample 1
Specific Gravity:	1.003
Total Dissolved Solids:	3722
pH:	8.81
IONIC STRENGTH:	0.071

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	2.70	54.0
Magnesium	(Mg^{+2})	1.70	20.7
Sodium	(Na^{+1})	52.4	1210
Iron (total)	(Fe^{+2})	0.021	0.000
ANIONS:			
Bicarbonate	(HCO_3^{-1})	5.20	317
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	23.4	1130
Chloride	(Cl^{-1})	28.2	1000

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.3	-12

ATTACHMENT NO. 11

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 06-16-1989
Location: Fresh H2O - Windmill 2 (on 6-15-89)

	Sample 1
Specific Gravity:	1.002
Total Dissolved Solids:	2887
pH:	8.45
IONIC STRENGTH:	0.054

		me/liter	mg/liter
CATIONS:			
Calcium	(Ca^{+2})	2.80	56.0
Magnesium	(Mg^{+2})	1.80	21.9
Sodium	(Na^{+1})	39.4	905
Iron (total)	(Fe^{+2})	0.136	3.80
ANIONS:			
Bicarbonate	(HCO_3^{-1})	5.80	354
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	15.6	750
Chloride	(Cl^{-1})	22.6	800

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.1	-12

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 06-16-1989
Location: Fresh H2O - Windmill #3 (on 6-15-89)

	Sample 1
Specific Gravity:	1.002
Total Dissolved Solids:	2304
pH:	8.47
IONIC STRENGTH:	0.054

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	17.3	347
Magnesium	(Mg^{+2})	8.67	105
Sodium	(Na^{+1})	14.2	326
Iron (total)	(Fe^{+2})	0.032	0.900
Barium	(Ba^{+2})	0.025	1.70
ANIONS:			
Bicarbonate	(HCO_3^{-1})	3.40	207
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	1.22	58.8
Chloride	(Cl^{-1})	35.5	1260

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.6	-12

KELLAHIN, KELLAHIN and AUBREY
Attorneys at Law
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

W. Thomas Kellahin
Karen Aubrey

Jason Kellahin
Of Counsel

June 29, 1989

HAND-DELIVERED

RECEIVED
JUN 29
OIL CONSERVATION DIVISION

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

Re: Application of Phillips Petroleum Company for Approval for Use of Cruces Well No. 3 for Salt Water Disposal, Section 26, T20S, R24E, Lea County, New Mexico

Dear Mr. LeMay:

On behalf of Phillips Petroleum Company, please find enclosed a completed Division Form C-108 which represents our request for a hearing for consideration of approval of the referenced well for disposal purposes. We request that this case be set on the next available Examiner's docket now scheduled for July 26, 1989.

This application is for authority to dispose of produced water into the Lynch Yates formation in the perforated interval from approximately 3509 feet to 3629 feet in the Cruces Well No. 3, located 330 feet FSL and 1655 feet FWL of Section 26, T20S, R34E, NMPM, Lea County, New Mexico.

In accordance with Division notice rules we are sending copies of this application to the surface owner and offsetting operators within a one-half mile radius of the well.

Very truly yours,

W. Thomas Kellahin

WTK/rs
Encl.

cc: Bill Mueller - Phillips

Oil Conservation Division - Lea County
Post Office Box 1980
Hobbs, New Mexico 88240

Certified Mail-Return Receipt Requested

Arco Oil and Gas Company
Post Office Box 1610
Midland, Texas 79702

Dan C. Berry
Post Office Box 755
Hobbs, New Mexico 88241

Daniel C. Berry, III
Post Office Box 160
Eunice, New Mexico 88231

Ronald Philip Berry
Post Office Box 1551
Lovington, New Mexico 88260

Burk Royalty Company
Post Office Box BRC
Wichita Falls, Texas 76307

Arlen L. Edgar
414 West Texas
Suite 208
Midland, Texas 79701

Hondo
Post Office Box 2819
Dallas, Texas 75221

William A. and Edward R. Hudson
616 Texas Street
Fort Worth, Texas 76102-4612

Olsen Energy, Inc.
16414 San Pedro, Suite 470
San Antonio, Texas 78232

Texaco Inc.
Post Office Box 2511
Houston, Texas 77252

Case 9708

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-108
Revised 7-1-81

RECEIVED
JUN 29
OIL CONSERVATION DIVISION

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [XX] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [ ] yes [ ] no

II. Operator: PHILLIPS PETROLEUM COMPANY

Address: 4001 PENBROOK, ODESSA, TEXAS 79762

Contact party: L. M. SANDERS Phone: (915) 367-1488

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 [XX] no
If yes, give the Division order number authorizing the project _____.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: W. J. Mueller Title Reservoir Engr. Supv.

Signature: _____ Date: 27 June

* If the information required under Sections VI, VIII, X, and XI above has been submitted, it need not be duplicated and resubmitted. Please reference the date and circumstances of the earlier submittal.

PHILLIPS PETROLEUM COMPANY
CRUCES WELL NO. 3

III. WELL DATA

(See Attachment No. 1)

A.	1.	Name and Location	Cruces Well Number 3 330' FSL and 1655' FWL Section 26, T-20-S, R-34-E Lea County, New Mexico
	2.	Casing Surface:	8 5/8 " OD, 24#, J-55 set at 176' (12 1/4" hole). Cemented with 125 sacks; circulated cement to surface.
		Production:	5 1/2" OD, 14#. J-55 set at 3693' (7 7/8" hole). Cemented with 465 sacks; circulated cement to surface.
		Open Hole:	4 1/2" hole from 3693' to 3730'
	3.	Tubing:	2 3/8" OD, 4.7#, J-55 set at 3410' (internally plastic coated)
	4.	Packer:	Baker Lok-Set Retrievable Packer with Baker Model "FL" On/Off Tool set at 3410'.
B.	1.	Injection Formation:	Lynch Yates 7R
	2.	Perforated Interval:	3509' - 3629'
	3.	Original Intent:	Well was drilled as an oil producer.
	4.	Depth Details: Perforations:	3509' - 3519' 3526' - 3536' 3540' - 3550' 3556' - 3566' 3574' - 3583' 3601' - 3629'
		CIBP:	3665'
	5.	Productive Zones Lower:	Bone Springs at 9100' (1 1/4 miles northeast)
		Higher:	none

Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
CRUCES WELL NO. 3

VII. PROPOSED INJECTION OPERATIONS

1.	Rates:	average - 200 bwpd maximum - 1000 bwpd
2.	System:	closed
3.	Pressures:	average - 500 psi maximum - 702 psi
4.	Fluid:	Produced water analyses from the Phillips Petroleum Cruces Tank Battery (Lynch Yates 7R Formation); see Attachment No. 9

VIII. GEOLOGICAL DATA

A. Injection Zone: The injection zone will be within the Yates Formation, a 170' thick sequence of fine-grained porous sandstones interbedded with tight dolomites (at 3493' to 3666' in this well). Porosity in the sand ranges from 8 to 20% and permeabilities may be as high as 90md but are commonly below 2 md.

B. Fresh Water Sources:

Ogallala	base at 63'

IX. PROPOSED STIMULATION PROGRAM

The Yates injection perforations will be isolated into Upper, Middle or Lower Yates. Each set will be treated with 1500 gallons of 20% NEFE HCl.

X. LOGGING DATA

Well logs were submitted after the well's completion in 1959; the well name has not changed since that time.

XI. FRESH WATER ANALYSES

Fresh Water Well Locations -- see Attachment No. 10

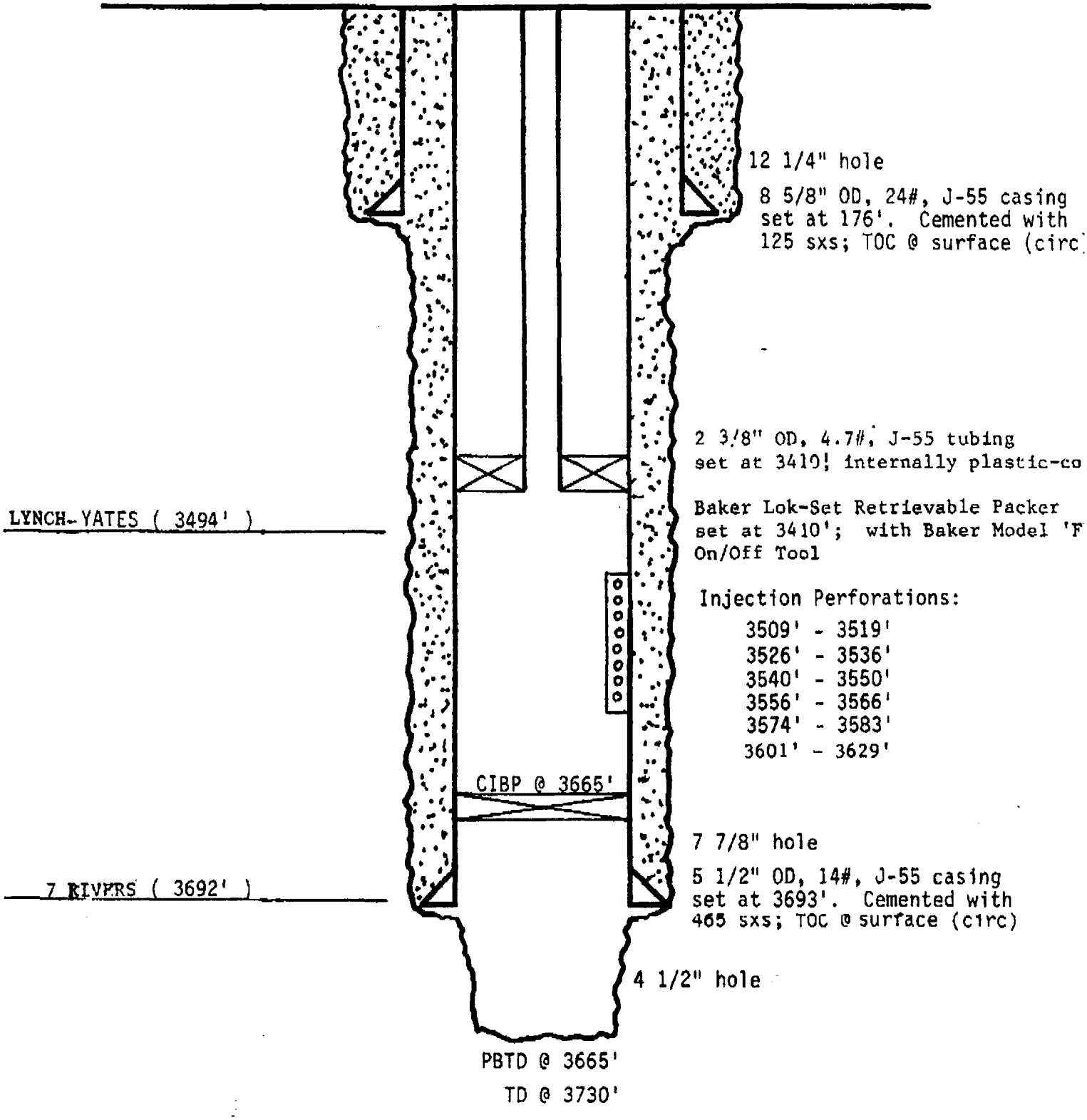
Fresh Water Analyses -- see Attachment Nos. 11, 12 and 13

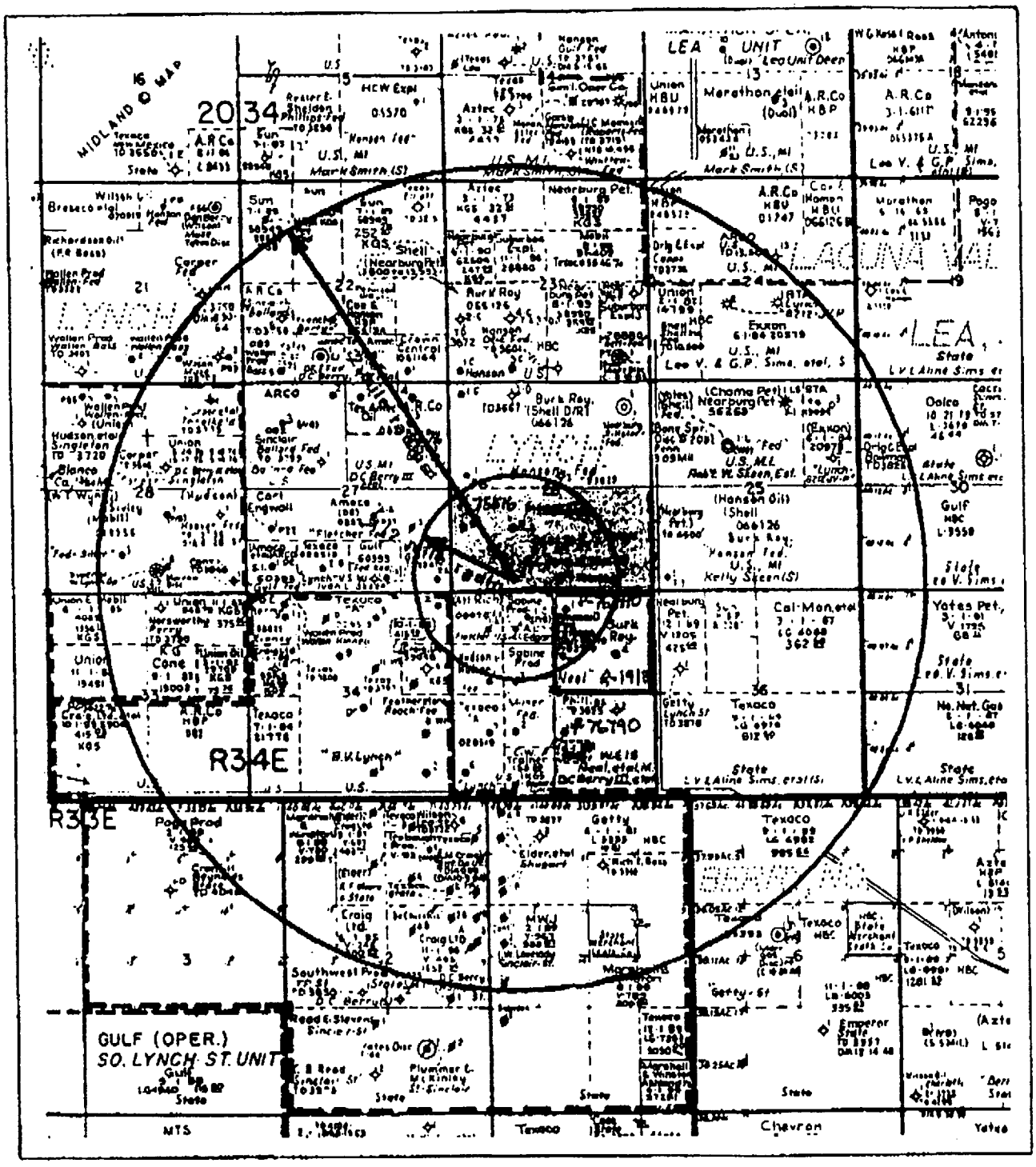
Proposed Wellbore Schematic

PHILLIPS PETROLEUM COMPANY

ATTACHMENT NO. 1

Cruces Well No. 3
330' FSL and 1655' FWL
Section 26, T20S, R34E
Lea County, New Mexico





AREA OF REVIEW

PHILLIPS PETROLEUM COMPANY

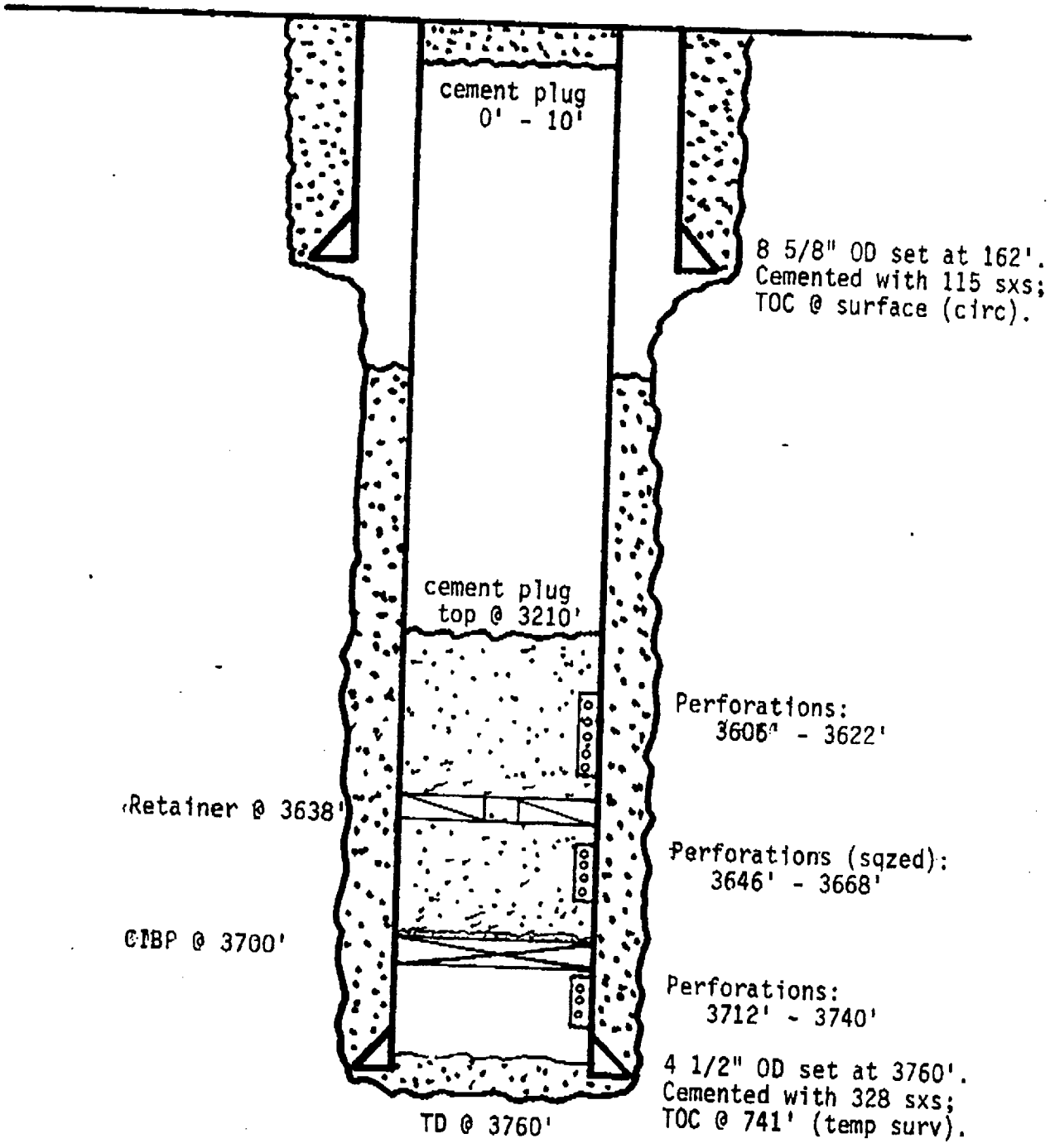
Cruces Well No. 3
330' FSL and 1655' FWL
Section 26, T20S, R34E
Lea County, New Mexico

ATTACHMENT NO. 2

ATTACHMENT NO. 3 (P & A'd)

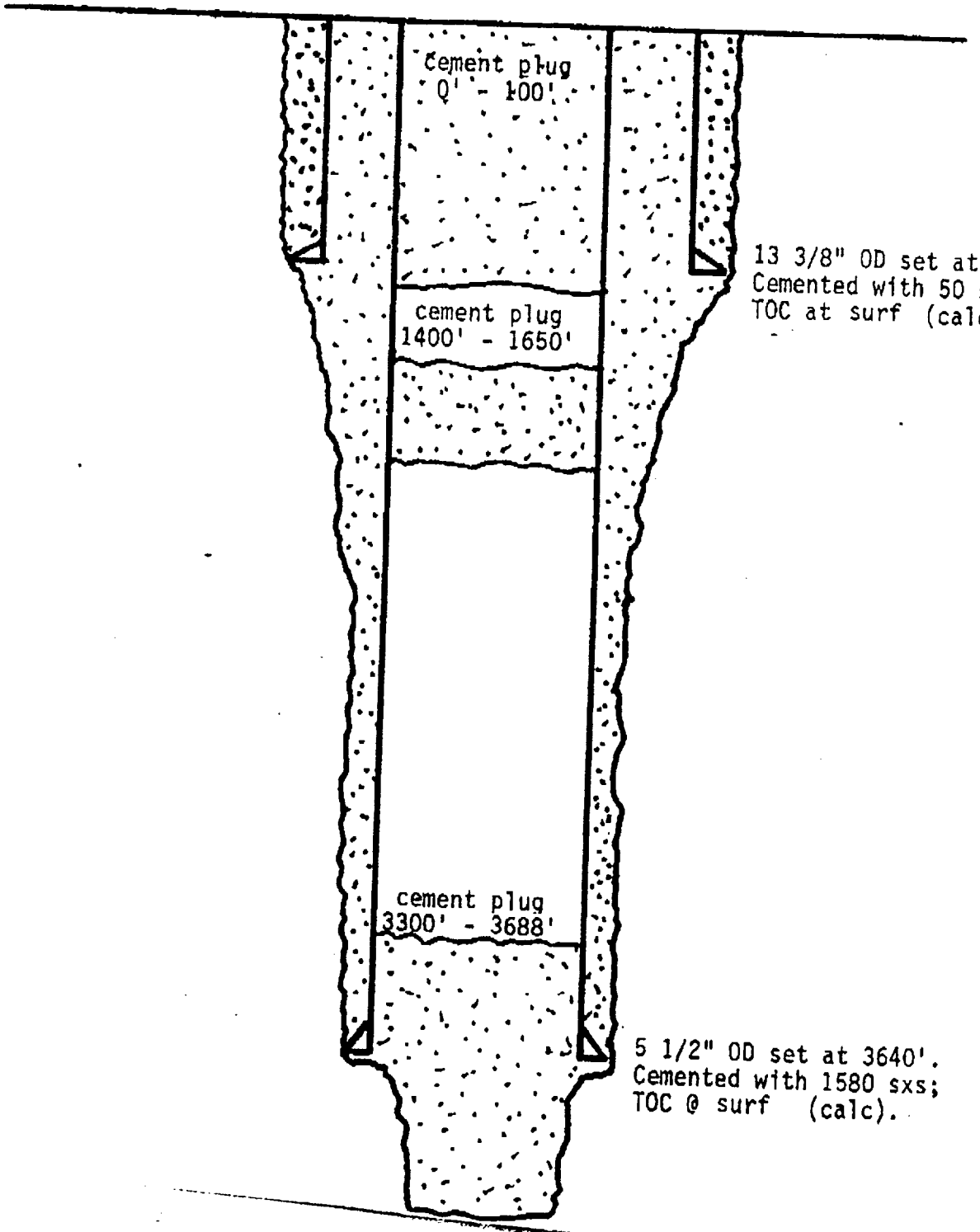
PHILLIPS PETROLEUM COMPANY

Cruces Well No. 5
330' FSL & 993' FEL
Section 26, T20S, R34E
Lea County, New Mexico



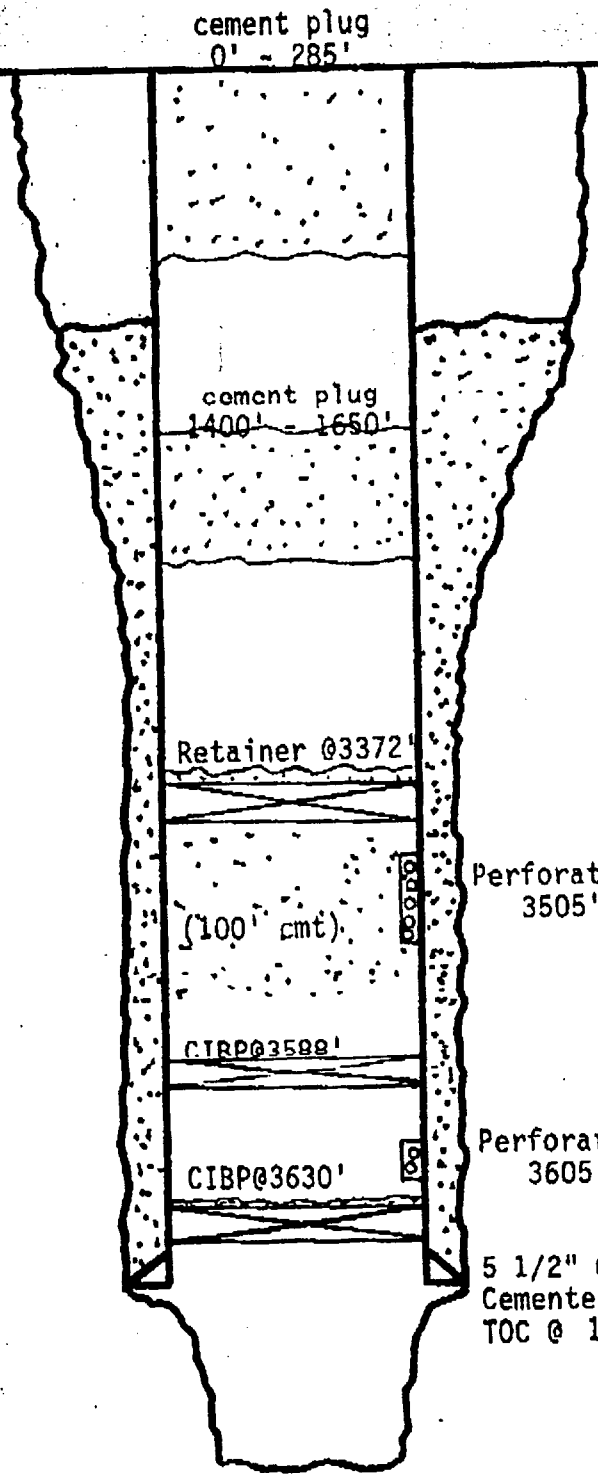
ATTACHMENT NO. 4 (P & A'd)

ARCO
Fletcher A DE Federal Well No. 3
1650' FSL & 990' FEL
Section 27, T20S, R34E
Lea County, New Mexico



ARCO

Fletcher A Federal Well No. 1
990' FNL & 990' FWL
Section 35, T20S, R34E
Lea County, New Mexico



Perforations (sqzed):
3505' - 3572'

Perforations:
3605' - 3615'

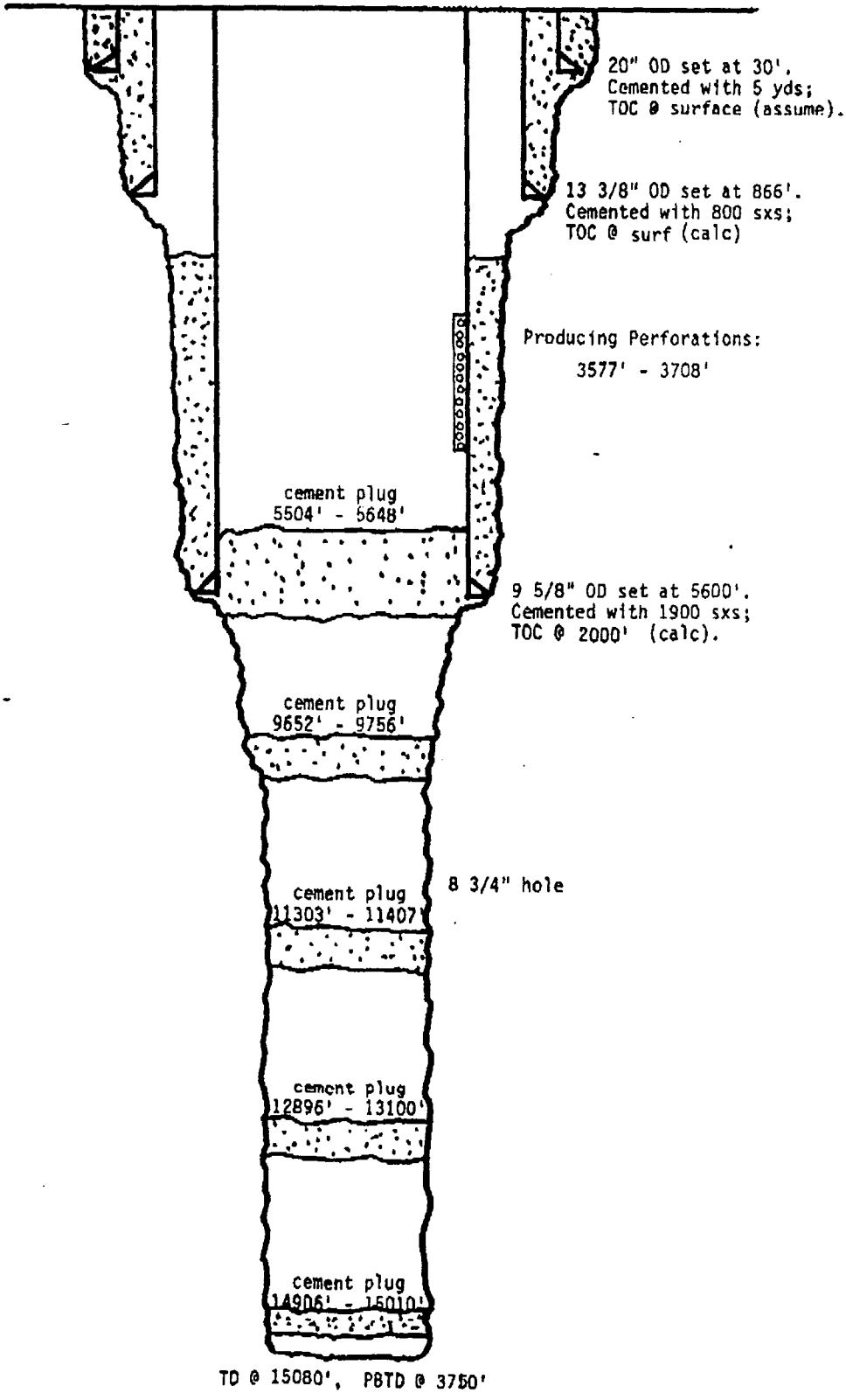
5 1/2" OD set at 3680'.
Cemented with 1550 sxs;
TOC @ 1000' (calc).

TD @ 3725'

ATTACHMENT NO. 7 (T / A'd)

ARLEN L. EDGAR

Federal C Well No. 1
660' FNL & 1980' FWL
Section 35, T20S, R34E
Lea County, New Mexico



VI. WELLS WITHIN THE AREA OF INTEREST
(radius of investigation = 1/2 mile)

Operator	Well Name	Location	Date Spudded (orig. intent)	Present TD	Surface Casing Size (in)	Surface Casing Depth (ft)	Surface Casing Cement (sx)
PHILLIPS PETR. COMPANY	Cruces #1	330' FSL & 330' FWL Section 26-20S-34E Lea County, NM	19 March 1957 (oil)	3705'	8 5/8	171	125
	Cruces #2	1651' FSL & 330' FWL Section 26-20S-34E Lea County, NM	24 May 1957 (oil)	3710'	8 5/8	157	150
	Cruces #4	330' FSL & 2316' FWL Section 26-20S-34E Lea County, NM	15 July 1959 (oil)	3150'	8 5/8	183	180
	Cruces #5	330' FSL & 992' FWL Section 26-20S-34E Lea County, NM	7 Nov 1959 (oil)	3760'	8 5/8	162	115
	Cruces #6	1650' FSL & 1650' FWL Section 26-20S-34E Lea County, NM	8 May 1960 (oil)	3700'	8 5/8	188	125
ARCO	Fletcher A DR Federal #3	1650' FSL & 990' FEL Section 27-20S-34E Lea County, NM	23 Jan 1957 (oil)	3688'	13 3/8	62	50
	Fletcher A Federal #1	990' FNL & 990' FWL Section 35-20S-34E Lea County, NM	16 Sept 1956 (oil)	3725'			
BERRY, DAN C.	W M Milner Federal #3	2310' FNL & 1650' FWL Section 35-20S-34E Lea County, NM	5 Oct 1952 (oil)	3736'	13 3/8	95	125
	W M Milner Federal #4	990' FNL & 1650' FWL Section 35-20S-34E Lea County, NM	26 Jan 1954 (oil)	3858'			

(---- Production Casing	------)		Producing
		Cement (sx)	Perforations
Size (in)	Depth (ft)	(TOC:method)	(zone)
5 1/2	3644	450 (surf:circ)	3470' - 3600' and 3644' - 3705' (OH) Lynch-Yates-7R
5 1/2	3667	500 (surf:circ)	3496' - 3614' Lynch-Yates-7R
4 1/2	3750	[illegible] ([illegible]	[illegible] - 3592' [illegible]-7R
4 1/2	3766	[illegible] (735' [illegible]	[illegible] No. 3)
4 1/2	3700	360 (surf:circ)	3532' - 3638' Lynch-Yates-7R
5 1/2	3640	1500 * (surf:calc)	P & A'd (Attachment No. 4)
5 1/2	3600	1550 * (1000':calc)	P & A'd (Attachment No. 5)
5 1/2	3602	800 (surf:circ)	3602' - 3736'(OH) Lynch-Yates-7R
5 1/2	3700	706 (surf:circ)	Salt Water Disposal Lynch-Yates-7R 3706' - 3806'

* Calculation Detail
cmt yld = 1.3 ft3/sx
excess = 50%

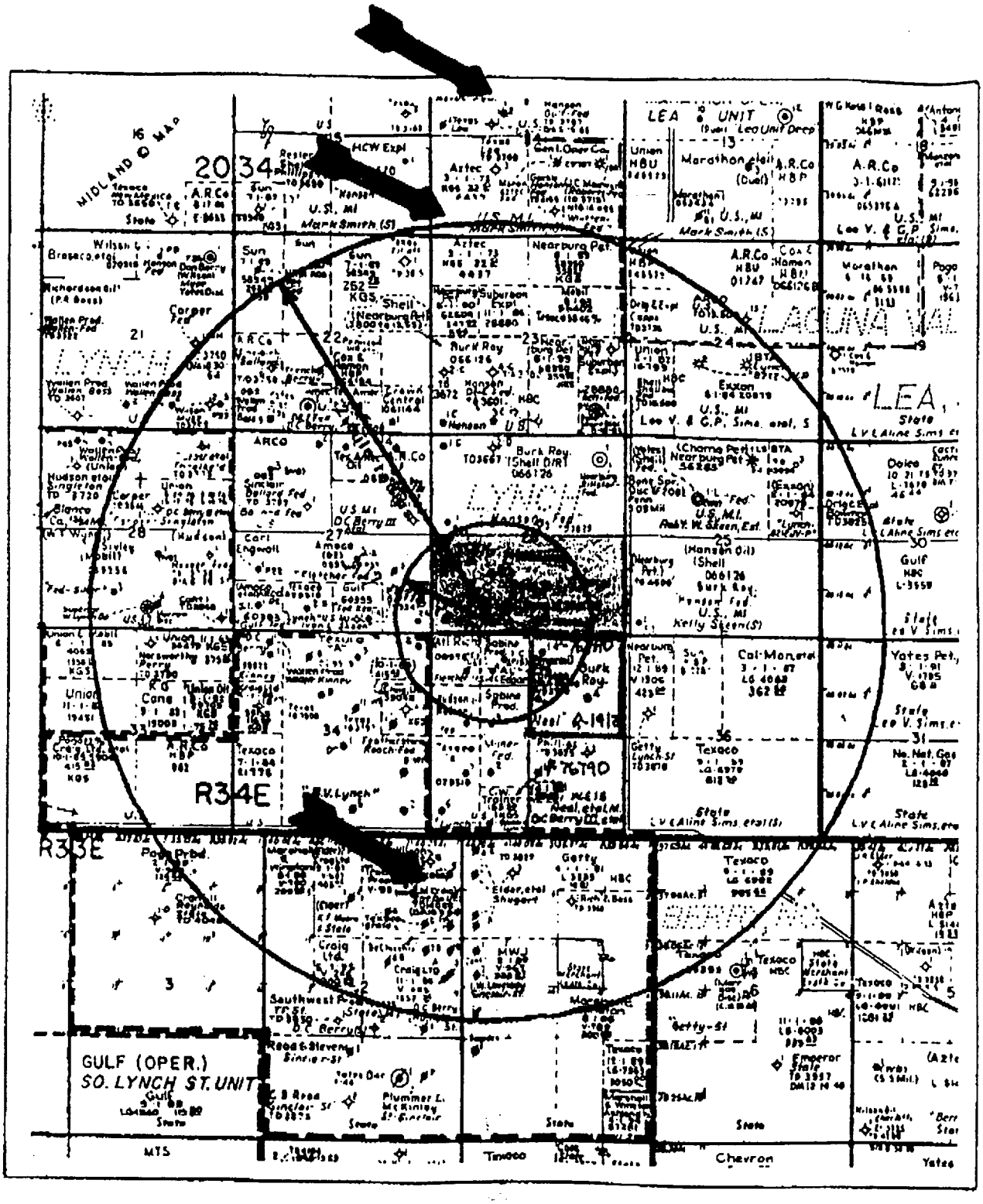
VI. WELLS WITHIN THE AREA OF INTEREST
(radius of investigation = +1/2 mile)

Operator	Well Name	Location	Date Spudded (orig. intent)	Present TD	Surface Casing Size (in)	Surface Casing Depth (ft)	Surface Casing Cement (sx
BURK ROYALTY	Hanson B #1	2310' FNL & 467' FWL Section 26-20S-34E Lea County, NM	23 August 1959 (oil)	3767'	8 5/8	190	125
	Hanson B #2	2310' FNL & 1650' FWL Section 26-20S-34E Lea County, NM	17 Nov 1959 (oil)	3744'	8 5/8	190	125
	Hanson B #3	2310' FNL & 2310' FEL Section 26-20S-34E Lea County, NM	2 Dec 1959 (dry)	3829'	8 5/8	185	150
	Neal #1	467' FNL & 2315' FEL Section 35-20S-34E Lea County, NM	5 April 1959 (oil)	3752'	8 5/8	180	150
	Neal #2	1650' FNL & 2316' FEL Section 35-20S-34E Lea County, NM	15 July 1959 (oil)	3819'	8 5/8	180	100
	Neal #3	330' FNL & 993' FEL Section 35-20S-34E Lea County, NM	9 June 1959 (oil)	3805'	8 5/8	190	100
EDGAR, ARLEE L.	Federal C #1	660' FNL & 1980' FWL Section 35-20S-34E Lea County, NM	16 Aug 1970 (oil)	3750'	13 3/8	866	800
HONDO	Fletcher A OB Federal #2	330' FSL & 330' FEL Section 27-20S-34E Lea County, NM	12 Nov 1956 (oil)	3705			
HUDSON, WILLIAM A. & EDWARD	Federal #1	2310' FNL & 990' FWL Section 35-20S-34E Lea County, NM	1 Jan 1953 (oil)	3734'			
OLSEN ENERGY INC	B V Lynch A Federal #12	330' FNL & 330' FEL Section 34-20S-34E Lea County, NM	16 Sept 1957 (oil)	3690'			
	Fletcher A Federal #1	330' FNL & 380' FWL Section 35-20S-34E Lea County, NM	26 Sept 1988 (oil)	3860'	8 5/8"	511	290
TEXACO	Lynch #4	1980' FNL & 660' FEL Section 34-20S-34E	17 Sept 1934 (dry)	3797'	12 1/2	477	

Production Casing Size (in)	Depth (ft)	Cement (sx) (TOC:method)	Producing Perforations (zone)
4 1/2	3767	600 * (1000':calc)	3645' - 3668' Lynch-Yates-7R
5 1/2	3744	605 * (1400':calc)	3627' - 3642' Lynch-Yates-7R
(no information available in Hobbs office)			Dry Hole (Attachment No. 6)
5 1/2	3743	300 * (2300':calc)	3630' - 3735' Lynch-Yates-7R
4 1/2	3818	300 * (2300':calc)	3710' - 3720' Lynch-Yates-7R
5 1/2	3805	200 * (2000':calc)	Salt Water Disposal Lynch-Yates-7R 3703' - 3714'
9 5/8	5600	1900 * (2000':calc)	T & A'd (Attachment No. 7)
5 1/2	3648	1650 * (surf:calc)	3648' - 3705' Lynch-Yates-7R
5 1/2	3680	700 (surf:circ)	3680' - 3724'(OH) Lynch-Yates-7R
5 1/2	3679	1450 (1000':calc)	3679' - 3698'(OH) Lynch-Yates-7R
4 1/2	3859	927 (surf:circ)	3525' - 3605' Lynch-Yates-7R
8 1/4	1636	75	Dry Hole
(no information avail-			(Attachment No. 8)

* Calculation Detail
cmt yld = 1.3 ft3/sx
excess = 50%

<---- Production Casing ------>			Producing
		Cement (sx)	Perforations
Size (in)	Depth (ft)	(TOC:method)	(zone)
5 1/2	3644	450 (surf:circ)	3478' - 3600' and 3644' - 3785' (OH) Lynch-Yates-7R
5 1/2	3667	500 (surf:circ)	3490' - 3614' Lynch-Yates-7R
4 1/2	3750	622 (surf:circ)	3536' - 3592' Lynch-Yates-7R
4 1/2	3760	328 (741':to.)	P & A'd (Attachment No. 2)
4 1/2	3788	360 (surf:circ)	3512' - 3638' Lynch-Yates-7R



AREA OF REVIEW

PHILLIPS PETROLEUM COMPANY

Cruces Well No. 3
330' FSL and 1655' FWL
Section 26, T20S, R34E
Lea County, New Mexico

ATTACHMENT NO. 10

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 06-16-1989
Location: Fresh H20 - Windmill 1 (on 6-15-89)

	Sample 1
Specific Gravity:	1.003
Total Dissolved Solids:	3722
pH:	8.81
IONIC STRENGTH:	0.071

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	2.70	54.0
Magnesium	(Mg^{+2})	1.70	20.7
Sodium	(Na^{+1})	52.4	1210
Iron (total)	(Fe^{+2})	0.021	0.600
ANIONS:			
Bicarbonate	(HCO_3^{-1})	5.20	317
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	23.4	1130
Chloride	(Cl^{-1})	28.2	1000

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.3	-12

ATTACHMENT NO. 11

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 06-16-1989
Location: Fresh H2O - Windmill 2 (on 6-15-89)

	Sample 1
Specific Gravity:	1.002
Total Dissolved Solids:	2887
pH:	8.45
IONIC STRENGTH:	0.054

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	2.80	56.0
Magnesium	(Mg^{+2})	1.80	21.9
Sodium	(Na^{+1})	39.4	905
Iron (total)	(Fe^{+2})	0.136	3.80
ANIONS:			
Bicarbonate	(HCO_3^{-1})	5.80	354
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	15.6	750
Chloride	(Cl^{-1})	22.6	800

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.1	-12

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 06-16-1989
Location: Fresh H2O - Windmill #3 (on 6-15-89)

	Sample 1
Specific Gravity:	1.002
Total Dissolved Solids:	2304
pH:	8.47
IONIC STRENGTH:	0.054

		me/liter	mg/liter
CATIONS:			
Calcium	(Ca^{+2})	17.3	347
Magnesium	(Mg^{+2})	8.67	105
Sodium	(Na^{+1})	14.2	326
Iron (total)	(Fe^{+2})	0.032	0.900
Barium	(Ba^{+2})	0.025	1.70
ANIONS:			
Bicarbonate	(HCO_3^{-1})	3.40	207
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	1.22	58.8
Chloride	(Cl^{-1})	35.5	1260

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.6	-12