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Jason Kellahin
Of Counsel

September 22, 1988

RECEIVED
SEP 26 1988
OIL CONSERVATION DIVISION

Case 9711

Mr. William J. LeMay
Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

HAND DELIVERED

Re: Application of Phillips Petroleum Company
for use of its Lambirth A Well No. 6
for salt water disposal,
Roosevelt County, NM

Dear Mr. LeMay:

On behalf of Phillips Petroleum Company please find enclosed a completed Division Form C-108 as our application in their behalf for approval of the referenced well for salt water disposal. I would appreciate you setting this case for hearing at the next available examiner's hearing of October 26, 1988.

The following is suggested for a docket and newspaper advertisement for this case:

> Application of Phillips Petroleum Company for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced water into the Fusselman/Montoya formations in the perforated interval from approximately 7892 feet to 7944 feet in its Lambrith A Well No. 6 located 1830 feet FSL and 1980 feet FFL (Unit J) of Section 30, T5S, R33F, NMPM, which is located _____ miles _____ from _____, New Mexico.

By copy of this letter which enclosed form C-108 and attachments, we are notifying the surface owner and all offset operators in this formation within one-half mile of

this application and of their right to appear in support of or in opposition to this application at the referenced hearing.

Very truly yours,

W. Thomas Kellahin

WTK/dm
Encl.
cc: James L. Gallogly, Esq.
Certified Mail Return Receipt
to all parties shown on Exhibit A
attached hereto

Phillips Petroleum Company
Lambirth A Well No. 6
Surface Owner and Offset Operators

Surface Owner:

Mary Nanne Chappell
1052 Big Thompson Canyon Road
Loveland, Colorado 80537

Offset Operators:

BHP Petroleum (Americas) Inc.
6 Desta Drive, Suite 3200
Midland, Texas 79705

EP Operating Company, LP
%Enserch Exploration Inc.
6 Desta Drive, Suite 5250
Midland, Texas 79705

Attn: Leonard Kersh

EXHIBIT A

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

Case 9911

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no

II. Operator: Phillips Petroleum Company

Address: 4001 Penbrook Street; 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 ☒ 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. Thomas Kellahin Title Attorney

Signature: W. Thomas Kellahin Date: 9/22/88

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

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(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 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.

Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
LAMBIRTH A NO. 6
(page 1)

III. WELL DATA
(schematic attached - see Item No. 1)

A.	1. Name and Location:	Lambirth A Well Number 6 1830' FSL and 1980' FEL Section 30, T-5-S, R-33-E, NMPM Roosevelt County, New Mexico
	2. Casing	
	Surface:	13-3/8" OD, 48#, H-40 set at 355' Cemented with 600 sacks; TOC at surface (circulated 180 sacks)
	Intermediate:	8-5/8" OD, 24#, K-55 set at 3454' Cemented with 2300 sacks; TOC at surface (circulated 124 sacks)
	Production:	5-1/2" OD, 17#/14.5#, K-55 set at 8100' Cemented with 475 sacks; TOC at 6120' (temperature survey)
	3. Tubing:	2-3/8" OD, 4.7#, J-55 set at 7850' (internally plastic coated)
	4. Packer:	Baker Lok-Set Retrievable Packer with Baker Model "FL" On/Off Tool set at 7850'
B.	1. Formation:	Fusselman-Montoya
	2. Interval:	7892' - 7944' perforated at 2 SPF (52' total and 104 shots)
	3. Original Intent:	Well was drilled for production
	4. Perforated Intervals:	See Item No. 1
	5. Productive Zones	
	Other:	Peterson Penn, South (')
	Lower:	Granite Wash (8040')

Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
LAMBIRTH A NO. 6
(page 2)

V. MAP
(with 1/2 and 2 mile radii)

See Item No. 2

Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
LAMBIRTH A WELL NO. 6

VI. WELLS WITHIN THE AREA OF INTEREST

(penetrate the proposed injection zone)

A. Wells within a 1/2 mile radius:

Operator/ Well/ Location	Date Drld/ Well Type/ Total Dpth	Surf Csg Size (in)/ Dpth (ft)/ Cmt (sx)	Intrm Csg Size (in)/ Dpth (ft)/ Cmt (sx)	Prod Csg Size (in)/ Dpth (ft)/ Cmt (sx)	Perforations	Formation
Ensearch Expl. Lambirth Well #7 510' FSL & 660' FEL Sec 30,T-5-S,R-33-E,NMPM	16-Jun-79 Oil 7872	13.375 358 300	8.625 1991 750	5.5 7858 420	7824'-7829'	Fusselman
Ensearch Expl. Lambirth Well #8 1980' FSL & 810 FWL Sec 30,T-5-S,R-33-E,NMPM	27-Oct-79 Oil 7960	13.375 355 350	9.625 1998 720	7.0 7958 600	7816'-7828'	Fusselman
B. Wells within a 5/8 mile radius:						
Amoco Prod. Peterson "B" #1 1980' FNL & 660' FWL Sec 29,T-5-S,R-33-E,NMPM	22-Jan-73 Oil (TA'd) 7877	13.375 244 425	8.625 3472 800	5.5 7877 250	7562'-7692'	Cisco
Amoco Prod. Lambirth Gas Com #1 660' FNL & 1980' FEL Sec 30,T-5-S,R-33-E,NMPM	22-Jan-73 Oil (TA'd) 7852	8.625 1927 800	--- 	5.5 7852 250	7650'-7800'	Cisco
Energy Reserves Group Radcliff #1 1980' FNL & 660' FWL Sec 30,T-5-S,R-33-E,NMPM	11-Jun-81 Gas 8100	13.375 372 350	8.625 3256 1200	4.5 8098 500	7647'-7878'	Fusselman
Phillips Pet. Co. Lambirth "A" #5 660' FSL & 660' FWL Sec 30,T-5-S,R-33-E,NMPM	05-May-80 Oil 8000	13.375 357 420	8.625 3500 900	5.5 7990 400	7664'-7798'	Pennsylvania
Phillips Pet. Co. Lambirth "A" #4 560' FNL & 560' FEL Sec 31,T-5-S,R-33-E,NMPM	30-Sep-79 Oil 8000	13.375 360 420	8.625 3500 580	5.5 8000 960	7814'-7828'	Fusselman
Phillips Pet. Co. Peterson "H" #1 660' FSL & 510' FWL Sec 29,T-5-S,R-33-E,NMPM	15-Dec-80 Oil (P&A'd) 8000	13.375 350 420	8.625 3496 775	5.5 7982 800	----	----------

Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
LAMBIRTH A NO. 6
(page 4)

VII. PROPOSED INJECTION OPERATIONS

1. Rates:	average - 1000 bwpd maximum - 1800 bwpd
2. System:	closed
3. Pressures:	average - 1300 psi maximum - 1578 psi
4. Fluid:	Produced water analyses from the Phillips Lambirth A and B Leases (Fusselman-Montoya formation); see Items No 3 and 4
5. Disposal Zone:	The Fusselman-Montoya is not hydrocarbon productive below the OWC in this area.

Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
LAMBIRTH A NO. 6
(page 5)

VIII. GEOLOGICAL DATA

A. Injection Zone: The Fusselman-Montoya Formation in this well (7820'-8010') consists of 190' of dolomite with porosities ranging from 1% to 15%. Mudlogs and cores in offset wells describe a tan, sucrosic, cherty dolomite. This unit is transitional down into red-brown sands and shales of the underlying Granite Wash. The top of the unit is truncated by Pennsylvanian age shales and limestones.

B. Fresh Water Sources: There is potential for surface recharged fresh water from the surface to the bottom of the Triassic Red Beds at 1860'. No other potable water exists above or below the salt water disposal zones.

IX. PROPOSED STIMULATION PROGRAM

The Fusselman-Montoya perforated interval, 7892'-7944', will be acidized with 5,500 gallons of 15% NEFe HCl acid with 1 ball sealer (SG = 1.3) dropped in every 46 gallons (120 balls total).

Maximum surface treating pressure = 4000 psi
Maximum surface treating rate = 3 to 4 bpm

X. LOGGING DATA

Well logs were filed after well was drilled in 1982; well name has not changed since that time.

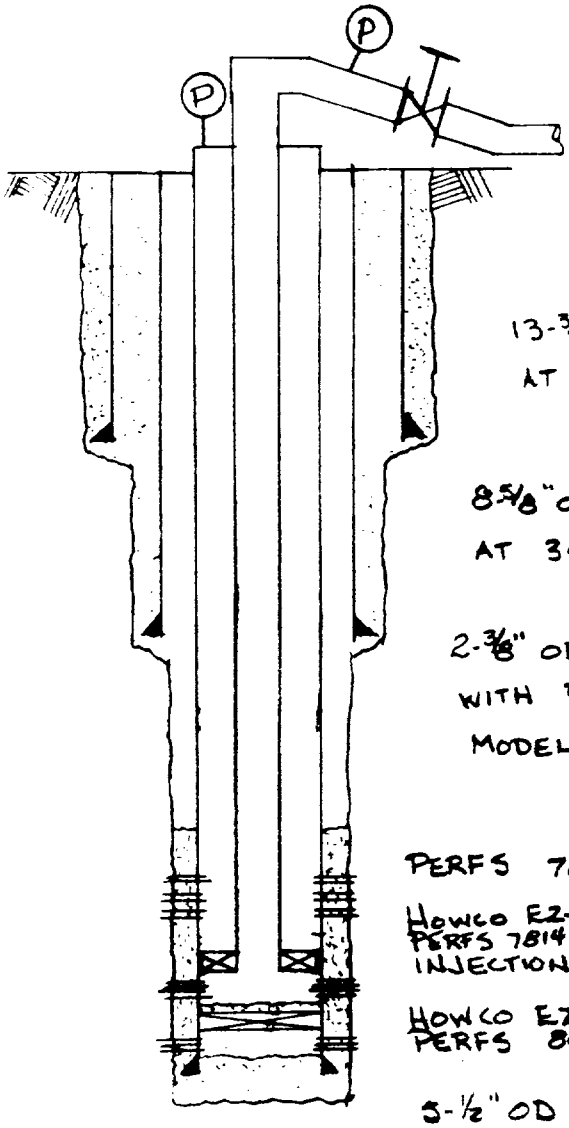
XI. FRESH WATER ANALYSES

See Item Nos. 5, 6 and 7.

XII. AFFIRMATIVE STATEMENT

There is no evidence of faulting in the area at depths less than 7700'. All wells within the Area of Review have been properly cased, cemented or plugged. Therefore, there is no evidence of any hydrologic connection between the disposal zone and any underground source of drinking water.

ITEM NO. 1



13-3/8" OD, 48#, H-40, ST&C SURFACE CASING AT 355'. TOC AT SURFACE (420 SX).

8-5/8" OD, 24#, K-55, ST&C INTERMEDIATE CASING AT 3454', TOC AT SURFACE (2176 SX).

2-3/8" OD, 4.7#, J-55 PLASTIC COATED SET AT 7850' WITH BAKER LOK-SET RETRIEVABLE PACKER W/ MODEL 'FL' ON/OFF TOOL.

PERFS 7607'-7613', 2 JSPF, 6'-12 Ø's. SQZ W/50 SX CMT

HOWCO EZ-DRIL RETAINER AT 7963', DRLD OUT.
PERFS 7814'-7824', 4 JSPF, 7'-28 Ø's. SQZD W/50 SX CMT.
INJECTION PERFS 7892'-7944', 2 JSPF, 52'-104 Ø's.

HOWCO EZ-DRIL RETAINER AT 7963', 3½ SX CMT ON TOP.
PERFS 8042'-8056', 2 JSPF. SQZ'D W/ 50 SX CMT.

5-½" OD 17# K-55 TO 14½# K-55 PROD. CASING SET AT 8100'. TOC AT 6120' (475 SX).

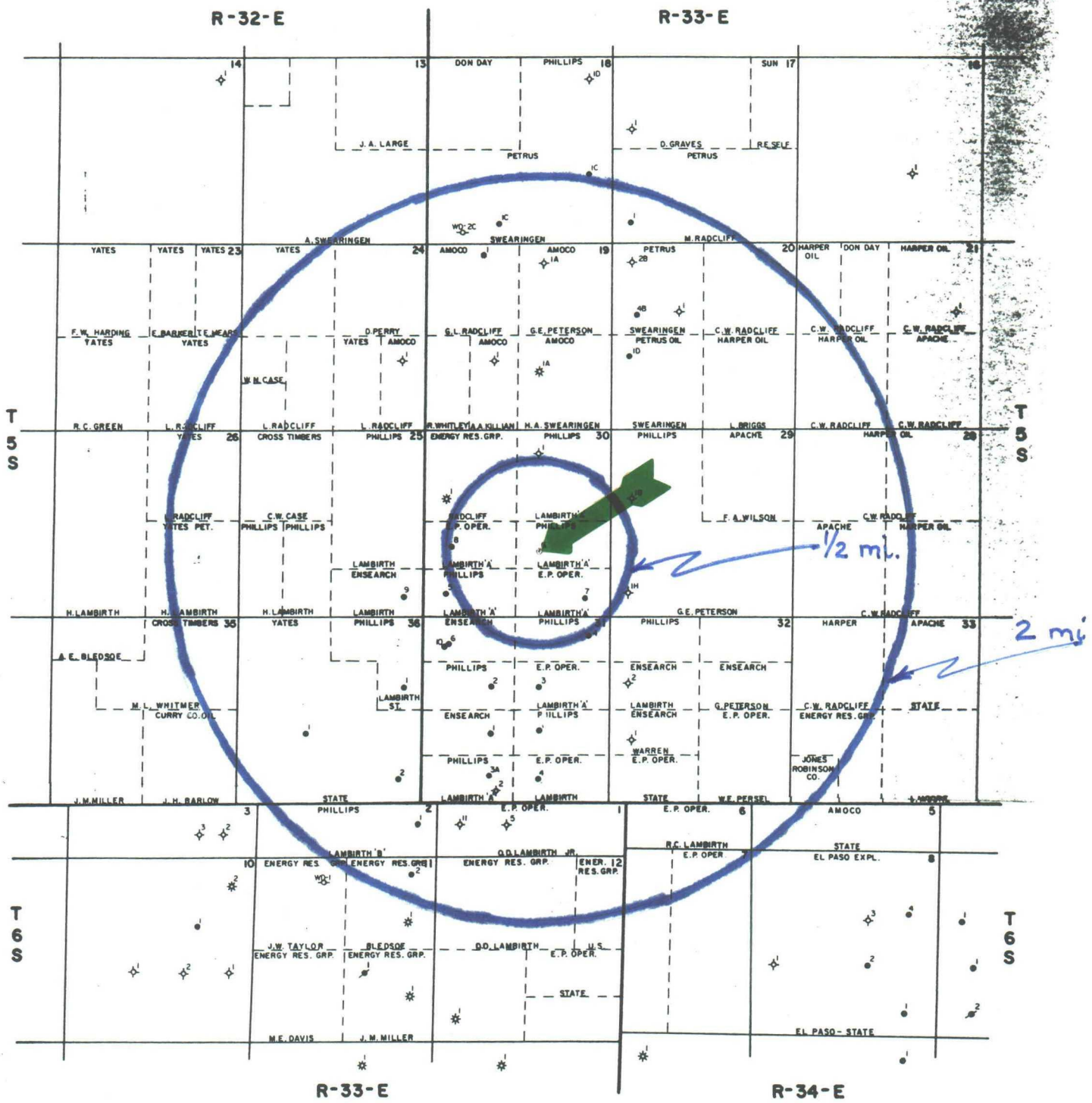
TD AT 8140'

PROPOSED INJECTION WELL SCHEMATIC

NO.	REVISION	BY	DATE	CHKD	APP'D

FOR BIDS	PHILLIPS PETROLEUM COMPANY BARTLESVILLE, OKLAHOMA	JA NO.	FILE CODE
FOR APPR		AFE NO.	SCALE
FOR CONST	LAMBIRTH "A" WELL #6 1830' FSL & 1980' FEL SEC 30, T-5-S, R-33-E, NMPM ROOSEVELT CO., NEW MEXICO	DWG NO.	
DRAWN AUG 10, 88 BLH		SH NO.	
CHECKED			
APP'D			

Item No. 2



Item No. 3

Unichem International

707 North Leech **P.O.Box 1499**

Hobbs, New Mexico 88240

Company : Phillips Petroleum Company
Date : 08-22-1988
Location: Lambirth "A" Battery (on 08-12-1988)

	Sample 1
Specific Gravity:	1.068
Total Dissolved Solids:	95789
pH:	6.33
IONIC STRENGTH:	1.843

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	231	4610
Magnesium	(Mg^{+2})	108	1310
Sodium	(Na^{+1})	1320	30500
Iron (total)	(Fe^{+2})	1.43	39.8
Barium	(Ba^{+2})	0.019	1.30
ANIONS:			
Bicarbonate	(HCO_3^{-1})	8.39	512
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	18.7	900
Chloride	(Cl^{-1})	1640	58000

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	0.01	-24

Item No. 4

Unichem International

707 North Leech **P.O.Box 1499**

Hobbs, New Mexico 88240

Company : Phillips Petroleum Company
Date : 08-22-1988
Location: Lambirth Unit - "B" Well (on 08-12-1988)

	Sample 1
Specific Gravity:	1.001
Total Dissolved Solids:	754
pH:	8.05
IONIC STRENGTH:	0.019

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	4.00	80.0
Magnesium	(Mg^{+2})	6.20	75.3
Sodium	(Na^{+1})	1.36	31.3
Iron (total)	(Fe^{+2})	0.218	6.10
Barium	(Ba^{+2})	0.001	0.100
ANIONS:			
Bicarbonate	(HCO_3^{-1})	4.20	256
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	3.97	191
Chloride	(Cl^{-1})	3.38	120

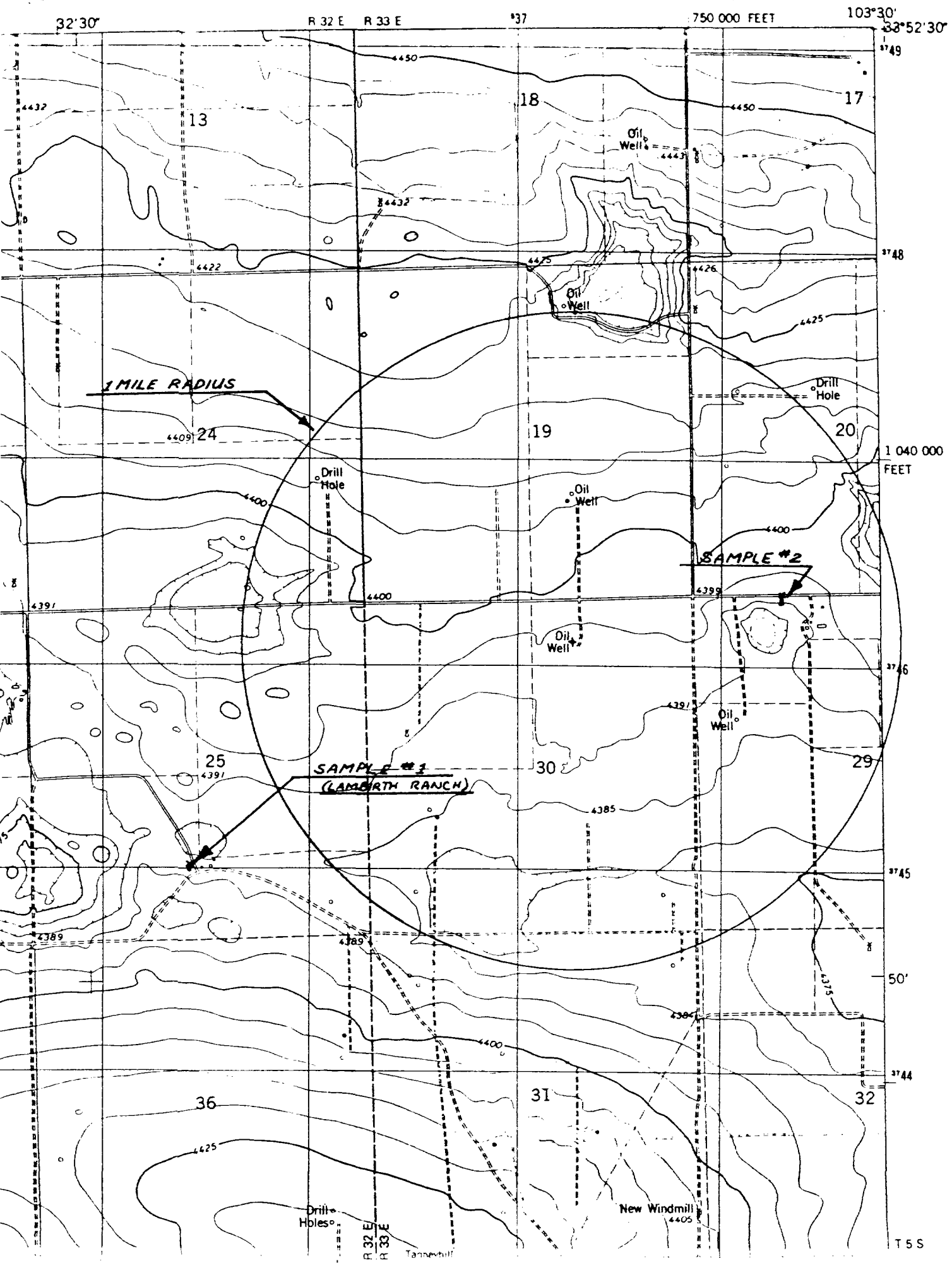
SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	0.83	-16

Item No. 5

ELIDA SE QUADRANGLE
NEW MEXICO—ROOSEVELT CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

8351 IV NW
(DORA NW)



Item No. 6

Unichem International

707 North Leech **P.O.Box 1499**

Hobbs, New Mexico 88240

Company : Phillips Petroleum Company
Date : 08-22-1988
Location: Peterson - Water Well #2 (on 08-12-1988)

	Sample 1
Specific Gravity:	1.001
Total Dissolved Solids:	1077
pH:	7.33
IONIC STRENGTH:	0.024

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	3.00	60.0
Magnesium	(Mg^{+2})	4.40	53.5
Sodium	(Na^{+1})	8.77	202
Iron (total)	(Fe^{+2})	0.118	3.30
Barium	(Ba^{+2})	0.003	0.200
ANIONS:			
Bicarbonate	(HCO_3^{-1})	3.40	207
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	8.07	388
Chloride	(Cl^{-1})	4.70	167

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	-0.13	-15

Unichem International

707 North Leech **P.O.Box 1499**

Hobbs, New Mexico 88240

Company : Phillips Petroleum Company
Date : 08-22-1988
Location: Peterson - Water Well #3 (on 08-12-1988)

	Sample 1
Specific Gravity:	1.001
Total Dissolved Solids:	1969
pH:	7.15
IONIC STRENGTH:	0.056

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	18.0	360
Magnesium	(Mg^{+2})	14.4	175
Sodium	(Na^{+1})	1.59	36.5
Iron (total)	(Fe^{+2})	0.054	1.50
Barium	(Ba^{+2})	0.003	0.200
ANIONS:			
Bicarbonate	(HCO_3^{-1})	1.40	85.4
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	12.5	600
Chloride	(Cl^{-1})	20.1	713

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	-0.05	-4.9