KELLAHIN, KELLAHIN and AUBREY
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fé, New Mexico 87504-2265

W. Thomas Kellahin
Karen Aubrey

Jason Kellahin
Of Counsel

Telephone 982-4285
Area Code 505

May 2, 1989

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

RECEIVED
MAY 2 1989
OIL CONSERVATION DIVISION

Case 9678

Re: Application of Phillips Petroleum Company for Amendment to Division Order R-3668 to Authorize the Injection of Carbon Dioxide into a Previously Approved Waterflood Project and for the Drilling of Additional Wells at Unorthodox Locations, Lea County, New Mexico

Dear Mr. LeMay:

On behalf of Phillips Petroleum Company, please find enclosed our application for approval of an amendment to Division Order R-3668 to authorize the injection of carbon dioxide into a previously approved waterflood project in the Maljamar Grayburg-San Andres Pool.

In addition, Phillip Petroleum Company seeks to drill a new injection well (Philmex Well #38) at an unorthodox location 1440 feet FSL and 1340 feet FWL of Section 26 along with two observation wells each at unorthodox locations:

a. Philmex Well #39:
1552 feet FSL and 1261 feet FWL
Section 26, T17S, R33E

b. Philmex Well #40
1702 feet FSL and 1156 feet FWL
Section 26, T17S, R33E

We would appreciate this application being set for hearing at the next available examiner's docket now scheduled for May 24, 1989.

By copy of this letter to all parties, we are notifying them be certified mail-return receipt, 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 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,

W. Thomas Kellahin

WTK/rs
Encl.

cc: William Mueller (Phillips-Odessa)

Certified Mail-Return Receipt to all parties listed on Exhibit C of the Application, w/encl

STATE OF NEW MEXICO

DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES

OIL CONSERVATION DIVISION

RECEIVED

MAY 3 1999

OIL CONSERVATION DIVISION

APPLICATION OF PHILLIPS PETROLEUM COMPANY FOR AMENDMENT TO DIVISION ORDER R-3668 TO AUTHORIZE THE INJECTION OF CARBON DIOXIDE INTO A PREVIOUSLY APPROVED WATERFLOOD PROJECT AND FOR THE DRILLING OF ADDITIONAL WELLS AT UNORTHODOX LOCATIONS, MALJAMAR GRAYBURG-SAN ANDRES POOL, LEA COUNTY, NEW MEXICO

CASE NO. 9678

A P P L I C A T I O N

COMES NOW PHILLIPS PETROLEUM COMPANY, by and through its attorneys, Kellahin, Kellahin and Aubrey, and applies to the New Mexico Oil Conservatin Divsion for the Amendment of Division Order R-3668 to authorize the injection of carbon dioxide into its previously approved Maljamar Grayburg-San Andres Waterflood project and to allow for the drilling of an additional injection well and observation wells at unorthodox well locations, Lea County, New Mexico and in support thereof would show:

1. Applicant, Phillips Petroleum Company, is the operator of the Maljamar Grayburg-San Andres Waterflood project for the "Philmex" Properties.

2. The Division Order R-3668 entered January 24, 1969, copy attached as Exhibit A, approved this project area for waterflood operations.

3. Phillips now seeks the authority to inject carbon dioxide into this waterflood project through the Philmex #38 Well a new well to be drilled within the waterflood project at an unorthodox location 1440 feet FSL and 1340 feet FWL of Section 26, T17S, R33E, NMPM.

4. In order to monitor the effects of carbon dioxide in this pilot project, Phillips further seeks authority to drill two observation wells in close proximity to the Philmex #38 well as follows:

a. Philmex Well #39, at an unorthodox location 1552 feet FSL and 1261 feet FWL of Section 26, and

b. Philmex Well #40, at an unorthodox loction 1702 feet FSL and 1156 FWL of Section 26.

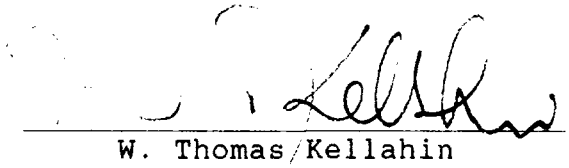
5. The pilot injection project is intended to inject carbon dioxide into the Grayburg-San Andres formation from a depth of approximately 4130 feet to 4530 feet at the rate of 500 mcfpd or less and at a pressure of 1700 psi or less.

6. Division Form C-108 is attached hereto as Exhibit B and incorporated by reference herein as part of this application.

7. Applicant seeks a Division Examiner heraing to be held on May 24, 1989 in Santa Fe, New Mexico.

WHEREFORE, applicant requests that after notice and hearing this application be granted as requested.

Respectfully submitted,



W. Thomas Kellahin
Kellahin, Kellahin & Aubrey
Post Office Box 2265
Santa Fe, New Mexico 87504

(505) 982-4285

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 4035
Order No. R-3668

APPLICATION OF PHILLIPS PETROLEUM
COMPANY FOR A WATERFLOOD PROJECT,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 22, 1969, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 24th day of January, 1969, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Phillips Petroleum Company, seeks permission to institute a waterflood project in the Maljamar Grayburg-San Andres Pool by the injection of water into the Grayburg-San Andres formations through its Philmex Well No. 5, located in Unit N of Section 27, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

Exhibit "A"

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Phillips Petroleum Company, is hereby authorized to institute a waterflood project in the Maljamar Grayburg-San Andres Pool by the injection of water into the Grayburg-San Andres formations through its Philmex Well No. 5, located in Unit N of Section 27, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico.

(2) That the subject waterflood project is hereby designated the Phillips Maljamar Philmex Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

ALEX J. ARMIJO, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

esr/

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 9678

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [ ] yes [X] 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 [ ] no
If yes, give the division order number authorizing the project R-3008.

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: W. J. Mueller Date: 2 May 1989

* 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

TOTAL P.02

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.

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 9678

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [ ] yes [X] 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? [X] yes [ ] no
If yes, give the Division order number authorizing the project R-3668.

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.

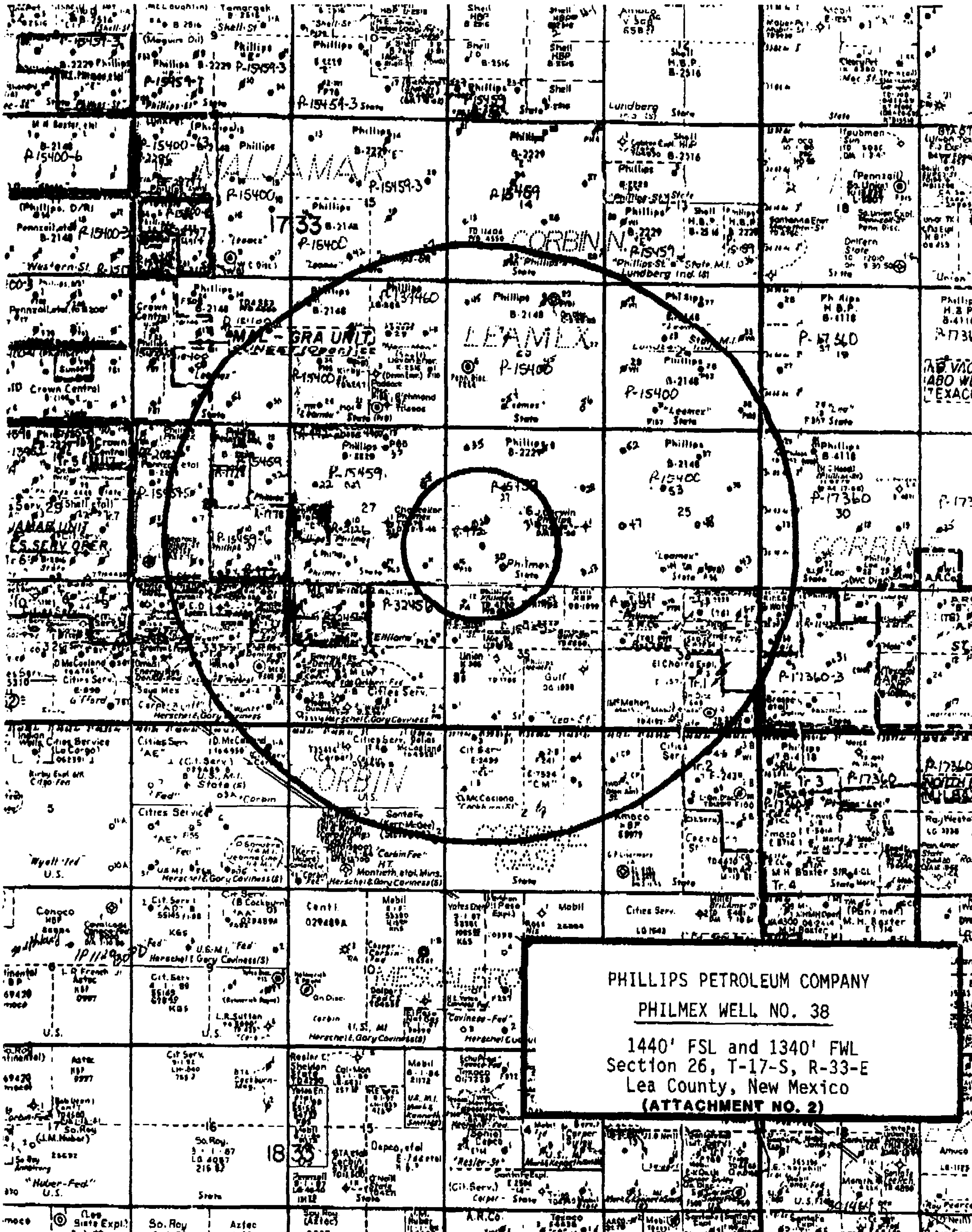
XIV. Certification

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 Resv. Engr. Supv.

Signature: [signature] Date: 2 May 1989

* 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.


PHILLIPS PETROLEUM COMPANY
PHILMEX WELL NO. 38
1440' FSL and 1340' FWL
Section 26, T-17-S, R-33-E
Lea County, New Mexico
(ATTACHMENT NO. 2)

Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
PHILMEX WELL NO. 38

III. WELL DATA

(See Attachment No. 1 - Wellbore Schematic)

A. Production Well

1. Name and Location	Philmex Well Number 38 1440' FSL and 1340' FWL Section 26, T-17-S, R-33-E Lea County, New Mexico
2. Casing Surface:	8 - 5/8" OD, 24#, K-55 set at 1480' (12 - 1/4" hole). To be cemented with 1000 sxs Class C; calculated TOC** at surface (circulate).
Production:	5 - 1/2" OD, 15.5#, K-55 set at 4800' (7 - 7/8" hole). To be cemented with 1300 sxs Class C; calculated TOC** at surface (circulate).
3. Tubing:	2 - 7/8" OD, 8rd EUE, J 55 set 100' above top perforation (internally plastic coated).
4. Packer:	Guiberson Uni-Pac VI Retrievable Packer set 100' above top perforation.

Observation Wells

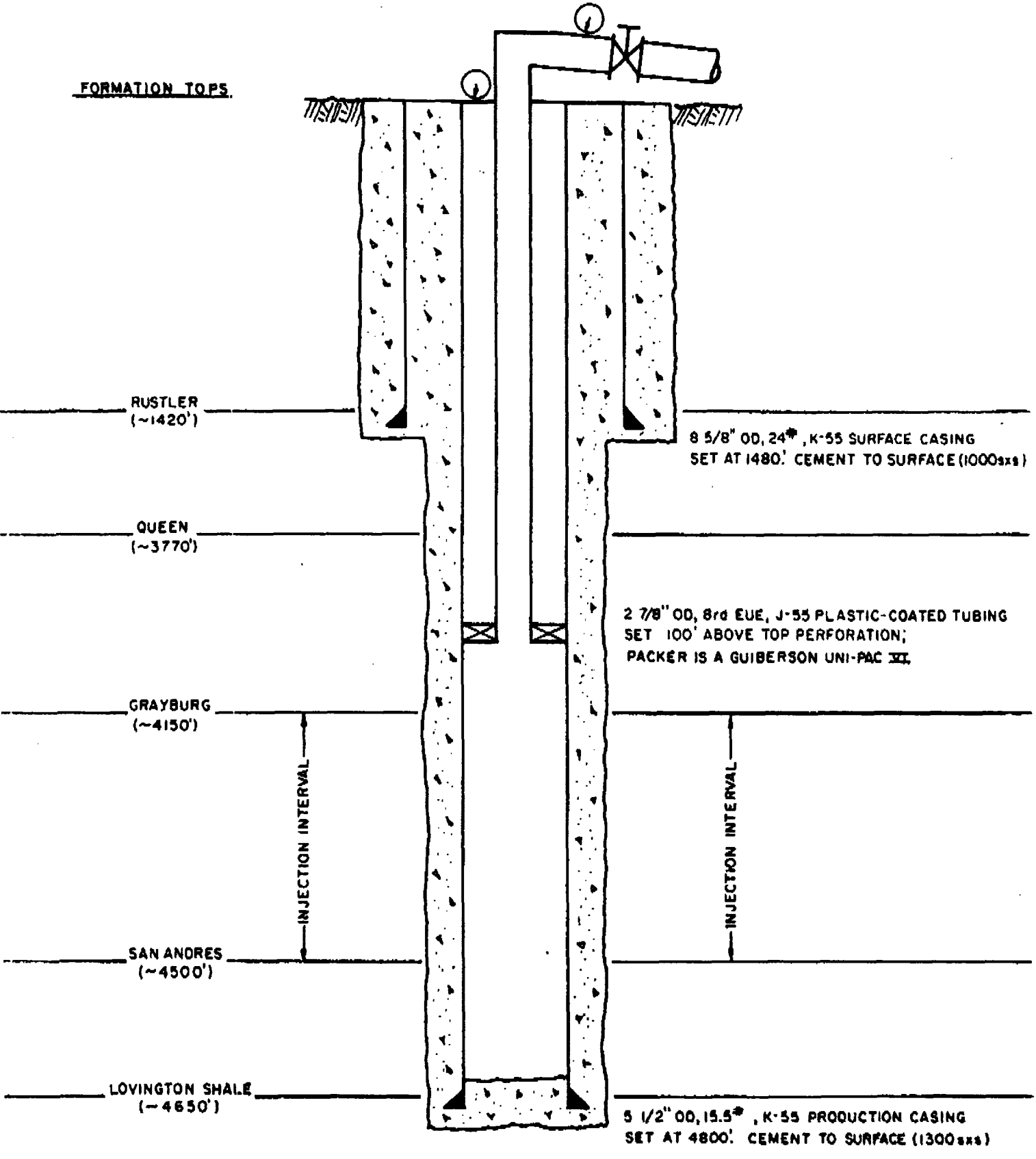
1. Names and Locations:	Philmex Well Number 39 1552' FSL and 1261' FWL Section 26, T-17-S, R-33-E Lea County, New Mexico Philmex Well Number 40 1702' FSL and 1156' FWL Section 26, T-17-S, R-33-E Lea County, New Mexico
2. Casing Surface:	9 - 5/8" OD, 32.3#, H-40 set at 1480' (12 - 1/4" hole). To be cemented with 800 sxs Class C; calculated TOC** at surface (circulate).
Production:	5 - 1/2" OD, 15.5#,J-55 set at 4050' AND 5 - 1/2" OD fiberglass from 4050' to 4850' (8 - 1/2" hole). To be cemented based on caliper + 30% excess.

NOTE: two observation wells will be drilled in close proximity to injection well

** actual TOCs will be reported on Form C-105

PROPOSED INJECTION WELL SCHEMATIC

PHILLIPS PETROLEUM COMPANY
PHILMEX WELL NUMBER 38
1440' FSL & 1340' FWL
SECTION 26, T-17-S, R-33-E
LEA COUNTY, NEW MEXICO



Application for Authorization to Inject

PHILLIPS PETROLEUM COMPANY
PHILMEX WELL NO. 38

III. WELL DATA (con't)

B.	1. Formation:	Maljamar (Grayburg/San Andres)
	2. Interval:	4130' - 4530'**
	3. Original Intent:	Well drilled for CO_2 injection.
	4. Perforated Intervals:	no other perforated intervals; no bridge plugs in wellbore
	5. Productive Zones Higher:	Queen - 3770' (1 1/2 miles southwest)
	Lower:	Corbin Abo Reef - 8200' (1 1/4 miles south)

V. AREA OF REVIEW
(See Attachments No. 2 and 3 - Project Map and Detail Map)

VII. PROPOSED INJECTION OPERATIONS

1.	Rates:	average - 400 mcfpd maximum - 500 mcfpd
2.	System:	closed
3.	Pressures:	average - 1400 psi maximum - 1700 psi
4.	Fluid:	CO_2 source from McElmo Dome in Colorado; transported by Big Three in the Cortez and Llano pipelines. Compatibility with receiving formation is evidenced by Phillips Petroleum East Vacuum Unit and Conoco's MCA (both located six miles to either side of Philmex lease).

** actual perforations will be reported on Form C-105

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

Operator	Well Name	Location	Date Spudded	Total Depth (Well Type)	Surface Casing Size (in)	Surface Casing Depth (ft)	Surface Casing Cement (sx) (TOC)	Production Casing Size (in)	Production Casing Depth (ft)	Production Casing Cement (sx) (TOC)	Producing Perforations (zone)
PHILLIPS PETR. COMPANY	Philmex #11	660' FSL & 660' FEL Section 27-17S-33E Lea County, NM	14 August 1970	4702' (oil)	8 5/8	360	300 (surf:circ)	4 1/2	4702	275 (2625':ts)	4298' - 4664' Maljamar (GB/SA)
	Philmex #12	660' FSL & 660' FWL Section 35-17S-33E Lea County, NM	03 Nov. 1970	4789' (oil)	8 5/8	370	350 (surf:circ)	4 1/2	4789	300 (2750':ts)	4297' - 4620' Maljamar (GB/SA)
	Philmex #16	660' FSL & 330' FWL Section 26-17S-33E Lea County, NM	26 March 1982	6200' (oil)	8 5/8	1450	770 (surf:circ)	4 1/2	6200	876 (surf:circ)	4264' - 4581' Maljamar (GB/SA)
	Philmex #24	660' FSL &1980' FWL Section 35-17S-33E Lea County, NM	21 October 1987	4800 (oil)	8 5/8	1485	1000 (surf:circ)	5 1/2	4800	1600 (surf:circ)	4197' - 4666' Maljamar (GB/SA)
	Philmex #26	1980' FSL & 990' FWL Section 26-17S-33E Lea County, NM	23 Nov. 1987	4800' (oil)	8 5/8	1478	1000 (surf:circ)	5 1/2	4800	1650 (surf:circ)	4192' - 4599' Maljamar (GB/SA)
	Philmex #27	1980' FSL & 1980' FWL Section 26-17S-33E Lea County, NM	08 Feb. 1988	4800' (oil)	8 5/8	1500	1000 (surf:circ)	5 1/2	4800	1400 (surf:circ)	4218' - 4607' Maljamar (GB/SA)
	Philmex #30	660' FSL & 1830' FWL Section 26-17S-33E Lea County, NM	27 June 1988	4800' (oil)	8 5/8	1510	1000 (surf:circ)	5 1/2	4800	1300 (surf:circ)	4194' - 4612' Maljamar (GB/SA)
	Philmex #31	1980' FSL & 2105' FEL Section 26-17S-33E Lea County, NM	31 June 1988	4800' (oil)	8 5/8	1480	1000 (surf:circ)	5 1/2	4800	1300 (surf:circ)	4218' - 4596' Maljamar (GB/SA)
	Philmex #34	1980' FSL & 660' FEL Section 27-17S-33E Lea County, NM	09 August 1988	4800' (oil)	8 5/8	1482	1000 (surf:circ)	5 1/2	4800	1200 (surf:circ)	4094' - 4568' Maljamar (GB/SA)

ts = temperature survey

PHILLIPS PETROLEUM COMPANY
PHILMEX WELL NO. 38

VIII. GEOLOGICAL DATA

A. Injection Zone: The injection zone will be within the Grayburg Formation, a 400' thick sequence of interbedded sands and dolomites. The primary pays are very fine grained sandstones that are one to ten feet thick and are bound by low porosity anhydritic dolomites.

B. Fresh Water Sources: Ogallala - base at 220'

IX. PROPOSED STIMULAION PROGRAM

After perforation, well will be acidized with 15% NEFE HCl and fractured with 60-Quality CO_2. Exact volumes will be determined after well logs are available.

X. LOGGING DATA

Well logs will be submitted, by logging company, after well is drilled.

XI. FRESH WATER ANALYSES

Fresh Water Well Locations -- see Attachment No. 4

Fresh Water Analyses -- see Attachment No. 5

APPLICATION for AUTHORIZATION to INJECT

PHILLIPS PETROLEUM COMPANY
PHILMEX WELL NUMBER 38

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

Operator	Well Name	Location	Date Spudded	Total Depth (Well Type)	Surface Casing Size (in)	Surface Casing Depth (ft)	Surface Casing Cmnt (sx) TOC	Production Casing Size (in)	Production Casing Depth (ft)	Production Casing Cement (sx) (TOC)	Producin Perforatins (zone)
PHILLIPS PETR. COMPANY	Philmex #11	660' FSL & 660' FEL Section 27-17S-33E Lea County, NM	14 August 1970	4702' (oil)	8 5/8	368	300 (surf:circ)	4 1/2	4702	275 (2625':ts)	4398' - 4641' Malaamar (GLSA)
	Philmex #12	660' FNL & 660' FWL Section 35-17S-33E Lea County, NM	03 Nov. 1978	4739' (oil)	8 5/8	379	250 (surf:circ)	4 1/2	4719	300 (2750':ts)	4377' - 4497' Malaamar (GLSA)
	Philmex #16	660' FSL & 330' FWL Section 26-17S-33E Lea County, NM	26 March 1982	4200' (oil)	8 5/8	1450	770 (surf:circ)	4 1/2	4203	876 (surf:circ)	4154' - 4458' Malaamar (GRSA)
	Philmex #20	660' FNL &1980' FEL Section 35-17S-33E Lea County, NM	21 October 1987	4800 (oil)	8 5/8	1485	1800 (surf:circ)	4 1/2	4809	1600 (surf:circ)	4377' - 4666' Malaamar (GRSA)
	Philmex #26	1980' FSL & 960' FWL Section 26-17S-33E Lea County, NM	23 Nov. 1987	4800' (oil)	8 5/8	1478	1300 (surf:circ)	4 1/2	4800	1650 (surf:circ)	4412' - 4598' Malaamar (GRSA)
	Philmex #27	1980' FNL & 1980' FWL Section 26-17S-33E Lea County, NM	08 Febr. 1988	4800' (oil)	8 5/8	1500	1000 (surf:circ)	4 1/2	4801	1800 (surf:circ)	4428' - 4660' Malaamar (GRSA)
	Philmex #30	660' FSL & 1880' FWL Section 26-17S-33E Lea County, NM	22 June 1988	4800' (oil)	8 5/8	1510	1000 (surf:circ)	4 1/2	4801	1300 (surf:circ)	4419' - 4611 Malaamar (GRSA)
	Philmex #31	1980' FSL & 2105' FEL Section 26-17S-33E Lea County, NM	30 June 1988	4800' (oil)	8 5/8	1480	1400 (surf:circ)	4 1/2	4801	1300 (surf:circ)	4423' - 4591 Malaamar (GRSA)
	Philmex #34	1980' FNL & 660' FEL Section 27-17S-33E Lea County, NM	09 August 1988	4800' (oil)	8 5/8	1492	1400 (surf:circ)	4 1/2	4804	1200 (surf:circ)	4409' - 4586' Malaamar (GRSA)

ts = temperature survey

Exhibit "C"

The following are the surface owners and offset operator within one-half mile radius of our proposed Philmex Well No. 38.

Offset Operator	Surface Owner
Harvey E. Yates P. O. Box 1933 Roswell, NM 88202 (SW NW Sec 35,17S,33E)	The State of New Mexico Commissioner of Public Lands P. O. Box 1148 Santa Fe, NM 87504-1148