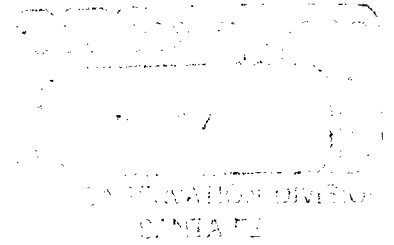


**HIXON DEVELOPMENT COMPANY**

P. O. BOX 2810  
FARMINGTON, NEW MEXICO 87499



April 16, 1984

Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Subject: CBU No. 57  
SW/4 SE/4, Section 5, T25N, R12W  
San Juan County, New Mexico

Gentlemen:

Attached for your approval is our Application for  
Authorization to Inject for the subject well.

Very truly yours,

Hixon Development Company

by *Aldrich L. Kuchera*

Aldrich L. Kuchera  
Executive Vice President

ALK:cb

Attachments

cc: Mr. Frank Chavez  
Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, New Mexico 87410

**HIXON DEVELOPMENT COMPANY**

P. O. BOX 2810  
FARMINGTON, NEW MEXICO 87499

April 16, 1984

Bureau of Indian Affairs  
Navajo Area Office  
Minerals Department  
Box 146  
Window Rock, Arizona 86515

Subject: CBU Well No. 57  
SW/4 SE/4 Section 5, T25N, R12W  
San Juan County, New Mexico

Gentlemen:

Attached is our Application for Authorization to Inject for the subject well. We are required by the Oil Conservation Division to furnish copies of these applications to the surface owners.

Very truly yours,

Hixon Development Company

by Aldrich L. Kuchera

Aldrich L. Kuchera  
Executive Vice President

ALK:cb

Attachments

Certified Mail No. 933625

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage  
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Hixon Development Company  
Address: P.O. Box 2810, Farmington, New Mexico 87499  
Contact party: Aldrich L. Kuchera Phone: (505) 325-6984
- 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-1636-A.
- 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: Aldrich L. Kuchera Title Petroleum Engineer  
Signature: *Aldrich L. Kuchera* Date: 4/16/84
- \* 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.

Hixon Development Company  
Application for Authorization to Inject  
Form C-108 Supplemental Information

CBU Well No. 57  
SW/4 SE/4, Section 5, T25N, R12W  
San Juan County, New Mexico

- I. Shown on Application.
- II. Shown on Application
- III. Well data attached.
- IV. This well is located in a Federal and State approved waterflood project operational since 1959.
- V. Area of review is shown on attached map.
- VI. Information for well's located in the area of review are attached as follows:
  - CBU Well No. 8
  - CBU Well No. 9
  - CBU Well No. 18
  - CBU Well No. WI-13
  - CBU Well No. 84
- VII.
  - 1. Proposed average injection rate is 600 BWPD, expected maximum injection rate is 1200 BWPD.
  - 2. The injection system will be closed.
  - 3. Average injection pressures are expected to be in the 840-965 psi range. Maximum injection pressure will be 965 psi.
  - 4. Refer to the attached water analysis report. Since the formation water to be encountered is primarily previously injected water no problems are expected in mixing the two waters.
  - 5. This well is part of an extensive waterflood project active in the Central Bisti Unit since 1959. All produced water is re-injected into the oil productive Lower Gallup sand to maintain pressure. Injection into the Lower Gallup sand is for waterflooding not disposal.
- VIII. The injection zone is the upper bench of the Lower Gallup sandstone. This zone is shown to be 20' in thickness with a top of 4768' KBE as shown on SP log

Application for Authorization to Inject  
Page 2

previously submitted. No known sources of underground drinking water exist in this area. Water well drilling in the area has shown the Ojo Alamo to be dry.

IX. The well will be acidized if required to maintain injection rate and pressure.

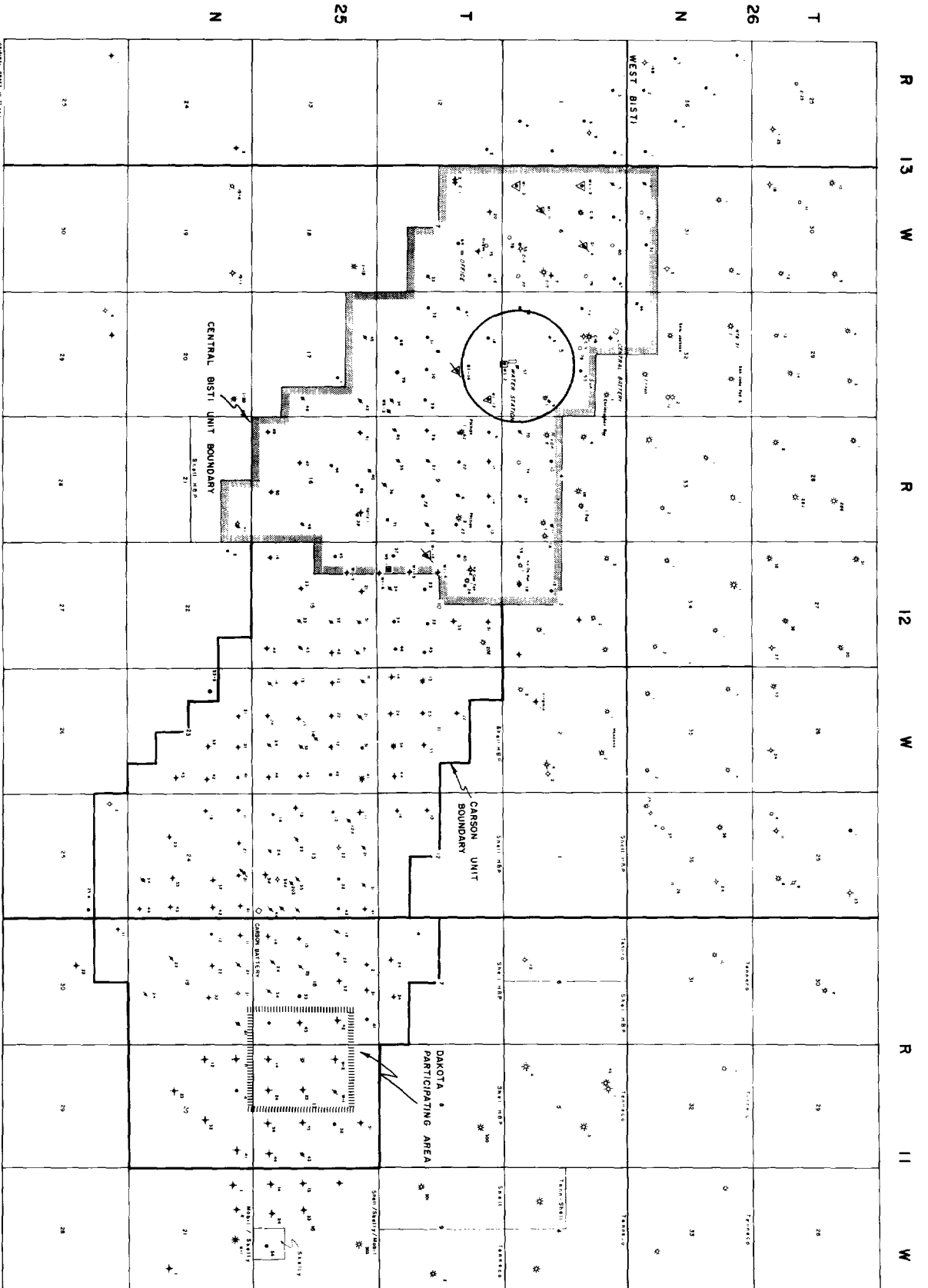
X. Logs were previously submitted.

XI. No known sources of drinking water exist in this area.

XII. This well is part of the existing approved waterflood operation for the Central Bisti Lower Gallup Sand Unit. It is not a disposal well.

XIII. Proof of notification attached.

XIV. Certification shown on application.



HIXON DEVELOPMENT COMPANY  
 CENTRAL BISTI - CARSON UNIT AREA

San Juan County, New Mexico  
 SCALE IN FEET  
 0 500 1000

200 400 600 800 1000  
 1:25000

DATE: January, 1978

# san. juan testing laboratory, inc.

907 WEST APACHE • P.O. BOX 2079 • FARMINGTON, NEW MEXICO

PHONE  
327-4966

Date June 10, 1977

Report to Hixon Development Company  
Requested by A. Kuchera, Mgr. Sampled by Hixon Personnel  
Project CBU #5 Location NW NW Sec. 6, T25N, R12W  
Source of Material Lower Gallup Produced Water

Lob No. 24509 Water Analysis for Petroleum Engineering

## TEST RESULTS

### WATER ANALYSIS FOR PETROLEUM ENGINEERING

#### Constituent

Total Solids 2263 ppm  
pH 7.25  
Resistivity 2.94 ohms/meter @70°F  
Conductivity 3,400 micromhos/cm @ 70°F

#### Constituents

<u>Cations</u>	<u>Meg/L</u>	<u>ppm</u>
Sodium	29.3	674
Calcium	2.3	45
Magnesium	0.5	6
Iron	neg.	3
Barium	0	0

#### Comments

Essentially this is a 0.2% sodium sulfate solution.

#### Anions

Chloride	4.1	145
Bicarbonate	4.0	244
Carbonate	0	0
Hydroxide	0	0
Sulfate	24.0	1150

Copies to Hixon Development Co. (3)  
P.O. Box 2810  
Farmington, New Mexico 87401

TEST NO. 22096

Certified by:





# WELL DATA

WELL NAME: CED WELL NO. 57

LICHTIG: 560' FEL, 1960' FEL, 5-25N-12W

GLE: 6179'

FRU: 2190'

DF: 6188'

RB:

SURFACE CASING HOLE SIZE: 12-1/4"

SURFACE CASING: 8-5/8" 24# 8RD

SURFACE CASING SET AT: 305'

PRODUCTION CASING HOLE SIZE: 7-7/8"

PRODUCTION CASING: 5-1/2" 15.5# 8RD

PRODUCTION CASING SET AT: 5060'

FORMATION TOPS

FRUITLAND:

PICTURED CLIFFS: 1142'

LEWIS:

CLIFFHOUSE: 2916'

MENEFEE: 2990'

POINT LOOKOUT: 2990'

MANCOS:

UPPER GALLUP: 4879'

LOWER GALLUP: 4768'

PERFS: 1086-90', 4780-4880',

: 4846-54', 4861-72'

:

WELL HISTORY

SPUD DATE: 7/29/56

IP: 759 BOPD

GOR:

COMPLETION:

:

REMARKS:

:

:

FBD:

TOTAL DEPTH: 5060'

# WELL DATA

WELL NAME: OBU WELL NO. 8  
 LOCATION: 1980' FSL, 1980' FWL, 5-25N-12W  
 GLE: 6168' RBM: DF: KB:

SURFACE CASING HOLE SIZE:  
 SURFACE CASING: 10-3/4" 32.75# P-40  
 SURFACE CASING SET AT: 209'

PRODUCTION CASING HOLE SIZE:  
 PRODUCTION CASING: 5-1/2" 14# J-55  
 PRODUCTION CASING SET AT: 4921'

FORMATION TOPS:  
 FRUITLAND:  
 PICTURED CLIFFS: 1118'  
 LEWIS:  
 CLIFFHOUSE:  
 MENEFEE:  
 POINT LOOKOUT:  
 MANCOS:  
 UPPER GALLUP: 4616'  
 LOWER GALLUP:

PERFS: 4787-4818', 4855-64',  
 : 4869-84'  
 :

## WELL HISTORY

SPUD DATE:  
 IP: 321 BOPD GOR:  
 COMPLETION: 2/5/57  
 :

PBD: 4886'  
 TOTAL DEPTH: 4944'

## REMARKS:

:  
 : \_\_\_\_\_

# WELL DATA

WELL NAME: CBU WELL NO. 9

LOCATION: 1980' FSL, 660' FEL, 5-25N-12W

GLE: 6156'

RBM: 6167'

DF: 6168'

KB: 12'

SURFACE CASING HOLE SIZE: 12-1/4"

SURFACE CASING: 8-5/8" 24# 8RD

SURFACE CASING SET AT: 298'

PRODUCTION CASING HOLE SIZE: 7-7/8"

PRODUCTION CASING: 5-1/2" 17# 8RD H-40

PRODUCTION CASING SET AT: 4978'

FORMATION TOPS

FRUITLAND:

PICTURED CLIFFS: 1091'

LEWIS:

CLIFFHOUSE:

MENEFEE:

POINT LOOKOUT: 3602'

MANCOS:

UPPER GALLUP: 4677'

LOWER GALLUP: 4766'

PERFS: 4780-4802', 4840-48',

: 4853-68',

:

WELL HISTORY

SPUD DATE: 8/15/56

IP: 537 BOPD

GOR: 563

COMPLETION: 8/30/56

:

REMARKS:

:

:

PBD: 4966'

TOTAL DEPTH: 4978'

# WELL DATA

1

WELL NAME: CBU WELL NO. 18

LOCATION: 660' FNL, 1980' FNL, 8-25N-12W

GLE: 6194'

RBM:

DF:

KB:

SURFACE CASING HOLE SIZE: 12-1/2"

SURFACE CASING: 8-5/8" 24# SRD

SURFACE CASING SET AT: 204'

PRODUCTION CASING HOLE SIZE: 6-3/4"

PRODUCTION CASING: 5-1/2" 14# SRD

PRODUCTION CASING SET AT: 4960'

FORMATION TOPS

FRUITLAND:

PICTURED CLIFFS: 1208'

LEWIS:

CLIFFHOUSE:

MENEFEE:

POINT LOOKOUT: 3610'

MANCOS:

UPPER GALLUP: 4692'

LOWER GALLUP: 4788'

PERFS: 4878-84', 4862-70',

: 4796-4808'

:

WELL HISTORY

SPUD DATE: 7/7/56

IP: 472 BOPD

GOR:

COMPLETION: FRAC W/ 15000 GAL

: OIL & 15000# SAND

REMARKS:

:

:

FED: 4925'

TOTAL DEPTH: 4960'

# WELL DATA

WELL NAME: CBU WI NO. 13

LOCATION: 660' FNL, 660' FEL, 8-25N-12W

GLE: 6176'

RBM: 6186'

DF:

KB:

SURFACE CASING HOLE SIZE: 12-1/4"

SURFACE CASING: 8-5/8" 24# J-55

SURFACE CASING SET AT: 350'

PRODUCTION CASING HOLE SIZE: 7-7/8"

PRODUCTION CASING: 5-1/2" 14# J-55

PRODUCTION CASING SET AT: 4926'

FORMATION TOPS

FRUITLAND:

PICTURED CLIFFS: 1120'

LEWIS:

CLIFFHOUSE:

MENEFEE:

POINT LOOKOUT: 3573'

MANCOS: 3760'

UPPER GALLUP: 4738'

LOWER GALLUP: 4754'

PERFS: 4760-77', 4826-34',

: 4841-52'

:

## WELL HISTORY

SPUD DATE: 8/18/56

IP: 456 BOD 456 BWD GOR:

COMPLETION:

:

REMARKS:

:

:

PBD: 4890'

TOTAL DEPTH: 4930'

# WELL DATA

WELL NAME: CBU WELL NO. 84

LOCATION: 1200' FSL, 720' FEL, 5-25N-12W

GLE: 6163'

RBM:

DF: 6174'

KB: 6176'

SURFACE CASING HOLE SIZE: 12-1/4"

SURFACE CASING: 8-5/8" J-55 24# SRD

SURFACE CASING SET AT: 217'

PRODUCTION CASING HOLE SIZE: 7-7/8"

PRODUCTION CASING: 5-1/2" 15.5# K-55

PRODUCTION CASING SET AT: 4978

FORMATION TOPS

FRUITLAND: 612'

PICTURED CLIFFS: 1102'

LEWIS: 1298'

CLIFFHOUSE: 1476'

MENEFEE: 2566'

POINT LOOKOUT: 3608'

MANCOS: 3768'

UPPER GALLUP: 4665'

LOWER GALLUP: 4766'

PERFS: 4790-4810', 4850-58',

: 4864-76'

:

WELL HISTORY

SPUD DATE: 10/8/83

IP: GOR:

COMPLETION: FRAC W/ 75000# SAND

:

REMARKS:

:

:

FBD: 4928'

TOTAL DEPTH: 4975'

# NOTICE

Hixon Development Company, P.O. Box 2810, Farmington, New Mexico 87499, (505)325-6984 whose agent is Aldrich L. Kuchera hereby notifies interested parties that the following list of wells are to be converted to water injection wells. Maximum rate will be 1200 BWPD at less than 965 psi. Any request for information or objections should be filed with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

CBU Well No. 66, SW/4 SW/4, Section 32, T26N, R12W;

CBU Well No. 63, SW/4 NW/4, Section 8, T25N, R12W;

CBU Well No. 57, SW/4 SE/4, Section 5, T25N, R12W;

CBU Well No. 56, SW/4 SW/4, Section 5, T25N, R12W;

CBU Well No. 53, SW/4 NW/4, Section 5, T25N, R12W;

CBU Well No. 52, SW/4 SE/4, Section 31, T26N, R12W;

CBU Well No. 64, SW/4 NE/4, Section 7, T25N, R12W;

CBU Well No. 21, SW/4 NW/4, Section 7, T25N, R12W;

CBU Well No. 73, SW/4 SE/4, SEction 8, T25N, R12W

To be published: 4/26/84

Legal No.: 14698



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

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

OIL CONSERVATION DIVISION  
BOX 2088  
SANTA FE, NEW MEXICO 87501

DATE 5-3-84

RE: Proposed MC \_\_\_\_\_  
Proposed DHC \_\_\_\_\_  
Proposed NSL \_\_\_\_\_  
Proposed SWD \_\_\_\_\_  
Proposed WFX ☒ \_\_\_\_\_  
Proposed PMX \_\_\_\_\_

Gentlemen:

I have examined the application dated 4-26-84  
for the Winn Dev. Co. CBU 451 0-5-25N-17W  
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours truly,

Frank J. [Signature]