

2 NMOCD-Santa Fe) 1 - NMOCD-Aztec

DIVISION

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: DUGAN PRODUCTION CORP.
Address: P.O. Box 420, Farmington, NM 87499

Contact party: John Alexander Phone: 505-325-6927 or 325-1821

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-1638.

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: John Alexander Title Petroleum Engineer

Signature: John Alexander Date: 11-14-90

* 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. Logs submitted on original completion 11/57.

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.

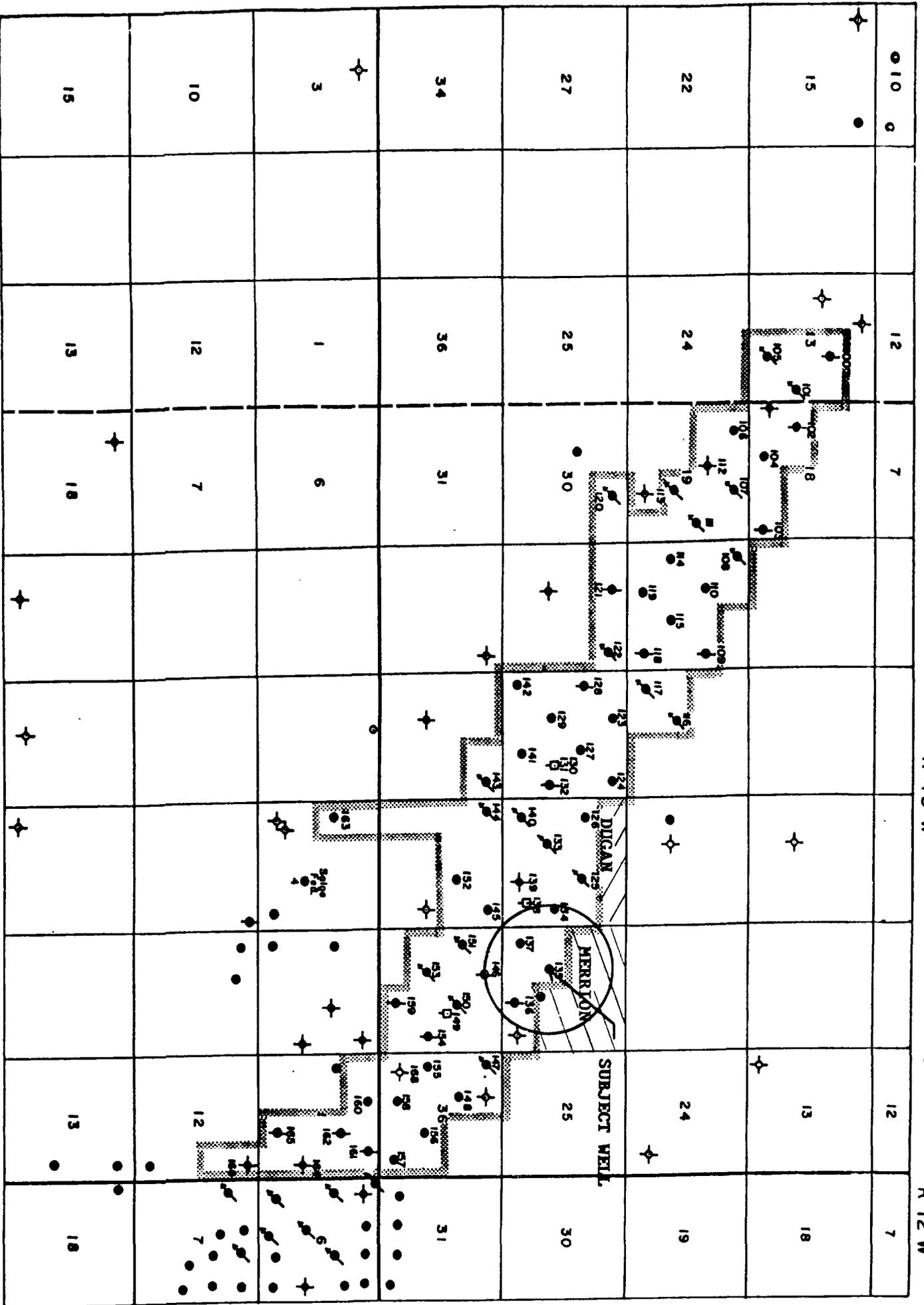
WEST BISTI UNIT 195
 Conversion to Injection
 R 14 W

DUGAN PRODUCTION
 WEST BISTI UNIT

R 13 W

PRODUCER
 INJECTOR
 TEMP. ARANDON

R 12 W



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Dugan Production Corp.
P.O. Box 420
Farmington, N.M. 87499

III A. Injection Well Information:

1. West Bisti Unit No. 135
1650' FSL & 1650' FWL
26-26N-13W
2. 10-3/4" 32.74 lb. set at 173', hole size unknown.
Cemented with 150 sks. "Regular" + 2% CaCl₂. Circulated to surface.

5 1/2" 15.5 lb. set @ 5077' in 7-7/8" hole. Cemented with 125 sks. regular cement; 125 sks. Pozmix, 4% gel, 1/2 lb. Flocele/sk; 50 sks. regular cement. Cement top @ 3615' by temperature survey.
3. Tubing will be 2-3/8" 4.7 lb. EUE 8rd., plastic lined. Setting depth will be ±4900'.
4. Packer will be a Baker Model "AD-1" plastic coated internally. Setting depth will be ±4900'.

III B. Formation Information:

1. Gallup Sandstone. Bisti Lower Gallup Field.
2. Injection interval perforated 4966-4988.
3. Originally drilled as a production well.
4. There are no other zones perforated in this well.
5. Next highest production zone: Pictured Cliffs - 1255'.
Next lower production zone: Dakota - 5700' (estimate)

VII Data On Proposed Operation:

1. Average daily injection rate is expected to be 400 bwpd, with a maximum rate expected to be 1,000 bwpd.
2. The system is closed.
3. The average injection pressure will be 650 psi, with a maximum of 750 psi.
4. Injected water will that produced from the Gallup formation, and re-injected into the Gallup formation.
5. This is not a disposal well.

VIII Geologic Information:

Injection will be into the Gallup sandstone. Top of the Gallup is at 4782' with a total thickness of 296'. There are no known underground sources of drinking water above or below the Gallup in this well.

IX Stimulation:

No stimulation is proposed.

XI Fresh Water Analysis:

There are no active water wells in the area.

XIV Proof Of Notice:

Attached are copies of the certified mail receipts notifying The Navajo Tribe as surface owner and Merrion Oil and Gas as offset operator. A copy of the letter provided is attached. Dugan Production is operator for the West Bisti Unit, therefore controlling the remaining acreage.

A certified copy of the legal notice published in The Farmington Daily Times is attached.

DUGAN PRODUCTION CORP.

DATA ON WELLS OFFSET TO WEST BISTI UNIT NO. 135

No. VI on Form C-108

WELL	LOCATION	TYPE	DRILLED	DEPTH	DATA
WBU 146	660' FNL & 660' FWL 35-26N-13W	TA	12-56	5077	9-5/8" 25.4 LB. CASING @ 213' - CEMENTED W/ 200 SKS. - CIRCULATED TO SURFACE.

5 1/2" 14 LB. CASING @ 5076' - CEMENTED W/ 100 SKS. + 3% GE
CEMENT TOP @ 4470' BY TEMPERATURE SURVEY

GALLUP PERFORATED 4937-57; 5000-08 SAND-OIL FRAC WITH 30,0
GAL. LEASE OIL AND 30,000 LB. SAND.

WELL	LOCATION	TYPE	DRILLED	DEPTH	DATA
WBU 137	660' FSL & 660' FWL 26-26N-13W	PRODUCER	10-56	5108	9-5/8" 25.4 LB. CASING @ 173' - CEMENTED W/ 125 SKS. - CIRCULATED TO SURFACE.

5 1/2" 15.5 CASING @ 5107' - CEMENTED W/ 125 SKS REGULAR CE
125 SKS POZMIX + 4% GEL; 50 SKS REGULAR CEMENT CEMENT TOP
3720' BY TEMPERATURE SURVEY

GALLUP PERFORATED 4966-83. SAND-OIL FRAC W/ 44,000 GAL. O
38,200 LB. SAND. RE-FRACTURE 30,000 GAL. OIL AND 40,000
10-20 SAND. RE-FRACTURE 27,740 GAL. OIL AND 30,000 LB. 10
SAND.

WELL	LOCATION	TYPE	DRILLED	DEPTH	DATA
WBU 136	660' FSL & 660' FEL 26-26N-13W	TA	12-56	5165	9-5/8" 25.4 LB. CASING @ 173' - CEMENTED W/ 125 SKS. - CIRCULATED TO SURFACE.

5 1/2" 15.5 LB. CASING @ 5165' - CEMENTED W/ 125 SKS. REGUL
SKS, 4% GEL, 62.5 LB. FLOCELE; 50 SKS REGULAR. CEMENT TOP
3600' BY TEMPERATURE SURVEY

GALLUP PERFORATED 4938-60; 4988-5002. SAND-OIL FRAC W/ 58
GAL. OIL AND 60,000 LB. SAND. RE-FRACTURE 4938-60 WITH 30
GAL. OIL AND 40,000 LB. 10-20 SAND.

WELL	LOCATION	TYPE	DRILLED	DEPTH	DATA
WBU 134	1980' FSL & 660' FEL 27-26N-13W	PRODUCER	4-59	5080	9-5/8" 25.4 LB. CASING @ 215' - CEMENTED W/ 200 SKS. - CIRCULATED TO SURFACE.

5 1/2" 14 LB. CASING @ 5078' - CEMENTED W/ 100 SKS. 50-50 P
2% GEL. CEMENT TOP @ 4740' BY TEMPERATURE SURVEY

GALLUP PERFORATED 4944-57. SAND-OIL FRAC W/ 30,000 GAL. O
60,000 LB. SAND. PERFORATE 4995-5009. FRACURE BOTH SETS
PERFORATIONS WITH 35,000 GAL. GELLED WATER AND 68,000 LB.
SAND.

DUGAN PRODUCTION CORP.

DATA ON WELLS OFFSET TO WEST BISTI UNIT NO. 135
 No. VI on Form C-108

WELL	LOCATION	TYPE	DRILLED	DEPTH	DATA
SERENDIPITY 1 (MERRION O&G)	1650' FSL & 2310' FEL 26-26N-13W	PRODUCER	5-83	5120	<p>8-5/8" 24 LB. K-55 CASING @ 213'. CEMENTED WITH 295 CU. F CLASS B, 1/4 LB. CELLOPHANE FLAKES/SK., 3% CaCl₂. CIRCULATED TO SURFACE.</p> <p>5 1/2" 15.5 LB. K-55 @ 5120'. CEMENTED WITH 1312.5 CU. FT. "HIGH-LIGHT", 3% SALT, 1/2 LB. CELLOPHANE FLAKES/SK.; 201. FT. 65-35 POZMIX 2% GEL, 10% SALT, 1/4 LB. CELLOPHANE FLAKES. 0.6% FLUID LOSS. CIRCULATED TO SURFACE.</p> <p>PERFORATED GALLUP 4965-76; 5016-22. FRACTURED WITH 90,000 SLICK WATER AND 75,000 LB. 20-40 SAND.</p>

AFFIDAVIT OF PUBLICATION

COPY OF PUBLICATI

No. 26839

STATE OF NEW MEXICO,
County of San Juan:

CHRISTINE HILL being duly sworn, says: "That she is the NATIONAL AD MANAGER of The Farmington Daily Times, a daily newspaper of general circulation published in English in Farmington, said county and state, and that the hereto attached LEGAL NOTICE

was published in a regular and entire issue of the said Farmington Daily Times, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for ONE consecutive (days) (/////) on the same day as follows:

- First Publication SUNDAY, NOVEMBER 18, 1990
- Second Publication _____
- Third Publication _____
- Fourth Publication _____

and that payment therefore in the amount of \$ 10.28 has been made.

Christine Hill

Subscribed and sworn to before me this 19TH day of NOVEMBER 1990.

J. Shorter
Notary Public, San Juan County,
New Mexico

My Comm expires: July 5, 1994

LEGAL NOTICE
 Dugan Production Corp., P.O. Box 420, Farmington, N.M. 87499, (505) 325-1821, Attention: John Alexander, has made application to convert West Bisti Unit No. 135 to water injection. The purpose of this conversion is to enhance an existing pressure maintenance project. The well is located 1650' FLS & 1650' FWL of Section 26, Township 26N, Range 13W, San Juan County, New Mexico. Water injection will be into the Gallup Formation at 4966-4988'. Maximum injection pressure is 750 psi, with maximum rate of 1,000 bbls of water daily.
 All interested parties must file objections with the Oil Conservation Division, P.O. Box 2008, Santa Fe, New Mexico 87501 within 15 days.
 Legal No. 26839 published in the Farmington Daily Times, Farmington, New Mexico on Sunday, November 18, 1990.

Notice to Offset Operators

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge) 2. Restricted Delivery (Extra charge)

3. Article Addressed to: The Navajo Nation Eastern Navajo Land Office P.O. Box 948 Crownpoint, NM 87313	4. Article Number P 551 201 948 Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee <i>[Signature]</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent <i>[Signature]</i>	
7. Date of Delivery 11/16/90	

CROWNPOINT, NM NOV 19 1990 USPO

PS Form 3811, Apr. 1989 *U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge) 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Merrion Oil & Gas Corp. P.O. Box 840 Farmington, NM 87499	4. Article Number P 551 201 949 Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>[Signature]</i>	
7. Date of Delivery 11/16/90	

PS Form 3811, Apr. 1989 *U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT



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

GARREY CARRUTHERS
 GOVERNOR

1100 THE PLAZA ROAD
 AZTEC, NEW MEXICO 87410
 (505) 334-0170

NOV 9 48

Date: 1-4-91

Oil Conservation Division
 P.O. Box 2000
 Santa Fe, NM 07504-2000

Re: Proposed HC _____
 Proposed DIC _____
 Proposed NSL _____
 Proposed SWD X _____
 Proposed WFX _____
 Proposed PIX _____

Gentlemen:

I have examined the application dated 11-27-90

for the DUERN PRODUCTION CORP. U-B-L #135
 Operator Lease & Well No.

K-24-26N-13W and my recommendations are as follows:
 Unit, S-T-R

Approval - Require yearly MTS.

Yours truly,

Ernie Busch