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BUREAU OF LAND MGMT.
LAND RESOURCE AREA

N.M. Oil and Gas Division

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM1531
b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Merit Energy Company		7. If Unit or CA Agreement, Name and No. 15317
3A. Address 12222 Merit Dr. Ste 1500 Dallas, TX 75251		8. Lease Name and Well No. Federal "4" Cam #4
3b. Phone No. (include area code) 972-383-6569		9. API Well No. 30-015-31579
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1200' FNL & 660' FEL At proposed prod. Zone Same		10. Field and Pool, or Exploratory Sec. 4-T21S-R27E
14. Distance in miles and direction from nearest town or post office* 6 miles NE of Carlsbad, New Mexico		11. Sec., T., R., M., or Blk. and Survey or Area Sec. 4-T21S-R27E
13. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of Acres in lease 298.91	17. Spacing Unit dedicated to this well 40 acres
18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft. 1400'	19. Proposed Depth 6650'	20. BLM/BIA Bond No. on file WY-3011
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3193' GL	22. Approximate date work will start* Upon Permit Approval	23. Estimated duration 90 Days

24. Attachments **CARLSBAD CONTROLLED WATER BASIN**

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized office. |

25. Signature <i>Lynne Moon</i>	Name (Printed/Typed) Lynne Moon	Date 9/27/00
Title Regulatory Analyst		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed) [Name]	Date [Date]
Title Acting Assistant Field Manager, Lands And Minerals		
Office [Office]		

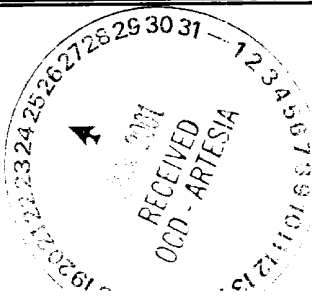
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on reverse)

Notify OCD Spud & time to Witness
8 5/8" Casing



APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Grande Rd., Aztec, NM 87412
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
		Bone Springs
Property Code	Property Name	Well Number
	FEDERAL "4" COM.	4
OGRID No.	Operator Name	Elevation
014591	MERIT ENERGY COMPANY	3193

10 Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
8	4	21S	27E		1200	NORTH	660	EAST	EDDY

11 Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres		Joint or Infill		Consolidation Code		Order No.			
40									

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>16</p>	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Lynne Moon</i> Signature</p> <p>Lynne Moon Printed Name</p> <p>Regulatory Analyst Title</p> <p>09/20/2000 Date</p>
	<p>18 SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plot was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>8/5/2000 Date of Survey</p> <p><i>Michael R. Bryant</i> Signature and Seal of Professional Surveyor</p> <p>NEW MEXICO 8510</p> <p>Certificate Number</p>	
	<p>19</p>	

N $\frac{1}{2}$ OF IRREGULAR SEC 4

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MERIT ENERGY COMPANY

Federal #4 Com #4
1200' FNL & 660' FEL
Lot 1, Sec. 4-T21S-R27E
Eddy Co., New Mexico

1. The estimated top of geologic markers are as follows:

Yates	675'
Delaware	2800'
Cherry Canyon	3300'
Brushy	5100'
Bone Springs	6300'

2. The estimated depth at which anticipated water, oil and gas are expected to be encountered:

Water	Surface to 500'
Oil and Gas	Yates 675' to Bone Springs 6650'

3. Pressure Control Equipment: BOPE will be installed on the 8-5/8" casing and rated for 3000#. BOP Systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report.

Auxiliary Equipment and proposed Casing Program:

- A. Auxiliary Equipment: Kelly Cock, pit level indicators, flow sensor equipment, and a sub with full opening valve to fit drill pipe and collars will be available on rig floor in open position at all times for use when Kelly is not in use.

B. Casing and Cementing Program:

WITNESS

Hole Size: 17-1/2"
Setting Depth: 650'

Total Depth: 650'
Mud Weight: 8.8 ppg

Casing Size: 13-3/8"

Casing Design:

O.D.	Weight	Grade	Thread	Coupling	Interval	Length
13-3/8"	54.5#	J-55	8RD	ST&C	0-650'	650'

Cement Program:

Lead Slurry: 570 sacks Class "C" w/2% CaCl₂
Calculated Linear Fill: True Hole Volume - 1083 feet
Slurry Properties: Weight 12.8 ppg Yield 1.32 cu. ft./sack

Federal "4" Corn #4
Page 2 of 3

Hole Size: 12-1/4" Total Depth: 2700' Casing Size: 8-5/8"
Setting Depth: 2700' Mud Weight: 8.8 ppg

Casing Design:

O.D.	Weight	Grade	Thread	Coupling	Interval	Length
8-5/8"	24#	J-55	8RD	ST&C	0-2700'	2700'

Minimum Casing Design Factors:

Collapse: 11.30 Burst: 27.30 Tensile Strength: 8.53

Cement Program:

Lead Slurry: 1275 sacks Class "C" w/2% CaCl₂
Calculated Linear Fill: True hole volume – 4077 feet
Slurry Properties: Weight 12.8 ppg Yield 1.32 cu. ft./sack

Hole Size: 7-7/8" Total Depth: 6650' Casing Size: 5-1/2"
Setting Depth: 6650' Mud Weight 8.7 ppg

Casing Design:

O.D.	Weight	Grade	Thread	Coupling	Interval	Length
5-1/2"	15.5#	J-55	8RD	LT&C	0-6650'	6650'

Minimum Casing Design Factors:

Collapse: 40.40 Burst: 48.10 Tensile Strength: 2.17

Cement Program:

Lead Slurry: 687 sacks Class "H" w/.3% Flack (Fluid Loss) 3% M117
Expected Fill: 4679 feet
Slurry Properties: Weight 12.7 ppg Yield 2.10 cu. ft./sack

4. Mud Program and Auxilliary Equipment:

From 0' to 650' (Minimum)

Mud Weight: 8.6 ppg Viscosity: 32 sec./1000 cc Water Loss: NC cc
Mud Type: FW Gel/LCM Mud will be checked tourly by mud engineer. Sufficient quantities of mud will be kept on location to maintain minimum properties.

From 650' to 2750' (Minimum)

Mud Weight: 10.0 ppg Viscosity: 28 sec./1000 cc Water Loss: NC cc
Mud Type: ~~Brine use salt water gel for hole sweeps~~ Mud will be checked tourly by mud engineer.
Sufficient quantities of mud will be kept on location to maintain minimum properties.

From 2750' to 6650' Minimum)

Mud Weight: 8.7 ppg Viscosity: 30 sec./1000 cc Water Loss: NC cc
Mud Type: Brine, use salt water gel for hole sweeps.

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5. Testing, Logging and Coring Program:

Samples: Every 10' from surface to TD.

DST's: Any tests will be based on recommendations of the wellsite Geologist as warranted by drilling breaks and shows.

Coring: None Anticipated

Logging: CNL from TD to 2750'

6. Abnormal Conditions, Bottom Hole Pressure and Potential Hazards:

Anticipated BHP: From 0' to 650' – Anticipated Maximum BHP: 0 psi
From 650' to 5100' – Anticipated Maximum BHP: 1000 psi
From 5100' to 6650' – Anticipated Maximum BHP: 1700 psi

Maximum Bottom Hole Temperature: 130 degrees fahrenheit

Abnormal pressure anticipated: None

Lost Circulation Zones anticipated: Possible lost circulation 450' to 1500'.

H2S Zones anticipated: None

7. Anticipated Starting Date: As soon as possible after approval
Drilling Time: Approximately 15 days
Completion Time: Approximately 15 days

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MULTI-POINT SURFACE USE AND OPERATIONS PLAN

MERIT ENERGY COMPANY

Federal "4" Com #4
1200' FNL & 660' FEL
Lot 1, Sec. 4-T21S-R27E
Eddy Co., New Mexico

This form is submitted with a Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in reclamation of the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

Exhibit A is a portion of BLM map showing the well and roads in the vicinity for the proposed location. The proposed well site is located approximately 6 miles Northeast of Carlsbad, New Mexico. The access route to the location is indicated in Blue and Red on Exhibit A.

2. DIRECTIONS:

Go North of Carlsbad, New Mexico on Highway 206. Turn right (East) onto 600 to GCNM Avalon Plant. Turn North 1-1/4 mile to new access road on East side.

3. PLANNED ACCESS ROAD:

Approximately 230' in length going in a eastern direction. Drainage on both sides will be needed. No turn outs needed. Road will enter drilling pad on southwest corner.

4. LOCATION OF EXISTING WELL:

A. There is no drilling activity within a one-mile radius of the well site.

5. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. There are production facilities on this lease at the present time.
- B. In the event that the well is productive the necessary flowline will be laid along road right-of-ways following the east & south road to production facility on lease Federal 4 Com #1 Central Battery (2787' FNL & 860' FEL Section 4-T24S-R27E NM #1531). 2-3/8" J-55 pipe will be used for flowline. See green Exhibit E.

6. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a fresh and brine water system. The water will be obtained from commercial sources and will be hauled to the location over the existing and proposed roads shown in Exhibit A.
- B. Fresh water source is the City of Carlsbad.
- C. Brine water source is B & E (Carlsbad, NM)

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7. SOURCE OF CONSTRUCTION MATERIALS:

Materials for construction will be obtained from surface of location area (cache at surface). There will be a berm built along south and west side of location to prevent run off into old lake bed.

8. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
- D. Oil produced during operations will be stored in tanks until sold.
- E. Current laws and regulations pertaining to the disposal of human waste will be complied with. Sanitary Port-O-Potties will be provide during drilling operations, cleaned, sanitized, and/or replaced as necessary.
- F. Trash, waste paper, garbage and junk will be contained to prevent scattering by the wind. Containment will be obtained by using covered trash bins. Contents of trash bins will be hauled off to approved landfill off Highway 62-180 east of Carlsbad, Eddy County, New Mexico.
- G. All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.

9. WELL SITE LAYOUTS:

- A. Exhibit C shows the relative location and dimensions of well pad, the reserve pits, the location of the drilling equipment, rig orientation and access road approach.
- B. The reserve pits will be plastic lined with 6 mil. Plastic.
- C. A 400' X 400' area has been staked and flagged.

10. PLANS FOR RESTORATION:

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned to leave well site in as aesthetically a condition as possible.
- B. Unguarded pits, if any, containing fluid will be fenced until they have dried and been leveled.
- C. If the proposed well is non-productive, all reclamation and/or vegetation Requirements of the Bureau of Land Management will be complied and will be accomplished as expedient as possible. All pits will be filled level within 90 days after abandonment.

11. SURFACE OWNERSHIP:

Federal Surface administered by the Bureau of Land Management, Carlsbad Resource Area.

12. OTHER INFORMATION:

- A. Topography: Refer to the archeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.
- B. The primary surface use is for grazing.

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13. OPERATOR'S REPRESENTATIVE:

A. Through A.P.D. Approval

Mr. Michael Evans - Engineer
Merit Energy Company
12222 Merit Drive Suite 1500
Dallas, Texas 75251
972-383-6582

B. Through Drilling & Completion Operations
BUREAU OF LAND MGMT.
SURFACE RESOURCE AREA

Mr. Jim Johnston - Operations Superintendent
Merit Energy Company
P. O. Box 220
Highway 380 East
Bridgeport, Texas 76426
940-683-4059

14. CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Merit Energy Company and its terms and conditions under which it is approved. This statement is subject to the provisions of U.S.C. 1001 for the filing of a false statement.

9/27/00
Date

Michael Evans
Michael Evans
Engineer

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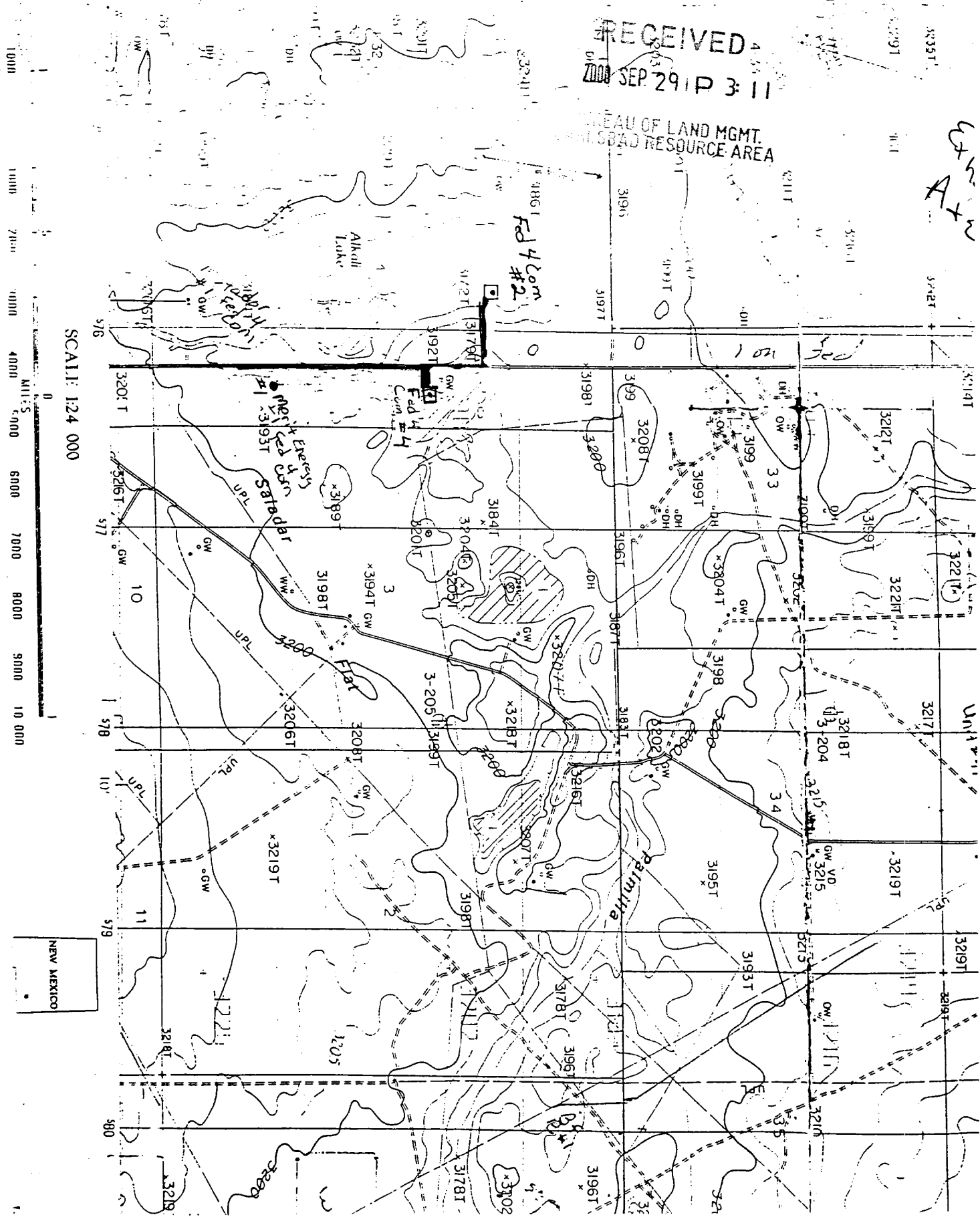


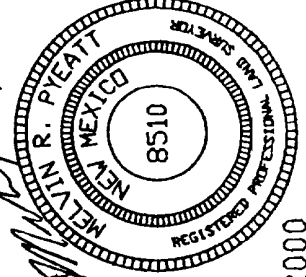
EXHIBIT C

A 50' ACCESS AND UTILITY EASEMENT, IN FAVOR OF MERIT ENERGY COMPANY, FROM THE BUREAU OF LAND MANAGEMENT, FOR THE FED 4 COMM #4 WELL, BEING DESCRIBED BY ITS CENTER LINE AS FOLLOWS, BEGINNING AT A POINT THAT LIES S31°47'41"W 1632.01' FROM THE NE COR OF SEC 4, T21S, R27E, N.M.P.M., EDDY COUNTY, NEW MEXICO, THEN S89°52'17"W FOR 229.31' TO THE EAST EDGE OF AN EXISTING DIRT ROAD, WHICH POINT IS ALSO THE END OF THIS EASEMENT.

AND

A 50' ACCESS AND UTILITY EASEMENT, IN FAVOR OF MERIT ENERGY COMPANY, FROM THE BUREAU OF LAND MANAGEMENT, FOR THE FED 4 COMM #5 WELL, BEING DESCRIBED BY ITS CENTER LINE AS FOLLOWS, BEGINNING AT A POINT THAT LIES S51°23'58"W 2968.01' FROM THE NE COR OF SEC 4, T21S, R27E, N.M.P.M., EDDY COUNTY, NEW MEXICO, THEN S87°04'35"E FOR 1213.84' TO THE WEST EDGE OF AN EXISTING DIRT ROAD, WHICH POINT IS ALSO THE END OF THIS EASEMENT.

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OWNER: BUREAU OF LAND MANAGEMENT



Scale 1" = 700'

9/8/2000

