

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Submit in Triplicate  
(Other instructions on  
reverse side)

Division

FORM APPROVED  
Budget Bureau No. 1004-1036  
Expires: December 31, 1991

CHK

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. Type of Work

DRILL ☒

DEEPEN ☐

b. Type of Well

☐ Oil

☒ Gas

☐ Other

Single Zone ☒

Multiple Zone ☐

2. Name of Operator

Merit Energy Company

14591

3. Address and Telephone No.

12222 Merit Drive 1500 Dallas Tx 75252 (972) 701-8377

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At Surface:

Lot 7 Unit G, Sec 4, T21S, R27E, 1980 FNL 1980 FEL-Eddy County, NM

At proposed prod. zone:

Same as above

Designation and Serial No.

NM-98124-NM-0119

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Federal 4 #3

7669

17317

9. API Well No.

30-015-28595

10. Field and Pool, or Wildcat

Burton Flats Bone Springs #96335

11. Sec., T., R., M., or Bk. and Survey or Area

Sec. 4, T21S, R27E

12. County or Parish

Eddy

13. State

NM

14. Distance in miles and direction from nearest Town or Post Office\*

6 miles -Northeast of Carlsbad, NM

15. Distance from proposed\* location to nearest property or lease line, Ft.  
(Also to nearest drlg unit line, if any)

1980' FNL

16. No. of acres in lease

298

17. No. of acres assigned to this well

40(forty)

18. Distance from proposed location\* to nearest well drilling, completed, or applied for, on this lease, ft

1320'

19. Proposed Depth

6650'

20. Rotary or Cable Tools

Rotary

21. Elevations (Show whether DF, RT, GR, ect.

GR 3183'

22. Approx date work will start\*

ASAP

23.

PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Grade, Size of Casing	Weight Per Foot	Setting Depth	Quantity of Cement
17 1/2	13 3/8	54.5	650'	570sx Class C Circ
11	8 5/8	24	2700	343sx Class C Circ
7.875	5 1/2	15.5	6650	518sx class C, 356sx C H tie b

Merit Energy Company proposes to drill and test the Bone Springs formation. Approx 650' surface casing will be set & circulated to surface. Approx 1750' intermediate casing will be ran & cemented to surface, if commercial production casing will be ran. cemented tying back into 8 5/8 casing perforated and stimulated as needed.

Mud Program FW to 650', cut Brine to 6650'.

BOPE Program: BOPE will be installed at the offset and tested daily for operational condition.

\* Spoke, w/ Armand Lopez w/ BLM 3/3/97. Will require operator to extend 8 5/8" casing to 2700' for Reef Protection Stairs.

Bryan Annant - OCD

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Signed

Russell Whitten

Title West District, Operations Manager

Date

1-14-97

(This space for Federal or State office use)

Permit No.

Approval Date

Application approval does not warrant or certify that the applicant hold 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:

(ORIG. SGD.) TONY L. FERGUSON

ADM, MINERALS

Approved by

Title

Date

2-27-97

\*See Instruction of Reverse Side

Title 18 U.S.C., Section 1001, makes 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.

(December 1990)

Submit in Triplicate\*

(Other instructions on reverse side)

FORM APPROVED  
Budget Bureau No. 1004-1036  
Expires: December 31, 1991

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. Type of Work DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>			5. Lease Designation and Serial No. NM - <del>1000</del> 01119																						
b. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>			6. If Indian, Allottee of Tribe Name																						
1. Name of Operator Merit Energy Company			7. If Unit or CA, Agreement Designation <del>XXXXXXXXXXXX</del>																						
2. Address and Telephone No. P.O. Drawer NN - Jal, NM 88252 (505)395-2173			8. Well Name and No. Federal 4 <del>1000</del> #3																						
4. Location of Well (Report location clearly and in accordance with any State requirements.) At Surface: 11 Lot 7 Unit Letter G - Sec 4, T21S R27E 1980' FNL and 1980' FEL - Eddy County, NM At proposed prod. zone: Same as above			9. API Well No.																						
14. Distance in miles and direction from nearest Town or Post Office* 6 miles Northeast of Carlsbad, NM			10. Field and Pool, or Wildcat Burton Flats - Bone Springs Pool # 96335																						
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17. No. of acres assigned to this well 40(forty)			13. State NM																						
18. Distance from proposed location* to nearest well drilling, completed, or applied for, on this lease, ft 1320'			19. Proposed Depth 6650'																						
20. Rotary or Cable Tools Rotary			21. Elevations (Show whether DF, RT, GR, etc.) 3183'																						
22. Approx date work will start* ASAP			23. PROPOSED CASING AND CEMENTING PROGRAM																						
<table border="1"><thead><tr><th>Size of Hole</th><th>Grade, Size of Casing</th><th>Weight Per Foot</th><th>Setting Depth</th><th>Quantity of Cement</th></tr></thead><tbody><tr><td>12 1/4</td><td>8 5/8</td><td>24#</td><td>650</td><td>570sx Class C (Circ)</td></tr><tr><td>7 7/8</td><td>5 1/2</td><td>15.5#</td><td>6650</td><td>518sx Class C (Circ)</td></tr><tr><td colspan="4">2750' DV Tool</td><td>556sx Class H (air back)</td></tr></tbody></table>						Size of Hole	Grade, Size of Casing	Weight Per Foot	Setting Depth	Quantity of Cement	12 1/4	8 5/8	24#	650	570sx Class C (Circ)	7 7/8	5 1/2	15.5#	6650	518sx Class C (Circ)	2750' DV Tool				556sx Class H (air back)
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Merit Energy Company proposes to drill and test the Bone Springs & intermediate formations. Approx. 650' surface casing will be set & circulated to surface. If well is commercial, production casing will be ran & cemented circulating to surface, perforated & stimulated as needed for production.

Mud Program FW to 650', cut Brine to 2750', cut brine to 6650'.

BOPE Program: BOPE will be installed at the offset and tested daily for operational condition.

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Signed [Signature] Title West District, Operations Supt Date June 14, 1995

Permit No. \_\_\_\_\_ Approval Date \_\_\_\_\_

Application approval does not warrant or certify that the applicant hold 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:

Approved by [Signature] Title Acting SUPERVISOR Date 7/24/95

\*See Instruction of Reverse Side

Title 18 U.S.C., Section 1001, makes 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.

# MERIT ENERGY COMPANY

Federal 4 Com #3  
1980' FNL and 1980' FEL  
~~Lot 7~~ Unit ~~6~~ Section 4-T21S-R27E  
Eddy County, 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. See Exhibit B.

4. 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:

Hole Size 17 1/2" Total Depth 650' Casing size 13 3/8  
Setting Depth 650' Mud Weight: 8.8

Casing Design:

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

Minimum Casing Design Factors:

Collapse 11.30, Burst 27.30, Tensile Strength 8.53

Cement Program:

Lead Slurry 280 sxs 3565 pos C w/ 6% Bentonite 2% CaCl<sub>2</sub> , 1/8 lb. per sx Cellophane

Slurry Properites: Weight 12.8 ppg Yield 1.98 cu.ft./sx

Tail Slurry: 290 sxs Class C w/2% CaCl<sub>2</sub>

Slurry Properties: 12.8 ppg Yield 1.32 cu. ft./sx

Hole Size: " Total Depth: 11' Total Depth 1750 Casing Size: 8 5/8"

Setting Depth: 1750 Mud Weight: 10 ppg

#### Casing Design:

O.D.	Weight	Grade	Thread	Coupling	Interval	Length
8 5/8"	24#	J-55	8R	ST & C	0-1750'	1750'

#### Minimum Casing Design Factors:

Collapse 11.30, Burst 27.30, Tensile Strength 8.53

#### Cement Program:

Lead Slurry: 343 sx 3565 posC w/6% Bentonite 10% NaCl  
(circ to surface)

Slurry Properties: Weight-12.7 ppg Yield 2.10 cu. ft./sack

Tail Slurry: 200 sxs Class C w/2% CaCl<sub>2</sub>

Slurry Properties: Weight 14.8 ppg Yield 1.32 cu. ft./sx

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	8R	LT & C	0-6650'	6650'

#### Minimum Casing Design Factors:

Collapse 40.40, Burst 48.10, Tensile Strength 2.17

#### Cement Program from 6650' to 2750':

Lead Slurry: 687 sacks Class "H" with .3% Flack(Fluid Loss) 3% Mll7

Slurry Properties: Weight-15.6 ppg Yield-1.18 cu. ft/sack

#### From DV tool @ 2750' to Surface (circulated to surface):

Tail Slurry: 272 sacks 35/65 posC w/6% Bentonite, 10% salt

Slurry Properties: Weight-12.7 ppg Yield-2.10 cu ft./sack

#### 5. Mud Program and Auxiliary Equipment:

From 0 to 650' (Minimum).

Mud Weight: 8.6 ppg, Viscosity: 32 sec./1000 cc, Water Loss: N C 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 Properties).

Mud Weight: 10.0 ppg, Viscosity: 28 sec./1000cc, Water Loss: N/C 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' (Miniregion Properties)

Mud Weight: 8.7 ppg, Viscosity: 30 sec./1000cc, Water Loss: N/C cc,

Mud Type: Brine. Use salt water gel for hole sweeps.

6. Testing, Logging and Coring Program:

Samples: Every 10' from surface casing to TD. DST's: Any tests will be based on the recommendations of the well site Geologist as warranted by drilling breaks and shows. Coring: None Anticipated

Logging: CNL from TD to 2750'.

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

Anticipated BHP:

From: 0' to 650' Anticipated Max. BHP: -0- PSI

From: 650' to 5100' Anticipated Max. BHP: 1000 PSI

From: 5100' to 6650' Anticipated Max. BHP: 1700 PSI

Maximum Bottom Hole Temperature: 130 degrees Fahrenheit

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: Possible lost circulation 450' to 5100'. H2S Zones Anticipated: None 8.  
Anticipated starting date: As soon as possible after approval with the drilling time being approximately 15 days and the completion time being another 15 days.

# MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Merit Energy Company  
Federal 4 Com #3  
1980' FNL and 1980' FEL  
~~4.07~~ Unit ~~6~~ Section 4-T21S-R27E  
Eddy County, New Mexico

This plan 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 rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated 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 and 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 west side.

## 3. PLANNED ACCESS ROAD:

Approx. 600' feet in length going in a western direction. Drainage on both sides will be needed. No turn outs needed. Road will enter drilling pad on southeast corner.

## 4. LOCATION OF EXISTING WELL:

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

B. Exhibit F shows existing wells within a one-mile radius of the proposed wellsite.

## 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 and 860' FEL Section 4-T24S-R21S R27E NM #1531). 2 3/8" J-55 pipe will be used for flowline. See green line exhibit E.

6. LOCATION AND TYPE OF WATER SUPPLY:

- The
- 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)

7. SOURCE OF CONSTRUCTION MATERIALS:

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

8. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cutting 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 provided 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. Then, 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 and all trash and junk to leave well site in as aesthetically a condition as possible.

Multi-Point Surface Use and Operations Plan

Federal 4 Com #3

Page 3 of 3

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 rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with 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 existing 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.



13. OPERATOR'S REPRESENTATIVE:

A. Through A.P.D. Approval:

B. Through Drilling Operations,  
Completion and Production:

Russell Whited, Production Manager  
Merit Energy Company  
3525 Andrews Highway, Suite 113  
Midland Tx. 79703  
(915) 520-4345

Russell Whited  
(915) 520-4345

14. CLARIFICATION:

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.

1-14-97  
Date

Russell Whited  
Russell Whited  
West District,  
Production Manager

*Exhibit A & E*

**Fed #3**



Alkali Lake

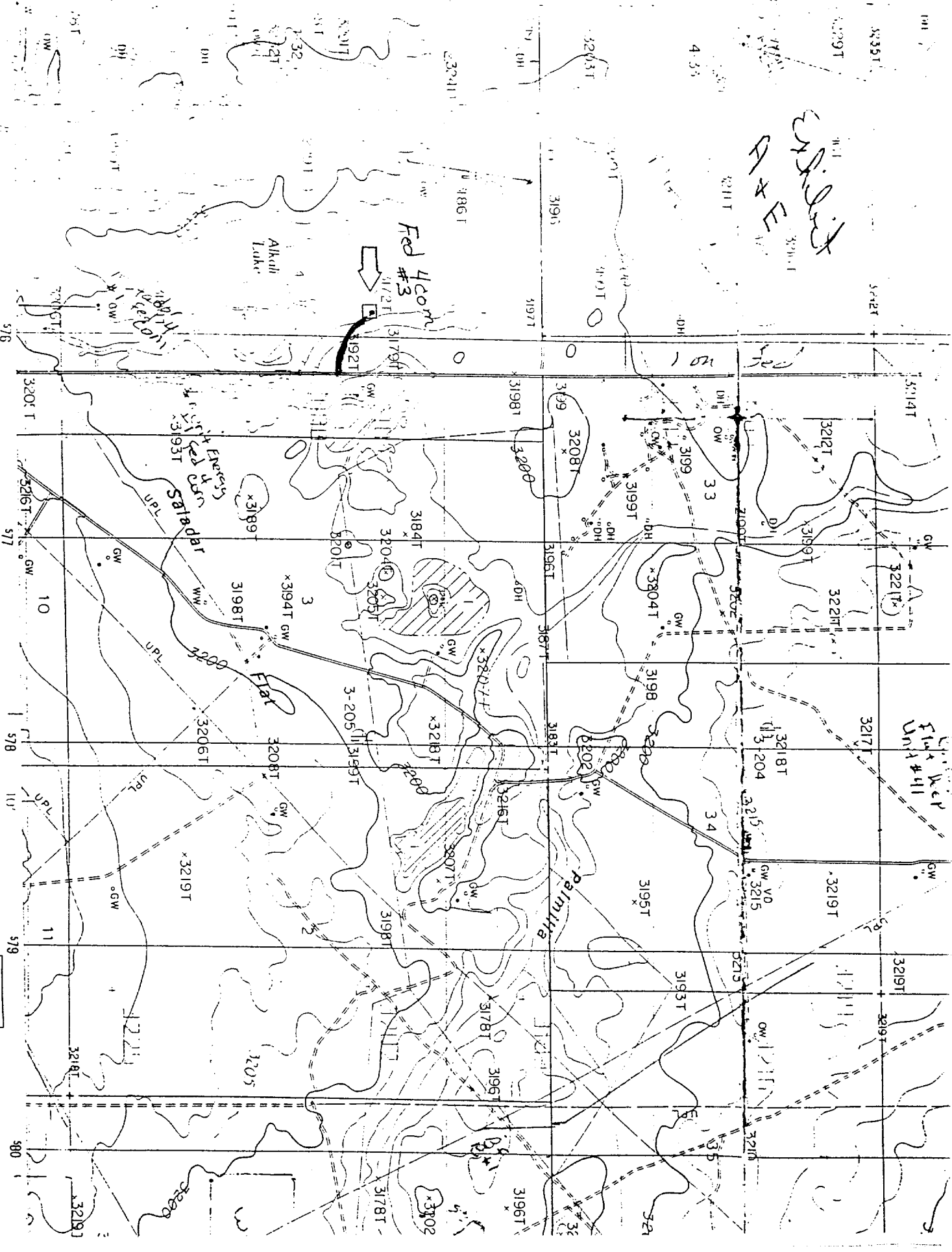
Saladad

Palmira

*Fed #4*  
*Unit #411*

SCALE: 1:24 000

NEW MEXICO



DISTRICT I  
P.O. Box 1963, Hobbs, NM 88240

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised February 10, 1994  
Instruction on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

OIL CONSERVATION DIVISION

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

DISTRICT IV  
PO BOX 2088, SANTA FE, NM 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-015-28595</b>	Pool Code <b>96335</b>	Pool Name <b>Burton Flats Bone Springs</b>
Property Code	Property Name <b>FEDERAL "4" COM.</b>	Well Number <b>3</b>
OGRID No.	Operator Name <b>MERIT ENERGY COMPANY</b>	Elevation <b>3183</b>

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>G 47</b>	<b>4</b>	<b>21 S</b>	<b>27 E</b>		<b>1980</b>	<b>NORTH</b>	<b>1980</b>	<b>EAST</b>	<b>EDDY</b>

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 <b>780</b> <b>160</b>	Joint or Infill <b>AFR 014</b> <b>ACR 605</b>	Consolidation Code	Order No.						

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

				<b>OPERATOR CERTIFICATION</b>  I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.  <u>Russell Whitel</u> Signature <u>Russell Whitel</u> Printed Name <u>Operations Supt</u> Title <u>6-12-95</u> Date
				<b>SURVEYOR CERTIFICATION</b>  I hereby certify that the well location shown on this plat 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.  APRIL 28, 1995  Date Surveyed Signature & Seal of Professional Surveyor <u>Ronald J. Eidson</u> J.W.O. Num. 95-13-0671 Certificate No. JOHN A. WEST 676 RONALD J. EIDSON 3239 GARY EIDSON 12641

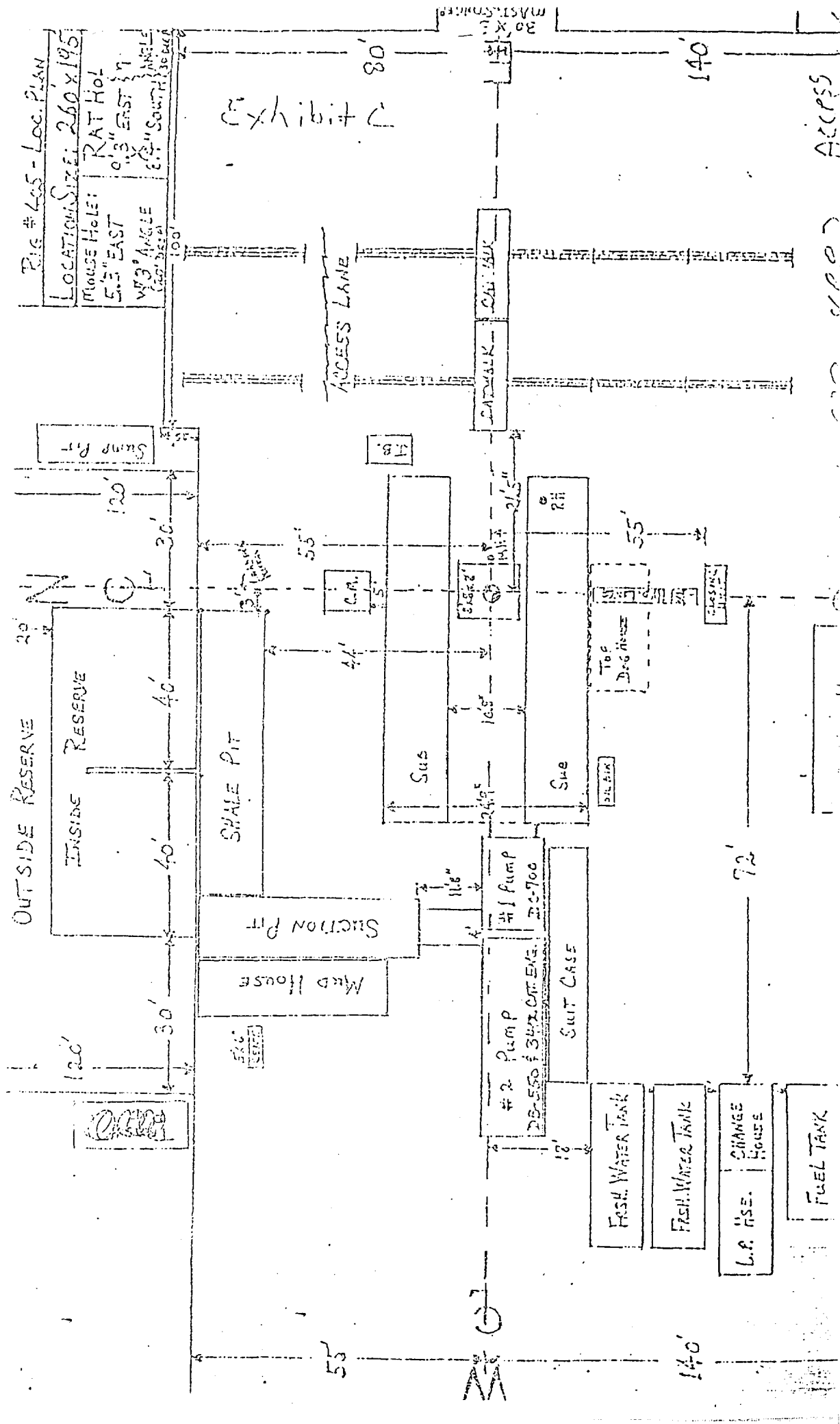
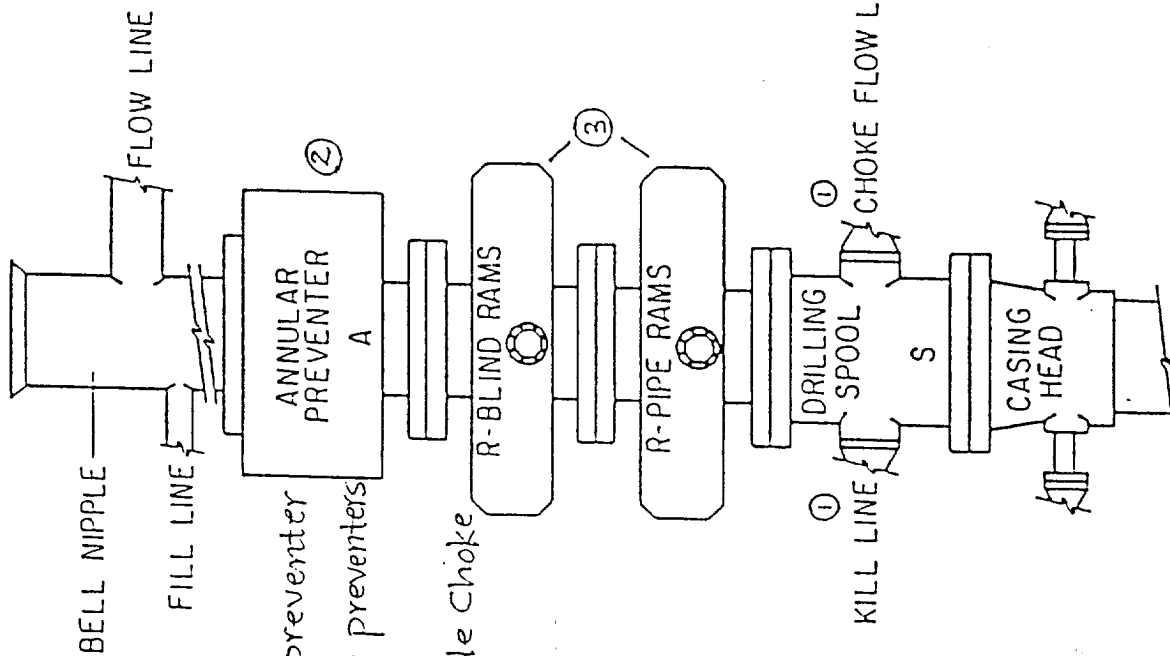
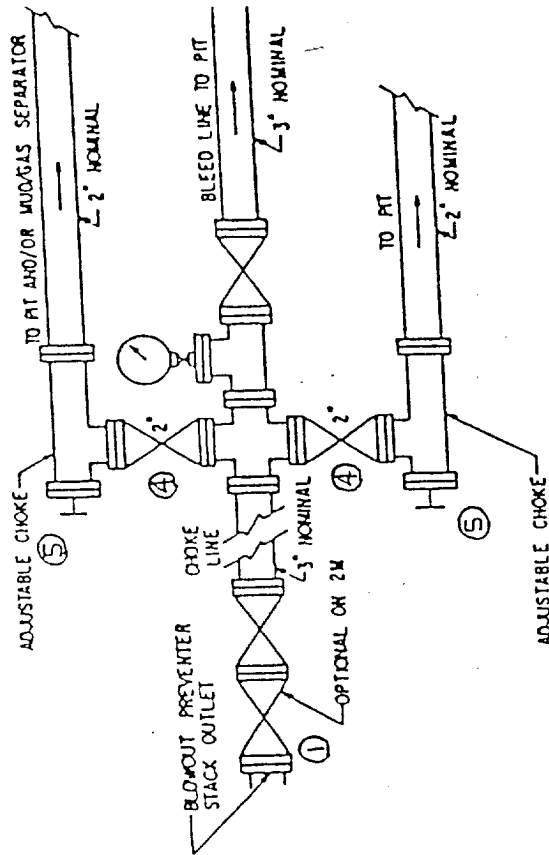


Exhibit B



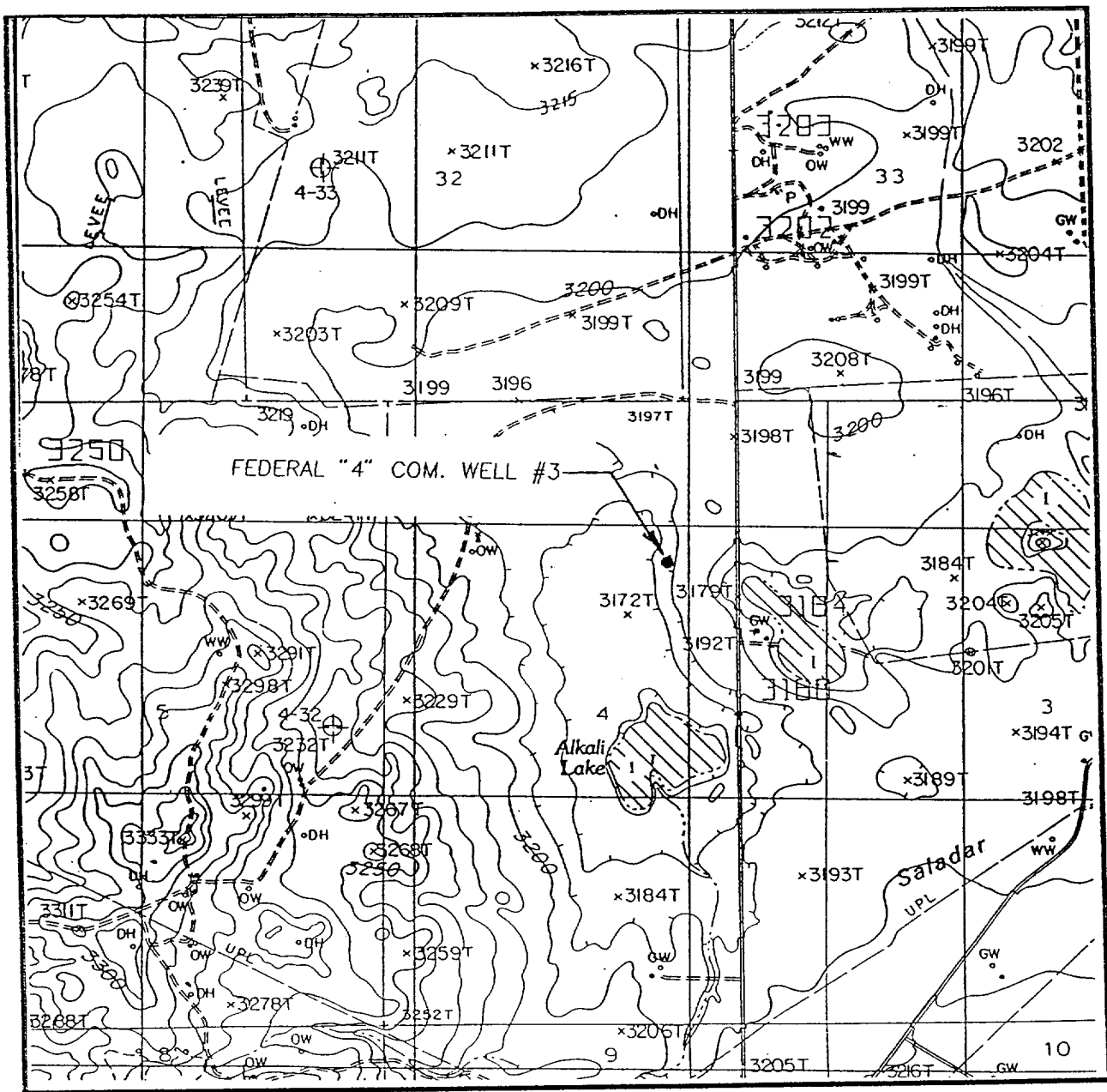
- ① 3" Series 900 Valve
- ② Series 900 Annular preventer
- ③ Series 900 Ram-Type preventers
- ④ 2" series 900 valve
- ⑤ 2" series 900 Adjustable Choke



3000 PSI  
Working Pressure  
(Series 900 Flanges)

**JOHN WEST ENGINEERING  
HOBBS, NEW MEXICO  
(505) 393-3117**

## LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL - 10'

SEC. 4 TWP. 21-S RGE. 27-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1980' FNL & 1980' FEL  
ELEVATION 3183

OPERATOR MERIT ENERGY COMPANY

LEASE FEDERAL "4" COM.

U.S.G.S. TOPOGRAPHIC MAP

ANGEL DRAW, N.M.

**JOHN WEST ENGINEERING  
HOBBS, NEW MEXICO  
(505) 393-3117**