

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE\*  
(Other instructions on  
reverse side)

49F  
38-005-62658  
Form approved.  
Budget Bureau No. 1004-0136  
Expires 12-31-1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☐

GAS  
WELL ☐

OTHER ☐

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Meridian Oil Inc.

3. ADDRESS OF OPERATOR

21 Desta Drive

Midland, Texas 79705

DEC 20 '88

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface

1060' FSL & 2180' FWL, Sec. 7, T-14-S, R-28-E  
At proposed prod. zone

O. C. D. *OK*  
ARTESIA, OFFICE

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

11 miles East/Northeast of Hagerman, New Mexico

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest rig, unit line, if any)

1060'

16. NO. OF ACRES IN LEASE

320

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

320

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

NA

19. PROPOSED DEPTH

8500'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3531.5' GR

22. APPROX. DATE WORK WILL START\*

12-10-88

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48#	300'	Circ w/300 sx. Cl. "C"
12-1/4"	8-5/8"	24#	1800'	Circ w/700 sx. Cl. "C"
7-7/8"	4-1/2"	11.6#	8500'	700 sx. TOC @ $\pm$ 6500'

Drill 17-1/2" hole to 300'. Set 13-3/8" csg. @ 300', Cmt. w/300 sx. Cl. "C", Circ.  
Drill 12-1/4" hole to 1800'. Set 8-5/8" csg. @ 1800'. Lead w/500 sx. Lite "C", tail  
in w/200 sx. Cl. "C", circ. Drill to TD to test Atoka. If commercial, run 4-1/2"  
csg. to 8500'. Cmt. w/sufficient volume to bring above all prospective zones. Est.  
TOC @ 6500'. Perf & stimulate Atoka for production.

MUD PROGRAM: 0-300' spud mud; 300'-1800' brine; 1800' to 7,500' cut brine & sweeps  
(chloride 30,000+). 7500' to TD cut brine & Drispac. MW 9.0-9.2 (Solids must be less  
than 5% w/VIS 32-36).

BOP PROGRAM: 13-5/8"-2 annular BOP to be installed on 13-3/8" csg. 11"-3M stack to  
be installed on 8-5/8" & left on for remainder of drlg. Stack to consist of annular  
BOP, blind ram BOP & one pipe ram BOP. Test BOP's after setting 8-5/8" csg. with an  
independent tester.

*For sales not dedicated*

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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

*Connie McPherson*

TITLE

Operations Tech III

DATE

11-09-88

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

S/Phil Kirk

TITLE

Area Manager

DATE

DEC 13 1988

PLEASE BE ADVISED THAT THERE WILL BE NO EXCAVATION  
OF FEDERALLY OWNED MINERAL MATERIAL FOR CONSTRU-  
TION OF THE ACCESS ROAD OR PAD WITHOUT PAYMENT  
IN ADVANCE.

APPROVAL OF THIS APPLICATION DOES NOT WARRANT OR  
CERTIFY THAT THE APPLICANT HOLDS LEGAL OR EQUITABLE  
TITLE TO THOSE RIGHTS IN THE SUBJECT LEASE WHICH WOULD  
ALLOW THE APPLICANT TO CONDUCT OPERATIONS THEREIN.

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

**NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT**

Form No. 1  
Supersedes 1-1-78  
1-1-78

All distances must be from the outer boundaries of the Section

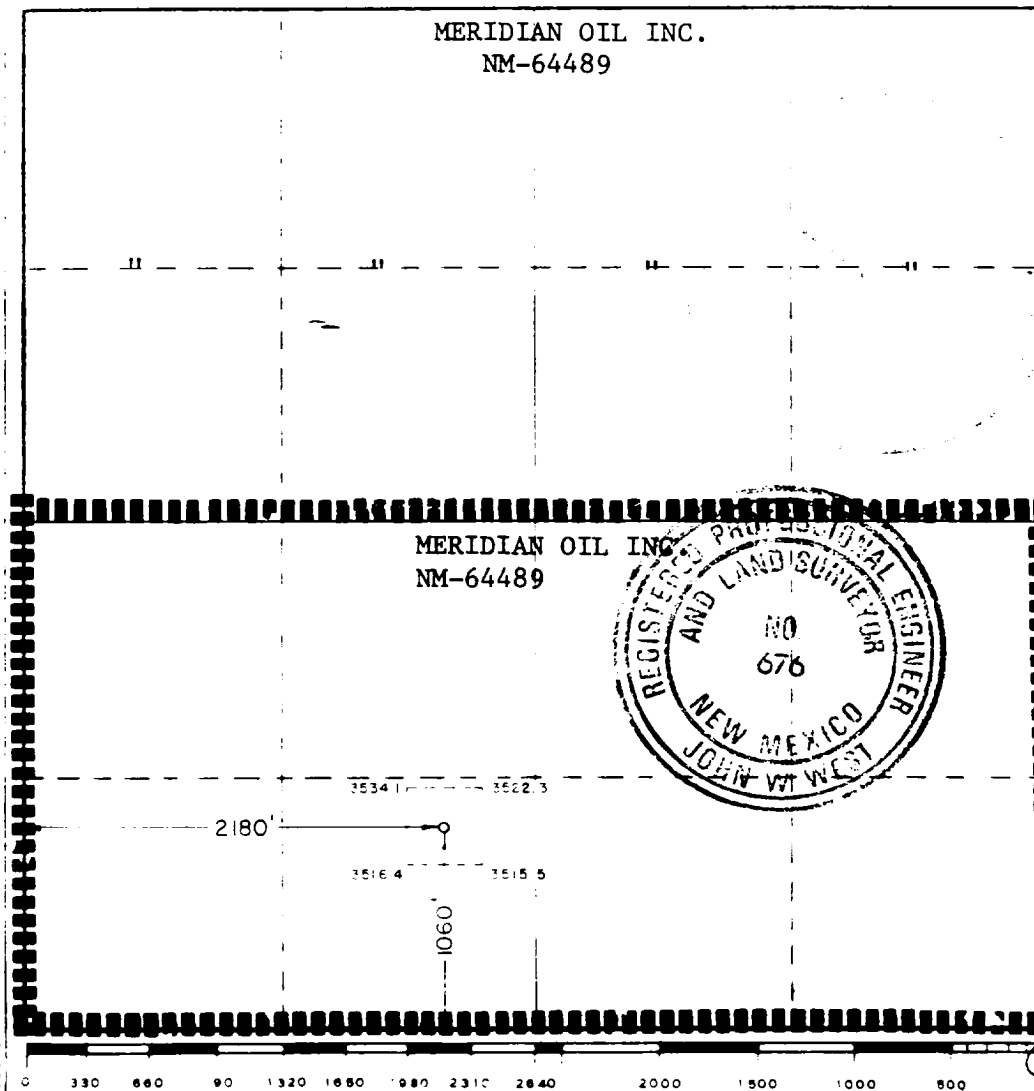
Section		Twp		Range	
Meridian Oil Inc.		N 37		E 1	
Section	County	Tract	Section	County	Tract
1	Alameda	1	1	Alameda	1
Producing Formation		Section		Acreage	
Atoka		Wildcat ATOKA		320	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes    ☐ No    If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



**CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

*Connie Monahan*

**Connie Monahan**

Position:

**Operations Tech III**

Company:

**Meridian Oil Inc.**

Date:

**11-09-88**

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 knowledge and belief.

Date Surveyed:

**October 11, 1988**

Registered Professional Engineer and/or Land Surveyor

*John W. West*

Certificate No. **JOHN W. WEST, 676**

**RONALD J. EIDSON, 3239**

BLOWOUT PREVENTION EQUIPMENT  
 10" 900S ALL FLANGED EQUIPMENT  
 5,000# WORKING PRESSURE - 10,000# TEST

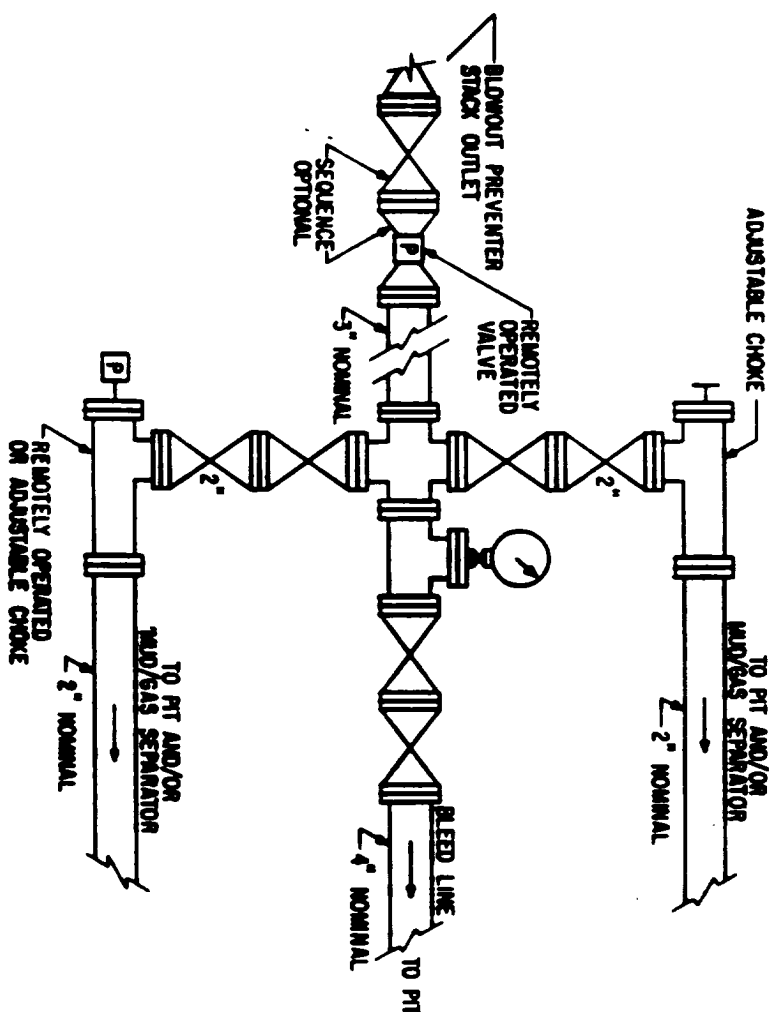
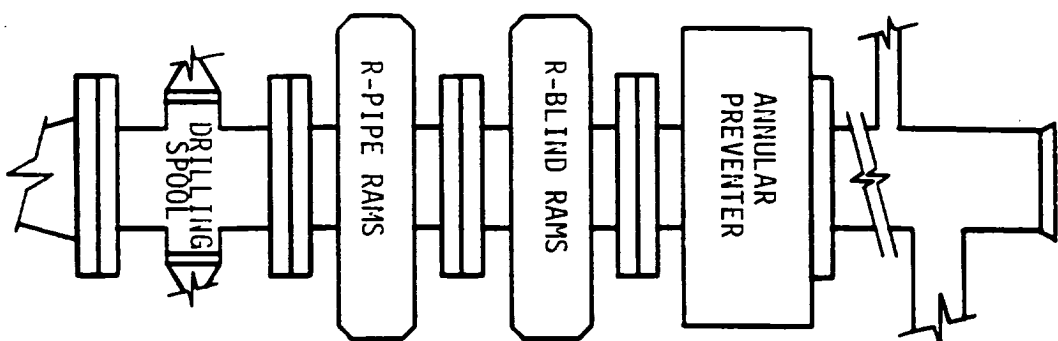
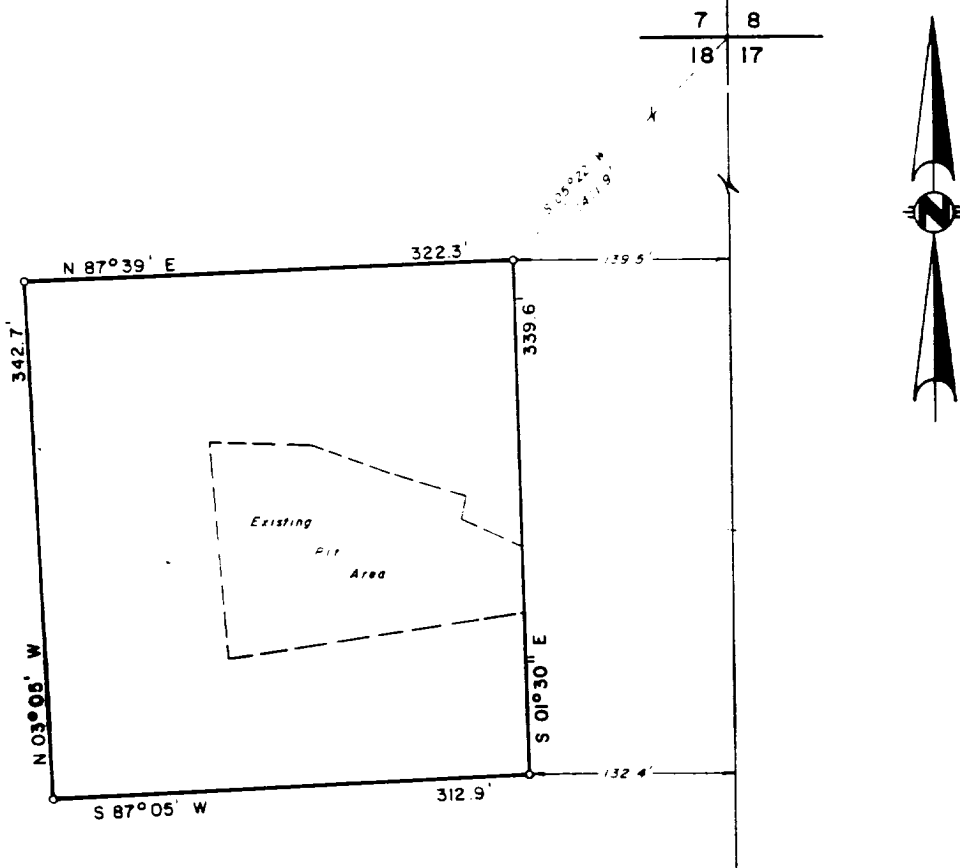


FIG. 3.A.2

TYPICAL CHOKE MANIFOLD ASSEMBLY FOR 5M  
 RATED WORKING PRESSURE SERVICE -  
 SURFACE INSTALLATION

SECTION 18, TOWNSHIP 14 SOUTH, RANGE 28 EAST, N.M.P.M.,  
CHAVES COUNTY, NEW MEXICO



LEGAL DESCRIPTION

A tract of land situate within the Northeast Quarter of Section 18, Township 14 South, Range 28 East, N M P.M , Chaves County, New Mexico and being more particularly described as follows:

Beginning at the northeast corner of the herein described tract of land, which point bears S 05°22' W, 141.9 feet from the northeast corner of said Section 18;  
Thence S 01°30' E, 339.6 feet;  
Thence S 87°05' W, 312.9 feet;  
Thence N 03°05' W, 342.7 feet;  
Thence N 87°39' E, 322.3 feet to the point of beginning and containing 2.49 acres, more or less.



I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD IN A BONA FIDE SURVEY MADE UNDER MY SUPERVISION, AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

JOHN W. WEST, N.M. P.E. & L.S. No. 676  
TEXAS R.P.S. No. 1138  
RONALD J. EIDSON, N.M. L.S. No. 3239  
TEXAS R.P.S. No. 1883

MERIDIAN OIL COMPANY

A tract of land for pit extension situate within the NE 1/4 of Section 18, T 14 S, R 28 E, N.M.P.M., Chaves County, New Mexico.

JOHN W. WEST ENGINEERING COMPANY  
CONSULTING ENGINEERS HOBBBS, NEW MEXICO

Scale: 1" = 100' Drawn By: M. Mitchell  
Date: 10/29/88 Ch. 2 Sheet 1 of 1 Sheets

**MERIDIAN OIL INC.**

Cannonball Federal # 1  
1060' FSL & 2180' FWL  
Sec. 7, T-14-S, R-28-E  
Chaves County, New Mexico  
NM-64489

To supplement USGS Form 3160-3 Application to Drill the following additional information is submitted concerning questions on Page 5 of NTL-6:

1. See Form 3160-3.
2. See Form 3160-3.
3. The geological name of surface formation is: Ochoa
4. See Form 3160-3.
5. See Form 3160-3.
6. The estimated tops of important geological markers are:

Yates	300'	Wolfcamp	6410'
San Andres	1615'	Strawn	7675'
Tubb	4420'	Atoka Sandstone	7965'
Abo	5220'	Chester (Miss)	8265'

7. The estimated depths at which anticipated water, oil, gas and mineral bearing strata are as follows:

Atoka Sandstone                      7965' - Gas

8. See Form 3160-3. All casing will be new.
9. See Form 3160-3 for depths of strings. Cement volumes and additions as follows:
  - a. 13 3/8" csg: Cement w/300 sx "C" cmt. Circ to surface.
  - b. 8 5/8" csg: Cement w/700 sx Cl. "C". Circ to surface.
  - c. 4 1/2" csg: Cement w/700 sx Cl "H" to bring TOC to  $\pm$ 6500'.

A caliper log will be run prior to setting 8-5/8" & 4-1/2" casing to determine exact cement volumes required.

10. The pressure control diagram is attached to Form 3160-3. The following additional information is as follows:

13 3/8" casing installation: 13 5/8"-2M annular BOP tested to 600 psi for 30 minutes before drilling out 13 3/8" casing shoe.

8 5/8" casing installation: 11"-3M BOP stack to be installed and tested by an independent tester to 3000 psi before drilling the 8 5/8" casing shoe. The BOP stack to consist of an annular BOP, blind ram BOP and one pipe ram BOP.

11. See Form 3160-3.

12. A. DST Program: One in Atoka

B. Core: Possible Rotary Sidewall Cores

C. Mud Logging: Surface to TD, Two-man unit

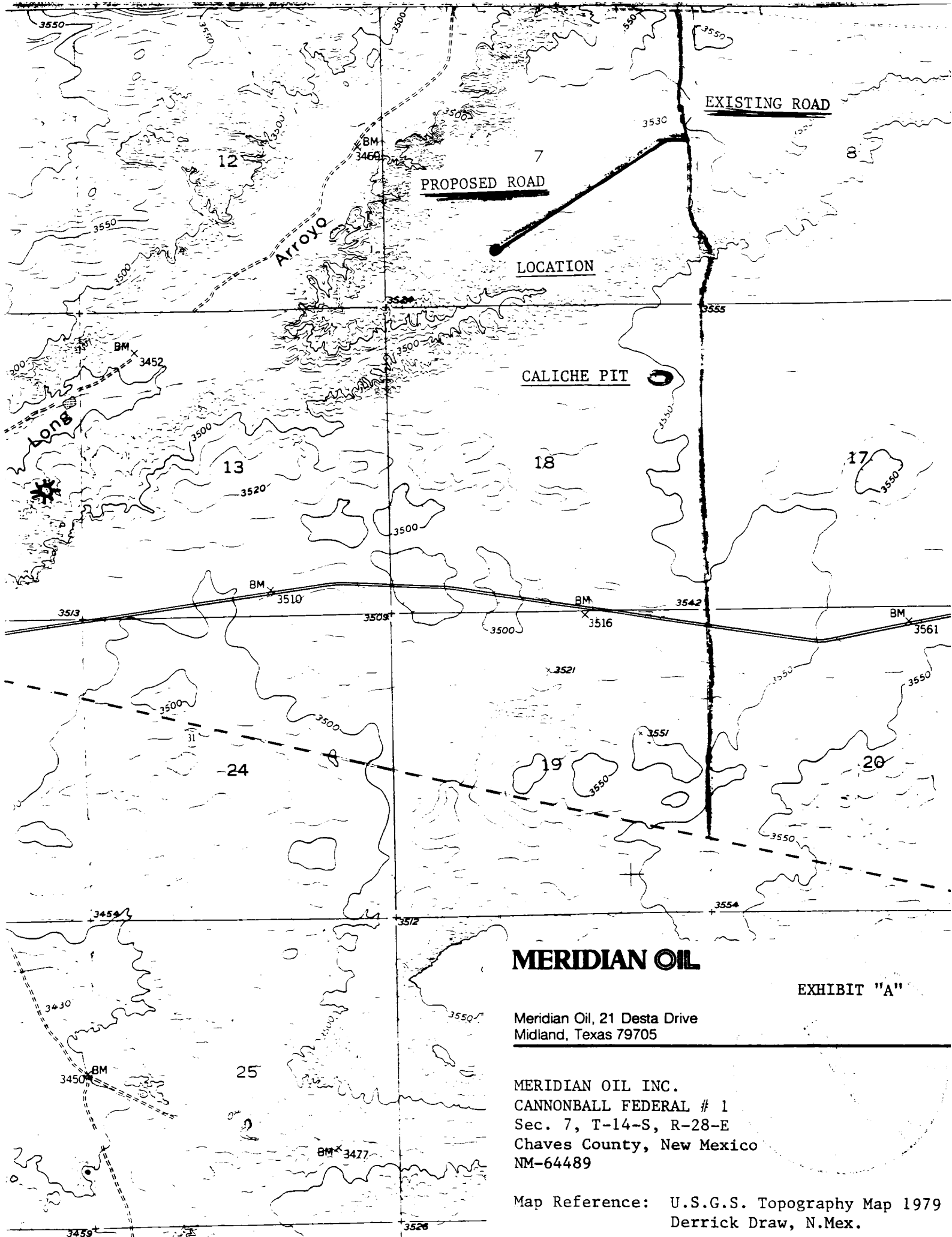
D. Wire Line Logs:

The following suite of logs will be run in both of the listed intervals:

CNL/LDT	1800' to surface + 8500' to 1800'
DLL/MSFL	1800' to surface + 8500' to 1800'
BHC Sonic	1800' to surface + 8500' to 1800'
Check Shot Survey	TD to surface

13. No abnormal pressures are anticipated. Bottom hole pressures at TD expected to be 3400 psi. Bottom hole temperature 167° F. No Hydrogen Sulfide expected in this known drilling area. No crooked hole or abnormal deviation problems.

14. Anticipated starting date to spud - on or before 12-10-88. Anticipated drilling time expected to be 28 days from surface to TD.



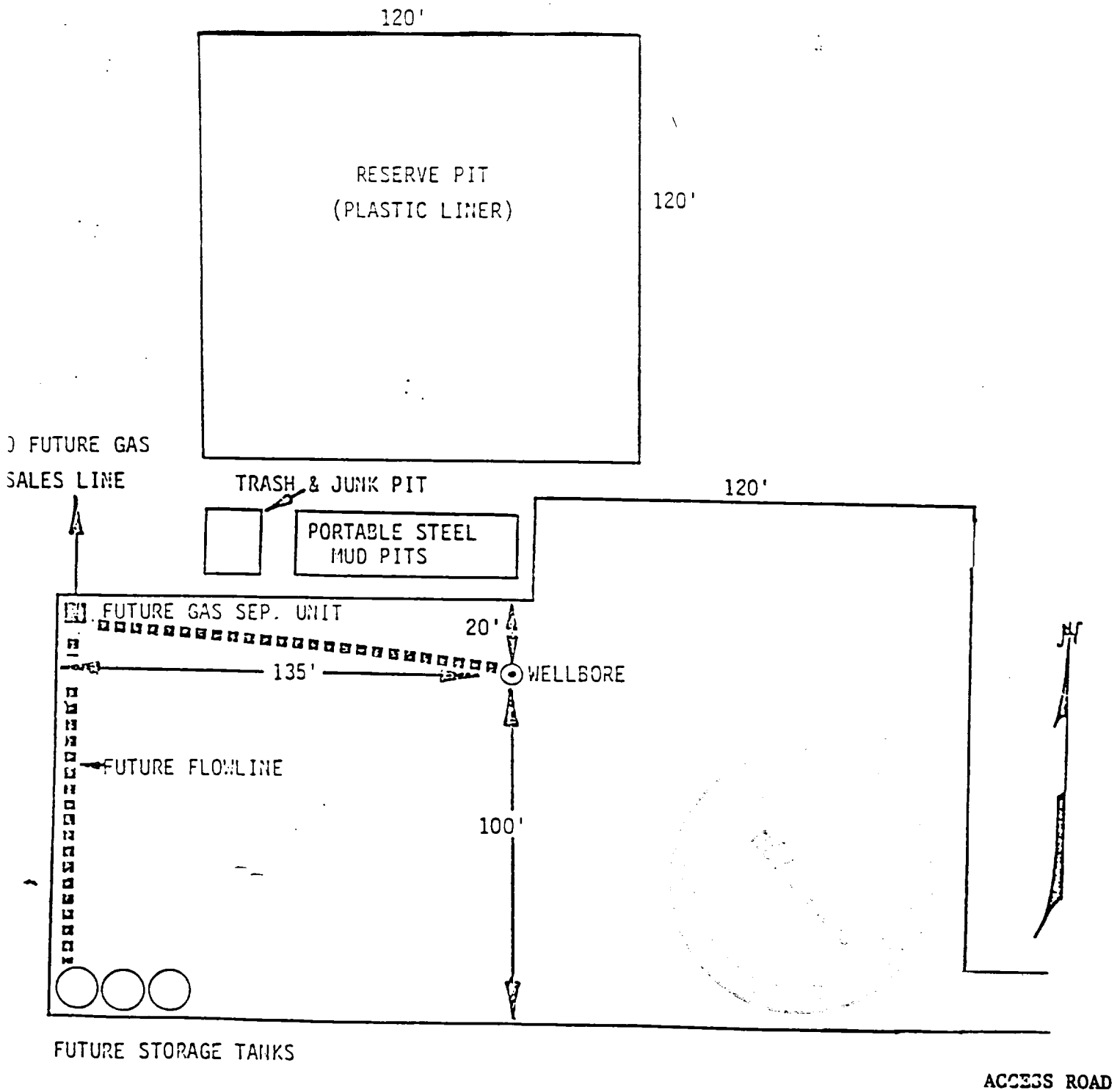
## MERIDIAN OIL

EXHIBIT "A"

Meridian Oil, 21 Desta Drive  
Midland, Texas 79705

MERIDIAN OIL INC.  
CANNONBALL FEDERAL # 1  
Sec. 7, T-14-S, R-28-E  
Chaves County, New Mexico  
NM-64489

Map Reference: U.S.G.S. Topography Map 1979  
Derrick Draw, N.Mex.



**MERIDIAN OIL**

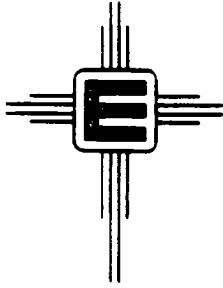
ACCESS ROAD

EXHIBIT "C"

Meridian Oil, 21 Desta Drive  
Midland, Texas 79705

MERIDIAN OIL INC.  
CANNONBALL FEDERAL # 1  
Sec. 7, T-14-S, R-28-E  
Chaves County, New Mexico  
NM-64489





November 4, 1988

Meridian Oil Company  
ATTN: Kathy Nokes  
21 Desta Drive  
Midland, TX 79701

Dear Ms. Nokes:

Enclosed please find a copy of the Agency for Conservation Archaeology's cultural resources report F89-123, *Cannonball Federal No. 1 and Access Road*, for a location in Chaves County, New Mexico. No cultural resource sites were found during this survey. Eleven isolated manifestation was recorded, however, clearance is recommended.

If I may be of further help to you, please call me at (505) 562-2254.

Sincerely,

John Montgomery, Ph.D.  
Director, Agency for Conservation Archaeology

enclosure

Copies of report to: S. Ball, Roswell BLM (2)



ROSWELL RESOURCE AREA  
SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

OPERATORS NAME Meridian Oil Inc. WELL NO. & NAME #1-Cannonball Federal  
LOCATION 1060' F S L & 2180' F W L SEC. 7, T. 14S., R. 28E.  
LEASE NO. NM-64489 - Chaves COUNTY New Mexico

The special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CFR 3165.3 and 3165.4.

RECEIVED

I. SPECIAL ENVIRONMENT REQUIREMENTS

- ☐ Lesser Prairie Chicken (Stips attached) ☐ San Simon Swale (Stips attached)  
☐ Floodplain (Stips attached) ☐ Other \_\_\_\_\_

DEC 19 '88

O. C. D.  
ARTESIA, OFFICE

II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

☒ The BLM will monitor construction of this drill site. Notify the Roswell Resource Area Office, BLM at least 3 working days prior to commencing construction at (505) 624-1790.

☒ Roads and the drill pad for this well must be surfaced with 6 inches of compacted caliche.

☒ All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximately 32 inches in depth.

The top five inches will be stockpiled to the SW side of the pad. Approximately 1,100 cubic yards of topsoil material will be stockpiled for reclamation.

☐ The access road authorized by this APD will conform to the attached "STANDARD STIPULATIONS FOR PERMANENT RESOURCE ROADS IN THE ROSWELL DISTRICT, BLM."

1.)

☒ Other - Reclamation stips will be issued when Form 3160's, "Sundry Notices and Reports on Wells" is submitted.

2.) Tank batteries and any other facilities will be painted Carlsbad Canyon.

III. DRILLING OPERATIONS REQUIREMENTS

(2.54 612)

The Bureau of Land Management office is to be notified at (505) 624-1790, in sufficient time for a representative to witness:

☒ 1. Spudding ☒ 2. Cement casing 13 3/8 inch 8 5/8 inch 4 1/2 inch

☐ 3. BOP tests ☐ Other

☒ Include the API No. assigned to this well on the subsequent report of setting the first casing string.

IV. CASING

☒ 13 3/8 inch surface casing should be set \_\_\_\_\_ to 300 ft. \_\_\_\_\_ and cement circulated to the surface. If cement does not circulate to the surface this BLM office will be notified and a temperature survey or cement bond log will be run to verify the top of the cement. Remedial cementing will be done prior to drilling out of that string.

☒ Minimum required fill of cement behind the 8 5/8 inch intermediate casing is \_\_\_\_\_ to circulate to surface.

☒ Minimum required fill of cement behind the 4 1/2 inch production casing is \_\_\_\_\_ to isolate all water, oil and gas.

## V. PRESSURE CONTROL

☒ Before drilling below the 8 5/8 inch casing, the blowout preventer assembly will consist of a minimum of:

☒ One Annular Preventer    ☒ Two RAM-Type Preventers    ☒ Other Min. 3000 psi W.P.

☒ After setting the 8 5/8 inch casing string, and before drilling into the Abo Formation, the blowout preventers and related control equipment shall be pressure-tested as described in General Requirements. Any equipment failing to test satisfactorily will be repaired or replaced.

- ☒ The test will be conducted by an independent service company.
- ☒ The results of the test will be reported to the appropriate BLM office.
- ☒ The Bureau of Land Management office is to be notified in sufficient time for a representative to witness the test.

☒ Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, will be installed and operating before drilling into the Abo Formation, and will be used until production casing is run and cemented. Monitoring equipment will consist of the following:

- ☒ 1. A recording pit level indicator to determine pit volume gains and losses.
- ☒ 2. A mud-volume measuring device for accurately determining mud volume necessary to fill the hole on trips.
- ☒ 3. A flow-sensor on the flow-line to warn of any abnormal mud returns from the well.

☐ A Hydrogen Sulfide Contingency Plan will be approved by this BLM office before drilling below the \_\_\_\_\_ Formation. A copy of the plan will be posted at the drilling site.

☐ Other \_\_\_\_\_

## VI. WELL COMPLETION REQUIREMENTS

☐ A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the Bureau of Land Management. The effective date of the agreement must be prior to any sales.

☐ Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at a depth of 1/2 inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre.

- |  |   |
|--|---|
| <input type="checkbox"/> A. Seed Mixture 1 (Loamy Sites)   | (Seed mixture applicable upon reclamation of surface only)          |
| Lehmann's Lovegrass ( <u>Eragrostis lehmanniana</u> ) 1.0  | <input checked="" type="checkbox"/> B. Seed Mixture 2 (Sandy Sites) |
| Side Oats Grama ( <u>Bouteloua curtipendula</u> ) 5.0      | Sand Dropseed ( <u>Sporobolus cryptandrus</u> ) 1.0                 |
| Sand Dropseed ( <u>Sporobolus cryptandrus</u> ) 1.0        | Sand Lovegrass ( <u>Eragrostis trichodes</u> ) 1.0                  |
|  | Plains Bristlegrass ( <u>Setaria macrostachya</u> ) 2.0             |
| <input type="checkbox"/> C. Seed Mixture 3 (Shallow Sites) | <input type="checkbox"/> D. Seed Mixture 4 ("Gyp" Sites)            |
| Sideoats Grama ( <u>Bouteloua curtipendula</u> ) 1.0       | Alkali Sacaton ( <u>Sporobolus airoides</u> ) 1.0                   |
| Lehmann's Lovegrass ( <u>Eragrostis lehmanniana</u> ) 1.0  | Four-Wing Saltbush ( <u>Atriplex canescens</u> ) 5.0                |
| or Boer Lovegrass ( <u>E. chloromelas</u> )                |   |

Seeding should be done either late in the fall (September 15 - November 15, before freeze up) or early as possible the following spring to take advantage of available ground moisture.

☒ Other - Need approval from NMOCD for an unorthodox location.