

N.M. Oil Cons. DIV-Dist. 2  
1301 W. Grand Avenue  
Artesia, NM 88210

Form 3160-3  
(April 2004)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <i>SM</i> 21158
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" 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 MURCHISON OIL & GAS, INC.		7. If Unit or CA Agreement, Name and No.
3a. Address 1100 MIRA VISTA BLVD. PLANO, TX. 75093-4698	3b. Phone No. (include area code) (972) 931-0700	8. Lease Name and Well No. MOORE FED COM #4
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 2580' FNL & 660' FEL SE/NE (H) At proposed prod. zone		9. API Well No. 30-015-33906
10. Field and Pool, or Exploratory ✓ WHITE CITY PENN		11. Sec., T. R. M. or Blk. and Survey or Area SEC. 35, T24S-R26E
14. Distance in miles and direction from nearest town or post office* 17 MILES SW OF CARLSBAD, NM		12. County or Parish EDDY
13. State NM		
15. 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 120	17. Spacing Unit dedicated to this well 3rd WELL ON 640 AC.
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 3200'	19. Proposed Depth 11900'	20. BLM/BIA Bond No. on file
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3346' GR	22. Approximate date work will start* 12/01/2004	23. Estimated duration

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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature <i>Michael S. Daugherty</i>	Name (Printed/Typed) MICHAEL S. DAUGHERTY	Date 09/21/2004
Title VICE PRESIDENT OPERATIONS		

Approved by (Signature) <i>/s/ Joe G. Lara</i>	Name (Printed/Typed) <i>/s/ Joe G. Lara</i>	Date JAN 13 2005
Title ACTING FIELD MANAGER		Office CARLSBAD FIELD 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.

APPROVAL FOR 1 YEAR

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 page 2)

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

*BLO*

District I  
1625 N. French Dr. Hobbs, NM 88240

District II  
811 South First, Artesia, NM 88210

District III  
1000 Rio Brazos Rd., Aztec NM 87410

District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION

2040 South Pacheco  
Santa Fe, N M 87505

Form C-102

Revised March 17, 1999

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 87280	Pool Name WHITE CITY PENN (GAS)
Property Code	Property Name <b>MOORE FED. COM</b>	Well Number 4
OCRID No. 015363	Operation Name <b>MURCHISON OIL &amp; GAS, INC.</b>	Elevation 3346

Surface Location

UL or Lot No. <b>H</b>	Section <b>35</b>	Township <b>24-S</b>	Range <b>26-E</b>	Lot Idn.	Feet from the <b>2580</b>	North/South line <b>NORTH</b>	Feet from the <b>660</b>	East/West line <b>EAST</b>	County <b>EDDY</b>
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Bottom Hole Location If Different From Surface

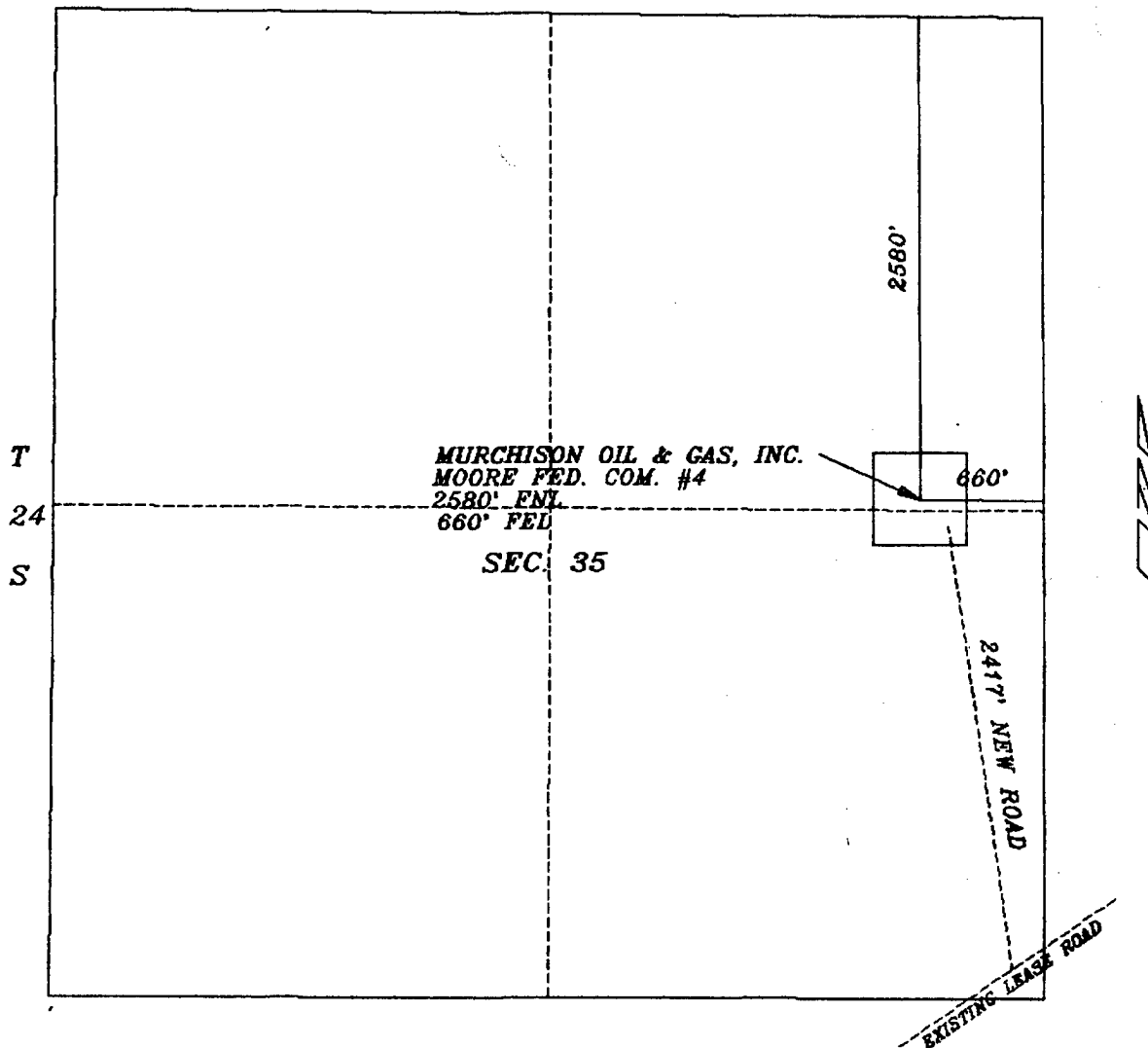
UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 640	Joint or Infill INFILL	Consolidation Code	Order No.						

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

	<b>OPERATOR CERTIFICATION</b> I HEREBY CERTIFY THAT THE INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
	Signature <i>Michael S. Daugherty</i>
	Printed Name <b>MICHAEL S. DAUGHERTY</b>
	Title <b>VICE PRESIDENT OPERATIONS</b>
	Date <b>9/21/04</b>
	<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 KNOWLEDGE AND BELIEF.
	<b>SEPTEMBER 18, 2004</b>
	Date of Survey
	Signature and Seal of Professional Surveyor
	NM RE&PS #5412 Certificate Number

# WELL LOCATION SKETCH

MURCHISON OIL AND GAS, INC.  
MOORE FED. COM. #4  
2580' FNL  
660' FEL  
SEC. 35  
T24S  
R26E



Scale 1" = 1000 ft

PREPARED FOR MURCHISON OIL & GAS, INC.  
PREPARED BY: DAN R. REDDY, NM PE&PS  
SEPTEMBER 20, 2004

VIA FEDERAL EXPRESS

September 21, 2004

United States Department of the Interior  
Bureau of Land Management  
Roswell District Office  
2909 West Second Street  
Roswell, New Mexico 88201  
Attn: Linda Askawik

**Re: Application for Permit to Drill  
Murchison Oil & Gas, Inc.  
Moore Federal Com #4  
Eddy County, New Mexico  
Lease No. NM-21158**

Gentlemen:

Murchison Oil & Gas, Inc. "MOGI" respectfully requests permission to drill our Moore Federal Com #4 located 2580' FNL and 660' FEL of Section 35, T24S, R26E, Eddy County, New Mexico, Federal Lease No. NM-0441951. The proposed well will be drilled to a TD of approximately 11900' (TVD). The location and work area have been staked. It is approximately 17 miles South of Carlsbad, NM.

In accordance with requirements stipulated in Federal Onshore Oil and Gas Order No. 1 under 43 CFR 3162.1, our Application for Permission to Drill and supporting evidence is hereby submitted.

I. Application for Permit to Drill:

1. Form 3160-3, Application for Permit to Drill.
2. Form C-102 Location and Acreage Dedication Plat certified by Dan R. Reddy Registered Land Surveyor No. 5412 in the State of New Mexico, dated 9/18/2004.
3. The elevation of the unprepared ground is 3346 feet above sea level.
4. The geologic name of the surface formation is Permian Rustler.
5. Rotary drilling equipment will be utilized to drill the well to TD 11900' (TVD), and run casing. This equipment will then be rigged down and the well will be completed with a pulling unit.
6. Proposed total depth is 11900' TVD.

7. Estimated tops of important geologic markers. (KDB EST @ 3368')

Delaware Sand	2025' TVD
Cherry Canyon	3008' TVD
Bone Springs	5478' TVD
Wolfcamp	8568' TVD
Cisco Canyon	9964' TVD
Strawn	10234' TVD
Atoka	10299' TVD
Morrow Lime	10906' TVD
Morrow Clastics	11108' TVD

8. Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

Primary Objective: Morrow 11025' TVD

Secondary Objectives: Atoka 10251' TVD

9. The proposed casing program is as follows:

Surface: 13-3/8" OD 48# H40 ST&C casing set at 350'

1<sup>st</sup> Intermediate: 9-5/8" OD 47# N80 ST&C casing from 0 to 1950'

2<sup>nd</sup> Intermediate: 7-5/8" OD 36# N80 SJ2 casing from 0 to 8800'

Production Liner: 5-1/2" OD 17# P-110 Flush joint SJ2 threads from 8500' to 11900'

10. Casing setting depth and cementing program:

WITNESS A. 13-3/8" surface casing set at 350', or the top of the Rustler Anhydrite, in 17-1/2" hole. Circulate cement with 300sx 35:65 POZ/Class C with 6% gel + 2% CaCl<sub>2</sub> + 0.25 #/sx Cello-Seal and 200sx Class C with 2% CaCl<sub>2</sub>. WITNESS

If cement does not circulate, a temperature survey will be run to find the TOC and then finish cementing to surface through 1" using Class C with 2% CaCl<sub>2</sub>.

B. 9-5/8" 1<sup>st</sup> intermediate casing set at 1950' in 12 1/4" hole. Circulate cement with 600sx 50/50 POZ/Class C with 6% gel + 5% salt + 0.25 #/sx Cello-Seal and 300sx Class C with 2% CaCl<sub>2</sub>.

If hole conditions dictate, a DV tool may be run to ensure that the intermediate string is cemented to surface.

If cement does not circulate, a temperature survey will be run to find the TOC and then finish cementing to surface through 1" using Class C with 2% CaCl<sub>2</sub>.

- C. 7-5/8" 2<sup>nd</sup> Intermediate casing set at 8800' in a 8-3/4" hole. Cement with 600 sx 50/50 POZ Class H cement with 0.5#/sx FL-25 + 0.2 #/sx CD-32 + 0.5 #/sx gilsonite followed by 200 sxs Class H neat.

Estimated top of cement is 1200'.

Note: Cement volumes may need to be adjusted to hole caliper.

- D. A 5-1/2" Production Liner will be set if warranted from 8500' to TD in a 6-1/2" hole. Cement with 400sx of Class "H" + 1.2% BA-56 + 4/10% CD-32 + 3/10% SMS + 5% Salt.

11. Pressure Control Equipment

0' – 350'	None
350' – 8800'	13-3/8" 5000# ram type preventers with one set blind rams and one set pipe rams and a 3000# annular preventer.
8800' – 11900'	13-3/8" 5000# ram type preventers with one set blind rams and one set pipe rams and a 3000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 6000'. See attached Sketch of BOP Equipment.

A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

After setting the 7-5/8" casing, the blowout preventers and related control equipment shall be pressure tested to 5000 psi and 3000 psi respectively. Any equipment failing to test satisfactorily shall be repaired or replaced. Results of the BOP test will be recorded in the Driller's Log.

The BOP's will be maintained ready for use until drilling operations are completed.

BOP drills will be conducted as necessary to assure that equipment is operational and each crew is properly trained to carry out emergency duties.

Accumulator shall maintain a pressure capacity reserve at all times to provide for the close-open-close sequence of the blind and pipe rams of the hydraulic preventers.

12. Mud Program:

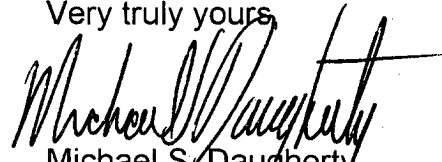
0 – 350'	Fresh water/native mud. Wt. 8.7-9.2 ppg, vis 32-34 sec, Lime for pH control. Paper for seepage. Lost circulation may be encountered.
350' – 1950'	Fresh water 8.4 ppg, vis 28-29 sec. Add 10# brine as make-up to avoid excessive washouts in salt stringers. Caustic for pH control. Paper for seepage. Lost circulation may be encountered.
1950' – 8800'	Fresh water. Wt. 8.4 ppg, vis 28-29 sec, caustic for pH control. Paper for seepage.
8800' – 10100'	Cut brine. Wt. 9.2 – 9.4 ppg, vis 28-29 sec, caustic for pH control.
10100' – 11900'	Mud up with an XCD Polymer mud system with the following characteristics: Wt. 10.0 – 12.5 ppg, Vis 32-40 sec, WL 6-8cc.

Mud system monitoring equipment with derrick floor indicators and visual/audio alarms shall be installed and operative prior to drilling into the Wolfcamp formation. This equipment will remain in use until the production casing is run and cemented. Monitoring equipment shall consist of the following:

- 1) A recording pit level indicator.
- 2) A pit volume totalizer.
- 3) A flowline sensor.

13. Testing, Logging and Coring Program:
  - A. Testing program: None.
  - B. Mud logging program: Two man unit from 1950' to TD.
  - C. Electric logging program: CNL/LDT/CAL/GR, DLL/CAL/GR.
  - D. Coring program: Possible sidewall rotary cores.
14. No abnormal temperatures, or H2S gas are anticipated. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.
15. Anticipated starting date is December 1, 2004. It should take approximately 34 days to drill the well and another 10 days to complete.
16. A statement accepting responsibility for operations is attached.
17. The Multi-Point Surface Use & Operation Plan is attached.
18. If the Bureau of Land Management needs additional information to evaluate this application, please advise.

Very truly yours,

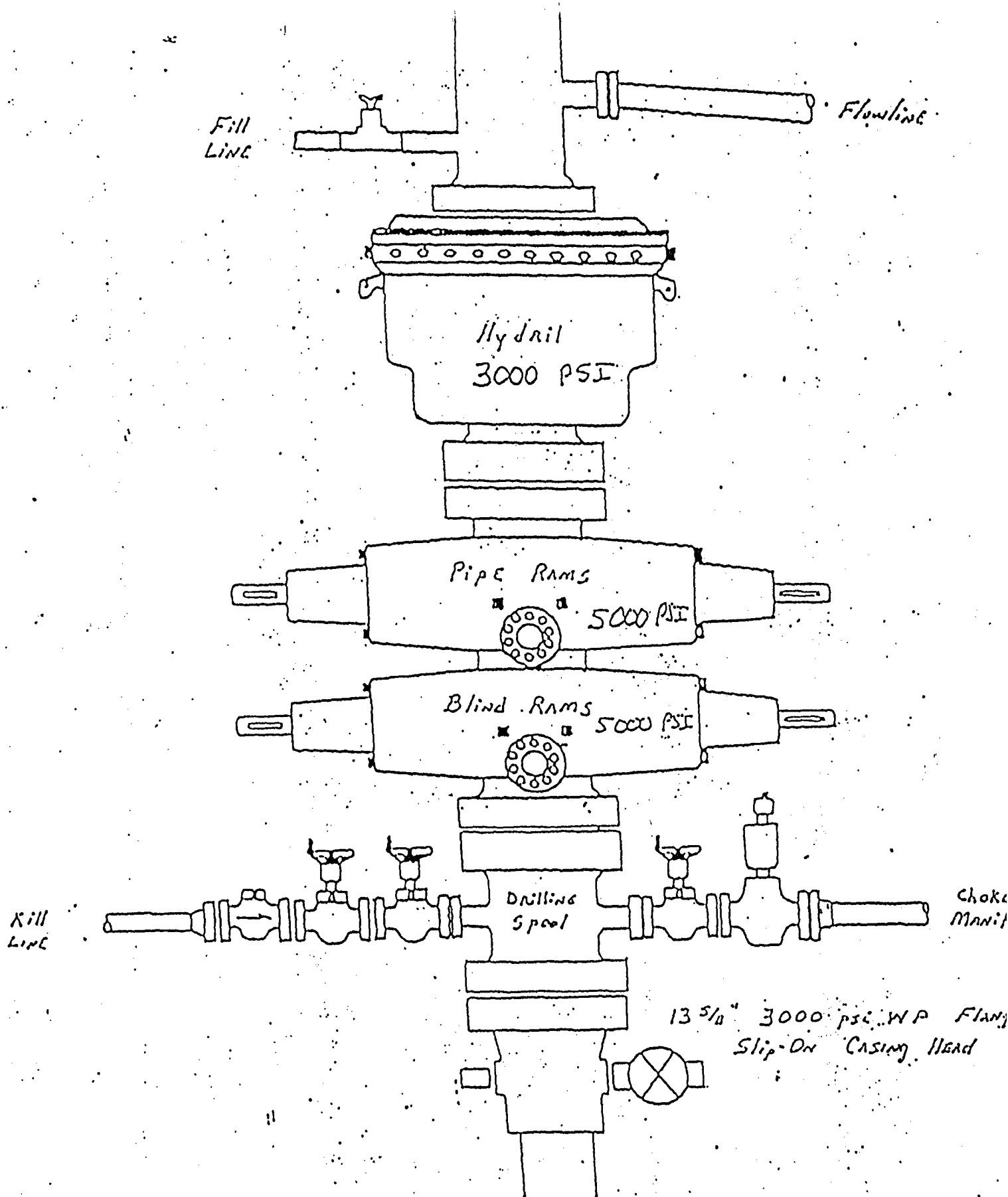


Michael S. Daugherty  
Vice President, Operations

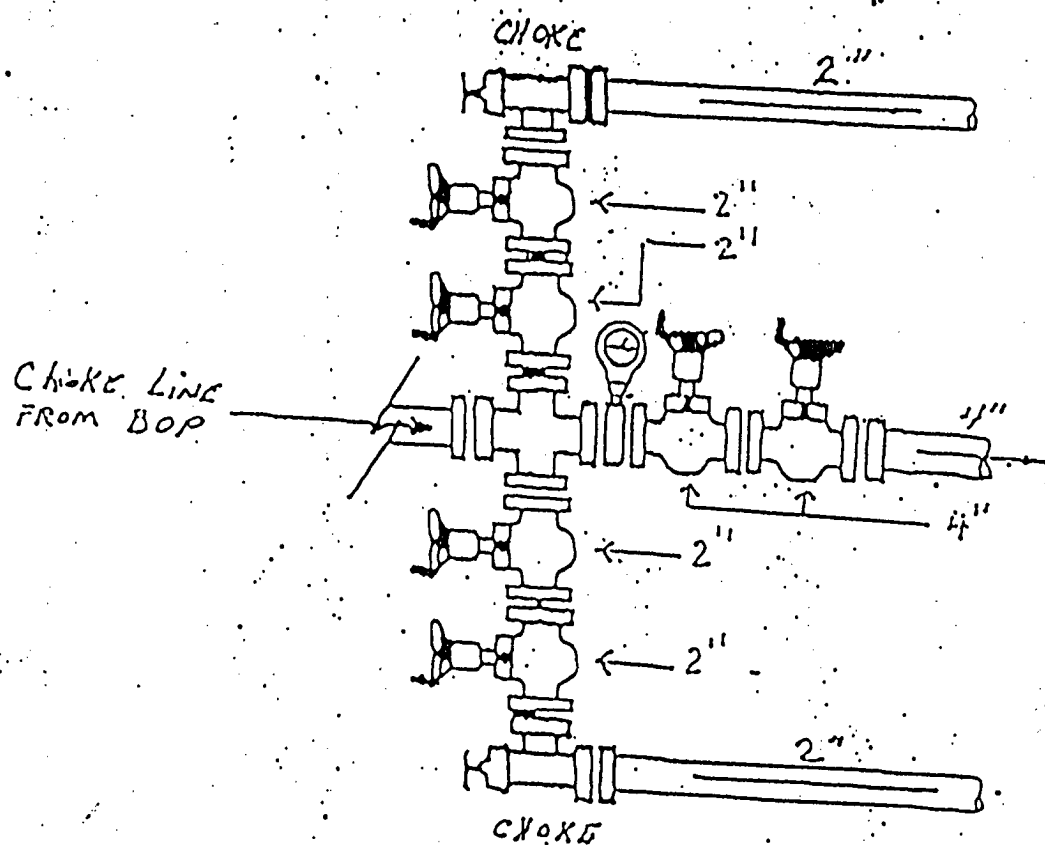
MSD/Cb/MooreFdCm#4-BLM-APTD

Attachments





MURCHISON OIL & GAS, INC.  
 MOORE FEDERAL COM #4  
 2580' FNL & 660' FEL SE/NE (H)  
 EDDY CO., NM.



MURCHISON OIL & GAS, INC.  
 MOORE FEDERAL COM #4  
 2580' FNL & 660' FEL SE/NE (H)  
 EDDY CO., NM.

UNITED STATES DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Roswell Field Office  
2909 West Second Street  
Roswell, New Mexico 88201-1287

Statement Accepting Responsibility for Operations

Operator Name: MURCHISON OIL & GAS, INC.  
Street or Box: 1100 MIRA VISTA BLVD.  
City, State: PLANO, TX.  
Zip Code: 75093-4698

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No.: NM-21158

Legal Description of Land: NE/NE/4 of S/2/NE/4  
SECTION 35, T24S, R26E

Formation (s) (if applicable): FROM THE SURFACE DOWN TO 11900'

Bond Coverage (State if individually bonded or another's bond):  
PERSONAL STATEWIDE BOND

BLM Bond File No.: NM2163

Authorized Signature: \_\_\_\_\_

MURCHISON OIL & GAS, INC.

Title: MICHAEL S. DAUGHERTY  
VICE PRESIDENT OPERATIONS

Date: 9/21/2004

[illegible]