

OCD-ARTESIA

RECEIVED

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

JUN - 8 2006

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM NM 105211	
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		7. If Indian, Allottee or Tribe Name	
2. Name of Operator MURCHISON OIL & GAS, INC.		8. Lease Name and Well No. 35783 HIGH LONESOME FED-CDM #1	
3a. Address: 1100 MIRA VISTA BLVD. PLANO, TX. 75093-4698		9. API Well No. 30-015-34928	
3b. Phone No. (include area code) (972) 931-0700		10. Field and Pool, or Exploratory WILDCAT MORROW	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 3352' FNL & 660' FEL At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area SEC. 3, T16S- R29E	
14. Distance in miles and direction from nearest town or post office* 22 MILES NE OF ARTESIA, 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 761.50	17. Spacing Unit dedicated to this well 320 AC.	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A	19. Proposed Depth 10800'	20. BLM/BIA Bond No. on file 40 DAYS	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3747' GL	22. Approximate date work will start* 10/01/2006	23. Estimated duration 40 DAYS	
24. Attachments <b>ROSWELL CONTROLLED WATER BASIN</b>			

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

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see item 20 above).
- Operator certification
- 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 04/20/2006
Title VICE PRESIDENT OPERATIONS		
Approved by (Signature) <i>Russell E. Sorenson</i>	Name (Printed/Typed) <i>Russell E. Sorenson</i>	Date JUN 06 2006
Title 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.

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 FOR 1 YEAR

DECLARED WATER BASIN  
CEMENT BEHIND THE 13 3/4"  
CASING MUST BE CIRCULATED

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

WITNESS!

50.17  
29.5



VIA CERTIFIED MAIL

MURCHISON OIL & GAS, INC.

MURCHISON PROPERTIES, INC.

April 20, 2006

United States Department of the Interior  
Bureau of Land Management  
Carlsbad Field Office  
620 East Greene Street  
Carlsbad, New Mexico 88220

**Re: Application for Permit to Drill  
Murchison Oil & Gas, Inc.  
High Lonesome Federal Com #1  
Eddy County, New Mexico  
Lease No. NM NM 105211**

Gentlemen:

Murchison Oil & Gas, Inc. "MOGI" respectfully requests permission to drill our High Lonesome Federal Com #1 located 3352' FNL and 660' FEL of Section 3, T16S, R29E, Eddy County, New Mexico, Federal Lease No. NM NM 105211. The proposed well will be drilled to a TD of approximately 10800' (TVD). The location and work area have been staked. It is approximately 22 miles NE of Artesia, 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 Gary Eidson Registered Land Surveyor No. 12641 in the State of New Mexico, dated 3/11/2006.
3. The elevation of the unprepared ground is 3747 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 10800' (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 10800' TVD.

1678 N French Dr., Hobbs, NM 88248

## District II

**1301 W. Grand Avenue, Artesia, NM 88210**

**District III**

1000 Rio Brazos Rd., Antec, NM 87410

### District IV

**1220 S. St. Francis Dr., Santa Fe, NM 87505**

**State of New Mexico**

**Minerals & Natural Resources Department**

## OIL CONSERVATION DIVISION

**1220 South St. Francis Dr.**

**Santa Fe, NM 87505**

Form C-102

Revised June 10, 2003

**Submit to Appropriate District Office**

**State Lease - 4 Copies**

**For Lease - 3 Copies**

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code 96070		3 Pool Name WILDCAT MORROW	
4 Property Code		5 Property Name HIGH LONESOME FEDERAL			6 Well Number 1
7 OGRID No. 015363		8 Operator Name MURCHISON OIL & GAS, INC.			9 Elevation 3747

## 10 Surface Location

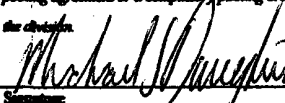
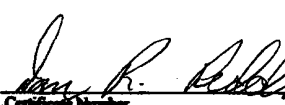

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>LOT 9</b>	<b>3</b>	<b>16-S</b>	<b>29-E</b>		<b>3352</b>	<b>NORTH</b>	<b>660</b>	<b>EAST</b>	<b>EDDY</b>

**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
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<sup>12</sup> Dedicated Acre	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
320			

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.

16		
		<p><b>17 OPERATOR CERTIFICATION</b></p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p style="text-align: right;">  </p> <p style="text-align: right;">Date <u>4/20/06</u></p> <p style="text-align: right;">Signature <u>MICHAEL S. DAUGHERTY</u></p> <p style="text-align: right;">Printed Name</p>
	<p style="transform: rotate(-90deg);">3352'</p>	
	<p style="transform: rotate(-90deg);">660'</p>	<p><b>18 SURVEYOR CERTIFICATION</b></p> <p><i>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.</i></p> <p style="text-align: center;"><b>MARCH 11, 2006</b></p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p> <p style="text-align: right;">  </p> <p style="text-align: right;">Certificate Number <u>DAN R. REDDY NM PE&amp;PS NO. 5412</u></p>
	<p>SPACING UNIT</p> 	
	<p>LAT N32.95617 LON W104.05628</p>	

7. Estimated tops of important geologic markers. (KDB EST @ 3764')

Yates	975' TVD
Queen	1706' TVD
Grayburg	2122' TVD
San Andres	2487' TVD
Glorieta	3944' TVD
Yeso	4042' TVD
Abo	5984' TVD
Wolfcamp	7249' TVD
Cisco	8157' TVD
Canyon	8857' TVD
Strawn	9643' TVD
Atoka	9997' TVD
Morrow "A"	10369' TVD
Morrow "C"	10417' TVD
Base Penn.	10565' TVD
Total Depth	10800'

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

Primary Objective: Morrow 10369' TVD

Secondary Objectives: Abo 5984' TVD

9. The proposed casing program is as follows:

Surface: 13-3/8" OD 48# H40 ST&C casing set at 385'

1<sup>st</sup> Intermediate: 9-5/8" OD 47# N80 ST&C casing from surface to 2625'

Production Casing: 5-1/2" OD 17# S-95 & L-80 LT&C from surface to 10800'

10. Casing setting depth and cementing program:

- A. 13-3/8" surface casing set at 385', or the top of the Rustler Anhydrite, in 17-1/2" hole. Circulate cement with 500 sx of Class C cement with additives.

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 2625' in 12-1/4" hole. Circulate cement with 1000 sxs Class C with additives.

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. 5-1/2" Production Casing will be set if warranted from surface to TD in a 8-3/4" hole. Cement with 600 sx of Class "H" with additives.

11. Pressure Control Equipment

0' – 365'	None
365' – 2625'	13-3/8" 3000# ram type preventers with one set blind rams and one set pipe rams.
2625' – 10800'	11" 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 9-5/8" 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 – 365'	Fresh water/native mud. Wt. 8.4 ppg, vis 32-34 sec, Lime for pH control. Paper for seepage. Lost circulation may be encountered.
365' – 2625'	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.
2625' – 8000'	Fresh water. Wt. 8.4 ppg, vis 28-29 sec, caustic for pH control. Paper for seepage.
8000' – 9800'	Cut brine. Wt. 9.2 – 9.4 ppg, vis 28-29 sec, caustic for pH control.
9800' – 10800'	Mud up with an XCD Polymer mud system with the following characteristics: Wt. 9.2 – 9.4 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.

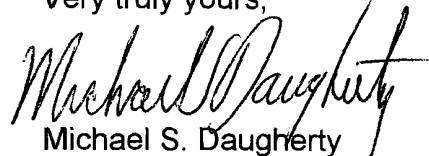
13. Testing, Logging and Coring Program:

- A. Testing program: None.
- B. Mud logging program: Two man unit from 2625' 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 H<sub>2</sub>S 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 August 1, 2006. It should take approximately 40 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/HighLonesomeFdCm#1-BLM-APTD

Attachments

## **MULTI-POINT SURFACE USE AND OPERATIONS PLAN**

MURCHISON OIL & GAS, INC.  
HIGH LONESOME FEDERAL COM #1  
EDDY COUNTY, NEW MEXICO  
LEASE NO. NM NM 105211

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to identify the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal may be made of the environmental effects associated with the operation.

The well, and work area have been staked by a registered New Mexico land surveyor. Daniel Boone in Carlsbad, NM has been engaged to make an archaeological reconnaissance of the work area. Their findings concerning cultural resources will be reported to the Bureau of Land Management.

### **1. Existing Roads**

A copy of a Access Road Easement Plat is attached showing the proposed location. The well location is spotted on this map, which also shows the existing road system.

### **2. Planned Access Road**

- A. An existing lease access road will be used to gain access to location. About 1720' feet of new lease road will have to be constructed.
- B. Surfacing material: Six inches of caliche and water, compacted and graded.
- C. Maximum Grade: Less than 3%
- D. Turnouts: None needed.
- E. Drainage Design: N/A.
- F. Culverts: None needed.
- G. Cuts and Fills: Leveling the location will require minimal cuts or fills.
- H. Gates or Cattleguards: None required.



3. Existing wells within a one mile radius of the proposed development well are shown on the attached map.

4. Location of Existing and/or Proposed Facilities

- A. If the well is productive, production facilities will be constructed on the well pad. The facility will consist of a stack pack, one 300 bbl oil tank and one 300 bbl fiberglass water tank. All permanent above ground facilities will be painted in accordance with the BLM's painting guidelines simulating the color of sandstone brown.
- B. All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to and a site security plan will be submitted for the High Lonesome Fed Com #1 tank battery. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

5. Location and Type of Water Supply

Fresh water and brine water will be used to drill this well. It will be purchased from a supply in or near wellsite and transported to the well site.

6. Source of Construction Materials

Caliche for surfacing the well pad will be obtained from a Federal pit located in Eddy County, New Mexico.

7. Method of Handling Waste Disposal

- A. Drill Cuttings will be disposed of in drilling pits. A NMOCD Form C-144 Pit Permit is attached further describing reserve pit construction and location of ground water, waterways and water wells.
- B. Drilling fluids will be allowed to evaporate in the drilling pits until pits are dry.
- C. Water produced during tests will be disposed of in the drilling pits. Oil produced during tests will be stored in test tanks until sold.

- D. Current laws and regulations pertaining to the disposal of human waste will be complied with.
  - E. Trash, waste paper, garbage and junk will be collected in steel trash bins and removed after drilling and completion operations are completed. All waste material will be contained to prevent scattering by the wind.
  - F. All trash and debris will be removed from the wellsite within 30 days after finishing drilling and/or completion operations.
8. Ancillary Facilities
- A. None needed.
9. Wellsite Layout
- A. The location and dimensions of the well pad, mud pits, reserve pit and location of major rig components are shown on the attached well site layout sketch. The V-door will be to the East and the reserve pit located to the North.
  - B. Leveling of the wellsite will be required with minimal cuts or fills anticipated.
  - C. The pad and pit area has been staked and flagged.
10. Plans for Restoration of the Surface
- A. After completion of drilling and/or completion operations, all equipment and other materials not needed for operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing condition as possible.
  - B. Any unguarded pits containing fluids will be fenced until they are filled.
  - C. After abandonment of the well, surface restoration will be in accordance with the land owner. This will be accomplished as expeditiously as possible.

11. Other Information

- A. Topography: The location is rolling hills. Ground Level elevation is 3747' feet.
- B. Soil: Sandy clay loams.
- C. Flora and Fauna: The vegetative cover is generally sparse consisting of mesquite, yucca, shinnery oak, sandsage and perennial native range grasses. Wildlife in the area is also sparse consisting of coyotes, rabbits, rodents, reptiles, dove and quail.
- D. Ponds and Streams: None.
- E. Residences and Other Structures: There are no occupied dwellings within a 1 mile radius of the location.
- F. Archaeological, Historical and Cultural Sites: An Archaeological Consultant who is acceptable to the BLM will be engaged to make an archaeological reconnaissance of the work area.
- G. Land Use: Cattle ranching.
- H. Surface Ownership: The surface is public land leased by Bogle, Ltd., P.O. Box 460, Dexter, NM. 88230. They will be notified of our intention to drill prior to any activity.

Upon completion of the well, the reserve pit and burn pit will be closed in accordance with the New Mexico Oil Conservation Division Guidelines.

All garbage and debris left on site will be removed within 30 days of the final completion. The well site, if a producer, will be maintained and kept clean of all trash and litter which detracts from the surrounding environment. Equipment will be maintained in accordance with good operating practice.

After the wellsite is cleaned and pits and sumps closed, any obstruction to the natural drainage will be corrected by ditching or terracing. All disturbed areas, including any access road no longer needed, will be ripped. Those areas will be reseeded with grass if, in the opinion of the land owner, it is required.

12. Operator's Representatives

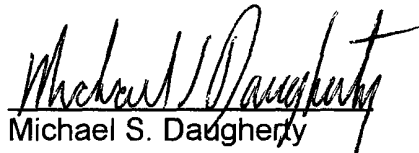
The Field representatives responsible for assuring compliance with the approved surface use and operations plan are as follows:

Michael S. Daugherty  
1100 Mira Vista Blvd.  
Plano, TX. 75093-4698  
Office Phone: (972) 931-0700  
Home Phone: (972) 618-0792

Randy Ford  
415 W. Wall St., Ste. 1700  
Midland, TX. 79701  
Office Phone: (432) 682-0440  
Cell Phone: (432) 559-2222

13. 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 MOGI and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

  
Michael S. Daugherty

4/20/2006  
Date

Vice President, Operations  
Murchison Oil & Gas, Inc.

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 NM105211

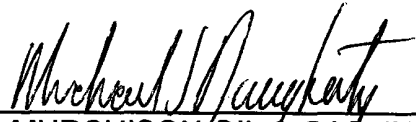
Legal Description of Land: Lots 3,5,6,9-16 and S/2 (761.50 acres)  
SECTION 3, T16S, R29E

Formation (s) (if applicable): FROM THE SURFACE DOWN TO 11800'

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

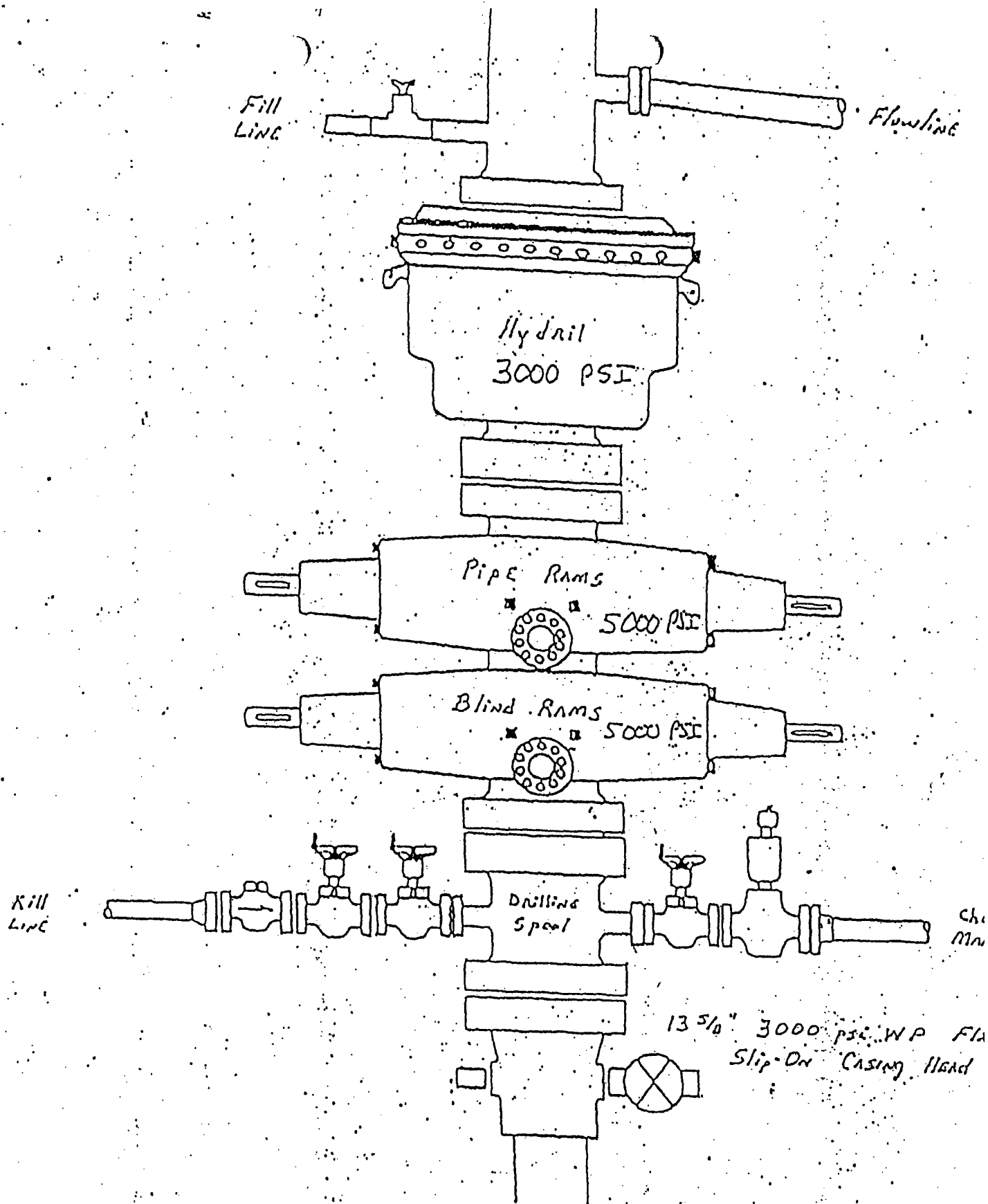
BLM Bond File No.: NM2163

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

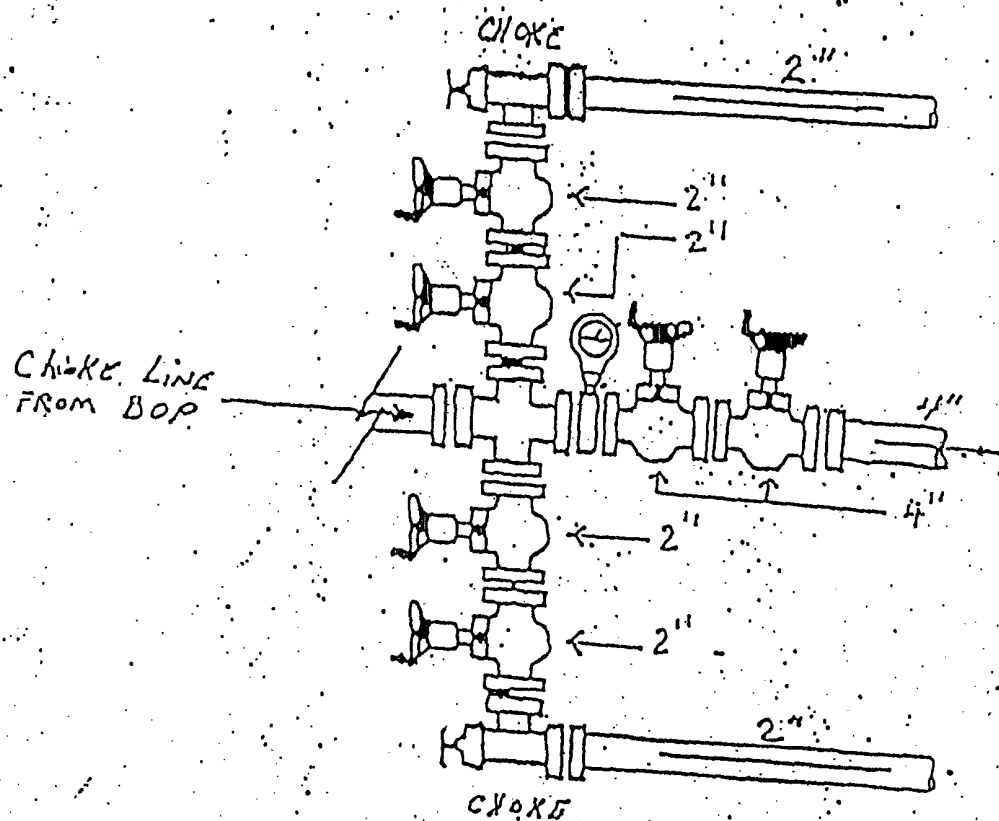
  
MURCHISON OIL & GAS, INC.

Title: MICHAEL S. DAUGHERTY  
VICE PRESIDENT OPERATIONS

Date: 4/20/2006



MURCHISON OIL & GAS, INC.  
HIGH LONESOME FED COM #1  
3352' FNL & 660' FEL  
EDDY CO., NM.



MURCHISON OIL & GAS, INC.  
 HIGH LONESOME FED COM #1  
 3352' FNL & 660' FEL  
 EDDY CO., NM.

**MURCHISON OIL & GAS, INC.**

**HIGH LONESOME FED COM #1  
SEC. 3, T16S, R29E  
3352' FNL & 660' FEL  
EDDY CO., NM.**

General location:

From Artesia go east on US Highway 82 approximately 20 miles. Turn north on Baranoval Road (CR 214) and go north about 10 miles. Turn left on lease road and go 3/10ths mile to location.



**CONDITIONS OF APPROVAL - DRILLING**

Operator's Name: Murchison Oil & Gas, Inc. Well No. 1 – High Lonesome Federal  
Location: 3352' FNL & 660' FEL sec. 3, T. 16 S., R. 29 E.  
Lease: NM-105211

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**I. DRILLING OPERATIONS REQUIREMENTS:**

1. The Bureau of Land Management (BLM) is to be notified at (505) 234-5972 in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13-3/8 inch 9-5/8 inch 5-1/2 inch

C. BOP tests

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Include the API No. assigned to well by NMOCD on the subsequent report of setting the first casing string.

**II. CASING:**

1. 13-3/8 inch surface casing should be set at approximately 385 feet, below usable water and circulate cement to the surface. If cement does not circulate to the surface, the BLM Carlsbad Field Office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. Minimum required fill of cement behind the 9-5/8 inch intermediate casing is sufficient to circulate to the surface.

3. Minimum required fill of cement behind the 5-1/2 inch production casing is sufficient to tie back 500 feet above the top of the uppermost perforation in the pay zone.

**III. PRESSURE CONTROL:**

1. Before drilling below the 13-3/8 inch surface casing, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve. Before drilling below the 9-5/8 inch intermediate casing, the blowout preventer assembly shall consist of a minimum of One Annular Preventer, Two Ram-Type Preventers, and a Kelly Cock/Stabbing Valve.

2. Before drilling below the 13-3/8 inch surface casing, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi. Before drilling below the 9-5/8 inch intermediate casing, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 3000 psi.

**CONDITIONS OF APPROVAL - DRILLING (CONTINUED)**

**Operator's Name:** Murchison Oil & Gas, Inc. **Well No.** 1 – High Lonesome Federal

**Location:** 3352' FNL & 660' FEL **sec.** 3, **T.** 16 S., **R.** 29 E.

**Lease:** NM-105211

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3. After setting the 9-5/8 inch intermediate casing string and before drilling into the Wolfcamp formation, the BOPE shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

A. The BLM Carlsbad Field Office shall be notified at (505) 234-5972 in sufficient time for a representative to witness the tests.

B. The tests shall be done by an independent service company.

C. The results of the test shall be reported to the BLM Carlsbad Field Office at 620 East Greene Street, Carlsbad, New Mexico 88220-6292.

D. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

E. Testing must be done in a safe workman like manner. Hard line connections shall be required.

**IV. DRILLING MUD:**

1. Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

A. Recording pit level indicator to indicate volume gains and losses.

B. Flow-sensor on the flow-line to warn of abnormal mud returns from the well.