OCD-ARTESIA

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. **NM 108988**

6. If Indian, Allotee or Tribe Name

7 If Unit or CA Agreement, Name and No.

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. **DAINWOOD DRAW FED 4 #1** 36069

2. Name of Operator **MURCHISON OIL & GAS, INC.** 15363

9. API Well No. 30-015-35175

3a. Address **1100 MIRA VISTA BLVD. PLANO, TX. 75093-4698**

3b. Phone No. *(include area code)* **972-931-0700**

10. Field and Pool, or Exploratory **WILDCAT WOLFCAMP**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **660' FSL & 860' FEL** per attached SN dated 8/28/06
At proposed prod. zone **760' FNL & 760' FEL**

11. Sec., T. R. M. or Blk. and Survey or Area **SEC. 4, T17S, R23E**

14. Distance in miles and direction from nearest town or post office* **14 MILES WEST 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)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
660'	**1160**	**320 AC.**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
N/A	**TVD 4550' MD 7900'**	**40 DAYS**
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
4039' GL	**11/01/2006**	**40 DAYS**

24. Attachments Roswell 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	Name *(Printed/Typed)*	Date
Michael S Daugherty	**MICHAEL S. DAUGHERTY**	**08/28/2006**
Title **VICE PRESIDENT OPERATIONS**		

Approved by *(Signature)* **/s/ James Stovall**	Name *(Printed/Typed)*	Date SEP 29 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. 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)*

SEE ATTACHED FOR CONDITIONS OF APPROVAL

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

OCT 2006
RECEIVED
OCD - ARTESIA

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005

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	Pool Name
	97489	WOLFCAMP WILDCAT

Property Code	Property Name	Well Number
	DAINWOOD DRAW	1

OGRID No.	Operator Name	Elevation
015363	MURCHISON OIL & GAS, INC.	4039'

Surface Location

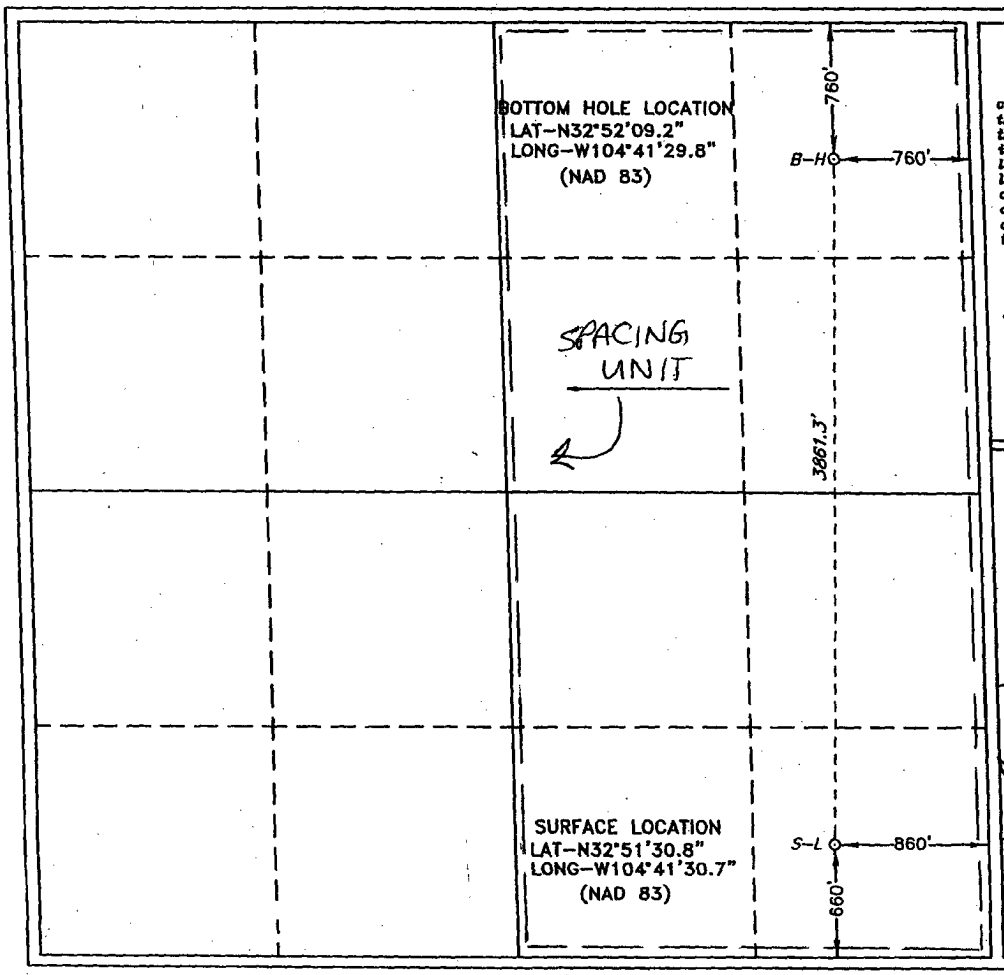
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	4	17 S	23 E		660	SOUTH	860	EAST	EDDY

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
A	4	17 S	23 E		760	NORTH	760	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	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



OPERATOR CERTIFICATION

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 or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 8-29-06 Date

MICHAEL S. DAUGHERTY
Printed Name

SURVEYOR CERTIFICATION

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 supervison, and that the same is true and correct to the best of my belief.

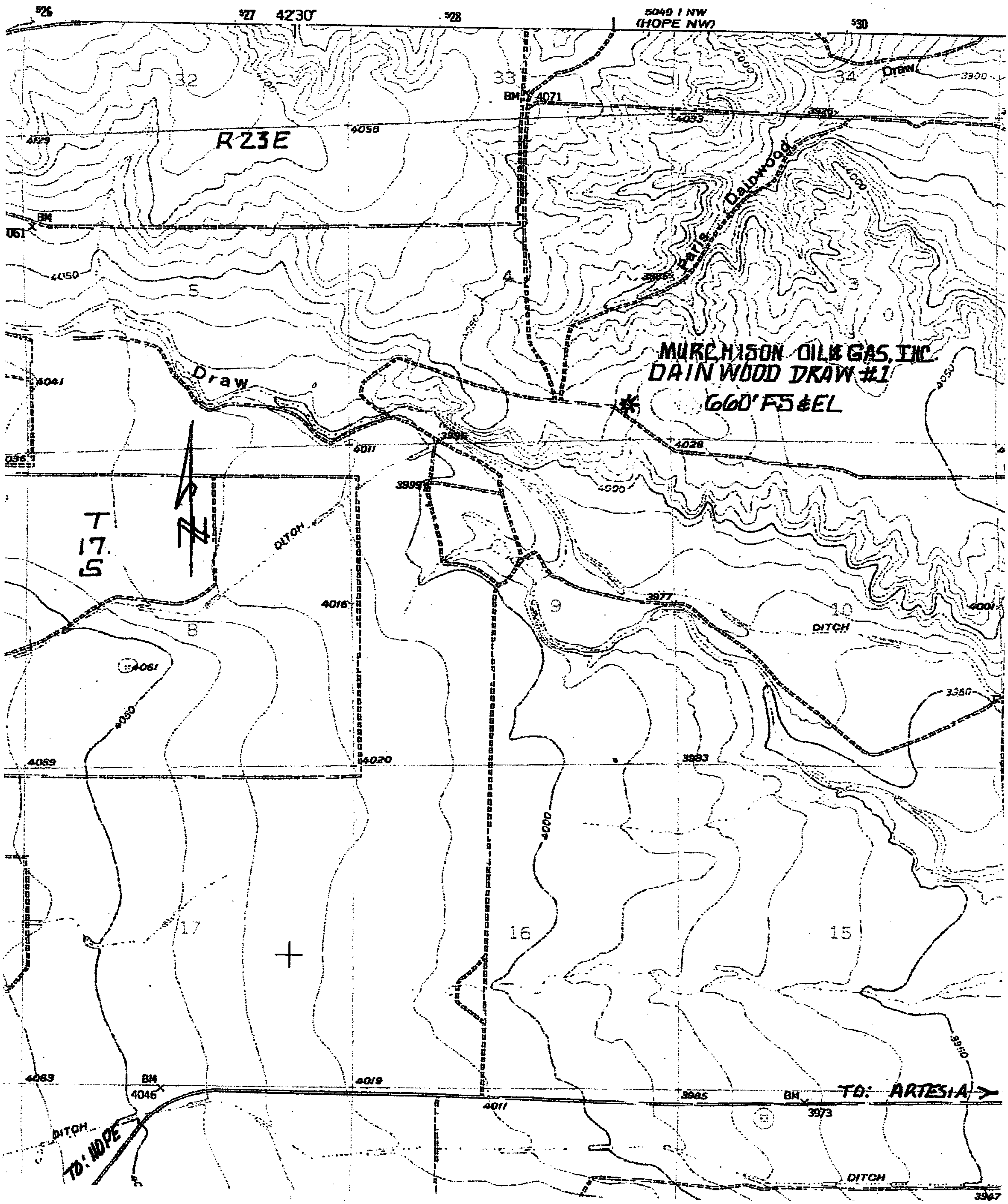
AUGUST 03, 2006
Date Surveyed

Signature & Seal of Professional Surveyor

NEW MEXICO 7977 REGISTERED PROFESSIONAL SURVEYOR

Certificate No. Gary L. Jones 7977

BASIN SURVEYS


42'30"
5049 I NW
(HOPE NW)
R23E
MURCHISON OIL & GAS, INC.
DAINWOOD DRAW #1
660' FS & EL
Draw
Dainwood
T
17
S
DITCH
TO: ARTESIA
TO: HOPE
BM
4071
4046
3973
4028
4011
4020
4019
3985
3977
3983
4016
4061
4059
4063
4041
4058
4033
4000
4050
3950

J.D. MURCHISON INTERESTS, INC.

MURCHISON OIL & GAS, INC.
MURCHISON PROPERTIES, INC.

VIA FEDERAL EXPRESS

July 27, 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.
Dainwood Draw Federal 4 #1
Eddy County, New Mexico
Lease No. NM 108988

Gentlemen:

Murchison Oil & Gas, Inc. "MOGI" respectfully requests permission to drill our Dainwood Draw Federal 4 #1 with a surface location of 660' FSL and 660' FEL and a bottom hole location of 760' FNL & 760' FEL of Section 4, T17S, R23E, Eddy County, New Mexico, Federal Lease No. NM 108988. The proposed well will be drilled to a TVD of 4550' and a measured depth of 7900'. The location and work area have been staked. It is approximately 14 miles West 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 Dan Reddy Registered Land Surveyor No. 5412 in the State of New Mexico, dated 5/23/2006.

3. The elevation of the unprepared ground is 4034 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 TVD of 4550' and a measured depth of 7900', and run casing. A directional plot of the well is attached. This equipment will then be rigged down and the well will be completed with a pulling unit.

6. Proposed total depth is 7900' TVD.

7. Estimated tops of important geologic markers. (KDB EST @ 4051')

Glorieta	2193' TVD
Yeso	2323' TVD
Tubb	2748' TVD
Abo	3383' TVD
Wolfcamp	4233' TVD
Total Vertical Depth	4550'

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

Primary Objective: Wolfcamp 4233' TVD

9. The proposed casing program is as follows:

Surface: 13-3/8" OD 48# H40 ST&C casing set at 300'

1st Intermediate: 9-5/8" OD 47# N80 ST&C casing from surface to 1300'

Production Casing: 5-1/2" OD 17# S-95 & L-80 LT&C from surface to 7900'

10. Casing setting depth and cementing program:

A. 13-3/8" surface casing set at 300', 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% $CaCl_2$.

B. 9-5/8" 1st intermediate casing set at 1300' in 12-1/4" hole. Circulate cement with 1100 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% $CaCl_2$.

C. 5-1/2" Production Casing will be set if warranted from surface to TD in a 8-3/4" hole. Cement with 1000 sx of Class "H" with additives.

11. Pressure Control Equipment

0' – 300'	None
300' – 1300'	13-3/8" 3000# ram type preventers with one set blind rams and one set pipe rams.
1300' – 7900'	11" 3000# 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 4000'. 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 3000 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 – 300'	Fresh water/native mud. Wt. 8.4 to 8.6 ppg, vis 28-34 sec, Lime for pH control. Paper for seepage. Lost circulation may be encountered.

300' – 1300'	Fresh water 8.4 to 8.6 ppg, vis 28-34 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.
1300' – 3800'	Fresh water. Wt. 8.8 to 9.2 ppg, vis 28-34 sec, caustic for pH control. Paper for seepage.
3800' – 4800'	Cut brine. Wt. 9.2 – 9.4 ppg, vis 28-34 sec, 10-15 cc water loss caustic for pH control.
4800' – 7900'	Cut brine Wt. 9.2 – 9.4 ppg, Vis 40-45 sec, WL 10-20 cc.

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 1300' to TD.

C. Electric logging program: CNL/LDT/CAL/GR, DLL/CAL/GR.

D. Coring program: None.

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 November 1, 2006. It should take approximately 45 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/DainwoodDrFd4#1-BLM-APTD

Attachments

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

MURCHISON OIL & GAS, INC.
DAINWOOD DRAW FEDERAL 4 #1
EDDY COUNTY, NEW MEXICO
LEASE NO. NM 108988

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 200' 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 Dainwood Draw Federal 4 #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. A lined frac pit may be required during completion to store 30K to 40K barrels of fresh water. This pit maybe used for more than one well.

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 4034' 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 private land owned by Carl Morgan, 1211 E. Castleberry Rd., Artesia, NM. 88210-9725. 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

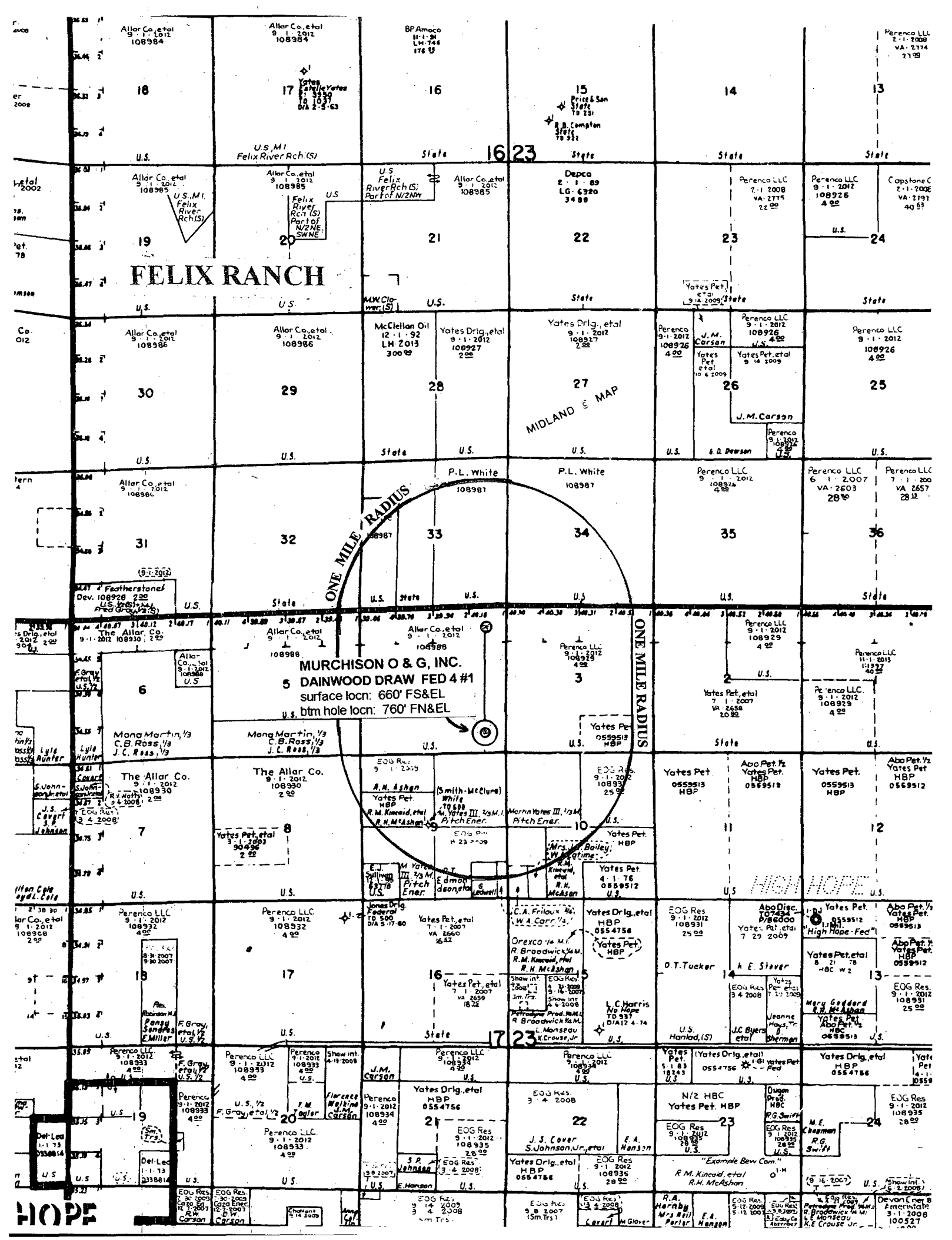
13. Certification

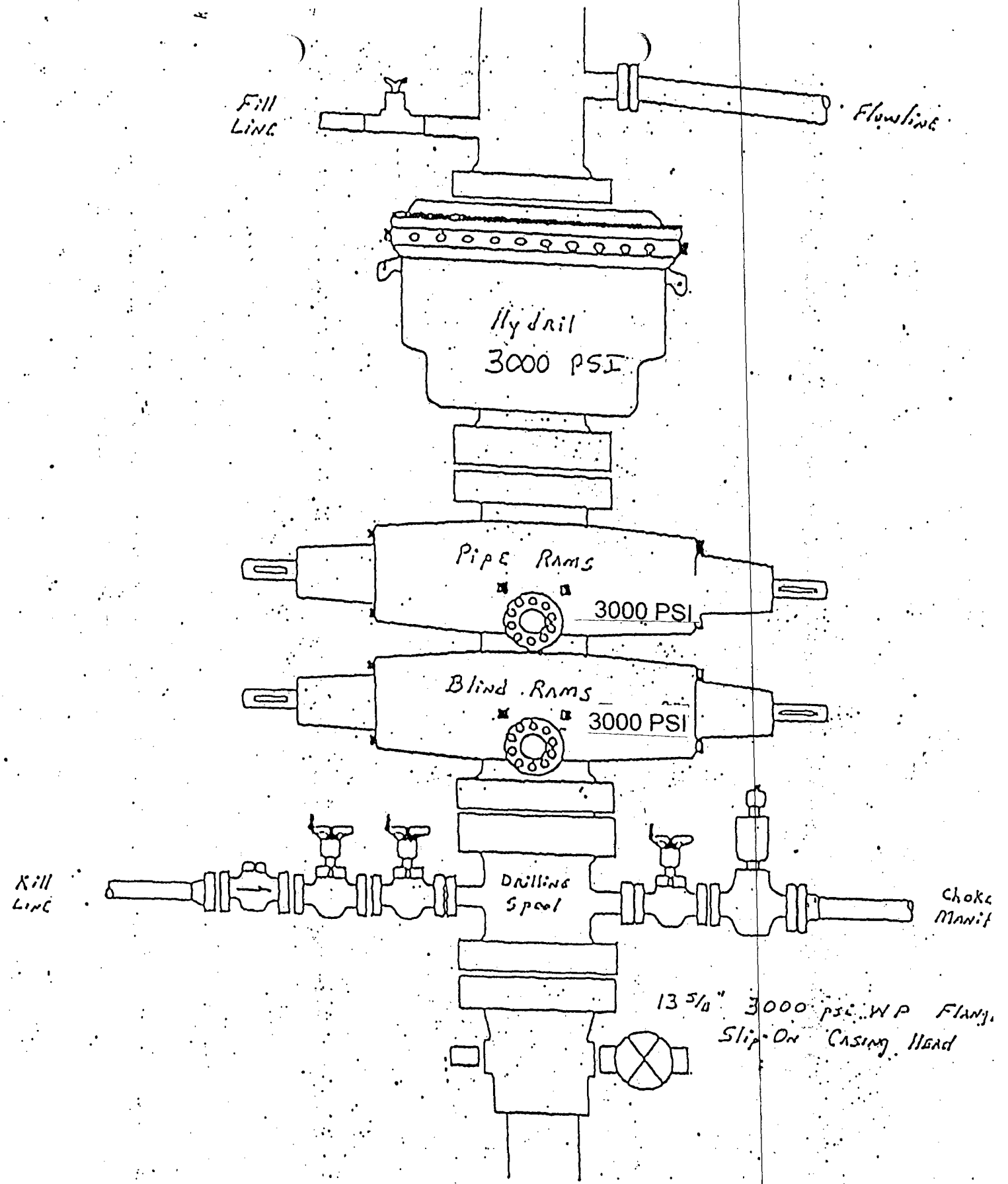
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated 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

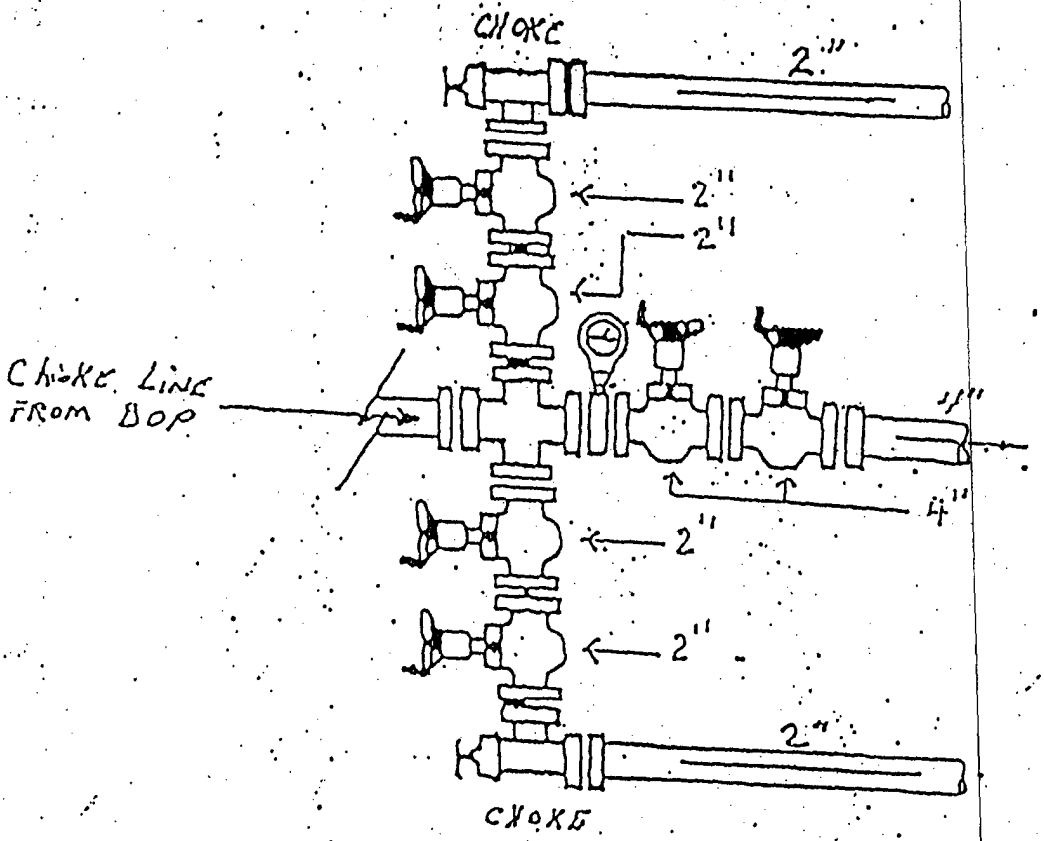
7/27/2006
Date

Vice President, Operations
Murchison Oil & Gas, Inc.


FELIX RANCH
MIDLAND MAP
ONE MILE RADIUS
ONE MILE RADIUS
MURCHISON O & G, INC.
DAINWOOD DRAW FED 4 #1
surface locn: 660' FS&EL
btm hole locn: 760' FN&EL
HIGH HOPE
HOPE



MURCHISON OIL & GAS, INC.
DAINWOOD DRAW FED 4 #1
SURF. LOC.: 660' FSL & 660' FEL, SEC. 4, T17S, R23E
BTM HOLE LOC.:760' FNL & 760' FEL, SEC. 4, T17S, R23E
EDDY CO., NM.



MURCHISON OIL & GAS, INC.
DAINWOOD DRAW FED 4 #1
SURF. LOC.: 660' FSL & 660' FEL, SEC. 4, T17S, R23E
BTM HOLE LOC.:760' FNL & 760' FEL, SEC. 4, T17S, R23E
EDDY CO., NM.

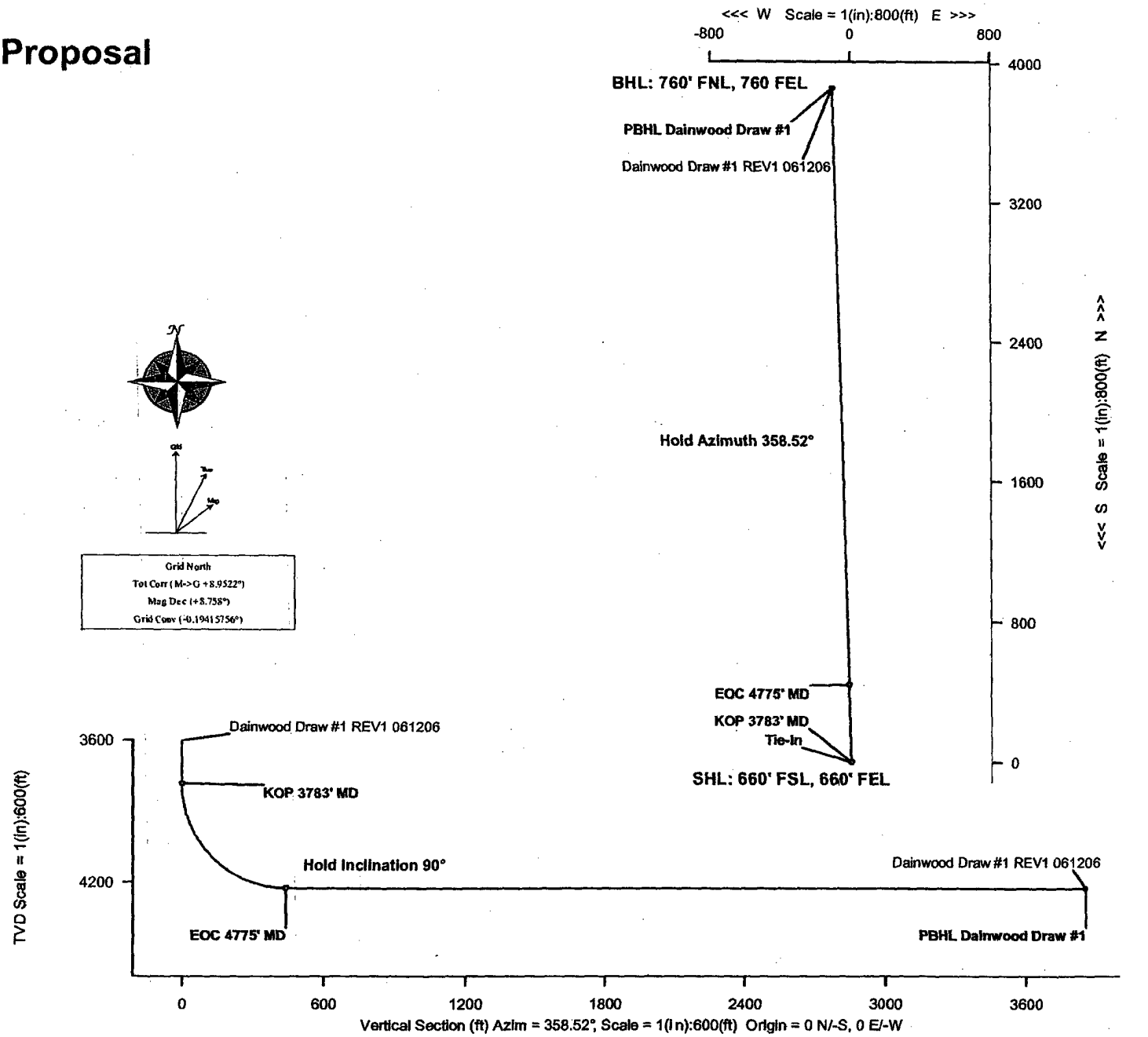
Schlumberger **Murchinson Oil & Gas** **Rev # 1 06/12/06**

WELL	FIELD	STRUCTURE
Dainwood Draw #1	Eddy County, New Mexico	Sec. 4, T17S & R23E

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
Tie-In	0.00	0.00	358.52	0.00	0.00	0.00	0.00	
KOP 3783' MD	3783.26	0.00	358.52	3783.26	0.00	0.00	0.00	0.00
EOC 4775' MD	4475.57	90.00	358.52	4224.00	440.74	440.59	-11.41	13.00
PBHL Dainwood Draw #1	7896.13	90.00	358.52	4224.00	3861.30	3860.00	-100.00	0.00

Proposal



Quality Control
Date Drawn: Mon 11:31 AM June 12, 2006
Checked By:
Client OK:

Schlumberger

Dainwood Draw #1 REV1 061206 Proposal

Report Date:	June 12, 2006	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	Murchinson Oil & Gas	**Vertical Section Azimuth:**	358.520°
Field:	Eddy County, New Mexico	**Vertical Section Origin:**	N 0.000 ft, E 0.000 ft
Structure / Slot:	Murchinson, Sec. 4, T17S & R23E / Dainwood Draw #1	**TVD Reference Datum:**	KB
Well:	Dainwood Draw #1	**TVD Reference Elevation:**	4034.0 ft relative to MSL
Borehole:	Original Hole	**Sea Bed / Ground Level Elevation:**	4034.000 ft relative to MSL
UWI/API#:		**Magnetic Declination:**	8.758°
Survey Name / Date:	Dainwood Draw #1 REV1 061206 / June 12, 2006	**Total Field Strength:**	49395.313 nT
Tort / AHD / DDI / ERD ratio:	90.000° / 3861.30 ft / 5.813 / 0.914	**Magnetic Dip:**	60.701°
Grid Coordinate System:	NAD27 New Mexico State Planes, Eastern Zone, US Feet	**Declination Date:**	June 12, 2006
Location Lat/Long:	N 32 51 30.780, W 104 41 28.248	**Magnetic Declination Model:**	BGGM 2004
Location Grid N/E Y/X:	N 676237.961 ftUS, E 390115.186 ftUS	**North Reference:**	Grid North
Grid Convergence Angle:	-0.19415756°	**Total Corr Mag North -> Grid North:**	+8.952°
Grid Scale Factor:	0.99992292	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Tool Face (deg)
Tie-In	0.00	0.00	358.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.48M
KOP 3783' MD	3783.26	0.00	358.52	3783.26	0.00	0.00	0.00	0.00	0.00	0.00	-1.48M
EOC 4775' MD	4475.57	90.00	358.52	4224.00	440.74	440.59	-11.41	440.74	358.52	13.00	0.00G
PBHL Dainwood Draw #1	7896.13	90.00	358.52	4224.00	3861.30	3860.00	-100.00	3861.30	358.52	0.00	0.00G

Survey Type: Non-Def Proposal

Survey Error Model: **SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma**

Surveying Prog:

MD From (ft)	MD To (ft)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	7896.13	1/100.00	SLB_UNKNOWN (default tool used)	Original Hole -> Dainwood Draw #1 REV1 061206

SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name: Murchison Oil & Gas, Inc. Well Name & #: Dainwood Draw Federal 4 # 1
Location Surface hole: 660' F S L & 860' F E L; Sec. 04, T. 17 S., R. 23 E.
Bottom hole: 760' F N L & 760' F E L; Sec. 04, T. 17 S., R. 23 E.

Lease #: NM-108988 County: EDDY State: 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.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

I. SPECIAL ENVIRONMENT REQUIREMENTS

( ) Lesser Prairie Chicken (stips attached)
( ) San Simon Swale (stips attached)
( ) Flood plain (stips attached)
(X) Other (Aplomado Falcon stips attached)

II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

(X) The BLM will monitor construction of this drill site. Notify the (X) Carlsbad Field Office at (505) 234-5972 ( ) Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.

(X) Roads and the drill pad for this well must be surfaced with 6 inches of compacted caliche upon completion of well and it is determined to be a producer.

( ) 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 _____inches in depth. Approximately _____cubic yards of topsoil material will be stockpiled for reclamation.

(X) Other. **Pits North V-Door East**

1) Paul Evans from BLM –Carlsbad Field Office (505-234-5977- office Or Cell 505-361-7548) must be contacted prior to beginning of dirt work in order to monitor the construction of the pad and pit area.

2) The cattle guard that is to be installed on the access road must have a swing gate installed on it.

3) There needs to be a fence built around the location to keep livestock off of the well pad and also to keep traffic from driving off of the location. **"No vehicular traffic will be permitted off of the well pad location or access roads to the location".** The access road being built to the location will not exceed 14 feet in width.

III. WELL COMPLETION REQUIREMENTS

( ) A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

(x) 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 depth of ½ inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre. If broadcasting, the seeding rate must be doubled.

( ) A. Seed Mixture 1 (Loamy Sites)
Side Oats Grama (*Bouteloua curtipendula*) 5.0
Sand Dropseed (*Sporobolus cryptandrus*) 1.0
Plains lovegrass (*Eragrostis intermedia*) 0.5

( ) B. Seed Mixture 2 (Sandy Sites)
Sand Dropseed (*Sporobolus crptandrus)* 1.0
Sand Lovegrass (*Eragostis trichodes*) 1.0
Plains Bristlegrass (*Setaria magrostachya*) 2.0

( ) C. Seed Mixture 3 (Shallow Sites)
Side oats Grama (*Bouteloua curtipendula)* 5.0
Green Spangletop (*Leptochloa dubia*) 2.0
Plains Bristlegrass (*Setaria magrostachya*) 1.0

( ) D. Seed Mixture 4 (Gypsum Sites)
Alkali Sacaton (*Sporobolus airoides*) 1.0
Four-Wing Saltbush (*Atriplex canescens*) 5.0

(X) OTHER SEE ATTACHED SEED MIXTURE

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

RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6-mil plastic.
Mineral material extracted from within the boundary of the APD during construction of the well pad and reserve pits and be used for the construction of this well pad and its immediate access road only, as long as that portion of the access road it is use on remains on-lease. Removal of any additional material from this location for construction or improvement of other well pads and other access or lease roads must first be purchased from BLM.

Reclamation: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.
The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

(1) Lined as specified above and

(2) A temporary or emergency pit may be constructed immediately adjacent to the reserve pit as long as the pit remains within the APD boundary. Mineral material removed from this pit may be used for the construction of this well pad only and its immediate access road, as long as that portion of the access road the material is used on remains on-lease. Removal of any material from the APD boundary for use on other well locations or roads must first be purchased from BLM.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be re-contoured, all trash removed, and reseeded as specified in this permit.

CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to process by BLM.

TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

Stipulations for Drilling in Aplomado Falcon Habitat

The following well pad construction and reclamation measures will be implemented to provide for minimal long-term disturbance:

No Yuccas over 5 feet in height will be damaged by vehicular use or any other activity associated with this project.

Remove all caliche from well pads and roads that are plugged and abandoned. Reclamation will consist of disking, mulching, seeding with a drill (See seed mixture below), and application of water to encourage seed germination.

Well pad size will not exceed 300 ft. x 390 ft. (unless multiple wells are drilled from the same well pad). All unused portions of the well pad associated with producing wells will be reclaimed using the seed mixture below:

Buffalograss (Buchloe dactyloides)	4 lbs/acre
Blue grama (Bouteloua gracilis)	1 lbs/acre
Cane bluestem (Bothriochloa barbinodis)	5 lbs/acre
Sideoats grama (Boutelou curtipendula)	5 lbs/acre
Plains bristlegrass (Setaria macrostachya)	6 lbs/acre

Reserve pits for drilling and disposal are not allowed unless the pit can be effectively netted to the satisfaction of the BLM. Steel tank circulation system must be used if the reserve pit is not netted.

All active raptor nests will be avoided by a minimum of 400 meters by all activities or curtail activities until fledging is complete.

All inactive raptor nests will be avoided by a minimum of 200 meters by all activities.

All roads associated with well development will not exceed 30 ft in width

CONDITIONS OF APPROVAL - DRILLING

Operator's Name:	**Murchison Oil & Gas, Inc.**
Well Name & No.	**Dainwood Draw Fed 4 #1**
Location:	**SHL: 660' FSL & 860' FEL, Section 4, T.17S., R.23E.**
Location:	**BHL: 760' FNL & 760' FEL, Section 4, T. 17S., R. 23E.**
Lease:	**NM 108988**

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5972 or (505) 361-2822 (After hours) - for wells in Eddy Countya County, 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. Hydrogen Sulfide (H2S) has been detected in Sections 13 and 23 of this township at levels less than 20 ppm. It is recommended that monitoring equipment be available prior to drilling into the **Abo** formation.

3 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.

4. Submit a Sundry Notice (Form 3160-5, one original and four copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

6. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

7. Gamma-Ray/Neutron logs shall be run from the base of the Salado Formation to the surface; cable speed not to exceed 30 feet per minute.

II. CASING:

1. The **13-3/8** inch surface casing shall be set at **300 feet** and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM 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.

Since the surface casing is not below the usable fresh water in the area, fresh water is required as the drilling mud to the depth at which the intermediate string will be set 1300'.

Possible lost circulation in the Grayburg and San Andres formations. Low potential for karst.

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

3. The minimum required fill of cement behind the **5-1/2** inch production casing is **cement shall extend upward a minimum of 200 feet into the intermediate casing.**

III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the **9-5/8** inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling the surface and intermediate casing shall be **1000** psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the **9-5/8** inch casing shall be **3000** psi. **Pressure control equipment is required for the surface casing.**

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- 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.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.
- BOPE must be tested **500'** prior to drilling into the **Wolfcamp** Formation by an independent service company.

IV. DRILLING MUD:

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:

1. Recording pit level indicator to indicate volume gains and losses.
2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.