



OCD-ARTESIA

ATS-07-104

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>NM 108930</b>
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name <b>N/A</b>
2. Name of Operator <b>Murchison Oil &amp; Gas, Inc. (OGRID #15363)</b>		7. If Unit or CA Agreement, Name and No. <b>N/A</b>
3a. Address <b>1100 Mira Vista Blvd. Plano, TX 75093-4698</b>		8. Lease Name and Well No. <b>Eagle Draw Federal 8 #1 H 32</b>
3b. Phone No. (include area code) <b>972-931-0700</b>		9. API Well No. <b>30-015-35287</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>Unit A, 660 FNL &amp; 660 FEL</b> At proposed prod. zone <b>Unit P, 760 FSL &amp; 760 FEL</b>		10. Field and Pool, or Exploratory <b>Wildcat; Wolfcamp (Gas)</b>
14. Distance in miles and direction from nearest town or post office* <b>Approximately 16 miles West of Artesia, NM</b>		11. Sec., T. R. M. or Blk. and Survey or Area <b>ROSWELL CONTROLLED WATER BASIN, T17S, R23E</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>660'</b>	16. No. of acres in lease <b>1333.44</b>	17. Spacing Unit dedicated to this well <b>320</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>N/A</b>	19. Proposed Depth <b>4310' TVD; 7972' MD</b>	20. BLM/BIA Bond No. on file <b>NM 2163</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>4015' GL</b>	22. Approximate date work will start* <b>02/01/2007</b>	23. Estimated duration <b>40 days</b>

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must 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 BLM.

25. Signature <i>Denise Menoud</i>	Name (Printed/Typed) <b>Denise Menoud</b>	Date <b>11/02/2006</b>
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Title  
**Regulatory Specialist, Agent for Murchison Oil & Gas, Inc.**

Approved by (Signature) <i>/s/ James A. Amos</i>	Name (Printed/Typed) <b>/s/ James A. Amos</b>	Date <b>DEC 13 2006</b>
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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)

**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.**APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED**

## STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

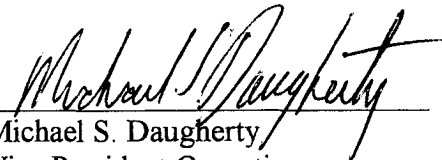
Murchison Oil & Gas, Inc.  
1100 Mira Vista Blvd.  
Plano, TX 75093-4698

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

Lease No:	BLM 108930
Legal Description of Land:	SL: Unit A, 660' FNL & 660' FEL BHL: Unit P, 760' FSL & 760' FEL Sec 8, T17S, R23E, Eddy County, NM
Formation(s) (if applicable):	Wildcat Wolfcamp; (Gas)
Bond Coverage:	\$25,000
BLM Bond File No:	NM 2163

Date

11/7/06

  
Michael S. Daugherty  
Vice President Operations  
Murchison Oil & Gas, Inc.

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  
1280 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised October 12, 2005

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number <b>30-015-35287</b>	Pool Code <b>97489</b>	Pool Name <b>Wolfcamp Wildcat</b>
Property Code <b>36204</b>	Property Name <b>EAGLE DRAW FEDERAL "8"</b>	Well Number <b>1 H Je</b>
OGRID No. <b>015363</b>	Operator Name <b>MURCHISON OIL &amp; GAS, INC.</b>	Elevation <b>4015'</b>

**Surface Location**

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	8	17 S	23 E		660	NORTH	660	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
P	8	17 S	23 E		760	SOUTH	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**

<p><b>SURFACE LOCATION</b> LAT-N32°51'16.2" LONG-W104°42'29.1" (NAD 83)</p> <p><b>320 ACRES</b></p>	<p>4018.7' 4013.6'</p> <p>S-LO ← 660'</p> <p>4016.2' 4011.5'</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>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.</p> <p><i>Denise Menoud</i> 10/30/06 Signature Date</p> <p>Denise Menoud, Agent for Murchison Oil &amp; Gas, Inc. Printed Name</p>
	<p><b>BOTTOM HOLE LOCATION</b> LAT-N32°50'36.0" LONG-W104°42'30.2" (NAD 83)</p> <p>B-HO ← 760'</p> <p>3861.3'</p>	<p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>Date Surveyed <b>NOV 13 2006</b></p> <p>Signature &amp; Seal of Professional Surveyor <b>7977</b></p> <p>Certificate No. <b>Gary L. Jones 7977</b></p> <p><b>BASIN SURVEYS</b></p>

**+Attachment to Form 3160-3**

**DRILLING PROGRAM - Eagle Draw Federal 8 #1  
Murchison Oil & Gas, Inc.**

**Surface Location:** Unit A, 660 FNL & 660 FEL, Sec 8, T17S, R23E  
**Bottomhole Location:** Unit P, 760 FSL & 760 FEL, Sec 8, T17S, R23E  
**County / State:** Eddy County, New Mexico

**1. GEOLOGIC NAME OF SURFACE FORMATION:**

Permian Rustler

**2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS**

Glorieta	2278' TVD
Yeso	2408' TVD
Tubb	2833' TVD
Abo	3258' TVD
Wolfcamp	4108' TVD
TVD	4310'
MD	7972'

**3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL, OR GAS**

Primary Objective      Wolfcamp – 4233' TVD

**4. CASING AND CEMENTING PROGRAM**

Casing Size	Hole Size	From To	Weight	Grade	Joint
13.375"	17.5"	0' - 300'	48.0#	H-40	ST&C
9.625"	12.25"	0' - 1300'	36.0#	N-80	ST&C
5.5"	8.75"	0 - 7972'	17.0#	S-95 & L-80	LT&C

Equivalent or adequate grades and weights of casing may be substituted at time casing is run, depending on availability.

**13.375" Surface Casing - Cementing Program**

Circulate cement w/ 500 sacks 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>.

**9.625" Intermediate Casing - Cementing Program**

Circulate cement with 1100 sacks of 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>.

**5.5" Production Casing - Cementing Program**

Cement with 1000 sacks of Class H with additives.

## **5. 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 – 7972'	<p>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.</p> <p>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.</p> <p>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.</p> <p>The BOP's will be maintained ready for use until drilling operations are completed.</p> <p>BOP drills will be conducted as necessary to assure that equipment is operational and each crew is properly trained to carry out emergency duties.</p> <p>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.</p>

## **6. 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' – 7972'	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.

**7. 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.
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- 8. 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.
  - 9. Anticipated starting date is February 1, 2007. It should take approximately 40 – 45 days to drill the well and another 10 days to complete.
  - 10. A statement accepting responsibility for operations is attached.
  - 11. The Multi-Point Surface Use & operation Plan is attached.
  - 12. If the Bureau of Land Management needs additional information to evaluate this application, please advise.

# Murchison Oil & Gas

Field: Eddy County, NM NAD-83  
 Site: Eagle Draw Fed 8 #1  
 Well: Eagle Draw Fed 8 #1 H  
 Wellpath: OH  
 Plan: Plan #1 11-1-06

**PATHFINDER**

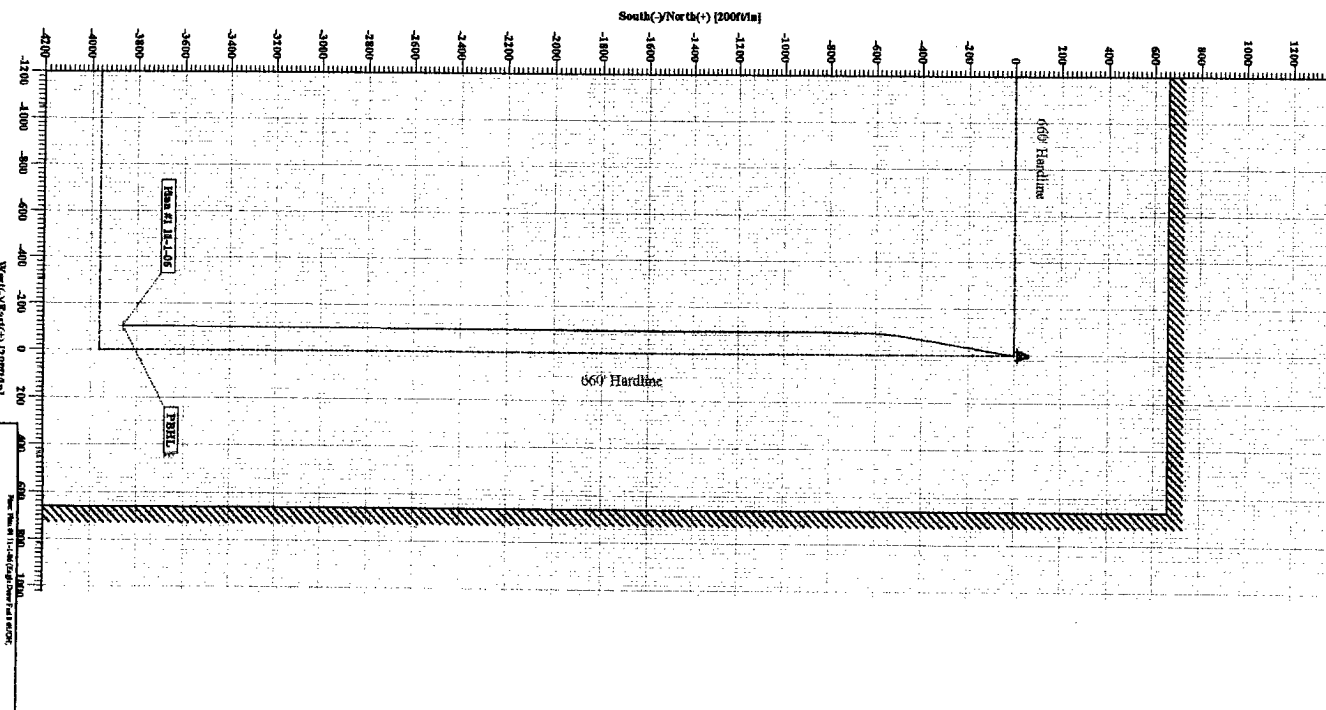
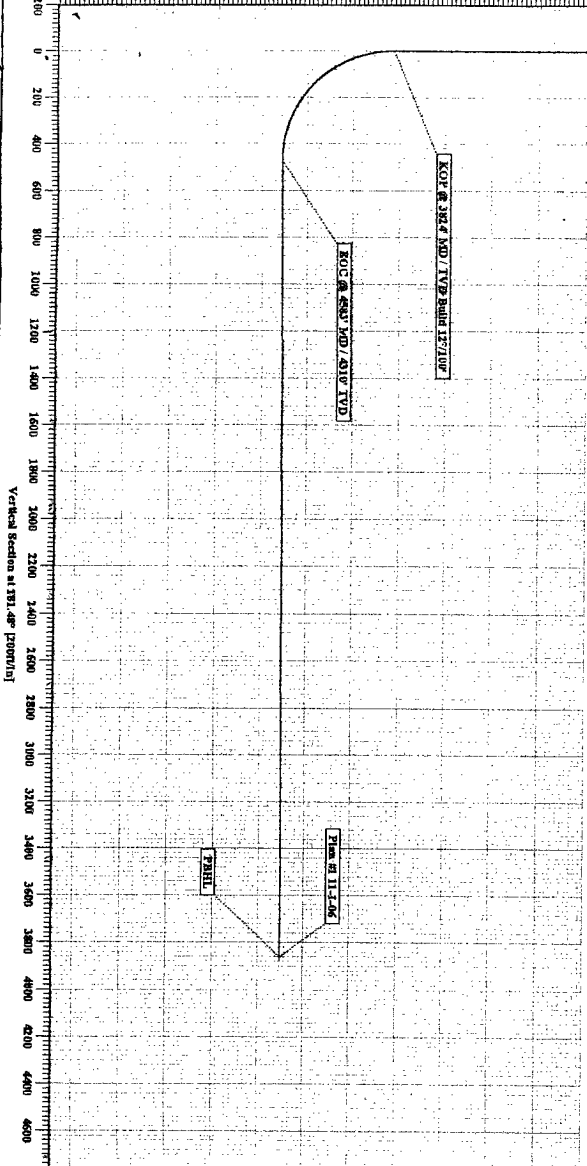
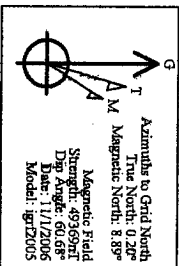
SITE DETAILS	
Eagle Draw Fed 8 #1	
Site Centre Latitude: 32°51'16.200N	
Longitude: 104°42'29.100W	
Ground Level: 4015.00	
Positional Uncertainty: 0.00	
Convergence: -0.20	

WELL PATH DETAILS			
OH			
Rat Datum:	Rig:	SITE:	4015.00ft
V Section Angle:	Origin +N/-S:	Origin +E/-W:	Starting from TVD
181.48°	0.00	0.00	0.00

TARGET DETAILS		
Name	TVD	+N/-S +E/-W Shape
PBHL	4300.00	-3860.00 -100.00 Point

ANNOTATIONS			
No.	TVD	MD	Annotation
1	3823.50	3823.50	KOP @ 3824 MD / TVD Build 12°/106°
2	4310.00	4582.56	EOC @ 4583 MD / 4310 TVD

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLog	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3823.50	0.00	0.00	3823.50	0.00	0.00	0.00	0.00	0.00	
3	4582.56	90.00	189.30	4310.00	-471.22	-77.17	12.00	189.30	473.06	
4	4770.87	90.17	180.00	4309.72	-658.71	-92.42	4.94	271.05	660.88	
5	4775.40	90.17	180.14	4309.71	-653.24	-92.42	3.00	88.33	665.41	
6	7572.18	90.17	180.14	4300.00	-3860.00	-100.00	0.00	0.00	3861.30	PBHL



# Pathfinder Energy

## Planning Report

<b>Company:</b> Murchison Oil & Gas <b>Field:</b> Eddy County, NM NAD-83 <b>Site:</b> Eagle Draw Fed 8 #1 <b>Well:</b> Eagle Draw Fed 8 #1 <b>Wellpath:</b> OH				<b>Date:</b> 11/3/2006 <b>Co-ordinate(NE) Reference:</b> Eagle Draw Fed 8 #1, Grid North <b>Vertical (TVD) Reference:</b> SITE 4015.0 <b>Section (VS) Reference:</b> Well (0.00N,0.00E,181.48Azi) <b>Plan:</b> Plan #1 11-1-06				<b>Page:</b> 1		
<b>Field:</b> Eddy County, NM NAD-83										
<b>Map System:</b> JS State Plane Coordinate System 1983 <b>Geo Datum:</b> GRS 1980 <b>Sys Datum:</b> Mean Sea Level				<b>Map Zone:</b> New Mexico, Eastern Zone <b>Coordinate System:</b> Site Centre <b>Geomagnetic Model:</b> igrf2005						
<b>Site:</b> Eagle Draw Fed 8 #1										
<b>Site Position:</b> <b>From:</b> Geographic <b>Position Uncertainty:</b> 0.00 ft <b>Ground Level:</b> 4015.00 ft		<b>Northing:</b> 674805.93 ft <b>Easting:</b> 426260.25 ft		<b>Latitude:</b> 32 51 16.200 N <b>Longitude:</b> 104 42 29.100 W <b>North Reference:</b> Grid <b>Grid Convergence:</b> -0.20 deg						
<b>Well:</b> Eagle Draw Fed 8 #1										
<b>Well Position:</b> +N/-S 0.00 ft <b>+E/-W</b> 0.00 ft <b>Position Uncertainty:</b> 0.00 ft				<b>Slot Name:</b> <b>Northing:</b> 674805.93 ft <b>Easting:</b> 426260.25 ft <b>Latitude:</b> 32 51 16.200 N <b>Longitude:</b> 104 42 29.100 W						
<b>Wellpath:</b> OH <b>Current Datum:</b> SITE <b>Magnetic Data:</b> 11/1/2006 <b>Field Strength:</b> 49369 nT <b>Vertical Section: Depth From (TVD)</b> ft				<b>Drilled From:</b> Surface <b>Tie-on Depth:</b> 0.00 ft <b>Above System Datum:</b> Mean Sea Level <b>Declination:</b> 8.69 deg <b>Mag Dip Angle:</b> 60.68 deg <b>+E/-W</b> ft <b>Direction</b> deg						
0.00				0.00 0.00 181.48						
<b>Plan:</b> Plan #1 11-1-06				<b>Date Composed:</b> 11/1/2006 <b>Version:</b> 1 <b>Tied-to:</b> From Surface						
<b>Principal:</b> Yes										
<b>Plan Section Information</b>										
<b>MD</b> ft	<b>Incl</b> deg	<b>Azim</b> deg	<b>TVD</b> ft	<b>+N/-S</b> ft	<b>+E/-W</b> ft	<b>DLS</b> deg/100ft	<b>Build</b> deg/100ft	<b>Turn</b> deg/100ft	<b>TFO</b> deg	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3832.50	0.00	0.00	3832.50	0.00	0.00	0.00	0.00	0.00	0.00	
4582.56	90.00	189.30	4310.00	-471.22	-77.17	12.00	12.00	0.00	189.30	
4770.87	90.17	180.00	4309.72	-658.71	-92.42	4.94	0.09	-4.94	271.05	
4775.40	90.17	180.14	4309.71	-663.24	-92.42	3.00	0.09	3.00	88.33	
7972.18	90.17	180.14	4300.00	-3860.00	-100.00	0.00	0.00	0.00	0.00	PBHL
<b>Survey</b>										
<b>MD</b> ft	<b>Incl</b> deg	<b>Azim</b> deg	<b>TVD</b> ft	<b>+N/-S</b> ft	<b>+E/-W</b> ft	<b>VS</b> ft	<b>DLS</b> deg/100ft	<b>Build</b> deg/100ft	<b>Turn</b> deg/100ft	<b>Tool/Comment</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00</				



# Pathfinder Energy

## Planning Report

Company: Murchison Oil & Gas  
 Field: Eddy County, NM NAD-83  
 Site: Eagle Draw Fed 8 #1  
 Well: Eagle Draw Fed 8 #1  
 Wellpath: OH

Date: 11/3/2006 Time: 10:17:43 Page: 2  
 Co-ordinate(NE) Reference: Eagle Draw Fed 8 #1, Grid North  
 Vertical (TVD) Reference: SITE 4015.0  
 Section (VS) Reference: Well (0.00N,0.00E,181.48Azi)  
 Plan: Plan #1 11-1-06

### Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3823.50	0.00	0.00	3823.50	0.00	0.00	0.00	0.00	0.00	0.00	KOP @ 3824' MD / TVD Bu
3832.50	0.00	0.00	3832.50	0.00	0.00	0.00	0.00	0.00	0.00	
3850.00	2.10	189.30	3850.00	-0.32	-0.05	0.32	12.00	12.00	0.00	
3875.00	5.10	189.30	3874.94	-1.87	-0.31	1.87	12.00	12.00	0.00	
3900.00	8.10	189.30	3899.78	-4.70	-0.77	4.72	12.00	12.00	0.00	
3925.00	11.10	189.30	3924.42	-8.81	-1.44	8.85	12.00	12.00	0.00	
3950.00	14.10	189.30	3948.82	-14.19	-2.32	14.25	12.00	12.00	0.00	
3975.00	17.10	189.30	3972.89	-20.83	-3.41	20.91	12.00	12.00	0.00	
4000.00	20.10	189.30	3996.59	-28.70	-4.70	28.81	12.00	12.00	0.00	
4025.00	23.10	189.30	4019.83	-37.78	-6.19	37.92	12.00	12.00	0.00	
4050.00	26.10	189.30	4042.56	-48.04	-7.87	48.23	12.00	12.00	0.00	
4075.00	29.10	189.30	4064.71	-59.47	-9.74	59.71	12.00	12.00	0.00	
4100.00	32.10	189.30	4086.23	-72.03	-11.80	72.31	12.00	12.00	0.00	
4125.00	35.10	189.30	4107.05	-85.68	-14.03	86.01	12.00	12.00	0.00	
4150.00	38.10	189.30	4127.12	-100.39	-16.44	100.78	12.00	12.00	0.00	
4175.00	41.10	189.30	4146.38	-116.11	-19.01	116.56	12.00	12.00	0.00	
4200.00	44.10	189.30	4164.78	-132.81	-21.75	133.33	12.00	12.00	0.00	
4225.00	47.10	189.30	4182.27	-150.43	-24.63	151.02	12.00	12.00	0.00	
4250.00	50.10	189.30	4198.80	-168.93	-27.66	169.59	12.00	12.00	0.00	
4275.00	53.10	189.30	4214.33	-188.27	-30.83	189.00	12.00	12.00	0.00	
4300.00	56.10	189.30	4228.81	-208.37	-34.12	209.19	12.00	12.00	0.00	
4325.00	59.10	189.30	4242.21	-229.20	-37.53	230.10	12.00	12.00	0.00	
4350.00	62.10	189.30	4254.48	-250.69	-41.05	251.67	12.00	12.00	0.00	
4375.00	65.10	189.30	4265.60	-272.79	-44.67	273.85	12.00	12.00	0.00	
4400.00	68.09	189.30	4275.53	-295.42	-48.38	296.58	12.00	12.00	0.00	
4425.00	71.09	189.30	4284.24	-318.55	-52.16	319.79	12.00	12.00	0.00	
4450.00	74.09	189.30	4291.72	-342.08	-56.02	343.42	12.00	12.00	0.00	
4475.00	77.09	189.30	4297.94	-365.98	-59.93	367.41	12.00	12.00	0.00	
4500.00	80.09	189.30	4302.88	-390.16	-63.89	391.68	12.00	12.00	0.00	
4525.00	83.09	189.30	4306.54	-414.56	-67.89	416.18	12.00	12.00	0.00	

# Pathfinder Energy

## Planning Report

Company: Murchison Oil & Gas  
 Field: Eddy County, NM NAD-83  
 Site: Eagle Draw Fed 8 #1  
 Well: Eagle Draw Fed 8 #1 H 2  
 Wellpath: OH

Date: 11/3/2006 Time: 10:17:43 Page: 3  
 Co-ordinate(NE) Reference: Eagle Draw Fed 8 #1, Grid North  
 Vertical (TVD) Reference: SITE 4015.0  
 Section (VS) Reference: Well (0.00N, 0.00E, 181.48Azi)  
 Plan: Plan #1 11-1-06

### Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
4550.00	86.09	189.30	4308.89	-439.12	-71.91	440.84	12.00	12.00	0.00	
4575.00	89.09	189.30	4309.94	-463.77	-75.94	465.58	12.00	12.00	0.00	
4582.56	90.00	189.30	4310.00	-471.22	-77.17	473.06	12.00	12.00	0.00	EOC @ 4583' MD / 4310' TV
4600.00	90.02	188.44	4310.00	-488.46	-79.86	490.36	4.94	0.09	-4.94	
4700.00	90.11	183.50	4309.89	-587.89	-90.25	590.03	4.94	0.09	-4.94	
4770.87	90.17	180.00	4309.72	-658.71	-92.42	660.88	4.94	0.09	-4.94	
4775.40	90.17	180.14	4309.71	-663.24	-92.42	665.41	3.00	0.09	3.00	
4800.00	90.17	180.14	4309.63	-687.84	-92.48	690.01	0.00	0.00	0.00	
4900.00	90.17	180.14	4309.33	-787.84	-92.72	789.98	0.00	0.00	0.00	
5000.00	90.17	180.14	4309.02	-887.84	-92.95	889.95	0.00	0.00	0.00	
5100.00	90.17	180.14	4308.72	-987.84	-93.19	989.92	0.00	0.00	0.00	
5200.00	90.17	180.14	4308.42	-1087.84	-93.43	1089.89	0.00	0.00	0.00	
5300.00	90.17	180.14	4308.11	-1187.84	-93.66	1189.87	0.00	0.00	0.00	
5400.00	90.17	180.14	4307.81	-1287.84	-93.90	1289.84	0.00	0.00	0.00	
5500.00	90.17	180.14	4307.51	-1387.84	-94.14	1389.81	0.00	0.00	0.00	
5600.00	90.17	180.14	4307.20	-1487.84	-94.38	1489.78	0.00	0.00	0.00	
5700.00	90.17	180.14	4306.90	-1587.84	-94.61	1589.75	0.00	0.00	0.00	
5800.00	90.17	180.14	4306.60	-1687.83	-94.85	1689.72	0.00	0.00	0.00	
5900.00	90.17	180.14	4306.29	-1787.83	-95.09	1789.70	0.00	0.00	0.00	
6000.00	90.17	180.14	4305.99	-1887.83	-95.32	1889.67	0.00	0.00	0.00	
6100.00	90.17	180.14	4305.68	-1987.83	-95.56	1989.64	0.00	0.00	0.00	
6200.00	90.17	180.14	4305.38	-2087.83	-95.80	2089.61	0.00	0.00	0.00	
6300.00	90.17	180.14	4305.08	-2187.83	-96.04	2189.58	0.00	0.00	0.00	
6400.00	90.17	180.14	4304.77	-2287.83	-96.27	2289.56	0.00	0.00	0.00	
6500.00	90.17	180.14	4304.47	-2387.83	-96.51	2389.53	0.00	0.00	0.00	
6600.00	90.17	180.14	4304.17	-2487.83	-96.75	2489.50	0.00	0.00	0.00	
6700.00	90.17	180.14	4303.86	-2587.83	-96.98	2589.47	0.00	0.00	0.00	
6800.00	90.17	180.14	4303.56	-2687.83	-97.22	2689.44	0.00	0.00	0.00	
6900.00	90.17	180.14	4303.26	-2787.83	-97.46	2789.42	0.00	0.00	0.00	
7000.00	90.17	180.14	4302.95	-2887.83	-97.69	2889.39	0.00	0.00	0.00	
7100.00	90.17	180.14	4302.65	-2987.83	-97.93	2989.36	0.00	0.00	0.00	
7200.00	90.17	180.14	4302.34	-3087.82	-98.17	3089.33	0.00	0.00	0.00	
7300.00	90.17	180.14	4302.04	-3187.82	-98.41	3189.30	0.00	0.00	0.00	
7400.00	90.17	180.14	4301.74	-3287.82	-98.64	3289.27	0.00	0.00	0.00	
7500.00	90.17	180.14	4301.43	-3387.82	-98.88	3389.25	0.00	0.00	0.00	
7600.00	90.17	180.14	4301.13	-3487.82	-99.12	3489.22	0.00	0.00	0.00	
7700.00	90.17	180.14	4300.83	-3587.82	-99.35	3589.19	0.00	0.00	0.00	
7800.00	90.17	180.14	4300.52	-3687.82	-99.59	3689.16	0.00	0.00	0.00	
7900.00	90.17	180.14	4300.22	-3787.82	-99.83	3789.13	0.00	0.00	0.00	
7972.18	90.17	180.14	4300.00	-3860.00	-100.00	3861.30	0.00	0.00	0.00	PBHL

### Targets

Name	Description Dip. Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude --->			<--- Longitude --->		
PBHL		4300.00	-3860.00	-100.00	670945.93	426160.25	32	50	38.002	N	104	42 30.112

### Annotation

MD ft	TVD ft	
3823.50	3823.50	KOP @ 3824' MD / TVD Build 12"/100'
4582.56	4310.00	EOC @ 4583' MD / 4310' TVD

**SURFACE USE AND OPERATIONS PLAN FOR  
DRILLING, COMPLETION, AND PRODUCING**

Murchison Oil & Gas, Inc.  
Eagle Draw Fed 8 #1 H  
Section 8, T-17-S, R-23-E,  
SL: Unit A, 660 FNL, 660 FEL  
BHL: Unit P, 760 FSL, 760 FEL  
Eddy County, New Mexico

**LOCATED**

16 miles West of Artesia, New Mexico

**OIL & GAS LEASE**

BLM 108930; Acres 1333.44

**BOND COVERAGE**

Personal Statewide Bond #NM 2163

**POOL**

Wildcat; Wolfcamp (Gas); Pool Code #97489

**OIL & GAS RECORD LESSEE**

The Allar Company  
P. O. Box 1567  
Graham, TX 76450

**SURFACE OWNER**

David H. Kincaid  
Dunken Route  
Pinon, NM 88344

A surface use agreement has been made with Mr. Kincaid and Murchison Oil & Gas, Inc.

**EXHIBITS**

A, A-1, A-2	Area Road Maps
B	Drilling Rig Layout
C	Vicinity Oil & Gas Map
D	Topographic & Location Verification Map
E, E-1	Well Location & Acreage Dedication Maps
F, F-1	BOPE Schematic & Choke Manifold – 5M Service

This well will be drilled to a depth of approximately 4310' TVD, 7972' MD.

### **EXISTING ROADS**

Exhibit A is a portion of a section map showing the location of the proposed well as staked.

Exhibit C is a map showing existing roads in the vicinity of the proposed well site.

Directions to well location:

From the Junction of State Highway 82 and County Road 5 (Lecheguilla), proceed North on County Road 5 0.01 miles to proposed lease road.

### **ACCESS ROADS**

Length and Width

The access road will be built and is shown on Exhibit A.

The length of the road is 9338.4' and the width is 30'.

Also enclosed are maps showing roads accessed for ROW #NM116870 obtained for the "Dainwood Draw #1". These roads will also be accessed for the Eagle Draw Fed 8 #1.

Surface Material

Six inches of caliche and water, compacted and graded.

Maximum Grade

Less than three percent

Turnouts

None needed

Drainage Design

N/A

Culverts

None needed

Gates and Cattle Guards

None required

### **LOCATION OF EXISITING WELLS**

Existing wells within a one mile radius are shown in Exhibit C.

### **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 Eagle Draw Federal 8 #1 tank battery. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

### **LOCATION AND TYPE OF WATER SUPPLY**

It is not contemplated that a water well will be drilled. Water necessary for drilling will be purchased and hauled to the site over existing roads.

### **SOURCE OF CONSTRUCTION MATERIALS**

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

### **METHODS OF HANDLING WASTE DISPOSAL**

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.

Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.

Water produced during tests will be disposed of in the drilling pits. Oil produced during tests will be stored in test tanks until sold.

Current laws and regulations pertaining to the disposal of human waste will be complied with.

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.

All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.

### **ANCILLARY FACILITIES**

A lined frac pit may be required during completion to store 30K to 40K barrels of fresh water. This pit may be used for more than one well.

### **WELL SITE LAYOUT**

Exhibit B shows the relative location and dimensions of the well pad, mud pits, reserve pit, and trash pit, and the location of major rig components. The V-door will be to the East and the reserve pit located to the North.

Leveling of the wellsite will be required with minimal cuts or fills anticipated.

The pad and pit area have been staked and flagged.

### **PLANS FOR RESTORATION OF THE SURFACE**

After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. The well site will be cleaned of all trash and junk to leave the site in an as aesthetically pleasing condition as possible.

Any unguarded pits containing fluids will be fenced until they are filled.

After abandonment of the well, surface restoration will be in accordance with the land owner. This will be accomplished as expeditiously as possible.

### **OTHER INFORMATION**

#### **Topography**

The land surface at the well site is rolling hills.

#### **Soil**

Topsoil at the well site is sandy clay loams.

#### **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.

#### **Ponds and Streams**

There are no rivers, lakes, ponds, or streams in the area.

#### **Residences and Other Structures**

There are no residences within one mile of the proposed well site.

#### **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.

#### **Land Use**

Grazing.

**OPERATOR'S REPRESENTATIVES**


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 Street, Suite 1700  
Midland, TX 79701  
Office Phone: (432) 682-0440  
Cell Phone: (432) 559-2222

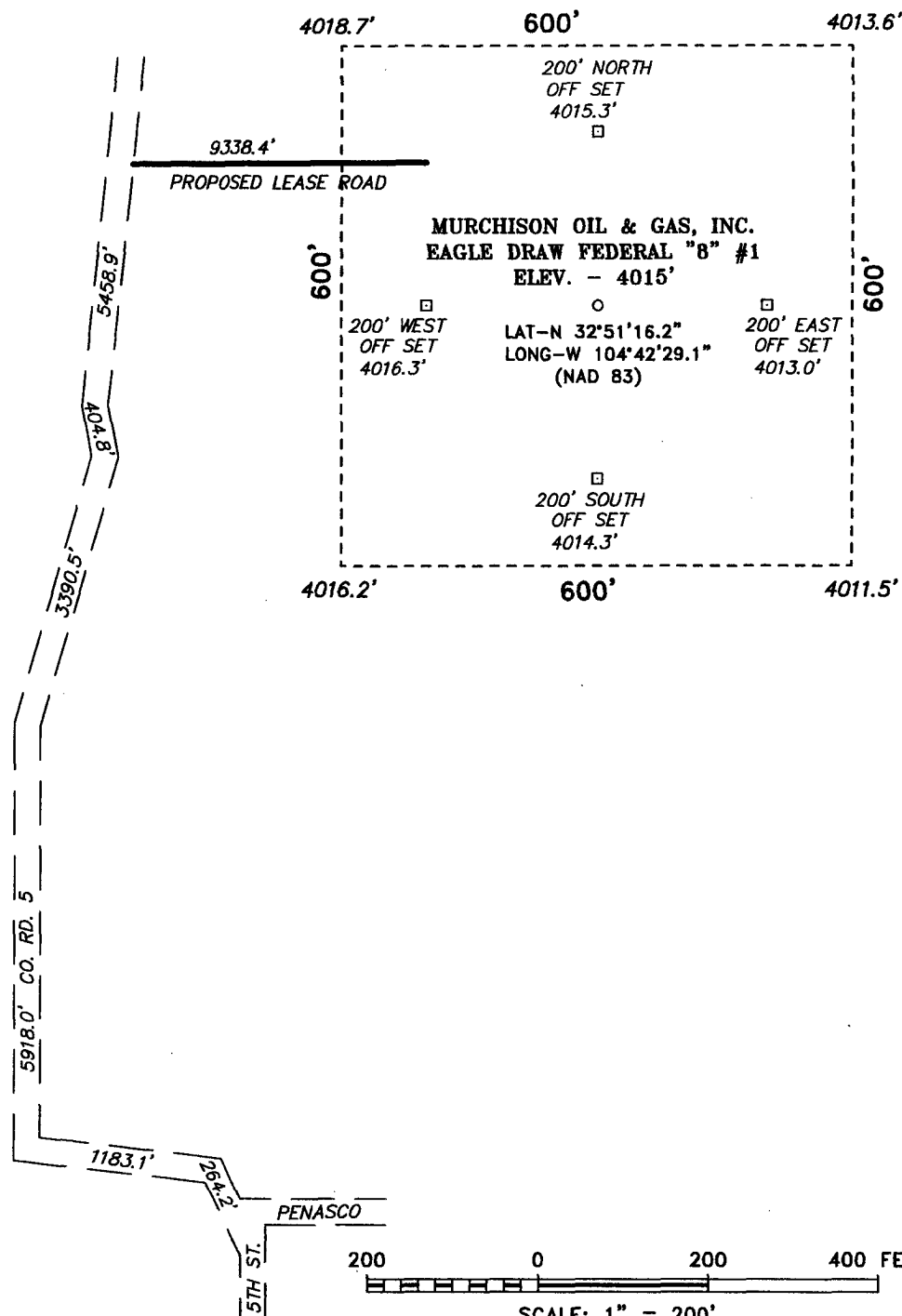
**CERTIFICATION**

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 preformed by Murchison Oil & Gas, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

11/7/06  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Michael S. Daugherty  
Vice President, Operations  
Murchison Oil & Gas, Inc.

SECTION 8, TOWNSHIP 17 SOUTH, RANGE 23 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF STATE HWY 82 AND CO. RD. 5 (LECHEGUILLA), PROCEED NORTH ON CO. RD. 5 .01 MILE TO PROPOSED LEASE ROAD.

**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 6976W Drawn By: J. SMALL

Date: 08-02-2006 Disk: JMS 6976

**MURCHISON OIL & GAS, INC.**

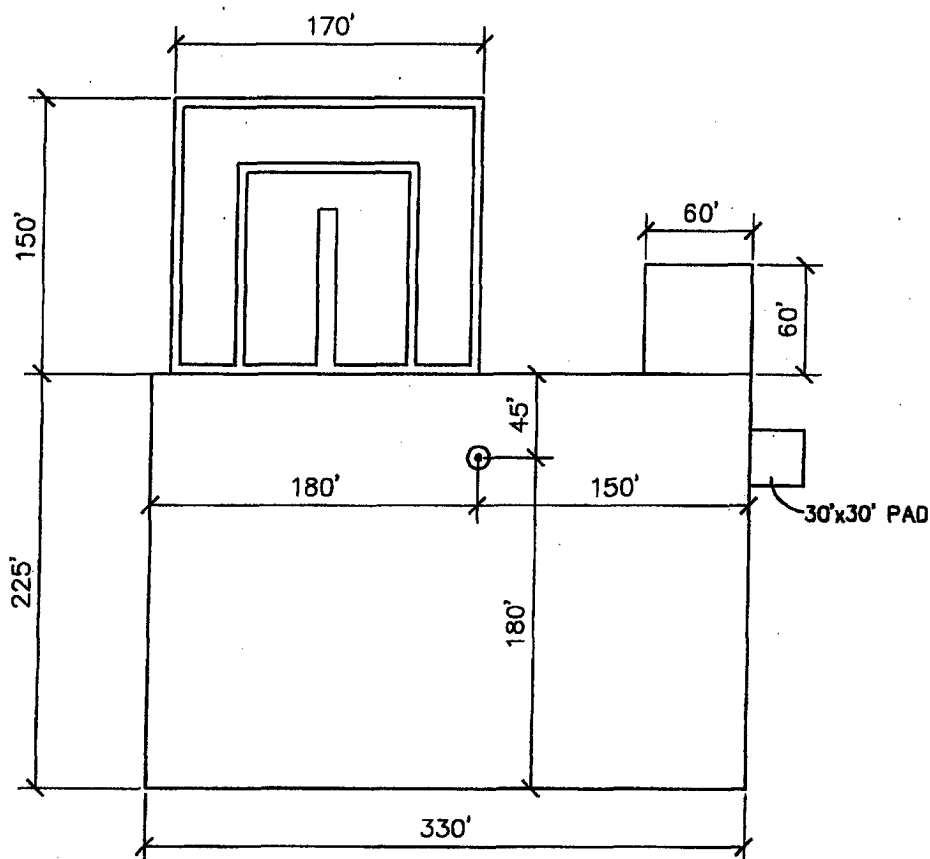
REF: EAGLE DRAW FEDERAL "8" No. 1 Well Pad Topo  
THE EAGLE DRAW FEDERAL "8" No. 1 LOCATED 660' FROM  
THE NORTH LINE AND 660' FROM THE EAST LINE OF  
SECTION 8, TOWNSHIP 17 SOUTH, RANGE 23 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 07-31-2006 Sheet 1 of 1 Sheets



MURCHISON OIL & GAS, INC  
EAGLE DRAW FEDERAL "8" #1 H 2  
SEC. 8, T17S, R23E  
SURF. LOC. 660' FNL & 660' FEL  
BOTTOM LOC. 760' FSL & 760' FEL  
EDDY CO., NM.

PROPOSED PLAT OF DRILLSITE & RESERVE PITS



V-DOOR TO EAST  
PITS TO NORTH

SCALE  
1" = 100' 0"



MURCHISON OIL & GAS, INC.

EAGLE DRAW FEDERAL "8" #1 H *32*

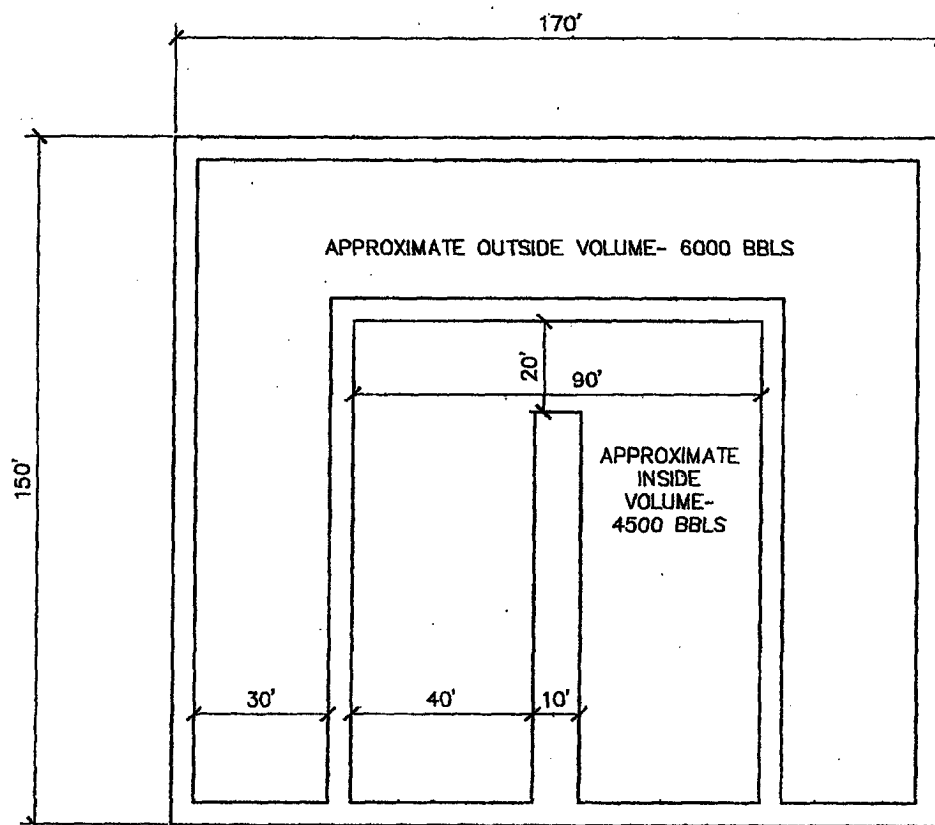
SEC. 8, T17S, R23E

SURF. LOC. 660' FNL & 660' FEL

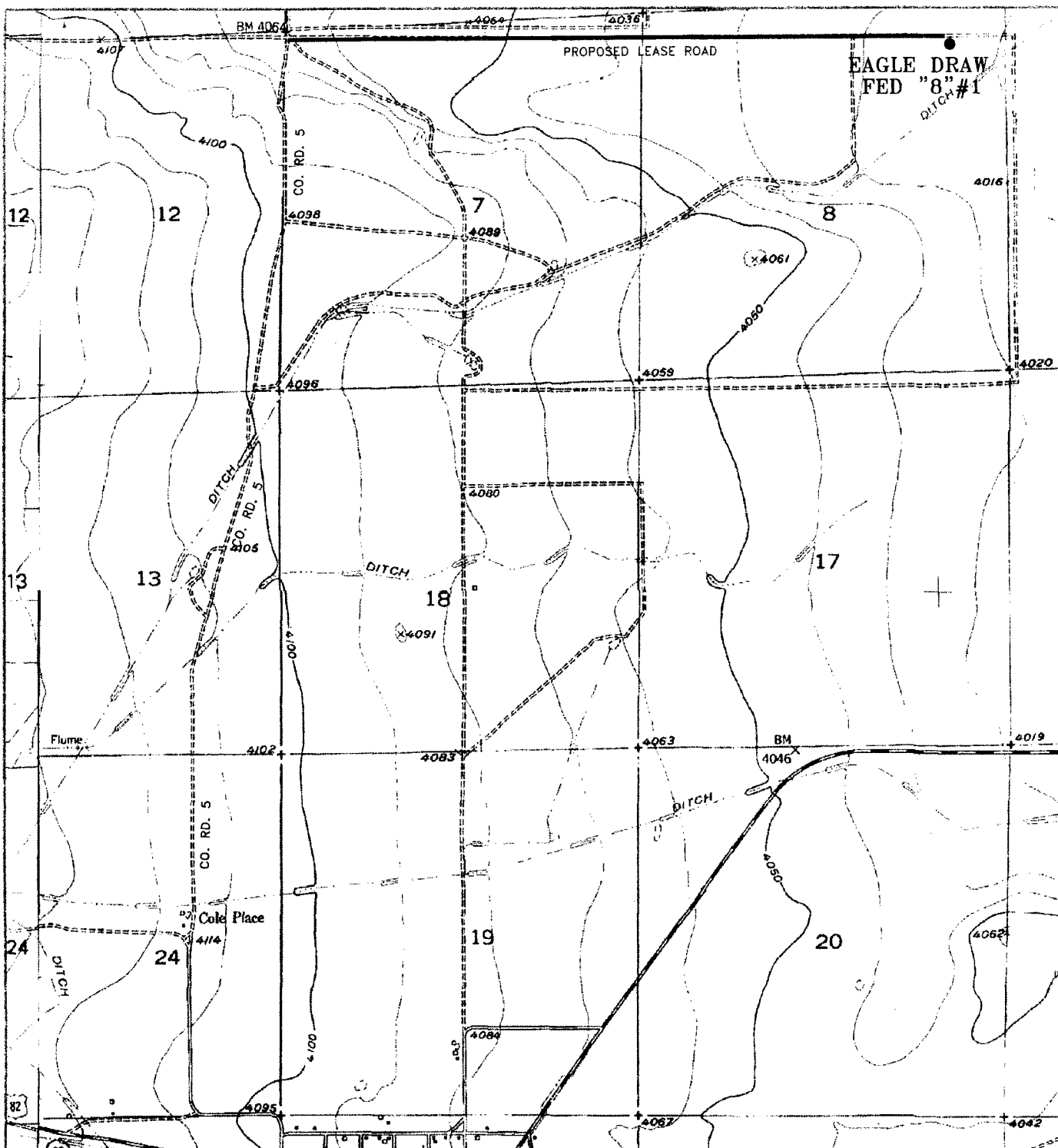
BOTTOM LOC. 760' FSL & 760' FEL

EDDY CO., NM.

PROPOSED RESERVE PIT DESIGN

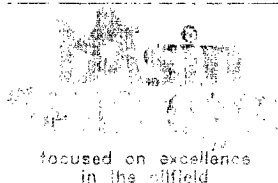


SCALE  
1" = 40' 0"



**PROPOSED LEASE ROAD TO THE  
EAGLE DRAW FEDERAL "8" #1 H<sub>2</sub>**

Section 8, Township 17 South, Range 23 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(505) 393-7316 - Office  
(505) 392-3074 - Fax  
basinsurveys.com

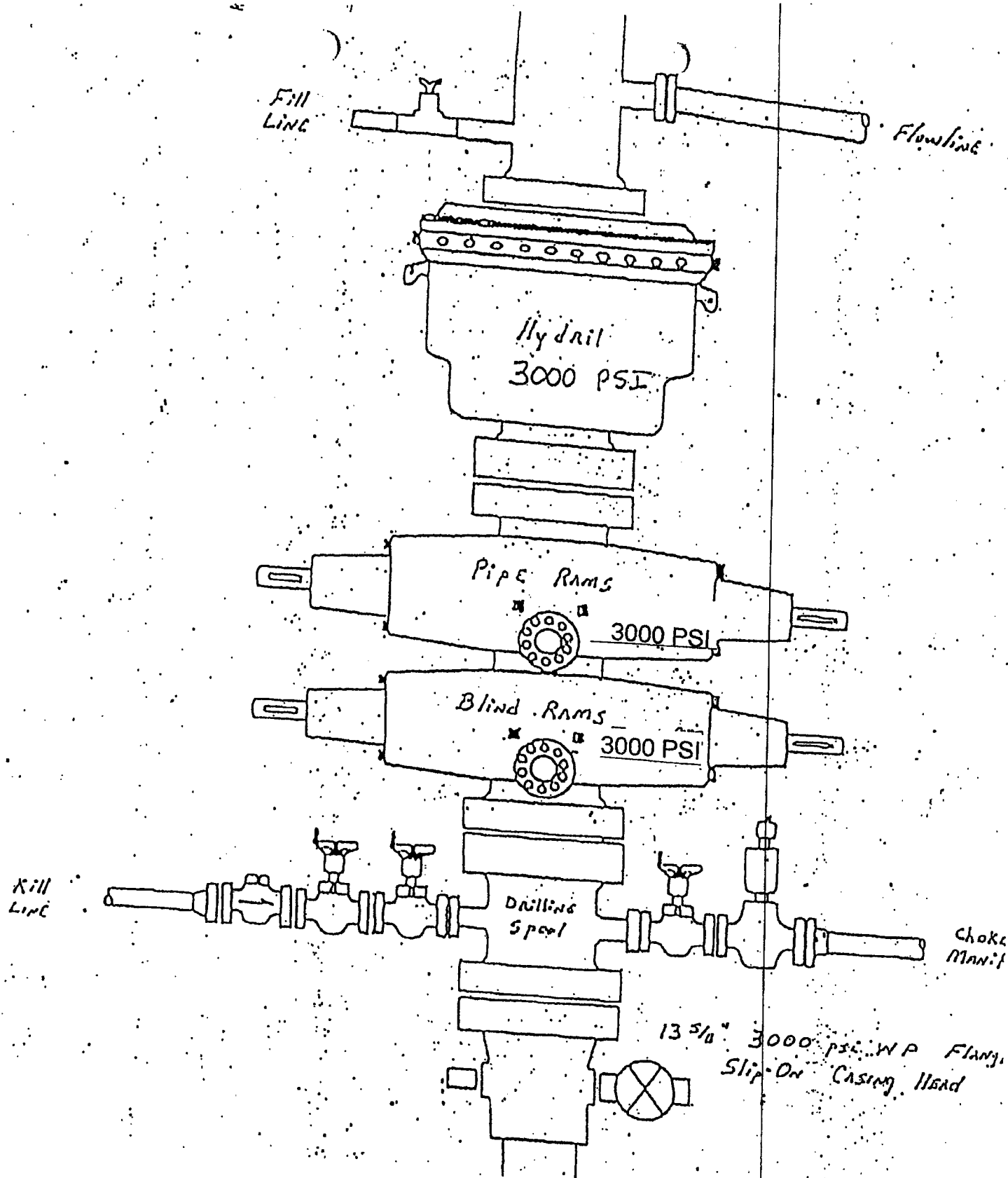
W.O. Number: 6976TT

Survey Date: 07-31-2006

Scale: 1" = 2000'

Date: 08-02-2006

**MURCHISON OIL  
& GAS, INC.**



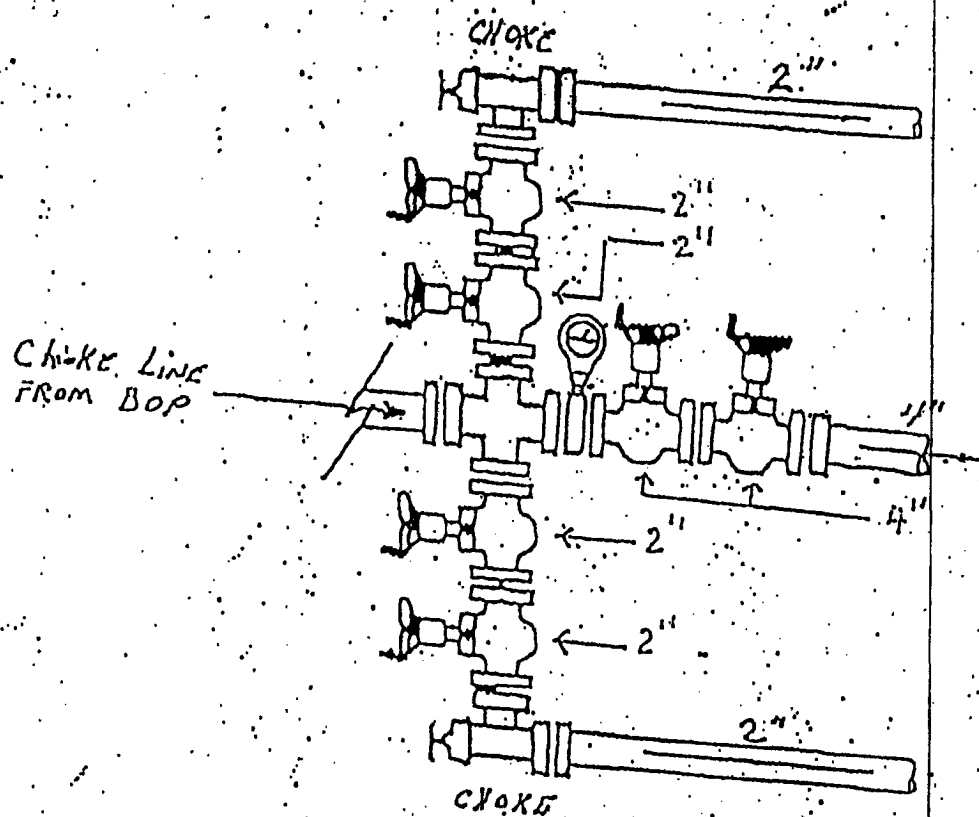
MURCHISON OIL & GAS, INC.

EAGLE DRAW FEDERAL "8" #1 H

SURF. LOC: 660' FNL & 660' FEL, SEC. 8, T17S, R23E

BTM HOLE LOC: 760' FNL & 760' FEL, SEC. 8, T17S, R23E

EDDY CO., NM.



**MURCHISON OIL & GAS, INC.** *re*  
**EAGLE DRAW FEDERAL "8" #1 H**

SURF. LOC: 660' FNL & 660' FEL, SEC. 8, T17S, R23E  
 BTM HOLE LOC: 760' FNL & 760' FEL, SEC. 8, T17S, R23E  
 EDDY CO., NM.

*SA*



October 27, 2006

Bureau of Land Management  
620 East Greene Street  
Carlsbad, NM 88220

To Whom It May Concern:

I am writing to request a waiver for the inclusion of an H2S Contingency Plan for the Eagle Draw Federal 8 #1. The current plan is to complete this well in the Wildcat; Wolfcamp (Gas) and Murchison does not anticipate encountering any H2S bearing formations during drilling operations.

Sincerely,

Denise Menoud,  
Gray Surface Specialties,  
Agent for Murchison Oil & Gas, Inc.  
(432) 685-9158

## SPECIAL DRILLING STIPULATIONS

### THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name: Murchison Oil & Gas, Inc. Well Name & #: Eagle Draw Federal 8 # 1H  
Location Surface Hole: 660' F N L & 660' F E L; Sec. 08, T. 17 S., R. 23 E.  
Bottom Hole: 760' F S L & 760' F E L; Sec. 08, T. 17 S., R. 23 E.

Lease #: NM-108930 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) ( ) Flood plain (stips attached)  
( ) San Simon Swale (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 South V-Door West**

#### 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 1/2 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 (*Eragrostis 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

( ) 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.

(X ) Other (Aplomado Falcon Seed Mixture attached)

#### 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.



## CONDITIONS OF APPROVAL - DRILLING

Well Name & No. Eagle Draw Federal 8 # 1H  
Operator's Name: Murchison Oil & Gas Inc.  
Location: 660' FNL, 660' FEL SEC 8, T18S, R23E, Eddy County, NM  
BHL: 760' FSL, 760' FEL SEC 8, T18S, R23E, Eddy County, NM  
Lease: NM-108930

### 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) 361-2822 for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13.375 inch 9.625 inch 5.5 inch,

C. BOP tests

2. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan should be activated prior to drilling into the N/A Formation. A copy of the plan shall be posted at the drilling site.

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 five 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 NMOCDC 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 13.375 inch surface casing shall be set @ APPROXIMATELY 300 FEET, below usable water 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.

2. The minimum required fill of cement behind the 9.625 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 brought up to at least 200' inside the 9.625 inch casing.

5. Whenever a casing string is cemented in the R-111-P Potash Area, cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

### **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 13.375 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) is 2000 psi.
3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
  - A variance to test the \_\_\_\_\_ to the reduced pressure of \_\_\_\_psi with the rig pumps is approved.
  - 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.

**Engineers can be reached at 505-706-2779 for any variances that might be necessary.**

F Wright 12/07/06