

EA-431

ATS-07-103

Form 3160-3
(February 2005)

OCD-ARTESIA

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

HIGH CAVE KARST

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone2. Name of Operator
Murchison Oil & Gas, Inc. (OGRID #15363)3a. Address **1100 Mira Vista Blvd.
Plano, TX 75093-4698**3b. Phone No. (include area code)
972-931-07004. Location of Well (Report location clearly and in accordance with any State requirements.)
At surface **Unit P, 660 FSL & 660 FEL 200' FSL & 660' FEL**
At proposed prod. zone **Unit A, 760 FNL & 760 FEL**
[C.L. 02/13/07]14. Distance in miles and direction from nearest town or post office*
Approximately 17 miles Southwest of Artesia, NM10. Field and Pool, or Exploratory
Wildcat; Wolfcamp (Gas)11. Sec., T. R. M. or Blk. and Survey or Area
Sec 7, T18S, R23E12. County or Parish
Eddy13. State
NM15. 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
123217. Spacing Unit dedicated to this well
32018. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft. **N/A**19. Proposed Depth
4400' TVD; 8056' MD20. BLM/BIA Bond No. on file
NM 216321. Elevations (Show whether DF, KDB, RT, GL, etc.)
4009' GL22. Approximate date work will start*
01/01/200723. Estimated duration
40 days

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

Denise Menoud

Name (Printed/Typed)

Denise Menoud

Date

11/02/2006

Title

Regulatory Specialist, Agent for Murchison Oil & Gas, Inc.

Approved by (Signature)

/s/ Don Peterson

Name (Printed/Typed)

Date

MAR 22 2007

Title

ACTING FIELD MANAGER

Office

BLM-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****Roswell Controlled Water Basin****APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED**If earthen pits are used in
association with the drilling of this
well, an OCD pit permit must be
obtained prior to pit construction.**NSL -
Required To Produce**

OCD-ARTESIA
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator **Murchison Oil and Gas, INC**

3a. Address
1100 Mira Vista Blvd., Plano TX, 75093-4698

3b. Phone No. (include area code)

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Surface Location: Section 7, T18S, R23E, 220'FSL, 660'FEL
Bottom Hole Location: Section 7, T18S, R23E, 760'FNL, 760'FEL

5. Lease Serial No.
NM 108937

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit or CA/Agreement, Name and/or No.
N/A

8. Well Name and No.
Graham Fed 7 # 1

9. API Well No.

10. Field and Pool, or Exploratory Area
Wildcat; Wolfcamp (Gas)

11. County or Parish, State
Eddy County, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Murchison Oil and Gas respectfully requests the right to change the surface location of the Graham Federal 7 #1 from 660'FSL, 660'FEL Section 7, T18S, R23E, to 220'FSL, 660'FEL Section 7, T18S, R23E. The bottom hole location will remain the same.

Also, please note that a new directional plan is attached. The Measured Depth has changed from 8056' to 8496' to accomodate the new surface location.

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Katie Yarborough

Title **Agent for Murchison Oil and Gas, Inc**

Signature

Katie Yarborough

Date

1/24/07

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

**ACTING
FIELD MANAGER**

Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

CARLSBAD FIELD OFFICE

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)

DISTRICT I
1626 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 97489	Pool Name Wildcat; Wolfcamp Gas
Property Code	Property Name GRAHAM FEDERAL "7"	Well Number 1
GRID No. 15363	Operator Name MURCHISON OIL & GAS, INC.	Elevation 4011'

Surface Location

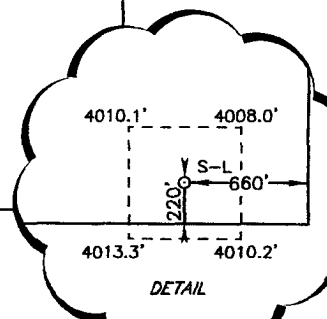
UL or lot No. P	Section 7	Township 18 S	Range 23 E	Lot Idn	Feet from the 220	North/South line SOUTH	Feet from the 660	East/West line EAST	County EDDY
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Bottom Hole Location If Different From Surface

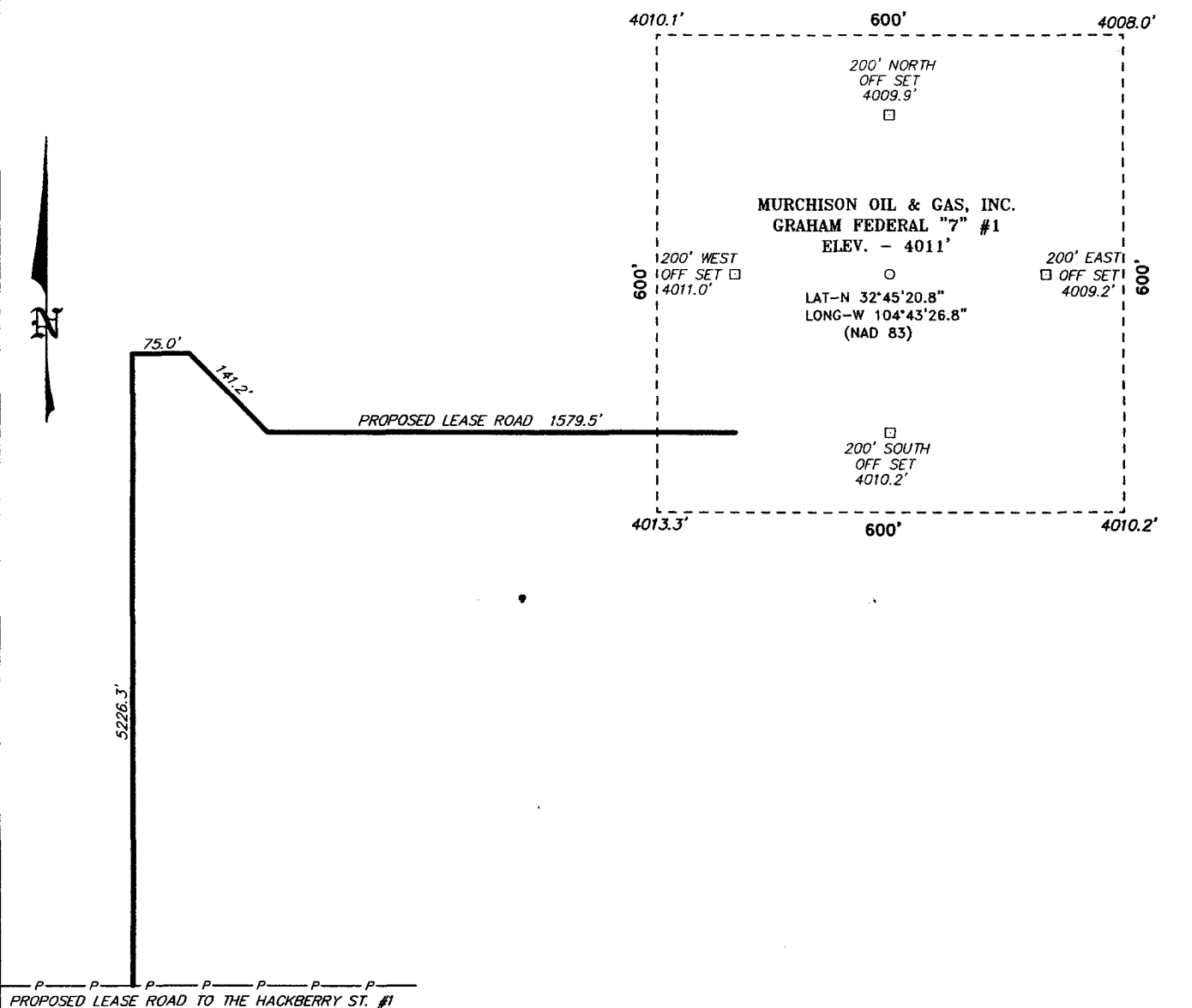
UL or lot No. A	Section 7	Township 18 S	Range 23 E	Lot Idn	Feet from the 760	North/South line NORTH	Feet from the 760	East/West line EAST	County EDDY
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Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
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NO 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>Project Area Producing Area</p>  <p>DETAIL</p>	<p>BOTTOM HOLE LOCATION LAT-N32°46'03.4" LONG-W104°43'28.1" (NAD 83)</p> <p>B-HO-760'</p>	<p>OPERATOR CERTIFICATION</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>1/19/07</p> <p><i>Denise Menoud</i> Signature DENISE MENOUD AGENT FOR MURCHISON OIL & GAS Printed Name</p>
	<p>SURFACE LOCATION LAT-N32°45'20.8" LONG-W104°43'26.7" (NAD 83)</p> <p>SEE DETAIL</p> <p>S-LO-660'</p>	<p>SURVEYOR CERTIFICATION</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>JANUARY 5, 2007</p> <p>Date Surveyed Signature of Gary L. Jones Professional Surveyor</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>

SECTION 7, TOWNSHIP 18 SOUTH, RANGE 23 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF US HWY 82 AND CO. RD. 12
(ARMSTRONG), PROCEED SOUTH ON CO. RD. 12 FOR
APPROX 4.9 MILE TO PROPOSED LEASE ROAD TO THE
HACKBERRY STATE #1.

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

W.O. Number: 17622 Drawn By: J. SMALL

Date: 01-09-2007 Disk: JMS 17622W

200 0 200 400 FEET

SCALE: 1" = 200'

MURCHISON OIL & GAS, INC.

REF: GRAHAM FEDERAL "7" No. 1 / Well Pad Topo

THE GRAHAM FEDERAL "7" No. 1 LOCATED 220' FROM

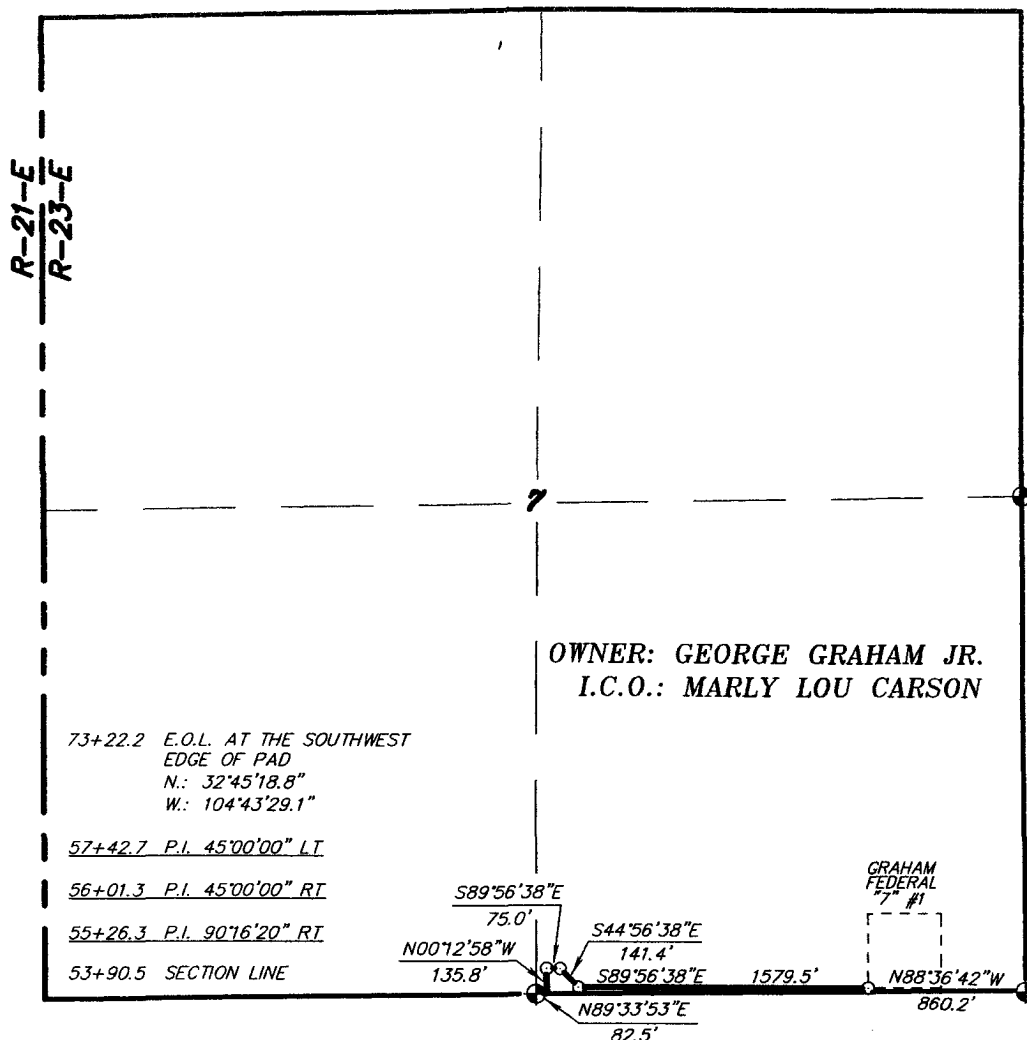
THE SOUTH LINE AND 660' FROM THE EAST LINE OF

SECTION 7, TOWNSHIP 18 SOUTH, RANGE 23 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 01-05-2007 Sheet 1 of 1 Sheets

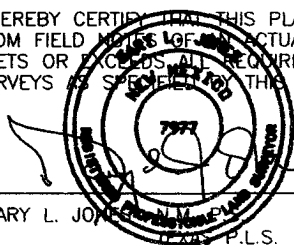
SECTION 7, TOWNSHIP 18 SOUTH, RANGE 23 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 20.0 FEET WIDE, LOCATED IN SECTION 7, TOWNSHIP 18 SOUTH, RANGE 23 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 10.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY. BEGINNING AT A POINT WHICH LIES N.89°33'53\"W, 82.5 FEET FROM THE SOUTH QUARTER CORNER OF SAID SECTION 7; THENCE N.00°12'58\"E, 135.9 FEET; THENCE S.89°56'38\"E, 75.0 FEET; THENCE S.44°56'38\"E, 141.4 FEET; THENCE S.89°56'38\"E, 1579.5 FEET TO THE END OF THIS LINE WHICH LIES N.88°36'42\"W, 860.2 FEET FROM THE SOUTHEAST CORNER OF SAID SECTION 7. SAID STRIP OF LAND BEING 1931.7 FEET OR 117.07 RODS IN LENGTH.

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.



GARY L. JONES, P.L.S. No. 7977
No. 5074

1000 0 1000 2000 FEET

MURCHISON OIL & GAS, INC.

REF: PROPOSED ROAD TO THE MURCHISON-GRAHAM FEDERAL "7" #1

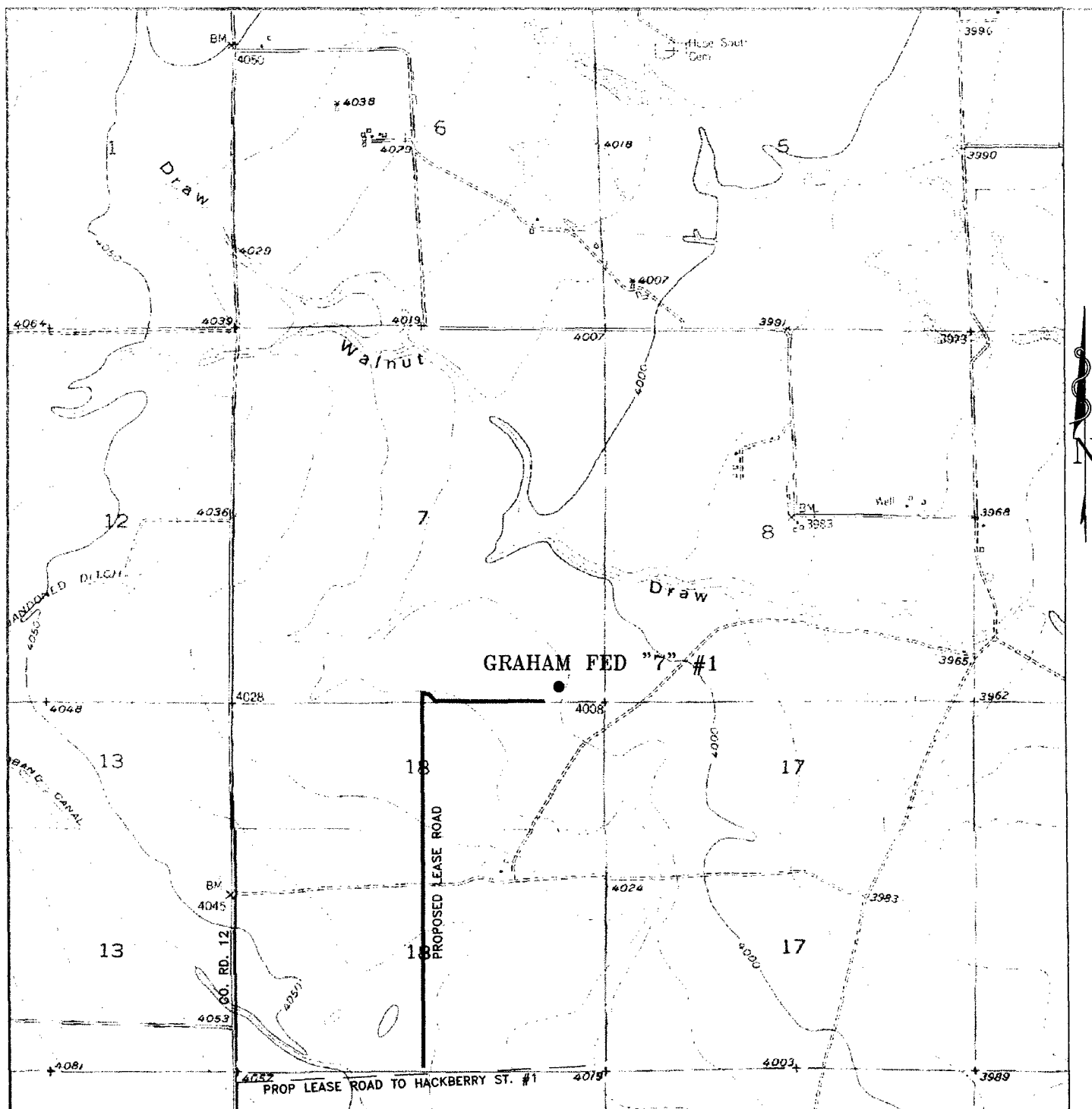
A ROAD CROSSING FEE LAND IN
SECTION 7, TOWNSHIP 18 SOUTH, RANGE 23 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 17622 Drawn By: J. M. SMALL

Date: 01-09-2007 Disk: JMS 17622R

Survey Date: 01-05-2007 Sheet 4 of 4 Sheets



PROPOSED LEASE ROAD TO THE GRAHAM FEDERAL "7" #1
 Section 7, Township 18 South, Range 23 East,
 N.M.P.M., Eddy County, New Mexico.

basin
surveys
 focused on excellence
 in the field

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: 176227T

Survey Date: 01-05-2007

Scale: 1" = 2000'

Date: 01-09-2007

**MURCHISON OIL
 & GAS, INC.**

Pathfinder Energy Planning Report

Company: Murchison Oil & Gas
Field: Eddy County, NM NAD-83
Site: Graham Federal "7" #1
Well: Graham Federal "7" #1
Wellpath: OH

Date: 1/16/2007 **Time:** 11:34:16 **Page:** 1
Co-ordinate(NE) Reference: Site: Graham Federal "7" #1, Grid North
Vertical (FVD) Reference: SITE 4009.0
Section (VS) Reference: Well (0.00N,0.00E,358.67Azi)
Plan: Plan #1 11-2-06

Field: Eddy County, NM NAD-83

Map System: US State Plane Coordinate System 1983
Geo Datum: GRS 1980
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Site Centre
Geomagnetic Model: igrf2005

Site: Graham Federal "7" #1

Site Position:	Northing:	638911.42 ft	Latitude:	32 45 20.846 N
From: Map	Easting:	421207.32 ft	Longitude:	104 43 26.781 W
Position Uncertainty:	0.00 ft		North Reference:	Grid
Ground Level:	4009.00 ft		Grid Convergence:	-0.21 deg

Well: **Graham Federal "7" #1**

Slot Name:

Well Position:	+N/-S	0.00 ft	Northing:	638911.42 ft	Latitude:	32	45	20.846 N
	+E/-W	0.00 ft	Easting :	421207.32 ft	Longitude:	104	43	26.781 W
Position Uncertainty:		0.00 ft						

Wellpath: OH

Drilled From:	Surface
Tie-on Depth:	0.00 ft
Above System Datum:	Mean Sea Level
Declination:	8.69 deg
Mag Dip Angle:	60.59 deg
+E/-W	Direction
ft	deg

Current Datum:	SITE	Height	4009.00	ft
Magnetic Data:	11/2/2006			
Field Strength:	49307	nT		
Vertical Section:	Depth From (TVD)		+N/-S	
	ft		ft	
	4400.00		0.00	

Plan: Plan #1 11-2-06

Date Composed: 11/2/2006
Version: 1
Tied-to: From Surface

Principal: Yes

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3922.54	0.00	0.00	3922.54	0.00	0.00	0.00	0.00	0.00	0.00	
4672.54	90.00	358.67	4400.00	477.34	-11.10	12.00	12.00	0.00	0.00	PBHL
8496.24	90.00	358.67	4400.00	4300.00	-100.00	0.00	0.00	0.00	0.00	PBHL

Survey

[illegible]

Pathfinder Energy

Planning Report

Company: Murchison Oil & Gas Field: Eddy County, NM NAD-83 Site: Graham Federal "7" #1 Well: Graham Federal "7" #1 Wellpath: OH	Date: 1/16/2007 Co-ordinate(NE) Reference: Site: Graham Federal "7" #1, Grid North Vertical (TVD) Reference: SITE 4009.0 Section (VS) Reference: Well (0.00N,0.00E,358.67Azi) Plan: Plan #1 11-2-06
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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
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	
3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3922.54	0.00	0.00	3922.54	0.00	0.00	0.00	0.00	0.00	0.00	KOP @ 3922' MD / TVD Bu
4000.00	9.30	358.67	3999.66	6.27	-0.15	6.27	12.00	12.00	0.00	
4100.00	21.30	358.67	4095.94	32.59	-0.76	32.60	12.00	12.00	0.00	
4200.00	33.30	358.67	4184.65	78.35	-1.82	78.37	12.00	12.00	0.00	
4300.00	45.30	358.67	4261.89	141.55	-3.29	141.59	12.00	12.00	0.00	
4400.00	57.30	358.67	4324.31	219.43	-5.10	219.49	12.00	12.00	0.00	PBHL
4500.00	69.30	358.67	4369.17	308.57	-7.18	308.66	12.00	12.00	0.00	
4600.00	81.30	358.67	4394.51	405.09	-9.42	405.20	12.00	12.00	0.00	
4672.54	90.00	358.67	4400.00	477.34	-11.10	477.46	12.00	12.00	0.00	
4700.00	90.00	358.67	4400.00	504.79	-11.74	504.92	0.00	0.00	0.00	
4800.00	90.00	358.67	4400.00	604.76	-14.06	604.92	0.00	0.00	0.00	
4900.00	90.00	358.67	4400.00	704.73	-16.39	704.92	0.00	0.00	0.00	
5000.00	90.00	358.67	4400.00	804.71	-18.71	804.92	0.00	0.00	0.00	
5100.00	90.00	358.67	4400.00	904.68	-21.04	904.92	0.00	0.00	0.00	
5200.00	90.00	358.67	4400.00	1004.65	-23.36	1004.92	0.00	0.00	0.00	
5300.00	90.00	358.67	4400.00	1104.63	-25.69	1104.92	0.00	0.00	0.00	
5400.00	90.00	358.67	4400.00	1204.60	-28.01	1204.92	0.00	0.00	0.00	
5500.00	90.00	358.67	4400.00	1304.57	-30.34	1304.92	0.00	0.00	0.00	
5600.00	90.00	358.67	4400.00	1404.55	-32.66	1404.92	0.00	0.00	0.00	
5700.00	90.00	358.67	4400.00	1504.52	-34.99	1504.92	0.00	0.00	0.00	
5800.00	90.00	358.67	4400.00	1604.49	-37.31	1604.92	0.00	0.00	0.00	
5900.00	90.00	358.67	4400.00	1704.46	-39.64	1704.92	0.00	0.00	0.00	
6000.00	90.00	358.67	4400.00	1804.44	-41.96	1804.92	0.00	0.00	0.00	
6100.00	90.00	358.67	4400.00	1904.41	-44.29	1904.92	0.00	0.00	0.00	
6200.00	90.00	358.67	4400.00	2004.38	-46.61	2004.92	0.00	0.00	0.00	
6300.00	90.00	358.67	4400.00	2104.36	-48.94	2104.92	0.00	0.00	0.00	
6400.00	90.00	358.67	4400.00	2204.33	-51.26	2204.92	0.00	0.00	0.00	
6500.00	90.00	358.67	4400.00	2304.30	-53.59	2304.92	0.00	0.00	0.00	
6600.00	90.00	358.67	4400.00	2404.27	-55.91	2404.92	0.00	0.00	0.00	
6700.00	90.00	358.67	4400.00	2504.25	-58.24	2504.92	0.00	0.00	0.00	

Pathfinder Energy

Planning Report

Company: Murchison Oil & Gas
Field: Eddy County, NM NAD-83
Site: Graham Federal "7" #1
Well: Graham Federal "7" #1
Wellpath: OH

Date: 1/16/2007 **Time:** 11:34:16 **Page:** 3
Co-ordinate(NE) Reference: Site: Graham Federal "7" #1, Grid North
Vertical (TVD) Reference: SITE 4009.0
Section (VS) Reference: Well (0.00N,0.00E,358.67Azi)
Plan: Plan #1 11-2-06

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
6800.00	90.00	358.67	4400.00	2604.22	-60.56	2604.92	0.00	0.00	0.00	
6900.00	90.00	358.67	4400.00	2704.19	-62.89	2704.92	0.00	0.00	0.00	
7000.00	90.00	358.67	4400.00	2804.17	-65.21	2804.92	0.00	0.00	0.00	
7100.00	90.00	358.67	4400.00	2904.14	-67.54	2904.92	0.00	0.00	0.00	
7200.00	90.00	358.67	4400.00	3004.11	-69.86	3004.92	0.00	0.00	0.00	
7300.00	90.00	358.67	4400.00	3104.09	-72.19	3104.92	0.00	0.00	0.00	
7400.00	90.00	358.67	4400.00	3204.06	-74.51	3204.92	0.00	0.00	0.00	
7500.00	90.00	358.67	4400.00	3304.03	-76.84	3304.92	0.00	0.00	0.00	
7600.00	90.00	358.67	4400.00	3404.00	-79.16	3404.92	0.00	0.00	0.00	
7700.00	90.00	358.67	4400.00	3503.98	-81.49	3504.92	0.00	0.00	0.00	
7800.00	90.00	358.67	4400.00	3603.95	-83.81	3604.92	0.00	0.00	0.00	
7900.00	90.00	358.67	4400.00	3703.92	-86.14	3704.92	0.00	0.00	0.00	
8000.00	90.00	358.67	4400.00	3803.90	-88.46	3804.92	0.00	0.00	0.00	
8100.00	90.00	358.67	4400.00	3903.87	-90.79	3904.92	0.00	0.00	0.00	
8200.00	90.00	358.67	4400.00	4003.84	-93.11	4004.92	0.00	0.00	0.00	
8300.00	90.00	358.67	4400.00	4103.82	-95.44	4104.92	0.00	0.00	0.00	
8400.00	90.00	358.67	4400.00	4203.79	-97.76	4204.92	0.00	0.00	0.00	
8496.24	90.00	358.67	4400.00	4300.00	-100.00	4301.16	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 Deg Min Sec			Longitude Deg Min Sec		
PBHL			4400.00	4300.00	-100.00	643211.42	421107.32	32	46	3.391 N	104	43	28.138 W

Annotation

MD ft	TVD ft	
3922.54	3922.54	KOP @ 3922' MD / TVD Build 12°/100'
4672.54	4400.00	EOC @ 4673' MD / 4400' TVD

Murchison Oil & Gas

Field: Eddy County, NM NAD-83
 Site: Graham Federal "7" #1
 Well: Graham Federal "7" #1
 Wellpath: OH
 Plan: Plan #1 11-2-06

PAT FINDER

SITE DETAILS

Graham Federal "7" #1
 Site Centre Northing: 63891.42
 Easting: 421207.32
 Ground Level: 4009.00
 Positional Uncertainty: 0.00
 Convergence: -0.21

WELLPATH DETAILS

OH
 Ref. Datum: SITE
 Rig: 4009.00R
 V. Section Angle: 358.67°
 Origin: +N/-S
 +E/-W: 0.00
 Starting From TVD: 4400.00

TARGET DETAILS

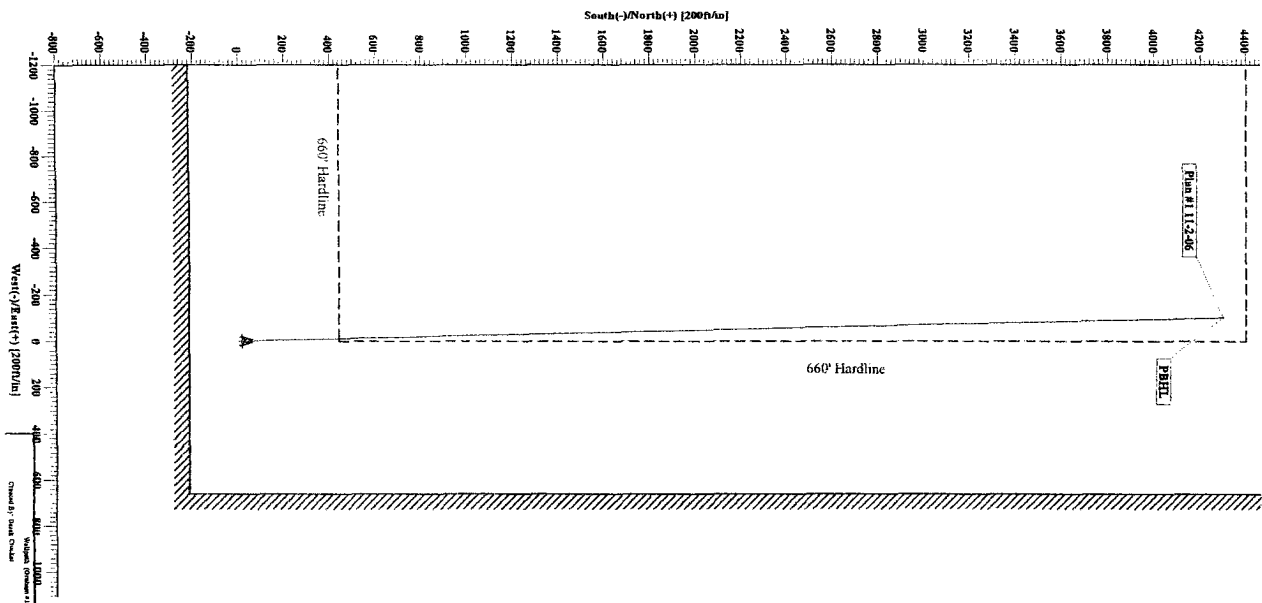
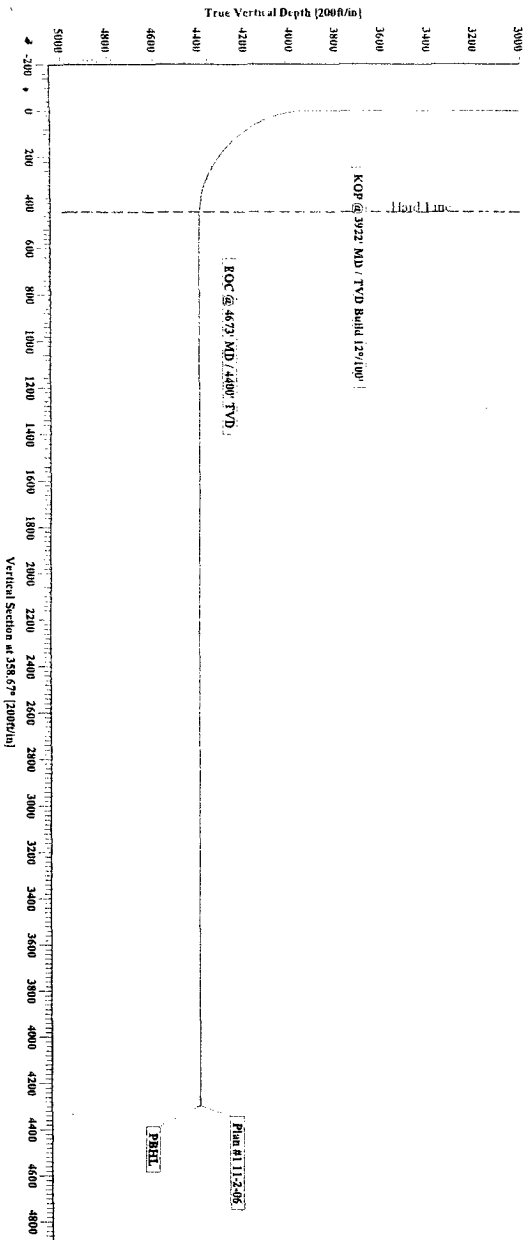
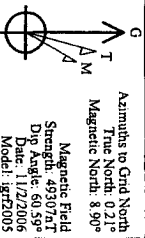
Name: TVD +N/-S +E/-W Shape
 PBHL 4400.00 4300.00 -100.00 Point

ANNOTATIONS

No. TVD MD Annotation
 1 3922.54 3922.54 KOP @ 3922' MD / TVD Build 12°/100'
 2 4400.00 4672.54 BOC @ 4673' MD / 4400' TVD

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3922.54	0.00	0.00	3922.54	0.00	0.00	0.00	0.00	0.00	
3	4672.54	90.00	358.67	4400.00	477.34	-11.10	12.00	0.00	477.46	PBHL
4	8496.24	90.00	358.67	4400.00	4300.00	0.00	0.00	0.00	4501.16	PBHL



+Attachment to Form 3160-3

**DRILLING PROGRAM – Graham Fed 7 #1
Murchison Oil & Gas, Inc.**

Surface Location: Unit P, 660 FSL & 660 FEL, Sec 7, T18S, R23E
Bottomhole Location: Unit A, 760 FNL & 760 FEL, Sec 7, T18S, R23E
County / State: Eddy County, New Mexico

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian Rustler

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Glorieta	2193' TVD
Yeso	2323' TVD
Tubb	2748' TVD
Abo	3383' TVD
Wolfcamp	4233' TVD
TVD	4400'
MD	8056'

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 - 8056'	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/ 600 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% CaCl₂.

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% CaCl₂.

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 – 8056'	<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' – 8056'	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.
-
- 8. 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.
 - 9. Anticipated starting date is January 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.

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

**Murchison Oil & Gas, Inc.
Graham Fed 7 #1
Section 7, T-18-S, R-23-E,
SL: Unit P, 660 FSL, 660 FEL
BHL: Unit A, 760 FNL, 760 FEL
Eddy County, New Mexico**

LOCATED

Approximately 17 miles Southwest of Artesia, New Mexico

OIL & GAS LEASE

BLM 108937; 1232.12 Acres

BOND COVERAGE

Personal Statewide Bond #NM 2163

POOL

Wildcat; Wolfcamp Gas - Pool #97489

OIL & GAS RECORD LESSEE

Echo Production, Inc.
P. O. Box 1210
Graham, TX 76450

SURFACE OWNER

George A. Graham, Jr., et al
P.O. Box 1720
Artesia, NM 88210

A surface use agreement has been reached between the heirs of the above estate and Murchison Oil & Gas, Inc. on October 24, 2006.

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 4400' TVD, 8056' 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 US Highway 82 and County Road 12 (Armstrong), proceed South on County Road 12 for approximately 4.9 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 7611' and the width is 30'.

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 Graham Fed 7 #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

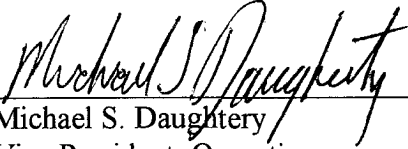
Michael S. Daugherty
1100 Mira Vista Blvd.
Plano, TX 75093-4698
Office Phone: (972) 931-0700
Home Phone: (972) 618-0792

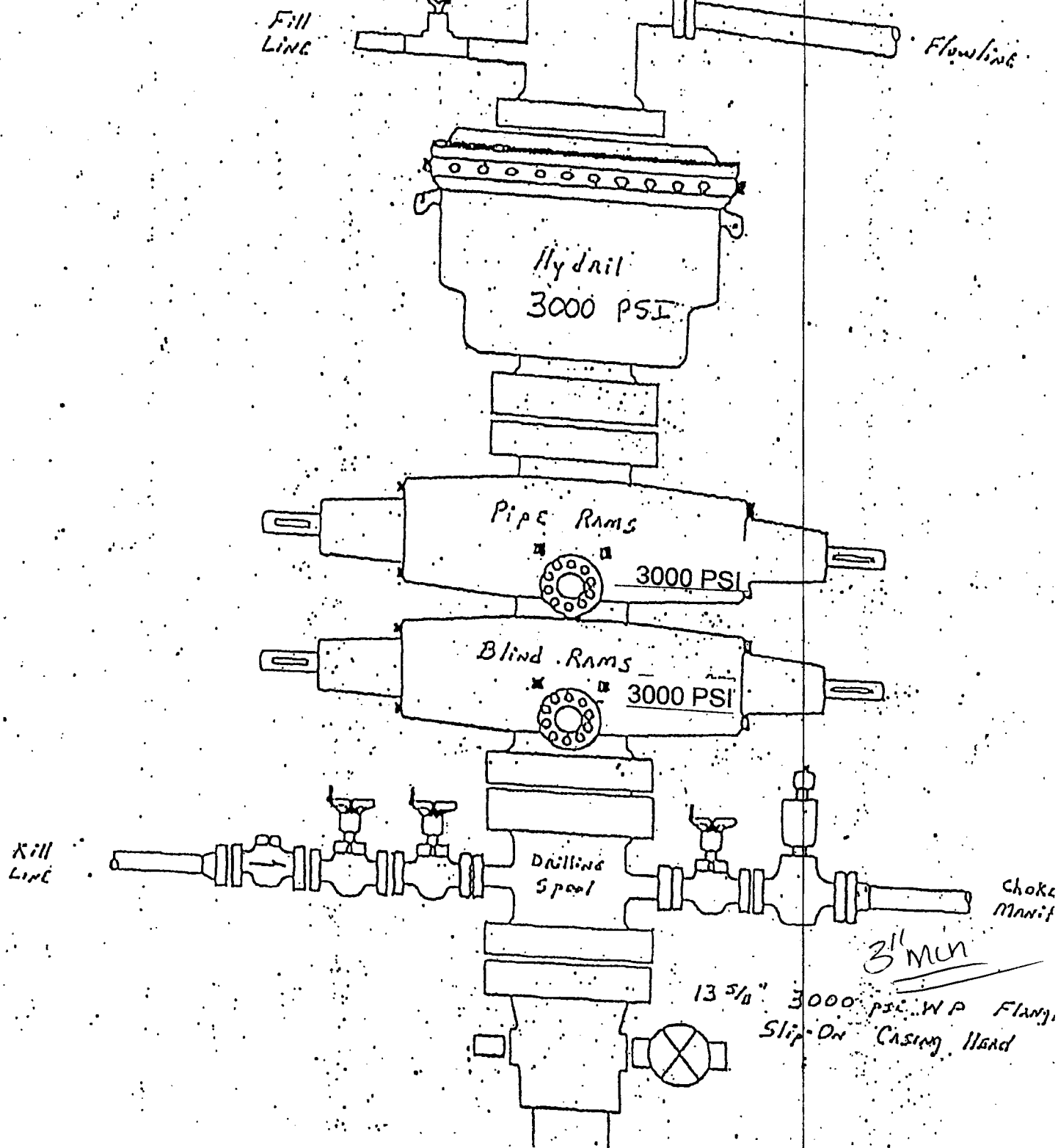
Randy Ford
415 W. Wall Street, Suite 1700
Midland, TX 79701
Office Phone: (432) 682-0440
Cell Phone: (432) 559-2222

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.



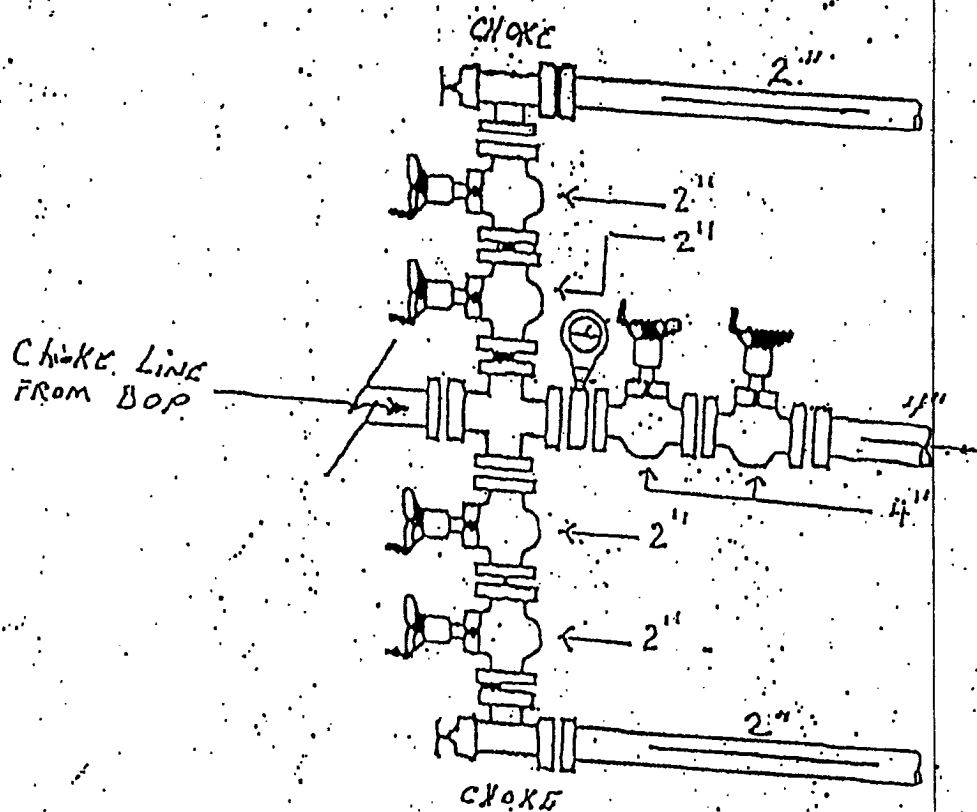
MURCHISON OIL & GAS, INC.

GRAHAM FED 7" #1

SURF. LOC: 660' FSL & 660' FEL, SEC. 7, T18S, R23E

BTM HOLE LOC: 760' FNL & 760' FEL, SEC. 7, T18S, R23E

EDDY CO., NM.



MURCHISON OIL & GAS, INC.

GRAHAM FED "7" #1

SURF. LOC: 660' FSL & 660' FEL, SEC. 7, T18S, R23E

BTM HOLE LOC: 760' FNL & 760' FEL, SEC. 7, T18S, R23E

EDDY CO., NM.

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

State of New Mexico
Energy Minerals and Natural Resources

Form C-144
June 1, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Murchison Oil & Gas, Inc. Telephone: 432-685-9158 (Agent); 972-931-0700 (Murchison) e-mail address: denise@graysurfacespecialties.com
Address: 1100 Mira Vista Blvd, Plano, TX 75093-4698
Facility or well name: Graham Federal "7" #1 API #: U/L or Qtr/Qtr: P Sec 7 T 18S R 23E
County: Eddy Latitude: N32 deg, 45', 25.2" Longitude: W104 deg, 43', 26.8" NAD: 1927 ☐ 1983 ☒
Surface Owner: Federal ☐ State ☐ Private ☒ (Madera) Indian ☐

<u>Pit</u> Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness 12 mil Clay <input type="checkbox"/> Pit Volume 30,000 bbl	<u>Below-grade tank</u> Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not. _____						
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) _____ > 100'	<table style="width: 100%;"> <tr> <td style="width: 60%;">Less than 50 feet</td> <td style="width: 40%; text-align: right;">(20 points)</td> </tr> <tr> <td>50 feet or more, but less than 100 feet</td> <td style="text-align: right;">(10 points)</td> </tr> <tr> <td>100 feet or more</td> <td style="text-align: right;">(0 points)</td> </tr> </table>	Less than 50 feet	(20 points)	50 feet or more, but less than 100 feet	(10 points)	100 feet or more	(0 points)
Less than 50 feet	(20 points)						
50 feet or more, but less than 100 feet	(10 points)						
100 feet or more	(0 points)						
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	<table style="width: 100%;"> <tr> <td style="width: 60%;">Yes</td> <td style="width: 40%; text-align: right;">(20 points)</td> </tr> <tr> <td>No</td> <td style="text-align: right;">(0 points)</td> </tr> </table>	Yes	(20 points)	No	(0 points)		
Yes	(20 points)						
No	(0 points)						
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	<table style="width: 100%;"> <tr> <td style="width: 60%;">Less than 200 feet</td> <td style="width: 40%; text-align: right;">(20 points)</td> </tr> <tr> <td>200 feet or more, but less than 1000 feet</td> <td style="text-align: right;">(10 points)</td> </tr> <tr> <td>1000 feet or more</td> <td style="text-align: right;">(0 points)</td> </tr> </table>	Less than 200 feet	(20 points)	200 feet or more, but less than 1000 feet	(10 points)	1000 feet or more	(0 points)
Less than 200 feet	(20 points)						
200 feet or more, but less than 1000 feet	(10 points)						
1000 feet or more	(0 points)						
Ranking Score (Total Points) 0							

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☐ offsite ☐ If offsite, name of facility _____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 11/01/2006

Printed Name/Title : Denise Menoud, Regulatory Specialist, Agent for Murchison Oil & Gas, Inc.

Signature Denise Menoud CT

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title _____ Signature _____ Date: _____

Conditions of Approval Cave and Karst

EA#: NM-520-07-431

Lease #: NM-108937

Murchison Oil and Gas, Inc.

Graham Federal 7 # 1

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Berming:

Any tank batteries will be constructed and bermed large enough to contain any spills that may occur.

Bermed areas will be lined with rip-stop padding to prevent tears or punctures in liners and lined with a permanent 20 mil plastic liner.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Rotary drilling techniques in cave or karst areas will include the use of fresh water as a circulating medium in zones where caves or karst features are expected. Use depth to the deepest expected fresh water as listed in the geologist report.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone as identified in the geologic report.

Casing:

All casing will meet or exceed National Association of Corrosion Engineers specifications pertaining to the geology of the location and be run to American Petroleum Institute and BLM standards.

Cementing:

All casing strings will be cemented to the surface.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported.

Regardless of the type of drilling machinery used, if a bit drops of four feet or more and circulation losses greater than 75 percent occur simultaneously while drilling in any cave-bearing zone, drilling operations will immediately stop and the BLM will be notified by the operator. The BLM will assess the consequences of the situation and work with operator on corrective actions to resolve the problem.

Delayed Blasting:

Any blasting will be a phased and time delayed.

Abandonment Cementing:

Upon well abandonment the well bore will be cemented completely from 100 feet below the bottom of the cave bearing zone to the surface.

Pressure Tests:

Annual pressure tests will be performed by the Operator on all casing annuli. If the test results indicated a casing failure, remedial actions approved by the BLM will be undertaken to correct the problem.

Record Keeping:

The Operator will track customary drilling activities, including the rate of penetration, pump pressure, weight on bit, bit drops, percent of mud returns, and presence of absence of cuttings returning to the surface. As part of customary record keeping, each detectable void or sudden increase in the rate of penetration not attributable to a change in the formation type should be documented and evaluated as it is encountered.

CONDITIONS OF APPROVAL - DRILLING

Well Name & No. Graham Federal 7 # 1
Operator's Name: Murchison Oil & Gas Inc.
Location: 220' FSL, 660'FEL SEC 7, T18S, R23E, Eddy County, NM
BHL: 760' FNL, 760'FEL SEC 7, T18S, R23E, Eddy County, NM
Lease: NM-108937

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 (H₂S) 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 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 13.375 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

Arrant, Bryan, EMNRD

From: Arrant, Bryan, EMNRD
Sent: Wednesday, March 28, 2007 12:42 PM
To: 'D Menoud'; 'mdaugherty@jdmii.com'
Subject: FW: District II Directional Drilled Wells.xls

Hi Mike,
The API # for the noted well is: 30-05-35508.
Denise,
I had a conversation w/Mike about this APD and I don't need
for you to send me anything at this point in time.
I outlined on the C-102 the project area and the producing area.
I wrote on the front page of the APD
" NSL-Required to Produce".
Thanks and I'll visit w/ya'll later,
Bryan

From: Arrant, Bryan, EMNRD
Sent: Tuesday, March 27, 2007 2:28 PM
To: 'D Menoud'
Subject: District II Directional Drilled Wells.xls

Denise,
Please see the attachment of directionally drilled wells in our district.
Wells drilled by EOG Resources, Inc.(for example) is a good source to refer to in order to see what I need in a C-102.
You can access our well files by API #.
The project area, producing area and point of penetration is defined in our rule book.
Please go to NMOCD Rule 19.15.3.111
Our web site address is: www.emnrd.state.nm.us/ocd
Murchison Oil & Gas, Inc. should know where they plan to penetrate the top of the Wolfcamp formation.
That is the penetration point that I need.

Visit w/you later,
Bryan