A+S-10-607

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Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
SHL: V-4949 BHL: NM NM 105211

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

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No. (30701?)
PEQUENO MIKE BLU FED COM #5H

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

9 API Well No.
30-015-38038

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

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

10 Field and Pool, or Exploratory
Undesignated
WILDCAT; WOLFCAMP

4. Location of Well (Report location clearly and in accordance with any State requirements *)
At surface 1980' FNL & 300' FWL, UNIT E, SEC 2 Lot 5
At proposed prod. zone 1980' FNL & 330' FWL, UNIT E, SEC 3 Lot 5

Split Estate
UNORTHODOX LOCATION

11. Sec., T. R. M. or Blk. and Survey or Area
SHL: SEC 2, T16S, R29E
BHL: SEC 3, T16S, R29E

14 Distance in miles and direction from nearest town or post office*
APPROXIMATELY 11 MILES FROM ARTESIA, NEW MEXICO

12 County or Parish
EDDY

13. State
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17 Spacing Unit dedicated to this well
300' AT SURFACE 350' (SEC 3) AT TOP WLFCMP	80	160

18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed Depth	20 BLM/BIA Bond No. on file
N/A	12113 ~~12131~~ MD 7220' TVD PILOT 7400' TVD	NM2163

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3740' GL	08/01/2010	30 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:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature	Name (Printed/Typed)	Date
A. Arnold Nall by csc	A. ARNOLD NALL	06/04/2010

Title
VICE PRESIDENT OPERATIONS

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ Don Peterson		JUL 26 2010
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2) Roswell Controlled Water Basin *(Instructions on page 2)

Witness Surface Casing

Well becomes Orthodox at approximately 7500' MD.

KZ

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DISTRICT I
1625 N FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S ST FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 3005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-015-38038	96794	WILDCAT; Wolfcamp

Property Code	Property Name	Well Number
307018	PEQUENO MIKE BLU FEDERAL	5H

OGRID No	Operator Name	Elevation
15363	MURCHISON OIL & GAS, INC.	3740'

Surface Location

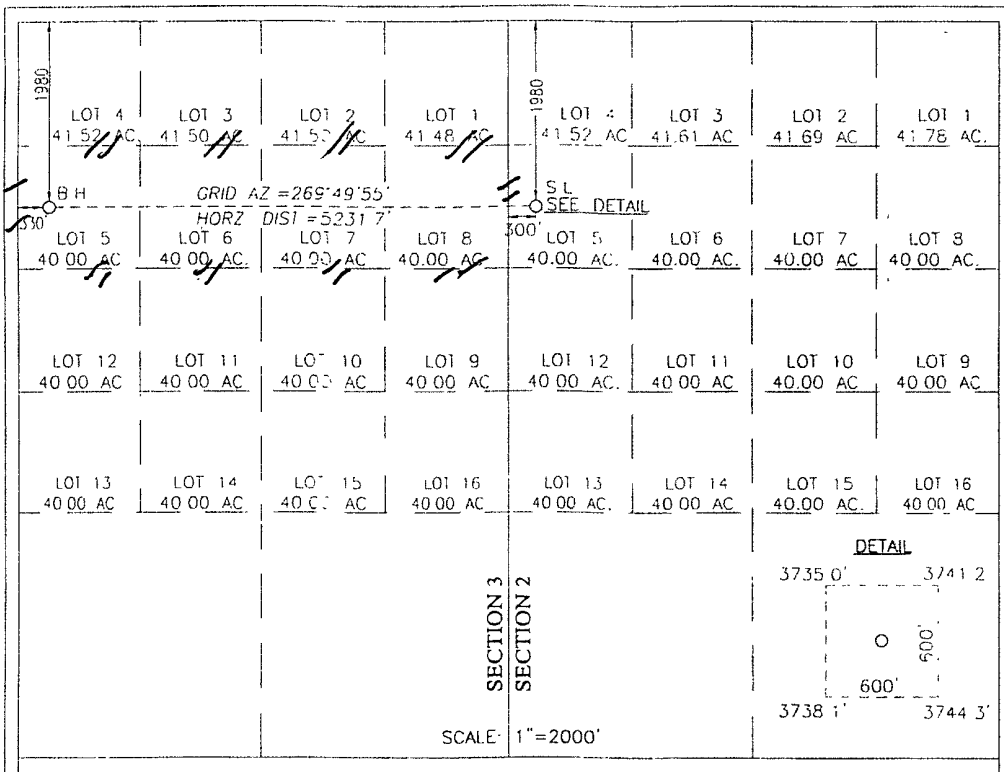
Ul. or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/EAST line	County
~~D~~ E LOT 5	2	16-S	29-E		1980	NORTH	300	WEST	EDDY

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/EAST line	County
~~D~~ E LOT 5	3	16-S	29-E		1980	NORTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION

Y=713012.7 N
X=586105.7 E

LAT.=32 959829° N
LONG.=104 052605° W

BOTTOM HOLE LOCATION
Y=712997.5 N
X=580875.3 E

OPERATOR CERTIFICATION

I hereby certify that the information 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 or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

A. Arnold Nall 6-4-10
Signature by CDC Date

A. ARNOLD NALL
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

APRIL 6, 2010
Date Surveyed DSS

Signature & Seal of Professional Surveyor

Ronald J. Eidson 6/01/2010

10.13.0806

Certificate No. GARY G. EIDSON 12641
RONALD J. EIDSON 3239

Murchison Oil & Gas, Inc.
Pequeno Mike BLU Fed Com #5H
Sec. 2/3, T16S, R29E
Eddy Co., NM

REVISED CASING AND CEMENTING PROGRAM

Hole Size	Casing Size	Wt./Ft.	Grade	Thread	Interval	Length	Condition
17-1/2"	13-3/8"	48.0#	H-40	ST&C	0'-400'	400'	New
12-1/4"	9-5/8"	36.0#	J-55	ST&C	0'-2,600'	2,600'	New
8-3/4"	7"	26.0#	HC P-110	LT&C	0'-6,550'	6,550'	New
6-1/8"	4-1/2"	11.6#	HC P-110	BT&C	6,450'-~~12,131~~ 12,113'	5,681'	New

MINIMUM CASING DESIGN FACTORS:

Burst = 1.0; Tensile Strength = 1.8; Collapse = 1.125
An 8-3/4" vertical pilot hole is planned to 7,400' MD/TVD. Upon running CNL/LDT/CAL/GR/ MSFL/HALS/GR open hole logs, we plan to run a combination 2-7/8" fiberglass tubing x 7" intermediate casing with bottom of the 7" steel casing to be landed at 6,550'+/- to isolate with cement and plugback the vertical hole for drilling the horizontal.

CEMENTING PROGRAM:

13.375" Surface Casing – Cementing Program
Cement with 470 sacks of HalCem Class C + additives with yield = 1.35 cu.ft./sack; sufficient volume of cement will be pumped to ensure cement is circulated to surface.

9.625" Intermediate Casing - Cementing Program
Cement lead with 990 sacks of EconoCem Class C + additives with yield = 1.87 cu.ft./sack, tail with 220 sacks HalCem Class C + additives with yield = 1.35 cu.ft./sack; sufficient volume of cement will be pumped to ensure cement is circulated to surface.

7" 2nd Intermediate Casing and Fiberglass Tubing - Cementing Program
Cement lead with 1050 sacks of EconoCem Class C+ additives with yield = 1.85 cu.ft./sack, tail with 550 sacks HalCem Class H + additives with yield = 1.00 cu.ft./sack; sufficient volume of cement will be pumped to ensure cement is circulated to surface. Will cement below 7" casing via 2-7/8" fiberglass tubing stinger to adequately plug back vertical pilot hole after logging and prior to drilling curve/horizontal section of well.

4.5" Production Casing - Cementing Program
Plan to utilize 4-1/2" 11.6# HCP-110 BTC Peak completion liner system from RSB packer @ 6,450' to TD of 12,131' MD. No cement required.

PRESSURE CONTROL EQUIPMENT:

400' – 2600' 13-5/8" 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.

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

After setting the 13-3/8" casing, the blowout preventers and related control equipment shall be pressure tested to 3000 psi and 1500 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.

2600' – 12131' 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 6500'.

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

After setting the 9 5/8" casing, the blowout preventers and related control equipment shall be pressure tested to 3000 psi and 1500 psi respectively. Any equipment failing to test satisfactorily shall be repaired or replaced. Results of the BOP test will be recorded in the Driller's Log.

The BOP's will be maintained ready for use until drilling operations are completed. Pipe and blind rams shall be activated each trip. Annular preventer shall be functionally operated at least weekly.

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

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

MUD PROGRAM

0' – 2600'	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.
2600' - 7125'	Cut brine. Wt. 8.4 – 8.8 ppg, vis 28-29 sec, No control water loss, lime for pH control.
7125' -12131'	Mud up with XCD Polymer mud system. Wt. 9.0 – 9.5 ppg, Vis 32-40 sec, WL 8-10 cc.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run open-hole logs and casing, the viscosity and water loss may have to be adjusted to meet these needs.

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:

A recording pit level indicator.

A pit volume totalizer.
A flowline sensor.

TESTING, LOGGING AND CORING PROGRAM See COA

A. Testing program: None planned.

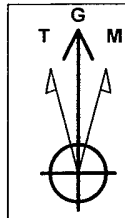
B. Mud logging program. Two man unit from 2600' to TD.

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

D. Coring program: None planned.

Murchison Oil & Gas

Project: Eddy County
Site: Pequeno Mike "BLU" Federal
Well: #5H
Wellbore: OH
Plan: Plan #1 (#5H/OH)



Azimuths to Grid North
True North: -0.15°
Magnetic North: 7.82°

Magnetic Field
Strength: 49137.4snT
Dip Angle: 60.83°
Date: 06/03/2010
Model: IGRF200510

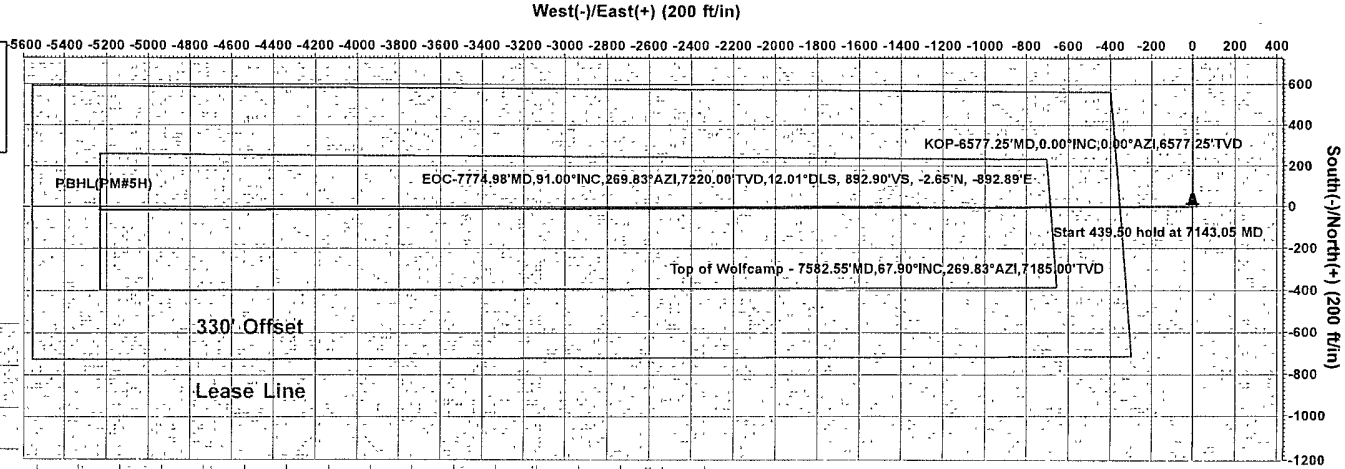
PATHFINDER

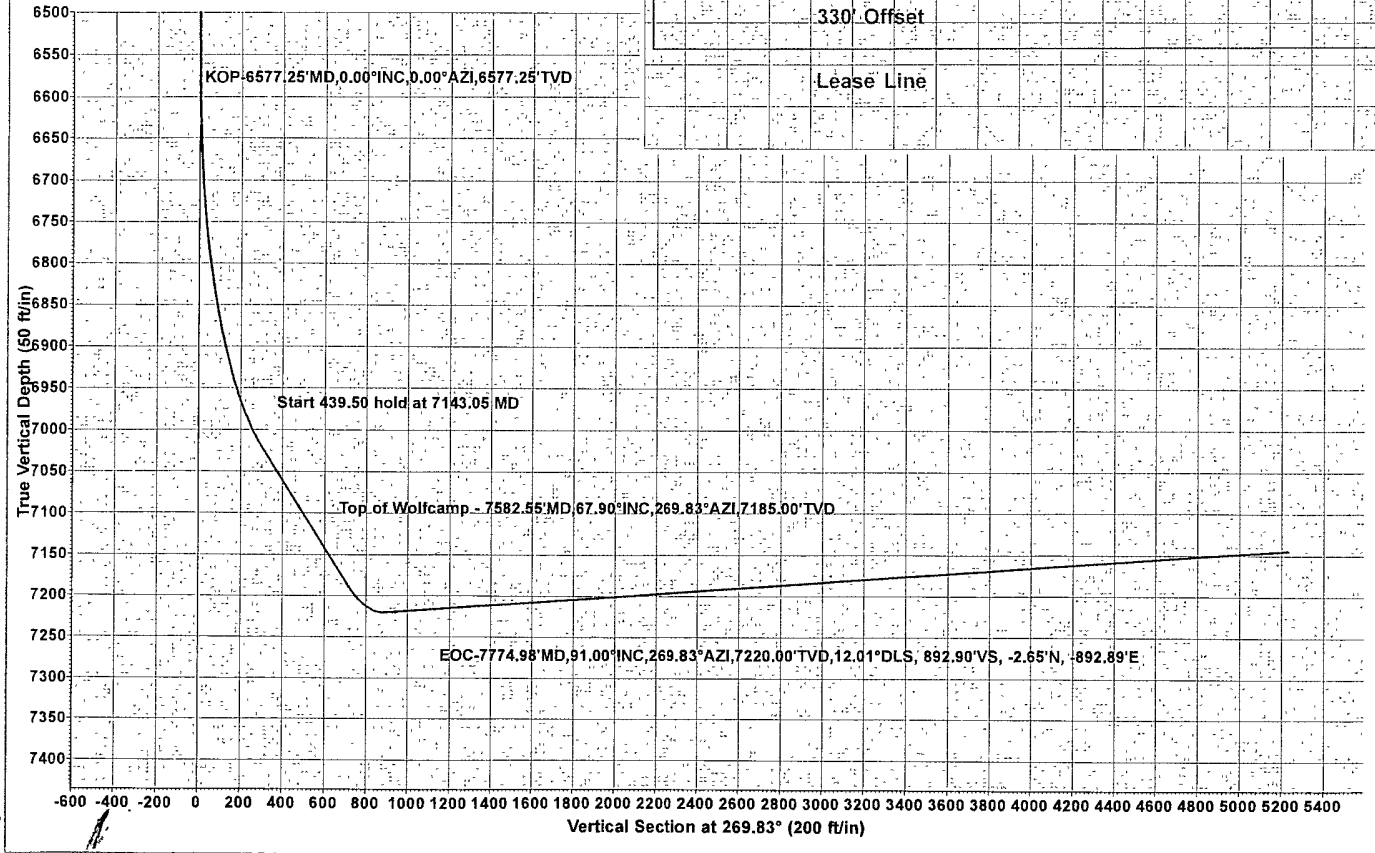
SECTION DETAILS

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	6577.25	0.00	0.00	6577.25	0.00	0.00	0.00	0.00	0.00	
3	7143.05	67.90	269.83	7019.62	-0.88	-297.80	12.00	269.83	297.80	
4	7582.55	67.90	269.83	7185.00	-2.09	-705.00	0.00	0.00	705.00	Othodox PT
56	7774.98	91.00	269.83	7220.00	-2.65	-892.89	12.01	0.00	892.90	
	12113.17	91.00	269.83	7144.29	-15.52	-5230.40	0.00	0.00	5230.42	PBHL(PM#5H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(PM#5H)	7143.33	-15.20	-5230.40	712997.500	580875.300	Point
Othodox PT	7185.00	-2.09	-705.00	713010.610	585400.700	Point





WELL DETAILS #5H

Ground Elevation 3740.00
RKB Elevation WELL @ 3761.00ft (21' KB Correction)
Rig Name 21' KB Correction

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	713012.700	586105.700	32° 57' 35.383 N	104° 3' 9.378 W	

PROJECT DETAILS Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Plan Plan #1 (#5H/OH)

Created By: Nate Bingham Date 8:58, June 04 2010

Murchison Oil & Gas

Eddy County
Pequeno Mike "BLU" Federal
#5H
OH

Plan: Plan #1

Pathfinder X & Y Planning Report

04 June, 2010

Company:	Murchison Oil & Gas	**Local Co-ordinate Reference:**	Well #5H
Project:	Eddy County	**TVD Reference:**	WELL @ 3761 00ft (21' KB Correction)
Site:	Pequeno Mike "BLU" Federal	**MD Reference:**	WELL @ 3761 00ft (21' KB Correction)
Well:	#5H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Project Eddy County

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Pequeno Mike "BLU" Federal

Site Position:		**Northing:**	709,071.513 ft	**Latitude:**	32° 56' 55.043 N
From:	Map	**Easting:**	627,196.827 ft	**Longitude:**	103° 55' 7.284 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	0.23 °

Well #5H

Well Position	**+N/-S**	0.00 ft	**Northing:**	713,012.700 ft	**Latitude:**	32° 57' 35.383 N
	+E/-W	0.00 ft	**Easting:**	586,105.700 ft	**Longitude:**	104° 3' 9.378 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,740.00 ft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	06/03/2010	7.98	60.83	49,137

Design Plan #1

Audit Notes:

Version:	**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0.00	0.00	0.00	269.83

Survey Tool Program **Date** 06/04/2010

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
0.00	12,113.02	Plan #1 (OH)	MWD	MWD - Standard

Company:	Murchison Oil & Gas	**Local Co-ordinate Reference:**	Well #5H
Project:	Eddy County	**TVD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Site:	Pequeno Mike "BLU" Federal	**MD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Well:	#5H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-3,761 00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
100.00	0.00	0.00	100.00	-3,661.00	0.00	0.00	0.00	0.00	713,012 70	586,105 70
200.00	0.00	0.00	200.00	-3,561.00	0.00	0.00	0.00	0.00	713,012 70	586,105.70
300.00	0.00	0.00	300.00	-3,461.00	0.00	0.00	0.00	0 00	713,012.70	586,105.70
400.00	0.00	0.00	400.00	-3,361 00	0.00	0.00	0.00	0 00	713,012.70	586,105.70
500.00	0.00	0.00	500.00	-3,261.00	0.00	0.00	0.00	0.00	713,012 70	586,105 70
600.00	0.00	0.00	600.00	-3,161.00	0.00	0.00	0.00	0 00	713,012.70	586,105 70
700.00	0.00	0.00	700.00	-3,061.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
800.00	0.00	0.00	800.00	-2,961.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
900.00	0.00	0.00	900.00	-2,861.00	0 00	0.00	0 00	0 00	713,012.70	586,105.70
1,000.00	0.00	0.00	1,000.00	-2,761.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
1,100.00	0.00	0.00	1,100.00	-2,661.00	0.00	0.00	0.00	0.00	713,012 70	586,105.70
1,200.00	0.00	0.00	1,200.00	-2,561.00	0.00	0 00	0.00	0.00	713,012.70	586,105.70
1,300.00	0.00	0.00	1,300.00	-2,461.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
1,400.00	0.00	0.00	1,400.00	-2,361.00	0.00	0.00	0 00	0.00	713,012.70	586,105.70
1,500.00	0.00	0.00	1,500.00	-2,261.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
1,600.00	0.00	0.00	1,600.00	-2,161.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
1,700.00	0.00	0.00	1,700.00	-2,061.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
1,800.00	0.00	0.00	1,800.00	-1,961.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
1,900.00	0.00	0.00	1,900.00	-1,861 00	0.00	0.00	0.00	0.00	713,012 70	586,105.70
2,000.00	0.00	0.00	2,000.00	-1,761.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
2,100.00	0.00	0.00	2,100.00	-1,661.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
2,200 00	0 00	0.00	2,200.00	-1,561.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
2,300.00	0.00	0.00	2,300.00	-1,461.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
2,400.00	0.00	0 00	2,400.00	-1,361.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
2,500.00	0.00	0.00	2,500.00	-1,261.00	0 00	0 00	0 00	0.00	713,012.70	586,105.70
2,600.00	0.00	0.00	2,600.00	-1,161.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70

Company:	Murchison Oil & Gas	**Local Co-ordinate Reference:**	Well #5H
Project:	Eddy County	**TVD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Site:	Pequeno Mike "BLU" Federal	**MD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Well:	#5H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,700.00	0.00	0.00	2,700.00	-1,061.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
2,800.00	0.00	0.00	2,800.00	-961.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
2,900.00	0.00	0.00	2,900.00	-861.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,000.00	0.00	0.00	3,000.00	-761.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,100.00	0.00	0.00	3,100.00	-661.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,200.00	0.00	0.00	3,200.00	-561.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,300.00	0.00	0.00	3,300.00	-461.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,400.00	0.00	0.00	3,400.00	-361.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,500.00	0.00	0.00	3,500.00	-261.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,600.00	0.00	0.00	3,600.00	-161.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,700.00	0.00	0.00	3,700.00	-61.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,800.00	0.00	0.00	3,800.00	39.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
3,900.00	0.00	0.00	3,900.00	139.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,000.00	0.00	0.00	4,000.00	239.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,100.00	0.00	0.00	4,100.00	339.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,200.00	0.00	0.00	4,200.00	439.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,300.00	0.00	0.00	4,300.00	539.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,400.00	0.00	0.00	4,400.00	639.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,500.00	0.00	0.00	4,500.00	739.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,600.00	0.00	0.00	4,600.00	839.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,700.00	0.00	0.00	4,700.00	939.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,800.00	0.00	0.00	4,800.00	1,039.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
4,900.00	0.00	0.00	4,900.00	1,139.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
5,000.00	0.00	0.00	5,000.00	1,239.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
5,100.00	0.00	0.00	5,100.00	1,339.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
5,200.00	0.00	0.00	5,200.00	1,439.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
5,300.00	0.00	0.00	5,300.00	1,539.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70

Company:	Murchison Oil & Gas	**Local Co-ordinate Reference:**	Well #5H
Project:	Eddy County	**TVD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Site:	Pequeno Mike "BLU" Federal	**MD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Well:	#5H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,400.00	0.00	0.00	5,400.00	1,639.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
5,500.00	0.00	0.00	5,500.00	1,739.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
5,600.00	0.00	0.00	5,600.00	1,839.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
5,700.00	0.00	0.00	5,700.00	1,939.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
5,800.00	0.00	0.00	5,800.00	2,039.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
5,900.00	0.00	0.00	5,900.00	2,139.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
6,000.00	0.00	0.00	6,000.00	2,239.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
6,100.00	0.00	0.00	6,100.00	2,339.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
6,200.00	0.00	0.00	6,200.00	2,439.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
6,300.00	0.00	0.00	6,300.00	2,539.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
6,400.00	0.00	0.00	6,400.00	2,639.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
6,500.00	0.00	0.00	6,500.00	2,739.00	0.00	0.00	0.00	0.00	713,012.70	586,105.70
6,577.25	0.00	0.00	6,577.25	2,816.25	0.00	0.00	0.00	0.00	713,012.70	586,105.70
KOP-6577.25'MD,0.00°INC,0.00°AZI,6577.25'TVD										
6,600.00	2.73	269.83	6,599.99	2,838.99	0.00	-0.54	0.54	12.00	713,012.70	586,105.16
6,625.00	5.73	269.83	6,624.92	2,863.92	-0.01	-2.39	2.39	12.00	713,012.69	586,103.31
6,650.00	8.73	269.83	6,649.72	2,888.72	-0.02	-5.53	5.53	12.00	713,012.68	586,100.17
6,675.00	11.73	269.83	6,674.32	2,913.32	-0.03	-9.97	9.97	12.00	713,012.67	586,095.73
6,700.00	14.73	269.83	6,698.65	2,937.65	-0.05	-15.69	15.69	12.00	713,012.65	586,090.01
6,725.00	17.73	269.83	6,722.65	2,961.65	-0.07	-22.68	22.68	12.00	713,012.63	586,083.02
6,750.00	20.73	269.83	6,746.26	2,985.26	-0.09	-30.91	30.91	12.00	713,012.61	586,074.79
6,775.00	23.73	269.83	6,769.39	3,008.39	-0.12	-40.37	40.37	12.00	713,012.58	586,065.33
6,800.00	26.73	269.83	6,792.01	3,031.01	-0.15	-51.02	51.02	12.00	713,012.55	586,054.68
6,825.00	29.73	269.83	6,814.03	3,053.03	-0.19	-62.85	62.85	12.00	713,012.51	586,042.85
6,850.00	32.73	269.83	6,835.41	3,074.41	-0.22	-75.81	75.81	12.00	713,012.48	586,029.89
6,875.00	35.73	269.83	6,856.07	3,095.07	-0.27	-89.87	89.87	12.00	713,012.43	586,015.83
6,900.00	38.73	269.83	6,875.98	3,114.98	-0.31	-104.99	104.99	12.00	713,012.39	586,000.71

Company:	Murchison Oil & Gas	**Local Co-ordinate Reference:**	Well #5H
Project:	Eddy County	**TVD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Site:	Pequeno Mike "BLU" Federal	**MD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Well:	#5H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
6,925 00	41.73	269.83	6,895.06	3,134 06	-0.36	-121.14	121.14	12.00	713,012.34	585,984.56
6,950 00	44.73	269.83	6,913.27	3,152.27	-0.41	-138.26	138 26	12.00	713,012.29	585,967.44
6,975 00	47 73	269.83	6,930.57	3,169.57	-0.46	-156.31	156.31	12 00	713,012.24	585,949.39
7,000.00	50.73	269 83	6,946.89	3,185.89	-0.52	-175.24	175.24	12.00	713,012.18	585,930.46
7,025.00	53.73	269 83	6,962.20	3,201.20	-0 58	-195.00	195.00	12.00	713,012 12	585,910.70
7,050.00	56.73	269.83	6,976.46	3,215.46	-0.64	-215.53	215 53	12.00	713,012.06	585,890.17
7,075 00	59.73	269.83	6,989.62	3,228.62	-0.70	-236.79	236 79	12.00	713,012 00	585,868.91
7,100.00	62.73	269.83	7,001.65	3,240.65	-0.77	-258 70	258 70	12.00	713,011.93	585,847.00
7,125.00	65.73	269.83	7,012.52	3,251.52	-0.83	-281.21	281 21	12.00	713,011.87	585,824.49
7,143.05	67.90	269.83	7,019.62	3,258.62	-0.88	-297 80	297.80	12.00	713,011 82	585,807.90
Start 439.50 hold at 7143.05 MD										
7,200.00	67 90	269.83	7,041.05	3,280.05	-1 04	-350.56	350.56	0.00	713,011.66	585,755.14
7,300.00	67.90	269.83	7,078.68	3,317.68	-1 31	-443.21	443.22	0.00	713,011.39	585,662.49
7,400.00	67.90	269.83	7,116.31	3,355.31	-1.59	-535.86	535.87	0.00	713,011 11	585,569.84
7,500.00	67.90	269.83	7,153.94	3,392.94	-1.86	-628.51	628.52	0.00	713,010.84	585,477.19
7,582.55	67.90	269.83	7,185.00	3,424.00	-2.09	-705.00	705.00	0.00	713,010.61	585,400.70
Top of Wolfcamp - 7582.55'MD,67.90°INC,269.83°AZI,7185.00'TVD - Othodox PT										
7,600.00	69.99	269 83	7,191.27	3,430.27	-2 14	-721.28	721.28	12.01	713,010.56	585,384.42
7,625.00	72.99	269.83	7,199.20	3,438.20	-2.21	-744.98	744.99	12.01	713,010.49	585,360.72
7,650.00	75.99	269.83	7,205.89	3,444.89	-2.28	-769.07	769.07	12 01	713,010.42	585,336.63
7,675.00	79.00	269.83	7,211.30	3,450.30	-2.35	-793.48	793.48	12.01	713,010.35	585,312.22
7,700.00	82.00	269 83	7,215.43	3,454.43	-2.43	-818.13	818.13	12.01	713,010.27	585,287.57
7,725.00	85.00	269.83	7,218.26	3,457.26	-2.50	-842.97	842 97	12.01	713,010.20	585,262.73
7,750.00	88.00	269.83	7,219.78	3,458.78	-2.57	-867.92	867.92	12.01	713,010.13	585,237.78
7,774.98	91.00	269.83	7,220.00	3,459.00	-2.65	-892.89	892.90	12 01	713,010.05	585,212.81
EOC-7774.98'MD,91.00°INC,269.83°AZI,7220.00'TVD,12.01°DLS, 892.90'VS, -2.65'N, -892.89'E										
7,800.00	91.00	269.83	7,219.56	3,458.56	-2.72	-917.91	917.91	0.00	713,009.98	585,187.79
7,900.00	91.00	269.83	7,217.82	3,456.82	-3.02	-1,017.89	1,017.90	0.00	713,009.68	585,087.81

Company:	Murchison Oil & Gas	**Local Co-ordinate Reference:**	Well #5H
Project:	Eddy County	**TVD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Site:	Pequeno Mike "BLU" Federal	**MD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Well:	#5H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
8,000.00	91 00	269.83	7,216.07	3,455.07	-3.31	-1,117 88	1,117.88	0 00	713,009.39	584,987.82
8,100 00	91.00	269.83	7,214.33	3,453.33	-3.61	-1,217 86	1,217.87	0 00	713,009.09	584,887.84
8,200.00	91.00	269.83	7,212.58	3,451.58	-3.91	-1,317.85	1,317.85	0 00	713,008.79	584,787.85
8,300.00	91.00	269.83	7,210.84	3,449.84	-4.20	-1,417.83	1,417.84	0 00	713,008.50	584,687.87
8,400.00	91.00	269.83	7,209.09	3,448.09	-4.50	-1,517.81	1,517.82	0.00	713,008.20	584,587.89
8,500.00	91.00	269.83	7,207 35	3,446 35	-4.80	-1,617.80	1,617.81	0.00	713,007.90	584,487.90
8,600 00	91.00	269.83	7,205.60	3,444.60	-5.09	-1,717.78	1,717.79	0.00	713,007 61	584,387.92
8,700 00	91.00	269.83	7,203.86	3,442.86	-5.39	-1,817.77	1,817.77	0.00	713,007.31	584,287.93
8,800.00	91.00	269.83	7,202.11	3,441.11	-5.69	-1,917.75	1,917.76	0.00	713,007.01	584,187.95
8,900.00	91.00	269.83	7,200.37	3,439.37	-5.98	-2,017.74	2,017.74	0 00	713,006.72	584,087 96
9,000.00	91.00	269.83	7,198.62	3,437.62	-6.28	-2,117.72	2,117.73	0.00	713,006.42	583,987.98
9,100.00	91.00	269.83	7,196.88	3,435.88	-6.58	-2,217.70	2,217.71	0.00	713,006.12	583,888 00
9,200.00	91.00	269.83	7,195.13	3,434.13	-6.87	-2,317.69	2,317.70	0.00	713,005.83	583,788.01
9,300.00	91.00	269.83	7,193.38	3,432.38	-7.17	-2,417.67	2,417.68	0.00	713,005.53	583,688.03
9,400.00	91 00	269.83	7,191.64	3,430 64	-7.47	-2,517.66	2,517.67	0.00	713,005.23	583,588.04
9,500.00	91.00	269.83	7,189.89	3,428.89	-7.76	-2,617.64	2,617.65	0.00	713,004.94	583,488.06
9,600.00	91.00	269.83	7,188.15	3,427.15	-8.06	-2,717.63	2,717.64	0.00	713,004.64	583,388.07
9,700.00	91.00	269.83	7,186.40	3,425.40	-8.36	-2,817.61	2,817.62	0.00	713,004.34	583,288.09
9,800.00	91.00	269.83	7,184.66	3,423.66	-8.65	-2,917.59	2,917.61	0.00	713,004.05	583,188.11
9,900.00	91.00	269.83	7,182.91	3,421.91	-8.95	-3,017.58	3,017 59	0.00	713,003.75	583,088.12
10,000.00	91.00	269.83	7,181.17	3,420.17	-9.25	-3,117.56	3,117.58	0.00	713,003.45	582,988.14
10,100.00	91.00	269.83	7,179.42	3,418.42	-9.54	-3,217.55	3,217.56	0.00	713,003.16	582,888.15
10,200.00	91.00	269.83	7,177.68	3,416.68	-9 84	-3,317.53	3,317.55	0.00	713,002.86	582,788.17
10,300.00	91.00	269.83	7,175.93	3,414.93	-10.14	-3,417.52	3,417.53	0.00	713,002.56	582,688.18
10,400.00	91.00	269.83	7,174.19	3,413.19	-10.43	-3,517.50	3,517.52	0 00	713,002.27	582,588.20
10,500.00	91.00	269.83	7,172.44	3,411.44	-10.73	-3,617.48	3,617.50	0.00	713,001.97	582,488.22
10,600.00	91.00	269.83	7,170.70	3,409.70	-11.03	-3,717.47	3,717.49	0.00	713,001.67	582,388.23

Company:	Murchison Oil & Gas	**Local Co-ordinate Reference:**	Well #5H
Project:	Eddy County	**TVD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Site:	Pequeno Mike "BLU" Federal	**MD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Well:	#5H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
10,700.00	91.00	269.83	7,168.95	3,407.95	-11.32	-3,817.45	3,817.47	0.00	713,001.38	582,288.25
10,800.00	91.00	269.83	7,167.21	3,406.21	-11.62	-3,917.44	3,917.45	0.00	713,001.08	582,188.26
10,900.00	91.00	269.83	7,165.46	3,404.46	-11.92	-4,017.42	4,017.44	0.00	713,000.78	582,088.28
11,000.00	91.00	269.83	7,163.72	3,402.72	-12.21	-4,117.41	4,117.42	0.00	713,000.49	581,988.29
11,100.00	91.00	269.83	7,161.97	3,400.97	-12.51	-4,217.39	4,217.41	0.00	713,000.19	581,888.31
11,200.00	91.00	269.83	7,160.23	3,399.23	-12.81	-4,317.38	4,317.39	0.00	712,999.89	581,788.32
11,300.00	91.00	269.83	7,158.48	3,397.48	-13.10	-4,417.36	4,417.38	0.00	712,999.60	581,688.34
11,400.00	91.00	269.83	7,156.73	3,395.73	-13.40	-4,517.34	4,517.36	0.00	712,999.30	581,588.36
11,500.00	91.00	269.83	7,154.99	3,393.99	-13.70	-4,617.33	4,617.35	0.00	712,999.00	581,488.37
11,600.00	91.00	269.83	7,153.24	3,392.24	-13.99	-4,717.31	4,717.33	0.00	712,998.71	581,388.39
11,700.00	91.00	269.83	7,151.50	3,390.50	-14.29	-4,817.30	4,817.32	0.00	712,998.41	581,288.40
11,800.00	91.00	269.83	7,149.75	3,388.75	-14.59	-4,917.28	4,917.30	0.00	712,998.11	581,188.42
11,900.00	91.00	269.83	7,148.01	3,387.01	-14.88	-5,017.27	5,017.29	0.00	712,997.82	581,088.43
12,000.00	91.00	269.83	7,146.26	3,385.26	-15.18	-5,117.25	5,117.27	0.00	712,997.52	580,988.45
12,100.00	91.00	269.83	7,144.52	3,383.52	-15.48	-5,217.23	5,217.26	0.00	712,997.22	580,888.47
12,113.17	91.00	269.83	7,144.29	3,383.29	-15.52	-5,230.40	5,230.42	0.00	712,997.18	580,875.30

TD at 12113.17 - PBHL(PM#5H)

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL(PM#5H)	0.00	0.00	7,143.33	-15.20	-5,230.40	712,997.500	580,875.300	32° 57' 35.367 N	104° 4' 10.767 W
- plan misses target center by 1.01ft at 12113.17ft MD (7144.29 TVD, -15.52 N, -5230.40 E)									
- Point									
Othodox PT	0.00	0.00	7,185.00	-2.09	-705.00	713,010.610	585,400.700	32° 57' 35.381 N	104° 3' 17.653 W
- plan hits target center									
- Point									

Company:	Murchison Oil & Gas	**Local Co-ordinate Reference:**	Well #5H
Project:	Eddy County	**TVD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Site:	Pequeno Mike "BLU" Federal	**MD Reference:**	WELL @ 3761.00ft (21' KB Correction)
Well:	#5H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	Midland Database

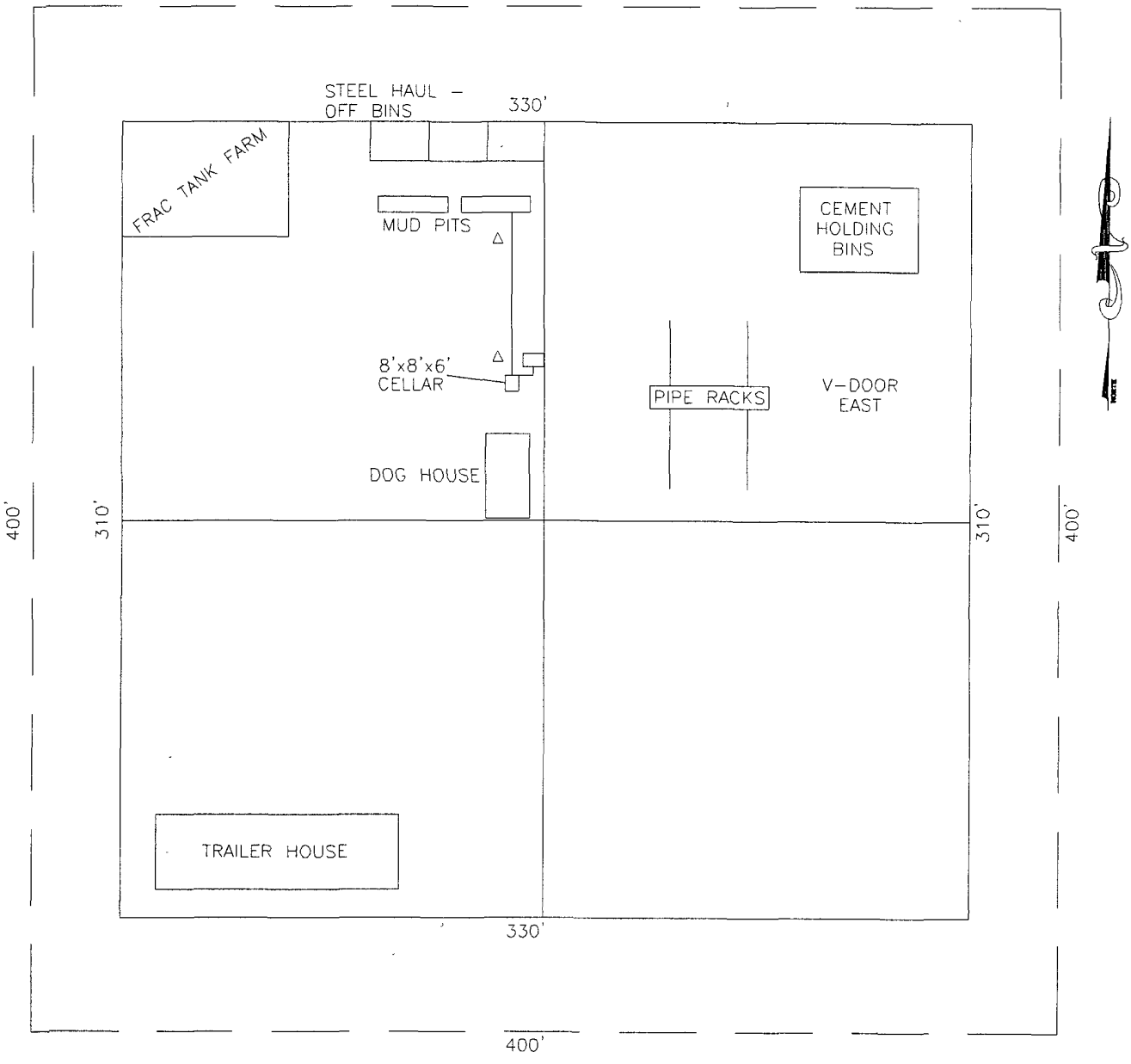
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
6,577.25	6,577.25	0.00	0.00	KOP-6577.25'MD,0.00°INC,0.00°AZI,6577.25'TVD
7,143.05	7,019.62	-0.88	-297.80	Start 439.50 hold at 7143 05 MD
7,582.55	7,185.00	-2.09	-705.00	Top of Wolfcamp - 7582.55'MD,67.90°INC,269.83°AZI,7185.00'TVD
7,774.98	7,220.00	-2.65	-892 89	EOC-7774.98'MD,91.00°INC,269.83°AZI,7220.00'TVD,12.01°DLS, 892
12,113.17	7,144.29	-15.52	-5,230.40	TD at 12113.17

Checked By: _____ Approved By: _____ Date: _____

EXHIBIT E

SECTION 2, TOWNSHIP 16 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



MURCHISON OIL & GAS, INC.
PEQUENO MIKE BLU FEDERAL #5H
ELEV. 3739.5'

GEODETIC COORDINATES
NAD 27 NME
Y=713012.7 N
X=586105.7 E
LAT.=32.959829° N
LONG.=104.052605° W

60 0 60 120 Feet
Scale 1"=60'

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117

MURCHISON OIL & GAS, INC.

PEQUENO MIKE BLU FEDERAL #5H WELL
LOCATED 1980 FEET FROM THE NORTH LINE
AND 330 FEET FROM THE WEST LINE OF SECTION 2,
TOWNSHIP 16 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

Survey Date 4/6/10	Sheet 1 of 1 Sheets		
W.O. Number 10 13 0806	Dr By: DSS	Rev 1.N/A	
Date 6/3/10	REL 10110366	10130806	Scale 1"=100'

EXHIBIT F

BOP STACK

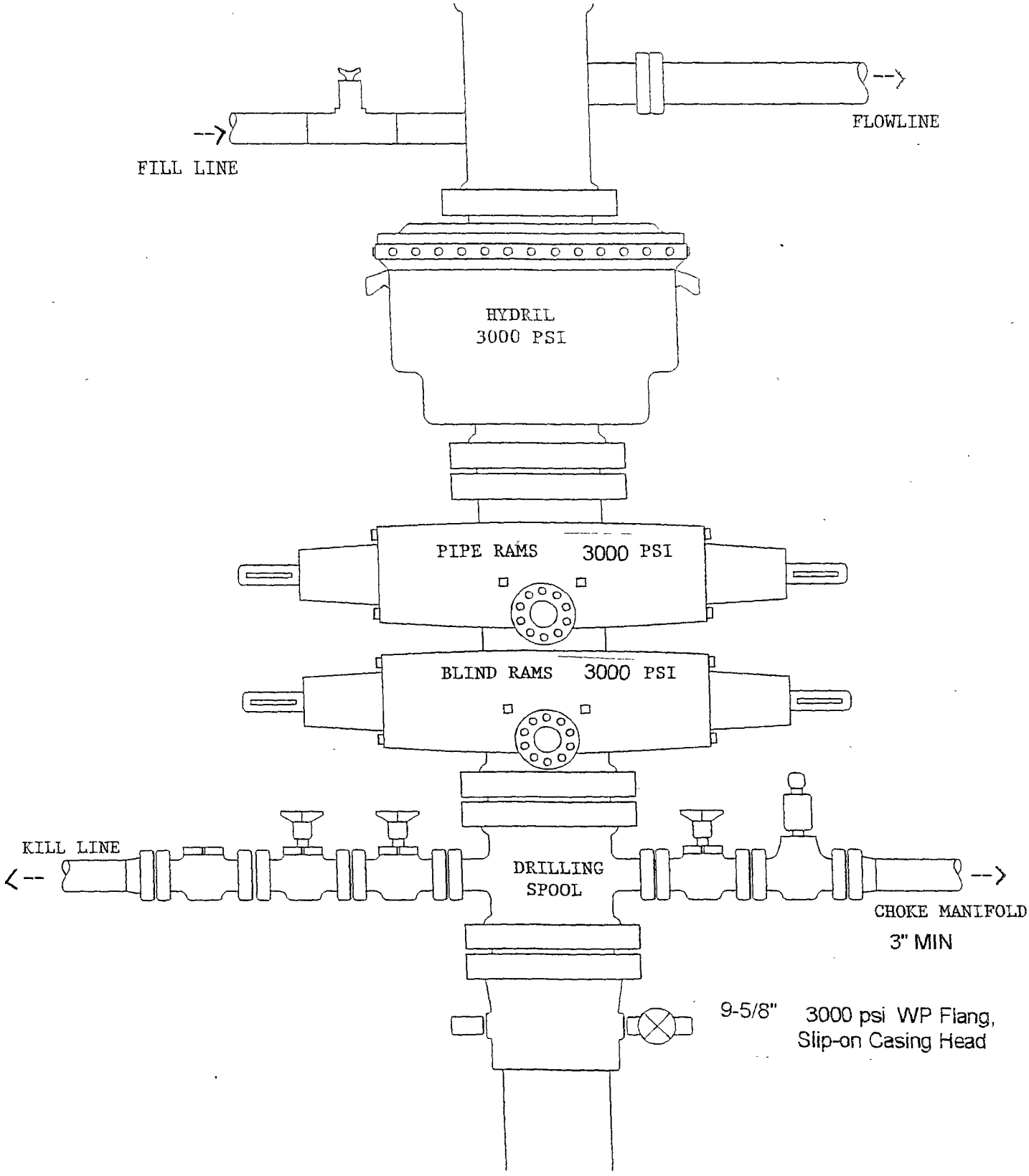
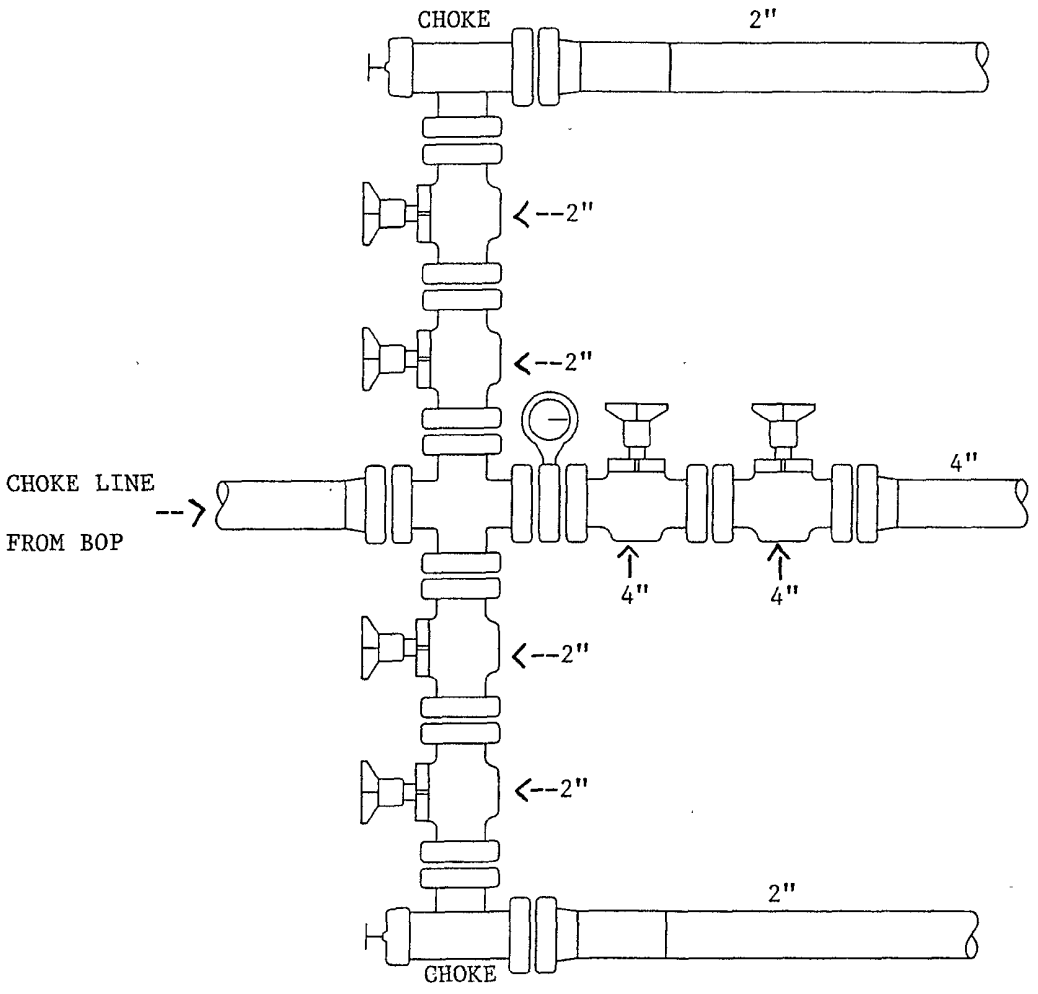


EXHIBIT G

CHOKE MANIFOLD



MURCHISON OIL & GAS, INC.

HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN FOR DRILLING/COMPLETING/WORKOVER/FACILITY WITH THE EXCEPTION OF H2S IN EXCESS OF 100 PPM

MURCHISON OIL & GAS, INC.
NEW DRILL WELL
PEQUENO MIKE BLU FED COM #5H
SL: 1980' FNL & 300' FWL, Unit D
BHL: 1980' FNL & 330' FWL, Unit D
SEC 2/3, T16S, R29E
EDDY COUNTY, NEW MEXICO

This well/facility is not expected to have H2S, but the following is submitted as requested.

TABLE OF CONTENTS

I. GENERAL H2S EMERGENCY ACTIONS

In the event of any evidence of H2S emergency, the following plan will be initated:

1. All personnel will immediately evacute to an upwind, and if possible, uphill "Safe Area."
2. If for any reason a person must enter the hazardous area, they must wear a SCBA (self-contained breathing apparatus).
3. Always use the "Buddy System."
4. Isolate the well/problem if possible.
5. Account for all personnel.
6. Display the proper colors warning all unsuspecting personnel of the danger at hand.
7. Contact the company representative as soon as possible, if not at the location (use the enclosed call list as instructed.)

At this point, the company representative will evaluate the situation and coordinate the necessary duties to bring the situation under control, and if necessary, the notification of emergency response agencies and residents.

II. EMERGENCY PROCEDURES FOR AN UNCONTROLLABLE RELEASE OF H2S

1. All personnel will don the self-contained breathing apparatus (SCBA).
2. Remove all personnel to the "safe area," always use the buddy system.
3. Contact company representative if not on location.
4. Set in motion the steps to protect and/or remove the general public to any upwind 'safe area." Maintain strict security and safety procedures while dealing with the source.
5. No entry to any unauthorized personnel.
6. Notify the appropriate agencies:

City Police - City Streets
State Police - State Roads
County Sheriff - County Roads

7. Call the NMOCD.

If at this time the supervising person determines the release of H2S cannot be contained to the site location and the general public is in harm's way, he will immediately notify public safety personnel.

III. EMERGENCY CALL LIST

	OFFICE	CELL	HOME
ARNOLD NALL	972-931-0700	214-415-3010	972-596-8504
TOMMY FOLSOM	575-628-3932	575-706-0667	575-885-3474
RANDY FORD	432-682-0440	432-599-2222	432-684-4334

IV. EMERGENCY RESPONSE NUMBERS

Eddy County, New Mexico

State Police	888-442-6677
Eddy County Sheriff – Carlsbad	575-396-3611
Eddy County Emergency Management – Carlsbad	575-887-7551
State Emergency Response Center (SERC)	575-476-9620
Artesia Police/Fire/Ambulance Department	575-746-5000
New Mexico Oil Conservation Division – Artesia	575-748-1283
Callaway Safety Equipment, Inc.	575-392-2973

V. PROTECTION OF THE GENERAL (ROE) RADIUS OF EXPOSURE

In the event greater than 100 ppm H2S is present, the ROE calculations will be done to determine if the following conditions exist and whether the Plan must be activated:

- 100 ppm at any public area (any place not associated with this site).
- 500 ppm at any public road (any road the general public may travel).
- 100 ppm radius of 3000' will be assumed if there is insufficient data to do the calculations, and there is a reasonable expectation that H2S could be present in concentrations greater that 100 ppm in the gas mixture.

Calculation for the 100 ppm ROE: **(H2S concentrations in decimal form)**

ROE = [(1.589)(H2S concentration)(Q)] (^0.6258)

10,000 ppm + = 0.1
1,000 ppm + = .001

Calculation for the 500 ppm ROE: **(H2S concentrations in decimal form)**

ROE = [(0.4546)(H2S concentration)(Q)] (^0.6258)

100 ppm + = .0001
10 ppm + = .00001

EXAMPLE: If a well/facility has been determined to have 650 ppm H2S in the gas mixture and the well/facility is producing at a gas rate of 200 MCFD, then:

ROE for 100 ppm ROE=[(1.589)(.00065)(200,000)] (^0.6258) ROE=28.1'
ROE for 500 ppm ROE=[(.4546)(.00065)(200,000)] (^0.6258) ROE=12.8'

These calculations will be forwarded to the appropriate NMOCD district office when applicable.

VI. PUBLIC EVACUATION PLAN

When the supervisor has determined that the general public will be involved, the following plan will be implemented:

1. Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
2. A trained person in the H2S safety shall monitor with detection equipment the H2S concentration, wind and area of exposure. This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. All monitoring equipment shall be UL approved for use in Class I Groups A, B, C, & D, Divison I hazardous locations. All monitors will have a minimum capability of measuring H2S, oxygen, and flammable values.
3. Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
4. The company representative shall stay in communication with all agencies throughout the duration of the situation and inform such agencies when the situation has been contained and the affected area is safe to enter.

VII. PROCEDURE FOR IGNITING AN UNCONTROLLABLE CONDITION

The decision to ignite a well should be a last resort with one, if not both, of the following conditions:

1. Human life and/or property are endangered.
2. There is no hope of bringing the situation under control with the prevailing conditions at the site.

Instructions for Igniting the Well:

1. Two people are required. They must be equipped with positive pressure, self contained breathing apparatus and "D"-ring style, full body, OSHA approved safety harness. Non-flammable rope will be attached.
2. One of the people will be a qualified safety person who will test the atmosphere for H2S, oxygen and LFL. The other person will be the designated company representative.
3. Ignite upwind from a distance no closer than necessary. Make sure that the ignition site has the maximum escape avenue available. A 25mm flare gun with a range of approximately +/- 500 feet shall be used to ignite the gas.
4. Before igniting, check for the presence of combustible gases.
5. After igniting, continue emergency actions and procedures as before.

VIII. REQUIRED EMERGENCY EQUIPMENT

1. Breathing Apparatus

- Rescue Packs (SCBA) – 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- Work/Escape Packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation.

2. Signage and Flagging

- One Color Code Condition Sign will be placed at the entrance to the site, reflecting the possible conditions at the site.
- A Colored Condition flag will be on display reflecting the condition at the site at that time.

3. **Briefing Area**
    - Two perpendicular areas will be designated by signs and readily accessible.

4. **Windsocks**
    - Two windsocks will be placed in strategic locations, visible from all angles.

5. **H2S Detectors and Alarms**
    - The stationary detector with three (3) sensors will be placed in the upper doghouse if equipped, set to visually alarm @ 10 ppm and audible alarm @ 15 ppm. Calibrate a minimum of every 30 days or as needed. The three sensors will be placed in the flowing places: (Gas sample tubes will be stored in the safety trailer):
        - o Rig floor
        - o Bell Nipple
        - o End of flow line or where well bore fluid is being discharged.

6. **Auxilary Rescue Equipment**
    - Stretcher
    - Two OSHA full body harnesses
    - 100' of ⅝" OSHA approved rope
    - One 20 lb. Class ABC fire extinguisher
    - Communication via cell phones on location and vehicles on location.

IX. USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA)

1. SCBA should be worn when any of the following are performed:
    - Working near the top or on top of a tank.
    - Disconnecting any line where H2S can reasonably be expected.
    - Sampling air in the area to determine if toxic concentrations of H2S exist.
    - Working in areas where over 10 ppm of H2S has been detected.
    - At any time there is a doubt of the level of H2S in the area.
2. All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.
3. Facial hair and standard eyeglasses are not allowed with SCBA.
4. Contact lenses are never allowed with SCBA.
5. When breaking out any line where H2S can reasonably be expected.
6. After each use, the SCBA unit shall be cleaned, disinfected, serviced and inspected.
7. All SCBA shall be inspected monthly.

X. RESCUE & FIRST AID FOR VICTIMS OF H2S POISONING

- Do not panic.
- Remain calm and think.
- Put on breathing apparatus.
- Remove the victim to the safe breathing area as quickly as possible, upwind and uphill from source or crosswind to achieve upwind.
- Notify emergency response personnel.
- Provide artificial respiration and/or CPR as necessary.
- Remove all contaminated clothing to avoid further exposure.
- A minimum of two (2) personnel on location shall be trained in CPR and First Aid.

XI. TOXIC EFFECTS OF H2S POISONING

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity – 1.192) and is colorless and transparent. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic than Carbon Monoxide. Occupational exposure limits for Hydrogen Sulfide and other gasses are compared below in Table 1. Toxicity table for H2S and physical effects are shown in Table II.

Table 1

Permissible Exposure Limits of Various Gasses

Common Name	Symbol	Sp. Gravity	TLV	STEL	IDLH
Hydrogen Cyanide	HCN	.94	4.7 ppm	C	
Hydrogen Sulfide	H2S	1.192	10 ppm	15 ppm	100 ppm
Sulfide Dioxide	SO2	2.21	2 ppm	5 ppm	
Chlorine	CL	2.45	.5 ppm	1 ppm	
Carbon Monoxide	CO	.97	25 ppm	200 ppm	
Carbon Diodide	CO2	1.52	5000 ppm	30,000 ppm	
Methane	CH4	.55	4.7% LEL	14% UEL	

Definitions

A. **TLV** – Threshold Limit Value is the concentration employees may be exposed to based on a TWA (time weighted average) for eight (8) hours in one day for 40 hours in one (1) week. This is set by ACGIH (American Conference of Government Hygienists) and regulated by OSHA.

B. **STEL** – Short Term Exposure Limit is the 15 minute average concentration an employee may be exposed to providing that the highest exposure never exceeds the OEL (Occupation Exposure Limit). The OEL for H2S is 19 PPM.

C. **IDHL** – Immediately Dangerous to Life and Health is the concentration that has been determined by the ACGIH to cause serious health problems or death if exposed to this level. The IDLH for H2S is 100 PPM.

D. **TWA** – Time Weighted Average is the average concentration of any chemical or gas for an eight (8) hour period. This is the concentration that any employee may be exposed to based on a TWA.

Table II

Toxicity Table of H2S

Percent %	PPM	Physical Effects
.0001	1	Can smell less that 1 ppm.
.001	10	TLV for 8 hours of exposure.
.0015	15	STEL for 15 minutes of exposure.
.01	100	Immediately Dangerous to Life and Health. Kills sense of smell in 3-5 mins.
.02	200	Kills sense of smell quickly, may burn eyes and throat.
.05	500	Dizziness, cessation of breathing begins in a few minutes.
.07	700	Unconscious quickly, death will result if not rescued promptly.
.10	1000	Death will result unless rescued promptly. Artificial resuscitation may be necessary.

XII. PHYSICAL PROPERTIES OF H2S

The properties of all gases are usually described in the context of seven (7) major categories:

COLOR
ODOR
VAPOR DENSITY
EXPLOSIVE LIMITS
FLAMMABILITY
SOLUBILITY (IN WATER)
BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a fairly complete picture of the properties of the gas.

COLOR – TRANSPARENT
Hydrogen Sulfide is colorless, so it is invisible. This fact simply means that you cannot rely on your eyes to detect its presence, a fact that makes the gas extremely dangerous to be around.

ODOR – ROTTEN EGGS
Hydrogen Sulfide has a distinctive offensive smell, similar to "rotten eggs." For this reason, it earned its common name "sour gas." However, H2S, even in low concentrations is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192
Hydrogen Sulfide is heavier than air so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H2S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

EXPLOSIVE LIMITS – 4.3% to 46%
Mixed with the right proportion of air or oxygen, H2S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY
Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO2), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 to 1 RATIO WITH WATER
Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion, and sludge. The solubility of H2S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H2S may release the gas into the air.

BOILING POINT – (-76^0 degrees Fahrenheit)
Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found in gas.

REVISED 6/10/10

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

Murchison Oil & Gas, Inc.
Pequeno Mike BLU Fed Com #5H
SL: 1980' FNL & 300' FWL, Unit D
BHL: 1980' FNL & 330' FWL, Unit D
Sec 2/3, T16S, R29E
Eddy County, New Mexico

LOCATED

Approximately 22 miles NE of Artesia, New Mexico.

OIL & GAS LEASE

SHL: LS# V-4949
BHL: LS# NM NM 105211

BOND COVERAGE

NM 2163

POOL

Wildcat; Wolfcamp

OIL & GAS RECORD LESSEE

Lessee: Murchison Oil & Gas, Inc., 1100 Mira Vista Blvd., Plano, TX 75093
Operating Rights: Murchison Oil & Gas, Inc., 1100 Mira Vista Blvd., Plano, TX 75093

SURFACE OWNER

State of New Mexico

MINERAL OWNER

Bureau of Land Management

GRAZING TENANT

Bogle Ltd Co. LLC, P.O. Box 460, Dexter, NM 88230 (575) 433-3500

EXHIBITS

A (form C-102)	Well Location & Acreage Dedication Plat
B	Topographic & Location Verification Map
C	Area Road Map
C-1 & C-2	Vicinity Oil & Gas Map
D-1 to D-2	Proposed Lease Road
E	Drilling Rig Layout
F	BOPE Schematic
G	Choke Manifold Schematic

This well will be drilled to a BHL of approximately 7220' TVD, and approximately 12131' MD.

EXISTING ROADS

Exhibit A (Form C-102) 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 intersection of U.S. Hwy. 82 and Co. Rd. #214 (Barnaval Draw Rd.), go north on Co. Rd. #214 approximately 6.7 miles. Turn left and go northwest approximately 0.8 miles. Turn Right and go northeast approximately 4.2 miles to a 4-way intersection. Turn right and go southeast approximately 0.9 miles to a proposed road survey. Follow road survey northwest 2,166 feet. Location is approximately 212 feet northwest (Exhibit D-1).

ACCESS ROADS

Length and Width

Proposed access road is approximately 2,166' of new road (approx. 0.41 miles) long and ~~30'~~ 14' wide (Exhibit D-2). Murchison Oil & Gas, Inc. has agreements with the surface owners for right-of-way for the lease road to the proposed well.

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 EXISTING WELLS

The locations of existing wells in Section 2 are shown on Exhibit C-1 and C-2.

LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

Necessary production facilities for this well will be located on the well pad.

LOCATION AND TYPE OF WATER SUPPLY

It is planned to drill the proposed well with a cut-brine water system or with produced water. The water will be obtained from either a private water well owner or a commercial source and will either be piped to location from a nearby water well or will be hauled to location by truck over existing and proposed lease roads as shown on Exhibit D.

SOURCE OF CONSTRUCTION MATERIALS

Caliche required for the construction of the location pad and access road will be obtained from caliche on the location or from the nearest BLM-approved pit.

METHODS OF HANDLING WASTE DISPOSAL

All drilling fluid will be circulated over shaker(s) with cuttings discharged into roll off container.

Fluid and fines below shaker(s) will be circulated with transfer pump through centrifuge(s) or solids separator with cuttings and fines discharged into roll off container.

Fluid will be continuously re-circulated through equipment with polymer added to aid separation of cutting fines.

Roll-off containers will be lined and de-watered with fluids re-circulated into system.

Additional tank will be used to capture unused drilling fluid or cement returns from casing jobs.

This equipment will be maintained by solids control personnel and/or rig crews on location.

Cuttings will be hauled to one of the following, depending on which rig is available to drill well:

CRI (permit number R9166)
or
GMI (permit number 711-019-001)

ANCILLARY FACILITIES

None required.

WELL SITE LAYOUT

Exhibit E shows the relative location and dimensions of the well pad, mud pits, cuttings containers and trash pit, and the location of major rig components. Operator requests V-door be positioned to the East, and the steel pits located to the North.

The ground surface at the drilling location is essentially flat.

A Closed-Loop System will be used.

The pad area has been staked and flagged.

PLANS FOR RESTORATION OF THE SURFACE

After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleared 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.

If the proposed well is non productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the United States Geological Survey will be complied with and will be accomplished as expeditiously as possible.

OTHER INFORMATION

Topography

The land surface at the well site is small, rolling hills.

Soil

Loamy soil shallow to caliche and raw Gypsum.

Flora and Fauna

The vegetation consists of creosote, mesquite, yucca, prickly pear, Mormon tea, cane cholla, pencil cholla, horse crippler and various grasses. Faunal species include pronghorn antelope, mule deer, coyote, badger, rabbits, and various snakes, small mammals, birds and reptiles.

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 Survey has been sent to the BLM Office.

Land Use

Grazing

OPERATOR'S REPRESENTATIVES

Arnold Nall
1100 Mira Vista Blvd.
Plano, TX 75093-4698
Office Phone: (972) 931-0700
Cell Phone: (214) 415-3010

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

Murchison Oil & Gas, Inc.
Pequeno Mike BLU Fed Com #5H
SL: 1980' FNL & 300' FWL, Unit D
BHL: 1980' FNL & 330' FWL, Unit D
Sec 2/3, T16S, R29E
Eddy County, New Mexico

CERTIFICATION

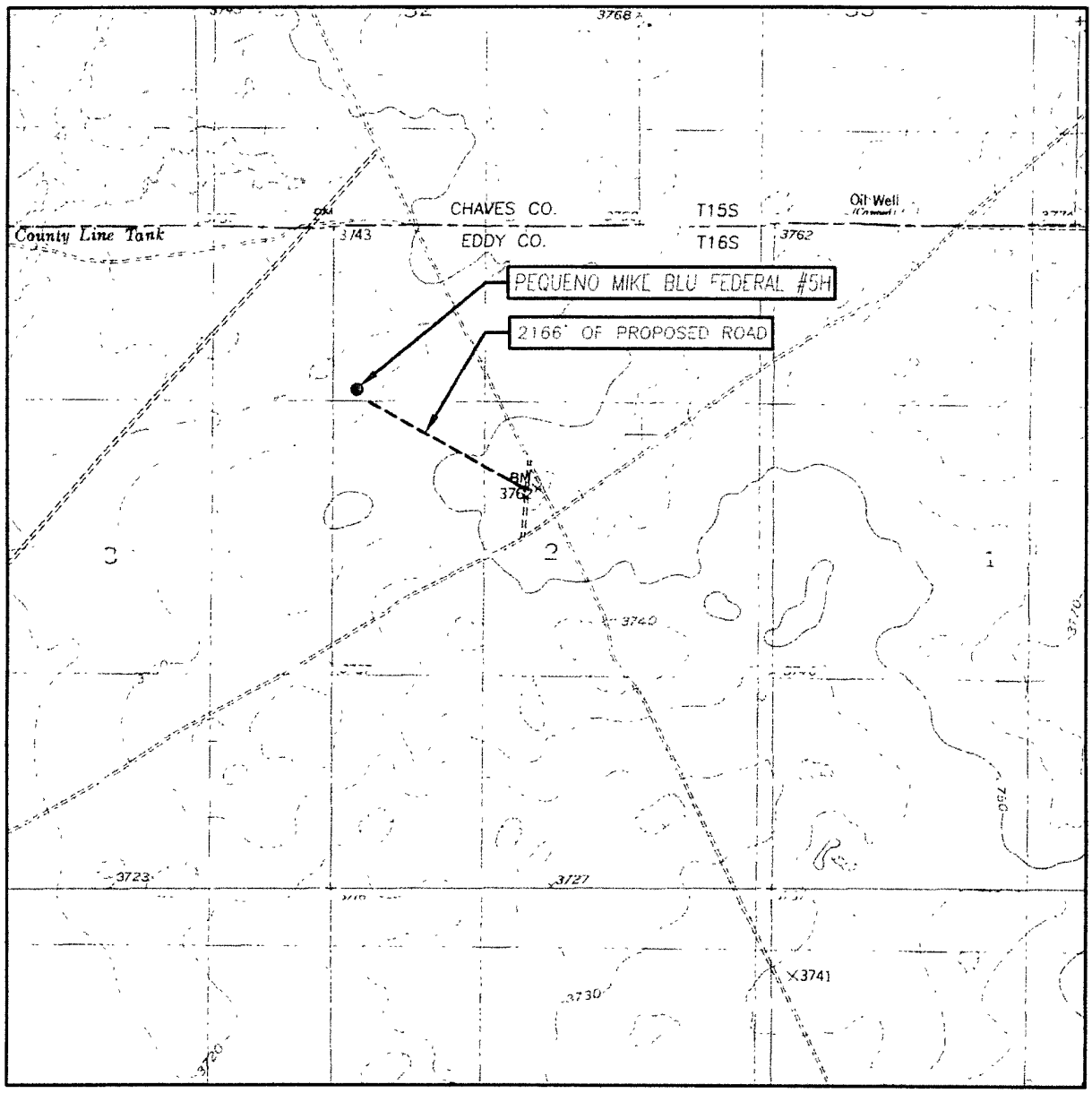
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Murchison Oil & Gas, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

6-4-10
Date

Arnold Nall
VP, Operations
Murchison Oil & Gas, Inc.

EXHIBIT B

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL
BASIN WELL, N.M. – 10'

SEC. 2 TWP. 16-S RGE. 29-E

SURVEY N.M.P.M

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1980' FNL & 300' FWL

ELEVATION 3740'

OPERATOR MURCHISON OIL & GAS, INC

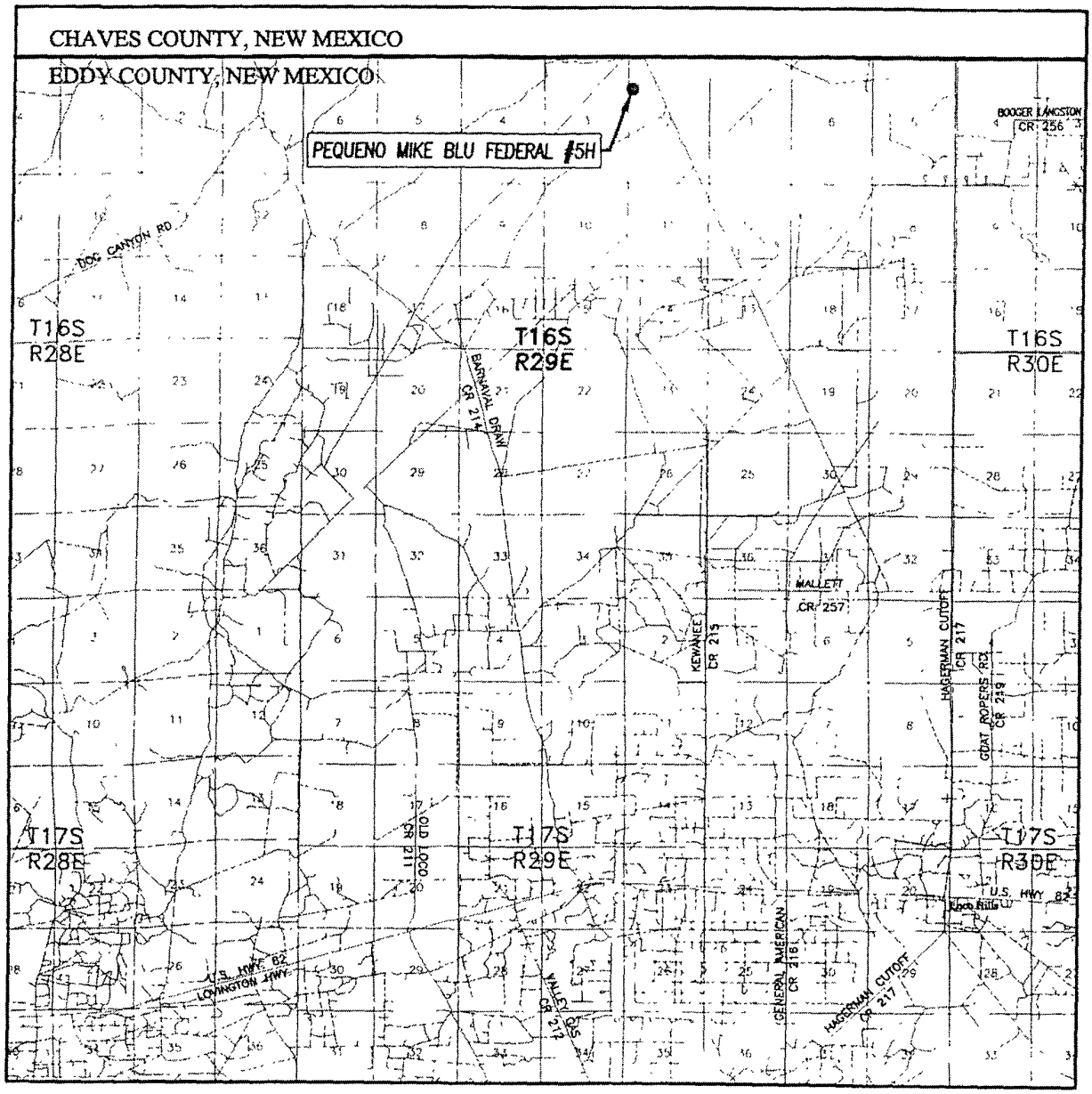
LEASE PEQUENO MIKE BLU FEDERAL

U S.G.S. TOPOGRAPHIC MAP
BASIN WELL, N.M

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N DAL PASO
HOBBS, N M 88240
(575) 393-3117

EXHIBIT C

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 2 TWP. 16- S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1980' FNL & 300' FWL

ELEVATION 3740'

OPERATOR MURCHISON OIL & GAS, INC.

LEASE PEQUENO MIKE BLU FEDERAL

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
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EXHIBIT C-1

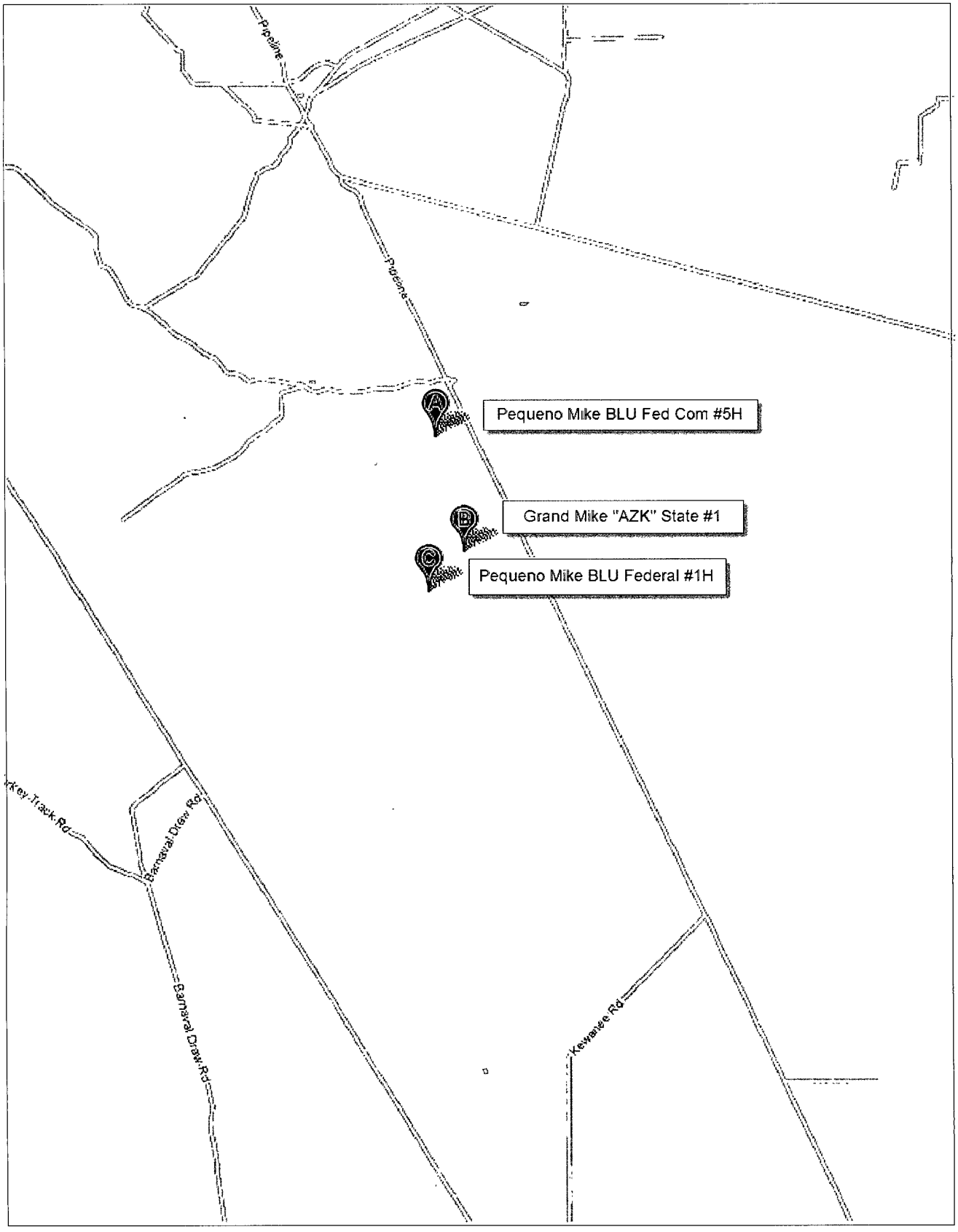

Pipeline
Pipeline
Pequeno Mike BLU Fed Com #5H
Grand Mike "AZK" State #1
Pequeno Mike BLU Federal #1H
Key Track Rd
Barranca Draw Rd
Barranca Draw Rd
Kewanee Rd

EXHIBIT C-2

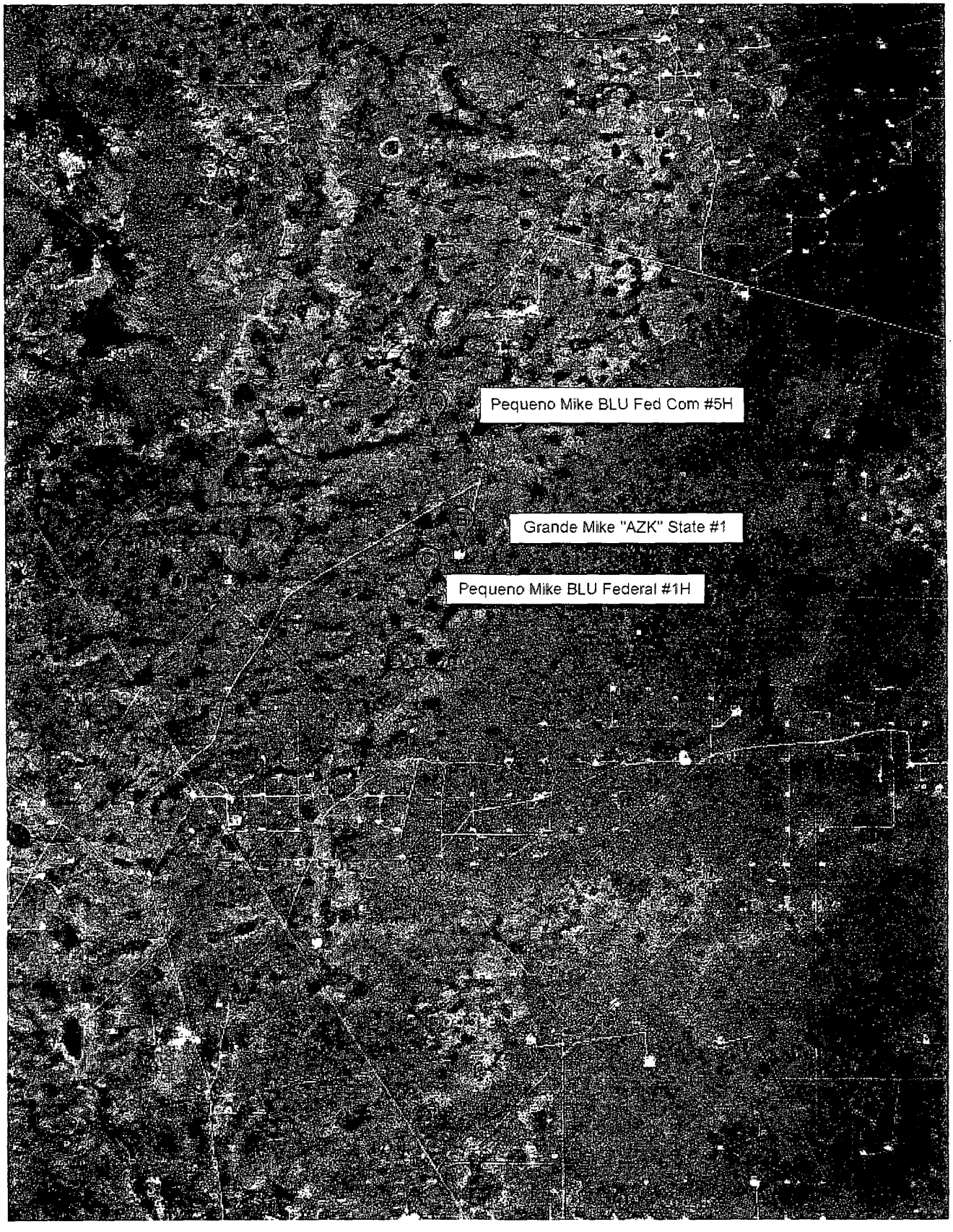
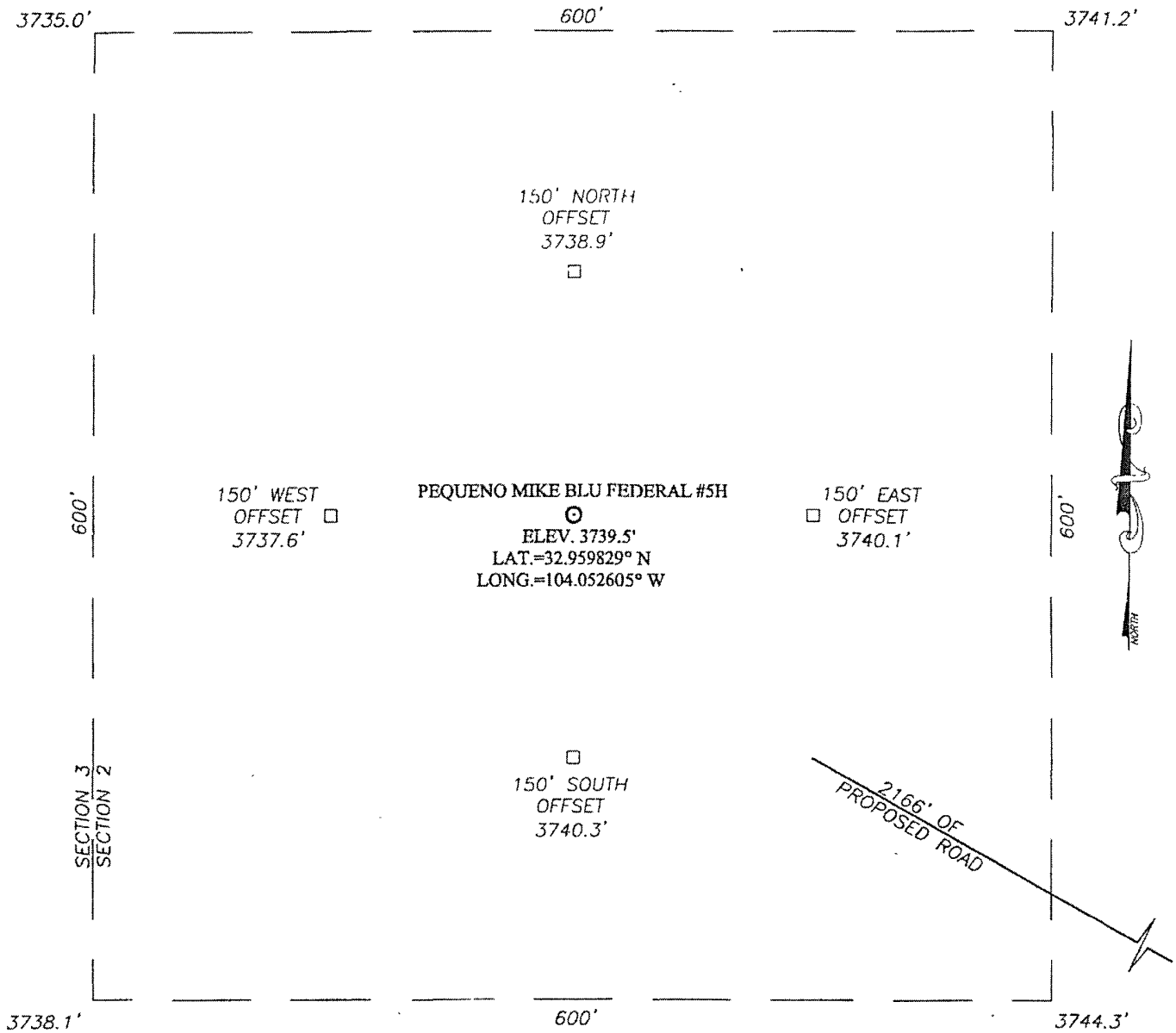

Pequeno Mike BLU Fed Com #5H
Grande Mike "AZK" State #1
Pequeno Mike BLU Federal #1H

EXHIBIT D-1

SECTION 2, TOWNSHIP 16 SOUTH, RANGE 29 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HIGHWAY 82 AND CO. RD. #214 (BARNAVAL DRAW RD.), GO NORTH ON CO. RD. #214 APPROX. 6.7 MILES. TURN LEFT AND GO NORTHWEST APPROX. 0.8 MILES. TURN RIGHT AND GO NORTHEAST APPROX. 4.2 MILES TO A 4-W INTERSECTION. TURN RIGHT AND GO SOUTHEAST APPROX. 0.9 MILES TO A PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY NORTHWEST 2166 FEET. THIS LOCATION STAKE IS APPROX. 212 FEET NORTHWEST.

100 0 100 300 Feet

Scale: 1"=100'

PROVIDING SURVEYING SERVICES SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
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MURCHISON OIL & GAS, INC.

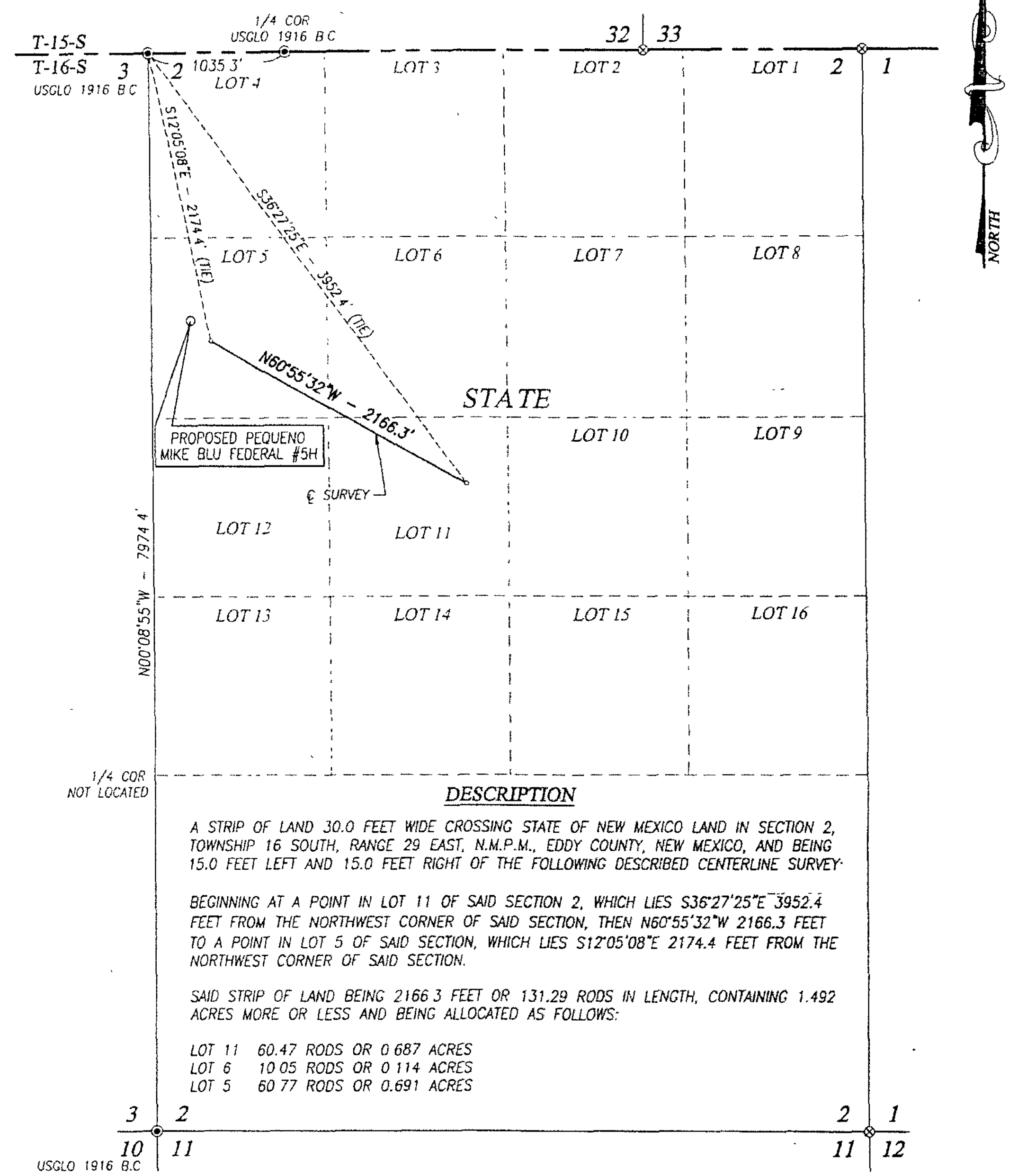
PEQUENO MIKE BLU FEDERAL #5H WELL
LOCATED 1980 FEET FROM THE NORTH LINE
AND 300 FEET FROM THE WEST LINE OF SECTION 2,
TOWNSHIP 16 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 4/6/10	Sheet 1 of 1 Sheets		
W.O. Number: 10.13.0806	Dr By: DSS	Rev 1: N/A	
Date: 6/1/10	Rel. W.O.: 10110366	10130806	Scale: 1"=100'

EXHIBIT D-2

SECTION 2, TOWNSHIP 16 SOUTH, RANGE 29 EAST, N.M.P.M.

EDDY COUNTY NEW MEXICO



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 2, TOWNSHIP 16 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT IN LOT 11 OF SAID SECTION 2, WHICH LIES S36°27'25"E 3952.4 FEET FROM THE NORTHWEST CORNER OF SAID SECTION, THEN N60°55'32"W 2166.3 FEET TO A POINT IN LOT 5 OF SAID SECTION, WHICH LIES S12°05'08"E 2174.4 FEET FROM THE NORTHWEST CORNER OF SAID SECTION.

SAID STRIP OF LAND BEING 2166.3 FEET OR 131.29 RODS IN LENGTH, CONTAINING 1.492 ACRES MORE OR LESS AND BEING ALLOCATED AS FOLLOWS:

LOT 11 60.47 RODS OR 0.687 ACRES
LOT 6 10.05 RODS OR 0.114 ACRES
LOT 5 60.77 RODS OR 0.691 ACRES

NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES

I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS ACTUAL ON THE GROUND SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO

Ronald J. Eidson 06/07/2010

GARY G. EIDSON, N.M.P.S. No 12641
RONALD J. EIDSON, N.M.P.S. No 3239

PROVIDING SURVEYING SERVICES SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N DAL PASO
HOBBS, N.M 88240
(575) 393-3117

LEGEND

◉ DENOTES FOUND CORNER AS NOTED
⊗ DENOTES CALCULATED CORNER

1000 0 1000 2000 FEET
Scale: 1"=1000'

MURCHISON OIL & GAS, INC.

CENTERLINE SURVEY OF A PROPOSED ROAD CROSSING SECTION 2, TOWNSHIP 16 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 4/6/10	Sheet 1 of 1 Sheets
W.O. Number: 10.13.0806	Drawn By: DSS
Date: 6/1/10 Rev: 6/4/10	CAD File: 10130806

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PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MURCHISON OIL & GAS, INC.
LEASE NO.:	NM105211
WELL NAME & NO.:	PEUENO MIKE BLU FED COM # 5H
SURFACE HOLE FOOTAGE:	1980' FNL & 300' FWL, Sec. 2, T16S, R29E.
BOTTOM HOLE FOOTAGE	1980' FNL & 330' FWL
LOCATION:	Section 3, T. 16 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Pad construction

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The berms should be approximately 1 foot high. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.
- Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

Tank Battery COAs Only:

- Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.
- Automatic shut off, check values, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1 through June 15 annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, power line, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching:
Upon the plugging and subsequent abandonment of the well, a well marker will be installed approximately 2 inches above ground level and contain the following information: operator name, lease name, and well number and location, including unit letter, section, township, and range. The previous listed information will be welded, stamped, or otherwise permanently engraved into the metal of the marker. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Communitization Agreement
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.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. V-DOOR DIRECTION: east

C. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

E. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call theCarlsbad Field Office at (575) 234-5972.

F. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

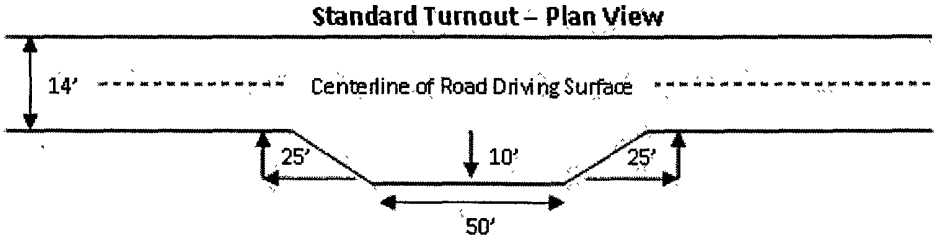
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

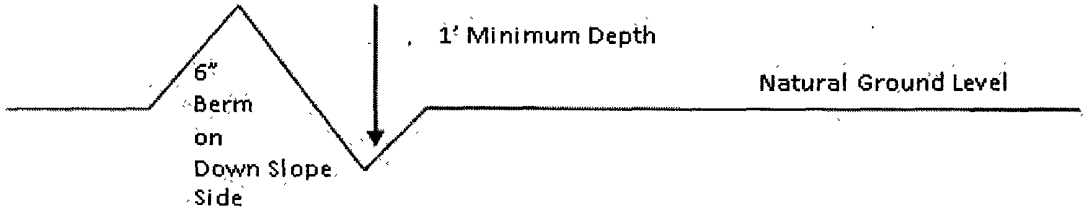


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

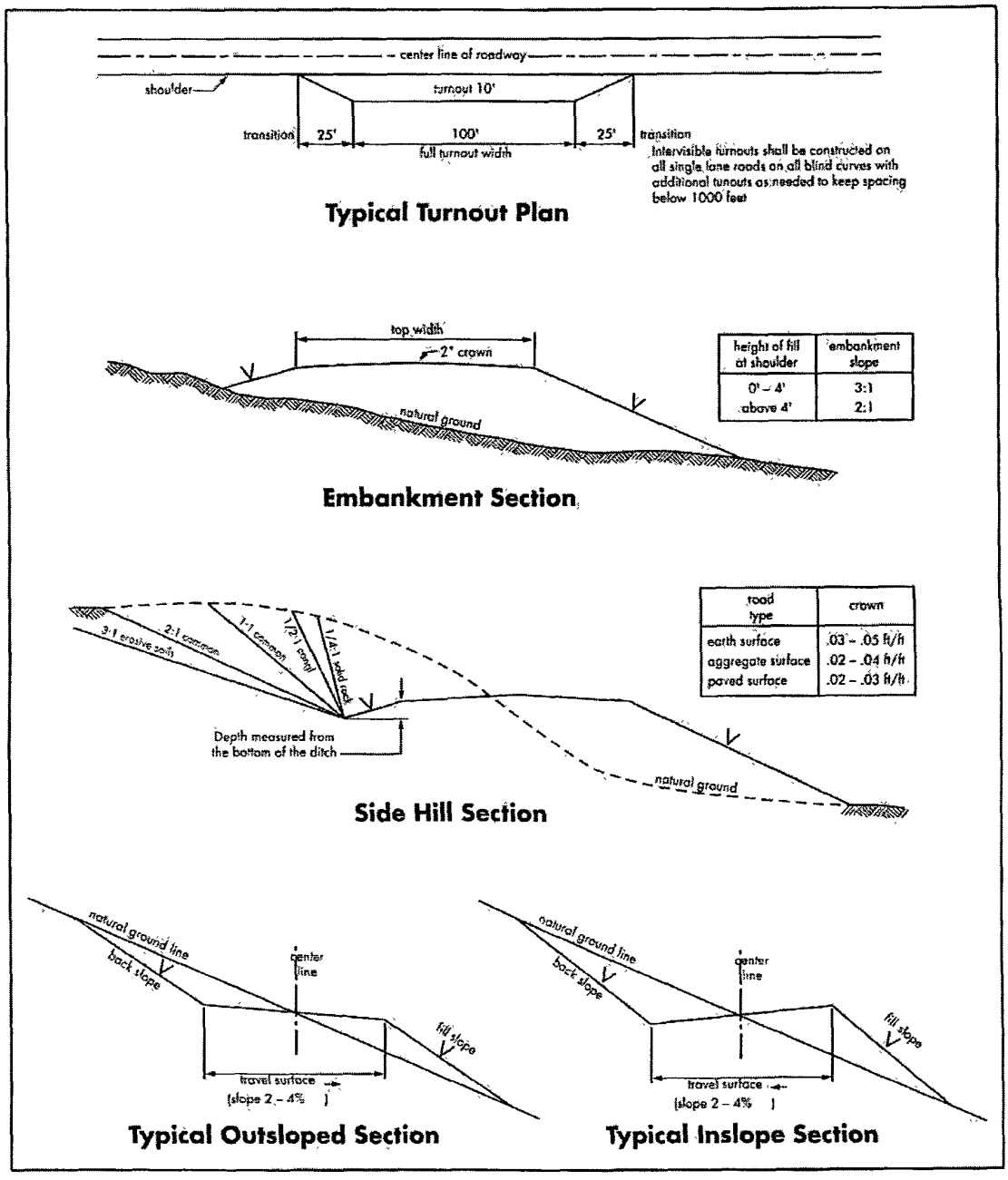
A gate shall be constructed and fastened securely to H-braces.

Fence Requirement
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible lost circulation in the Grayburg and San Andres formations.
Possible brine/water flows in the Salado and Artesia Groups.

1. The **13-3/8** inch surface casing shall be set **at approximately 400 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **If salt is encountered set the casing 25 feet above the top of the salt.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

    ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

4. Cement not required on the **4-1/2"** casing. **Packer system being used.**

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

    a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. Casing cut-off and BOP installation will not be initiated until the cement has had a minimum of 8 hours setup time for a water basin. The casing shall remain stationary and under pressure for at least eight hours after the operator places the cement. In the potash area, the minimum time is 12 hours and the casing shall remain stationary and under pressure during this time period. In addition, for the potash area, no tests are to be initiated prior to 24 hours (R-111-P regulations). Casing shall be under pressure if the operator uses some acceptable means of holding pressure or if the operator employs one or more float valves to hold the cement in place. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.

    b. The tests shall be done by an independent service company utilizing a test plug.

    c. The results of the test shall be reported to the appropriate BLM office.

    d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

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

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

CRW 072610

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES

C. ELECTRIC LINES

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared; these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
**Four-winged Saltbush	5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed