



# OPERATOR'S COPY

AUG 14 2007

OCD-ARTESIA APPROVED  
OMB No 1004-0137  
Expires March 31, 2007

## UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

### APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No. NM - 117117	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2 Name of Operator COG Operating LLC 229137		7 If Unit or CA Agreement, Name and No.	
3a. Address 550 W. Texas Ave., Suite 1300 Midland, TX 79701		8 Lease Name and Well No. 36529 MOOSE 23 FEDERAL #1Y	
3b. Phone No. (include area code) 432-685-4340		9 API Well No. 30-015-35755	
4 Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1665 FSL & 1026 FWL, Unit L At proposed prod. zone 1650 FSL & 330 FEL, Unit I		10 Field and Pool, or Exploratory Crow Flats Wolfcamp	
11. Sec., T. R. M. or Blk and Survey or Area Sec 23 T16S R28E			
12 Distance in miles and direction from nearest town or post office* Apprx 12 miles NW of Loco Hills, NM		12 County or Parish EDDY	13. State NM
15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line, if any) 330	16 No. of acres in lease 640	17 Spacing Unit dedicated to this well 40	
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A	19 Proposed Depth 6775 TVD, 10,710 MD	20. BLM/BIA Bond No. on file NMB000215	
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3756' GR	22. Approximate date work will start* 07/30/2007	23 Estimated duration 45 days	

#### 24. Attachments

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

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

25 Signature <i>Phyllis Edwards</i>	Name (Printed/Typed) Phyllis Edwards	Date 7/27/07
Title Regulatory Analyst		
Approved by (Signature) <i>J. Stovall</i>	Name (Printed/Typed) /s/ James Stovall	Date 8/1/07
Title FIELD MANAGER 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.

\*(Instructions on page 2)

**Roswell Controlled Water Basin**

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

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

# OPERATOR'S COPY

Form 3160-5  
(April 2004)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

AUG 14 2007

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  
COG Operating LLC

3a. Address  
550 W. Texas Ave., Suite 1300 Midland, TX 79701

3b. Phone No. (include area code)  
432-685-4340

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

1665' FSL & 976' FWL Section 23 T-16S, R-28E Unit L  
1650' FSL & 330' FEL Section 23 T-16S, R-28E Unit I

5. Lease Serial No.

NM-100845

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

MOOSE 23 FEDERAL #1Y

9. API Well No.

30-015-25332

10. Field and Pool, or Exploratory Area

CROW FLATS WOLFCAMP

11. County or Parish, State

EDDY, 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	Skid rig 50' East
	<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.)

On 7-27-07 @ 3 PM MST, Jim Amos w/ BLM granted COG Operating LLC verbal approval to skid the rig 50' East. Attached is amended drill plan & revised plat.

ENTERED  
IN AFMSS

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

John Coffman

Title

Drilling Supt.

Signature

Date

07/27/2007

O R A L

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVAL FOR TWO YEARS

Approved by

Title

FIELD MANAGER

Date

8/1/07

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 USC 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)

## Statement Accepting Responsibility for Operations

Operator Name: COG Operating LLC  
Street or Box #: 550 W. Texas, Suite 1300  
City, State: Midland, TX  
Zip Code: 79701

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

Lease No.: NM-117117

Well Name: Moose '23' Federal #1Y

Legal Description of Land:

Surface location: 1665' FSL & 1026' FWL, Unit L

BHL: 1650' FSL & 330' FEL, Unit I

Section 23 T-16S R-28E  
Eddy County, NM

Formation (s) (if applicable): Crows Flat; Wolfcamp

Bond Coverage: \$25,000 Statewide Bond – COG Operating LLC

BLM Bond File No.: NMB000215

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

John Coffman

Title: Drilling Supt.

Date: 7-31-07

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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

Form C-102  
Revised October 12, 2005

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-	Pool Code 97102	Pool Name CROW FLATS; WOLF CAMP
Property Code	Property Name MOOSE "23" FEDERAL	Well Number 1Y
OGRID No. 229137	Operator Name C.O.G. OPERATING L.L.C.	Elevation 3756'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	23	16 S	28 E		1665	SOUTH	1026	WEST	EDDY

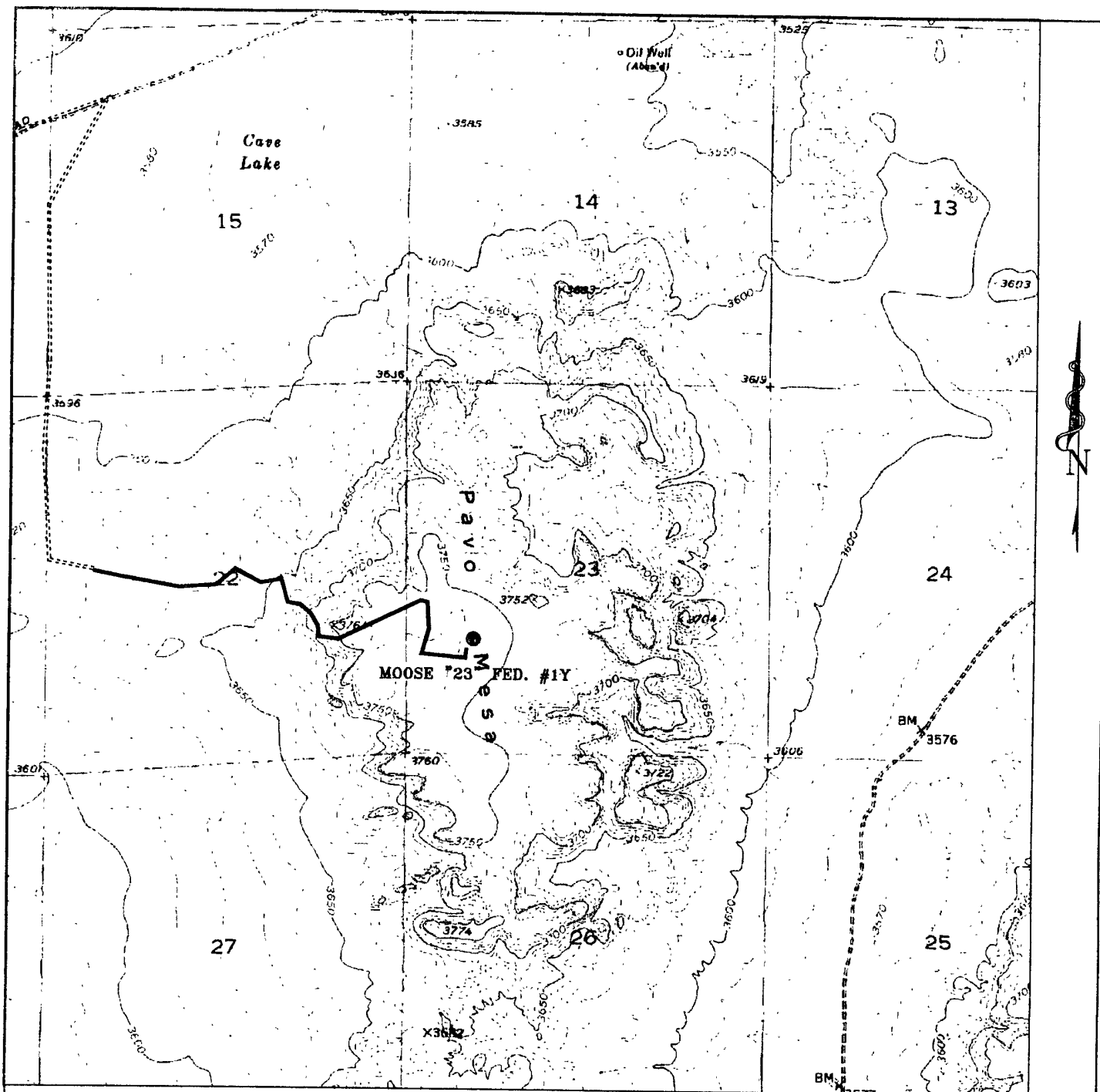
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	23	16 S	28 E		1650	SOUTH	330	EAST	EDDY

Dedicated Acres 160	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><b>SURFACE LOCATION</b> LAT-N32°54'22.0" LONG-W104°09'07.3" (NAD-83)</p>	<p><b>PROJECT AREA</b></p>	<p><b>OPERATOR CERTIFICATION</b> I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  Signature: <i>Phyllis A. Edwards</i> Date: 7/31/07  PHYLLIS A. EDWARDS Printed Name REGULATORY ANALYST</p>
<p><b>PRODUCING AREA</b></p>	<p><b>BOTTOM HOLE LOCATION</b> LAT-N32°54'21.7" LONG-W104°08'21.8" (NAD-83)</p>	<p><b>SURVEYOR CERTIFICATION</b> 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 11, 2007 Date Surveyed Signature: <i>W.O. Jones</i> Professional Surveyor  W.O. JONES 1941 Certificate No. Gary L. Jones 7977  BASIN SURVEYS</p>



**MOOSE "23" FEDERAL #1Y**  
 Located at 1665' FSL and 1026' FWL  
 Section 23, Township 16 South, Range 28 East,  
 N.M.P.M., Eddy County, New Mexico.

**basin  
surveys**

focused on excellence  
in the oilfield

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

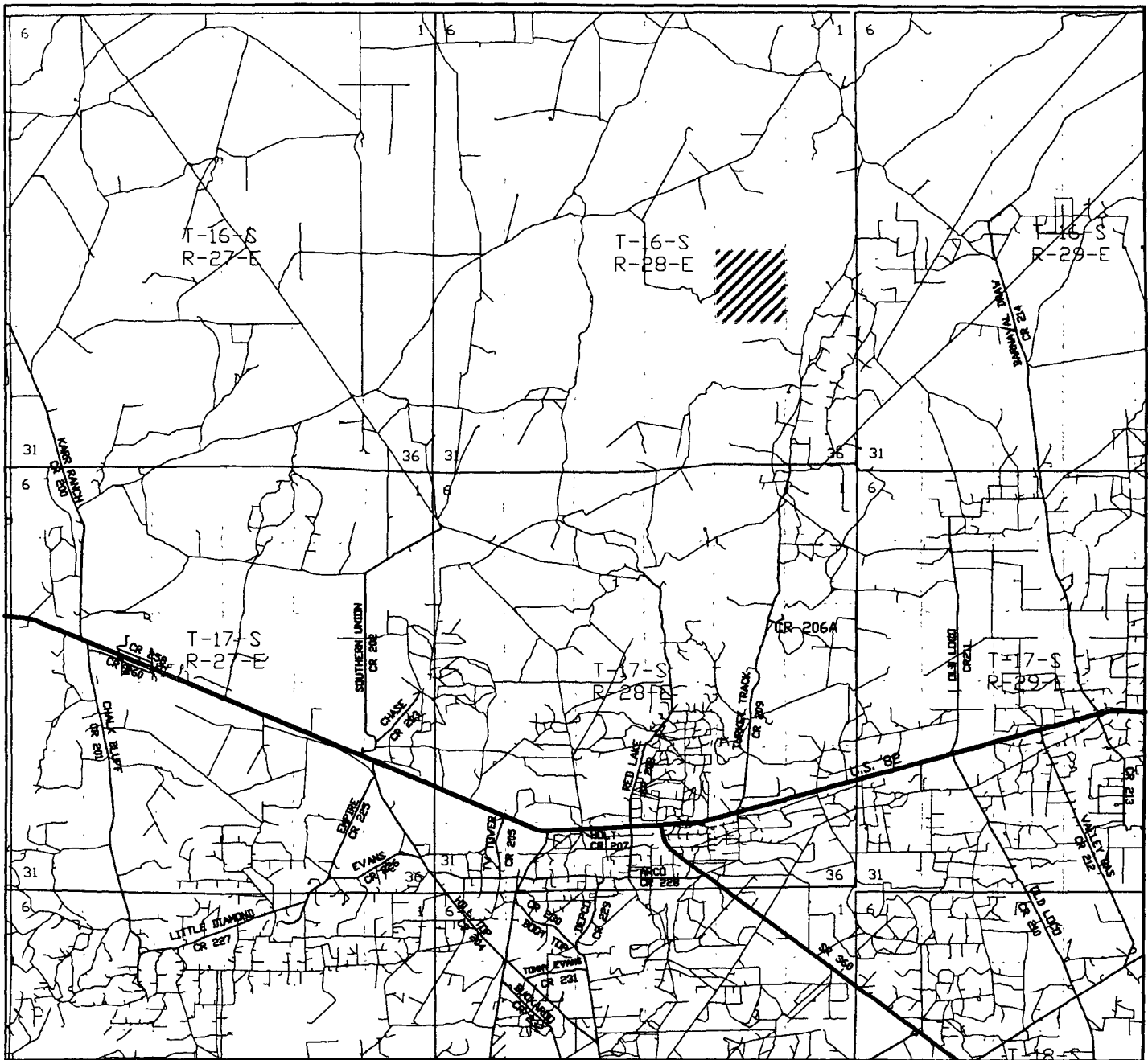
W.O. Number: JMS 17941T

Survey Date: 04-11-2007

Scale: 1" = 2000'

Date: 04-16-2007

**C.O.G.  
OPERATING  
L.L.C.**



MOOSE "23" FEDERAL #1Y  
 Located at 1665' FSL and 1026 FWL  
 Section 23, Township 16 South, Range 28 East,  
 N.M.P.M., Eddy County, New Mexico.

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 Hobbs, New Mexico 88241  
 (505) 393-7316 - Office  
 (505) 392-3074 - Fax  
 basinsurveys.com

W.O. Number: JMS 17941TR

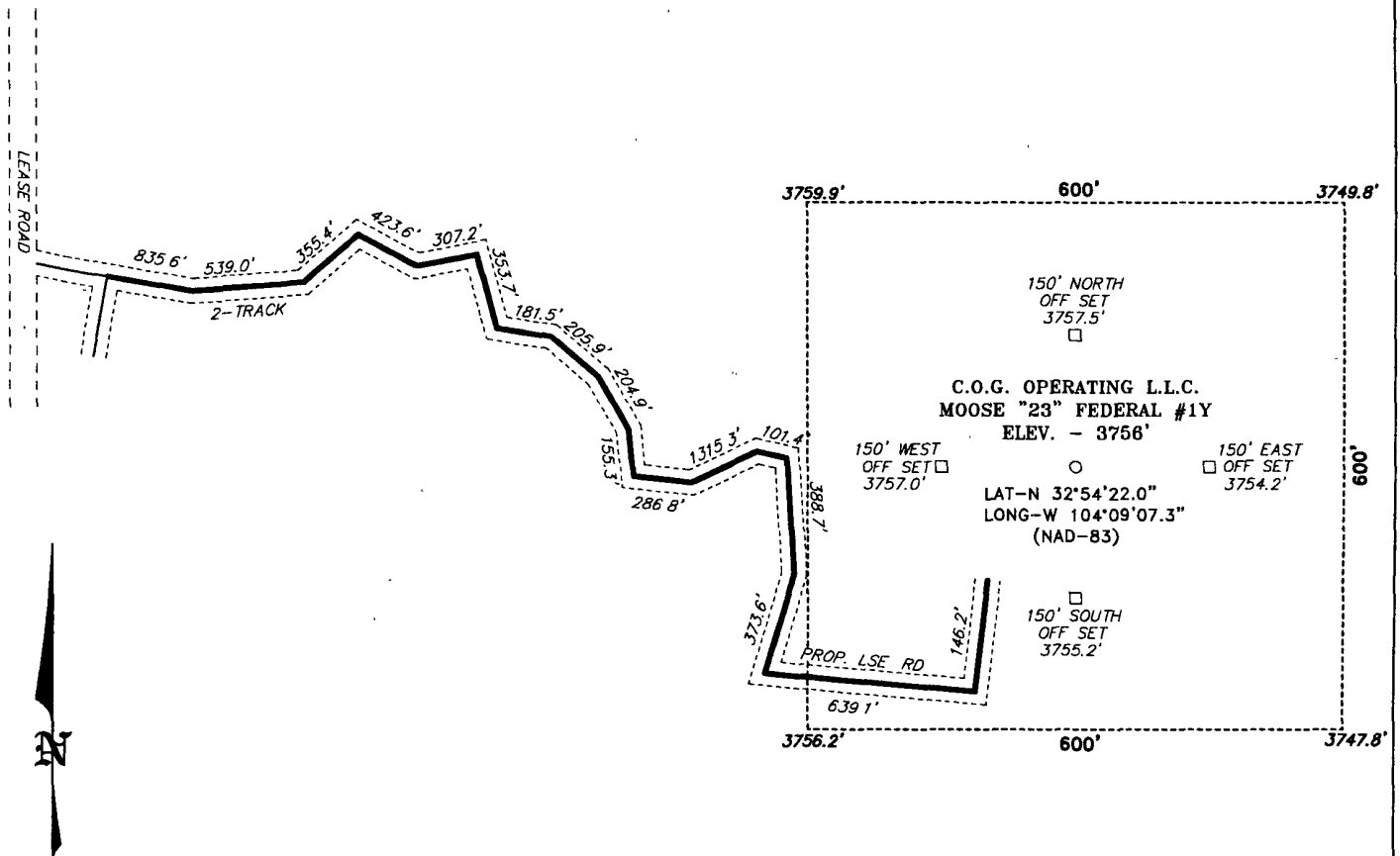
Survey Date: 04-11-2007

Scale: 1" = 2 MILES

Date: 04-16-2007

C.O.G.  
 OPERATING  
 L.L.C.

SECTION 23, TOWNSHIP 16 SOUTH, RANGE 28 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF U.S. HWY 82 AND CO RD.  
202 (SOUTHERN UNION), GO NORTH ON CO. RD. 202  
FOR 3.8 MILES TO LEASE ROAD, ON LEASE ROAD GO  
NORTH 1.3 MILES TO LEASE ROAD, THENCE EAST 1.5  
MILES TO LEASE ROAD THENCE NORTH 2.5 MILES TO  
LEASE ROAD, THENCE EAST 1.0 MILE, THENCE SOUTH  
1.0 MILE TO PROPOSED LEASE ROAD.

200 0 200 400 FEET

SCALE: 1" = 200'

**C.O.G. OPERATING L.L.C.**

REF: MOOSE "23" FEDERAL #1 / Well Pad Topo

THE MOOSE "23" FEDERAL #1 LOCATED 1665' FROM  
THE SOUTH LINE AND 1026' FROM THE WEST LINE OF  
SECTION 23, TOWNSHIP 16 SOUTH, RANGE 28 EAST,

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

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

W.O. Number: 17941

Drawn By: J. M. SMALL

Date: 04-16-2007

Disk: JMS 17941W

Survey Date: 04-11-2007

Sheet 1 of 1 Sheets

## Eddy County, NM

<u>Hole size</u>	<u>Interval</u>	<u>OD of Casing</u>	<u>Weight</u>	<u>Cond.</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0' - +/-500'	13-3/8"	48#	New	STC	H40
Collapse sf - 2.98, Burst sf – 2.33, Tension sf – 13.42						
12 1/4"	0' - 2300'	9-5/8"	40#	New	STC	J-55
Collapse sf - 2. 86, Burst sf – 1.42, Tension sf – 7.22						
8-3/4"	0' – 6000'	5-1/2"	17#	New	BTC-LTC	L-80
Collapse sf - 2. 08, Burst sf – 2.35, Tension sf – 2.92						
7-7/8"	6000' – 10710'	5-1/2"	17#	New	BTC	L-80
Collapse sf – 1.85, Burst sf – 2.28, Tension sf – 29.19						



**REVISED DRILL PLAN ATTACHMENT TO FORM 3160-3**  
**COG Operating LLC**  
**Moose "23" Federal # 1Y**  
**Page 2 of 3**

7. Cement Program:

13 3/8" Surf Csg Set at +/- 500', Circ to Surf with +/- 500 sx Class "C" w/ 2% CaCl<sub>2</sub>, 1.35 yd.

9 5/8" Intrmd Csg Set at +/- 2300'. Circ to Surf with +/- 600 sx 35/65 Poz "C", 2.05 yd. & 200 sx Class "C" w/ 2% CaCl<sub>2</sub>, 1.35 yd.

5 1/2" Prod Csg Set at +/- 10710' MD. Cement casing with +/- 200 sx. 50/50/2 "C", 1.37 yd & +/- 600 sx Class "H", 1.18 yd. Est. TOC @ 5000'.

8. Pressure Control Equipment:

After setting 13 3/8" casing and installing 3000 psi casing head, NU 13 5/8" 3000 psi annular BOP. Test annular BOP, casing and manifold with clear fluid to 1000 psi w/ rig pump.

After setting 9 5/8" casing and installing 3000 psi casing spool, NU 3000 psi double ram BOP and 3000 psi annular BOP. Test double ram BOP and manifold to 3000# with clear fluid and annular to 1500 psi using an independent tester and used continuously until TD is reached. Blind rams will be operationally checked on each trip out of hole. Pipe rams will be operationally checked each 24 hour period. These checks will be noted on daily tour sheets.

9. Proposed Mud Circulating System:

Interval	Mud Wt.	Visc.	FL	Type Mud System
0' - 500'	8.5	28	NC	Fresh water native mud w/ paper for seepage and sweeps. Lime for PH.
500' - 2300'	9.1	30	NC	Cut brine mud, lime for PH and paper for seepage and sweeps.
2300' - 6000'	9.1	29	NC	Drill section with fresh water/cut brine circulating the reserve utilizing periodic sweeps of paper as needed for seepage control and solids removal.
6000' - 10710'	9.5	36	10	Drill horizontal section with XCD polymer / cut brine / starch.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the well site at all times.

10. Production Hole Drilling Summary:

Drill 8-3/4" hole to Wolfcamp. Time drill and kick off at +/- 6000', building curve over +/- 575' to horizontal at 6775' TVD. Drill 7 7/8" hole horizontal section in an easterly direction for +/-3800' lateral. Run production casing and cement.

**REVISED DRILL PLAN ATTACHMENT TO FORM 3160-3**  
**COG Operating LLC**  
**Moose "23" Federal # 1Y**  
**Page 3 of 3**

11. Auxiliary Well Control and Monitoring Equipment:

- A. Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

12. Logging, Testing and Coring Program:

- A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be ran from T.D. in vertical hole to 9 5/8" casing shoe.
- B. Drill Stem test is not anticipated.
- C. No conventional coring is anticipated.
- D. Further testing procedures will be determined after the 5 1/2" production casing has been cemented at TD based on drill shows and log evaluation.

13. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 110 degrees and estimated maximum bottom hole pressure is 2300 psig. Low levels of Hydrogen sulfide have been monitored in producing wells in the area, so H2S may be present while drilling of the well. An H2S plan is attached to the Drilling Program. No major loss of circulation zones has been reported in offsetting wells.

14. Anticipated Starting Date:

Drilling operations will commence approximately on July 27, 2007 with drilling and completion operations lasting approximately 45 days.

# Concho O&G

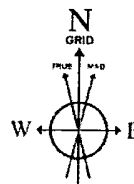
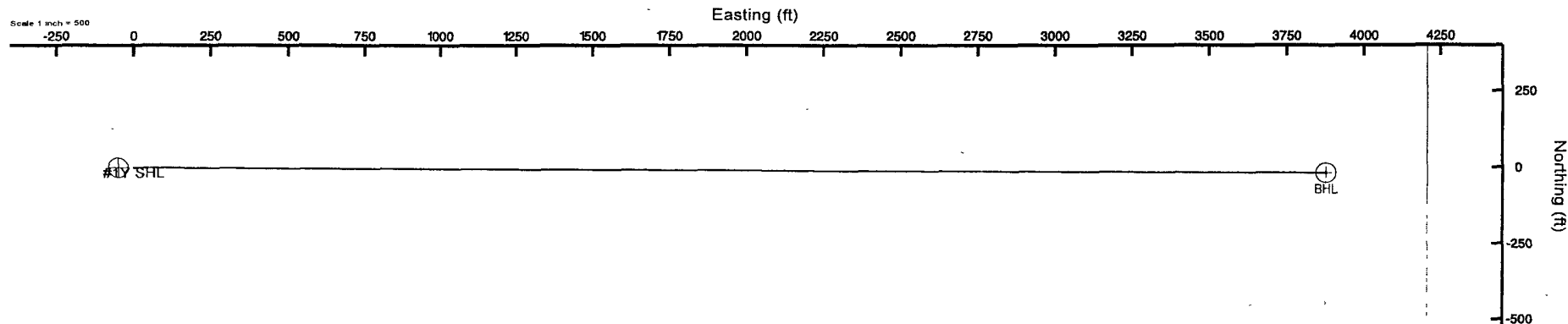
Location: Eddy County, NM  
Field: Section 23 T16S R28E(Moose)  
Facility: Moose 23 Federal #1Y

Slot: #1Y SHL  
Well: #1Y  
Wellbore: #1Y PWB

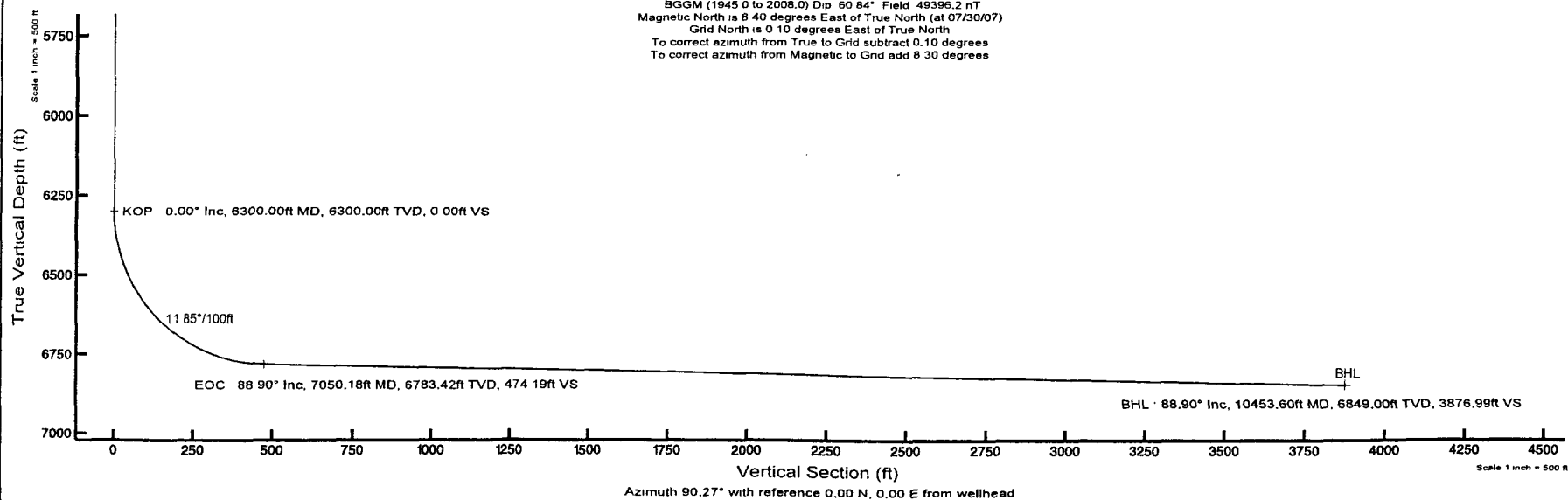


Plot reference wellbore is Plan #1	
True vertical depths are referenced to Rig on #1Y BHL (#1Y)	Grid System: NAD83 / TM New Mexico State Planes Eastern Zone (2001), US feet
Measured depths are referenced to Rig on #1Y SHL (RT)	North Reference: Grid north
Rig on #1Y SHL (RT) to GPN ELEV: 3756 feet	Scale: True distance
GPN ELEV to Mudline (Facility - Moose 23 Federal #1Y) -3756 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	
Created by: jones on 30JUN2007	

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (")	TVD (ft)	Local N (ft)	Local E (ft)	DLS ("/100ft)	VS (ft)
Tie On	0 00	0 000	90.267	0 00	0 00	0 00	0 00	0 00
KOP	6300 00	0 000	90 267	6300 00	0 00	0 00	0 00	0 00
EOC	7050 18	88 896	90 267	6783.42	-2 21	474 19	11 85	474 19
BHL	10453 60	88 896	90 267	6849 00	-18 06	3876 95	0 00	3876 99



BGGM (1945.0 to 2008.0) Dip: 60.84° Field: 49396.2 nT  
Magnetic North is 8.40 degrees East of True North (at 07/30/07)  
Grid North is 0.10 degrees East of True North  
To correct azimuth from True to Grid subtract 0.10 degrees  
To correct azimuth from Magnetic to Grid add 8.30 degrees



# Planned Wellpath Report

Plan #1  
Page 1 of 4



INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	Concho O&G	Slot	#1Y SHL
Area	Eddy County, NM	Well	#1Y
Field	Section 23 T16S R28E(Moose)	Wellbore	#1Y PWB
Facility	Moose 23 Federal #1Y		

## REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect™ 1.2
North Reference	Grid	User	Jonebea
Scale	0.999913	Report Generated	07/30/07 at 17:17:18
Wellbore last revised	07/30/07	Database/Source file	WA_Midland/#1Y_PWB

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [feet]	East [feet]	Easting [US feet]	Northing [US feet]	Latitude [°]	Longitude [°]
Slot Location	0.00	0.00	596985.76	693422.80	32 54 21.975N	104 09 07.237W
Facility Reference Pt			596985.76	693422.80	32 54 21.975N	104 09 07.237W
Field Reference Pt			596929.22	693425.25	32 54 22.000N	104 09 07.900W

## WELLPATH DATUM

Calculation method	Minimum curvature	Rig on #1Y SHL (RT) to Facility Vertical Datum	0.00 feet
Horizontal Reference Pt	Facility Center	Rig on #1Y SHL (RT) to GRN. ELEV.	3756.00 feet
Vertical Reference Pt	Rig on #1Y SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00 feet
MD Reference Pt	Rig on #1Y SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	GRN. ELEV.	Section Azimuth	90.27°

# Planned Wellpath Report

Plan #1  
Page 2 of 4



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Concho O&G	Slot	#1Y SHL
Area	Eddy County, NM	Well	#1Y
Field	Section 23 T16S R28E(Moose)	Wellbore	#1Y PWB
Facility	Moose 23 Federal #1Y		

WELLPATH DATA (107 stations) † = interpolated/extrapolated station							
MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
0.00	0.000	90.267	0.00	0.00	0.00	0.00	0.00
100.00†	0.000	0.000	100.00	0.00	0.00	0.00	0.00
200.00†	0.000	0.000	200.00	0.00	0.00	0.00	0.00
300.00†	0.000	0.000	300.00	0.00	0.00	0.00	0.00
400.00†	0.000	0.000	400.00	0.00	0.00	0.00	0.00
500.00†	0.000	0.000	500.00	0.00	0.00	0.00	0.00
600.00†	0.000	0.000	600.00	0.00	0.00	0.00	0.00
700.00†	0.000	0.000	700.00	0.00	0.00	0.00	0.00
800.00†	0.000	0.000	800.00	0.00	0.00	0.00	0.00
900.00†	0.000	0.000	900.00	0.00	0.00	0.00	0.00
1000.00†	0.000	0.000	1000.00	0.00	0.00	0.00	0.00
1100.00†	0.000	0.000	1100.00	0.00	0.00	0.00	0.00
1200.00†	0.000	0.000	1200.00	0.00	0.00	0.00	0.00
1300.00†	0.000	0.000	1300.00	0.00	0.00	0.00	0.00
1400.00†	0.000	0.000	1400.00	0.00	0.00	0.00	0.00
1500.00†	0.000	0.000	1500.00	0.00	0.00	0.00	0.00
1600.00†	0.000	0.000	1600.00	0.00	0.00	0.00	0.00
1700.00†	0.000	0.000	1700.00	0.00	0.00	0.00	0.00
1800.00†	0.000	0.000	1800.00	0.00	0.00	0.00	0.00
1900.00†	0.000	0.000	1900.00	0.00	0.00	0.00	0.00
2000.00†	0.000	0.000	2000.00	0.00	0.00	0.00	0.00
2100.00†	0.000	0.000	2100.00	0.00	0.00	0.00	0.00
2200.00†	0.000	0.000	2200.00	0.00	0.00	0.00	0.00
2300.00†	0.000	0.000	2300.00	0.00	0.00	0.00	0.00
2400.00†	0.000	0.000	2400.00	0.00	0.00	0.00	0.00
2500.00†	0.000	0.000	2500.00	0.00	0.00	0.00	0.00
2600.00†	0.000	0.000	2600.00	0.00	0.00	0.00	0.00
2700.00†	0.000	0.000	2700.00	0.00	0.00	0.00	0.00
2800.00†	0.000	0.000	2800.00	0.00	0.00	0.00	0.00
2900.00†	0.000	0.000	2900.00	0.00	0.00	0.00	0.00
3000.00†	0.000	0.000	3000.00	0.00	0.00	0.00	0.00
3100.00†	0.000	0.000	3100.00	0.00	0.00	0.00	0.00
3200.00†	0.000	0.000	3200.00	0.00	0.00	0.00	0.00
3300.00†	0.000	0.000	3300.00	0.00	0.00	0.00	0.00
3400.00†	0.000	0.000	3400.00	0.00	0.00	0.00	0.00
3500.00†	0.000	0.000	3500.00	0.00	0.00	0.00	0.00
3600.00†	0.000	0.000	3600.00	0.00	0.00	0.00	0.00
3700.00†	0.000	0.000	3700.00	0.00	0.00	0.00	0.00
3800.00†	0.000	0.000	3800.00	0.00	0.00	0.00	0.00
3900.00†	0.000	0.000	3900.00	0.00	0.00	0.00	0.00

# Planned Wellpath Report

Plan #1  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Concho O&G	Slot	#1Y SHL
Area	Eddy County, NM	Well	#1Y
Field	Section 23 T16S R28E(Moose)	Wellbore	#1Y PWB
Facility	Moose 23 Federal #1Y		

WELLPATH DATA (107 stations) † = interpolated/extrapolated station							
MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
4000.00†	0.000	0.000	4000.00	0.00	0.00	0.00	0.00
4100.00†	0.000	0.000	4100.00	0.00	0.00	0.00	0.00
4200.00†	0.000	0.000	4200.00	0.00	0.00	0.00	0.00
4300.00†	0.000	0.000	4300.00	0.00	0.00	0.00	0.00
4400.00†	0.000	0.000	4400.00	0.00	0.00	0.00	0.00
4500.00†	0.000	0.000	4500.00	0.00	0.00	0.00	0.00
4600.00†	0.000	0.000	4600.00	0.00	0.00	0.00	0.00
4700.00†	0.000	0.000	4700.00	0.00	0.00	0.00	0.00
4800.00†	0.000	0.000	4800.00	0.00	0.00	0.00	0.00
4900.00†	0.000	0.000	4900.00	0.00	0.00	0.00	0.00
5000.00†	0.000	0.000	5000.00	0.00	0.00	0.00	0.00
5100.00†	0.000	0.000	5100.00	0.00	0.00	0.00	0.00
5200.00†	0.000	0.000	5200.00	0.00	0.00	0.00	0.00
5300.00†	0.000	0.000	5300.00	0.00	0.00	0.00	0.00
5400.00†	0.000	0.000	5400.00	0.00	0.00	0.00	0.00
5500.00†	0.000	0.000	5500.00	0.00	0.00	0.00	0.00
5600.00†	0.000	0.000	5600.00	0.00	0.00	0.00	0.00
5700.00†	0.000	0.000	5700.00	0.00	0.00	0.00	0.00
5800.00†	0.000	0.000	5800.00	0.00	0.00	0.00	0.00
5900.00†	0.000	0.000	5900.00	0.00	0.00	0.00	0.00
6000.00†	0.000	0.000	6000.00	0.00	0.00	0.00	0.00
6100.00†	0.000	0.000	6100.00	0.00	0.00	0.00	0.00
6200.00†	0.000	0.000	6200.00	0.00	0.00	0.00	0.00
6300.00	0.000	90.267	6300.00	0.00	0.00	0.00	0.00
6400.00†	11.850	90.267	6399.29	10.30	-0.05	10.30	11.85
6500.00†	23.700	90.267	6494.35	40.78	-0.19	40.78	11.85
6600.00†	35.550	90.267	6581.12	90.12	-0.42	90.12	11.85
6700.00†	47.400	90.267	6655.91	156.23	-0.73	156.23	11.85
6800.00†	59.250	90.267	6715.53	236.29	-1.10	236.29	11.85
6900.00†	71.100	90.267	6757.44	326.89	-1.52	326.89	11.85
7000.00†	82.950	90.267	6779.85	424.17	-1.98	424.16	11.85
7050.18	88.896	90.267	6783.42	474.19	-2.21	474.19	11.85
7100.00†	88.896	90.267	6784.38	524.01	-2.44	524.00	0.00
7200.00†	88.896	90.267	6786.31	623.99	-2.91	623.98	0.00
7300.00†	88.896	90.267	6788.23	723.97	-3.37	723.96	0.00
7400.00†	88.896	90.267	6790.16	823.95	-3.84	823.94	0.00
7500.00†	88.896	90.267	6792.09	923.93	-4.30	923.92	0.00
7600.00†	88.896	90.267	6794.01	1023.91	-4.77	1023.90	0.00
7700.00†	88.896	90.267	6795.94	1123.89	-5.24	1123.88	0.00
7800.00†	88.896	90.267	6797.87	1223.88	-5.70	1223.86	0.00

# Planned Wellpath Report

Plan #1  
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INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	Concho O&G	Slot	#1Y SHL
Area	Eddy County, NM	Well	#1Y
Field	Section 23 T16S R28E(Moose)	Wellbore	#1Y PWB
Facility	Moose 23 Federal #1Y		

## WELLPATH DATA (107 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
7900.00†	88.896	90.267	6799.79	1323.86	-6.17	1323.84	0.00
8000.00†	88.896	90.267	6801.72	1423.84	-6.63	1423.82	0.00
8100.00†	88.896	90.267	6803.65	1523.82	-7.10	1523.80	0.00
8200.00†	88.896	90.267	6805.58	1623.80	-7.56	1623.78	0.00
8300.00†	88.896	90.267	6807.50	1723.78	-8.03	1723.76	0.00
8400.00†	88.896	90.267	6809.43	1823.76	-8.50	1823.75	0.00
8500.00†	88.896	90.267	6811.36	1923.75	-8.96	1923.73	0.00
8600.00†	88.896	90.267	6813.28	2023.73	-9.43	2023.71	0.00
8700.00†	88.896	90.267	6815.21	2123.71	-9.89	2123.69	0.00
8800.00†	88.896	90.267	6817.14	2223.69	-10.36	2223.67	0.00
8900.00†	88.896	90.267	6819.06	2323.67	-10.83	2323.65	0.00
9000.00†	88.896	90.267	6820.99	2423.65	-11.29	2423.63	0.00
9100.00†	88.896	90.267	6822.92	2523.64	-11.76	2523.61	0.00
9200.00†	88.896	90.267	6824.84	2623.62	-12.22	2623.59	0.00
9300.00†	88.896	90.267	6826.77	2723.60	-12.69	2723.57	0.00
9400.00†	88.896	90.267	6828.70	2823.58	-13.15	2823.55	0.00
9500.00†	88.896	90.267	6830.62	2923.56	-13.62	2923.53	0.00
9600.00†	88.896	90.267	6832.55	3023.54	-14.09	3023.51	0.00
9700.00†	88.896	90.267	6834.48	3123.52	-14.55	3123.49	0.00
9800.00†	88.896	90.267	6836.41	3223.51	-15.02	3223.47	0.00
9900.00†	88.896	90.267	6838.33	3323.49	-15.48	3323.45	0.00
10000.00†	88.896	90.267	6840.26	3423.47	-15.95	3423.43	0.00
10100.00†	88.896	90.267	6842.19	3523.45	-16.41	3523.41	0.00
10200.00†	88.896	90.267	6844.11	3623.43	-16.88	3623.39	0.00
10300.00†	88.896	90.267	6846.04	3723.41	-17.35	3723.37	0.00
10400.00†	88.896	90.267	6847.97	3823.39	-17.81	3823.35	0.00
10453.60	88.896	90.267	6849.00 <sup>1</sup>	3876.99	-18.06	3876.95	0.00

## TARGETS

Name	MD [feet]	TVD [feet]	North [feet]	East [feet]	Grid East [us survey feet]	Grid North [us survey feet]	Latitude [°]	Longitude [°]	Shape
1) BHL	10453.60	6849.00	-18.06	3876.95	600862.36	693404.74	32 54 21.728N	104 08 21.764W	point

## SURVEY PROGRAM Ref Wellbore: #1Y PWB Ref Wellpath: Plan #1

Start MD [feet]	End MD [feet]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	10453.60	NaviTrak (Standard)		#1Y PWB

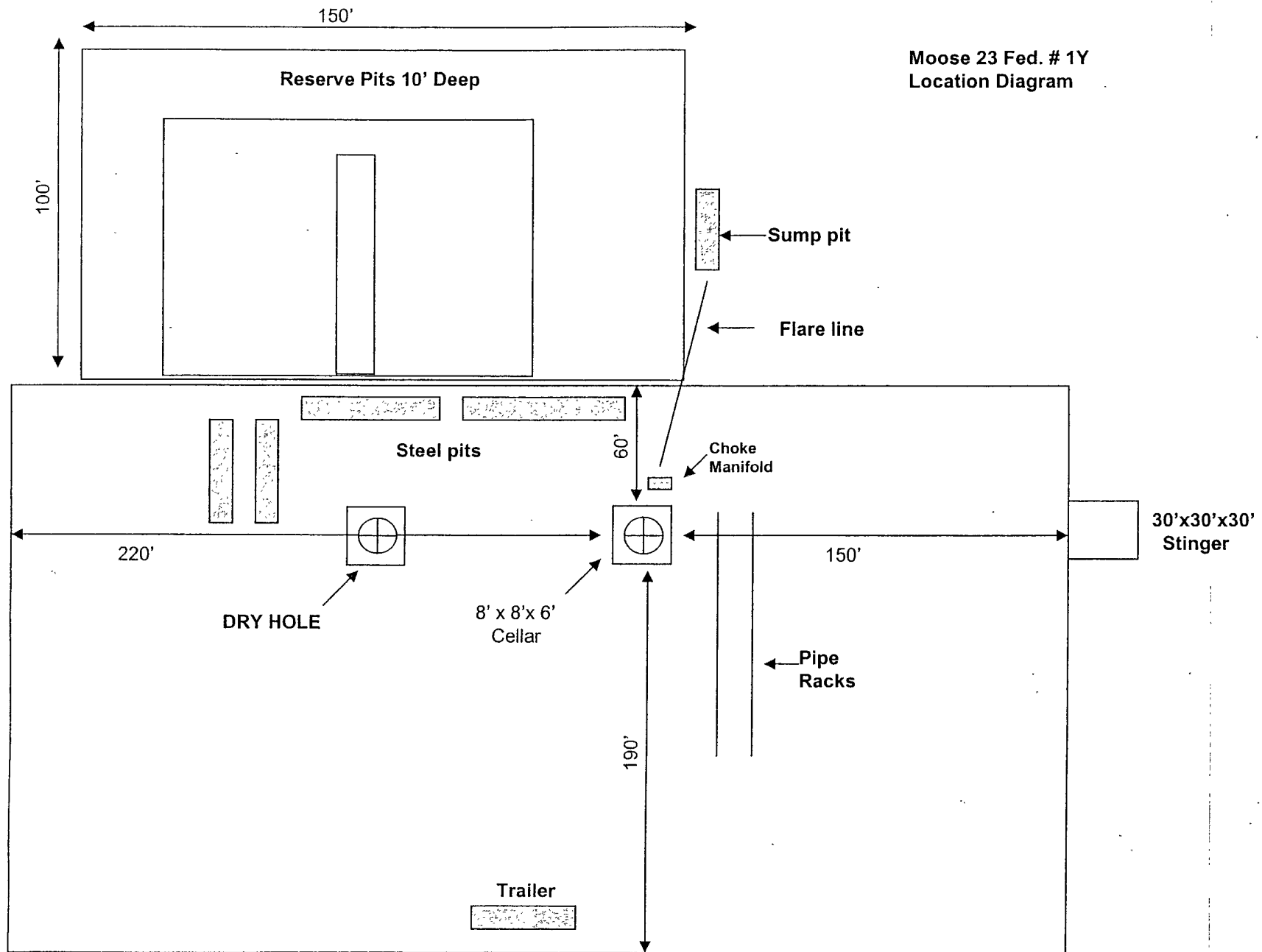
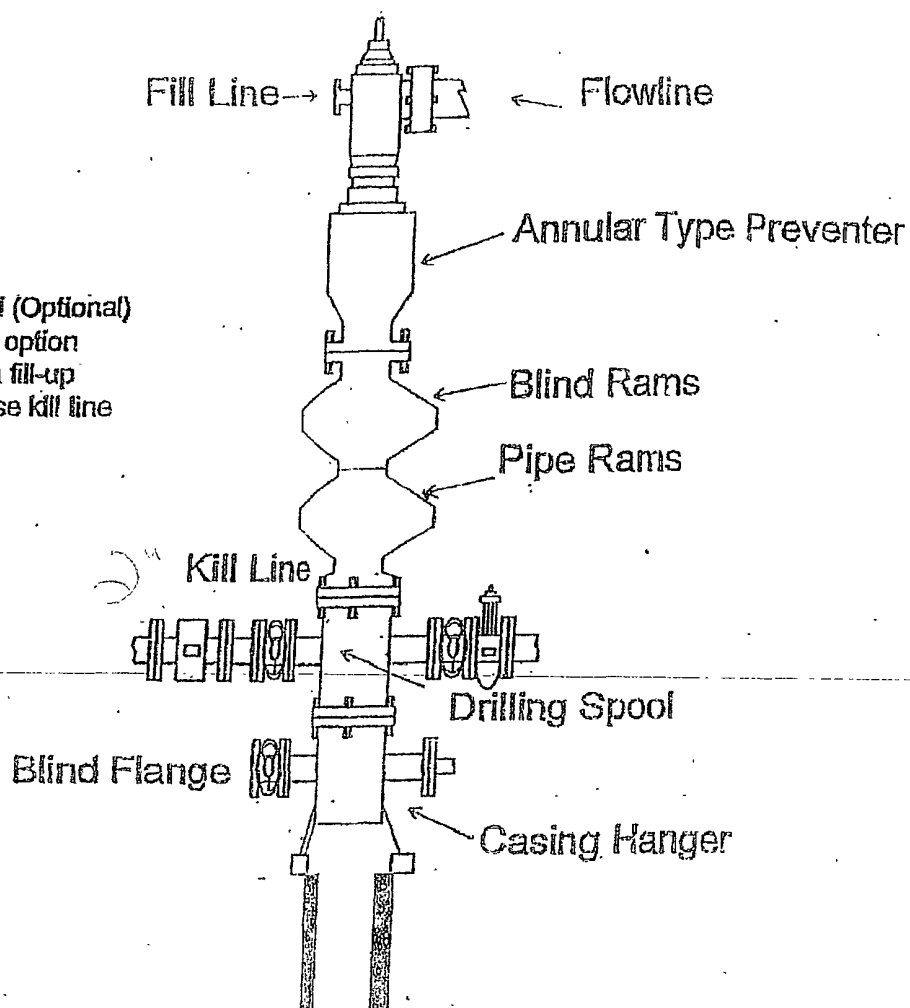




EXHIBIT "G"

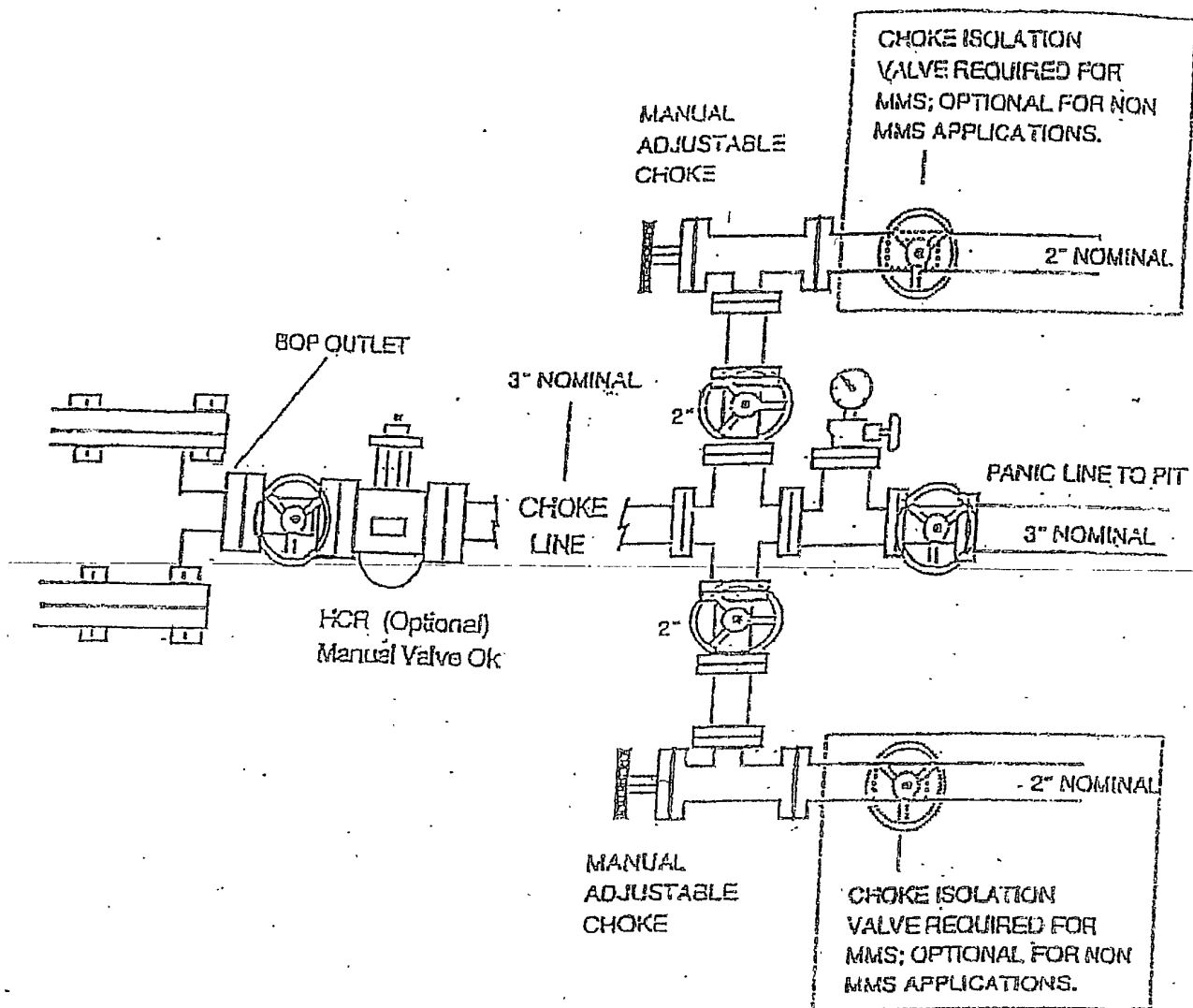
BOPE SCHEMATIC  
3/A SERVICE

Rotating Head (Optional)  
Drilling Nipple option  
must include a fill-up  
line. Do not use kill line  
for fill up.



# CHOKE MANIFOLD

3M SERVICE



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

COG Operating LLC  
Moose "23" Federal #1Y  
SL: 1665' FSL & 1026' FWL, Unit L  
BHL: 1650' FSL & 330' FEL, Unit I  
Section 23, T16S, R28E  
Eddy County, NM

**LOCATED**

Approximately 12 miles Northwest from Loco Hills, New Mexico

**OIL & GAS LEASE**

NM #117117

**RECORD TITLE LESSEE**

Encore Operating, LP, 777 Main Street, #1400, Fort Worth, TX 76102

**BOND COVERAGE**

\$25,000 statewide bond of C.O.G. Operating, L.L.C.

**SURFACE OWNER**

Bureau of Land Management

**MINERAL OWNER**

Bureau of Land Management

**GRAZING TENANT**

Bogle LTD CO LLC, PO Box 460, Dexter, NM 88230; 505-734-5442

**POOL**

Crow Flats Wolfcamp (#97102)

**PROPOSED TOTAL DEPTH**

This well will be drilled to a Total Vertical Depth of approximately 6775' and a Measured Depth of approximately 10,710'.

**EXHIBITS**

- A. Well Location & Acreage Dedication Map
- B. Area Road Map
- C. Vicinity Oil & Gas Map
- D. Topographic & Location Verification Map
- E. Proposed Lease Road and Pad Layout Map
- F. Drilling Rig Layout
- G. BOPE Schematic
- H. Choke Manifold Schematic

**EXISTING ROADS**

- A. Exhibit A is a portion of a section map showing the location of the proposed well as staked.
- B. Exhibit B is a map showing existing roads in the vicinity of the proposed well site.
- C. Directions to well location:  
From the junction of U.S. Hwy 82 and County Road 202 (Southern Union), go North on County Road 202 for 3.8 miles to lease road. On lease road go North 1.3 miles to lease road, thence East 1.5 miles to lease road, thence North 2.5 miles to lease road, thence East 1.0 miles, thence South 1.0 miles to proposed lease road.

**ACCESS ROADS**

- A. Length and Width: 6813.2' long and 30' wide. The access road will be built and is shown on Exhibit E.
- B. Surface Material: Existing
- C. Maximum Grad: Less than five percent
- D. Turnouts: None necessary
- E. Drainage Design: Existing
- F. Culverts: None necessary
- G. Gates and Cattle Guards: None needed

**LOCATION OF EXISTING WELLS**

Existing wells in the immediate area are shown in Exhibit C.

**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 not contemplated that a water well will be drilled. Water necessary for drilling will be purchased and hauled to the site over existing roads shown on Exhibit B.

**METHODS OF HANDLING WASTE DISPOSAL**

- A. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.
- B. Water produced during tests will be disposed of in the drilling pits.
- C. Oil produced during tests will be stored in test tanks.
- D. Trash will be contained in a trash trailer and removed from well site.
- E. All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.

**ANCILLARY FACILITIES**

None required.

**WELL SITE LAYOUT**

Exhibits E and F show the relative location and dimensions of the well pad, mud pits, reserve pit, and trash pit, and the location of major rig components.

**PLANS FOR RESTORATION OF THE SURFACE**

- A. 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.
- B. After abandonment, all equipment, trash, and junk will be removed and the site will be clean.

**OTHER INFORMATION**

- A. **Topography:**  
The topography consists of sandy soil with native grasses. No wildlife was observed, but the usual inhabitants of this region are Jackrabbits, Reptiles, Coyotes, etc.
- B. **Soil:** Topsoil at the well site is sandy soil.
- C. **Flora and Fauna:** The location is in an area sparsely covered with mesquite and range grasses.
- D. **Ponds and Streams:** There are no rivers, lakes, ponds, or streams in the area.
- E. **Residences and Other Structures:** There are no residences within a mile of the proposed well site.
- F. **Archaeological, Historical, and Cultural sites:** An Archaeological Survey has been ordered and a copy to be sent to the BLM Office.
- G. **Land Use:** Grazing

**ONLEASE RIGHT OF WAY REQUEST**

**Requesting Right of Way for all on lease appurtenances, including proposed lease roads and electric lines.**

- A. **Roads:** Building of a proposed lease road 6813.2' in length. (See Exhibit A-1).
- B. **Pipe Lines:** Constructing of proposed Pipe Lines to follow proposed lease road (plat will be forthcoming).

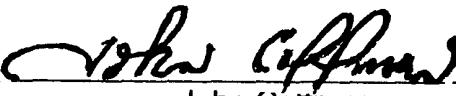
**OPERATOR'S REPRESENTATIVE**

John Coffman  
COG Operating LLC  
550 W. Texas, Suite 1300  
Midland, TX 79701  
432-683-7443

**CERTIFICATION**

I hereby certify that I, or person under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by COG Operating LLC and its contractors and subcontractors in conformity with this plan and the terms and conditions which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

7-31-07  
Date

  
John Coffman  
Drilling Supt.

## **Conditions of Approval Cave and Karst**

EA#: NM-520-07-744

Lease #: NM-117117

**COG Operating LLC**

**Moose "23" Federal # 1Y (Re-entry)**

### **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.

#### **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 void (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.

**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

Operator's Name: COG Operating LLC  
Well Name & No. Moose 23 Federal # 1Y  
Location: 1665'FSL, 1026'FWL, SEC23, T16S, R28E, Eddy County, NM  
Lease: NM-117117

.....

### I. DRILLING OPERATIONS REQUIREMENTS:

- A. The Bureau of Land Management (BLM) is to be notified a minimum of 4 hours in advance for a representative to witness:
1. Spudding well
  2. Setting and/or Cementing of all casing strings
  3. BOPE tests
- Eddy County call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822
- B. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan is N/A.
- C. 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.

### II. CASING:

- A. The 13.375 inch surface casing shall be set at 500 feet and cemented to the surface.
1. 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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
  2. Wait on cement (WOC) time for a primary cement job will be a minimum of 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compression strength, whichever is greater. (This is to include the lead cement)
  3. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.
  4. If cement falls back, remedial action will be done prior to drilling out that string.
- B. The minimum required fill of cement behind the 9.625 inch intermediate casing is circulating cement to the surface. If cement does not circulate see A.1 thru 4.
- C. The minimum required fill of cement behind the 5.5 inch production casing is circulating cement to 200 feet above the shoe of the 9.625 inch intermediate casing, unless circulation is lost while drilling the intermediate well bore, in which case cement will be brought up to at least 200 feet above the most shallow lost circulation zone..
- D. 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.

### **III. PRESSURE CONTROL:**

- A.** All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2.
- B.** The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - 1. The tests shall be done by an independent service company.
  - 2. The results of the test shall be reported to the appropriate BLM office.
  - 3. 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.
  - 4. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi in accordance with API RP 53, section 17. 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.
  - 5. A variance to test the surface casing and BOP/BOPE to the reduced pressure of 800 psi with the rig pumps is approved.

### **IV. Hazards:**

- 1. Our geologist has indicated that there is high potential for Cave / Karst features.
- 2. Our geologist has indicated that there is potential for lost circulation in the Grayburg and San Andres formations.
- 3. Our geologist has indicated that there is potential for abnormal pressure in the Wolfcamp formation.

**Engineering can be reached at 505-706-2779 for variances.**

**FWright 7/30/07**