OCD-ARTESIA

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NMOCD ARTESIA

Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OM B 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	5. Lease Serial No. **NMLC-029415A**
2 Name of Operator **COG Operating LLC**	6 If Indian, Allottee or Tribe Name **N/A**
3a Address **550 W. Texas Ave., Suite 1300 Midland, TX 79701**	3b. Phone No. *(include area code)* **432-685-4385**
4 Location of Well *(Footage, Sec, T., R., M., or Survey Description)* **330' FSL & 330' FWL Sec.13, T17S, R31E, Unit M**	7 If Unit or CA/Agreement, Name and/or No **N/A**
	8. Well Name and No. **Puckett 13 #61** <38922>
	9 API Well No **30-015-** 40304 TES
	10 Field and Pool, or Exploratory Area **Fren; Glorieta-Yeso 26770**
	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			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other **Change Name & Location**
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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 recomplete 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 recompletion 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.)

COG respectfully requests permission to change the name of this well to:
Puckett 13 Federal #2H

SUBJECT TO LIKE APPROVAL BY STATE

Original Location :
330' FSL & 330' FWL Sec.13, T17S, R31E, Unit M

COG respectfully requests to change the Location to:
SHL: 105' FSL & 957' FWL Sec.13, T17S, R31E, Unit M
BHL: 330' FNL & 990' FWL Sec.13, T17S, R31E, Unit D

OPER. OGRID 229137
PROPERTY NO.
POOL CODE
EFF. DATE 11-16-2011
API NO. 30-015

SEE ATTACHED FOR CONDITIONS OF APPROVAL

This move is requested to drill this well as a horizontal.

A revised C-102, Directional Plan and Drilling Plan are attached for your review.

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NOV 18 2011
NMOCD ARTESIA

14 I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)* **Robyn M. Odom** Title **Regulatory Analyst**

Signature Date **08/03/2011**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by /s/ Don Peterson Title Date NOV 16 2011

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

Title 18 U.S.C. Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

(Instructions on page 2)

Accepted for record
NMOCD 10/9

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements make in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or COG Operating, LLC, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 11th day of July, 2011.

Signed: Carl Bird

Printed Name: Carl Bird

Position: Drilling Engineer

Address: 550 W. Texas, Suite 1300, Midland, Texas 79701

Telephone: (432) 683-7443

Field Representative (if not above signatory): Same

E-mail: cbird@conchoresources.com

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
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

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Form C-102
Revised July 16, 2010
Submit to Appropriate District Office

☐AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015- 40304	26770	FREN; GLORIETA-YESO

Property Code	Property Name	Well Number
~~38600~~ 38922	PUCKETT 13 FEDERAL	2H

OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	3904'

Surface Location

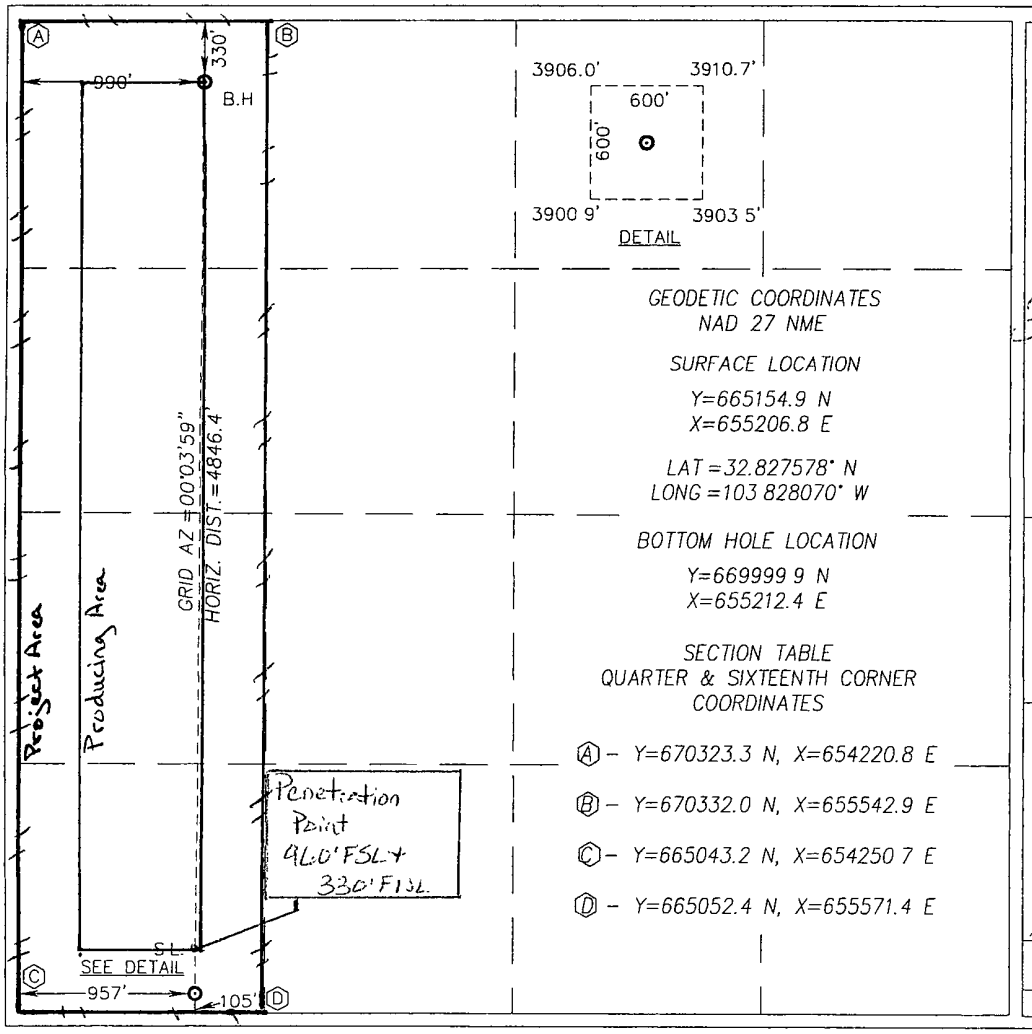
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	17-S	31-E		105	SOUTH	957	WEST	EDDY

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
D	13	17-S	31-E		330	NORTH	990	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



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

Signature 8/3/2011 Date

Robyn M. Odom
Printed Name

Rodom@concho.com
E-mail Address

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

JUNE 29, 2011
Date of Survey

Signature & Seal of Professional Surveyor:

RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

Ronald J. Eidson 7/21/2011

Certificate Number	Gary G. Eidson	12641
	Ronald J. Eidson	3239

LA REV:7/20/11 JWSC W.O.: 11.11.1161

CONCHO

COG Operating LLC

Eddy County, NM (NAN27 NME)
Puckett 13 Federal #2H
Puckett 13 Federal #2H

OH

Plan: Plan #1 8-3/4" Hole
SHL = 105' FSL & 957' FWL
BHL = 330' FNL & 990' FWL

Standard Planning Report

12 July, 2011

Scientific Drilling
Directional Drilling Operations

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Puckett 13 #2H
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3904 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3904 00usft
Site:	Puckett 13 #2H	**North Reference:**	Grid
Well:	Puckett 13 #2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 8-3/4" Hole		

Project Eddy County, NM (NAN27 NME)

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 Puckett 13 #2H

Site Position:		**Northing:**	665,154.90 usft	**Latitude:**	32° 49' 39 280 N
From:	Map	**Easting:**	655,206 80 usft	**Longitude:**	103° 49' 41 051 W
Position Uncertainty:	0 00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0 27 °

Well Puckett 13 #2H

Well Position	**+N/-S**	0 00 usft	**Northing:**	665,154 90 usft	**Latitude:**	32° 49' 39 280 N
	+E/-W	0 00 usft	**Easting:**	655,206 80 usft	**Longitude:**	103° 49' 41 051 W
Position Uncertainty		0 00 usft	**Wellhead Elevation:**		**Ground Level:**	3,904 00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/07/12	7 74	60 70	48,941

Design Plan #1 8-3/4" Hole

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0 00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0 00	0.00	0 00	0 07

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0 00	0 00	0 00	0.00	0 00	0 00	0 00	0 00	0 00	0 00	
6,122 54	0 00	0 00	6,122 54	0 00	0 00	0 00	0 00	0 00	0 00	
6,872 54	90 00	0 07	6,600 00	477 46	0 55	12 00	12 00	0 00	0 07	
11,240 07	90 00	0 07	6,600 00	4,845 00	5 60	0 00	0 00	0 00	0 00	PBHL-Puckett 13 #2H

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Puckett 13 #2H
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3904 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3904 00usft
Site:	Puckett 13 #2H	**North Reference:**	Grid
Well:	Puckett 13 #2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 8-3/4" Hole		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0.00	0 00
6,122 54	0 00	0 00	6,122 54	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 12.00°/100'									
6,200 00	9 30	0 07	6,199 66	6 27	0 01	6 27	12 00	12 00	0 00
6,300 00	21 30	0 07	6,295 94	32 60	0 04	32.60	12 00	12 00	0 00
6,400 00	33 30	0 07	6,384 65	78 38	0.09	78 38	12 00	12.00	0 00
6,500 00	45 30	0 07	6,461 89	141 59	0 16	141 59	12 00	12 00	0 00
6,600 00	57 30	0 07	6,524 31	219 49	0 25	219 49	12 00	12 00	0 00
6,700 00	69 30	0 07	6,569 16	308 66	0 36	308 66	12 00	12 00	0 00
6,800 00	81 30	0 07	6,594 50	405 21	0 47	405 21	12 00	12 00	0 00
6,872 54	90 00	0.07	6,600 00	477 46	0 55	477 46	12 00	12.00	0 00
6,878 54	90 00	0 07	6,600 00	483 47	0 56	483 47	0 00	0 00	0 00
Land EOC hold 90.00°									
6,900 00	90 00	0 07	6,600 00	504.93	0 58	504 93	0 00	0 00	0 00
7,000 00	90 00	0 07	6,600 00	604.93	0.70	604 93	0 00	0 00	0 00
7,100 00	90 00	0 07	6,600 00	704 93	0 81	704 93	0 00	0.00	0 00
7,200 00	90 00	0 07	6,600 00	804.93	0 93	804 93	0 00	0 00	0 00
7,300 00	90 00	0 07	6,600 00	904 93	1 05	904 93	0 00	0 00	0 00
7,400 00	90 00	0 07	6,600 00	1,004 93	1 16	1,004 93	0 00	0 00	0 00
7,500 00	90 00	0 07	6,600 00	1,104 93	1 28	1,104 93	0 00	0 00	0 00
7,600 00	90 00	0 07	6,600 00	1,204.93	1 39	1,204 93	0 00	0 00	0 00
7,700 00	90 00	0 07	6,600 00	1,304 93	1 51	1,304 93	0 00	0 00	0 00
7,800 00	90 00	0 07	6,600.00	1,404 93	1 62	1,404 93	0 00	0.00	0 00
7,900 00	90 00	0 07	6,600 00	1,504 93	1.74	1,504 93	0 00	0 00	0 00
8,000 00	90 00	0 07	6,600 00	1,604 93	1 86	1,604 93	0 00	0 00	0 00
8,100 00	90.00	0 07	6,600 00	1,704 93	1 97	1,704 93	0 00	0.00	0 00
8,200 00	90.00	0 07	6,600 00	1,804 93	2 09	1,804 93	0 00	0 00	0 00
8,300 00	90 00	0 07	6,600 00	1,904 93	2 20	1,904 93	0 00	0 00	0 00
8,400 00	90 00	0 07	6,600 00	2,004 93	2 32	2,004 93	0 00	0 00	0 00
8,500 00	90 00	0 07	6,600 00	2,104 93	2 43	2,104 93	0 00	0 00	0 00
8,600 00	90 00	0.07	6,600 00	2,204 93	2 55	2,204 93	0 00	0 00	0 00
8,700 00	90.00	0 07	6,600 00	2,304 93	2 66	2,304 93	0 00	0 00	0 00
8,800 00	90 00	0 07	6,600 00	2,404 93	2.78	2,404 93	0 00	0 00	0 00
8,900 00	90 00	0 07	6,600 00	2,504 93	2 90	2,504 93	0 00	0 00	0 00
9,000 00	90 00	0 07	6,600 00	2,604 93	3 01	2,604 93	0 00	0 00	0 00
9,100 00	90 00	0 07	6,600 00	2,704 93	3 13	2,704 93	0 00	0 00	0 00
9,200 00	90 00	0 07	6,600 00	2,804 93	3 24	2,804 93	0 00	0 00	0 00
9,300 00	90 00	0 07	6,600 00	2,904 93	3 36	2,904 93	0 00	0 00	0 00
9,400 00	90 00	0 07	6,600 00	3,004 93	3 47	3,004 93	0 00	0 00	0 00
9,500 00	90.00	0 07	6,600 00	3,104 93	3 59	3,104 93	0 00	0 00	0 00
9,600 00	90 00	0 07	6,600 00	3,204 93	3 70	3,204 93	0 00	0 00	0 00
9,700.00	90 00	0 07	6,600 00	3,304 93	3 82	3,304 93	0 00	0 00	0 00
9,800 00	90 00	0 07	6,600 00	3,404.93	3 94	3,404 93	0 00	0 00	0 00
9,900 00	90 00	0 07	6,600 00	3,504 93	4 05	3,504 93	0 00	0 00	0 00
10,000 00	90 00	0 07	6,600 00	3,604 93	4 17	3,604 93	0 00	0 00	0 00
10,100 00	90 00	0.07	6,600.00	3,704 93	4 28	3,704.93	0 00	0 00	0 00
10,200 00	90 00	0 07	6,600.00	3,804 93	4 40	3,804.93	0 00	0 00	0 00
10,300.00	90 00	0 07	6,600 00	3,904 93	4 51	3,904 93	0 00	0 00	0 00
10,400 00	90.00	0 07	6,600 00	4,004.93	4 63	4,004 93	0 00	0 00	0 00
10,500 00	90 00	0 07	6,600 00	4,104 93	4.74	4,104 93	0 00	0 00	0 00
10,600 00	90.00	0 07	6,600 00	4,204 93	4 86	4,204 93	0 00	0 00	0 00
10,700 00	90 00	0 07	6,600 00	4,304 93	4 98	4,304 93	0 00	0 00	0 00
10,800 00	90 00	0 07	6,600 00	4,404.93	5 09	4,404 93	0 00	0 00	0 00
10,900 00	90 00	0 07	6,600 00	4,504 93	5 21	4,504 93	0 00	0 00	0 00

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Puckett 13 #2H
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3904 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3904 00usft
Site:	Puckett 13 #2H	**North Reference:**	Grid
Well:	Puckett 13 #2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 8-3/4" Hole		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,000 00	90.00	0 07	6,600 00	4,604 93	5 32	4,604 93	0 00	0 00	0 00
11,100 00	90 00	0 07	6,600 00	4,704 93	5 44	4,704 93	0 00	0 00	0 00
11,200 00	90 00	0 07	6,600 00	4,804 93	5 55	4,804 93	0 00	0 00	0 00
11,240 07	90 00	0 07	6,600 00	4,845.00	5 60	4,845 00	0 00	0 00	0.00
PBHL-Puckett 13 #2H									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-Puckett 13 #2H - plan hits target center - Point	0 00	0 00	6,600 00	4,845 00	5 60	669,999 90	655,212 40	32° 50' 27 221 N	103° 49' 40 714 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
6,122 54	6,122.54	0 00	0 00	KOP Start Build 12 00°/100'
6,878 54	6,600 00	483 47	0 56	Land EOC hold 90 00°

CONCHO

Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Puckett 13 #2H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

Scientific Drilling
Directional Drilling Operations

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0 00	0.00	0.00	0.00	0 00	0.00	0 00	
2	6122.54	0.00	0 00	6122.54	0 00	0 00	0 00	0 00	0 00	
3	6872 54	90.00	0 07	6600.00	477 46	0 55	12 00	0 07	477 46	
4	11240.07	90.00	0 07	6600.00	4845.00	5 60	0.00	0.00	4845 00	PBHL-Puckett 13 #2H

Puckett 13 #2H

Created By: Julio Pina Date: 12-Jul-11
Checked _____ Date: _____
Reviewed _____ Date. _____

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL-Puckett 13 #2H	6600.00	4845.00	5 60	669999.90	655212 40	32° 50' 27 221 N	103° 49' 40.714 W	Point

PROJECT DETAILS: Eddy County, NM (NAN27 NME)

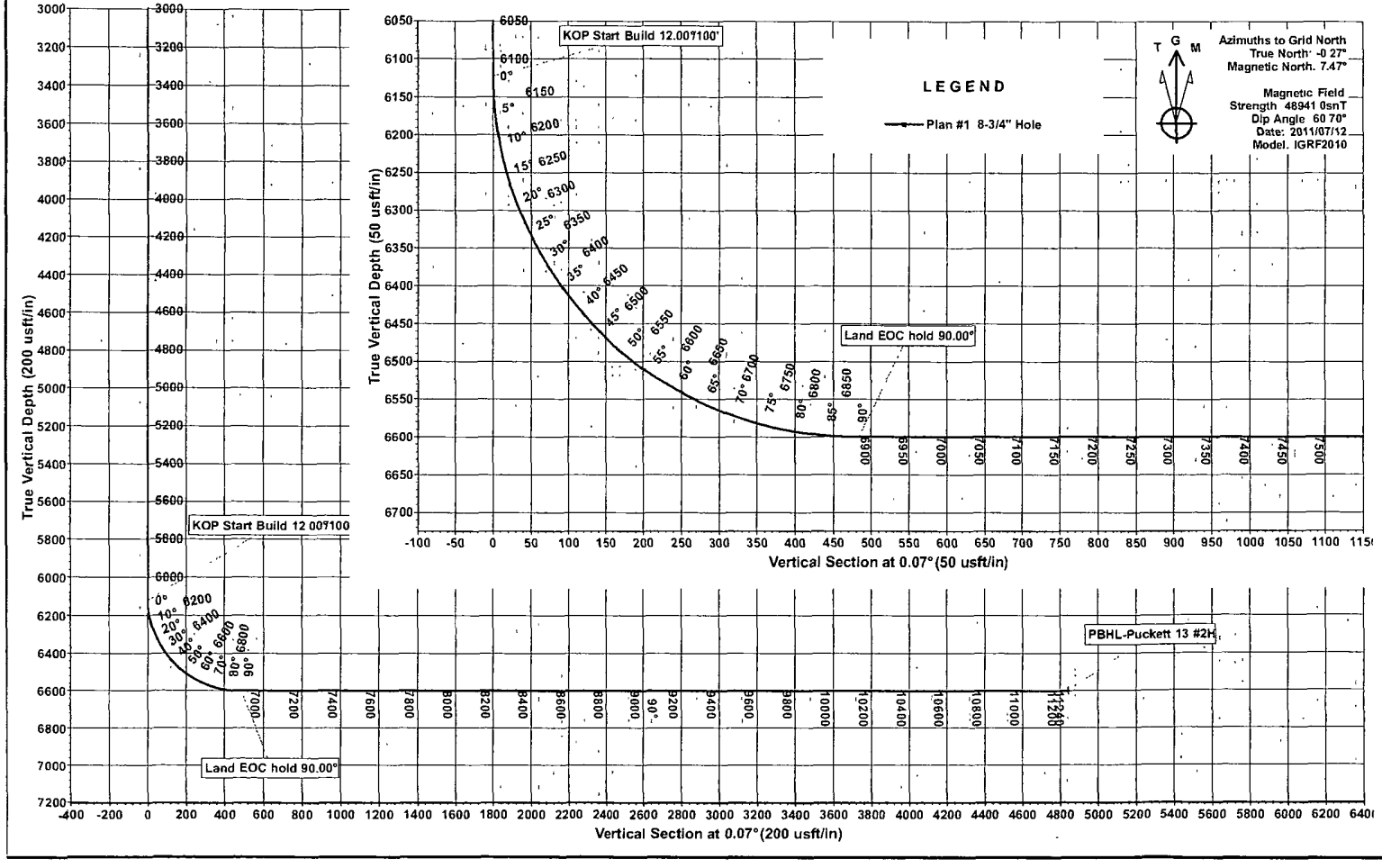
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

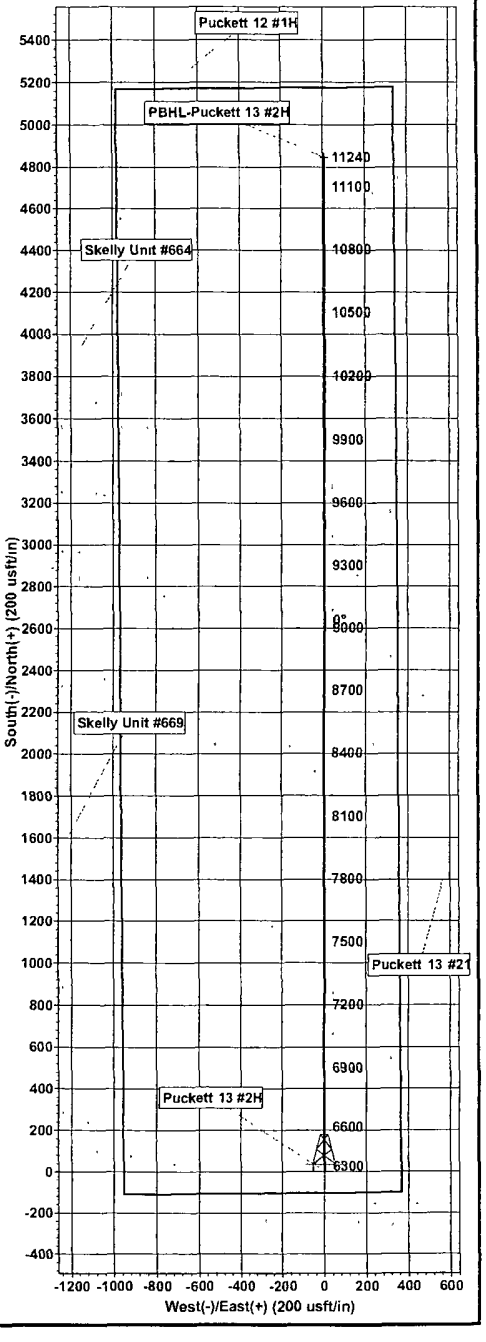
WELL DETAILS. Puckett 13 #2H

Ground Level: 3904.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0 00	665154 90	655206.80	32°49' 39 280 N	103°49' 41.051 W	

AZIMUTH CORRECTIONS
ALL AZIMUTHS MUST BE CORRECTED TO GRID
GRID CORRECTIONS MUST BE APPLIED BEFORE PLOTTING
To convert a Magnetic Direction to a Grid Direction, Add 7.47°
To convert a True Direction to a Grid Direction, Subtract 0.27°





ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Puckett 13 Federal #2H
SHL: 105' FSL & 957' FWL, Unit M
BHL: 330' FNL & 990' FWL, Unit D
Sec 13, T17S, R31E
Eddy County, NM

1. Proration Unit Spacing: 160 Acres

2. Ground Elevation: 3904'

3. Proposed Depths: Horizontal TVD = 6,600', MD = 11240'

4. Estimated tops of geological markers:

Quaternary	Surface
Rustler	682'
Top of Salt	900'
Base of Salt	1923'
Yates	2028'
Seven Rivers	2356'
Queen	2980'
Grayburg	3415'
San Andres	3739'
Glorieta	5247'
Paddock	5317'
Blinebry	5745'
Tubb	6700'

5. Possible mineral bearing formations:

Water Sand	150'	Fresh Water
Grayburg	3415'	Oil/Gas
San Andres	3739'	Oil/Gas
Glorieta	5247'	Oil/Gas
Paddock	5317'	Oil/Gas
Blinebry	5745'	Oil/Gas
Tubb	6700'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 600' and circulating cement back to the surface will protect the surface fresh water sand. The Salt Section will be protected by setting 9 5/8" casing to 2000' and circulating cement, in a single or multi-stage job and/or with an ECP, back to the surface. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them. This will be achieved by cementing, with a single or multi-stage job, the 5 1/2" production casing back 200' into the intermediate casing (although cement volume is actually calculated to surface), to be run at TD. If wellbore conditions arise that require immediate action and/or a change to this program, COG Operating LLC personnel will always react to protect the wellbore and/or environment.

See COA

See COA

6. Casing Program - **Proposed**

Hole size	Interval	OD of Casing	Weight	Cond.	Collar	Grade
17-1/2"	0' - +/-600'	13-3/8"	48#	New	STC	H-40 or J/K-55
Collapse sf – 3.87, Burst sf – 8.70, Tension sf – 14.91						
12-1/4"	0' - +/-2000'	9-5/8"	36#	New	STC	J/K-55
Collapse sf – 2.88, Burst sf – 5.01, Tension sf – 8.11						
8-3/4"	0' – 11240'	7" x 5-1/2"	26#/17#	New	LTC	L-80
Collapse sf – 1.87, Burst sf – 2.48, Tension sf – 2.08						

Production string will be a tapered string with 7" 26# L-80 LTC ran from surface to kick off point and then crossed over to 5 ½" 17# L-80 LTC.

7. Cement Program

13 3/8" Surface Csg: Set at +/- 600'MD, Lead Slurry: 450sx Class "C" w/ 2% CaCl2 & .25 pps CF, 1.32 yield. 45% excess, calculated to surface.

9 5/8" Intrmd. Csg: Set at +/- 2000'MD. **Single Stage:** Lead Slurry: 300 sx 50:50:10:C:Poz:Gel w/ 5% salt, 5 pps LCM-1 .25 pps CF, 2.45 yield. Tail Slurry: 200 sx Class "C" w/ 2% CaCl2, 1.32 yield. 76% excess, calculated to surface.

Multi Stage: **Stage 1:** 200 sx Class "C" w/ 2% CaCl2, 1.32 yield. 76% excess. **Stage 2:** 300 sx 50:50:10:C:Poz:Gel w/ 5% salt, 5 pps LCM-1 .25 pps CF, 2.45 yield, back to surface, 176% excess; assumption for tool is lost circulation. Multi stage tool to be set at approximately, depending on hole conditions, ~~500'~~ 650' (50' below the surface casing). Cement volumes will be adjusted proportionately for depth changes of multi stage tool.

See COA

7 x 5 1/2" Production Csg: Set at +/- 11240'MD. **Single Stage:** Lead Slurry: 400 sx 35:65:6:C:Poz:Gel w/ 5% salt, 5 pps LCM, .2% SMS, .3% FL-52A, .125 pps CF, 2.01 yd. Inter. Slurry: 300 sx 50:50:2:C:Poz:Gel w/ 5% salt, 3 pps LCM, .6% SMS, 1% FL-25, 1% BA-58, .125 pps CF, .3% FL-52A; 1.37 yield Tail Slurry: 450 sx Class "H" SOLUCEM-H w/ .7% HR-601, 2.62 yield 59% excess in open hole, calculated to surface. **This is a minimum volume and will be adjusted up after caliper is run**.

Multi Stage: **Stage 1:** (Assumed TD of 11240'MD to DV at 3550') Lead Slurry: 450 sx 50:50:2:C:Poz:Gel w/ 5% salt, 3 pps LCM, .6% SMS, 1% FL-25, 1% BA-58, .125 pps CF, .3% FL-52A; 1.37 yield Tail Slurry: 450 sx Class "H" SOLUCEM-H w/ .7% HR-601, 2.62 yield; 7% excess. **This is a minimum volume and will be adjusted up after caliper is run**. **Stage 2:** Lead Slurry: 350 sx 50:50:2:C:Poz:Gel w/ 5% salt, 3 pps LCM, .6% SMS, 1% FL-25, 1% BA-58, .125 pps CF, .3% FL-52A; 1.37 yield. Tail Slurry: 150 sx Class C w/ 0.3% R-3 + 1.5% CD-32, 1.02 yield. 28% excess calculated back to surface (no need for excess in casing overlap). **This is a minimum volume and will be adjusted up after caliper is run**.

Multi stage tool to be set at approximately, depending on hole conditions, 3550'. Cement volumes will be adjusted proportionately for depth changes of multi stage tool; assumption for use of tool is water flow.

8. Pressure Control Equipment:

The blowout preventer equipment (BOP) shown in Exhibit #9 will consist of a double ram-type (2000 psi WP) preventer, and in some cases possibly a 2000 psi Hydril type annular preventer as provided for in Onshore Order #2. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on the bottom. A 13-5/8" will be used during the drilling of the well. The BOP will be nippled up on the 13 3/8" surface casing with BOP equipment and tested to 2000 psi. After setting 9-5/8" the BOP will then be nippled up on the 9-5/8" intermediate casing and tested by a third party to 2000 psi and used continuously until total depth is reached. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve, choke lines and a choke manifold (Exhibit #11) with a 2000 psi WP rating.

9. Proposed Mud Circulating System

Interval	Mud Wt.	Visc.	FL	Type Mud System
0' - 600'	8.5	28	NC	Fresh water native mud w/ paper for seepage and sweeps. Lime for PH.
600'- 2000'	10	30	NC	Brine mud, lime for PH and paper for seepage and sweeps.
2000'- 11240'	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.

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 ¾" hole and kick off at +/- 6123', building curve over +/- 750' to horizontal at 6600' TVD. Drill horizontal section in a Easterly direction for +/-4367' lateral to TD at +/-11240' MD, 6600' TVD. Run 7" x 5-1/2" production casing in Open hole lateral and cement to surface.

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. No electric logging to be performed on this well. See COA

    B. The mud logging program will consist of lagged 10' samples from intermediate casing point to T.D. in vertical pilot hole and from Kick off point to TD in Horizontal hole.

    C. Drill Stem test is not anticipated.

    D. No conventional coring is anticipated.

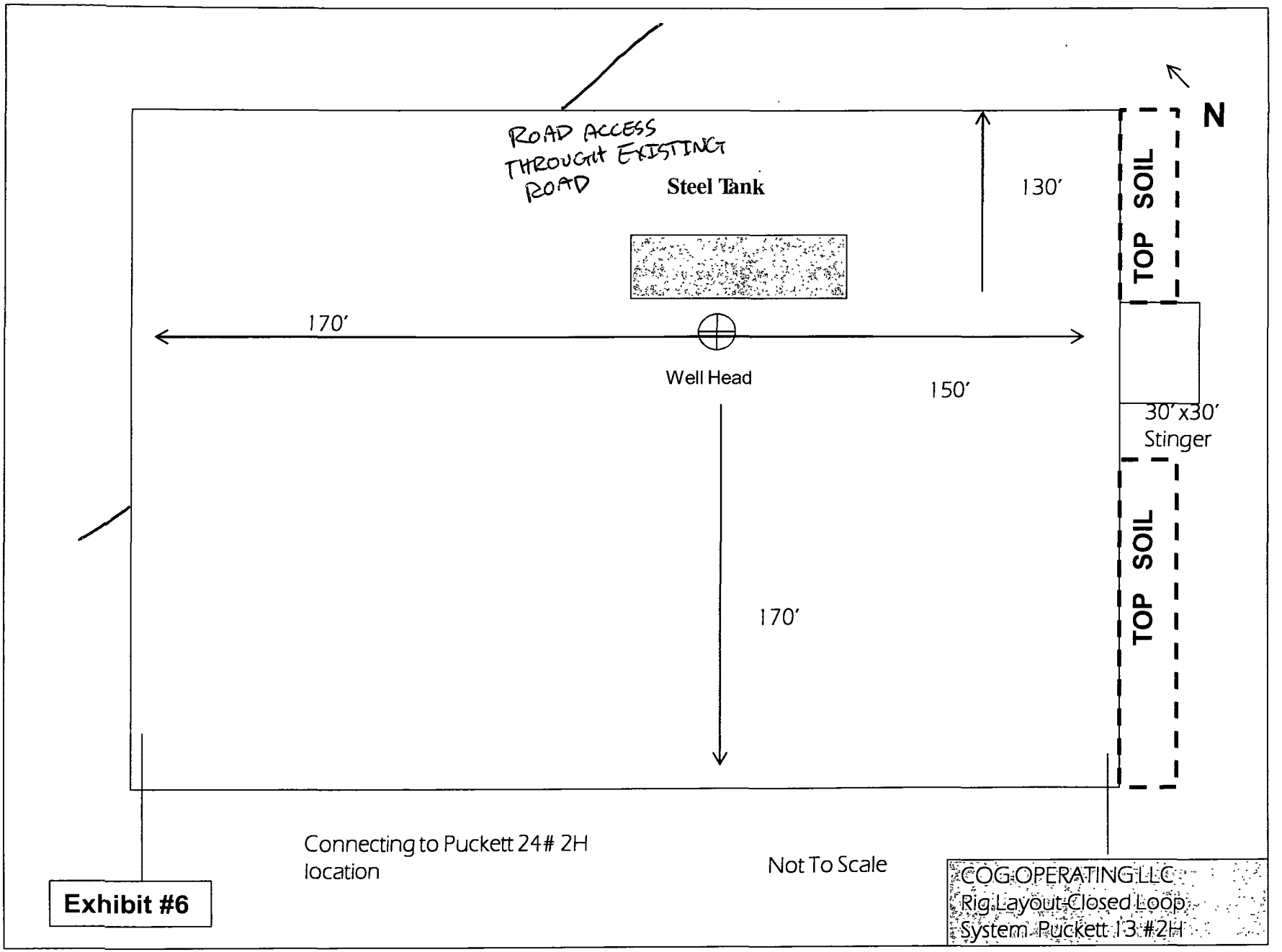
    E. Further testing procedures will be determined after the 7" x 5 ½" production casing has been cemented at TD based on drill shows and log evaluation.

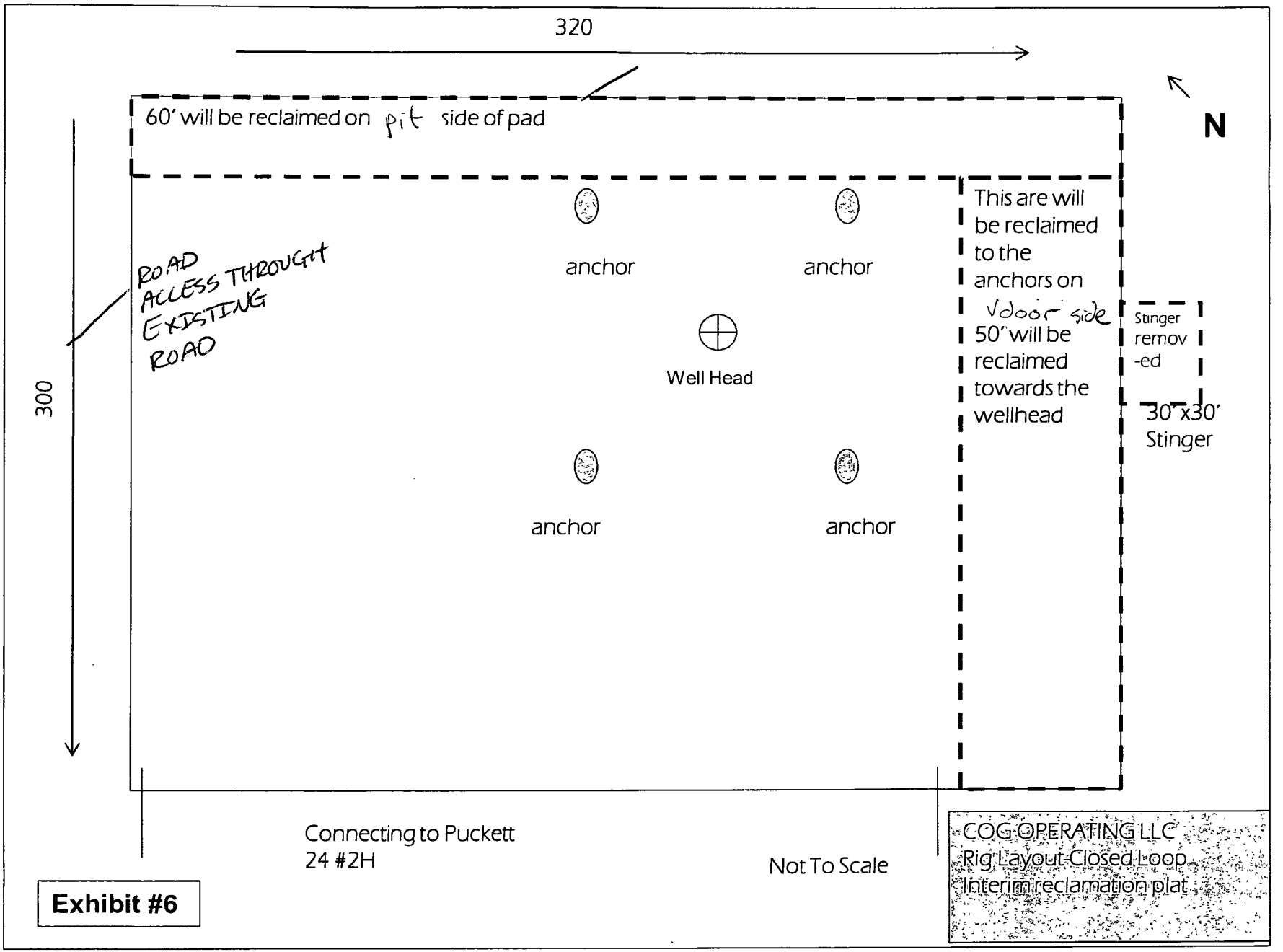
13. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

    No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 90 degrees and estimated maximum bottom hole pressure is 1800 psig. Measurable gas volumes or Hydrogen Sulfide levels have not been encountered during drilling operations in this area, however 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 ***October 30, 2011*** with drilling and completion operations lasting approximately ***90*** days.


ROAD ACCESS THROUGH EXISTING ROAD
Steel Tank
130'
N
TOP SOIL
170'
Well Head
150'
30' x30' Stinger
TOP SOIL
170'
Connecting to Puckett 24# 2H location
Not To Scale
COG OPERATING LLC
Rig Layout Closed Loop System Puckett 13 #2H
Exhibit #6


320
60' will be reclaimed on pit side of pad
N
This are will be reclaimed to the anchors on door side
50' will be reclaimed towards the wellhead
Stinger removed
30'x30' Stinger
ROAD ACCESS THROUGHT EXISTING ROAD
anchor
anchor
Well Head
anchor
anchor
300
Connecting to Puckett 24 #2H
Not To Scale
COG OPERATING LLC
Rig Layout-Closed Loop
Interim reclamation plat
Exhibit #6

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating, LLC
LEASE NO.:	NMLC029415A
WELL NAME & NO.:	#2H – Puckett Federal 13
SURFACE HOLE FOOTAGE:	105' FSL & 957' FWL
BOTTOM HOLE FOOTAGE	330' FNL & 990' FWL
LOCATION:	Section 13, T. 17 S., R. 31 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.